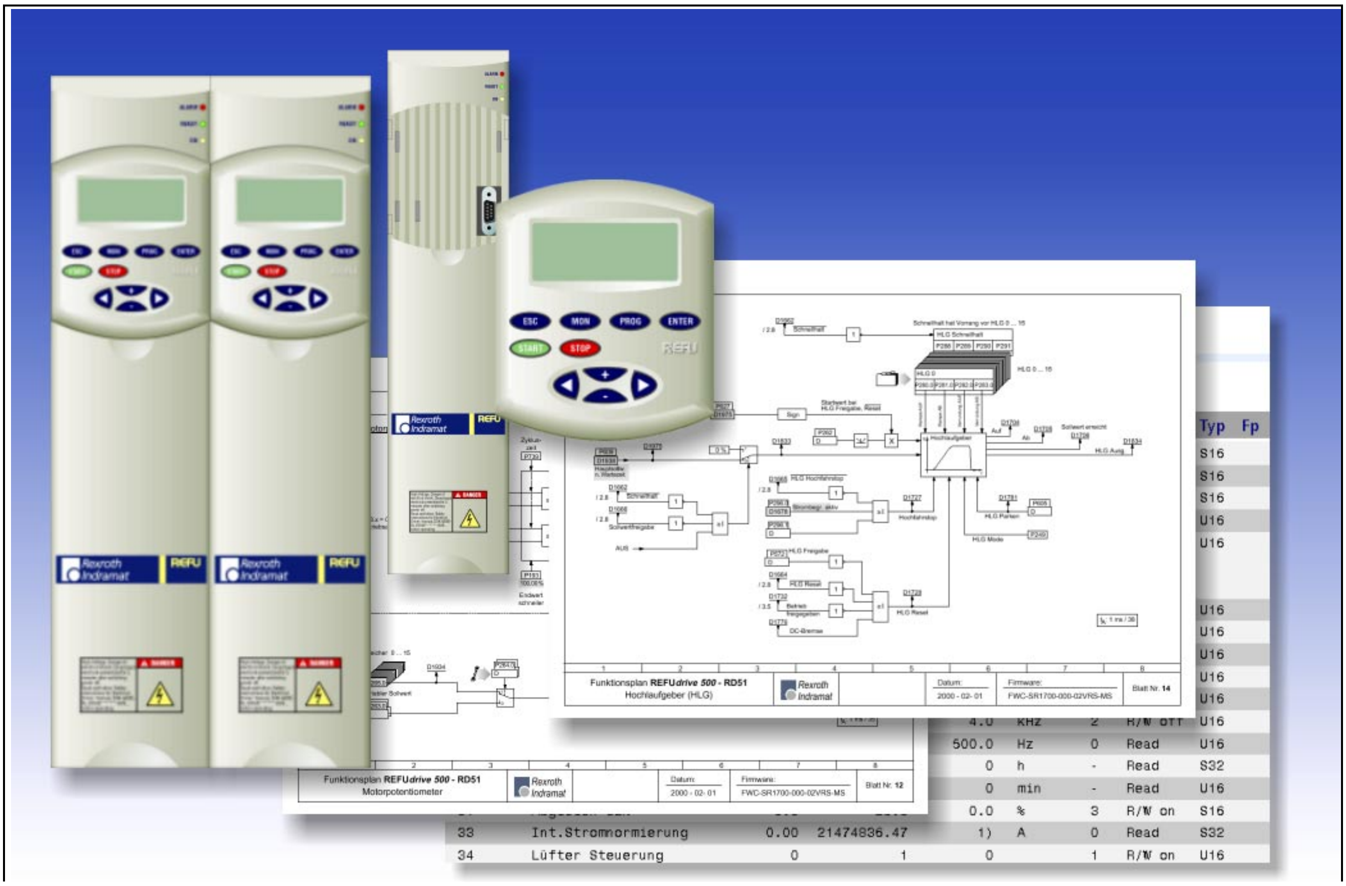
Rexroth



# REFUspeed RS51
# Function diagrams and parameter list

Functional Description: Firmware 04VRS

DOK-RD500*-RS51*04VRS*-FK01-EN-P

Rexroth Indramat

**Title** REFUspeed RS51
Function diagrams and parameter list

**Type of Documentation** Functional Description: Firmware 04VRS

**Document Typecode** DOK-RD500*-RS51*04VRS*-FK01-EN-P

**Internal File Reference** 120-1950-B325-01/EN

**Purpose of Documentation** This documentation describes …

- The parameterization of the drive control devices based on function diagrams and parameter list.

**Record of Revisions**

| Description | Release Date | Notes |
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Telephone +49 (0)71 23/969-0 • Fax +49 (0)71 23/969-2 60

http://www.boschrexroth.de/

Dept. Development E (JR/SM)

**Note** This document has been printed on chlorine-free bleached paper.

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# 1 Parameterization

## 1.1 Basic parameterization

The operator has menu-prompted pre-defined parameters available in the form of the "basic" parameterization. This means, that for many applications, the parameters can be quickly set in a user-friendly fashion. The basic parameterization is selected when the equipment is supplied. A detailed description of the "basic parameterization" is provided in the Basic Instructions.

There are so-called "macro parameters" in the "basic parameterization. These can be used to select complex functions using the text display in the operator panel. A macro program in the firmware sets all of the required parameters and links to the selected function. The macro parameters are not available in the "free parameterization". Refer to Section 3 for a more detailed explanation.

## 1.2 Free parameterization

The operator has the full scope of the firmware documented in the function charts and the parameter list in the form of the "free parameterization". You can change from the "basic parameterization" into "free parameterization" using parameter P0064. All of the parameters can then be selected and set using their parameter number with the "numerical list".

### Working with free parameterization

When the equipment is supplied, the basic parameterization is selected. This means that the input and outputs of the function modules (logic gates, output blocks etc.) are permanently assigned from the firmware even if they were changed in the "free parameterization". They can no longer be freely used. If you wish to freely use all of the function modules, the resource assignment of the "basic parameterization" can be reset using the function download standard values, "free standard values".

### Loading standard values

You can set the standard values for "Basic parameterization" or "free parameterization" using parameter P0071 (load standard values). One of the two following options can be selected:

**Free standard values**

The standard values are loaded. These are described in the parameter list (Section 2). All of the function modules are freely available.

**Basic standard values**

The standard values are loaded and are subsequently executed in the standard settings of the macro parameters. The firmware modules, linked corresponding to the resource assignment of the "basic parameterization", are documented in Section 3.

## 1.3 Working with the basic parameterization and free parameterization

The advantages of both parameterizing modes can be used by entering the basic settings for a drive in the menu-prompted fashion, and then changing over to the "Free parameterization" to carry-out the remaining parameterization of more complex applications, which is not possible using the pre-defined parameters of the "basic parameterization".

However, operators who toggle between the two parameterizing-modes, must know the resources of the "basic parameterization" which are being used and must be knowledgeable about "free parameterization" using the function charts and the parameter list.

To work with both parameterizing modes, we recommend that you get to know the "basic parameterization" in detail using the "used resources of the basic parameterization" (refer to Section 3) and the function charts.

Data can always be lost if you change from "basic parameterization" to "free parameterization".

**It is important that you observe the warning information provided below!**

## Selecting free parameterization

**CAUTION**

**Loss of function!**

⇒ Data can be lost when changing from "basic parameterization" to "free parameterization"! Operators can either accidentally or deliberately change individual parameters from the macro program of the "basic parameterization" into the "free parameterization". This means that selected functions of the "basic parameterization" are, under certain circumstances, no longer effective!

⇒ In order to avoid incorrect programming, operators must be knowledgeable about the resources of the "basic parameterization" which are used and which may not be changed.

⇒ Please use the information from Section 3: "Resources of the basic parameterization used“.

"Free parameterization" is selected using parameter P0064. The following messages are displayed alternating:

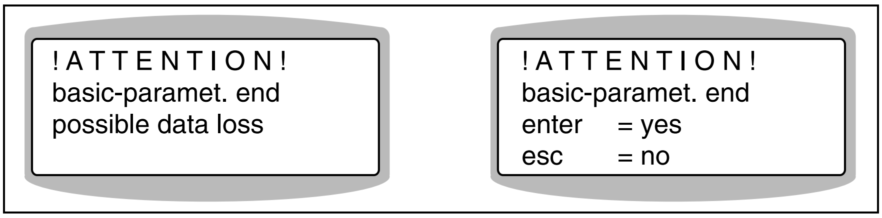


Fig. 1-1: Warning message 1 when changing the parameterizing mode

Exit using "Esc“ or acknowledge the message with "Enter“.

## Selecting basic parameterization

CAUTION

**Data loss!**

⇒ Data can be lost when changing from "free parameterization" to the "basic parameterization"!

⇒ The firmware resets all of the parameters, which are accessible in the "basic parameterization" (refer to the parameter description) to the last setting of the "basic parameterization". If links from the "basic parameterization" into the "free parameterization" were changed, these changes will be lost and therefore, under certain circumstances, the complete functionality of the drive which the user had parameterized.

"Basic parameterization" is selected using parameter 64. The following messages are displayed, alternating:

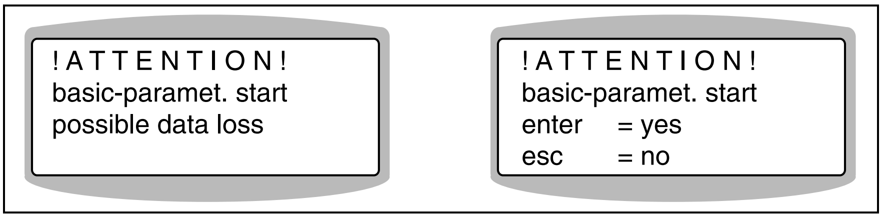


Fig. 1-2: Warning message 2 when changing the parameterizing mode

Exit with "Esc“ or acknowledge the message with "Enter“.

# 1.4 Parameterizing using the operator panel

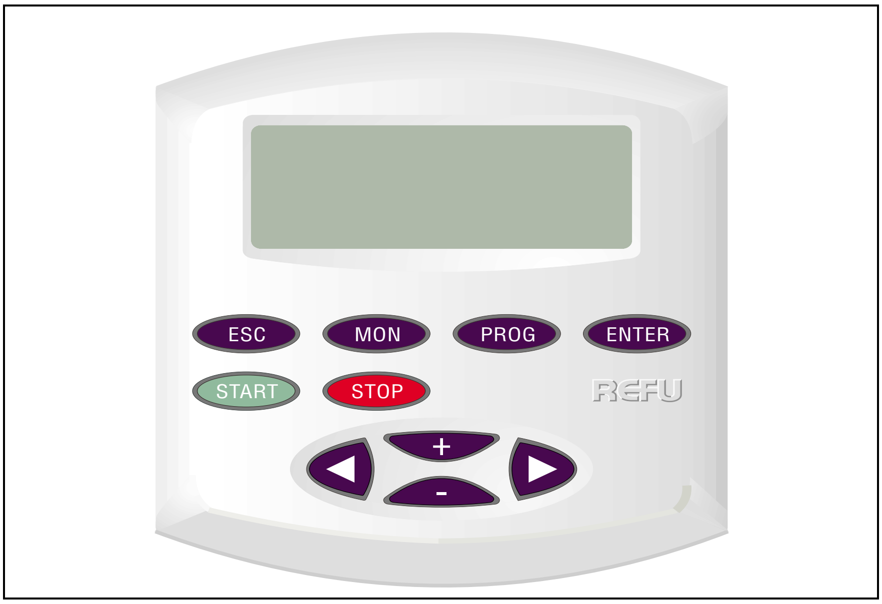


Fig. 1-3: Operator panel with graphic display (option)

**Note:** The operator panel contrast can be set using parameter P0734.

# Key functions when parameterizing

| Key | Menu level | Parameterizing level |
|---|---|---|
| Esc | Return to the previous menu item | The revised value is rejected |
| Mon | Change to the monitor | |
| Prog | Change to the parameter-ization | The value is initially accepted. All of the values are only finally accepted after the "Enter" has been pressed |
| Enter | The selected menu item is selected | The modified value is accepted |
| + | To the previous menu item | The value is increased |
| – | To the next menu item | The value is decreased |
| ▶ | Jumps to the end of the list | Cursor position to the right |
| ◀ | Jumps to the start of the list | Cursor position to the left |

Fig. 1-4: Key functions of the operator panel when parameterizing

# Fast parameterization using key combinations

| Key | Response |
|---|---|
| ◀ | The first selection text for text parameters is selected. |
| + + – | If these keys are simultaneously pressed:<br>– the complete parameter number is set to zero (numerical list)<br>– the complete parameter value is set to zero (for numerical parameters)<br>– the text selection is scrolled in steps of ten (this is practical, for example for parameter P0875 with almost 100 texts which can be selected) |
| ▶ | The last selected text for text parameters is selected. |
| ◀ + ▶ | When these keys are simultaneously pressed, then the factory setting of the active value is set |
| Mon + Prog | When these keys are simultaneously pressed together, a change is made from the Mon or Prog area into a temporary actual value display.<br>When the ESC key is pressed once, the display switches-back to the selected menu. In order that the operator can differentiate between the normal operating display and the temporary actual value display - for the temporary actual value display, a flashing frame is used. |

Fig. 1-5: Key combinations

## Error messages when parameterizing

| Error message | Cause | Solution |
|---|---|---|
| Parameter not accessible in the basic parameterization. | The parameter number which is not accessible was entered into the numerical list. | Only pre-defined parameters are available in the basic parameterization. Only parameter numbers from the tables in Section 5 can be entered. |
| Please select basic parameterization | The selected parameter is a macro parameter and is not accessible in the free parameterization. | Change into the basic parameterization. **Caution! Data can be lost as a result of this**. |
| Parameter inhibited | Drive is operational. | Inhibit the inverter and then change the parameter. |
| Data conflict (general) | Some parameter settings are depending on others. If a parameter is changed and acknowledged with Enter, then data conflicts can occur. | |
| Data conflict<br>e.g. P0182 with P0183 | The frequencies of the V/Hz characteristic are not correct. The frequencies must have a minimum 1 Hz clearance between them. | Initially accept the value of the first parameter change with Prog, after the second parameter change, acknowledge with Enter to save both values. |
| Data conflict<br>e.g. P0870<br>steady-state<==>dynam | Changing the "steady state" into the "dynamic on/off command" or vice-versa. Steady-state/dynamic on/off operation cannot be selected mixed for the test/normal operating modes | Initially accept the value of the first parameter change with Prog, after the second parameter change, acknowledge with Enter to save both values. |
| Data conflict<br>e.g. P0875<br>only with dyn. on/off | "Terminal steady-state" is selected in the drive control for on/off (P0870/0871). This means that the "operating enable" function is permanently connected to digital input 7 | The "operating enable" function can only be switched to a freely selectable digital input, if the on/off command (P0870/0871) has been set to dynamic. |

Fig. 1-6: Error messages when parameterizing

## Structure of the PARAMETERIZING menu

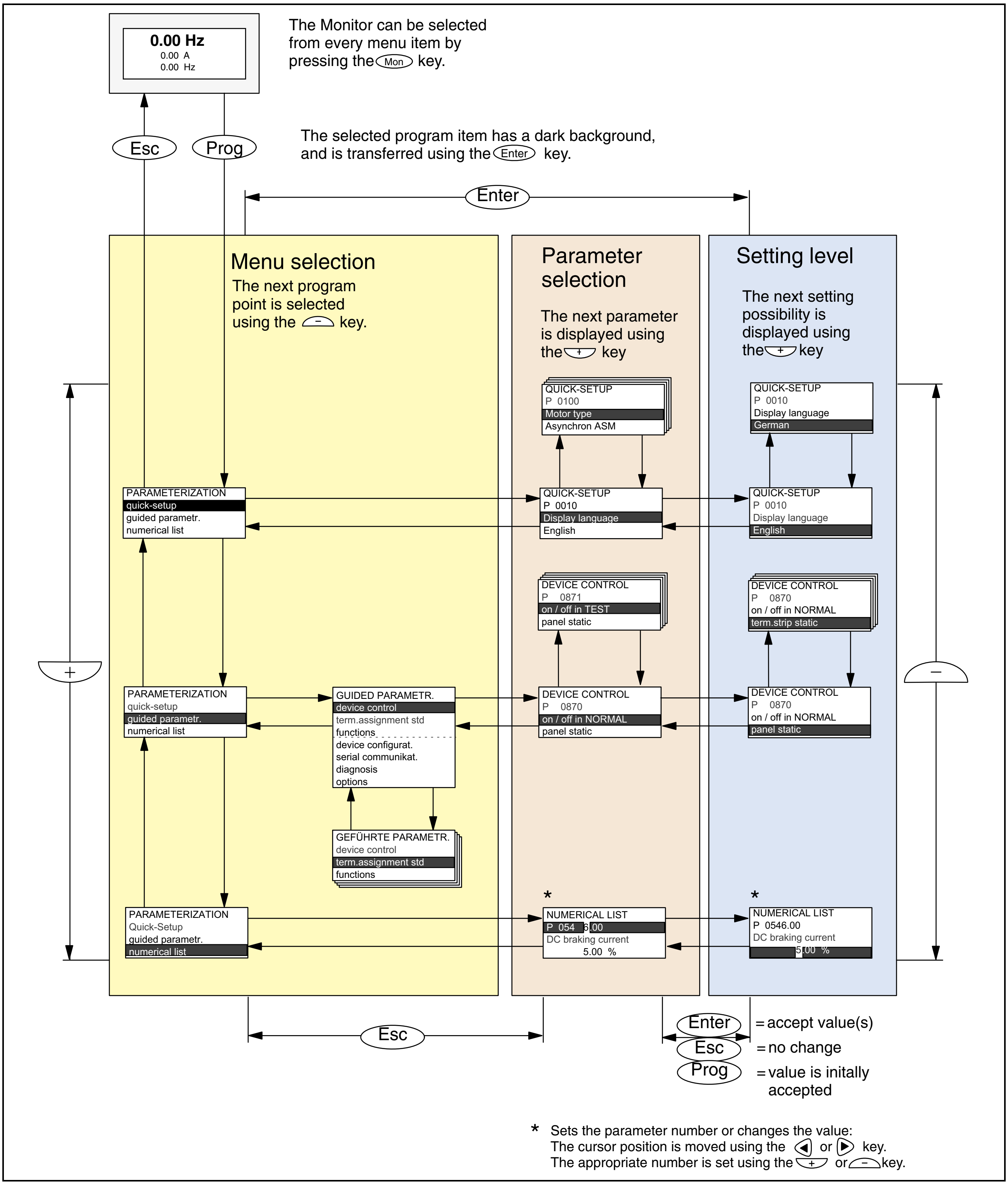


Fig. 1-7: Menu structure

# 2 Interface protocol

## 2.1 USS protocol

### Description of the USS protocol

The USS protocol (German: Universal-Serial interface protocol) defines an access technique according to the master-slave principle for communications via a serial bus.

When using the RS232, in addition to the master, only one slave is permissible.

When using RS485, one master and a max. of 32 slaves can be connected to the bus.

The individual slaves (REFU*drive 500*) are selected by the master (higher-level computer) using an address character in the telegram.

A slave can never initiate a data send operation. Direct data transfer between the individual slaves is not possible. Communications are realized in the half-duplex mode.

The master function cannot be transferred (single-master system).

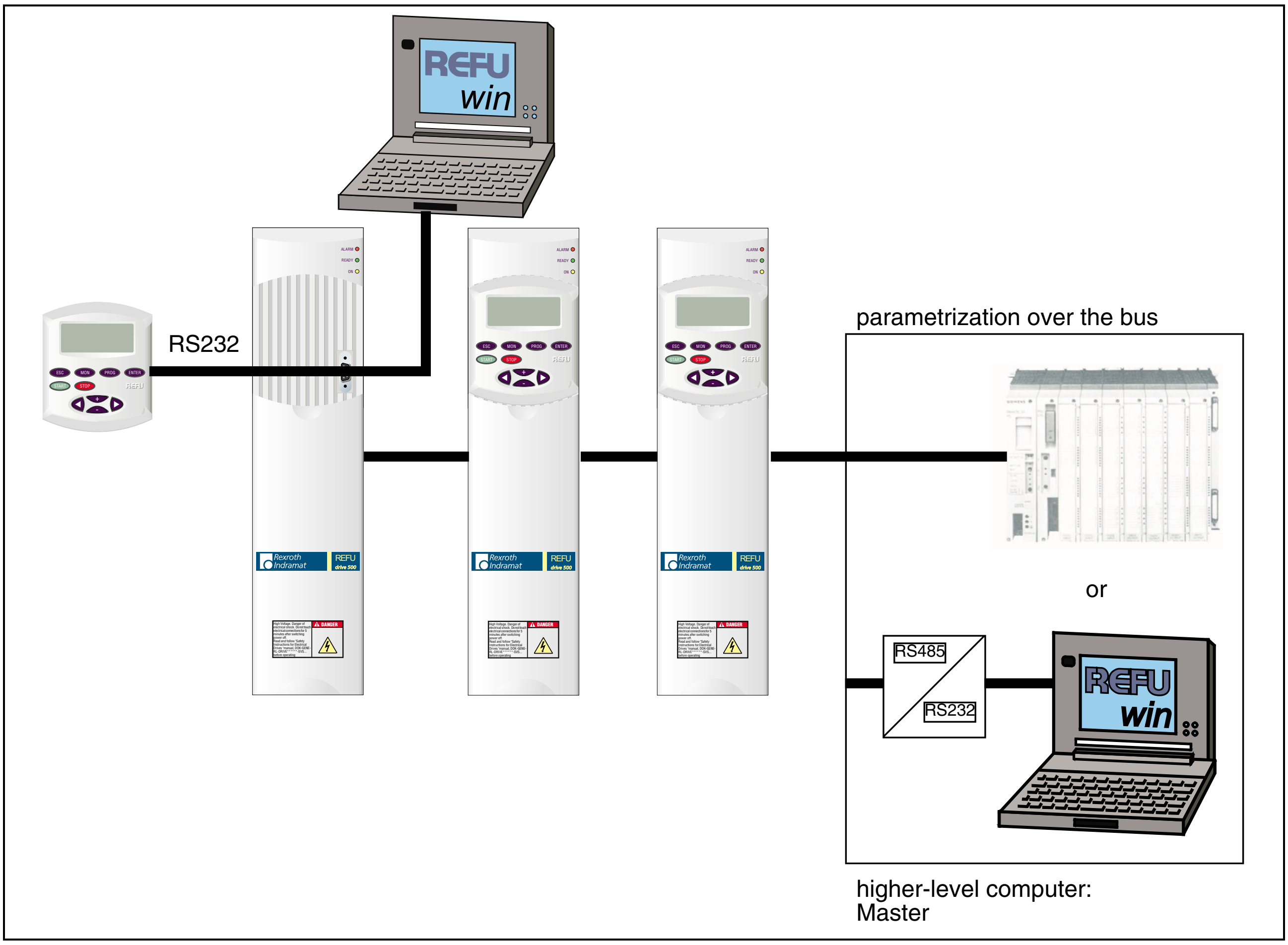


Fig. 2-1:USS communications

# Telegram transfer

The master sends telegrams (task telegrams) to the slaves and expects a response telegram from each of the addressed slaves.

A slave must send a response telegram:

- If it received a task telegram, error-free, and
- It was addressed in this task telegram.

A slave may not send if these conditions are not fulfilled, the slave was addressed in the broadcast mode (refer to Page 2-8, Broadcast), or the special bit is set (refer to Page  2-7 Special telegrams ).

For the master, a connection is established to the associated slave, if it receives a response telegram from the slave in a defined processing time (response delay time, refer to Fig. 2-2:USS).

Also refer to 2-11, Task and response ID (AK).

## Handling data transfer

In order that the telegram start can be clearly identified, a starting interval without characters, equivalent to at least 2 characters is specified before the STX. This start interval is part of the telegram. Only an STX with preliminary start interval identifies the valid start of a telegram.

Data transfer always proceeds as follows (half-duplex mode):

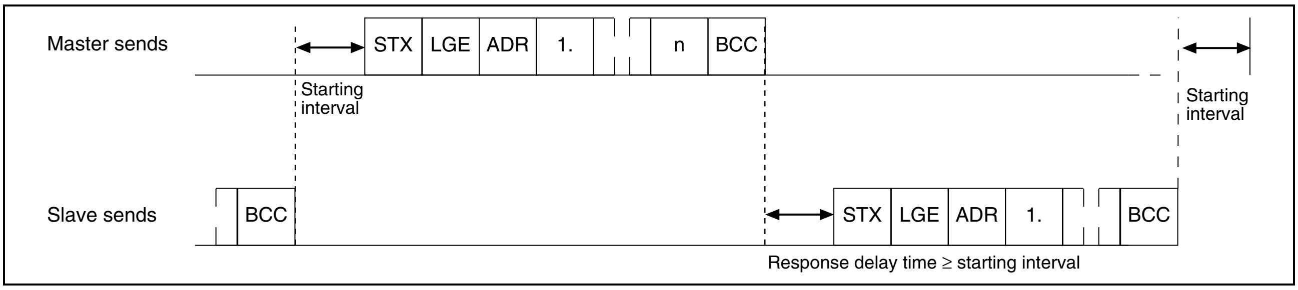


Fig. 2-2:USS data transfer

The time between the last character of the task telegram (BCC) and the start of a response telegram (STX) is called the response delay time. If a node (station) x does not respond within the maximum permissible response delay time of 20 ms, an error message "Node x does not send" is saved in the master. The master sends the telegram for the next node. The error message is only deleted after an error-free telegram has been received from node x.

## Task and response processing

The task and response processing describes the timing and functional sequence of data transfer for the PKW interface (parameter ID value, refer to Section x, net data block and X, description of the PKW elements) between the master and slaves.

- The master may only send one task to a node (an address), and must wait for the appropriate response. The master must repeat its task as long as it waits for this response!
- The task must be completely sent in one telegram. Split task telegrams are not permitted. This also applies to response telegrams!
- Every task change signifies a new task, which must be followed by the associated response. The task ID “No task” must be considered just like any other task ID, and must be responded to with the response ID “No response”!
- If no information is required from the PKW interface in cyclic operation (only process data are important), then the “No task” task must be issued.

- If there are considerable time differences in the drive converter between the cyclic telegram sequence and the response, the slave sends, in the transition phase between “Old task” and “New task”, the response to the “Old task” until it recognizes the “New task” and has prepared the associated response.
    - For responses, which contain parameter values, the slave always responds with the actual value when repeating the response telegram.
- When first establishing communications between the master and slave (the first time that the slave is addressed), in the transition phase, in which an answer is being prepared in the drive unit, the slave can only respond with the ID “No response”.
- If the master does not receive a response ID from the addressed slave associated with the particular task, the error message “Node x does not respond” is saved in the master.
- If the master does not have PKW change rights (P0072), then none of the changes from the drive unit are processed and the response ID “No PKW change rights” issued. All of the read tasks are processed.
- The slave does not expect an acknowledgement from the master as to whether the response telegram was received or not.
- Response ID in the master to a task which was issued:
    - The master recognizes the correct response in the response telegram by evaluating the response ID, the parameter number (PNU), and if required, by the value in the index (IND) and the parameter value.
- Recognizing a new task in the slave:
    - Every task, which the master issues after receiving a valid response to the old task, is recognized by the slave as new task.
- If the master sends a broadcast telegram, the slaves do not respond to this broadcast telegram.

# Electrical Installation

The standard RS485 interface is connected at connector X12 on the control card (refer to the Instruction Manual of the drive unit, terminal diagram SR1700X).

| **Terminal** | **Designation** | **Comment** |
|---|---|---|
| **X12** | **RS485** | |
| 1 | RxD+ /TxD+ | RS485 interface; communications with the USS protocol |
| 2 | RxD-/TxD- | |

Fig. 2-3: Terminal diagram X14 (SR1700x)

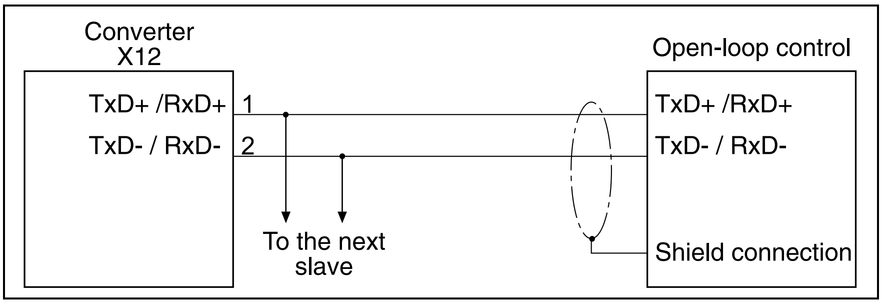


Fig. 2-4:RS485

When using this interface, it should be ensured that the same interface configuration is set for each bus node.

Exception: "SS1 slave address", in this case, each bus node has its own address.

The parameterization of the interface is provided in Section X, Parameterizing the drive converter.

## Bus termination

The bus must be terminated at the first and last node to protect against the influence of noise. The bus termination is switched-in using a switch on the control card.

## Terminal diagram of the control card

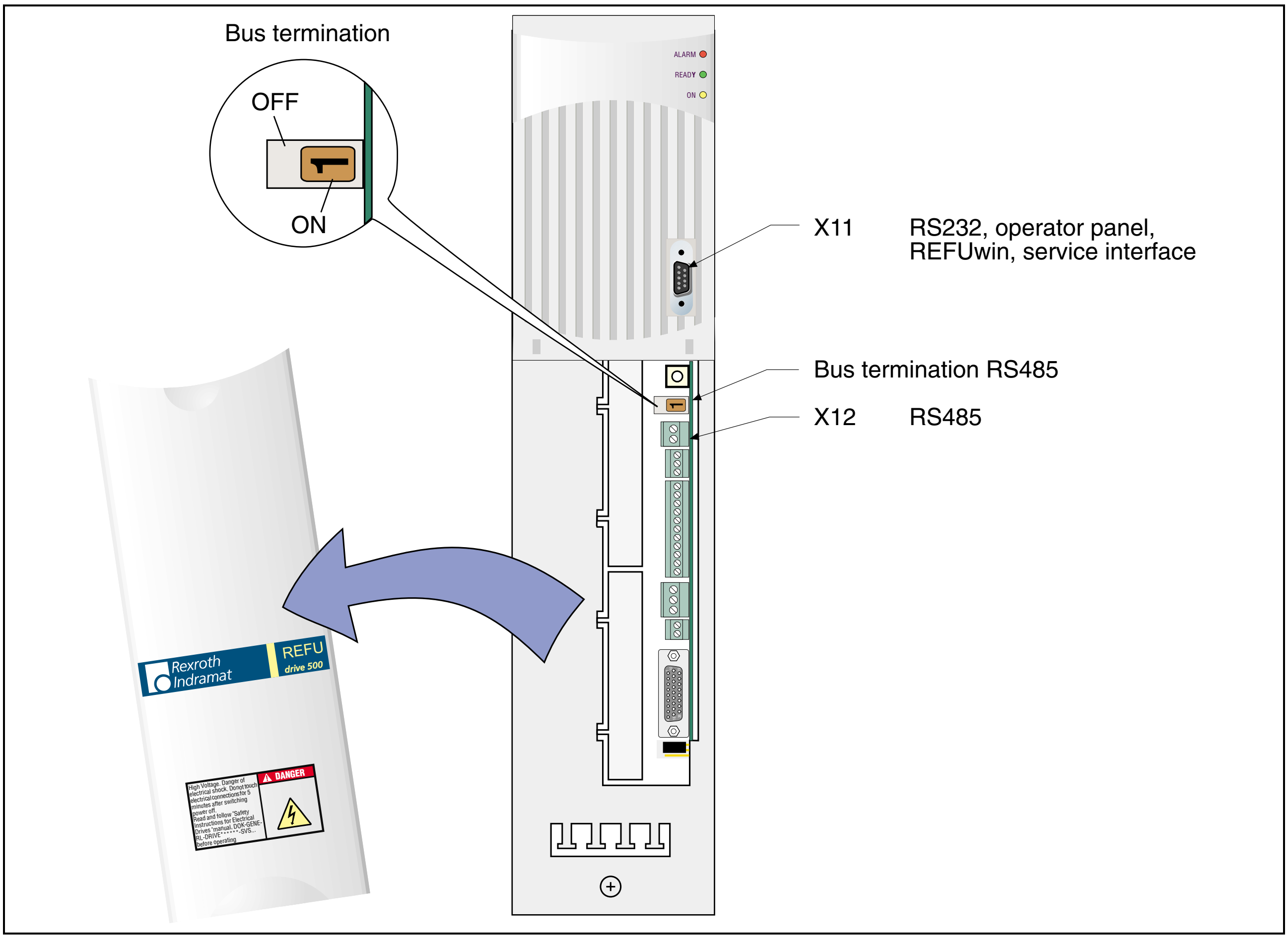


Fig. 2-5:Terminal diagram SR17002

# Parameterizing the drive converter

The configuration of the standard RS485 interface should be set using parameters P0500 to P0506.

The parameters are accessed as follows via the following menu:

PARAMETERIZATION/PROMPTED PARAMETR/SER. COMMUNICATIONS

## Parameterizing the standard RS485 interface

| Parameter No.: | Name | Description / explanation selectable options | Factory setting min ... max values | Pass-word |
|---|---|---|---|---|
| 0500 | SS1 protocol X12 | The serial interface 1 (SS1) is a RS485 interface (X12 connection)<br>Parameter value: 0 = no protocol<br>1 = USS 4/2 words<br>2 = USS 4/6 words<br>3 = USS 0/2 words<br>4 = USS 0/6 words<br>5 = USS 4/0 words | USS 4/6 words<br>0 ... 5 | 2 |
| 0501 | SS1 baud rate X12 | Parameter value: 0 = no protocol<br>1 = 1200 baud<br>2 = 4800 baud<br>3 = 9600 baud<br>4 = 19200 baud<br>5 = 38400 baud<br>6 = 76800 baud | 9600 baud<br>0 ... 6 | 2 |
| 0502 | SS1 parity X12 | Parameter value: 0 = no parity<br>1 = ODD<br>2 = EVEN | EVER<br>0 ... 2 | 2 |
| 0503 | SS1 stop bits X12 | Either 1 or 2 stop bits can be set. | 1<br>1 ... 2 | 2 |
| 0504 | SS1 slave address | For the RS485 bus, the address of the device can be set between 0 and 31.<br>**Caution:** This address must be unique on the bus, i.e. there must be no identical addresses! | 0<br>0 ... 31 | 2 |
| 0505 | SS1 Rx monitoring | Parameter value: 0 = no action<br>1 = warning<br>2 = fault | Fault<br>0 ... 2 | 2 |
| 0506 | SS1 Rx monitoring time | Monitoring time for the standard interface SS1.<br>If the interface does not receive an error-free protocol within this time, then the response, selected in P0505, is initiated. | 0.1 s<br>0.1 ... 60.0 s | 2 |

Fig. 2-6: Parameters for RS485

## Parameterizing the service interface RS232

The service interface also operates with the USS protocol.

However, the protocol type is fixed (4/6 words, even parity 1 stop bit).

The baud rate can be selected using P0499.

| Parameter No.: | Name | Description / explanation selectable options | Factory setting min ... max values | Pass-word |
|---|---|---|---|---|
| 0499 | RS232 baud rate X11 | Parameter value: 0 = 1200 baud<br>1 = 2400 baud<br>2 = 4800 baud<br>3 = 9600 baud<br>4 = 19200 baud<br>5 = 38400 baud<br>6 = 57600 baud<br>7 = 76800 baud | 9600 baud<br>0 ... 7 | 2 |

Fig. 2-7: Parameters for RS232

# Character frame

Every transferred character starts with a start bit and ends with a stop bit or 2 stop bits depending on the parameterization. 8 data bits are transferred. Each character (byte) is, when required, secured by a parity bit (e.g. even parity: The number of ones in the data bits, including the parity bit is an even number). The received telegram is rejected if the character frame is not observed.

*Character frame with parity bit and one stop bit*

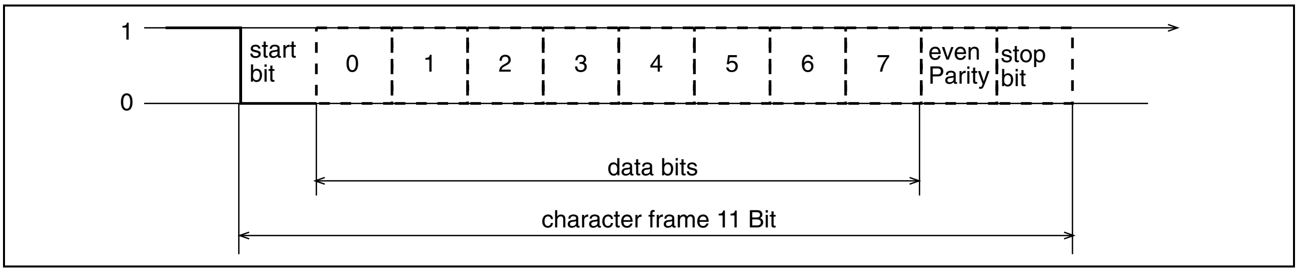


Fig. 2-8:USS character frame

## Telegram structure

Every telegram starts with the STX start character, followed by the length data LGE and address byte ADR. The net characters follow. The telegram is terminated by the block check character BCC.

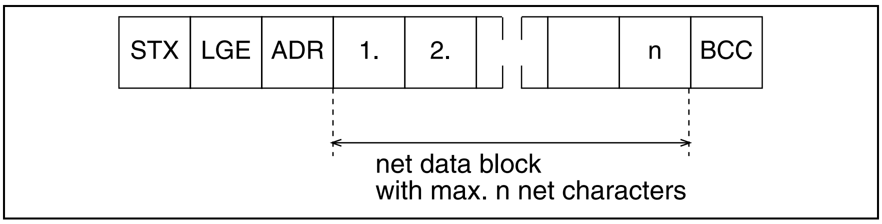


Fig. 2-9:USS telegram structure

## Data coding

| | |
|---|---|
| STX (Start of Text) | ASCII characters: 02 hex. |
| LGE (telegram length) | 1 byte, contains the telegram length as binary number.<br>Refer to the next Section, Telegram length. |
| ADR (address byte) | 1 byte, contains the slave address and the telegram type as binary number.<br>Refer to the Section, Address byte assignment. |
| Net characters | Each 1 byte, contents depend on the particular task. |
| Net data block | The net data block can be programmed in various lengths.<br>Refer to the Section, Telegram lengths. |
| BCC | Block check character.<br>Refer to the Section, BCC generation for how this character is generated. |

Fig. 2-10: USS data coding

## Telegram length

Telegram data transfer is realized with a fixed telegram length. This length must be defined before the drive system is commissioned for the first time.

The net data block (n net characters), the address byte ADR and the BCC are included in the telegram length. The following is obtained for the fixed telegram length:

$$LGE = n + 2$$

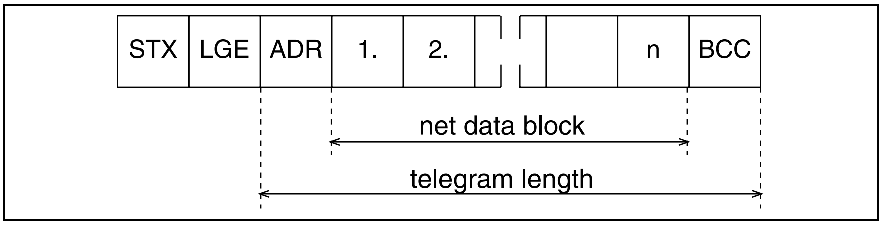


Fig. 2-11:USS telegram length

The following fixed telegram lengths can be selected, which only differ by the length of the net data block:

| | | | |
|---|---|---|---|
| Type 1 | 4/2 words | 12 bytes | LGE = 14 bytes |
| Type 2 | 4/6 words | 20 bytes | LGE = 22 bytes |
| Type 3 | 0/2 words | 4 bytes | LGE = 6 bytes |
| Type 4 | 0/6 words | 12 bytes | LGE = 14 bytes |
| Type 5 | 4/0 words | 8 bytes | LGE = 10 bytes |

Fig. 2-12: USS telegram type

## Special telegrams

The bus master can send special telegrams to slaves, which support this utility.

REFU*drive 500* units do not support this utility, and do not evaluate telegrams where bit 7 is set in the address byte (special telegram); they also do not respond to these telegrams.

## Address bytes assignment

The individual address byte bits are assigned as follows:

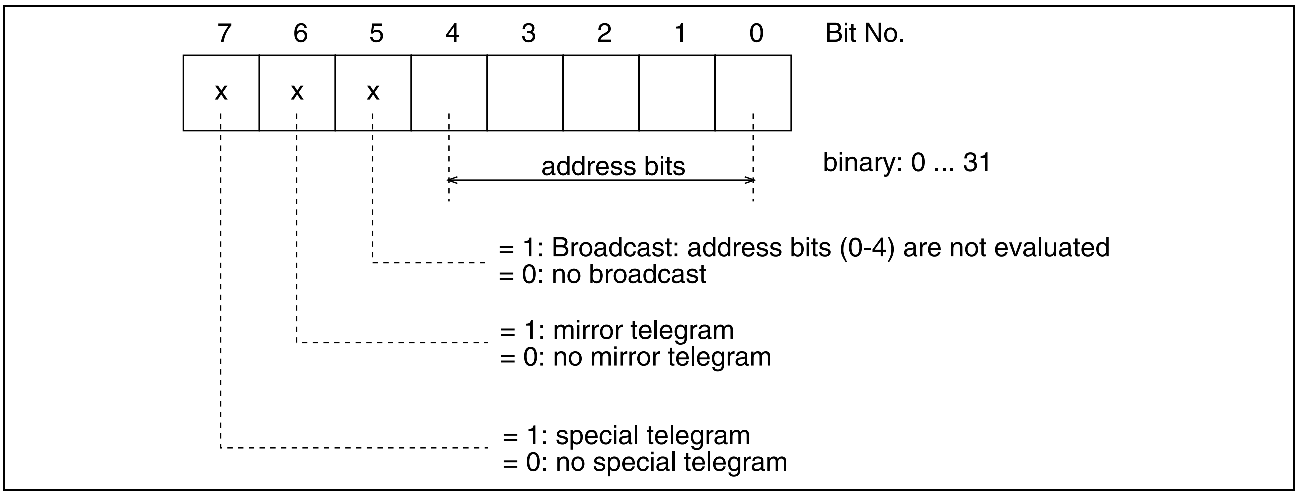


Fig. 2-13:USS address bits

**Note:** Bit 7 (special telegram) has the highest priority, bit 5 (broadcast) has a higher priority than bit 6 (mirror telegram). The slave sends the address byte ADR back to the master, without any changes, in the response telegram (mirror telegram).

## Broadcast telegram

In the broadcast mode, the master sends a telegram to all of the slaves connected to the bus. In this case, the "broadcast bit" in the task telegram, is set to logical 1 in the address byte. The address bits are ineffective. The slaves only evaluate the PZD area. The individual slaves do not respond to a broadcast telegram with a response telegram.

## Mirror telegram

The bus master can request a mirror telegram from the slave.

**Sequence:**

The master sends a telegram to the appropriate slave nodes. This telegram differs from the normal telegram by the fact that bit No. 6 of the address byte is set (= logical 1). The slave does not evaluate this telegram, but returns it to the master without making any changes (it mirrors the telegram).

Data transfer between the master and slave can be checked using the mirror telegram. This is advantageous when commissioning step-by-step or when troubleshooting.

## BCC generation

BCC  (Block Check Character): The BCC byte is determined using a bitwise EXOR logic operation and is used for secure data transfer.

**Example for generating the Block Check Character:**

Before the first telegram charakter is received:

BCC (initial value)

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

After the first character has been received (STX): $BCC_{new}$ = $BCC_{old}$ EXOR "1st character"

$BCC_{old}$

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

EXOR

1st character (STX)

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

---

$BCC_{new}$

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

Ater each additional character hase been received this is EXOR'ed with $BCC_{old}$ to generate $BCC_{new}$

$BCC_{old}$

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

EXOR

2nd character (LGE)

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |

---

$BCC_{new}$

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |

etc ...

The result after the last net character is BCC

Fig. 2-14:USS BCC generation

# Net data block

## Structure of the net data block

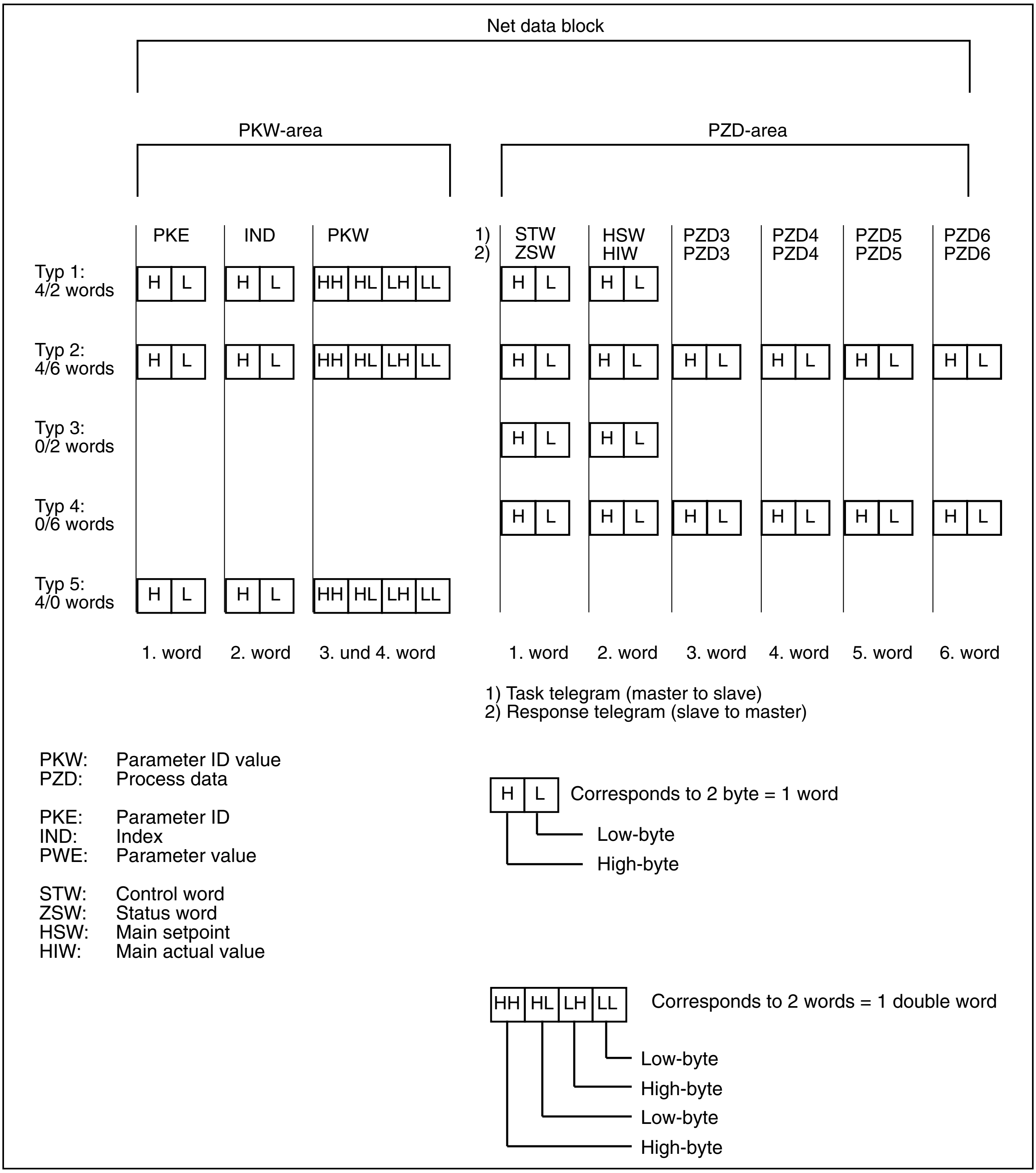


Fig. 2-15:USS net data block

## Description of the net data block

### PKW area

The PKW area refers to the handling of the PKW interface (German: PKW = parameter ID value). PKW interface does not involve a physical interface, but instead, it describes a mechanism, which controls parameter transfer between two communication partners, i.e. reading and writing parameter values.

All of the tasks, which are realized via the PKW interface, are tasks related to OPERATOR CONTROL AND VISUALIZATION.

If only PZD data are to be transferred in the net data block, then the number of PKW elements can also be 0 (types 3 and 4).

Also refer to Section X, Description of the PKW elements.

### PZD area

The PZD area contains all of the signals required for the AUTOMATION:

- Control word and setpoints (from the master to the slave),
- Status word and actual values (from the slave to the master).

**Definition according to USS:**

- Depending on the data transfer direction, always the control word or the status word are transferred in the PZD1.
- Always the main setpoint or the main actual value are sent in PZD2.

If only PKW data are to be transferred in the net data block, then the number of PZD elements can also be 0 (type 5).

Also refer to Fig. 2-15:USS .

## Description of the PKW elements

### PKE (parameter ID)

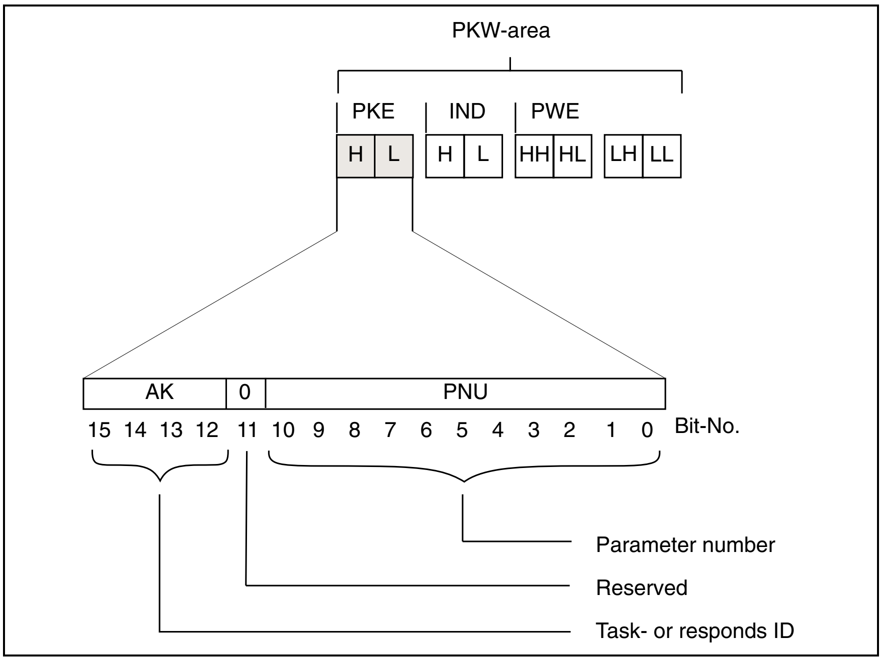


Fig. 2-16:USS PKW area

### Task and response ID (AK)

The tasks, which the master issues to the slave, are coded in the task ID. The slave processes the task and formulates the appropriate response to it. This is then returned to the master as response ID, also in a coded form.

The task and response ID are defined so that a task and a response are uniquely identified by the parameter ID (PKE = AK + PNU). Certain tasks and responses are additionally defined by the index word IND (refer to “Index word”).

### Parameter number (PNU)

The parameter number is contained in bits 0 to 10. You can find the parameters, arranged in an increasing sequence according to the PNU, in the parameter list of the appropriate drive unit firmware.

The function of most parameters can be taken from the function chart.

### Function of the task ID AK

| **AK bit No.**<br>**15 14 13 12** | **Function**<br>**master to slave** | **Description** |
|---|---|---|
| 0 0 0 0 | No task | No task |
| 0 0 0 1 | Request PWE | Requests a parameter value (PWE).(16 or 32 bit)[1] |
| 0 0 1 0 | Change PWE (word) | Writes a parameter value (PWE) in the word format (16 bit)[1] |
| 0 0 1 1 | Change PWE (double word) | Writes a parameter value (PWE) in the double-word format (32 bit)[1] |
| 0 1 1 0 | Request PWE (array)[2] | Reads a parameter value from an array. The location within the array, from which the value is to be read, is in IND: Example: If IND = 4, then the PWE is transferred which is located in the 5th element of the array. (16 or 32 bit)[1] |
| 0 1 1 1 | Change PWE (array word)[2] | Writes a parameter value (PWE) in the word format into a specific location in an array. (same as when reading) (16 bit)[1] |
| 1 0 0 0 | Change PWE (array double word)[2] | Writes a parameter value (PWE) in the double-word format into a specific location in an array. (such as ID 0111) (32 bit)[1] |
| 1 0 0 1 | Request the number of array elements | Reads the number of elements of an array.[1] |

1: 16 bit parameter values are located in word 4 of the net data
32 bit parameter values are located in words 3 and 4 of the net data

2: For all tasks, which refer to an array (=one-dimensional field), in order to uniquely identify the task, the value is included, which is located in the IND in the net data block.

The standard entry of the drive unit for the interface is password level 3

Fig. 2-17: USS function of the task ID

It is always permissible to read parameter values.

Writing is possible, as a function of the operator control authority (P0072) and the password level (P0009)

Selecting the password level (P0009):

| **Password level** | **Operator panel** | **Interface** |
|---|---|---|
| 0 | Password not required | Value = 0 |
| 1 | Esc Mon Prog and acknowledge with Enter | Value = 123 |
| 2 | Esc Mon Prog + and acknowledge with Enter | Value = 1234 |
| 3 | ▷ Esc Mon Prog and acknowledge with Enter | Value = 7123 |

Fig. 2-18: USS password levels

## Function of the response ID AK

| AK bit No.<br>15 14 13 12 | Function<br>master to slave | Description |
|---|---|---|
| 0 0 0 0 | No response | No response |
| 0 0 0 1 | Transfer PWE (word) | Transfers a parameter value (PWE) as word (16 bit)[1] |
| 0 0 1 0 | Transfer PWE (double word) | Transfers a parameter value (PWE) as double word (32 bit)[1] |
| 0 1 0 0 | Transfer PWE (array word)[2] | Transfers a parameter value from the element, specified in IND + 1, within an array. (16 bit)[1] |
| 0 1 0 1 | Transfer PWE (array double word)[2] | As for ID 0100, only PWE in the double-word format. (32 bit)[1] |
| 0 1 1 0 | Transfer the No. of array elements[2] | Transfers the number of elements of a field. |
| 0 1 1 1 | Task cannot be executed (with error number)[2] | The slave cannot execute the task which was issued to it. Refer to the fault number for the reason. |
| 1 0 0 0 | No PKW operator control authority. | The interface, which runs on this protocol, may not change parameter values, only read them. |

1: 16 bit parameter values are located in word 4 of the net data
32 bit parameter values are located in words 3 and 4 of the net data
2: For all tasks, which refer to an array (=one-dimensional field), in order to uniquely identify the task, the value is included, which is located in the IND in the net data block.
The standard entry of the drive unit for the interface is password level 3

Fig. 2-19: USS function of the response ID

## Interrelationship between the task and response

| AK bit No.<br>15 14 13 12 | Function, task ID<br>master to slave | AK bit No.<br>15 14 13 12 | Function, response ID<br>slave to master |
|---|---|---|---|
| 0 0 0 0 | No task | 0 0 0 0 | No response |
| 0 0 0 1 | Request PWE | 0 0 0 1 | Transfer PWE (word) |
| | | 0 0 1 0 | Transfer PWE (double word) |
| 0 0 1 0 | Change PWE (word) | 0 0 0 1 | Transfer PWE (word) |
| 0 0 1 1 | Change PWE (double word) | 0 0 1 0 | Transfer PWE (double word) |
| 0 1 1 0 | Request PWE (array) | 0 1 0 0 | Transfer PWE (array word) |
| | | 0 1 0 1 | Transfer PWE (array double word) |
| 0 1 1 1 | Change PWE (array word) | 0 1 0 0 | Transfer PWE (array word) |
| 1 0 0 0 | Change PWE (array double word) | 0 1 0 1 | Transfer PWE (array double word) |
| | | 0 1 1 1 | Task cannot be executed |
| | | 1 0 0 0 | No control authority |

Fig. 2-20: USS, interrelationship between task and response

| Fault ID | Description |
|---|---|
| 0 | Illegal parameter No. |
| 1 | Parameter cannot be changed |
| 2 | Min/max limiting |
| 3 | Erroneous index value |
| 4 | No array |
| 5 | Incorrect data type |
| 101 | Task unknown |
| 102 | Data conflict, parameter X with parameter Y<br>The two conflict parameters can be read-out via parameter P1019:<br>P1019.0 = parameter X<br>P1019.1 = parameter Y |
| 103 | Can only be written into when the inverter is inhibited |
| 104 | Password level too low |
| 105 | Can only be written into in the configuration mode |
| 106 | Internal interface buffer is full, task must be repeated |

Fig. 2-21: USS fault ID

## Index word (IND)

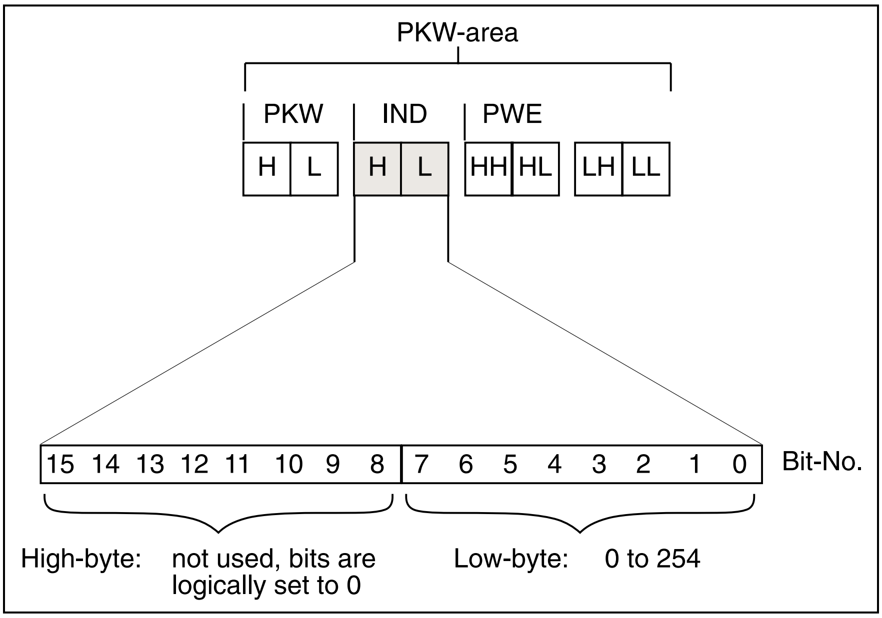


Fig. 2-22: USS index word in the PKW area

## Tasks with index word (IND)

| PKE | | IND | |
|---|---|---|---|
| AK bit No.<br>15 14 13 12 | Function<br>master to slave | Low byte | Function |
| 0 1 1 0 | Request PWE (array) | y(<=254) | Reads the parameter value from the “y+1”th element of the array |
| 0 1 1 1 | Change PWE (array word) | y(<=254) | Writes PWE in the word format to “y+1”th element in the array |
| 1 0 0 0 | Change PWE (array double word) | y(<=254) | Writes PWE in the double-word format to “y+1”th element in the array |

Fig. 2-23: USS tasks with index word

### Response with index word (IND)

| PKE | | IND | |
|---|---|---|---|
| **AK bit No.<br>15 14 13 12** | **Function<br>master to slave** | **Low byte** | **Function** |
| 0 1 0 0 | Transfer PWE (array word) | y(<=254) | Transfers the PWE which is located in the "y+1"th element in the array |
| 0 1 0 1 | Transfer PWE (array double word) | y(<=254) | Function as above, only PWE as double word |
| 1 0 0 0 | Change PWE (array double word) | y(<=254) | Writes PEW in the double-word format to the "y+1"th element in the array |

Fig. 2-24: USS response with index word

## Description of the PZD elements

### PZD area structure

The process data area is, independent of the PKW area, the second section in the net data block.

The PZD area structure is always the same when it comes to the sequence of its elements (words), and only differs from its standard structure by the number of transferred setpoints and actual values.

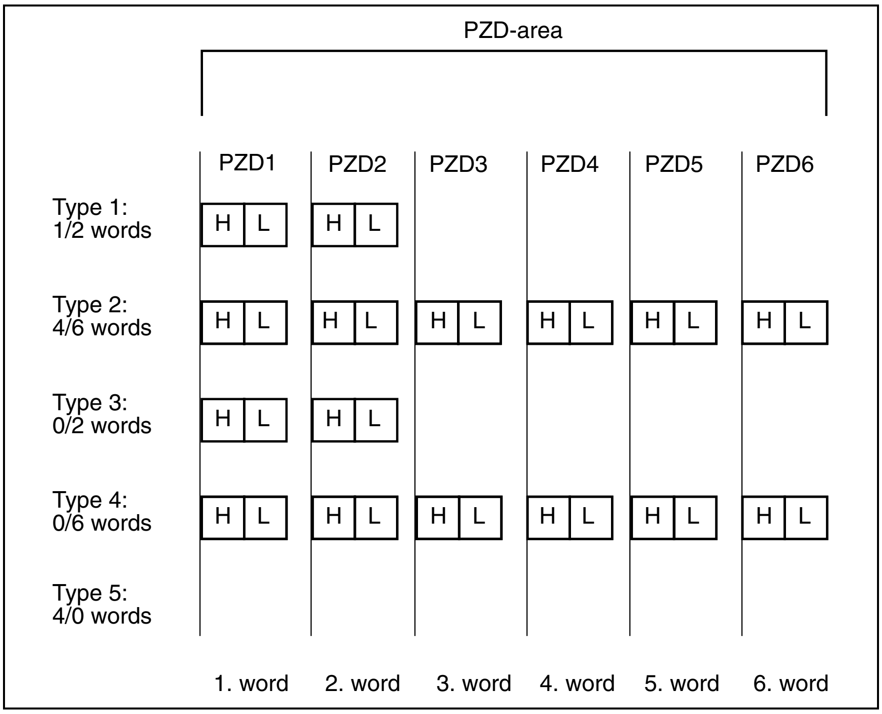


Fig. 2-25:USS, PZD area

| | **PZD1** | **PZD2** | **PZD3 ... PZD6 (only for types 2 and 4)** |
|---|---|---|---|
| Task telegram (master to slave) | Control word[1] | Main setpoint[1] | Suppl. setpoint[2] |
| Response telegram, slave to master) | (Device) status word[1] | Main act. value[1] | Actual values[2] |

1: Defined according to USS, refer to Page 2-11, **Definition according to USS:**

2: The setpoint to actual value assignment can be selected as required. For example, if the speed setpoint is transferred in the task telegram in PZD3, then the speed actual value can be signaled back in the response telegram in PZD3, which is practical from a technological perspective. However, another actual value also can be transferred, for example, the torque actual value, the position actual value or the current actual value.

## Normalization of the process data

Refer to the documentation “Function charts and parameter list” of the appropriate device in the Section, Display parameters.

## The control word and the status word

The control word (task telegram) and the status word (response telegram) are always transferred as PZD1 according to the USS definition.

A higher-level automation enters or evaluates the control and status word.

The functions of bits 0 to 10 are defined in accordance with the VDI / VDE 3689 Directive; bits 11 to 15 can be assigned functions on a device-specific basis.

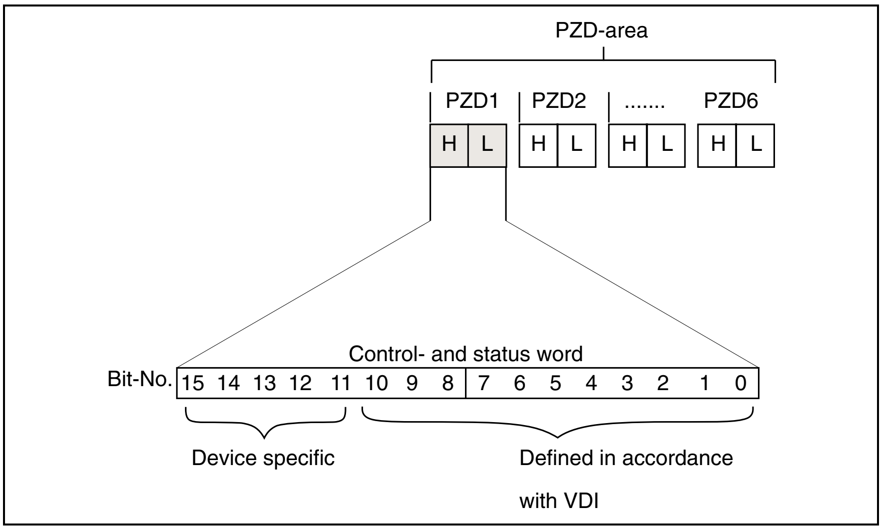


Fig. 2-26:USS control and status word

Support in REFUdrive 500

| | | |
|---|---|---|
| **Control word:** | Defined | 0 ... 7 |
| | Can be freely configured | 8 ... 15 |
| **Status word:** | Defined | 0 ... 10 |
| | Can be freely configured | 11 ... 15 |

## Control and status word diagram for drive converters

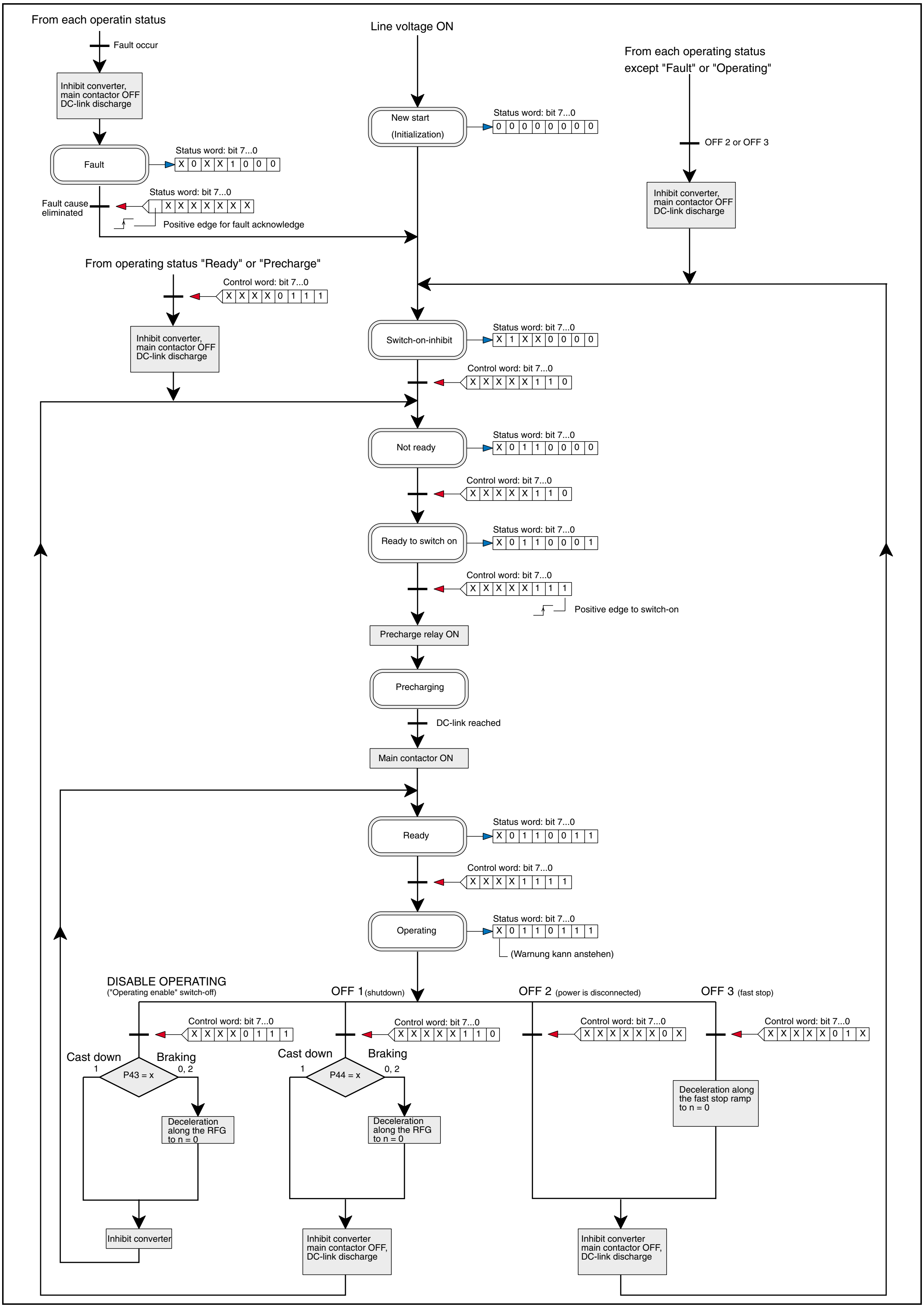


Fig. 2-27:USS control and status word diagram for drive converters

## Control and status word diagram for inverters

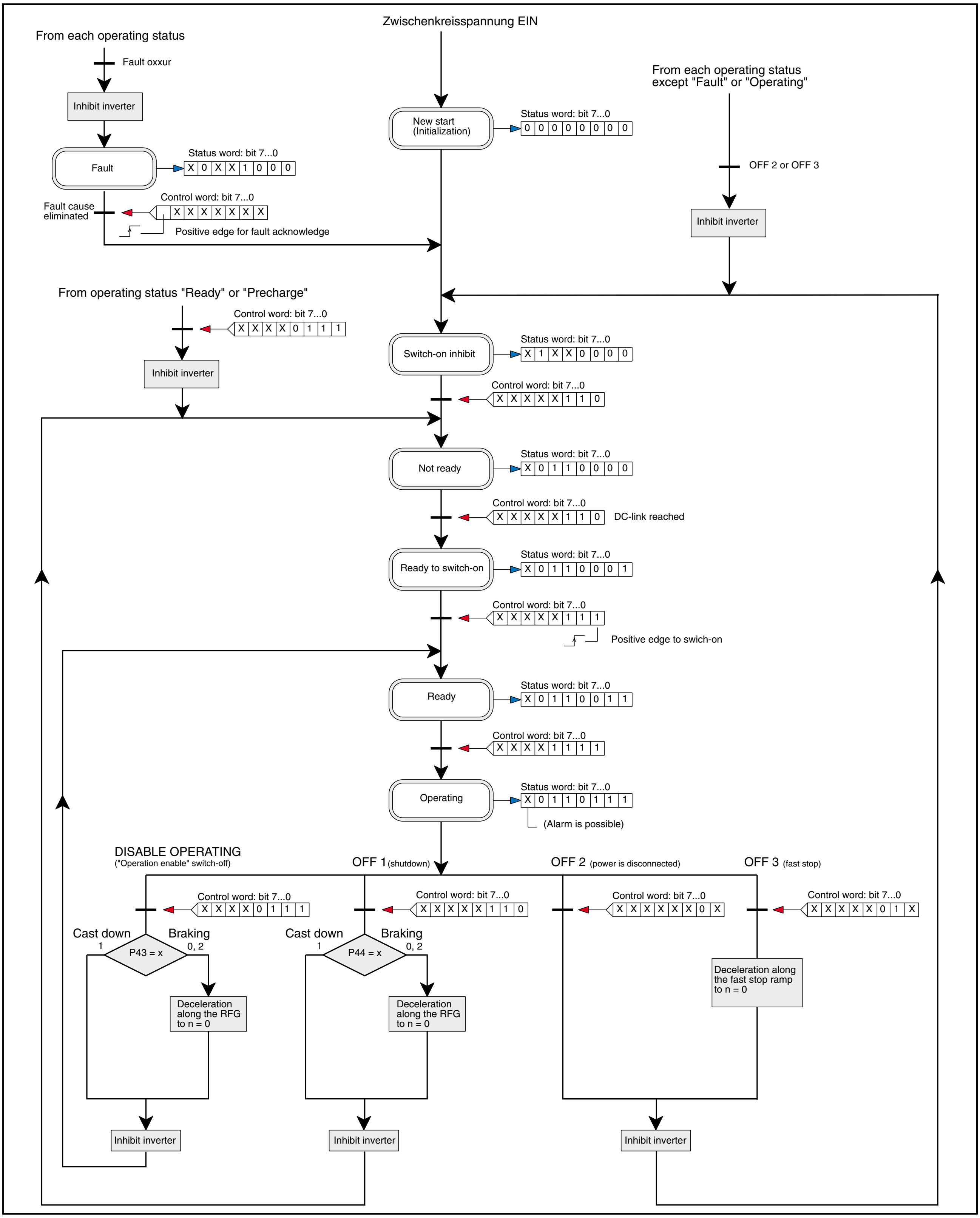


Fig. 2-28:USS control and status word diagram for inverters

## Assignment of the control word bits

| Bit | Value | Significance | Comment |
|---|---|---|---|
| 0 | 1 | On | Transition into the “Ready” condition; DC link is charged, main contactor On (if available). |
| | 0 | Off 1 | Shutdown (return to the “Ready to power-up” condition); decelerates along the RFG (ramp-function generator) ramp*; power disconnected at n/f = 0 and I = 0; main contactor Off (if available).<br>* or the motor coasts-down, refer to parameter P0044 |
| 1 | 1 | Operating condition | All “Off 2” commands have been canceled |
| | 0 | Off 2 | Power disconnected, pulses inhibited!<br>The main contactor is opened (if available), and the drive unit goes into the “Power-on inhibit” condition; the motor coasts down. |
| 2 | 1 | Operating condition | All “Off 3” commands have been canceled |
| | 0 | Off 3 | Fast stop; the drive decelerates along the fast stop ramp or current limit; the inverter pulses are inhibited at n/f = 0; the power is then disconnected (if available, the contactor is opened) and the drive unit goes into the “Power-on inhibit” condition. |
| 3 | 1 | Enable operation | Electronics and inverter pulses are enabled, and the field current impressed. The RFG then runs-up to the entered setpoint. |
| | 0 | Inhibit operation | Inhibit inverter pulses:<br>The drive coasts down (RFG to zero) or braking along the RFG ramp (refer to P0043), and the drive unit goes into the “Ready” condition (refer to control word, bit 2). |
| 4 | 1 | Operating condition | |
| | 0 | Inhibit RFG | The ramp-function generator output is set to 0. The main contactor remains closed, the drive converter is not isolated from the line supply. |
| 5 | 0 | Stop RFG | The setpoint, currently entered from the RFG, is frozen. |
| | 1 | Enable RFG | |
| 6 | 1 | Enable setpoint | The value selected at the input of the RFG is switched-in. |
| | 0 | Inhibit setpoint | The value selected at the input of the RFG is set to 0. |
| 7 | 1 | Acknowledge | Group message is acknowledged for a positive edge; the drive converter is in the fault condition until the fault was successfully removed, and then goes into the “Power-on inhibit” condition. |
| | 0 | No significance | |

Fig. 2-29: USS assignment of the control word bits

All of the control word bits are also available in the drive unit as D parameters. Also refer to the function chart (control word). Control word bits 8 and 15 only become effective after the appropriate D parameters have been entered in a variable source parameter. The function of the control word bits then corresponds to the function of the variable source parameter, to which the D parameter was connected.

**Example:** If the direction of rotation change function is to be connected to bit 8, then proceed as follows:

Enter D1768 (bit8) into the variable source parameter P0067

| **Control word bit** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
|---|---|---|---|---|---|---|---|---|
| Freely intercon-nectable dig. display parameter | D1768 | D1769 | D1770 | D1771 | D1772 | D1773 | D1774 | D1775 |

## Assignment of the status word bits

| Bit | Value | Significance | Comment |
|---|---|---|---|
| 0 | 1 | Ready to power-up | The power supply is powered-up, electronics initialized, main contactor, if available, dropped-out (open), pulses inhibited |
| | 0 | Not ready to power-up | |
| 1 | 1 | Ready | Ready; voltage at the drive converter, i.e. the main contactor is closed (if available).<br>DC link is charged; inverter pulses are inhibited. |
| | 0 | Not ready to power-up | |
| 2 | 1 | Operation enabled | The electronics and pulses are enabled.<br>Enable the inverter pulses:<br>RD51: For $F_{min}$, wait for the delay time P0544 to expire.<br>RD52: Wait until the field has been established, D1756.<br>The RFG (ramp-function generator) is then ramped-up to the applied setpoint. |
| | 0 | Operation inhibited | |
| 3 | 1 | Fault | Drive faulted and therefore not operational; after the fault has been removed and acknowledged, if there is an “On command” present, the drive goes into the power-on inhibit. Fault numbers in the fault memory P0040.x (the last fault can also be read-out via D1793). |
| | 0 | No fault | |
| 4 | 1 | No Off 2 | |
| | 0 | Off 2 | “Off 2” command present. |
| 5 | 1 | No Off 3 | |
| | 0 | Off 3 | “Off 3” command present. |
| 6 | 1 | Power-on inhibit | The drive is only powered-up again by “Off 1” and a subsequent “On” command |
| | 0 | No power-on inhibit | |
| 7 | 1 | Warning | Drive is still operational, warning in the warning parameter P0039. |
| | 0 | No warning | There is no warning or the warning has been withdrawn again. |
| 8 | 1 | | “f set” in the tolerance range (default) |
| 9 | 1 | | Remote |
| 10 | 1 | | “f set reached” (default) |

Fig. 2-30: USS assignment of the status word bits

# 3 Parameter description

## 3.1 Explanations on the parameter description

The section includes the parameters and data of the FWC-SR1700-000-04VRSMS firmware (designation in the firmware: SR 501.2.4.x). The description is used to numerically refer to parameters. This is the reason that they are numerically arranged in increasing sequence.

**1) Parameter number and parameter name**

Parameter number
The parameter name, which is also displayed on the operator panel. In many cases, the function of a parameter cannot be explained with just the name alone. The significance and function can be taken from the function charts.

**2) Max. index**

Various parameters have an index range. If, for example [4], is located in this line, then the parameter has the index range from 0...4, i.e. 5 index levels.

**3) Min. value Max. value**

The selectable parameter value range. All of the values between these two limits, including "min. value" and "max. value" can be set or displayed with the resolution of the last position.

**4) Standard value**

The parameter value settings correspond to those when the equipment was originally shipped. For parameters with index, the parameter value in the line "standard value" is generally valid for all index levels; also refer to Page 1-1, Load standard values.

The "min. value", "max. value" and "standard value" are specified as decimal number in the parameter descriptions, a comma is used in the operator panel display and a point [.] in the lists (as is the case in the US and GB).

When parameterizing via an interface, only the pure numerical value (without comma, without decimal point) may be transferred as parameter value. The parameter value is appropriately interpreted by the firmware in the drive in order to obtain the correct decimal point value, as specified in the tables. Also, when reading parameter values, only the numerical value is transferred from the drive to the control computer. The parameter value must be interpreted there corresponding to the data in the list.

**Example:** The ramp-up time (P0280.x) of the ramp-function generator should be set to 5.5 sec. The following is displayed with a resolution to three decimal places => 5.500 s. The parameter value 5500 must be sent via the interface. In the drive, it is interpreted with the decimal format #.###, this results in => 5.500 sec.

**5) Parameter value**

Parameters to set functions. The selectable functions are listed below the line for the parameter. When parameterizing using the operator panel, the function is selected using the plain text display. The number of the required function must be transferred as parameter value when parameterizing via an interface.

**6) Units**

Hz, V, A, kW, RPM, °C, W, % etc.

**7) D-Par**

All of the parameter values are interpreted as D parameter numbers.

**8) Password level**

0 = Password not required

1 = Password 1: Esc Mon Prog and acknowledge with Enter

2 = Password 2: Esc Mon Prog + and acknowledge with Enter

3 = Password 3: ▷ Esc Mon Prog and acknowledge with Enter

**9) Read / Write**

Read = Only the parameter can be read.

R/W = The parameter can be read and written into.

off = Programming is not possible when the drive is in the "run condition".

on = Programming is also possible when the drive is in the "run condition".

**10) Type**

U = unsigned

S = signed

Example: signed 16 bit = 15 data bits (bits 0 to 14) and one bit for the sign (bit)

**11) Function chart**

Cross reference to the function chart

# 3.2 Explanations of the display parameters (D parameters)

The display parameters are called, in the following as well as in the function charts, D parameters (D1716 = display parameter No. 1716). D parameters can only be read. Four D parameters can be simultaneously displayed on the operator panel using the monitor.

D parameters have no factory setting. After the drive has been powered-up, they take a value between "min. value" and "max. value" and can continually change during operation, with the exception of the system constants, also refer to function chart, Sheet 2.

| System constants | Constant parameter value |
|---|---|
| D1700 | 0 (logical low) |
| D1701 | 1 (logical high) |
| D1800 | 0.00 % |
| D2000 | 100.00 % |
| D2001 | -100.00 % |

D parameters can be classified in two groups:

- D parameters for status display and control functions.
- D parameters for process data.

## D parameters for status display and control functions

Most of the parameters of this group only have logical status 0 or 1. For 0, the message or function is not active; for 1 it is active. If there is a text explanation for a D parameter in the function charts, then this is always valid for the logical status 1.

**Here are several examples:**

| | | | |
|---|---|---|---|
| D1708 | Motor temp. fault | 0 = no fault | 1 = fault |
| D1729 | Setpoint limiter | 0 = not active | 1 = active |
| D1714 | Digital input 1 | 0 = low | 1 = high |
| D1748 | Comparison x > xs | 0 = x less than xs | 1 = x greater than xs |

The values of this parameter group do not have any units and are also not normalized, i.e. the value in the parameter list is the same value which is sent via the interface.

## D parameters for process signals

The process signals are normalized as follows according to the units:

| **Units** | **Display/table** | **Interface** | |
|---|---|---|---|
| Percentage (%): | 100.00 % | = 4000 hex | = 16384 dec |
| Controller Kp: | 1.0 | =100 hex | = 256 dec |
| Voltage (V): | (P1039 · 2 / 3)V | = 4000 hex | = 16384 dec |
| <u>Exception:</u> | | | |
| D1928 ($V_{DC\ link}$) | (P1039) V | = 4000 hex | = 16384 dec |
| D1998 ($V_{line}$) | (P1039) V | = 4000 hex | = 16384 dec |
| Degrees Celsius (°C): | 100.00°C | = 4000 hex | = 16384 dec |

The voltage normalization of the drive is defined in D1039.

# 3.3 Parameter

## parameter: P0000 Firmware FWC-

| | |
|---|---|
| **maximum index:** | 23 |
| **minimal value:** | 0 |
| **maximal value:** | 0 |
| **default value:** | 0 |
| **parameter value:** | 0 = SR1700-004-03V06-MS |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Actual firmware designation FWC-SR1700-004-03VRS-MS-

## parameter: P0001 Device ID

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 503 |
| **maximal value:** | 503 |
| **default value:** | 503 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Equipment ID

The type series of the drive is specified here.

## parameter: P0002 Firmware version

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 65535 |
| **default value:** | 2 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Drive firmware version

## parameter: P0003 Firmware modul

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 65535 |
| **default value:** | 3 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Drive firmware module

## parameter: P0004 Firmware revision

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 65535 |
| **default value:** | 6 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Drive firmware revision

## parameter: P0005 Firmware discript.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 9 |
| **default value:** | 4 |
| **parameter value:** | 0 = RD51 Standard<br>1 = RD51 A1 special Ver<br>2 = RD51 A2 special Ver<br>3 = RD51 A3 special Ver<br>4 = RS51 REFU speed<br>:<br>9 = RD51 A9 tmp. Sonder |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Firmware description

## parameter: P0006 Serial number

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 65535 |
| **default value:** | 0) |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Drive serial number

## parameter: P0007 Converter number

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 65535 |
| **default value:** | 0) |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Drive equipment number

## parameter: P0008 EEPROM prog cycles

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -1 |
| **maximal value:** | 100000 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | - |
| **read / write:** | Read |
| **type:** | signed 32 bit |
| **function diagram:** | plan - |

Programming cycles

Number of programming cycles of the EEPROM on the drive converter board

## parameter: P0009 Enter Password

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 9999999 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | R/W on |
| **type:** | signed 32 bit |
| **function diagram:** | plan - |

Parameters for password entry

## parameter: P0010 Display language

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 1 |
| **parameter value:** | 0 = English<br>1 = German |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Selects the display language

## parameter: D0011 Frequency setpoint

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -3000.00 |
| **maximal value:** | 3000.00 |
| **default value:** | - |
| **unit:** | Hz |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 32 bit |
| **function diagram:** | plan - |

Reference frequency after the delay time,
for display parameter D1938

## parameter: D0012 Frequency output

**maximum index:** -
**minimal value:** -3000.00
**maximal value:** 3000.00
**default value:** -
**unit:** Hz
**passwordlevel:** 0
**read / write:** Read
**type:** signed 32 bit
**function diagram:** plan -

Actual frequency
Actual drive inverter output frequency

## parameter: D0013 O/P voltage Vout

**maximum index:** -
**minimal value:** 0
**maximal value:** 65535
**default value:** -
**unit:** V
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 37

Output voltage Vact
Actual drive inverter output voltage

## parameter: D0014 O/P current Iout

**maximum index:** -
**minimal value:** -3276.8
**maximal value:** 3276.7
**default value:** -
**unit:** A
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Output current Iact
Actual total drive inverter output current

## parameter: D0015 O/P current Iactive

**maximum index:** -
**minimal value:** -3276.8
**maximal value:** 3276.7
**default value:** -
**unit:** A
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Output current Iactive
Actual active component of the output current

## parameter: D0016 O/P current Ireact

**maximum index:** -
**minimal value:** -3276.8
**maximal value:** 3276.7
**default value:** -
**unit:** A
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -

Output current Ireactive
Actual reactive component of the output current

## parameter: D0017 DC link voltage

**maximum index:** -
**minimal value:** 0
**maximal value:** 1000
**default value:** -
**unit:** V
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

DC link voltage VDC link
Actual DC link voltage

## parameter: D0018 Line voltage

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 3000 |
| **default value:** | - |
| **unit:** | V |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Line voltage Vline

Actual line supply voltage

## parameter: P0019 Converter type

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.0 |
| **maximal value:** | 6553.5 |
| **default value:** | 1) |
| **unit:** | kVA |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Drive type 1

Codes the drive output class

## parameter: P0020 Power input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0) |
| **parameter value:** | 0 = DC input |
| | 1 = AC input |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Drive type 2

The drive supply type is specified here

## parameter: P0021 Rated mains voltage

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 100 |
| **maximal value:** | 500 |
| **default value:** | 0) |
| **unit:** | V |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Rated line voltage
Specifies the rated line supply voltage
for which the drive unit is designed

## parameter: P0022 Continuous output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.0 |
| **maximal value:** | 1000.0 |
| **default value:** | 1) |
| **unit:** | kVA |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Rated output S
Continuous permissible drive output

## parameter: P0023 Peak output long

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.0 |
| **maximal value:** | 1000.0 |
| **default value:** | 1) |
| **unit:** | kVA |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Peak output long
Briefly permissible drive output
for t = 60 seconds

## parameter: P0024 Continuous current

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.0 |
| **maximal value:** | 999.9 |
| **default value:** | 1) |
| **unit:** | A |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Rated output current In
Continuous permissible drive output current

## parameter: P0025 Peak current long

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 5.0 |
| **maximal value:** | 999.9 |
| **default value:** | 1) |
| **unit:** | A |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Peak current long
Briefly permissible drive output current for t = 60 seconds
Irated may not be exceeded over the average,
ton : toff = 1 : 4

## parameter: P0027 Max.normaliz. freq.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 5.0 |
| **maximal value:** | 6000.0 |
| **default value:** | 500.0 |
| **unit:** | Hz |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Max. normalization frequency
This parameter defines the maximum value
for frequency normalization. (P0390)

## parameter: P0028 Operating hours

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 2147483647 |
| **default value:** | 0 |
| **unit:** | h |
| **passwordlevel:** | - |
| **read / write:** | Read |
| **type:** | signed 32 bit |
| **function diagram:** | plan - |

Operating hours
Actual status of the operating hours counter in hours.
The operating hours counter runs as soon as
the drive inverter has been enabled.

## parameter: P0029 Operating minutes

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 59 |
| **default value:** | 0 |
| **unit:** | min |
| **passwordlevel:** | - |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Operating minutes
Actual status of the operating hours counter in minutes.
The operating hours counter runs as soon as
the drive inverter has been enabled.

## parameter: P0031 Adjust DC voltage

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.0 |
| **maximal value:** | 25.5 |
| **default value:** | 0.0 |
| **unit:** | % |
| **passwordlevel:** | 3 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Possibility of calibrating the line supply voltage measurement.
(line supply feed)

## parameter: P0033 Int current norm

**maximum index:** -
**minimal value:** 0.00
**maximal value:** 21474836.47
**default value:** 1)
**unit:** A
**passwordlevel:** 0
**read / write:** Read
**type:** signed 32 bit
**function diagram:** plan -

Internal current normalization
The internal current normalization is used to calculate the current measured values, and is specified as peak value.

## parameter: P0034 Fan control

**maximum index:** -
**minimal value:** 1
**maximal value:** 2
**default value:** 2
**parameter value:** 1 = ON permanently
2 = ON if inverter on
**unit:** no
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Fan control
This can be used to control the fan in the drive.

ON continuous
The fan is always powered-up.

ON when the inverter is enabled
The fan is powered-up when the inverter is enabled.

## parameter: P0035 Fan contr threshold

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 20 |
| **maximal value:** | 150 |
| **default value:** | 40 |
| **unit:** | °C |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Temperature threshold

The temperature threshold is required for automatic operation to compare with the actual cooler temperature.

## parameter: P0036 Breaking resistor

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 3 |
| **default value:** | 0 |
| **parameter value:** | 0 = REFU internal<br>1 = disabled<br>2 = no protection<br>3 = external programabl |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Brake resistor

The type of brake resistor used can be defined here.

## parameter: P0037 Display line 1,2,3

| | |
|---|---|
| **maximum index:** | 02 |
| **minimal value:** | 0 |
| **maximal value:** | 9 |
| **default value:** | 6 |

**parameter value:**
0 = status
1 = n actual
2 = I active
3 = I actual
4 = U actual
5 = DC-link
6 = f actual
7 = f set
8 = P actual
9 = P active

**unit:** no
**passwordlevel:** 0
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Display lines 1, 2, 3
Selects the display function for the operating display
P0037.00 assignment for line 1
P0037.01 assignment for line 2
P0037.02 assignment for line 3

## parameter: D0039 alarm

**maximum index:** -
**minimal value:** 0
**maximal value:** 65
**default value:** -
**parameter value:**
0 = No fault
1 = External
:
3 = DC-link volt.high
4 = DC-link volt.low
:
7 = Device overtemp.
8 = Brake resistor
9 = Main contacter
10 = Pre-charging
11 = New EEPROM
12 = Clock1 <==> clock2
13 = Power section
14 = Inverter
15 = Power supply
:
17 = Overspeed
18 = Ground fault
19 = EEPROM DATA
:

21 = Internal WS comm.
22 = NTC powersection
:
24 = SI1 timeout
25 = SI2 function
26 = SI2 timeout
27 = Analog input I<4mA
28 = Motor overtemperat.
:
30 = ? SR-Release ?
31 = BR overload
32 = Overcurrent
:
34 = Safety OFF
35 = Motor overload
36 = SI3 timeout
:
38 = Configuration mode
39 = on at startprot.act
40 = Switched pwr supply
41 = SR <==> WS new
42 = New device startup!
:
44 = SI4 function
45 = SI4 timeout
46 = SI5 timeout
47 = startprotection act
:
59 = SI6 timeout
:
61 = FUS Power supply
62 = Resonance
:

**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Warning

Warning message which is present.

A warning message does not result in a trip.

## parameter: P0040 fault memory

**maximum index:** 09
**minimal value:** 0
**maximal value:** 65
**default value:** 0
**parameter value:**

0 = No fault
1 = External
:
3 = DC-link volt.high
4 = DC-link volt.low
:
7 = Device overtemp.
8 = Brake resistor
9 = Main contacter
10 = Pre-charging
11 = New EEPROM
12 = Clock1 <==> clock2
13 = Power section
14 = Inverter
15 = Power supply
:
17 = Overspeed
18 = Ground fault
19 = EEPROM DATA
:
21 = Internal WS comm.
22 = NTC powersection
:
24 = SI1 timeout
25 = SI2 function
26 = SI2 timeout
27 = Analog input I<4mA
28 = Motor overtemperat.
:
30 = ? SR-Release ?
31 = BR overload
32 = Overcurrent
:
34 = Safety OFF
35 = Motor overload
36 = SI3 timeout
:
38 = Configuration mode
39 = on at startprot.act
40 = Switched pwr supply
41 = SR <==> WS new

42 = New device startup!
:
44 = SI4 function
45 = SI4 timeout
46 = SI5 timeout
47 = startprotection act
:
59 = SI6 timeout
:
61 = FUS Power supply
62 = Resonance
:

**unit:** no
**passwordlevel:** -
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Fault memory
Faults which caused the drive to trip are saved in the sequence which they occurred.

## parameter: P0041 fault time h

**maximum index:** 09
**minimal value:** 0
**maximal value:** 65535
**default value:** 0
**unit:** h
**passwordlevel:** -
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Fault time in hours
Status of the operating hours counter in hours, at the instant of the corresponding fault trip.

## parameter: P0042 fault time min

| | |
|---|---|
| **maximum index:** | 10 |
| **minimal value:** | 0 |
| **maximal value:** | 159 |
| **default value:** | 0 |
| **unit:** | min |
| **passwordlevel:** | - |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Fault time in minutes
Status of the operating hours counter in minutes, at the instant of the corresponding fault trip.

## parameter: P0043 Inhibit operation

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = brake mode<br>1 = inverter off |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 45, 46 |

Inhibit operation
Selects the function which is executed when the operating enable is withdrawn (control word bit3):

Braking
The motor is braked with the appropriate ramp-function generator down ramp and is then held with the selected DC current for the selected DC brake duration.

No-load coast down
The motor coasts down under no load conditions

## parameter: P0044 Inhibit drive  OFF1

**maximum index:** -

**minimal value:** 0

**maximal value:** 1

**default value:** 0

**parameter value:** 0 = brake mode
1 = inverter off

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 45, 46

Inhibit drive
Selects the function which is executed when the drive is inhibited (Off1) (control word bit0):

Braking
The motor is braked with the appropriate ramp-function generator down ramp and is then held with the selected DC current for the selected DC brake duration.

No-load coast down
The motor coasts down under no load conditions

## parameter: P0045 Timeout for f-null

**maximum index:** -

**minimal value:** 0.0

**maximal value:** 300.0

**default value:** 1.5

**unit:** sec

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 45, 46

Monitoring time down to f zero
For an off command when braking, the time between the ramp-function generator reaching zero and the output frequency reaching zero is monitored. If the drive output has not reached zero after this monitoring time, the inverter is inhibited, or DC current braking is initiated. This can occur, if there is a control operation between the ramp-function generator output and the frequency output to the drive inverter and this operation takes more time than the monitoring time permits.

## parameter: P0046 Peak current short

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.0 |
| **maximal value:** | 999.9 |
| **default value:** | 12.0 |
| **unit:** | A |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Peak current, short

Briefly permissible drive output current for t = 1 second
This limit is reduced after drive utilization up to Ikb60.
Irated may not be exceeded over the average.

## parameter: P0048 Src fault external

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Variable parameter source for the external fault function.

Here, signals can be connected from the machine control

via a digital input.

## parameter: P0049 Src warning externl

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 07 |

Variable parameter source for the external alarm

function.

Here, signals can be connected from the machine control

via a digital input.

## parameter: P0050 Src ctrol. word KL

**maximum index:** 07
**minimal value:** 1
**maximal value:** 2044
**default value:** 1634
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 03

Variable parameter source for the "control word KL" (D1927). These commands are effective in the individual bits of "control word KL" (D1927) logically combined with the "control word MS", in the "control word" (D1920).

Index 0

Variable parameter source for the on command.
When powering-up the drive, the rising edge of the on bit is evaluated in the "control word" (D1920).

Index 1

Variable parameter source for the power disconnect function.
This command is active when zero. 0 = disconnect power.

Index 2

Variable parameter source for the fast stop function.
This command is active when zero. 0 = fast stop.

Index 3

Variable parameter source for the operating enable function.
1 = drive inverter enabled.

Index 4

Variable parameter source for the ramp-function generator reset function.
This command is active when zero. 0 = ramp-function generator reset. For a ramp-function generator reset, the ramp-function generator output is set to zero.

Index 5

Variable parameter source for the ramp-up stop function.
This command is active when zero. 0 = ramp-up stop. For a ramp-up stop, additional ramp-up is stopped at the ramp-up generator output, however it is permissible to ramp-down to lower operating frequencies.

Index 6

Variable parameter source for the setpoint enable function.
The ramp-function generator input is set to zero if there is no command present.

Index 7

Variable parameter source for the fault acknowledgment function.
To acknowledge a fault, the rising edge of the fault acknowledgment bit in the "control word" (D1920) is evaluated.

## parameter: P0051 Src. on-off logic

| | |
|---|---|
| **maximum index:** | 07 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1701 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 41 |

Variable parameter sources for the functions
inputs of the on, off logic module

## parameter: P0057 NAMUR-functions

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = not active<br>1 = active |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 03 |

Selects the special functions of the NAMUR Standard

not active

standard drive functions

active

function, safety trip (P0050.1, P0571)
For the "Set standard values" function, the drive is set to the requirements of the Namur standard.

## parameter: P0060 special quit

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

P0060 Special acknowledgement

1 = initiate special acknowledgement

The firmware sets the value back to 0 directly afterwards. This special acknowledgement is required if the EEprom data fault is present. The EEprom data fault message cannot be deleted using a standard acknowledgement, the parameterized acknowledge input, the ESC button on the operator panel or the acknowledgement button on the SR17000. We recommend, before initiating the special acknowledgement, to view the following parameters using parameter P0060. EEprom parameter number fault list in parameter D0061. The parameters are entered in the format nnnn.ii, for nnnn = parameter number and ii = parameter index if available.

The EEprom parameter value fault list in parameter D0062. The queried value is entered here.

Example: First queried parameter

D0061.0 = 374.00

D0062.0 = 3500

The value in P0374.0 with 350.0 A, is too high for this drive size.

D0061.0 = 374.01

D0062.0 = 3560

The value in P0374.1 with 356.0 A, is too high for this drive size.

## parameter: P0061 par.numb. faultlist

**maximum index:** 19
**minimal value:** 0.00
**maximal value:** 9999.99
**default value:** 0.00
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 32 bit
**function diagram:** plan -

P0060 Special acknowledgement

1 = initiate special acknowledgement

The firmware sets the value back to 0 directly afterwards. This special acknowledgement is required if the EEprom data fault is present. The EEprom data fault message cannot be deleted using a standard acknowledgement, the parameterized acknowledge input, the ESC button on the operator panel or the acknowledgement button on the SR17000. We recommend, before initiating the special acknowledgement, to view the following parameters using parameter P0060. Eeprom parameter number fault list in parameter D0061. The parameters are entered in the format nnnn.ii, for nnnn = parameter number and ii = parameter index if available. The Eeprom parameter value fault list in parameter D0062. The queried value is entered here.

Example: First queried parameter

D061.0 = 374.00
D062.0 = 3500
The value in P374.0 with 350.0 A, is too high for this drive size.
D061.0 = 374.01
D062.0 = 3560
The value in P374.1 with 356.0 A, is too high for this drive size.

## parameter: P0062 par.value faultlist

| | |
|---|---|
| **maximum index:** | 19 |
| **minimal value:** | 0 |
| **maximal value:** | 999999 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 32 bit |
| **function diagram:** | plan - |

P0060 Special acknowledgement

1 = initiate special acknowledgement

The firmware sets the value back to 0 directly afterwards. This special acknowledgement is required if the EEprom data fault is present. The EEprom data fault message cannot be deleted using a standard acknowledgement, the parameterized acknowledge input, the ESC button on the operator panel or the acknowledgement button on the SR17000. We recommend, before initiating the special acknowledgement, to view the following parameters using parameter P0060. Eeprom parameter number fault list in parameter D0061. The parameters are entered in the format nnnn.ii, for nnnn = parameter number and ii = parameter index if available. The Eeprom parameter value fault list in parameter D0062. The queried value is entered here.

Example: First queried parameter

D061.0 = 374.00
D062.0 = 3500
The value in P374.0 with 350.0 A, is too high for this drive size.
D061.0 = 374.01
D062.0 = 3560
The value in P374.1 with 356.0 A, is too high for this drive size.

## parameter: P0063 Search current

**maximum index:** 31
**minimal value:** 0.00
**maximal value:** 100.00
**default value:** 50.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 15

Search run, search current

The search function searches for the motor coasting down with this current.

## parameter: P0064 Parameteriz. level

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = basic parametrizat.
1 = free parametrizat.
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Selects the parameterizing level

Basic parameterization

The higher-level group parameters P0870 and onwards can be handled at this level. These parameters ensure automatic linking and configuration of the selected function. Furthermore, the additionally required parameters, corresponding to the context, are inserted in the operator panel menus in order to ease handling.

Free parameterization

At this level, all of the modules and functions can be individually freely linked and configured using the associated function charts. The higher-level group parameters P870 and onwards are ineffective here and are not accessible through the operator panel menus.

**Caution:** DATA COULD BE LOST

When changing-over from the free parameterization to basic parameterization, all of the existing links and configurations are removed and replaced by the data of the higher-level group parameters P0870 and onwards. This means that free links and configurations are lost!

## parameter: P0065 Src. srch.add.frequ

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 2026 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 15 |

Variable parameter source for the function
search run, addition frequency.

Search run, addition frequency P0065:
If the frequency search run module found the frequency of the spinning motor, the value of variable parameter source P0065 is added to the frequency found and is then transferred to the ramp-function generator.

## parameter: P0066 Src. f-min select

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 14 |

Variable parameter source for the
f-min selection function.
For f-min selection, the appropriate f-min is entered
from the setpoint memory as frequency setpoint.

## parameter: P0067 Invert RFG s/p

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 15 |

Variable parameter source for the function direction of rotation change.

For a direction of rotation change, the entered setpoint is transferred with the inverse polarity.

## parameter: P0068 Src. sourceblock

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 07 |

Changeover, NORMAL / test mode

You can use the operator panel to toggle between NORMAL / test mode by simultaneously pressing the + key, or using P0068. D1700 or D1701 must be connected into P0068 (factory setting P0068 = D1700) so that you can changeover using the operator panel. When the operating mode is changedover, the variable parameter source for the setpoint memory is changed-over at the same time.

| | | | | | |
|---|---|---|---|---|---|
| Status after initialization: | P0086 | = | 1700 | -> | NORMAL |
| | P0086 | = | 1701 | -> | TEST |

## parameter: P0069 Src.setpoint memory

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1673 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 07 |

Setpoint memory

The "Setpoint memory" control signal is formed using P0069. P0069.0 is selected in the factory setting. The coding output D1673 is connected into the variable parameter source P0069.0. This means that the "Setpoint memory" control signal can be parameterized from values 0 .. 31. Correspondingly, the index levels 0...31 of the specified parameters are simultaneously selected using the "Setpoint memory" control signal.

Frequency values:

| | |
|---|---|
| f-set | P0265.xx |
| f-max | P0179.xx |
| f-min | P0180.xx |

Ramp-function generator 0...31:

| | |
|---|---|
| Ramp-up time | P0280.xx |
| Ramp-down time | P0281.xx |
| Rounding-off, UP | P0282.xx |
| Rounding-off, DOWN | P0283.xx |

## parameter: P0070 Parameter set 0/1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 07 |

Changes over the motor parameter set

With REFUdrive 500 drives, you can enter the data from two different motors. All of the motor-specific data are changed-over in the drive using the "Motor parameter set" control signal. The "Motor parameter set" control signal either has the value 0 or 1 and is set with P0070. The default value of P0070 is D1700 (constant, logical 0). This means that motor 0 is selected with the associated data. To select motor 1, set D1701 in P0070. You can also control the selection of motor 0 and 1 from a digital input. For example if you wish to use digital input 8, then set D1721 in P0070. If a low signal is now entered at digital input 8, motor data set 0 is selected, correspondingly, motor data set 1 with a high signal. The operating enable prevents the "Parameter set" control signal being changed-over. It is not possible to changeover the parameter set in operation. All of the motor model data are recalculated as a result of the changeover. Parameter set.

## parameter: P0071 Load default values

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 2 |
| **default value:** | 0 |
| **parameter value:** | 0 = no action |
| | 1 = basic standardvalue |

2 = free standardvalues

**unit:** no

**passwordlevel:** 0

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan -

Download standard values

0 = no action

1 = basis, standard values are downloaded Parameters, with a password level less than or the same as the entered password level are set to the standard value of the basic parameterization.

2 = free standard values are downloaded Parameters with a password level less than or equal to the entered password level are set to the standard value of the free parameterization.

## parameter: P0072 Source parameter

**maximum index:** -

**minimal value:** 0

**maximal value:** 5

**default value:** 0

**parameter value:**

0 = keypad, PC(RS232)

1 = bus SI1

2 = bus SI2

3 = bus SI4

4 = all busses SIx

5 = bus SI6

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

Parameter source

The parameterization control authority is defined here.

Examples:

0 = Parameterization enabled from the operator panel

1 = Parameterization enabled from the SS1 standard interface

2 = Parameterization enabled from the SS2 option interface

3 = Parameterization enabled from the SS4 option interface

4 = Parameterization enabled from the SS1, SS2 and SS4 interface

5 = Parameterization enabled from the SS6 option interface

# parameter: P0073 Source ON/OFF

**maximum index:** 01

**minimal value:** 0

**maximal value:** 3

**default value:** 2

**parameter value:**
0 = keypad + term.strip
1 = bus SSx +term.strip
2 = terminal strip
3 = PC(RS232)+term.str.

**unit:** no

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 03

Control word generation

The drive is controlled using the control word. The control word comprises 16 bits. Bits 0 to 7 are defined in compliance with VDI/VDE Directive 3689. Bits 8 to 15 can only be set via the serial interface and each bit can be freely assigned a drive control function. The control word generates control word KL1) and control word MS1) from logical operations. Control word MS can be entered from four sources which are selected with P0073.

P0073, switch setting 0:

Control word MS is formed from a mask, in which bits 1 to 15 are permanently entered. Only bit 0 can be set with the operator panel to 1 (ON command) or 0 (OFF1 command).

P0073, switch setting 1:

Control word MS is received from a variable parameter source. Only the process data of the serial interfaces can be inserted in the parameter source. This means that control word MS is entered via the interface.

In this configuration, bits 8 to 15 can also be set via the serial interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

P0073, switch setting 2:

Control word MS is formed using a mask in which bits 0 to 15 are permanently entered. The mask is assigned so that the drive is only controlled via control word KL. Bits 0 to 7 of control word KL are permanently assigned control functions. To control the drives via the terminal strip, the D parameters of the digital inputs used must be connected to the variable parameter sources (P0050.x).

P0073, switch setting 3:

Control word MS is received from the service interface RS232. Process data word 1 is accepted as control word MS. Switch setting 3 is intended for controlled operation via REFUwin which sends its control commands as PZD1.

---

**Note:** To power-up the drive, in the "Ready to power-up" operating status, bit 0 must change from 0 to 1. The fault acknowledgement in (bit 7) is also only accepted for a signal change from 0 to 1.

---

Assignment of the control word bits

The bits 0 to 7 of the control word match the functions defined in VDI/VDE Directives 3689:

| | | | |
|---|---|---|---|
| Bit 0 | = | ON | (edge L-> H) |
| | | OFF 1 | (L active) |
| Bit 1 | = | OFF 2, power disconnect | (L active) |
| Bit 2 | = | OFF 3, fast stop | (L active) |
| Bit 3 | = | Operating enable | (H active) |
| Bit 4 | = | RFG reset | (L active) |
| Bit 5 | = | RFG stop | (L active) |
| Bit 6 | = | Setpoint enable | (H active) |
| Bit 7 | = | Fault acknowledgement | (edge L-> H) |

Bits 8 to 15 can only be entered from the serial interface via the control word. The functions for these bits can be freely configured.

Operating mode / coast down:

P0043 "Inhibit operation"

defines the mode when withdrawing the operating enable, control word bit 3

P0044 "Inhibit drive"

defines the mode for OFF1 control word bit 0. If bit0 and bit3 are simultaneously set to zero, then P0044 has priority.

**Note:** More information regarding the control/status logic is provided in the control and status word flowdiagram on Function chart, Sheets 45 and 46.

## parameter: P0074 Src control word 1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1900 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 03 |

Source, control word MS

Variable parameter source for control word MS, if the source ON/OFF is set to the SI1/SI2 standard interface or SI2 option interface. (P0073)

## parameter: P0075 Src control word 2

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 05

Source, control word2

Variable parameter source for control word2.

## parameter: P0076 Src stat.word 1 bit

**maximum index:** 15
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 04

Variable parameter sources for six of the freely-definable bits of status word 1.

Display parameters can be entered here from the area of the control functions.

## parameter: P0084 Src stat.word 2 bit

**maximum index:** 15
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 05

Variable parameter sources for all sixteen definable bits of status word 2. Display parameters from the control functions area can be entered here.

## parameter: P0086 Heatsink temp diff

**maximum index:** -
**minimal value:** 0
**maximal value:** 40
**default value:** 5
**unit:** °C
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 25

Cooler temperature alarm threshold

The threshold is entered as differential value.

Differential value = drive trip threshold - required alarm threshold.

The drive trip threshold is fixed and is specified by the manufacturer.

## parameter: P0087 Searching mode

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 0
**parameter value:** 0 = no
1 = after on
2 = after on +-
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 15

Frequency search run

The frequency search run is switched-in and the mode selected using parameter P0087.

P0087: No

A search run is not executed after the on command.

P0087: After the on command

The drive starts after the on command with the last direction of rotation and searches for the motor which is coasting down. The frequency which is output starts at fmax and is continually decreased. When the motor speed is found, the search run stops and the actual setpoint is approached via the ramp-function generator.

P0087: After on command±

The drive starts, after the on command with the last direction of rotation and searches for the motor which is coasting down. The frequency which is output starts at fmax and is continually decreased. When the motor speed is found, the search run stops and the actual setpoint is approached via the ramp-function generator. If the motor speed was not found by f = 0 Hz, the search run, described above starts again with the other direction of rotation.

# parameter: P0088 Restart

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = no |
| | 1 = yes |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 45, 46 |

Restart after power failure

No

The drive only starts again with a rising edge of the on command.

Yes

The "DC link volt. low" fault message is suppressed!

The "Main contactor" (dropped-out) fault message is suppressed!

Normal restart function:

If the drive detects V DC link min or that the main contactor has dropped-out, if the ON command is present as steady-state signal, the drive is re-started if the "PS control voltage OK" message (D1571) from the power module is detected with "1". The fact that the switched-mode power section starts to stabilize is used here to indicate the line supply is available. Once the switched-mode power supply has stabilized, it can be assumed that the line supply voltage is again ok and that the pre-charging operation will be successful.

Cyclic restart function:

If the pre-charging operation is unsuccessful due to a special situation, mentioned below, then this is interrupted without the "Pre-charging" fault message. The pre-charging operation is started. Again after a 60 second delay time. This is cyclically repeated.

Special case:

If a chemistry module is used, the switched-mode power section is connected after the main contactor contacts. This means that the contactor is energized from the SR17000, i.e. before the SNT_ok message.

**Note:** When using a main contactor connected in series and the drive converter electronics have a standby power supply, the external contactor is opened for each fault trip. Independent of the cause of the fault, the drive detects a power failure. In the chemical industry module (RZC...), there is also a main contactor connected in series! If the fault message is now acknowledged and the ON command remains as steady-state signal, the drive attempts to restart. If this automatic restart is not desired, then the machine control must withdraw the ON command before the fault message is acknowledged!

## parameter: P0089 src.EnableBrakeOpen

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1701 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 43 |

Variable parameter source for the function open mechanical brake

## parameter: P0093 Fault quit delay

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 20 |
| **default value:** | 1 |
| **unit:** | sec |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Fault acknowledgement delay

0

Fault acknowledgements are directly processed.

x seconds

Fault acknowledgements are processed after a time of x seconds expires.

**Caution:** For the pre-charging fault, fault acknowledgements are generally only processed after 30 seconds has expired.

## parameter: P0094 DC link min. value

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 20 |
| **maximal value:** | P 95 |
| **default value:** | 450 |
| **unit:** | V |
| **passwordlevel:** | 3 |
| **read / write:** | R/W off |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Minimum value for the DC link voltage VDC link min.

The drive inverter is powered-down (tripped) with fault message when this value is fallen below.

## parameter: P0095 DC link max. value

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | P 94 |
| **maximal value:** | 3000 |
| **default value:** | 700 |
| **unit:** | V |
| **passwordlevel:** | 3 |
| **read / write:** | R/W off |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Maximum value for the DC link voltage VDC link max

The drive inverter is powered-down (tripped) with fault message if this value is exceeded.

## parameter: P0096 Precharge - DC min

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 10 |
| **maximal value:** | 50 |
| **default value:** | 10 |
| **unit:** | V |
| **passwordlevel:** | 3 |
| **read / write:** | R/W off |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Difference: Pre-charging threshold - VDC link min

## parameter: P0097 DCmax - BR ON

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 10 |
| **maximal value:** | 100 |
| **default value:** | 40 |
| **unit:** | V |
| **passwordlevel:** | 3 |
| **read / write:** | R/W off |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Difference: VDC link max - PRon threshold

## parameter: P0098 DCmax - BR OFF

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 10 |
| **maximal value:** | 100 |
| **default value:** | 45 |
| **unit:** | V |
| **passwordlevel:** | 3 |
| **read / write:** | R/W off |
| **type:** | signed 16 bit |
| **function diagram:** | plan 01 |

Difference: VDC link max - PRoff threshold

## parameter: P0099 Max. o/p frequency

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 5.0 |
| **maximal value:** | 1500.0 |
| **default value:** | 500.0 |
| **unit:** | Hz |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 18 |

Max. output frequency

This is the maximum frequency value which can be output by the drive. This value is dependent on parameter P0026.

## parameter: P0100 Motor type

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = Asynchron ASM |
| | 1 = Synchron SM |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 01 |

Motor type

Specifies the type of motor which is connected

Induction motor ASM

Synchronous motor SM

## parameter: P0101 Rated speed ASM

**maximum index:** 31
**minimal value:** 100
**maximal value:** 210000
**default value:** 2)
**unit:** 1/min
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 32 bit
**function diagram:** plan 01

Rated speed ASM (induction motor)

Rated speed of the connected induction motor acc. to the rating plate.

## parameter: P0102 Rated frequencyASM

**maximum index:** 31
**minimal value:** 5.0
**maximal value:** 3500.0
**default value:** 2)
**unit:** Hz
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 01

Rated frequency ASM (induction motor)

Rated frequency of the connected induction motor acc. to the rating plate.

## parameter: P0103 Rated current ASM

**maximum index:** 31
**minimal value:** 0.5
**maximal value:** P 33
**default value:** 2)
**unit:** A
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 01

Rated current ASM (induction motor)

Rated current of the connected induction motor acc. to the rating plate.

## parameter: P0104 Rated voltage ASM

**maximum index:** 31
**minimal value:** 10
**maximal value:** 600

**default value:** 2)
**unit:** V
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 01

Rated voltage ASM (induction motor)

Rated voltage of the connected induction motor acc. to the rating plate.

## parameter: P0105 Voltage const. SM

**maximum index:** 31
**minimal value:** 0.01
**maximal value:** 50.00
**default value:** 2)
**unit:** V/Hz
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 01

Voltage constant SM (synchronous motor)

Voltage constant of the connected synchronous motor acc. to the rating plate in V/Hz.

## parameter: P0106 Power factor ASM

**maximum index:** 31
**minimal value:** 0.50
**maximal value:** 0.98
**default value:** 2)
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

COS-PHI ASM (induction motor)

COS-PHI of the connected induction motor acc. to the rating plate.

## parameter: P0107 Pole number SM

**maximum index:** 31
**minimal value:** 2
**maximal value:** 64
**default value:** 2)
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off

**type:** unsigned 16 bit
**function diagram:** plan -

Pole number SM (synchronous motor)

Pole number of the connected synchronous motor acc. to the rating plate.

## parameter: P0112 Rated current SM

**maximum index:** 31
**minimal value:** 0.5
**maximal value:** P 33
**default value:** 2)
**unit:** A
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Rated current SM (synchronous motor)

Rated current of the connected synchronous motor acc. to the rating plate.

## parameter: P0113 Rated speed SM

**maximum index:** 31
**minimal value:** 100
**maximal value:** 210000
**default value:** 2)
**unit:** 1/min
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 32 bit
**function diagram:** plan -

Rated speed SM (synchronous motor)

Rated speed of the connected synchronous motor acc. to the rating plate.

## parameter: P0114 Pole pair number

**maximum index:** 31
**minimal value:** 1
**maximal value:** 64
**default value:** 2)
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 36

Pole pair number

Pole pair number of the connected induction or synchronous motor.

## parameter: P0117 Rated Isd ASM

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0.0 |
| **maximal value:** | 6553.5 |
| **default value:** | 5.6 |
| **unit:** | A |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Estimated value of the field-generating rated current Isd rated of the selected induction motor.

## parameter: P0120 Stator resistor ASM

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0.001 |
| **maximal value:** | 65.535 |
| **default value:** | 0.628 |
| **unit:** | Ohm |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Estimated value of the stator resistance of the selected induction motor.

## parameter: P0130 Encoder select X17

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0 |
| **maximal value:** | 3 |
| **default value:** | 0 |
| **parameter value:** | 0 = no encoder |
| | 1 = increment 2-trac |
| | 2 = increment 1tr.right |
| | 3 = increment 1tr.left |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08, 36 |

Encoder selection connector X17

An appropriate incremental encoder can be connected to sense the actual motor speed.

0 = no encoder

1 = incremental encoder, 2 track

When using a 2-track encoder (1), with track A and track B, a 4 x evaluation is implemented with direction of rotation detection.

2 = 1-track incremental encoder, clockwise rotating

3 = 1-track incremental encoder, counter-clockwise rotating

When using a 1-track encoder (2,3), only with track A, a 2 x evaluation is realized and the direction of rotation is not detected. For this case, the assumed direction of rotation can be entered.

## parameter: P0132 Encoder resolut.X17

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 1 |
| **maximal value:** | 8192 |
| **default value:** | 1024 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 36 |

Incremental encoder pulse number Connector X17

n pulses per revolution.

Pulse numbers with values 2 to the power of n are preferred.

Example: 1024 or 2048 pulses/revolution.

## parameter: P0135 Encoder normalize

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = internal |
| | 1 = external |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 36 |

Incremental encoder normalization (P0135) Connector X17

Selects the normalization source for the encoder sensing.

0 = internal

The measurement result is normalized using the internal frequency normalization (P0390) and the internal pole pair number (P0114).

1 = external

The measurement result is normalized using the external frequency normalization (P0137)and the external pole pair number (P0136).

When external is selected, it is possible to evaluate the speed of a third-party motor and to enter this as setpoint for this motor (slave drive).

## parameter: P0136 Pole pair numb. ext

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 32 |
| **default value:** | 2 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 36 |

Incremental encoder normalization (P0135) Connector X17

Selects the normalization source for the encoder sensing.

0 = internal

The measurement result is normalized using the internal frequency normalization (P0390) and the internal pole pair number (P0114).

1 = external

The measurement result is normalized using the external frequency normalization (P0137) and the external pole pair number (P0136).

When external is selected, it is possible to evaluate the speed of a third-party motor and to enter this as setpoint for this motor (slave drive).

## parameter: P0137 Freq.normalize ext.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 5.0 |
| **maximal value:** | 1500.0 |
| **default value:** | 50.0 |
| **unit:** | Hz |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 36 |

Incremental encoder normalization (P0135) Connector X17

Selects the normalization source for the encoder sensing.

0 = internal

The measurement result is normalized using the internal frequency normalization (P0390) and the internal pole pair number (P0114).

1 = external

The measurement result is normalized using the external frequency normalization (P0137) and the external pole pair number (P0136).

When external is selected, it is possible to evaluate the speed of a third-party motor and to enter this as setpoint for this motor (slave drive).

## parameter: P0138 Encod.meas.time X17

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 1 |
| **maximal value:** | 64 |
| **default value:** | 8 |
| **unit:** | ms |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Incremental encoder measuring time Connector X17

The measurement result is averaged over the selected measurement time.

## parameter: P0155 MFB source 0

| | |
|---|---|
| **maximum index:** | 05 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 32 |

Variable parameter sources for the function

input E0 multi-function blocks

For functions 0..5, input E0 is not used.

## parameter: P0156 MFB source 1

| | |
|---|---|
| **maximum index:** | 05 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 32 |

Variable parameter sources for the function
input E1   multi-function blocks

## parameter: P0157 MFB source 2

| | |
|---|---|
| **maximum index:** | 05 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 32 |

Variable parameter source for the function
input E2   multi-function blocks

## parameter: P0158 MFB function 1

| | |
|---|---|
| **maximum index:** | 05 |
| **minimal value:** | 0 |
| **maximal value:** | 6 |
| **default value:** | 0 |
| **parameter value:** | 0 = addition<br>1 = subtraction<br>2 = multiply<br>3 = divide<br>4 = minimum of all i/p<br>5 = maximum of all i/p<br>6 = processData switch |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 32 |

Function,   multi-function blocks

For functions 0..5, input E0 is not used.

| | |
|---|---|
| Function 0 = Addition | E1 + E2 |
| Function 1 = Subtraction | E1 - E2 |
| Function 2 = Multiplication | E1 * E2 |
| Function 3 = Division | E1 / E2 |
| Function 4 = Min. value | Min. value of E1 or E2 |
| Function 5 = Max. value | Max. value of E1 or E2 |
| Function 6 = Process data switch E0 control | E1 and E2 data inputs |

## parameter: P0159 MFB function 2

**maximum index:** 05
**minimal value:** 0
**maximal value:** 3
**default value:** 0
**parameter value:**
0 = direct
1 = absolut value
2 = inverting
3 = abs. value inverted
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 32

Selects the sign handling
for multi-function blocks.

## parameter: P0178 f-limit motor

**maximum index:** 31
**minimal value:** 0.0
**maximal value:** P 27
**default value:** 50.0
**unit:** Hz
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 01, 18

f-limit motor

A limiting frequency can be entered using this parameter, which cannot be exceeded for system-related reasons.
The value of this parameter is internally limited to the value from P0099.

## parameter: P0179 V/f character.f-max

**maximum index:** 31
**minimal value:** P 180
**maximal value:** 199.99
**default value:** 100.00
**unit:** %
**passwordlevel:** 2
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 01, 15

f max

32 limit values for setpoint limiting can be entered in the setpoint memory .f max. The selection is realized via the "Setpoint memory" control signal, refer to parameter P0069.

## parameter: P0180 V/f character.f-min

**maximum index:** 31

**minimal value:** 0.00

**maximal value:** P 179

**default value:** 0.00

**unit:** %

**passwordlevel:** 2

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 01, 15

f min

32 limit values for setpoint limiting can be entered in the setpoint memory .f min The selection is realized via the "Setpoint memory" control signal, refer to parameter P0069.

## parameter: P0181 V/f characterist.Fa

**maximum index:** 31

**minimal value:** 0.0

**maximal value:** 6000.0

**default value:** 2)

**unit:** Hz

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 15, 18

V/Hz characteristic

Operating points of the voltage/frequency characteristic V/Hz.

The V/Hz characteristic values (P0181 - P0188) are calculated from the rating plate data. After you have entered the rating plate data of your motor, the drive calculates the characteristic data. You can then modify and optimize these characteristic values. If you change the rating plate data, the characteristic data is re-calculated and your optimized data is overwritten.

The default calculation of the characteristic data from the rating plate data:

[P0181] fa = fslip

[P0182] fb = frated / 2

[P0183] fc = frated

[P0184] fd = 2 x frated

[P0185] Va = Vslip + (Rs [P0120] * Isd rated [P0117])

[P0186] Vb = Vrated / 2

[P0187] Vc = Vrated

[P0188] Vd = Vrated

## parameter: P0182 V/f characterist.Fb

**maximum index:** 31
**minimal value:** 0.0
**maximal value:** 6000.0
**default value:** 2)
**unit:** Hz
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 18

V/Hz characteristic

Operating points of the voltage/frequency characteristic V/Hz.

The V/Hz characteristic values (P0181 - P0188) are calculated from the rating plate data. After you have entered the rating plate data of your motor, the drive calculates the characteristic data. You can then modify and optimize these characteristic values. If you change the rating plate data, the characteristic data is re-calculated and your optimized data is overwritten.

The default calculation of the characteristic data from the rating plate data:

[P0181] fa = fslip
[P0182] fb = frated / 2
[P0183] fc = frated
[P0184] fd = 2 x frated
[P0185] Va = Vslip + (Rs [P0120] * Isd rated [P0117])
[P0186] Vb = Vrated / 2
[P0187] Vc = Vrated
[P0188] Vd = Vrated

## parameter: P0183 V/f characterist.Fc

**maximum index:** 31
**minimal value:** 0.0
**maximal value:** 6000.0
**default value:** 2)
**unit:** Hz
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 18

V/Hz characteristic

Operating points on the voltage/frequency characteristic V/Hz.

Note

Refer to P0181

## parameter: P0184 V/f characterist.Fd

**maximum index:** 31
**minimal value:** 0.0
**maximal value:** 6000.0
**default value:** 2)
**unit:** Hz
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 18

V/Hz characteristic

Operating points on the voltage/frequency characteristic V/Hz.

Note

Refer to P0181

## parameter: P0185 V/f characterist.Va

**maximum index:** 31
**minimal value:** 0
**maximal value:** 3000
**default value:** 2)
**unit:** V
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 18

V/Hz characteristic

Operating points on the voltage/frequency characteristic V/Hz.

Note

Refer to P0181

## parameter: P0186 V/f characterist.Vb

**maximum index:** 31
**minimal value:** 0
**maximal value:** 3000
**default value:** 2)
**unit:** V
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 18

V/Hz characteristic

Operating points on the voltage/frequency characteristic V/Hz.

Note

Refer to P0181

## parameter: P0187 V/f characterist.Vc

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0 |
| **maximal value:** | 3000 |
| **default value:** | 2) |
| **unit:** | V |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 18 |

V/Hz characteristic

Operating points on the voltage/frequency characteristic V/Hz.

Note

Refer to P0181

## parameter: P0188 V/f characterist.Vd

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0 |
| **maximal value:** | 3000 |
| **default value:** | 2) |
| **unit:** | V |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 18 |

V/Hz characteristic

Operating points on the voltage/frequency characteristic V/Hz.

Note

Refer to P0181

## parameter: P0190 Src. motpot. select

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 14, 22 |

Variable parameter sources for the function,
select motorized potentiometer.

Motorized potentiometer module

The previously used mechanical motorized potentiometer has been replaced in the firmware by a module which can be flexibly parameterized. The motorized potentiometer can be controlled from the operator panel or also via the terminal strip.

Rate of change

When controlled via the operator panel, the rate of change is dependent on P0195 (motorized potentiometer increment size) and P0196 (motorized potentiometer starting value, linear/exponential).

Linear setting:

Uniform change with the selected increment size (P0195) as long as the key is pressed.

Exponential setting:

The rate of change increases the longer that the key is pressed.

If digital inputs are used to control the module via the two variable parameter sources P0191 and P0192, in addition, a time cycle (rate of change) can be entered using P0739.

Changeover to motorized potentiometer

The motorized potentiometer can be also selected during operation. In order that there is no setpoint step (bumpless transfer), when changing-over the actual setpoint from D1832 to D1931 is accepted via P0190. From this setpoint, the motorized potentiometer changes the setpoint up to "Final value faster" or down to "Final value slower".

## parameter: P0191 Src. motpot. faster

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 14 |

Variable parameter source for the function,

motorized potentiometer faster rate of change.

Motorized potentiometer module

The previously used mechanical motorized potentiometer has been replaced in the firmware by a module which can be flexibly parameterized. The motorized potentiometer can be controlled from the operator panel or also via the terminal strip.

Rate of change

When controlled via the operator panel, the rate of change is dependent on P0195 (motorized potentiometer increment size) and P0196 (motorized potentiometer starting value, linear/exponential).

Linear setting:

Uniform change with the selected increment size (P0195) as long as the key is pressed.

Exponential setting:

The rate of change increases the longer that the key is pressed.

If digital inputs are used to control the module via the two variable parameter sources P0191 and P0192, in addition, a time cycle (rate of change) can be entered using P0739.

Changeover to motorized potentiometer

The motorized potentiometer can be also selected during operation. In order that there is no setpoint step (bumpless transfer), when changing-over the actual setpoint from D1832 to D1931 is accepted via P0190. From this setpoint, the motorized potentiometer changes the setpoint up to "Final value faster" or down to the "Final value slower".

## parameter: P0192 Src. motpot. slower

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1700

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 14

Variable parameter source for the function,

motorized potentiometer slower rate of change.

Motorized potentiometer module

The previously used mechanical motorized potentiometer has been replaced in the firmware by a module which can be flexibly parameterized. The motorized potentiometer can be controlled from the operator panel or also via the terminal strip.

Rate of change

When controlled via the operator panel, the rate of change is dependent on P0195 (motorized potentiometer increment size) and P0196 (motorized potentiometer starting value, linear/exponential).

Linear setting:

Uniform change with the selected increment size (P0195) as long as the key is pressed.

Exponential setting:

The rate of change increases the longer that the key is pressed.

If digital inputs are used to control the module via the two variable parameter sources P0191 and P0192, in addition, a time cycle (rate of change) can be entered using P0739.

Changeover to motorized potentiometer

The motorized potentiometer can be also selected during operation. In order that there is no setpoint step (bumpless transfer), when changing-over the actual setpoint from D1832 to D1931 is accepted via P0190.

From this setpoint, the motorized potentiometer changes the setpoint up to "Final value faster" or down to the "Final value slower".

## parameter: P0193 Mot.pot. limit fast

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -199.99 |
| **maximal value:** | 199.99 |
| **default value:** | 100.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 14 |

Limit value for the motorized potentiometer function, faster rate of change.

The motorized potentiometer function, faster rate of change runs up to the maximum defined by this limit value.

## parameter: P0194 Mot.pot. limit slow

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -199.99 |
| **maximal value:** | 199.99 |
| **default value:** | 0.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 14 |

Limit value for the motorized potentiometer function, slower rate of change.

The motorized potentiometer function, slower rate of change runs up to the maximum defined by this limit value.

## parameter: P0195 Mot.pot. step value

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.01 |
| **maximal value:** | 10.00 |
| **default value:** | 0.01 |
| **unit:** | Hz |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 14 |

Motorized potentiometer, increment size

The initial increment size for integration is pre-selected here.

## parameter: P0196 Motorpot. mode

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 3 |
| **default value:** | 2 |
| **parameter value:** | 0 = start f-set, linear |
| | 1 = start f-min, linear |
| | 2 = start f-set, expon. |
| | 3 = start f-min, expon. |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 14 |

Motorized potentiometer function

Start, f-set linear

When starting the drive, the last selected motorized potentiometer setpoint is approached.

The integration type is linear.

Start, f-min linear

When starting the drive, f-min is approached.

The integration type is linear.

Start, f-set exponential

When starting the drive, the last selected motorized potentiometer setpoint is approached.

The integration type is exponential.

Start, f-min exponential

When the drive starts f-min is approached.

The integration type is exponential.

## parameter: P0197 Source motpot. set

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 14 |

Variable parameter source for the function,

set motorized potentiometer.

The function, set motorized potentiometer, sets the motorized potentiometer setpoint to the setting value (P0199).

## parameter: P0198 Src. motpot. reset

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 14 |

Variable parameter source for the function,

reset motorized potentiometer.

The function, set motorized potentiometer sets the motorized potentiometer setpoint to f-min.

## parameter: P0199 Motpot setvalue

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -199.99 |
| **maximal value:** | 199.99 |
| **default value:** | 5.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Setting value for the function, set motorized potentiometer.

The function, set motorized potentiometer sets the motorized potentiometer setpoint to this value.

## parameter: P0200 Analog input1 norm.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -199.99 |
| **maximal value:** | 199.99 |
| **default value:** | 100.00 |
| **unit:** | % |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 01, 09 |

Analog input Normalization

Normalization for the signal at the analog input.

e.g.: 100.00% = 10V

## parameter: P0201 Analog input1 mode

**maximum index:** -
**minimal value:** 0
**maximal value:** 3
**default value:** 0
**parameter value:** 0 = 0V...±10V
1 = +4mA...+20mA
2 = 0mA...+20mA
3 = +2V...+10V
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 09

Analog input Selection

Selects the signal type for the analog input,

0 = 0V ... ±10V
1 = 0mA ... +20mA
2 = +4mA ... +20mA
3 = +2V ... +10V

## parameter: P0202 Analog input1 offs.

**maximum index:** -
**minimal value:** -199.99
**maximal value:** 199.99
**default value:** 0.00
**unit:** %
**passwordlevel:** 2
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 01, 09

Analog input Offset

Offset input for the signal at the analog input.

## parameter: P0203 Analog input1 sign

**maximum index:** -
**minimal value:** 0
**maximal value:** 3
**default value:** 0
**parameter value:** 0 = direct
1 = absolut value
2 = inverted
3 = abs. value inverted
**unit:** no

**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 09

Analog input Signal

Selects the sign handling for the analog input.

## parameter: P0204 Analog input1 filtr

**maximum index:** -
**minimal value:** 0
**maximal value:** 10000
**default value:** 2
**unit:** ms
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 01, 09

Analog input Filter time

Selectable filter time for signal damping at the analog input.

## parameter: P0205 Input-block 2 norm.

**maximum index:** -
**minimal value:** -199.99
**maximal value:** 199.99
**default value:** 100.00
**unit:** %
**passwordlevel:** 2
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 11

Input block 2 Normalization

Normalization for the signal at input block 2.

Input block

The firmware contains an input block for an optional analog input with the same functions as for the standard analog input (only in conjunction with a terminal strip expansion KL11037). If this input block is not used for an additional analog input, then it can also be used to process signals from other process values.

## parameter: P0206 Input-block 2 offs.

**maximum index:** -
**minimal value:** -199.99
**maximal value:** 199.99
**default value:** 0.00

**unit:** %

**passwordlevel:** 2

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 11

Input block 2 Offset

Offset input for the signal at input block 2.

Input block

The firmware contains an input block for an optional analog input with the same functions as for the standard analog input (only in conjunction with a terminal strip expansion KL11037). If this input block is not used for an additional analog input, then it can also be used to process signals from other process values.

## parameter: P0207 Input-block 2 sign

**maximum index:** -

**minimal value:** 0

**maximal value:** 3

**default value:** 0

**parameter value:** 0 = direct

1 = absolut value

2 = inverted

3 = abs. value inverted

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 11

Input block 2 Signal

Selects the sign handling for input block 2.

Input block

The firmware contains an input block for an optional analog input with the same functions as for the standard analog input (only in conjunction with a terminal strip expansion KL11037). If this input block is not used for an additional analog input, then it can also be used to process signals from other process values.

## parameter: P0208 Input-block 2 filtr

**maximum index:** -

**minimal value:** 0

**maximal value:** 10000

**default value:** 2

**unit:** ms

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 11

Input block 2 Filter time

Selectable filter time for signal damping at input block 2.

Input block

The firmware contains an input block for an optional analog input with the same functions as for the standard analog input (only in conjunction with a terminal strip expansion KL11037). If this input block is not used for an additional analog input, then it can also be used to process signals from other process values.

## parameter: P0209 Input-block 3 norm.

**maximum index:** -

**minimal value:** -199.99

**maximal value:** 199.99

**default value:** 100.00

**unit:** %

**passwordlevel:** 2

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 12

Input block 3 Normalization

Normalization for the signal at input block 3.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0210 Input-block 3 offs.

**maximum index:** -

**minimal value:** -199.99

**maximal value:** 199.99

**default value:** 0.00

**unit:** %

**passwordlevel:** 2

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 12

Input block 3 Offset

Enters the offset for the signal at input block 3.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0211 Input-block 3 sign

**maximum index:** -

**minimal value:** 0

**maximal value:** 3

**default value:** 0

**parameter value:** 0 = direct

1 = absolut value

2 = inverted

3 = abs. value inverted

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 12

Input block 3 Signal

Selects the sign handling for input block 3.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0212 Input-block 3 filtr

**maximum index:** -

**minimal value:** 0

**maximal value:** 10000

**default value:** 10

**unit:** ms

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 12

Input block 3 Filter time

Selectable filter time for signal damping at input block 3.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0213 Input-block 4 norm.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -199.99 |
| **maximal value:** | 199.99 |
| **default value:** | 100.00 |
| **unit:** | % |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 12 |

Input block 4 Normalization

Normalization for the signal at input block 4.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0214 Input-block 4 offs.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -199.99 |
| **maximal value:** | 199.99 |
| **default value:** | 0.00 |
| **unit:** | % |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 12 |

Input block 4 Offset

Offset input for the signal at input block 4.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0215 Input-block 4 sign

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 3 |
| **default value:** | 0 |
| **parameter value:** | 0 = direct |
| | 1 = absolut value |
| | 2 = inverted |

3 = abs. value inverted

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 12

Input block 4 Signal

Selection for sign handling for input block 4.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0216 Input-block 4 filtr

**maximum index:** -

**minimal value:** 0

**maximal value:** 10000

**default value:** 10

**unit:** ms

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 12

Input block 4 Filter time

Selectable filter time for signal damping at input block 4.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0217 Source i/p block 2

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 11

Variable parameter source for the function,

input, input block 2.

Input block

The firmware contains an input block for an optional analog input with the same functions as for the standard analog input (only in conjunction with a terminal strip expansion KL11037). If this input block is not used for an additional analog input, then it can also be used to process signals from other process values.

## parameter: P0218 Source i/p block 3

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 12

Variable parameter source for the function,

input, input block 3.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0219 Source i/p block 4

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 12

Variable parameter source for the function,

input, input block 4.

Input blocks

The firmware contains two additional input blocks for the optional analog inputs (option, terminal expansion KL 11037). If an input block is not used for an additional analog input, it can also be used to process the signals from other process values.

## parameter: P0220 Source PT1 filter

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 33

Variable parameter sources for the function, input PT1 elements.

## parameter: P0221 PT1 filt.timeconst.

**maximum index:** 03
**minimal value:** 0
**maximal value:** 10000
**default value:** 0
**unit:** ms
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 33

Selectable filter time for signal damping at the PT1 elements.

## parameter: P0222 Source limiter 1

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 34

Variable parameter source for the function, input limiter.

## parameter: P0223 Positive limit 1

**maximum index:** -
**minimal value:** 0.00
**maximal value:** 199.99

| | |
|---|---|
| **default value:** | 100.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 34 |

Selectable positive limit value
of the limiter module.

## parameter: P0224 Negative limit 1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -199.99 |
| **maximal value:** | 0.00 |
| **default value:** | -100.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 34 |

Selectable negative limit value
of the limiter module.

## parameter: P0225 Source P-Modul

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 34 |

Variable parameter source for the function,
multiplication element with factor Kp.

## parameter: P0226 Gain P-Modul

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.000 |
| **maximal value:** | 10.000 |
| **default value:** | 1.000 |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |

**function diagram:** plan 34

Value for the multiplication factor Kp of the P element.

## parameter: P0227 Offset P-Modul

**maximum index:** -

**minimal value:** -199.99

**maximal value:** 199.99

**default value:** 0.00

**unit:** %

**passwordlevel:** 1

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 34

Value for the offset, which will be added after multiplication by factor Kp of the P element.

## parameter: P0228 Src1 ch-over switch

**maximum index:** 03

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 31

Variable parameter sources for the function, input 0 of the process channel changeover switch.

## parameter: P0229 Src2 ch-over switch

**maximum index:** 03

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 31

Variable parameter sources for the function, input 1 of the process channel changeover switch.

## parameter: P0230 Src switch function

| | |
|---|---|
| **maximum index:** | 03 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 31 |

Variable parameter source for the function,
changeover of the process channel changeover switch.

## parameter: P0231 Src TC normalize

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Variable parameter source for the function,
normalization input of the technology controller.

## parameter: P0232 Select TC normalize

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = variable source<br>1 = fixvalue |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Selects the normalization, technology controller

Either selects the variable normalization value or fixed value for the normalization value.

## parameter: P0233 Fixvalue TC norm.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -199.99 |
| **maximal value:** | 199.99 |
| **default value:** | 0.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 35 |

Fixed value for the normalization value of the technology controller. A fixed value to be input as normalization value can be saved here.

## parameter: P0234 Src TC actual value

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Variable parameter source for the function,

input DT1 element.

## parameter: P0235 DT1 Modul T1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 5000 |
| **default value:** | 0 |
| **unit:** | ms |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Value for time T1 of the DT1 element.

T1 determines the rate that the output quantity decreases.

## parameter: P0236 DT1 Modul gain

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.000 |
| **maximal value:** | 16.000 |
| **default value:** | 1.000 |

| | |
|---|---|
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Value for normalization K of the DT1 element

## parameter: P0237 Src TC act.val.sign

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Sign reversal for the DT1 element output.

## parameter: P0238 Src TC set point

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 38 |

Variable parameter source for the function, setpoint input of the technology controller.

## parameter: P0239 Select TC set point

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = variable source<br>1 = fixvalue |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Selects the setpoint, technology controller
Either selects a variable setpoint or fixed value setpoint.

## parameter: P0240 Fixvalue TC s/p

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -199.99 |
| **maximal value:** | 199.99 |
| **default value:** | 0.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 35 |

Fixed value for the technology controller setpoint.
A fixed value for input as setpoint can be saved here.

## parameter: P0241 Src TC s/p sign

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Sign reversal for the setpoint input
of the technology controller.

## parameter: P0242 TC gain

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.000 |
| **maximal value:** | 16.000 |
| **default value:** | 1.000 |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Factor for proportional gain Kp
of the technology controller.

## parameter: P0243 TC integral time

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 10000 |
| **default value:** | 10 |
| **unit:** | ms |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Value for the integral action time Tn
of the technology controller.

## parameter: P0244 TC droop

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.00 |
| **maximal value:** | 100.00 |
| **default value:** | 10.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 35 |

Value for the technology controller droop

## parameter: P0245 Src TC enable

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Variable parameter source for the function,
technology controller enable.

## parameter: P0246 Src TC droop enable

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |

**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 35

Variable parameter source for the function,
droop enable of the technology controller.

## parameter: P0247 TC positive limit

**maximum index:** -
**minimal value:** 0.00
**maximal value:** 190.00
**default value:** 100.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 35

Selectable positive limit value
of the technology controller.

## parameter: P0248 TC negative limit

**maximum index:** -
**minimal value:** -190.00
**maximal value:** 0.00
**default value:** -100.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 35

Selectable negative limit value
of the technology controller.

## parameter: P0249 RFG up/down-mode

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 1
**parameter value:** 0 = sign
1 = value
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 16

Ramp-up and ramp-down with direction of rotation reversal

RFG up/down mode: P0249 = sign

For arithmetic positive setpoint changes, the RFG UP times are effective, for arithmetic negative setpoint changes, the RFG DOWN times are effective.

RFG up/down mode: P0249 = absolute value

For absolute setpoint increases, the RFG UP times are effective, for absolute setpoint decreases, the RFG DOWN times are effective.

## parameter: P0262 Src RFG-initial val

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 16

Variable parameter source for the function,

ramp-function generator setting value

The ramp-function generator starts with this value after RFG reset.

## parameter: P0263 Src main set point

**maximum index:** 01

**minimal value:** 1

**maximal value:** 2044

**default value:** 1801

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 14

Variable parameter sources for the function,

input variable main setpoint

## parameter: P0264 Select main set pnt

**maximum index:** 01

**minimal value:** 1

**maximal value:** 2044

**default value:** 1700

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 14

Variable parameter sources for the function,

select main setpoint

Either selects a variable main setpoint or fixed value for the main setpoint.

## parameter: P0265 Fixvalue main s/p

**maximum index:** 31

**minimal value:** -199.99

**maximal value:** 199.99

**default value:** 5.00

**unit:** %

**passwordlevel:** 1

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 14

Fixed values for the main setpoint.

32 values can be saved in the setpoint memory .f-set for input as main setpoint.

The selection is made using the "Setpoint memory" control signal, refer to parameter P0069.

## parameter: P0280 Ramp up time

**maximum index:** 31

**minimal value:** 0.000

**maximal value:** 90000.000

**default value:** 5.000

**unit:** sec

**passwordlevel:** 1

**read / write:** R/W on

**type:** signed 32 bit

**function diagram:** plan 01, 06

Ramp-function generator Ramp-up time

Ramp-function generator (RFG)

Ramp-up time and ramp-down time:

When defining the ramp-up and ramp-down times, possibly selected rounding-off functions are not taken into account. The ramp-up time is the time which the RFG output requires to change from 0% to 100% and correspondingly, the ramp-down time from 100% to 0%. If there is rounding-off, the ramp-up and ramp-down times are obtained by extending the linear section of the curve up to the intersection points 0% and 100%.

Rounding-off UP and DOWN:

Rounding-off is defined as the time in which the output quantity reaches the maximum acceleration value starting from a constant initial value (phase 1). Rounding-off is also defined as the time in which the output quantity, starting from its maximum acceleration value, reaches a constant final value (phase 3). The ramp-up operation with rounding-off is sub-divided into three phases:

Phase 1:

When the setpoint is increased, in the first phase, acceleration is increased linear with time. In this rounding-off phase, the ramp-function generator output value increases to the square of the time.

Phase 2:

After the maximum rate of acceleration has been achieved, corresponding to the specified ramp-up time, the acceleration is constant. The output of the ramp-function generator increases linearly with respect to time.

Phase 3:

In the third phase, acceleration linearly decreases with respect to time. In this rounding-off phase, the ramp-function generator output approaches the final value to the square of time (setpoint). The deceleration or ramp-down process is correspondingly the same.

## parameter: P0281 Ramp down time

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0.000 |
| **maximal value:** | 90000.000 |
| **default value:** | 5.000 |
| **unit:** | sec |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 32 bit |
| **function diagram:** | plan 01, 06 |

Ramp-function generator Ramp-up time

Note

Refer to P0280

## parameter: P0282 Rounding ramp up

**maximum index:** 31
**minimal value:** 0.000
**maximal value:** 800.000
**default value:** 0.000
**unit:** sec
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 32 bit
**function diagram:** plan 16

Ramp-function generator Rounding-off UP

Note

Refer to P0280

## parameter: P0283 Rounding ramp down

**maximum index:** 31
**minimal value:** 0.000
**maximal value:** 800.000
**default value:** 0.000
**unit:** sec
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 32 bit
**function diagram:** plan 16

Ramp-function generator Rounding-off DOWN

Note

Refer to P0280

## parameter: P0288 Ramp up fast stop

**maximum index:** -
**minimal value:** 0.000
**maximal value:** 3200.000
**default value:** 5.000
**unit:** sec
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 32 bit
**function diagram:** plan 16

Ramp-function generator, fast stop Ramp-up time

Note

Refer to P0280

## parameter: P0289 Ramp down fast stop

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.000 |
| **maximal value:** | 3200.000 |
| **default value:** | 5.000 |
| **unit:** | sec |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 32 bit |
| **function diagram:** | plan 16 |

Ramp-function generator, fast stop   Ramp-down time

Note

Refer to P0280

## parameter: P0290 Rounding up f.stp

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.000 |
| **maximal value:** | 800.000 |
| **default value:** | 0.000 |
| **unit:** | sec |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 32 bit |
| **function diagram:** | plan 16 |

Ramp-function generator, fast stop   Rounding-off UP

Note

Refer to P0280

## parameter: P0291 Rounding down f.stp

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.000 |
| **maximal value:** | 800.000 |
| **default value:** | 0.000 |
| **unit:** | sec |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 32 bit |
| **function diagram:** | plan 16 |

Ramp-function generator, fast stop   Rounding-off DOWN

Note

Refer to P0280

## parameter: P0296 Src RFG stop

**maximum index:** 01
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 16

Variable parameter sources for the function,
ramp-function generator ramp-up stop

## parameter: P0297 Analog input window

**maximum index:** 02
**minimal value:** 0.00
**maximal value:** 20.00
**default value:** 0.50
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 09, 10

P0297.x Setpoint smoothing

A firmware module with parameterizable window is inserted after the A/D converter to smooth the setpoint at the analog input. Using P0297.x, a window is entered as a %. Setpoint fluctuations within this window are not accepted. The setpoint at the output of the firmware module remains constant. This value is only accepted at the output if the setpoint lies outside the parameterized window and the window of this value is re-defined with ±%.

## parameter: P0300 Source add.setpoint

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 17

Variable parameter source for the function,
input variable addition setpoint

## parameter: P0301 Select add.setpoint

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 1
**parameter value:** 0 = variable source
1 = fixvalue
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 17

Selects addition setpoint

Either selects a variable addition setpoint or fixed value for the addition setpoint.

## parameter: P0302 Fixvalue add.setpnt

**maximum index:** -
**minimal value:** -199.99
**maximal value:** 199.99
**default value:** 0.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 17

Fixed value for the addition setpoint.

A fixed value for input as addition setpoint can be saved here.

## parameter: P0303 Setpoint pos. limit

**maximum index:** -
**minimal value:** 0.00
**maximal value:** 199.99
**default value:** 199.99
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 01, 17

Selectable positive limit value
of the setpoint limiter module.

## parameter: P0304 Setpoint neg. limit

**maximum index:** -
**minimal value:** -199.99
**maximal value:** 0.00
**default value:** -199.99
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 01, 17

Selectable negative limit value
of the setpoint limiter module.

## parameter: P0305 Source setpoint 305

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1834
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 17

Variable parameter source for the function,
input f-RFG.

To transfer the setpoint after the ramp-function generator and before adding the supplementary setpoint.

## parameter: P0374 Normalize current

**maximum index:** 31
**minimal value:** 0.5
**maximal value:** 6553.5
**default value:** P 24
**unit:** A
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 01, 24

Current normalization

The current normalization of the drive is set using this parameter. All current-orientated quantities which are processed as a percentage, are included in this normalization.

e.g.: 100.00% = 10.0A

## parameter: P0383 I-actual PT1 time

**maximum index:** -
**minimal value:** 0
**maximal value:** 10000
**default value:** 0
**unit:** ms
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 24

Selectable filter time for signal damping at the PT1 element for the measured value I act (D1884).

## parameter: P0384 Isq PT1 time

**maximum index:** -
**minimal value:** 0
**maximal value:** 10000
**default value:** 10
**unit:** ms
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 24

Selectable filter time for signal damping at the PT1 element for the measured value I-sq (D1885).

## parameter: P0385 Select KTY/PTC X15

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 2
**parameter value:**
0 = without
1 = KTY
2 = PTC
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 25

Selects KTY/PTC Connector X15

Selects the connected temperature sensor to evaluate the motor temperature.

## parameter: P0386 KTY Alarm X15

**maximum index:** -
**minimal value:** 30
**maximal value:** 180
**default value:** 135
**unit:** °C
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 25

Alarm, motor temperature Connector X15

Sets the temperature threshold for initiation, alarm motor temperature, with KTY evaluation selected (P0385=KTY).

## parameter: P0387 KTY Fault X15

**maximum index:** -
**minimal value:** 30
**maximal value:** 195
**default value:** 155
**unit:** °C
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 25

Fault, motor temperature Connector X15

Sets the temperature threshold for initiation, fault motor temperature, with KTY evaluation selected (P0385=KTY).

## parameter: P0388 PTC Evaluation X15

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 1
**parameter value:** 0 = warning
1 = switch off
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 25

PTC evaluation Connector X15

Selects the response if PTC evaluation is selected (P0385=PTC). Either motor temperature alarm is initiated or motor temperature fault is initiated.

## parameter: P0389 PTC Switch val. X15

**maximum index:** -
**minimal value:** 1000
**maximal value:** 4500
**default value:** 4000
**unit:** Ohm
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 25

PTC switching value Connector X15

Enters the ohmic trip value.

Sets the resistance threshold to initiate a response if PTC evaluation is selected (P0385=PTC). The response type is defined using P0388.

## parameter: P0390 Frequenzy normalize

**maximum index:** 31
**minimal value:** 15.0
**maximal value:** P 27
**default value:** 50.0
**unit:** Hz
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 01, 15, 18, 36

Frequency normalization

The frequency normalization of the drive is set using this parameter. All of the frequency-oriented quantities which are processed as a percentage are included in this normalization.

e.g.: 100.00% = 50.0Hz

## parameter: P0396 Source x comp

**maximum index:** 01
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 29

Measured value x Comparators

Variable parameter sources for the function, measured value x of the comparators.

## parameter: P0397 Hysteresis x:xs

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 0.00 |
| **maximal value:** | 100.00 |
| **default value:** | 10.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 29 |

Hysteresis x : xs Comparators

Enters the hysteresis to compare x and xs for the comparators.

## parameter: P0398 Fixvalue xs comp

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | -199.99 |
| **maximal value:** | 199.99 |
| **default value:** | 0.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 29 |

Fixed value, threshold value xs Comparators

Enters the fixed value for the threshold values xs. This value becomes effective, if selection (P0403) is set to a fixed value.

## parameter: P0402 Source xs comp

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 29 |

Variable threshold value xs Comparators

Variable parameter sources for the function, threshold value xs of the comparators. This value becomes effective if the selection (P0403) is set to variable threshold value.

## parameter: P0403 Select fixval comp

**maximum index:** 01

**minimal value:** 0

**maximal value:** 1

**default value:** 1

**parameter value:** 0 = variable source

1 = fixvalue

**unit:** no

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 29

Selects xs Comparators

Here, it is defined as to whether a variable value or a fixed value is effective as threshold value.

## parameter: P0406 Source x pos i/p

**maximum index:** 01

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 29

Variable measured value x+ Comparators with subtraction element

Variable parameter sources for the function, measured value x+ in front of the subtraction element at the measured value input of the comparator.

## parameter: P0407 Source x neg i/p

**maximum index:** 01

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 29

Variable measured value x- Comparators with subtraction element

Variable parameter sources for the function, measured value x- in front of the subtraction element at the measured value input of the comparator.

## parameter: P0408 Hysteresis x:xs

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 0.00 |
| **maximal value:** | 100.00 |
| **default value:** | 1.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 29 |

Hysteresis x : xs Comparators with subtraction element

Enters the hysteresis to compare x and xs for the comparators.

## parameter: P0409 Fixvalue xs comp

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 29 |

Variable parameter sources for the function, threshold value xs Comparators with subtraction element. Enters the fixed values for the threshold value xs.

## parameter: P0410 Source o/p block 1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1891 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 13 |

Variable parameter source for the function, input, output block 1.

Output blocks

The firmware contains 3 output blocks for signal conditioning which are processed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output.

Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion, KL 11037)

Note

The outputs of output blocks 2 and 3, D1120 and D1121 must be connected to the terminal strip expansion KL17037 via the process data interface; refer to Function chart 39, "Process data interface SS4".

If an analog block is not used for an additional analog output, it can be used to process signals from other process values.

## parameter: P0411 Output-block 1 sign

**maximum index:** -

**minimal value:** 0

**maximal value:** 3

**default value:** 0

**parameter value:** 0 = direct

1 = absolut value

2 = inverted

3 = abs. value inverted

**unit:** no

**passwordlevel:** 1

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 13

Analog output block 1 Signal

Selects the sign handling for output block 1.

Output blocks

The firmware contains 3 output blocks for signal conditioning which are processed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output. Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion, KL 11037)

Note

The outputs of output blocks 2 and 3, D1120 and D1121 must be connected to the terminal strip expansion KL17037 via the process data interface; refer to Function chart 39, "Process data interface SS4".

If an analog block is not used for an additional analog output, it can be used to process signals from other process values.

## parameter: P0412 Output-block 1 offs

**maximum index:** -
**minimal value:** -100.00
**maximal value:** 100.00
**default value:** 0.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 13

Output block 1 Offset

Enters the offset for the signal at output block 1.

Output blocks

The firmware contains 3 output blocks for signal conditioning which are processed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output. Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion, KL 11037)

Note

The outputs of output blocks 2 and 3, D1120 and D1121 must be connected to the terminal strip expansion KL17037 via the process data interface; refer to Function chart 39, "Process data interface SS4".

If an analog block is not used for an additional analog output, it can be used to process signals from other process values.

## parameter: P0413 Output-block 1 norm

**maximum index:** -
**minimal value:** 6.26
**maximal value:** 200.00
**default value:** 100.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 13

Normalization, analog output

Output block 1 Normalization

Normalization for the signal at output block 1.

100.00 % = 10 V at the analog output

Output blocks

The firmware contains 3 output blocks for signal conditioning which are processed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output. Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion, KL 11037)

Note

The outputs of output blocks 2 and 3, D1120 and D1121 must be connected to the terminal strip expansion KL17037 via the process data interface; refer to Function chart 39, "Process data interface SS4".

If an analog block is not used for an additional analog output, it can be used to process signals from other process values.

## parameter: P0434 Src. an.outp. X14.8

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1875
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 13

Variable parameter source for the function,
analog output. Terminal X14.8

## parameter: P0435 Fixvalue for Dxxxx

**maximum index:** 15
**minimal value:** -199.99
**maximal value:** 199.99
**default value:** 0.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan -

Enters fixed values which can be connected to
variable parameter sources for process signals
via display parameters.
P0435.00 --> D1860
P0435.01 --> D1861
P0435.02 --> D1967
P0435.03 --> D1968
P0435.04 --> D1969
P0435.05 --> D2004
P0435.06 --> D2005

P0435.07 --> D2008
P0435.08 --> D2009
P0435.09 --> D2020
P0435.10 --> D2021
P0435.11 --> D2022
P0435.12 --> D2023
P0435.13 --> D2024
P0435.14 --> D2025
P0435.15 --> D2026

## parameter: P0436 Mode an.outp. X14.8

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 0
**parameter value:** 0 = +10V signal source
1 = -10V signal source
2 = analogue output
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 13

Mode, analog output Terminal X14.8
0 = +10V reference voltage
1 = -10V reference voltage
2 = ±8bit analog output

## parameter: P0449 Overspeed reaction

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = alarm
1 = fault
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 18

Overspeed evaluation

Sets the response for an overspeed condition. Either initiates an alarm, overspeed or initiates a fault, overspeed.

An overspeed condition can occur as a result of the following interventions:

by an excessively high supplementary setpoint,

due to excessive slip compensation,
due to overshoot of the stall protection controller.

## parameter: P0459 source TC actual

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1817 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 35 |

Variable parameter source for the function,
TR actual value of the technology controller.

## parameter: P0460 Src.dig.out.1 X14.2

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1574 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Variable parameter source for the function,
digital output1. Terminal X14.2

## parameter: P0461 Mode dig. output 1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 4 |
| **default value:** | 3 |
| **:** | 3 = direct<br>4 = inverted |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Mode, digital output1 Terminal X14.2
Note: Also observe P0471

## parameter: P0462 Src.dig.out.2 X14.3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1730 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Variable parameter source for the function,
digital output2. Terminal X14.3

## parameter: P0463 Mode dig. output 2

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 4 |
| **default value:** | 3 |
| **:** | 3 = direct |
| | 4 = inverted |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Mode, digital output2 Terminal X14.3
Note: Also observe P0473

## parameter: P0464 Src.dig.out.3 X14.4

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1732 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Variable parameter source for the function,
digital output3. Terminal X14.4

## parameter: P0465 Mode dig. output 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 4 |
| **default value:** | 3 |
| **:** | 3 = direct |
| | 4 = inverted |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Mode, digital output3 Terminal X14.4

Note: Also observe P0475

## parameter: P0466 Src.relay outp. X16

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1733 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Variable parameter source for the function,
relay output. Connector X16

## parameter: P0467 Mode relay output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 1 |
| **parameter value:** | 0 = relay direct |
| | 1 = relay inverted |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Mode, relay output Connector X16

## parameter: P0470 Source SI1 PZD X12

**maximum index:** 05

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 37

SS1 PZD1..6

Variable parameter source for the function,

output interface SS1 process data1... 6.

Processing process data SS1

The process data, received via the SS1 are converted into display parameters in the drive which can then be freely connected to the variable parameter sources to control the drive. The drive sends its actual values as process data via the SS1, by connecting D parameters to the variable parameter sources for output SS1.

## parameter: P0471 Mode dig. in/out 1

**maximum index:** -

**minimal value:** 0

**maximal value:** 1

**default value:** 0

**parameter value:** 0 = input

1 = output

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 08

Mode, digital input1, digital output1 Terminal X14.2

Note: Also observe P0461

## parameter: P0473 Mode dig. in/out 2

**maximum index:** -

**minimal value:** 0

**maximal value:** 1

**default value:** 0

**parameter value:** 0 = input

1 = output

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 08
Mode, digital input2, digital output2 Terminal X14.4
Note: Also observe P0463

## parameter: P0475 Mode dig. in/out 3

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = input
1 = output
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 08
Mode, digital input3, digital output3 Terminal X14.6
Note: Also observe P0465

## parameter: P0480 Source SI2 PZD

**maximum index:** 09
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 38
SI2 PZD1..10
Variable parameter source for the function,
output interface SI2, process data1..10.

Processing process data SI2

The process data, received via the SI2 are converted into display parameters in the drive which can then be freely connected to the variable parameter sources to control the drive. The drive sends its actual values as process data via the SI2, by connecting D parameters to the variable parameter sources for output SI2.

## parameter: P0490 Source SI3 PZD

**maximum index:** 04
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

SI3 PZD1..5
Variable parameter source for the function,
output interface SI3, process data1..5.

## parameter: P0491 Source SI4 PZD

**maximum index:** 09
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 39

SI4 PZD1..10
Variable parameter source for the function,
output interface SI4, process data1..10.

Processing process data SI4

The process data, received via the SI4 are converted into display parameters in the drive which can then be freely connected to the variable parameter sources to control the drive. The drive sends its actual values as process data via the SI4, by connecting D parameters to the variable parameter sources for output SI4.

## parameter: P0492 Source SI5 PZD

**maximum index:** 04
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

SI5 PZD1..5

Variable parameter source for the function,
output interface SI5, process data1..5.

## parameter: P0494 Source SI6 PZD X13

**maximum index:** 11
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 40

SI6 PZD1..12

Variable parameter source for the function,
output interface SI6, process data1..12.

Processing process data SI6

The process data, received via the SI6 are converted into display parameters in the drive which can then be freely connected to the variable parameter sources to control the drive. The drive sends its actual values as process data via the SI6, by connecting D parameters to the variable parameter sources for output SI6.

## parameter: P0499 RS232 baudrate X11

**maximum index:** -
**minimal value:** 0
**maximal value:** 7
**default value:** 3
**parameter value:**
0 = 1200 Baud
1 = 2400 Baud
2 = 4800 Baud
3 = 9600 Baud
4 = 19200 Baud
5 = 38400 Baud
6 = 57600 Baud
7 = 76800 Baud
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Definition, service interface

The service interface is the serial RS232 interface which is integrated as standard in the drive (X11 at the SR 17000).

Service interface RS232 baud rate Connector X11

Sets the appropriate baud rate for the RS232 service interface.

## parameter: P0500 SI1 protok.type X12

**maximum index:** -

**minimal value:** 0

**maximal value:** 5

**default value:** 2

**parameter value:**
0 = no protocol
1 = USS 4/2 words
2 = USS 4/6 words
3 = USS 0/2 words
4 = USS 0/6 words
5 = USS 4/0 words

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

Interface, SS1 protocol Connector X12

Selects the appropriate protocols for the standard interface SI1.

0 = no protocol
1 = 4/2 words 4 words PKW + 2 words PZD
2 = 4/6 words 4 words PKW + 6 words PZD
3 = 0/2 words 0 words PKW + 2 words PZD
4 = 0/6 words 0 words PKW + 6 words PZD
5 = 4/0 words 4 words PKW + 0 words PZD

PKW are the words of the parameter value interface to parameterize the drives.

PZD are words associated with fast process data, which can be delayed as a result of the parameterization.

SI1 definition

SI1 is the serial RS485 interface integrated as standard in the drive (X12 at SR17000).

## parameter: P0501 SI1 baudrate X12

**maximum index:** -

**minimal value:** 0

**maximal value:** 6

**default value:** 3

**parameter value:**
0 = 1200 Baud
1 = 2400 Baud
2 = 4800 Baud
3 = 9600 Baud
4 = 19200 Baud
5 = 38400 Baud
6 = 76800 Baud

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Interface SI1 baud rate Connector X12

Sets the appropriate baud rate for the standard interface SI1.

## parameter: P0502 SI1 parity X12

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 2
**parameter value:** 0 = no Parity
1 = odd
2 = even
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Interface SI1 parity Connector X12

Selects the parity monitoring for the standard interface SI1.

## parameter: P0503 SI1 stop bits X12

**maximum index:** -
**minimal value:** 1
**maximal value:** 2
**default value:** 1
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Interface SI1 stop bits Connector X12

Sets the number of stop bits transferred per character for the standard interface SI1.

## parameter: P0504 SI1 slave addr. X12

**maximum index:** -
**minimal value:** 0
**maximal value:** 31
**default value:** 0
**unit:** no
**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

Interface SI1 slave address Connector X12

Sets the appropriate slave address for the standard interface SI1. It should be ensured that in a bus system with RS485 or RS422 coupling, that each address is only assigned once, otherwise bus collisions can occur.

## parameter: P0505 SI1 Rx watchdog X12

**maximum index:** -

**minimal value:** 0

**maximal value:** 2

**default value:** 2

**parameter value:** 0 = no reaction

1 = alarm

2 = fault

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

Interface SI1 RX monitoring Connector X12

Selects the response for the receive monitoring of the standard interface SI1.

## parameter: P0506 SI1 Rx timeout X12

**maximum index:** -

**minimal value:** 0.1

**maximal value:** 60.0

**default value:** 0.1

**unit:** sec

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

Interface SI1 monitoring time Connector X12

The monitoring time for the standard interface SI1 is set here.

The response, which is defined by P0506, is realized if the interface receiver has not received an error-free protocol within this time.

## parameter: P0507 P-to-P operat. mode

**maximum index:** -

**minimal value:** 0

**maximal value:** 2

| | |
|---|---|
| **default value:** | 0 |
| **parameter value:** | 0 = Outp. U3 = Outp. U2 |
| | 1 = Outp. U3 = Inp. U1 |
| | 2 = Outp. U3 = U2=Master |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Synchronization of the peer-to-peer send data

0 = internal

The firmware generates and sends the send data

1 = external REFU

The receive data, received at the fiber-optic cable receiver are taken as send data and are transferred without any delay and changes.

## parameter: P0508 Synchron. mode

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = unsynchronsized |
| | 1 = ext. Peer-to-Peer |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Synchronization of the time sector 1ms

0 = internal

1 = external REFU

For external, the 1ms time sector is synchronized by the peer-to-peer interface. This means that the control firmwareof slave drives can be synchronized with one another as well as to a master drive

## parameter: P0509 SI2 function

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 3 |
| **default value:** | 0 |
| **parameter value:** | 0 = all active |
| | 1 = no warning |
| | 2 = no fault |
| | 3 = disabled |

**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Mask for the SS2 functions

all active
suppress alarm message
suppress fault trip
suppress alarm message and fault trip

## parameter: P0510 P-to-P protocol

**maximum index:** -
**minimal value:** 6
**maximal value:** 10
**default value:** 8
**parameter value:**
6 = P-to-P 1 word
7 = P-to-P 2 words
8 = P-to-P 3 words
9 = P-to-P 4 words
10 = P-to-P 5 words
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Peer-to-peer protocol

Selects the appropriate protocols for the optional peer-to-peer interface.

## parameter: P0511 P-to-P baudrate

**maximum index:** -
**minimal value:** 3
**maximal value:** 8
**default value:** 8
**parameter value:**
3 = 9600 Baud
4 = 19200 Baud
5 = 38400 Baud
6 = 76800 Baud
7 = 115200 Baud
8 = 230400 Baud
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit

**function diagram:** plan -

Peer-to-peer baud rate

Sets the appropriate baud rate for the optional peer-to-peer interface.

## parameter: P0512 CAN baudrate

**maximum index:** -

**minimal value:** 0

**maximal value:** 7

**default value:** 6

**parameter value:**
0 = reserve
1 = reserve
2 = reserve
3 = reserve
4 = 125 kBaud
5 = 250 kBaud
6 = 500 kBaud
7 = 1 MBaud

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

CAN baud rate

Sets the appropriate baud rate for the optional CAN bus interface.

0..3 are reserved
4 = 125 kbaud
5 = 250 kbaud
6 = 500 kbaud
7 = 1 Mbaud

## parameter: P0515 CAN Tx ID-number

**maximum index:** 03

**minimal value:** 128

**maximal value:** 1024

**default value:** 176

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

CAN Tx identifier

Sets the appropriate send identifier for the various protocol types.

(do not use values less than 80 hex = 128 dec!)

(different identifier numbers must be entered for all Rx and Tx identifiers!

in the sub index 0: For PZD 1 ... 4

sub index 1 & 2 reserved

in sub index 3: For PKW response

## parameter: P0516 CAN Rx ID-number

**maximum index:** 03

**minimal value:** 128

**maximal value:** 1024

**default value:** 160

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

CAN Rx identifier

Sets the appropriate receive identifier for the various protocol types.

(do not use values less than 80 hex = 128 dec!)

(different identifier numbers must be entered for all Rx and Tx identifiers)

in the sub index 0: For PZD 1 ... 4

sub index 1 & 2 reserved

in sub index 3: For PKW response

## parameter: P0517 CAN Tx PZD clock

**maximum index:** 02

**minimal value:** 0

**maximal value:** 255

**default value:** 254

**unit:** ms

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

CAN Tx PZD clock

Sets the appropriate return send rate for PZD protocols

in sub index 0: For PZD 1 ... 4

sub index 1 & 2 reserved

following values are possible:

0 : data not sent

1..253 : Send clock cycle in ms

254 : Data is sent after the identified Rx identifier has been received

255 : Data is sent after RTR has been received

## parameter: P0518 IBS watchd.function

**maximum index:** 01
**minimal value:** 0
**maximal value:** 3
**default value:** 0
**parameter value:**
0 = no action
1 = fault
2 = inverter OFF
3 = fast stop
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Interbus-S WD function

Selects and sets the response of the receive monitoring for the optional Interbus-S interface.

P0518 [0] response for the process data area.

P0518 [1] response for the communications area.

no action

fault

inhibit voltage

fast stop

## parameter: P0519 IBS watchd. timeout

**maximum index:** 01
**minimal value:** 0
**maximal value:** 65535
**default value:** 65535
**unit:** ms
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Interbus-S WD time

The monitoring time for the optional Interbus-S interface is set here.

The response, which is defined by parameter P0518, is realized if the interface receiver has not received an error-free protocol within this time.

P0519 [0] monitoring time for the process data area.

P0519 [1] monitoring time for the communications area.

**Caution:** For a value of 65535, the monitoring function is disabled.

## parameter: P0520 IBS register length

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 2 |
| **maximal value:** | 10 |
| **default value:** | 3 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Interbus-S register length

The register length for Interbus-S is set in words here.

## parameter: P0522 PB baudrate

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 0 |
| **maximal value:** | 14 |
| **default value:** | 0 |
| **parameter value:** | 0 = initialization |
| | 1 = 9600 Baud |
| | 2 = 19200 Baud |
| | 3 = 38400 Baud |
| | 4 = 93750 Baud |
| | 5 = 187500 Baud |
| | 6 = 500000 Baud |
| | 7 = 1.5 MBaud |
| | 8 = 57600 Baud |
| | 9 = 76800 Baud |
| | 10 = 115200 Baud |
| | 11 = 3.0 MBaud |
| | 12 = 6.0 MBaud |
| | 13 = 12.0 MBaud |
| | 14 = 45450 Baud |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Profibus baud rate

Displays the actual baud rate of the Profibus module.

In index 0 for the module at slot1 (SS2)

In index 1 for the module at slot2 (SS4)

## parameter: P0523 PB address

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 3 |
| **maximal value:** | 124 |
| **default value:** | 9 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Profibus slave address

Sets the appropriate slave address for the optional Profibus interface.

It should be ensured that each address is only assigned once in a bus system otherwise bus collisions will occur.

## parameter: P0524 PB CLR-DATA

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = no reaction<br>1 = fault |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Profibus Clear Data function

Response of the drive to the Clear Data bus function.

no action

fault

## parameter: P0525 PB PPO-TYPE

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 0 |
| **maximal value:** | 6 |
| **default value:** | 0 |
| **parameter value:** | 0 = initialization<br>1 = 4/2 words<br>2 = 4/6 words<br>3 = 0/2 words<br>4 = 0/6 words<br>5 = 4/10 words<br>6 = 0/10 words |

**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Profibus PPO type (protocol)

Displays the actual PPO type of the Profibus module.

In index 0 for the module at slot1 (SI2)

In index 1 for the module at slot2 (SI4)

## parameter: P0526 SI2 Rx watchdog

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 0
**parameter value:** 0 = no reaction
1 = alarm
2 = fault
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

SI2 RX monitoring

Selects the response for the receive monitoring of the optional SI2 interface.

## parameter: P0527 SI2 Rx timeout

**maximum index:** -
**minimal value:** 0.01
**maximal value:** 60.00
**default value:** 0.01
**unit:** sec
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

SI2 monitoring time

The monitoring time for the optional SI2 interface is set here. The response, which is defined by parameter P0526, is realized if the interface receiver has not received an error-free protocol within this time.

## parameter: P0528 SI3 Rx watchdog

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 0
**parameter value:** 0 = no reaction
1 = alarm
2 = fault
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

SI3 Rx monitoring

Selects the response for the receive monitoring of the optional SI3 interface.

## parameter: P0529 SI3 Rx timeout

**maximum index:** -
**minimal value:** 0.01
**maximal value:** 60.00
**default value:** 0.01
**unit:** sec
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

SI3 monitoring time

The monitoring time for the optional SI3 interface is set here. The response, which is defined by parameter P0528, is realized if the interface receiver has not received an error-free protocol within this time.

## parameter: P0530 Src current limit

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 19

Variable parameter source for the function,

input variable current limiting input

## parameter: P0531 Sel. current limit

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 1
**parameter value:** 0 = variable source
1 = fixvalues
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 19

Selects the current limiting input

Either selects a variable current limiting input or fixed value for the current limiting input.

## parameter: P0532 Fixv. current limit

**maximum index:** 31
**minimal value:** 0.00
**maximal value:** 190.00
**default value:** 100.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 01, 19

Fixed values for the current limiting input.

Fixed values for the current limiting input can be specified here.

## parameter: P0535 Stall.protection Kp

**maximum index:** 31
**minimal value:** 0.00
**maximal value:** 128.00
**default value:** 0.10
**unit:** no
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 01, 17

Stall protection controller Kp

The gain factors for the stall protection controller are saved here.

## parameter: P0536 Stall.protection Tn

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0 |
| **maximal value:** | 5000 |
| **default value:** | 50 |
| **unit:** | ms |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 01, 17 |

Stall protection controller Tn

The integral actions for the stall protection controller are saved here.

## parameter: P0537 Stall protection

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = off |
| | 1 = on |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 01, 17 |

Stall protection controller, on/off

The stall-protection controller is selected or canceled using this switch.

## parameter: P0539 High inertia start

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = no |
| | 1 = yes |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 01, 19 |

Selects the heavy-duty starting function

When heavy-duty starting is selected, the first time the drive accelerates after start, 2 x the current limit is permitted, however a maximum of the peak drive current P0025. This helps the motor to overcome a breakaway torque.

## parameter: P0540 Slip compensation

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0.00 |
| **maximal value:** | 20.00 |
| **default value:** | 0.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 01, 17 |

Slip compensation

The factors for the slip compensation are defined here. When 0.00% is entered, slip compensation is disabled. As a result of the slip compensation, for induction motors, the speed loss, which is approximately proportional to the torque applied, can be compensated.

## parameter: P0541 I x R boost

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0.00 |
| **maximal value:** | 20.00 |
| **default value:** | 0.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 01, 21 |

I*R boost

The factors for the I*R compensation are defined here. When 0.00% is entered, the I*R compensation is disabled. Using the I*R compensation, the voltage loss, which occurs at the ohmic component of the stator winding proportional to the apparent current (I act) can be compensated.

## parameter: P0542 Src. external volt.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 21 |

Variable parameter source for the function,

external voltage input.

Example:

The frequency and voltage can be entered separately from one another using the external voltage input. For this purpose, for parameters Ua ... Ud (P0185 ... P0188), the maximum voltage is specified everywhere as limit value which may be output. In this case, analog input 2 can serve as the variable voltage input if it is connected to this source. For a normalization of 100% = 10V (P0205), the output voltage can be varied between 0V and the limit value, which is saved in Ua ... Ud, frequency-independent using analog input 2.

## parameter: P0543 External voltage

**maximum index:** -

**minimal value:** 0

**maximal value:** 1

**default value:** 0

**parameter value:** 0 = off

1 = on

**unit:** no

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 21

External voltage input, on/off

The external voltage input (P0542) can be enabled or disabled using this switch.

## parameter: P0544 Delay after start

**maximum index:** 31

**minimal value:** 0.0

**maximal value:** 100.0

**default value:** 0.3

**unit:** sec

**passwordlevel:** 1

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 15

Delay time after start

The delay times are saved here.
During the selected delay time, the output frequency, after a successful start, stays at the value f min and then ramps-up to the setpoint along the ramp-function generator. If 0.0 seconds are entered, the drive does not remain at f min.

## parameter: P0545 DC braking time

**maximum index:** 31
**minimal value:** 0.0
**maximal value:** 100.0
**default value:** 0.0
**unit:** sec
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 21, 43

Braking time

The braking times are saved here.
After braking along the brake ramp, the specified DC brake current is impressed for the selected braking time. If 0.0 seconds is entered, the drive is not DC current braked.

## parameter: P0546 DC braking current

**maximum index:** 31
**minimal value:** 1.00
**maximal value:** 100.00
**default value:** 5.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 21

Braking current

Enters the braking current which is impressed for DC current braking.

## parameter: P0547 Current control Kp

**maximum index:** 31
**minimal value:** 0.01
**maximal value:** 128.00
**default value:** 0.10
**unit:** no
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 01, 21

Current controller - controller Kp

The gain factors for the current controller controller are saved here.

## parameter: P0548 Current control Tn

**maximum index:** 31
**minimal value:** 0
**maximal value:** 5000
**default value:** 10
**unit:** ms
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 01, 21

Current controller - controller Tn

The integral action times for the current controller controller are saved here.

## parameter: P0549 Src.setp. at delay

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1932
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 15

Variable parameter source for the function,

setpoint during the delay time after start.

## parameter: P0550 source x input

**maximum index:** 01
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 30

Measured value x Window comparators

Variable parameter sources for the function, measured value x of the window comparators.

## parameter: P0551 source xs input

**maximum index:** 01
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 30

Variable threshold value xs Window comparators

Variable parameter sources for the function, threshold value xs of the window comparators. This value becomes effective, if the selection (P0553) is set to variable threshold value.

## parameter: P0552 fixvalue xs input

**maximum index:** 01
**minimal value:** -199.99
**maximal value:** 199.99
**default value:** 0.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 30

Fixed value threshold value xs Window comparators

Enters the fixed value for the threshold values xs. This value becomes effective if the selection (P0553) is set to fixed value.

## parameter: P0553 select xs input

**maximum index:** 01
**minimal value:** 0
**maximal value:** 1
**default value:** 1
**parameter value:** 0 = variable source
1 = fixvalue
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 30

Selection xs Window comparators

Here, it is defined whether a variable value or a fixed value acts as threshold value.

## parameter: P0554 bandwidth

**maximum index:** 01
**minimal value:** 0.00
**maximal value:** 50.00
**default value:** 5.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 30

Bandwidth Window comparators

Enters half the window width for the window comparators.

## parameter: P0555 hysteresis

**maximum index:** 01
**minimal value:** 0.00
**maximal value:** 25.00
**default value:** 1.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 30

Hysteresis x : xs Window comparators

Enters the hysteresis to compare x and xs for the window comparators.

## parameter: P0558 Power normalize

**maximum index:** 31
**minimal value:** 0.1
**maximal value:** 1000.0
**default value:** P 22
**unit:** kVA
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 24

Power normalization

The power normalization for power parameters is set using this parameter. All of the power-orientated quantities which are processed as a percentage are included in this normalization.

e.g.: 100.00% = 5.0kVA or 100.00% = 5.0kW

## parameter: P0559 Pactual PT1 time

**maximum index:** -
**minimal value:** 0
**maximal value:** 10000
**default value:** 50
**unit:** ms
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 24

Selectable filter time for signal damping
at the PT1 element for measured value $P_{act}$ (D1929).

## parameter: P0560 Ptrue PT1 time

**maximum index:** -
**minimal value:** 0
**maximal value:** 10000
**default value:** 50
**unit:** ms
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 24

Selectable filter time for signal damping
at the PT1 element for measured value $P_{active}$ (D1930).

## parameter: P0561 Output-block

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = 0%..±100%
1 = +20%..+100%
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Analog output block 1
Selects the signal type for analog output 1
+2..+10V or +4..+20mA via an externally connected V/I converter.
or
0..±10V or 0..±20mA via an externally connected V/I converter.

Output blocks

The firmware contains 3 output blocks for signal conditioning, which are processed in different time sectors. Output block 1 runs in the 1 ms time block, and should be used for standard analog output. Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion KL 11037)

**Note:** The outputs of output blocks 2 and 3, D1120 and D1121, must be switched to the terminal strip expansion KL17037 via the process data interface; refer to Function chart 39, "Process data interface SS4".

If an output block is not used for an additional analog output,
then it can also be used to process signals from other process values.

## parameter: P0562 Oscillation damping

**maximum index:** 31

**minimal value:** -127

**maximal value:** 127

**default value:** 0

**unit:** no

**passwordlevel:** 1

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 01, 18

Selects the oscillation damping

For machines, which tend to oscillate, a factor can be set here which opposes this tendency using the oscillation damping function.

Factor 0 switches-out the oscillation damping.

## parameter: P0563 Src. quad. charact.

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1700

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 18

Variable parameter source for the function,

changeover to square-law characteristic

The display parameter with the result of the logic operation can be entered here for the changeover to the square-law characteristic.

Also refer to:

Application example 9 "Changeover, linear / square-law characteristics"

## parameter: P0564 Reaction on I < 4mA

**maximum index:** 01

**minimal value:** 0

**maximal value:** 2

**default value:** 1

**parameter value:** 0 = no reaction
1 = alarm
2 = fault

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 09

Selection for the response of analog input1 monitoring.

no action

alarm

fault

The current of analog input1 is monitored to I < +4mA, if the parameter P0201 is set to +4..+20mA. If, in this case the current load resistor on the open-loop & closed-loop control card is not active, the monitoring for V < +2V is effective.

Cross reference: P0570

## parameter: P0565 Sel. overload prot.

**maximum index:** -

**minimal value:** 0

**maximal value:** 2

**default value:** 0

**parameter value:** 0 = no reaction
1 = alarm
2 = fault

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 24

Overload protection

The overload protection is switched-in or switched-out with P0565 and the alarm or fault response type selected.

The switch-on threshold for the overload protection (P0566) can be set between 0.5 A and the peak current P0025. The overload function is realized corresponding to the Siemens overload relay 3UB1, Class 10 setting.

The delay time until the drive is ready to be powered-up again after a "Overload protection" fault, depends on the power-up threshold:

For P0566 < 20 A, the drive converter can be powered-up again after one minute.

For P0566 > 20 A, the drive converter can be powered-up again after 10 minutes.

As long as the delay time is running, after the fault has been successfully acknowledged, the "Motor overload" alarm is displayed. The drive cannot be powered-up again during this time.

## parameter: P0566 Curr.overload prot.

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0.5 |
| **maximal value:** | 6553.5 |
| **default value:** | 0.5 |
| **unit:** | A |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 24 |

Overload protection

The overload protection is switched-in and switched-out using P0565 and the response type, either alarm or fault, is selected.

The response threshold of the overload protection (P0566) can be set between 0.5 A and the peak current P0025. The overload function was implemented corresponding to the Siemens 3UB1 overload relay, Class 10 setting.

The delay time until the drive is ready to be powered-up after a "Overload protection" fault depends on the response threshold:

For P0566 < 20 A, the drive converter can be powered-up again after one minute.

For P0566 > 20 A, the drive converter can be powered-up again after 10 minutes.

As long as the delay time is running, after the fault has been successfully acknowledged, the "Motor overload" alarm is displayed. The drive cannot be powered-up again during this time.

## parameter: P0570 Src. select I < 4mA

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1670

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 09

Variable parameter source for the function, selects the monitoring I < +4mA

The signal to select analog input 1 can be entered here, to control the selection of the monitoring I < +4mA.

## parameter: P0571 Sel. security break

**maximum index:** -

**minimal value:** 0

**maximal value:** 1

**default value:** 0

**parameter value:** 0 = alarm

1 = fault

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 03

Selects the response for safety trip.

alarm

fault

This response is only activated if the Namur functions have been selected (P0057 = active).

## parameter: P0572 Source RFG enable

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1701

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 16

Variable parameter source for the function, ramp-function generator enable

## parameter: P0574 Curr. limit timeout

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0 |
| **maximal value:** | 11 |
| **default value:** | 0 |
| **parameter value:** | 0 = continuous |
| | 1 = 1 sec. |
| | 2 = 2 sec. |
| | 3 = 4 sec. |
| | 4 = 6 sec. |
| | 5 = 8 sec. |
| | 6 = 10 sec. |
| | 7 = 20 sec. |
| | 8 = 40 sec. |
| | 9 = 60 sec. |
| | 10 = 80 sec. |
| | 11 = 100 sec. |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Selects the response for active current limiting.

continuous

The current limiting is continuously permitted.

n seconds

The drive trips with a overcurrent fault after n seconds when the current limiting is active.

## parameter: P0581 SI2-watchdog OFF

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Variable parameter source for the function,

SS2 monitoring can be disabled.

## parameter: P0582 Fixvalue for Dxxxx

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 0 |
| **maximal value:** | 65535 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Enters fixed values, which can be connected to variable parameter sources for control signals via display parameters.

P0582.0 --> D1642

P0582.1 --> D1643

## parameter: P0583 Source i/p 0 gate

| | |
|---|---|
| **maximum index:** | 19 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 26 |

Variable parameter source for the function, input 0 Logic gate

## parameter: P0584 Source i/p 1 gate

| | |
|---|---|
| **maximum index:** | 19 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 26 |

Variable parameter source for the function, input 1 Logic gate

## parameter: P0585 Source i/p 2 gate

| | |
|---|---|
| **maximum index:** | 19 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |

**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 26

Variable parameter source for the function, input 2 Logic gate

## parameter: P0586 Function gate

**maximum index:** 19
**minimal value:** 0
**maximal value:** 24
**default value:** 0
**parameter value:**

0 = AND
1 = OR
2 = XOR
3 = RS-memory
4 = D-Latch
5 = Sample & hold
6 = angle add
7 = angle subtract
8 = symetric limiter
9 = 3 input limiter
10 = processData switch
11 = comparator
12 = window comparator
13 = absolute comparator
14 = 3-Input AND
15 = 3-Input OR
16 = AND - OR
17 = NAND - OR
18 = OR - AND
19 = NOR - AND
20 = XOR - AND
21 = XOR - OR
22 = NOT , NAND
23 = NOT , NOR
24 = NOT , XNOR

**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 26

Function Logic gate

The logic gate function is selected here

## parameter: P0587 Src timer modul

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 28

Variable parameter source for the function,
input Time element

## parameter: P0588 Timer modul: mode

**maximum index:** 03
**minimal value:** 0
**maximal value:** 8
**default value:** 0
**parameter value:**
0 = ON delay
1 = OFF delay
2 = pulse
3 = extended pulse
4 = pulse generator sym
5 = pulse generator
6 = ramp generator sym.
7 = ramp generator sign
8 = ramp generator val.

**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 28

Function Time elements
The time element function is selected here:
0 power-up delay
1 power-down delay
2 pulse
3 extended pulse
4 pulse generator, symmetrical
5 pulse generator, asymmetrical
6 ramp-function generator, symmetrical
7 ramp-function generator mode: Sign
8 ramp-function generator mode: Absolute value

## parameter: P0589 Timer modul: time1

**maximum index:** 03
**minimal value:** 0.0
**maximal value:** 6500.0
**default value:** 1.0
**unit:** sec
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 28

Selectable time1 for the time elements.

## parameter: P0590 5 to 1 coder enable

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1701
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 28

Variable parameter source for the function,

input enable Coder.

For a logical one at this input, the status of the inputs is accepted in the output coding. For a logical zero at this input, the status of the output coding is kept. By setting this input to zero while simultaneously changing several coding inputs (P0591.xx), it can be avoided that an intermediate status is briefly accepted during the changeover.

## parameter: P0591 5 to 1 coder bit x

**maximum index:** 04
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 28

Variable parameter sources for the function,

input 2 high xx Coder.

## parameter: P0595 SI3-watchdog OFF

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Variable parameter source with which the function SI3 monitoring can be disabled.

## parameter: P0596 Timer modul: time2

| | |
|---|---|
| **maximum index:** | 03 |
| **minimal value:** | 0.0 |
| **maximal value:** | 6500.0 |
| **default value:** | 1.0 |
| **unit:** | sec |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 28 |

Selectable time2 for the time elements.

## parameter: P0605 Src ramp parking

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 16 |

Variable parameter source for the function, ramp-function generator park (stop)

## parameter: P0609 Src.setp.bef.enable

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1938 |

**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 16

Variable parameter source for the function,
main setpoint before enable.

## parameter: P0610 Src. addition value

**maximum index:** 01
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 33

Variable parameter sources for the functions,
inputs, addition element.

## parameter: P0611 Src. TC start value

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 35

Variable parameter source for the function,
technology controller starting value.
The technology controller starts with this value after being enabled.

## parameter: P0612 Src multiplier i/p

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit

**function diagram:** plan 33

Variable parameter source for the function,
input multiplication element.

## parameter: P0613 Src multipl. factor

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 33

Variable parameter source for the function,
select multiplication element.

## parameter: P0614 Multiplier factor

**maximum index:** 01
**minimal value:** -10.00000
**maximal value:** 10.00000
**default value:** 1.00000
**unit:** no
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 32 bit
**function diagram:** plan 33

Factors for the multiplication element.

The input value is multiplied by these values depending on the selection [P0613]

## parameter: P0615 Source RFG2 input

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 33

Variable parameter source for the function,
input free ramp-function generator.

## parameter: P0616 Ramp up time RFG2

**maximum index:** -
**minimal value:** 0.000
**maximal value:** 3200.000
**default value:** 5.000
**unit:** sec
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 32 bit
**function diagram:** plan 33

Free ramp-function generator Ramp-up time

Enables the ramp-up time for the free ramp-function generator. The entered time is normalized for a setpoint change of 100.00%.

## parameter: P0617 Ramp down time RFG2

**maximum index:** -
**minimal value:** 0.000
**maximal value:** 3200.000
**default value:** 5.000
**unit:** sec
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 32 bit
**function diagram:** plan 33

Free ramp-function generator Down time

Enters the down time for the free ramp-function generator. The entered time is normalized for a setpoint change of 100.00%.

## parameter: P0618 Source RFG2 enable

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 33

Variable parameter sources for the function,

enable free ramp-function generator.

## parameter: P0619 RFG2 up/down mode

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = sign
1 = value
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 33

The ramp-function generator mode is pre-selected here:

Sign:

For arithmetic positive setpoint changes, the ramp-up time parameter is effective. For arithmetic negative setpoint changes, the down time parameter is effective.

Absolute value:

For absolute setpoint increases, the up time parameter is effective. For absolute setpoint decreases, the down time parameter is effective.

## parameter: P0620 Src. BF flipflop D

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1980
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 03

Variable parameter source for the function,

on / off bit handheld terminal device.

When the handheld terminal device is selected again as start-stop source, the value from this source is accepted as on / off bit (D1980 bit0).

## parameter: P0621 Src. subtract.value

**maximum index:** 01
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off

**type:** unsigned 16 bit
**function diagram:** plan 33
Variable parameter sources for the functions, inputs, subtraction element.

## parameter: P0623 Ext.BR: Resistance

**maximum index:** -
**minimal value:** 0.1
**maximal value:** 199.9
**default value:** 199.9
**unit:** Ohm
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -
Resistance value for the external brake resistor

## parameter: P0624 Ext.BR: Rated power

**maximum index:** -
**minimal value:** 0.1
**maximal value:** 999.9
**default value:** 1.0
**unit:** kW
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -
Continuous power for the external brake resistor

## parameter: P0625 Ext.BR: Heatup time

**maximum index:** -
**minimal value:** 1.0
**maximal value:** 655.4
**default value:** 1.0
**unit:** sec
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -
Time constant for the external brake resistor

## parameter: P0626 Src.befor normalize

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1984 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 18 |

Variable parameter source for the function,
input, setpoint before normalization.

## parameter: P0627 Src.sign RFG preset

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1975 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Variable parameter source for the function,
input sign, setting value, ramp-function generator (RFG).

## parameter: P0660 Src. mult.switch 0

| | |
|---|---|
| **maximum index:** | 03 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 31 |

Variable parameter sources for the function,
input 0 of the process channel changeover switch.

## parameter: P0661 Src. mult.switch 1

| | |
|---|---|
| **maximum index:** | 03 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |

**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 31

Variable parameter sources for the function,
input 1 of the process channel changeover switch.

## parameter: P0662 Src. mult.switch 2

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 31

Variable parameter sources for the function,
input 2 of the process channel changeover switch.

## parameter: P0663 Src. mult.switch 3

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 31

Variable parameter sources for the function,
input 3 of the process channel changeover switch.

## parameter: P0664 Src. mult.switch 4

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit

**function diagram:** plan 31
Variable parameter sources for the function,
input 4 of the process channel changeover switch.

## parameter: P0665 Src. mult.switch 5

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 31
Variable parameter sources for the function,
input 5 of the process channel changeover switch.

## parameter: P0666 Src. mult.switch 6

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 31
Variable parameter sources for the function,
input 6 of the process channel changeover switch.

## parameter: P0667 Src. mult.switch 7

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 31
Variable parameter sources for the function,
input 7 of the process channel changeover switch.

## parameter: P0668 Src. multswitch fkt

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 31

Variable parameter source for the function,

changeover of the process channel changeover switch.

## parameter: P0710 5 to 1 coder enable

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1701
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 28

Variable parameter source for the function, input enable programmable coder.

For a logical one at this input, the status of the inputs are accepted in the output coder.

For a logical zero at this input, the status of the output coder is kept.

By setting this input to zero, when simultaneously changing several coding inputs (P0711.xx), it can be avoided that intermediate statuses are briefly accepted during the changeover.

## parameter: P0711 5 to 1 coder bit x

**maximum index:** 04
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 28

Variable parameter sources for the function,

input 2 high xx programmable coder.

## parameter: P0712 5 to 1 coder code x

**maximum index:** 31
**minimal value:** 0
**maximal value:** 65535
**default value:** 0
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 28

Value memory for the required output coding (D1129)
The access is realized via the appropriate input coding (D1187)
Example: D1187 = 12 the value of P0712.12 is output in D1129

## parameter: P0713 5 to 1 coder mode

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = bit src. P0711.0x.
1 = word src. P0711.00.
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 28

Mode, programmable coder
Bit sources P0711.xx
The bits 0 of sources P0711.xx are output, binary coded in D1187.
Word source P0711.00
Bits 0..4 of source P0711.00 are represented in D1187

## parameter: P0714 CANopen node ID

**maximum index:** -
**minimal value:** 1
**maximal value:** 127
**default value:** 3
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

CANopen node ID
Node address of the CANopen interface

## parameter: P0715 CANopen baudrate

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 4 |
| **maximal value:** | 7 |
| **default value:** | 4 |
| **parameter value:** | 4 = 125 kBaud<br>5 = 250 kBaud<br>6 = 500 kBaud<br>7 = 1 MBaud |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - CANopen baud rate |

## parameter: P0716 CANopen PDO mode

| | |
|---|---|
| **maximum index:** | 02 |
| **minimal value:** | 0 |
| **maximal value:** | 255 |
| **default value:** | 253 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - CANopen PDO mode |

## parameter: P0717 CANopen cycle timer

| | |
|---|---|
| **maximum index:** | 02 |
| **minimal value:** | 0 |
| **maximal value:** | 255 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - CANopen cycle timer |

## parameter: P0718 CANopen emergency

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 1 |
| **parameter value:** | 0 = off |
| | 1 = on |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - CANopen emergency |

## parameter: P0719 CANopen bus off

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 255 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - CANopen bus off |

## parameter: P0720 CANopen profile

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = Std profile DS301 |
| | 1 = I/O profile DS401 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - CANopen profile |

## parameter: P0732 copy from keypad

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 0
**parameter value:** 0 = no
1 = yes
2 = identification
**unit:** no
**passwordlevel:** 0
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Copy from the operator panel

1 = Yes

The parameter set, saved in the operator panel is downloaded into the RAM of the SR17000.

Permanent data save in the EEprom must be controlled when required.

2 = Designation

Displays the parameter set name which is saved in the operator panel.

## parameter: P0733 copy data to keypad

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = no
1 = yes
**unit:** no
**passwordlevel:** 0
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Copy into the operator panel

1 = Yes

The parameter set in the RAM on the SR17000 is permanently saved in the operator panel.

After data save has been completed, the operator is prompted to enter a name for this parameter set.

## parameter: P0734 display contrast

**maximum index:** -
**minimal value:** 10
**maximal value:** 20

**default value:** 14
**unit:** no
**passwordlevel:** 0
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Display contrast for the operator panel

This is used to change the display contrast on the operator panel.
The selected value is saved on the SR17000.

## parameter: P0735 opt.anal in1,2 mode

**maximum index:** 01
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = voltage input
1 = current input
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Mode, option analog input

The input measuring load resistor is switched-in to sense the current.

Assignment:

P0735.00 option1 analog input
P0735.01 option2 analog input

## parameter: P0736 input block2 mode

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = 0%..±100%
1 = +20%..+100%
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 11

Mode, input block 2

0 = 0 ... ±100%
1 = +20 ... +100%

## parameter: P0737 input block3 mode

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = 0%..±100% |
| | 1 = +20%..+100% |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 12 |

Mode, input block 3

0 = 0 ... ±100%

1 = +20 ... +100%

## parameter: P0738 input block4 mode

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **parameter value:** | 0 = 0%..±100% |
| | 1 = +20%..+100% |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 12 |

Mode, input block 4

0 = 0 ... ±100%

1 = +20 ... +100%

## parameter: P0739 motpot cyclTime ext

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.01 |
| **maximal value:** | 5.00 |
| **default value:** | 0.90 |
| **unit:** | sec |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 14 |

Motorized potentiometer cycle time external

The cycle time (incremental interval) of the motorized potentiometer can be defined here when controlled via terminals or for logical combination with the sources P0191 and P0192. The cycle time when controlled from the operator panel remains unchanged and is approx. 900ms per step.

## parameter: P0740 src. output block

**maximum index:** 01
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 13

Variable parameter sources for the functions,
input output blocks 2, 3.

P0740.0 for output block 2
P0740.1 for output block 3

Output blocks

The firmware contains 3 output blocks for signal conditioning, which are processed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output. Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion KL 11037)

**Note:** The outputs of output blocks 2 and 3, D1120 and D1121, must be connected to the terminal strip expansion KL17037 via the process data interface, refer to Function chart 39, "Process data interface SI4".

If an output block is not used for an additional analog output, then it can be used to process signals from other process values.

## parameter: P0741 signal output block

**maximum index:** 01
**minimal value:** 0
**maximal value:** 3
**default value:** 1
**parameter value:**
0 = direct
1 = absolut value
2 = inverted
3 = abs. value inverted

**unit:** no
**passwordlevel:** 1
**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 13

Analog output blocks 2, 3 Signal

Selects the sign handling for output blocks 2, 3.

P0741.0 for output block 2

P0741.1 for output block 3

Output blocks

The firmware contains 3 output blocks for signal conditioning, which are processed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output. Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion KL 11037)

**Note:** The outputs of output blocks 2 and 3, D1120 and D1121, must be connected to the terminal strip expansion KL17037 via the process data interface, refer to Function chart 39, "Process data interface SI4".

If an output block is not used for an additional analog output, then it can be used to process signals from other process values.

## parameter: P0742 output block norm.

**maximum index:** 01

**minimal value:** 6.26

**maximal value:** 200.00

**default value:** 100.00

**unit:** %

**passwordlevel:** 1

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 13

Normalization, analog output

Output blocks 2, 3 Normalization

Normalization for the signal at output blocks 2, 3.

100.00 % = 10 V at analog output

P0742.0 for output block 2

P0742.1 for output block 3

Output blocks

The firmware contains 3 output blocks for signal conditioning, which are processed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output. Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion KL 11037)

**Note:** The outputs of output blocks 2 and 3, D1120 and D1121, must be connected to the terminal strip expansion KL17037 via the process data interface, refer to Function chart 39, "Process data interface SI4".

If an output block is not used for an additional analog output, then it can be used to process signals from other process values.

## parameter: P0743 output block

**maximum index:** 01

**minimal value:** 0

**maximal value:** 1

**default value:** 0

**parameter value:** 0 = 0%..±100%

1 = +20%..+100%

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 13

Mode, output blocks 2, 3

0 = 0 ... ±100%

1 = +20 ... +100%

P0743.0 for output block 2

P0743.1 for output block 3

Output blocks

The firmware contains 3 output blocks for signal conditioning, which are processed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output. Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion KL 11037)

**Note:** The outputs of output blocks 2 and 3, D1120 and D1121, must be connected to the terminal strip expansion KL17037 via the process data interface, refer to Function chart 39, "Process data interface SI4".

If an output block is not used for an additional analog output, then it can be used to process signals from other process values.

## parameter: P0744 output block offset

**maximum index:** 01

**minimal value:** -100.00

**maximal value:** 100.00

**default value:** 0.00

**unit:** %

**passwordlevel:** 1

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 13

Output blocks 2, 3 Offset

Offset input for the signal at output blocks 2, 3.

P0744.0 for output block 2

P0744.1 for output block 3

Output blocks

The firmware contains 3 output blocks for signal conditioning, which are processed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output. Output blocks 2 and 3 run in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion KL 11037)

**Note:** The outputs of output blocks 2 and 3, D1120 and D1121, must be connected to the terminal strip expansion KL17037 via the process data interface, refer to Function chart 39, "Process data interface SS4".

If an output block is not used for an additional analog output, then it can be used to process signals from other process values.

## parameter: P0745 SI4 function

**maximum index:** -

**minimal value:** 0

**maximal value:** 3

**default value:** 0

**parameter value:**
0 = all active
1 = no warning
2 = no fault
3 = disabled

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

Mask for the SI4 functions

all active

suppress alarm message

suppress fault trip

suppress alarm message and fault trip

## parameter: P0746 SI4 Rx watchdog

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 0
**parameter value:** 0 = no reaction
1 = alarm
2 = fault
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

SI4 Rx monitoring

Selects the response for the receive monitoring of the option interface SI4.

## parameter: P0747 SI4 Rx timeout

**maximum index:** -
**minimal value:** 0.01
**maximal value:** 60.00
**default value:** 0.01
**unit:** sec
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

SI4 monitoring time

The monitoring time for the option

interface SI4 is set here.

The response, which is defined using parameter P0746, is realized if the interface receiver has not received an error-free protocol within this time.

## parameter: P0748 SI5 R5 watchdog

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 0
**parameter value:** 0 = no reaction
1 = alarm
2 = fault
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on

**type:** unsigned 16 bit
**function diagram:** plan -

SI5 Rx monitoring

Selects the response for the receive monitoring of the option interface SI5.

## parameter: P0749 SI5 Rx timeout

**maximum index:** -
**minimal value:** 0.01
**maximal value:** 60.00
**default value:** 0.01
**unit:** sec
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

SI5 monitoring time

The monitoring time for the option

interface SI5 is set here.

The response, which is defined using parameter P0748, is realized if the interface receiver has not received an error-free protocol within this time.

## parameter: P0750 src.SI4-watchd. OFF

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Variable parameter source with which the function,

SI4 monitoring can be disabled.

## parameter: P0751 src.SI5-watchd. OFF

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit

**function diagram:** plan -

Variable parameter source with which the function,

SI5 monitoring can be disabled.

## parameter: P0752 reaktion on I < 4mA

**maximum index:** 01

**minimal value:** 0

**maximal value:** 2

**default value:** 1

**parameter value:** 0 = no reaction

1 = alarm

2 = fault

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan 11

Selects the responses of the analog input block 2 monitoring.

If P0736 = 20...100%, the response to I < +4mA can be selected by selecting "Alarm" or "Fault".

Cross reference: P0753

## parameter: P0753 src. select I < 4mA

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1670

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 11

Variable parameter source for the function,

selecting the monitoring I < +4mA at input block 2

Using this parameter source, the response to the I < +4mA signal is selected.

## parameter: P0754 src. comp. logic 1

**maximum index:** 03

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 42
Variable parameter sources for the functions,
inputs of threshold value logic 1

## parameter: P0755 function timer

**maximum index:** -
**minimal value:** 0
**maximal value:** 5
**default value:** 2
**parameter value:**
0 = ON delay
1 = OFF delay
2 = pulse
3 = extended pulse
4 = pulse generator sym
5 = pulse generator
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 42
Function, timer element of the threshold value logic 1
The function of the timer element is selected here

## parameter: P0756 time1 timer

**maximum index:** -
**minimal value:** 0.0
**maximal value:** 6500.0
**default value:** 1.0
**unit:** sec
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 42
Timer value1, timer element of the threshold value logic 1
Selectable time for the timer element.

## parameter: P0757 hysteresis x:xs

**maximum index:** -
**minimal value:** 0.00
**maximal value:** 100.00
**default value:** 1.00
**unit:** %

**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 42

Hysteresis x : xs  Comparator in the threshold value logic 1
Enters the hysteresis to compare x and xs of the comparator.

## parameter: P0758 src.comparat.logic2

**maximum index:** 04
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 42

Variable parameter sources for the functions,
inputs of threshold value logic 2

## parameter: P0759 hysteresis x:xs

**maximum index:** 01
**minimal value:** 0.00
**maximal value:** 100.00
**default value:** 1.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 42

Hysteresis x : xs  Comparators in the threshold value logic 2
Enters the hysteresis to compare x and xs of the comparators.

## parameter: P0760 fixvalue xs input

**maximum index:** -
**minimal value:** 0.10
**maximal value:** 100.00
**default value:** 2.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 43

Fixed value threshold value xs of the comparator in the logic for f set reached.

Enters the fixed value for the threshold value xs.

## parameter: P0761 hysteresis x:xs

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.00 |
| **maximal value:** | 90.00 |
| **default value:** | 1.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 43 |

Hysteresis x : xs of the comparator in the logic for f set reached

Enters the hysteresis to compare x and xs of the comparator.

## parameter: P0762 time timers

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 0.0 |
| **maximal value:** | 6500.0 |
| **default value:** | 1.0 |
| **unit:** | sec |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 43 |

Time value of the timer elements of the logic for f set reached

Selectable time1 for the timer elements.

## parameter: P0763 src.S&H powrDwn EN

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 27 |

Variable parameter sources for the functions, enable inputs of the sample&hold modules.

The outputs of these modules are saved in the EEprom at power down.

## parameter: P0764 src.S&H powrDwn D

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 27 |

Variable parameter sources for the functions, data inputs of the sample&hold modules.

The outputs of these modules are saved in the EEprom at power down.

## parameter: P0765 src. set IGR countr

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 36 |

Variable parameter sources for the functions, set input (P0765) and setting value input (P0766) of the IGR sensing.

When activating the setting input (source P0765), the setting value (source P0766) is transferred into the counter of the IGR sensing.

## parameter: P0766 src.data IGR countr

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 36 |

Variable parameter sources for the functions, set input (P0765) and setting value input (P0766) of the IGR sensing.

When activating the setting input (source P0765), the setting value (source P0766) is transferred into the counter of the IGR sensing.

## parameter: P0768 Illum. display

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 999 |
| **default value:** | 10 |
| **unit:** | min |
| **passwordlevel:** | 0 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Controls the background lighting of the operator panel display

0 = switched-out

1 ... 998 minutes remains switched-in after the last key was pressed

999 = continually switched-in

## parameter: P0777 time2 timer

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.0 |
| **maximal value:** | 6500.0 |
| **default value:** | 1.0 |
| **unit:** | sec |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 42 |

Timer value2 timer element of the threshold value logic 1

Selectable time2 for the timer element.

## parameter: P0870 on / off in NORMAL

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 11 |
| **default value:** | 8 |
| **parameter value:** | 0 = term.strip static |
| | 1 = term.stat.+ panel |
| | 2 = term.stat.+ PC |
| | 3 = term.stat.+ bus SI1 |
| | 4 = term.stat.+ bus SI2 |
| | 5 = term.stat.+ bus SI4 |
| | 6 = term.dyn.OFF always |
| | 7 = panel dyn.OFFalways |
| | 8 = term.strip dynamic |
| | 9 = panel dynamic |
| | 10 = panel static |
| | 11 = term.stat.+ bus SI6 |

**unit:** no

**passwordlevel:** 1

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan -

Group parameter, input on/off for NORMAL

The necessary assignments to enter the on/off commands in the NORMAL mode are set

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0871 on / off in TEST

**maximum index:** -

**minimal value:** 0

**maximal value:** 11

**default value:** 9

**parameter value:**

0 = term.strip static
1 = term.stat.+ panel
2 = term.stat.+ PC
3 = term.stat.+ bus SI1
4 = term.stat.+ bus SI2
5 = term.stat.+ bus SI4
6 = term.dyn.OFF always
7 = panel dyn.OFFalways
8 = term.strip dynamic
9 = panel dynamic
10 = panel static
11 = term.stat.+ bus SI6

**unit:** no

**passwordlevel:** 1

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan -

Group parameter, input on/off for TEST

The necessary assignments to enter the on/off commands in the TEST mode are set

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0872 setpoint in NORMAL

**maximum index:** -
**minimal value:** 0
**maximal value:** 13
**default value:** 2
**parameter value:**
0 = motor potentiometer
1 = fix fixvalue(s)
2 = analog inp 0..±10V
3 = analog inp 0..+20mA
4 = analog inp 4..+20mA
5 = opt.an.inp 0..±10V
6 = opt.an.inp 0..+20mA
7 = opt.an.inp 4..+20mA
8 = PC
9 = bus SI1
10 = bus SI2
11 = bus SI4
12 = analog inp 2..+10V
13 = bus SI6
**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter, inputs setpoint for NORMAL

The necessary assignments to enter the setpoint in the NORMAL mode are set

**Hinweis:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0873 setpoint in TEST

**maximum index:** -
**minimal value:** 0
**maximal value:** 13
**default value:** 0
**parameter value:**
0 = motor potentiometer
1 = fix fixvalue(s)
2 = analog inp 0..±10V
3 = analog inp 0..+20mA
4 = analog inp 4..+20mA
5 = opt.an.inp 0..±10V
6 = opt.an.inp 0..+20mA
7 = opt.an.inp 4..+20mA

8 = PC
9 = bus SI1
10 = bus SI2
11 = bus SI4
12 = analog inp 2..+10V
13 = bus SI6

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter, inputs setpoint for TEST

The necessary assignments to enter the setpoint in the TEST mode are set

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0874 addit. setpoint

**maximum index:** -
**minimal value:** 0
**maximal value:** 12
**default value:** 0
**parameter value:**
0 = no function
1 = analog inp 0..±10V
2 = analog inp 0..+20mA
3 = analog inp 4..+20mA
4 = opt.an.inp 0..±10V
5 = opt.an.inp 0..+20mA
6 = opt.an.inp 4..+20mA
7 = PC
8 = bus SI1
9 = bus SI2
10 = bus SI4
11 = analog inp 2..+10V
12 = bus SI6

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter, input supplementary setpoint

The necessary assignments to enter the supplementary setpoint are set

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0875 dig. in-,output1

**maximum index:** -

**minimal value:** 0

**maximal value:** 97

**default value:** 95

**parameter value:**

0 = I no function
:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking
10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.

34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:
70 = O no Function
71 = O ready t switch on
72 = O ST ready switchon
73 = O ready f.operating
74 = O ST ready f.operat
75 = O operating
76 = O not fault
77 = O switch on inhibit
78 = O not alarm
79 = O motor rotating 1
80 = O Motor rotating 2
81 = O act.direct. right
82 = O current limitting
83 = O not mot.alarmtemp
84 = O not mot.overtemp.

85 = O RFG up
86 = O RFG down
87 = O RFG reached
88 = O setpoint reached
89 = O setp.in tolerance
90 = O fmin limitting
91 = O fmax limitting
92 = O selection TEST
93 = O ctrl.main contact
94 = O f-actual <= f-min
95 = O WLM touch message
96 = O WLM load limit
97 = O mech.brake open

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, digital input, output 1

The necessary assignments for the functions of the digital input, output 1 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode
O ... Output function

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0876 dig. in-,output2

**maximum index:** -
**minimal value:** 0
**maximal value:** 97
**default value:** 13
**parameter value:**
0 = I no function
:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking

10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.
34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop

61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:
70 = O no Function
71 = O ready t switch on
72 = O ST ready switchon
73 = O ready f.operating
74 = O ST ready f.operat
75 = O operating
76 = O not fault
77 = O switch on inhibit
78 = O not alarm
79 = O motor rotating 1
80 = O Motor rotating 2
81 = O act.direct. right
82 = O current limitting
83 = O not mot.alarmtemp
84 = O not mot.overtemp.
85 = O RFG up
86 = O RFG down
87 = O RFG reached
88 = O setpoint reached
89 = O setp.in tolerance
90 = O fmin limitting
91 = O fmax limitting
92 = O selection TEST
93 = O ctrl.main contact
94 = O f-actual <= f-min
95 = O WLM touch message
96 = O WLM load limit
97 = O mech.brake open

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, digital input, output 2

The necessary assignments for the functions of the digital input, output 2 are set

I ... Input function, independent of the NORMAL or TEST modes

IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode
O ... Output function

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0877 dig. in-,output3

**maximum index:** -
**minimal value:** 0
**maximal value:** 97
**default value:** 14
**parameter value:**
0 = I no function
:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking
10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.

34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:
70 = O no Function
71 = O ready t switch on
72 = O ST ready switchon
73 = O ready f.operating
74 = O ST ready f.operat
75 = O operating
76 = O not fault
77 = O switch on inhibit
78 = O not alarm
79 = O motor rotating 1
80 = O Motor rotating 2
81 = O act.direct. right
82 = O current limitting
83 = O not mot.alarmtemp
84 = O not mot.overtemp.

85 = O RFG up
86 = O RFG down
87 = O RFG reached
88 = O setpoint reached
89 = O setp.in tolerance
90 = O fmin limitting
91 = O fmax limitting
92 = O selection TEST
93 = O ctrl.main contact
94 = O f-actual <= f-min
95 = O WLM touch message
96 = O WLM load limit
97 = O mech.brake open

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, digital input, output 3

The necessary assignments for the functions of the digital input, output 3 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode
O ... Output function

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0878 digital input4

**maximum index:** -
**minimal value:** 0
**maximal value:** 69
**default value:** 30
**parameter value:** 0 = I no function

:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking

10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.
34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop

61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, digital input 4

The necessary assignments for the function of digital input 4 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0879 digital input5

**maximum index:** -
**minimal value:** 0
**maximal value:** 69
**default value:** 4
**parameter value:**

0 = I no function
:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking
10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp

16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.
34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess

67 = IT inhib.load limit
:

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, digital input 5

The necessary assignments for the function of digital input 5 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0880 digital input8

**maximum index:** -
**minimal value:** 0
**maximal value:** 69
**default value:** 26
**parameter value:**

0 = I no function
:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking
10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0

23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.
34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit

**function diagram:** plan -

Group parameter function, digital input 8

The necessary assignments for the functions of the digital input 8 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0881 function relay

**maximum index:** -
**minimal value:** 70
**maximal value:** 97
**default value:** 76
**parameter value:**
70 = O no Function
71 = O ready t switch on
72 = O ST ready switchon
73 = O ready f.operating
74 = O ST ready f.operat
75 = O operating
76 = O not fault
77 = O switch on inhibit
78 = O not alarm
79 = O motor rotating 1
80 = O Motor rotating 2
81 = O act.direct. right
82 = O current limitting
83 = O not mot.alarmtemp
84 = O not mot.overtemp.
85 = O RFG up
86 = O RFG down
87 = O RFG reached
88 = O setpoint reached
89 = O setp.in tolerance
90 = O fmin limitting
91 = O fmax limitting
92 = O selection TEST
93 = O ctrl.main contact
94 = O f-actual <= f-min
95 = O WLM touch message
96 = O WLM load limit
97 = O mech.brake open

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter, relay function

The necessary assignments for the function of the digital relay are set

O ... Output function

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0882 opt.digital input1

**maximum index:** -
**minimal value:** 0
**maximal value:** 69
**default value:** 0
**parameter value:**

0 = I no function
:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking
10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2

29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.
34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, option digital input 1

The necessary assignments for the function of the digital option input 1 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0883 opt.digital input2

**maximum index:** -
**minimal value:** 0
**maximal value:** 69
**default value:** 0
**parameter value:**
0 = I no function
:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking
10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.

34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, option digital input 2

The necessary assignments for the function of the digital option input 2 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0884 opt.digital input3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 69 |
| **default value:** | 0 |
| **parameter value:** | 0 = I no function |
| | : |
| | 2 = I not alarm ext. |
| | 3 = I not fault ext. |
| | 4 = I fault reset |
| | 5 = I fmin select |
| | 6 = I direct. rotat. |
| | 7 = I not volt. disc. |
| | 8 = I not fast stop |
| | 9 = I RFG parking |
| | 10 = I RFG up stop |
| | 11 = I motp. faster |
| | 12 = I motp. slower |
| | 13 = I WLM sensit. up |
| | 14 = I WLM sensit. down |
| | 15 = I WLM sens.StrtStp |
| | 16 = I inhib.touch mess |
| | 17 = I inhib.load limit |
| | : |
| | 20 = I setp. mem. bit4 |
| | 21 = I TEST/NORMAL |
| | 22 = I setp. mem. bit0 |
| | 23 = I setp. mem. bit1 |
| | 24 = I setp. mem. bit2 |
| | 25 = I setp. mem. bit3 |
| | 26 = I param. set bit0 |
| | 27 = I param. set bit1 |
| | 28 = I param. set bit2 |
| | 29 = I param. set bit3 |
| | 30 = I param. set bit4 |
| | : |
| | 32 = IN not alarm ext. |
| | 33 = IN not fault ext. |
| | 34 = IN fault reset |
| | 35 = IN fmin select |
| | 36 = IN direct. rotat. |
| | 37 = IN not volt. disc. |

38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, option digital input 3

The necessary assignments for the function of the digital option input 3 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0885 opt.digital input4

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 69 |
| **default value:** | 0 |
| **parameter value:** | 0 = I no function |
| | : |
| | 2 = I not alarm ext. |
| | 3 = I not fault ext. |
| | 4 = I fault reset |
| | 5 = I fmin select |
| | 6 = I direct. rotat. |
| | 7 = I not volt. disc. |
| | 8 = I not fast stop |
| | 9 = I RFG parking |
| | 10 = I RFG up stop |
| | 11 = I motp. faster |
| | 12 = I motp. slower |
| | 13 = I WLM sensit. up |
| | 14 = I WLM sensit. down |
| | 15 = I WLM sens.StrtStp |
| | 16 = I inhib.touch mess |
| | 17 = I inhib.load limit |
| | : |
| | 20 = I setp. mem. bit4 |
| | 21 = I TEST/NORMAL |
| | 22 = I setp. mem. bit0 |
| | 23 = I setp. mem. bit1 |
| | 24 = I setp. mem. bit2 |
| | 25 = I setp. mem. bit3 |
| | 26 = I param. set bit0 |
| | 27 = I param. set bit1 |
| | 28 = I param. set bit2 |
| | 29 = I param. set bit3 |
| | 30 = I param. set bit4 |
| | : |
| | 32 = IN not alarm ext. |
| | 33 = IN not fault ext. |
| | 34 = IN fault reset |
| | 35 = IN fmin select |
| | 36 = IN direct. rotat. |
| | 37 = IN not volt. disc. |
| | 38 = IN not fast stop |
| | 39 = IN RFG parking |
| | 40 = IN RFG up stop |
| | 41 = IN motp. faster |

42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, option digital input 4

The necessary assignments for the function of the digital option input 4 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0886 option relay 1

**maximum index:** -

**minimal value:** 70

**maximal value:** 97

**default value:** 70

**parameter value:** 70 = O no Function
71 = O ready t switch on
72 = O ST ready switchon
73 = O ready f.operating
74 = O ST ready f.operat
75 = O operating
76 = O not fault
77 = O switch on inhibit
78 = O not alarm
79 = O motor rotating 1
80 = O Motor rotating 2
81 = O act.direct. right
82 = O current limitting
83 = O not mot.alarmtemp
84 = O not mot.overtemp.
85 = O RFG up
86 = O RFG down
87 = O RFG reached
88 = O setpoint reached
89 = O setp.in tolerance
90 = O fmin limitting
91 = O fmax limitting
92 = O selection TEST
93 = O ctrl.main contact
94 = O f-actual <= f-min
95 = O WLM touch message
96 = O WLM load limit
97 = O mech.brake open

**unit:** no

**passwordlevel:** 1

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan -

Group parameter function, option relay 1
The necessary assignments for the function of option relay 1 are set

O ... Output function

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0887 option relay 2

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 70 |
| **maximal value:** | 97 |
| **default value:** | 70 |
| **parameter value:** | 70 = O no Function |
| | 71 = O ready t switch on |
| | 72 = O ST ready switchon |
| | 73 = O ready f.operating |
| | 74 = O ST ready f.operat |
| | 75 = O operating |
| | 76 = O not fault |
| | 77 = O switch on inhibit |
| | 78 = O not alarm |
| | 79 = O motor rotating 1 |
| | 80 = O Motor rotating 2 |
| | 81 = O act.direct. right |
| | 82 = O current limitting |
| | 83 = O not mot.alarmtemp |
| | 84 = O not mot.overtemp. |
| | 85 = O RFG up |
| | 86 = O RFG down |
| | 87 = O RFG reached |
| | 88 = O setpoint reached |
| | 89 = O setp.in tolerance |
| | 90 = O fmin limitting |
| | 91 = O fmax limitting |
| | 92 = O selection TEST |
| | 93 = O ctrl.main contact |
| | 94 = O f-actual <= f-min |
| | 95 = O WLM touch message |
| | 96 = O WLM load limit |
| | 97 = O mech.brake open |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Group parameter function, option relay 2

The necessary assignments for the function of option relay 2 are set

O ... Output function

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0888 option relay 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 70 |
| **maximal value:** | 97 |
| **default value:** | 70 |
| **parameter value:** | 70 = O no Function |
| | 71 = O ready t switch on |
| | 72 = O ST ready switchon |
| | 73 = O ready f.operating |
| | 74 = O ST ready f.operat |
| | 75 = O operating |
| | 76 = O not fault |
| | 77 = O switch on inhibit |
| | 78 = O not alarm |
| | 79 = O motor rotating 1 |
| | 80 = O Motor rotating 2 |
| | 81 = O act.direct. right |
| | 82 = O current limitting |
| | 83 = O not mot.alarmtemp |
| | 84 = O not mot.overtemp. |
| | 85 = O RFG up |
| | 86 = O RFG down |
| | 87 = O RFG reached |
| | 88 = O setpoint reached |
| | 89 = O setp.in tolerance |
| | 90 = O fmin limitting |
| | 91 = O fmax limitting |
| | 92 = O selection TEST |
| | 93 = O ctrl.main contact |
| | 94 = O f-actual <= f-min |
| | 95 = O WLM touch message |
| | 96 = O WLM load limit |
| | 97 = O mech.brake open |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Group parameter function, option relay 3

The necessary assignments for the function of option relay 3 are set

O ... Output function

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.



Rexroth Indramat

# parameter: P0889 option relay 4

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 70 |
| **maximal value:** | 97 |
| **default value:** | 70 |
| **parameter value:** | 70 = O no Function |
| | 71 = O ready t switch on |
| | 72 = O ST ready switchon |
| | 73 = O ready f.operating |
| | 74 = O ST ready f.operat |
| | 75 = O operating |
| | 76 = O not fault |
| | 77 = O switch on inhibit |
| | 78 = O not alarm |
| | 79 = O motor rotating 1 |
| | 80 = O Motor rotating 2 |
| | 81 = O act.direct. right |
| | 82 = O current limitting |
| | 83 = O not mot.alarmtemp |
| | 84 = O not mot.overtemp. |
| | 85 = O RFG up |
| | 86 = O RFG down |
| | 87 = O RFG reached |
| | 88 = O setpoint reached |
| | 89 = O setp.in tolerance |
| | 90 = O fmin limitting |
| | 91 = O fmax limitting |
| | 92 = O selection TEST |
| | 93 = O ctrl.main contact |
| | 94 = O f-actual <= f-min |
| | 95 = O WLM touch message |
| | 96 = O WLM load limit |
| | 97 = O mech.brake open |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Group parameter function, option relay 4

The necessary assignments for the function of option relay 4 are set

O ... Output function

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0890 ref.-,analogue outp

**maximum index:** -

**minimal value:** 0

**maximal value:** 7

**default value:** 0

**parameter value:**
0 = +10V referenz outp.
1 = -10V Referenz outp.
2 = fact outp.frequenc
3 = Iact outp.current
4 = Isq
5 = Uact outp.voltage
6 = Pact outp.power
7 = Pactiv

**unit:** no

**passwordlevel:** 1

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan -

Group parameter function, reference, analog output

The necessary assignments for the function of the reference, analog output are set

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0891 opt.analogue outp.1

**maximum index:** -

**minimal value:** 0

**maximal value:** 6

**default value:** 0

**parameter value:**
0 = no function
1 = fact outp.frequenc
2 = Iact outp.current
3 = Isq
4 = Uact outp.voltage
5 = Pact outp.power
6 = Pactiv

**unit:** no

**passwordlevel:** 1

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan -

Group parameter function, option analog output 1

The necessary assignments for the function of the option analog output 1 are set

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0892 opt.analogue outp.2

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 6 |
| **default value:** | 0 |
| **parameter value:** | 0 = no function |
| | 1 = fact outp.frequenc |
| | 2 = Iact outp.current |
| | 3 = Isq |
| | 4 = Uact outp.voltage |
| | 5 = Pact outp.power |
| | 6 = Pactiv |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Group parameter function, option analog output 2

The necessary assignments for the function of the option analog output 2 are set

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0893 digital input9

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 69 |
| **default value:** | 27 |
| **parameter value:** | 0 = I no function |
| | : |
| | 2 = I not alarm ext. |
| | 3 = I not fault ext. |
| | 4 = I fault reset |
| | 5 = I fmin select |
| | 6 = I direct. rotat. |
| | 7 = I not volt. disc. |

8 = I not fast stop
9 = I RFG parking
10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.
34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop

59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, digital input 9

The necessary assignments for the function of digital input 4 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0894 digital input10

**maximum index:** -
**minimal value:** 0
**maximal value:** 69
**default value:** 28
**parameter value:**

0 = I no function
:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking
10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up

14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4
21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.
34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down

65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:

**unit:** no
**passwordlevel:** 1
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan -

Group parameter function, digital input 10

The necessary assignments for the function of digital input 4 are set

I ... Input function, independent of the NORMAL or TEST modes
IN ... Input function only for NORMAL mode
IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0895 digital input11

**maximum index:** -
**minimal value:** 0
**maximal value:** 69
**default value:** 29
**parameter value:**

0 = I no function
:
2 = I not alarm ext.
3 = I not fault ext.
4 = I fault reset
5 = I fmin select
6 = I direct. rotat.
7 = I not volt. disc.
8 = I not fast stop
9 = I RFG parking
10 = I RFG up stop
11 = I motp. faster
12 = I motp. slower
13 = I WLM sensit. up
14 = I WLM sensit. down
15 = I WLM sens.StrtStp
16 = I inhib.touch mess
17 = I inhib.load limit
:
20 = I setp. mem. bit4

21 = I TEST/NORMAL
22 = I setp. mem. bit0
23 = I setp. mem. bit1
24 = I setp. mem. bit2
25 = I setp. mem. bit3
26 = I param. set bit0
27 = I param. set bit1
28 = I param. set bit2
29 = I param. set bit3
30 = I param. set bit4
:
32 = IN not alarm ext.
33 = IN not fault ext.
34 = IN fault reset
35 = IN fmin select
36 = IN direct. rotat.
37 = IN not volt. disc.
38 = IN not fast stop
39 = IN RFG parking
40 = IN RFG up stop
41 = IN motp. faster
42 = IN motp. slower
43 = IN WLM sensit. up
44 = IN WLM sensit. down
45 = IN WLM sens.StrtStp
46 = IN inhib.touch mess
47 = IN inhib.load limit
:
52 = IT not alarm ext.
53 = IT not fault ext.
54 = IT fault reset
55 = IT fmin select
56 = IT direct. rotat.
57 = IT not volt. disc.
58 = IT not fast stop
59 = IT RFG parking
60 = IT RFG up stop
61 = IT motp. faster
62 = IT motp. slower
63 = IT WLM sensit. up
64 = IT WLM sensit. down
65 = IT WLM sens.StrtStp
66 = IT inhib.touch mess
67 = IT inhib.load limit
:

**unit:** no

**passwordlevel:** 1

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan -

Group parameter function, digital input 11

The necessary assignments for the function of digital input 4 are set

I ... Input function, independent of the NORMAL or TEST modes

IN ... Input function only for NORMAL mode

IT ... Input function only for TEST mode

**Caution:** This parameter is only effective if the basic parameterization is selected using P0064.

## parameter: P0896 WLM touch sensitiv.

**maximum index:** -

**minimal value:** 1

**maximal value:** 13

**default value:** 1

**parameter value:**

1 = fix fixvalue(s)
2 = analog inp 0..±10V
3 = analog inp 0..+20mA
4 = analog inp 4..+20mA
5 = opt.an.inp 0..±10V
6 = opt.an.inp 0..+20mA
7 = opt.an.inp 4..+20mA
8 = PC
9 = bus SI1
10 = bus SI2
11 = bus SI4
12 = analog inp 2..+10V
13 = bus SI6

**unit:** no

**passwordlevel:** 1

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan -

Group parameter function, active load monitor sparking sensitivity

**Notice:** This parameter is only effective if the basic parameterization is selected using P0064

## parameter: P0897 WLM load limit

**maximum index:** -

**minimal value:** 1

**maximal value:** 13

**default value:** 1

**parameter value:**
1 = fix fixvalue(s)
2 = analog inp 0..±10V
3 = analog inp 0..+20mA
4 = analog inp 4..+20mA
5 = opt.an.inp 0..±10V
6 = opt.an.inp 0..+20mA
7 = opt.an.inp 4..+20mA
8 = PC
9 = bus SI1
10 = bus SI2
11 = bus SI4
12 = analog inp 2..+10V
13 = bus SI6

**unit:** no

**passwordlevel:** 1

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan -

Group parameter function Active load monitor load limit setting

**Notice:** This parameter is only effective if the basic parameterization is selected using P0064

## parameter: P0898 scratchpad REFU

**maximum index:** -

**minimal value:** 0.000

**maximal value:** 2147483.647

**default value:** 0.000

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 32 bit

**function diagram:** plan -

Noteblock parameter REFU

Any numerical value, e.g. for archiving purposes can be saved here.

This value is saved in the EEprom so that data is not lost during power failure.

## parameter: P0899 scratchpad customer

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.000 |
| **maximal value:** | 2147483.647 |
| **default value:** | 0.000 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 32 bit |
| **function diagram:** | plan - |

Noteblock parameter, customer

Any numerical value, e.g. for archiving purposes can be saved here.

This value is saved in the EEprom so that data is not lost during power failure.

## parameter: P1018 block parametrizat.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -1 |
| **maximal value:** | 1 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Block parameterization on/off

## parameter: P1019 data conflict

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 0 |
| **maximal value:** | 2047 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Data conflict between parameters A and B

## parameter: P1020 WS PIC data

| | |
|---|---|
| **maximum index:** | 48 |
| **minimal value:** | 0000 |
| **maximal value:** | FFFF |
| **default value:** | 0000 |

| | |
|---|---|
| **unit:** | hex |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

## parameter: P1021 option board 1 code

| | |
|---|---|
| **maximum index:** | 05 |
| **minimal value:** | -32768 |
| **maximal value:** | 32767 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Option card 1 code

D1021.0 card type

| | | |
|---|---|---|
| 0 | no card | |
| 1 | SK17021 | (peer-to-peer) |
| 16 | KL17037 | (chemical KL) |
| 18 | SL21058 | (SynchroLink) |
| 32 | CB17029 | (CAN bus) |
| 48 | IB19285 | Interbus-S |
| 64 | PB19283 | Profibus-DP |

D1021.01..05

Firmware ID, option card (however, not for peer-to-peer)

## parameter: P1022 option board 2 code

| | |
|---|---|
| **maximum index:** | 05 |
| **minimal value:** | -32768 |
| **maximal value:** | 32767 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Option card 2 code

D1022.0 card type

| | | |
|---|---|---|
| 0 | no card | |
| 1 | SK17021 | (peer-to-peer) |

| | | |
|---|---|---|
| 16 | KL17037 | (chemical KL) |
| 18 | SL21058 | (SynchroLink) |
| 32 | CB17029 | (CAN bus) |
| 48 | IB19285 | Interbus-S |
| 64 | PB19283 | Profibus-DP |

D1022.01..05
Firmware ID, option card (however, not for peer-to-peer)

## parameter: P1023 panel code

**maximum index:** -
**minimal value:** 0.0
**maximal value:** 6553.5
**default value:** 0.0
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Firmware version of the operator panel connected at X11

V1.0 & V1.1 8 kbyte copy memory
V1.2 24 kbyte copy memory

## parameter: P1032 SR release

**maximum index:** -
**minimal value:** 0
**maximal value:** 39
**default value:** 4
**parameter value:**
0 = layout 0017001/A1
:
2 = layout 0017001/00
3 = layout 0017001/00M
4 = layout 0017001/01
:
6 = layout 17001/02..03
:

**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Hardware version of the SR17000 control card

## parameter: P1038 WS-PIC Scan Anz Mst

**maximum index:** 10
**minimal value:** 0
**maximal value:** 65535
**default value:** 0
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Information about recognized drive inverter controls and their address.

| | |
|---|---|
| Index 00..07 | Addresses 0..7: 0=none WS 255=WS recognized |
| Index 08 | No. of recognized drive inverter controls |
| Index 09 | Address of the master, drive inverter control |
| Index 10 | Address of the 1st slave, drive inverter control |

## parameter: D1039 Uzk-,main-volt.norm

**maximum index:** -
**minimal value:** 0
**maximal value:** 3000
**default value:** -
**unit:** V
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -

VDC link, line supply voltage normalization

All of the voltage-orientated input quantities, which are processed as a percentage are referred to this value.

## parameter: D1043 output volt. normal

**maximum index:** -
**minimal value:** 0
**maximal value:** 3000
**default value:** -
**unit:** V
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 40

Output voltage normalization

All of the voltage orientated output quantities, which are processed as a percentage are referred to this value.

## parameter: P1098 firmware-date

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 0 |
| **default value:** | 0 |
| **parameter value:** | 0 = 25.Jan.2001 15:19 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Compile date and time of the firmware on the SR17000 control card

## parameter: D1100 SI4: PZD1-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 39 |

Actually received value from the process data

PZD1 of interface SI4.

Processing the process data SI4

The process data, received via the SI4, is converted into display parameters in the drive, which can be freely connected into the variable parameter sources for the drive control.

The drive sends its actual values as process data via the SI4, by connecting D parameters into the variable parameter sources of output SI4.

## parameter: D1101 SI4: PZD2-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 39 |

Actually received value from the process data

PZD2 of interface SI4.

## parameter: D1102 SI4: PZD3-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 39

Actually received value from the process data PZD3 of interface SI4.

## parameter: D1103 SI4: PZD4-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 39

Actually received value from the process data PZD4 of interface SI4.

## parameter: D1104 SI4: PZD5-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 39

Actually received value from the process data PZD5 of interface SI4.

## parameter: D1105 SI4: PZD6-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99

| | |
|---|---|
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 39 |

Actually received value from the process data PZD6 of interface SI4.

## parameter: D1106 SI4: PZD7-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 39 |

Actually received value from the process data PZD7 of interface SI4.

## parameter: D1107 SI4: PZD8-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 39 |

Actually received value from the process data PZD8 of interface SI4.

## parameter: D1108 SI4: PZD9-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |

**function diagram:** plan 39

Actually received value from the process data PZD9 of interface SI4.

## parameter: D1109 SI4: PZD10-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 39

Actually received value from the process data PZD10 of interface SI4.

## parameter: D1110 SI5: PZD1-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -

Actually received value from the process data PZD1 of interface SI5.

Processing the process data SI5

The process data, received via the SI5, is converted into display parameters in the drive, which can be freely connected into the variable parameter sources for the drive control.

The drive sends its actual values as process data via the SI5, by connecting D parameters into the variable parameter sources of output SI5.

## parameter: D1111 SI5: PZD2-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read

**type:** signed 16 bit
**function diagram:** plan -
Actually received value from the process data PZD2 of interface SI5.

## parameter: D1112 SI5: PZD3-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -
Actually received value from the process data PZD3 of interface SI5.

## parameter: D1113 SI5: PZD4-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -
Actually received value from the process data PZD4 of interface SI5.

## parameter: D1114 SI5: PZD5-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -
Actually received value from the process data PZD5 of interface SI5.

## parameter: D1120 Output-block 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 13 |

Output from output block 3

## parameter: D1121 Output-block 4

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 13 |

Output from output block 4

## parameter: D1122 S&H0 Q saved

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 27 |

Output from the sample&hold module 0

This output is saved at power-down in the EEprom.

## parameter: D1123 S&H1 Q saved

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 27 |

Output from the sample&hold module 1

This output is saved at power-down in the EEprom.

## parameter: D1126 V-contr.limit activ

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 20 |

Voltage controller at its limit for logical 1

## parameter: D1127 V-controller output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -817 |
| **maximal value:** | 816 |
| **default value:** | - |
| **unit:** | V |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 20, 21 |

Voltage controller output

## parameter: D1128 volt.before v-contr

**maximum index:** -
**minimal value:** -817
**maximal value:** 816
**default value:** -
**unit:** V
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 20, 21

Voltage setpoint in front of the voltage controller

## parameter: D1129 coder output 2

**maximum index:** -
**minimal value:** 0
**maximal value:** 65535
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 28

Output 2 of the programmable coder

## parameter: D1140 WLM Isq actual val.

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 23

Active load monitor, ALM actual value

## parameter: D1141 WLM glide threshold

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Active load monitor ALM floating threshold

## parameter: D1142 distance touch msg.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 22 |

Active load monitor, clearance sparking

## parameter: D1143 enable touch messag

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 22 |

Active load monitor, enable sparking

## parameter: D1144 output touch messag

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 22 |
| | Active load monitor, output sparking |

## parameter: D1147 distance load limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 23 |
| | Active load monitor, clearance load limit |

## parameter: D1148 enable load limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 23 |
| | Active load monitor, enable load limit |

## parameter: D1149 output load limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 23 |

Active load monitor, output load limit

## parameter: D1150 Dig.input9 X17.3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Digital input9 Terminal X17.3

24V = logical one

## parameter: D1151 Dig.inp9 inv X17.3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 08 |

Digital input9, inverted Terminal X17.3

24V = logical zero

## parameter: D1152 Dig.input10 X17.5

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 008

Digital input10 Terminal X17.5
24V = logical one

## parameter: D1153 Dig.inp10 inv X17.5

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Digital input10, inverted Terminal X17.5
24V = logical zero

## parameter: D1154 Dig.input11 X17.7

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Digital input11 Terminal X17.7
24V = logical one

## parameter: D1155 Dig.inp11 inv X17.7

**maximum index:** -
**minimal value:** 0
**maximal value:** 1

**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Digital input11, inverted Terminal X17.7

24V = logical zero

## parameter: D1160 SI6: PZD1-input X13

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 40, 44

Actually received value from the process data

PZD1 of interface SI6.

Processing the process data SI6

The process data, received via the SI6, is converted into display parameters in the drive, which can be freely connected into the variable parameter sources for the drive control.

The drive sends its actual values as process data via the SI6, by connecting D parameters into the variable parameter sources of output SI6.

## parameter: D1161 SI6: PZD2-input X13

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 20, 40

Actually received value from the process data

PZD2 of interface SI6.

## parameter: D1162 SI6: PZD3-input X13

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 40 |

Actually received value from the process data PZD3 of interface SI6.

## parameter: D1163 SI6: PZD4-input X13

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 40 |

Actually received value from the process data PZD4 of interface SI6.

## parameter: D1164 SI6: PZD5-input X13

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 40 |

Actually received value from the process data PZD5 of interface SI6.

## parameter: D1165 SI6: PZD6-input X13

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |

**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 40

Actually received value from the process data PZD6 of interface SI6.

## parameter: D1166 SI6: PZD7-input X13

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 40

Actually received value from the process data PZD7 of interface SI6.

## parameter: D1167 SI6: PZD8-input X13

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 40

Actually received value from the process data PZD8 of interface SI6.

## parameter: D1168 SI6: PZD9-input X13

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit

**function diagram:** plan 40

Actually received value from the process data PZD9 of interface SI6.

## parameter: D1169 SI6: PZD10-inp. X13

**maximum index:** -

**minimal value:** -200.00

**maximal value:** 199.99

**default value:** -

**unit:** %

**passwordlevel:** 0

**read / write:** Read

**type:** signed 16 bit

**function diagram:** plan 40

Actually received value from the process data PZD10 of interface SI6.

## parameter: D1170 SI6: PZD11-inp. X13

**maximum index:** -

**minimal value:** -200.00

**maximal value:** 199.99

**default value:** -

**unit:** %

**passwordlevel:** 0

**read / write:** Read

**type:** signed 16 bit

**function diagram:** plan 40

Actually received value from the process data PZD11 of interface SI6.

## parameter: D1171 SI6: PZD12-inp. X13

**maximum index:** -

**minimal value:** -200.00

**maximal value:** 199.99

**default value:** -

**unit:** %

**passwordlevel:** 0

**read / write:** Read

**type:** signed 16 bit

**function diagram:** plan 40

Actually received value from the process data PZD12 of interface SI6.

## parameter: D1176 Control word 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0000 |
| **maximal value:** | FFFF |
| **default value:** | - |
| **unit:** | hex |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |

Actual value from control word3

## parameter: D1177 Status word 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0000 |
| **maximal value:** | FFFF |
| **default value:** | - |
| **unit:** | hex |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |

Actual value from status word3

## parameter: D1179 f-limit actual

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 18, 44 |

f limit, actual

The output frequency of the drive is limited with this value

## parameter: D1180 Filterswitch contr.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0000 |
| **maximal value:** | FFFF |
| **default value:** | - |
| **unit:** | hex |

**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 40, 44

Filter changeover, control word

## parameter: D1182 Filterswitch status

**maximum index:** -
**minimal value:** 0000
**maximal value:** FFFF
**default value:** -
**unit:** hex
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 44

Filter changeover, status word

## parameter: D1187 coder output 1

**maximum index:** -
**minimal value:** 0
**maximal value:** 31
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 28

Output1 of the programmable coder

## parameter: P1200 Time WLM act.value

**maximum index:** -
**minimal value:** 0
**maximal value:** 10000
**default value:** 100
**unit:** ms
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

Active load monitor, filter time for ALM actual value

## parameter: P1201 Time glide threshld

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 10000 |
| **default value:** | 10000 |
| **unit:** | ms |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Active load monitor, filter time for ALM floating threshold

## parameter: P1202 Src sensitivity

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 22 |

Variable parameter source for the functions

Variable sensitivity, active load monitor module

## parameter: P1203 Fixval. sensitivity

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0.00 |
| **maximal value:** | 100.00 |
| **default value:** | 0.30 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 22 |

Fixed value memory for the sensitivity, active load monitor module

Active load monitor "sparking"

The "sparking" active load monitor has the task to reliably detect the smallest dynamic active load increase and to signal this using a digital control signal. For example, this can be used to change over the feed when the workpiece comes into contact with the grinding wheel from a fast search speed to the grinding speed.

Select sensitivity P1204 = 0 = variable source:

Here, the sensitivity can be externally and manually entered via P1202, using an analog potentiometer.

Select sensitivity P1204 = 1 = fixed values:

With this selection, the sensitivity is centrally entered into the module via P1203.xx. The following alternative possibilities are available to adapt the active fixed value:

Entry at the operator panel

Parameterization via a serial interface

Sensitivity motorized-potentiometer

The motorized potentiometer module only intervenes, adding or subtracting a value to or from the actual setting of P1203.xx.

1st operator control possibility:

Change using the + key or - key on the operator panel. When the setpoint motorized potentiometer is activated (i.e.: P0190.xx => logical 1) it is not possible to control the sensitivity-motorized potentiometer of the active load monitor using the operator panel; also refer to Sheet No.: 22.

In this case, the setpoint motorized potentiometer has a higher priority.

2nd operator control possibility:

Change using the digital inputs which are logically combined with parameters P1207 and P1208.

Automatic sensitivity determination

The automatic sensitivity determination is activated using the start/stop signal (P1212). The machine control positions the grinding wheel from where the contact point should be searched for.

The cooling and lubricating medium is now switched-in. The machine control then outputs a digital signal as logic 1 for approx. 2-3 seconds via P1212 at start / stop. The actual sensitivity is determined in the time between the rising and falling edges of the signal. The safety margin from P1203.xx is now added, at the falling edge of the signal, to the determined value and is then entered into P1203.xx.

The safety margin defines the clearance between the actual sensitivity and the trigger point so that the sparking signal does not inadmissibly respond.

## parameter: P1204 Select sensitivity

**maximum index:** -

**minimal value:** 0

**maximal value:** 1

**default value:** 1

**parameter value:** 0 = variable source

1 = fixvalues

**unit:** no

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 22

Active load monitor, selective ALM sensitivity

Active load monitor, "sparking"

The active load monitor "sparking" module has the task of reliably detecting the smallest dynamic active load increase and to signal this using a digital control signal. For example, this can be used to change over the feed when the workpiece comes into contact with the grinding wheel from a fast search speed to the grinding speed.

Select sensitivity P1204 = 0 = variable source:

Here, the sensitivity can be externally and manually entered via P1202, using an analog potentiometer.

Select sensitivity P1204 = 1 = fixed values:

With this section, the sensitivity is centrally entered into the module via P1203.xx.

The following alternative possibilities are available to adapt the active fixed value:

Entry at the operator panel

Parameterization via a serial interface

Sensitivity-motorized potentiometer

The motorized potentiometer module only intervenes, adding or subtracting a value to or from the actual setting of P1203.xx.

1st operator control possibility:

Change using the + key or - key on the operator panel. When the setpoint motorized potentiometer is activated (i.e.: P0190.xx => logical 1) it is not possible to control the sensitivity-motorized potentiometer of the active load monitors using the operator panel; also refer to Sheet No.: 22. In this case, the setpoint motorized potentiometer has a higher priority.

2nd operator control possibility:

Change using the digital inputs which are logically combined with parameters P1207 and P1208.

Automatic sensitivity determination

The automatic sensitivity determination is activated using the start/stop signal (P1212). The machine control positions the grinding wheel from where the contact point should be searched for.

The cooling and lubricating medium is now switched-in. The machine control then outputs a digital signal as logic 1 for approx. 2-3 seconds via P1212 at start/stop. The actual sensitivity is determined in the time between the rising and falling edge of the signal.

The safety margin from P1213 is now added, at the falling edge of the signal, to the determined value and is then entered into P1203.xx.

The safety margin defines the clearance between the actual sensitivity and the trigger point so that the sparking signal does not inadmissible response.

## parameter: P1205 Src touch msg.inhib

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 22 |

Variable parameter source for the functions

Inhibit sparking Active load monitor module

Inhibit "sparking":

Using the "sparking" inhibit, the "sparking" output D1144 is inhibited so that the machine control can detect any undesirable feed changeover.

The inhibit is controlled as follows:

The inhibit function is activated during frequency changes and when the inverter is inhibited.

The inhibit function is activated during the automatic sensitivity determination.

When the machine sequence requires it, the inhibit function can also be activated via P1205.

## parameter: P1206 Signal touch messag

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 1 |
| **parameter value:** | 0 = direct |
| | 1 = inverted |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 22 |

Mode for the sparking signal

## parameter: P1207 Src sensitivity up

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 22 |

Variable parameter source for the functions

Motorized potentiometer sensitivity up, active load monitor module

**Note:** When the setpoint-motorized potentiometer module is activated (i.e.: P0190.xx => logical 1) is activated, it is not possible to control the sensitivity-motorized potentiometer of the active load monitor using the operator panel; also refer to Sheet No.: 22. The setpoint-motorized potentiometer has a higher priority

## parameter: P1208 Src sensitiv. down

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 22 |

Variable parameter source for the functions

Motorized potentiometer sensitivity down, active load monitor module

**Note:** When the setpoint-motorized potentiometer module is activated (i.e.: P0190.xx => logical 1) is activated, it is not possible to control the sensitivity-motorized potentiometer of the active load monitor using the operator panel; also refer to Sheet No.: 22. The setpoint-motorized potentiometer has a higher priority

## parameter: P1209 Step val. sensitiv.

**maximum index:** -
**minimal value:** 0.01
**maximal value:** 100.00
**default value:** 0.02
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 22

Enters the step width of the motorized potentiometer for the sensitivity of the active load monitor module

## parameter: P1210 Cycl.time sensitviy

**maximum index:** -
**minimal value:** 0.05
**maximal value:** 5.00
**default value:** 0.50
**unit:** sec
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 22

Cycle time of the motorized potentiometer for the sensitivity,
active load monitor module

## parameter: P1211 adressing sensitiv.

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = parameterset
1 = setpoint memory
**unit:** no
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 22

Addressing, sensitivity-fixed values, active load monitor module.

To select the effective index for P1203.xx, it is possible to change-over between the parameter set and setpoint memory.

## parameter: P1212 Src.start/stop sen.

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 22

Variable parameter source for the start/stop functions of the automatic sensitivity determination, active load monitor module

The automatic sensitivity determination is activated using the signal start/stop (P1212). The machine control positions the grinding wheel from where the contact point should be searched for. The cooling and lubricating medium is now switched-in. The machine control now outputs a digital signal as logic 1 for approx. 2-3 seconds via P1212 at start / stop. The actual sensitivity is determined in the time between the rising and falling edges of the signal. The safety margin from P1213 is now added, at the falling edge of the signal, to the determined value and is then entered into P1203.xx. The safety margin defines the clearance between the actual sensitivity and the trigger point so that the sparking signal does not inadmissibly respond.

## parameter: P1213 savety offs. sensit

**maximum index:** -
**minimal value:** 0.01
**maximal value:** 50.00
**default value:** 0.10
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 22

Safety offset, sensitivity-determination, active load monitor module

The automatic sensitivity determination is activated using the start/stop signal (P1212). The machine control positions the grinding wheel from where the contact point should be searched for. The cooling and lubricating medium is now switched-in. The machine control then outputs a digital signal as logic 1 for approx. 2-3 seconds via P1212 at start/stop. The actual sensitivity is determined in the time between the rising and falling edges of the signal. The safety margin from P1213 is now added, at the falling edge of the signal, to the determined value and is then entered into P1203.xx.

The safety margin defines the clearance between the actual sensitivity and the trigger point so that the sparking signal does not inadmissibly respond.

## parameter: P1215 Source load limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1800 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 23 |

Variable parameter source for the functions

Variable load limit, active load monitor module

Active load monitor - load limit

The "load limit" active load monitor module is a comparator with symmetrical hysteresis. This is used to increase or decrease the grinding wheel feed so that the grinding power can be kept at the output limit of the grinding spindle.

## parameter: P1216 Fixval. load limit

| | |
|---|---|
| **maximum index:** | 31 |
| **minimal value:** | 0.00 |
| **maximal value:** | 190.00 |
| **default value:** | 80.00 |
| **unit:** | % |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | signed 16 bit |
| **function diagram:** | plan 23 |

Fixed value memory for the load limit input, active load monitor module

Active load monitor - load limit

The "load limit" active load monitor module is a comparator with symmetrical hysteresis. This is used to increase or decrease the grinding wheel feed so that the grinding power can be kept at the output limit of the grinding spindle.

## parameter: P1217 Select load limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 1 |
| **parameter value:** | 0 = variable source |
| | 1 = fixvalues |
| **unit:** | no |

**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 23

Selects the load limit input of the comparator, load limit active load monitor module

Active load monitor - load limit

The "load limit" active load monitor module is a comparator with symmetrical hysteresis. This is used to increase or decrease the grinding wheel feed so that the grinding power can be kept at the output limit of the grinding spindle.

## parameter: P1218 Hysteres.load limit

**maximum index:** -
**minimal value:** 0.00
**maximal value:** 100.00
**default value:** 5.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 23

Hysteresis of the comparator, load limit active load monitor module

Active load monitor load limit

The "load limit" active load monitor module is a comparator with symmetrical hysteresis. This is used to increase or decrease the grinding wheel feed so that the grinding power can be kept at the output limit of the grinding spindle.

## parameter: P1219 Src loadlimit inhib

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 23

Variable parameter source for the functions

Inhibit load limit active load monitor module

Inhibit "load limit":

Using the "load limit" inhibit, the "load limit" output D1149 is inhibited so that the machine control can detect any undesirable feed changeover.

The inhibit can be controlled as follows:

The inhibit function is activated during frequency changes and when the inverter is inhibited.

When the machine sequence requires it, the inhibit function can be additionally activated via P1219.

## parameter: P1220 Signal load limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | 1 |
| **parameter value:** | 0 = direct |
| | 1 = inverted |
| **unit:** | no |
| **passwordlevel:** | 2 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 23 |

Mode for the load limit signal

## parameter: P1222 Src.Filtersw.status

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1160 |
| **unit:** | D-Par |
| **passwordlevel:** | 3 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 44 |

Variable parameter source for the functions

Filter changeover, status word

Output - filter changeover:

The unit is equipped with an output filter which can be changed-over. This filter prevents the motor winding being stressed by the harmonics generated by the pulse-modulated output voltage. This is especially required for grinding spindle drives, as the power loss in the form of a temperature rise can only be poorly dissipated. The drive unit automatically selects the appropriate filter bank via the actual limiting frequency (D1179). The selected filter bank is automatically switched-in before operation is enabled. The limiting frequency can be entered, as a function of the parameter set, in parameter P0178.xx. Refer to Sheet 18.

## parameter: P1223 Freq.thr.FiltRelais

**maximum index:** 02
**minimal value:** 0.0
**maximal value:** 6000.0
**default value:** 1000.0
**unit:** Hz
**passwordlevel:** 3
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 44

Frequency thresholds to switch-in the filter relay

Filter changeover module

Output - filter changeover:

The unit is equipped with an output filter which can be changed-over. This filter prevents the motor winding being stressed by the harmonics generated by the pulse-modulated output voltage. This is especially required for grinding spindle drives, as the power loss in the form of a temperature rise can only be poorly dissipated. The drive unit automatically selects the appropriate filter bank via the actual limiting frequency (D1179). The selected filter bank is automatically switched-in before operation is enabled. The limiting frequency can be entered, as a function of the parameter set, in parameter P0178.xx. Refer to Sheet 18.

## parameter: P1224 Output filter

**maximum index:** 31
**minimal value:** 0
**maximal value:** 1
**default value:** 0
**parameter value:** 0 = no
1 = yes
**unit:** no
**passwordlevel:** 3
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 44

Enable output filter changeover

Output - filter changeover:

The unit is equipped with an output filter which can be changed-over. This filter prevents the motor winding being stressed by the harmonics generated by the pulse-modulated output voltage. This is especially required for grinding spindle drives, as the power loss in the form of a temperature rise can only be poorly dissipated. The drive unit automatically selects the appropriate filter bank via the actual limiting frequency (D1179). The selected filter bank is automatically switched-in before operation is enabled. The limiting frequency can be entered, as a function of the parameter set, in parameter P0178.xx. Refer to Sheet 18.

## parameter: P1225 Src. v-contr. setp.

**maximum index:** 01
**minimal value:** 1
**maximal value:** 2044
**default value:** 1800
**unit:** D-Par
**passwordlevel:** 3
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 20

Variable parameter sources for the functions,
setpoints, voltage-controller

Voltage controller:

The voltage controller is used to correct the voltage drop across the integrated output filter. The firmware provides the required voltage setpoint in D1128, refer to Sheet 20.

The actual voltage-actual value is measured by the coupling module KB21004 and is transferred in process channel PZD2 to D1161 via interface SS6. The voltage controller output signal is fed-in at P1232. Refer to Sheet 21.

## parameter: P1226 Src.v-contr.act.val

**maximum index:** -
**minimal value:** 1
**maximal value:** 2044
**default value:** 1161
**unit:** D-Par
**passwordlevel:** 3
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 20

Variable parameter source for the functions
Actual value, voltage controller

Voltage controller:

The voltage controller is used to correct the voltage drop across the integrated output filter. The firmware provides the required voltage setpoint in D1128, refer to Sheet 20.

The actual voltage-actual value is measured by the coupling module KB21004 and is transferred in process channel PZD2 to D1161 via interface SS6. The voltage controller output signal is fed-in at P1232. Refer to Sheet 21.

## parameter: P1227 Src.v-contr. enable

| | |
|---|---|
| **maximum index:** | 01 |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1701 |
| **unit:** | D-Par |
| **passwordlevel:** | 3 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 20 |

Variable parameter sources for the functions

voltage controller enable

Voltage controller:

The voltage controller is used to correct the voltage drop across the integrated output filter. The firmware provides the required voltage setpoint in D1128, refer to Sheet 20.

The actual voltage-actual value is measured by the coupling module KB21004 and is transferred in process channel PZD2 to D1161 via interface SS6. The voltage controller output signal is fed-in at P1232. Refer to Sheet 21.

## parameter: P1228 V-controller Kp

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.01 |
| **maximal value:** | 16.00 |
| **default value:** | 0.20 |
| **unit:** | no |
| **passwordlevel:** | 1 |
| **read / write:** | R/W on |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 01, 20 |

Voltage controller Kp

The gain factor for the voltage controller is saved here.

Voltage controller:

The voltage controller is used to correct the voltage drop across the integrated output filter. The firmware provides the required voltage setpoint in D1128, refer to Sheet 20.

The actual voltage-actual value is measured by the coupling module KB21004 and is transferred in process channel PZD2 to D1161 via interface SS6. The voltage controller output signal is fed-in at P1232. Refer to Sheet 21.

## parameter: P1229 V.controller Tn

**maximum index:** -
**minimal value:** 0
**maximal value:** 10000
**default value:** 1000
**unit:** ms
**passwordlevel:** 1
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan 01, 20

Voltage controller Tn

The integral action time for the voltage controller is saved here.

Voltage controller:

The voltage controller is used to correct the voltage drop across the integrated output filter. The firmware provides the required voltage setpoint in D1128, refer to Sheet 20.

The actual voltage-actual value is measured by the coupling module KB21004 and is transferred in process channel PZD2 to D1161 via interface SS6. The voltage controller output signal is fed-in at P1232. Refer to Sheet 21.

## parameter: P1230 V.contr. pos. limit

**maximum index:** -
**minimal value:** 0.00
**maximal value:** 195.00
**default value:** 50.00
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan 20

Selectable positive limit value of the voltage controller.

Voltage controller:

The voltage controller is used to correct the voltage drop across the integrated output filter. The firmware provides the required voltage setpoint in D1128, refer to Sheet 20.

The actual voltage-actual value is measured by the coupling module KB21004 and is transferred in process channel PZD2 to D1161 via interface SS6. The voltage controller output signal is fed-in at P1232. Refer to Sheet 21.

## parameter: P1231 V.contr. neg. limit

**maximum index:** -
**minimal value:** -195.00
**maximal value:** 0.00

**default value:** -50.00

**unit:** %

**passwordlevel:** 1

**read / write:** R/W on

**type:** signed 16 bit

**function diagram:** plan 20

Selectable negative limit value of the voltage controller.

Voltage controller:

The voltage controller is used to correct the voltage drop across the integrated output filter. The firmware provides the required voltage setpoint in D1128, refer to Sheet 20.

The actual voltage-actual value is measured by the coupling module KB21004 and is transferred in process channel PZD2 to D1161 via interface SS6. The voltage controller output signal is fed-in at P1232. Refer to Sheet 21.

## parameter: P1232 Src.v-contoller o/p

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1127

**unit:** D-Par

**passwordlevel:** 3

**read / write:** R/W off

**type:** unsigned 16 bit

**function diagram:** plan 21

Variable parameter sources for the functions

Voltage controller intervention

Voltage controller:

The voltage controller is used to correct the voltage drop across the integrated output filter. The firmware provides the required voltage setpoint in D1128, refer to Sheet 20.

The actual voltage-actual value is measured by the coupling module KB21004 and is transferred in process channel PZD2 to D1161 via interface SS6. The voltage controller output signal is fed-in at P1232. Refer to Sheet 21.

## parameter: P1238 Src control word 3

**maximum index:** -

**minimal value:** 1

**maximal value:** 2044

**default value:** 1800

**unit:** D-Par

**passwordlevel:** 2

**read / write:** R/W off

**type:** unsigned 16 bit
**function diagram:** plan 06
Source, control word3
Variable parameter source for control word3

## parameter: P1239 Src stat.word 3 bit

**maximum index:** 15
**minimal value:** 1
**maximal value:** 2044
**default value:** 1700
**unit:** D-Par
**passwordlevel:** 2
**read / write:** R/W off
**type:** unsigned 16 bit
**function diagram:** plan 06
Variable parameter sources for all sixteen definable
bits of status word 3

The display parameters from the control functions area can be entered here.

## parameter: P1270 SI6 baudrate X13

**maximum index:** -
**minimal value:** 4
**maximal value:** 7
**default value:** 6
**parameter value:**
4 = 125 kBaud
5 = 250 kBaud
6 = 500 kBaud
7 = 1 MBaud
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -
SS6 baud rate X13

## parameter: P1271 SI6 Tx ID numb. X13

**maximum index:** 03
**minimal value:** 1
**maximal value:** 2047
**default value:** 176
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

SS6 Tx identifier X13

Sets the appropriate send identifier for the various protocol types.

(different identifier numbers must be entered for all Rx and Tx identifiers!)

In subindex 0: For PZD 1 ... 4

In subindex 1: For PZD 5 ... 8

In subindex 2: For PZD 9 ...12

In subindex 3: For PKW response

## parameter: P1272 SI6 Rx ID numb. X13

**maximum index:** 03

**minimal value:** 1

**maximal value:** 2047

**default value:** 160

**unit:** no

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

SS6 Rx identifier X13

Sets the appropriate receive identifier for the various protocol types.

(different identifier numbers must be entered for all Rx and Tx identifiers!)

In subindex 0: For PZD 1 ... 4

In subindex 1: For PZD 5 ... 8

In subindex 2: For PZD 9 ...12

In subindex 3: For PKW response

## parameter: P1273 SI6 Tx PZD clk. X13

**maximum index:** 02

**minimal value:** 0

**maximal value:** 255

**default value:** 254

**unit:** ms

**passwordlevel:** 2

**read / write:** R/W on

**type:** unsigned 16 bit

**function diagram:** plan -

SS6 Tx PZD clock X13

Sets the appropriate return send rate for the PZD protocols

In subindex 0: For PZD 1 ... 4
In subindex 1: For PZD 5 ... 8
In subindex 2: For PZD 9 ...12
the following values are possible:
0 : Data not sent
1..253 : Send clock cycle in ms
These settings are evaluated with modulo 4ms
Example: 7 --> 4ms send clock cycle
254 : Send after receiving the defined Rx identifier
255 : Send after receiving RTR

## parameter: P1274 SI6 Rx watchdog X13

**maximum index:** -
**minimal value:** 0
**maximal value:** 2
**default value:** 2
**parameter value:** 0 = no reaction
1 = alarm
2 = fault
**unit:** no
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

SI6 Rx monitoring

Selects the response for the receive monitoring of standard interface SI6.

## parameter: P1275 SI6 Rx timeout X13

**maximum index:** -
**minimal value:** 0.01
**maximal value:** 60.00
**default value:** 0.50
**unit:** sec
**passwordlevel:** 2
**read / write:** R/W on
**type:** unsigned 16 bit
**function diagram:** plan -

SI6 monitoring time

The monitoring time for the standard SI6 interface is set here.

The response, which is defined by parameter P1274, is realized if the interface receiver has not received an error-free protocol within this time.

## parameter: P1276 src.SI6-watchd. OFF

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 2044 |
| **default value:** | 1700 |
| **unit:** | D-Par |
| **passwordlevel:** | 2 |
| **read / write:** | R/W off |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

## parameter: D1480 Control word3 Bit 0

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |

Control word3 bit 0 On, for logical one.

## parameter: D1481 Control word3 Bit 1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |

Control word3 bit 1 On, for logical one.

## parameter: D1482 Control word3 Bit 2

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |

| | |
|---|---|
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |
| | Control word3 bit 2 On, for logical one. |

## parameter: D1483 Control word3 Bit 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |
| | Control word3 bit 3 On, for logical one. |

## parameter: D1484 Control word3 Bit 4

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |
| | Control word3 bit 4 On, for logical one. |

## parameter: D1485 Control word3 Bit 5

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |
| | Control word3 bit 5 On, for logical one. |

## parameter: D1486 Control word3 Bit 6

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |

Control word3 bit 6 On, for logical one.

## parameter: D1487 Control word3 Bit 7

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |

Control word3 bit 7 On, for logical one.

## parameter: D1488 Control word3 Bit 8

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 06 |

Control word3 bit 8 On, for logical one.

## parameter: D1489 Control word3 Bit 9

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |

**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 06

Control word3 bit 9 On, for logical one.

## parameter: D1490 Control word3 Bit10

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 06

Control word3 bit 10 On, for logical one.

## parameter: D1491 Control word3 Bit11

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 06

Control word3 bit 11 On, for logical one.

## parameter: D1492 Control word3 Bit12

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 06

Control word3 bit 12 On, for logical one.

## parameter: D1493 Control word3 Bit13

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 06

Control word3 bit 13 On, for logical one.

## parameter: D1494 Control word3 Bit14

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 06

Control word3 bit 14 On, for logical one.

## parameter: D1495 Control word3 Bit15

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 06

Control word3 bit 15 On, for logical one.

## parameter: D1566 f-set reach.delayed

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 19, 22, 23, 43

Message f set reached, delayed

## parameter: D1571 PS control volt. ok

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Power section control voltage present

This output is a logical one if the control voltage in the power section is present to control the semiconductor devices.

The control voltage is alternatively retrieved from the following sources:

Line supply voltage for AC drives

or auxiliary DC link voltage

or main DC link voltage

## parameter: D1572 Status ready

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04

Ready to power-up status

This D parameter is logical one if the drive is ready to be powered-up and there is no on command.

## parameter: D1573 Status ON

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04

Ready status

This D parameter is logical one if the drive is ready. It is a logical zero in operation.

## parameter: D1574 f-set reached

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04, 08, 43

Message, f set reached

## parameter: D1575 f-set in tolerance

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04, 43

Message, f set in the tolerance bandwidth

## parameter: D1576 Comp.logic1 o/p

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 42

Output, threshold value logic 1

## parameter: D1577 Comp.logic1 o/p not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 42 |

Output, threshold value logic 1, inverted

## parameter: D1578 Comp.logic2 o/p

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 42 |

Output, threshold value logic 2

## parameter: D1579 Comp.logic2 o/p not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 42 |

Output, threshold value logic 2, inverted

## parameter: D1580 Logic gate 10

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

| | |
|---|---|
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Direct output Logic gate 10 |

## parameter: D1581 Logic gate 10 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Inverted output Logic gate 10 |

## parameter: D1582 Logic gate 11

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Direct output Logic gate 11 |

## parameter: D1583 Logic gate 11 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Inverted output Logic gate 11 |

## parameter: D1584 Logic gate 12

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 27

Direct output Logic gate 12

## parameter: D1585 Logic gate 12 not

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 27

Inverted output Logic gate 12

## parameter: D1586 Logic gate 13

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 27

Direct output Logic gate 13

## parameter: D1587 Logic gate 13 not

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0

| | |
|---|---|
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 27 |
| | Inverted output Logic gate 13 |

## parameter: D1588 Logic gate 14

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 27 |
| | Direct output, Logic gate 14 |

## parameter: D1589 Logic gate 14 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 27 |
| | Inverted output Logic gate 14 |

## parameter: D1590 Logic gate 15

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 27 |
| | Direct output Logic gate 15 |

## parameter: D1591 Logic gate 15 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 27 |
| | Inverted output Logic gate 15 |

## parameter: D1592 Logic gate 16

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 27 |
| | Direct output Logic gate 16 |

## parameter: D1593 Logic gate 16 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 27 |
| | Inverted output Logic gate 16 |

## parameter: D1594 Logic gate 17

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 27
Direct output Logic gate 17

## parameter: D1595 Logic gate 17 not

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 27
Inverted output Logic gate 17

## parameter: D1596 Logic gate 18

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 27
Direct output Logic gate 18

## parameter: D1597 Logic gate 18 not

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 27
Inverted output Logic gate 18

## parameter: D1598 Logic gate 19

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 27

Direct output Logic gate 19

## parameter: D1599 Logic gate 19 not

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 27

Inverted output Logic gate 19

## parameter: D1608 Init finished

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 45, 46

Firmware initialization has been completed

## parameter: D1610 logic gate 0

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 26
Direct output Logic gate 0

## parameter: D1611 logic gate 0 not

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 26
Inverted output Logic gate 0

## parameter: D1612 logic gate 1

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 26
Direct output Logic gate 1

## parameter: D1613 logic gate 1 not

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 26
Inverted output Logic gate 1

## parameter: D1614 logic gate 2

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Direct output Logic gate 2 |

## parameter: D1615 logic gate 2 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Inverted output Logic gate 2 |

## parameter: D1616 logic gate 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Direct output Logic gate 3 |

## parameter: D1617 logic gate 3 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |

Inverted output Logic gate 3

## parameter: D1618 logic gate 4

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |

Direct output Logic gate 4

## parameter: D1619 logic gate 4 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |

Inverted output Logic gate 4

## parameter: D1620 timer 0

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 28 |

Direct output, Timer element 0

## parameter: D1621 timer 0 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 28 |

Inverted output, Timer element 0

## parameter: D1622 timer 1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 28 |

Direct output, Timer element 1

## parameter: D1623 timer 1 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 28
Inverted output, Timer element 1

## parameter: D1624 timer 2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 28
Direct output, Timer element 2

## parameter: D1625 timer 2 not

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 28
Inverted output, Timer element 2

## parameter: D1626 timer 3

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 28
Direct output, Timer element 3

## parameter: D1627 timer 3 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 28 |

Inverted output, Timer element 3

## parameter: D1628 compare: x = xs

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 30 |

Output in the window Window comparator 0

This output is a logical one if the measured value x is within the window.

## parameter: D1629 compare: x <> xs

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 30 |

Output in the window Window comparator 0

This output is a logical one if the measured value x is outside the window.

## parameter: D1630 compare: x = xs

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |

**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 30

Output in the window Window comparator 1

This output is a logical one if the measured value x is within the window.

## parameter: D1631 compare: x <> xs

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 31

Output in the window Window comparator 1

This output is a logical one if the measured value x is outside the window.

## parameter: D1634 on-off logic set

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03, 41

Set signal of the on, off logic

## parameter: D1635 on-off logic reset

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read

**type:** unsigned 16 bit
**function diagram:** plan 03, 41

Reset signal of the on, off logic

## parameter: D1636 on-off logic outp.

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 41

Output of the input, output logic

## parameter: D1637 o-o logic outp.inv.

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 41

Output of the input, output logic, inverted

## parameter: D1638 source-block NORMAL

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**parameter value:** 0 = TEST D1638 = 0
1 = NORMAL D1638 = 1
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 07

Active source block NORMAL

0 = TEST D1638 = 0
1 = NORMAL D1638 = 1

## parameter: D1640 BF120 start key

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 03, 19 |

Logical one: START button on the operator panel is pressed

## parameter: D1641 BF120 stop key

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 03 |

Logical one: STOP button on the operator panel is pressed

## parameter: D1642 fixvalue P582.00

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 65535 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 02 |

Fixed value of parameter P0582.0

## parameter: D1643 fixvalue P582.01

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 65535 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 02

Fixed value of parameter P0582.1

## parameter: D1644 searchmode reach

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 15

Search run reached

The search run module has found the motor, for logical one.

## parameter: D1646 search mode

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 15

Search run active

The search run module searches for the motor, for logical one.

## parameter: D1647 voltage RFG activ

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Voltage integrator is active, for logical one.

## parameter: D1650 logic gate 5

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Direct output Logic gate 5 |

## parameter: D1651 logic gate 5 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Inverted output Logic gate 5 |

## parameter: D1652 logic gate 6

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Direct output Logic gate 6 |

## parameter: D1653 logic gate 6 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

| | |
|---|---|
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Inverted output Logic gate 6 |

## parameter: D1654 logic gate 7

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Direct output Logic gate 7 |

## parameter: D1655 logic gate 7 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Inverted output Logic gate 7 |

## parameter: D1656 logic gate 8

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Direct output Logic gate 8 |

## parameter: D1657 logic gate 8 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Inverted output Logic gate 8 |

## parameter: D1658 logic gate 9

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Direct output Logic gate 9 |

## parameter: D1659 logic gate 9 not

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 26 |
| | Inverted output Logic gate 9 |

## parameter: D1660 ctrl-word1 Bit0

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03, 04
Control word1 bit 0 On, for logical one.

## parameter: D1661 ctrl-word1 Bit1

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03
Control word1 bit 1 Power disconnect, for logical zero

## parameter: D1662 ctrl-word1 Bit2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03, 16
Control word1 bit 2 Fast stop, for logical zero

## parameter: D1663 ctrl-word1 Bit3

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03, 44
Control word1 bit 3 Operating enable, for logical zero

## parameter: D1664 ctrl-word1 Bit4

| | |
|---|---|
| maximum index: | - |
| minimal value: | 0 |
| maximal value: | 1 |
| default value: | - |
| unit: | no |
| passwordlevel: | 0 |
| read / write: | Read |
| type: | unsigned 16 bit |
| function diagram: | plan 03, 16 |

Control word1 bit 4 Ramp-function generator reset, for logical zero

## parameter: D1665 ctrl-word1 Bit5

| | |
|---|---|
| maximum index: | - |
| minimal value: | 0 |
| maximal value: | 1 |
| default value: | - |
| unit: | no |
| passwordlevel: | 0 |
| read / write: | Read |
| type: | unsigned 16 bit |
| function diagram: | plan 03 |

Control word1 bit 5 Ramp-function generator stop, for logical zero

## parameter: D1666 ctrl-word1 Bit6

| | |
|---|---|
| maximum index: | - |
| minimal value: | 0 |
| maximal value: | 1 |
| default value: | - |
| unit: | no |
| passwordlevel: | 0 |
| read / write: | Read |
| type: | unsigned 16 bit |
| function diagram: | plan 03, 16 |

Control word1 bit 6 Setpoint enable

## parameter: D1667 ctrl-word1 Bit7

| | |
|---|---|
| maximum index: | - |
| minimal value: | 0 |
| maximal value: | 1 |
| default value: | - |
| unit: | no |
| passwordlevel: | 0 |

| | |
|---|---|
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 03 |
| | Control word1 bit 7 Fault acknowledgement |

## parameter: D1670 source-block TEST

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **parameter value:** | 0 = NORMAL D1670 = 0 |
| | 1 = TEST D1670 = 1 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 07, 09, 11, 41 |
| | Active source block TEST |
| | 0 = NORMAL D1670 = 0 |
| | 1 = TEST D1670 = 1 |

## parameter: D1671 setpoint memory

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 31 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 07 |
| | Active setpoint memory |

## parameter: D1672 parameterset

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 31 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 07 |
| | Active parameter set |

## parameter: D1673 coder output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 31 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 07, 28 |

Output, coder

## parameter: D1674 f-max limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 15 |

Limiting at f max is active, for logical one.

## parameter: D1675 f-min limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 15, 16 |

Limiting at f min is active, for logical one.

## parameter: D1676 i-max var. limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 19

Limiting of the variable I max input is active, for logical one.

## parameter: D1677 ext. voltage lim

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 21

Limiting of the external voltage input is active, for logical one.

## parameter: D1678 current limit

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 16, 21

The current limiting is active, for logical one.

## parameter: D1679 voltage limit

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 24

The max. output voltage limiting is active, for logical one.

## parameter: D1680 ctrl-word2 Bit0

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 05

Control word2 bit 0 On, for logical one.

## parameter: D1681 ctrl-word2 Bit1

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 05

Control word2 bit 1 On, for logical one.

## parameter: D1682 ctrl-word2 Bit2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 05

Control word2 bit 2 On, for logical one.

## parameter: D1683 ctrl-word2 Bit3

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 05
Control word2 bit 3 On, for logical one.

## parameter: D1684 ctrl-word2 Bit4

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 05
Control word2 bit 4 On, for logical one.

## parameter: D1685 ctrl-word2 Bit5

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 05
Control word2 bit 5 On, for logical one.

## parameter: D1686 ctrl-word2 Bit6

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 05
Control word2 bit 6 On, for logical one.

## parameter: D1687 ctrl-word2 Bit7

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 05 |

Control word2 bit 7 On, for logical one.

## parameter: D1688 ctrl-word2 Bit8

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 05 |

Control word2 bit 8 On, for logical one.

## parameter: D1689 ctrl-word2 Bit9

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 05 |

Control word2 bit 9 On, for logical one.

## parameter: D1690 ctrl-word2 Bit10

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

| | |
|---|---|
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 05 |

Control word2 bit 10 On, for logical one.

## parameter: D1691 ctrl-word2 Bit11

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 05 |

Control word2 bit 11 On, for logical one.

## parameter: D1692 ctrl-word2 Bit12

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 05 |

Control word2 bit 12 On, for logical one.

## parameter: D1693 ctrl-word2 Bit13

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 05 |

Control word2 bit 13 On, for logical one.

## parameter: D1694 ctrl-word2 Bit14

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 05 |

Control word2 bit 14 On, for logical one.

## parameter: D1695 ctrl-word2 Bit15

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 05 |

Control word2 bit 15 On, for logical one.

## parameter: D1697 MechanicalBrakeOpen

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 43 |

Control, open mechanical brake

## parameter: D1698 I*t-protect on

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

| | |
|---|---|
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Drive IxT protection is operational

## parameter: D1700 Constant logical 0

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 0 |
| **default value:** | 0 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 02, 07, 18 |

Constant, logical zero

## parameter: D1701 Constant logical 1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 1 |
| **maximal value:** | 1 |
| **default value:** | 1 |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 02, 03, 07, 16, 20, 28, 41, 43 |

Constant, logical one

## parameter: D1704 RFG active up

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 16 |

The ramp-function generator ramps up, for logical one.

## parameter: D1705 RFG active down

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 16 |

The ramp-function generator ramps down, for logical one.

## parameter: D1706 RFG s/p reached

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 16 |

The ramp-function generator has reached the setpoint, for logical one.

## parameter: D1707 Alarm motor temp.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 25 |

Alarm, motor temperature, for logical one.

## parameter: D1708 Fault motor temp.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 25

Fault, motor temperature, for logical one.

## parameter: D1711 Overspeed

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 18

Overspeed, for logical one.

## parameter: D1712 Comp: x0 > xs0

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 29

Output x > xs Comparator 0

This output is logical one if the measured value x is greater than the threshold value xs.

## parameter: D1713 Comp: x1 > xs1

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 29

Output x > xs Comparator 1

This output is logical one if the measured value x is greater than the threshold value xs.

## parameter: D1714 Dig.input1 X14.2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Digital input1 Terminal X14.2
24V = logical one

## parameter: D1715 Dig.input2 X14.3

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Digital input2 Terminal X14.3
24V = logical one

## parameter: D1716 Dig.input3 X14.4

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Digital input3 Terminal X14.4
24V = logical one

## parameter: D1717 Dig.input4 X14.5

**maximum index:** -
**minimal value:** 0
**maximal value:** 1

**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Digital input4 Terminal X14.5
24V = logical one

## parameter: D1718 Dig.input5 X14.6

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Digital input5 Terminal X14.6
24V = logical one

## parameter: D1719 Dig.input6 X17.2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08, 41

Digital input6 Terminal X17.2
24V = logical one

## parameter: D1720 Dig.input7 X17.4

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit

**function diagram:** plan 08, 41
Digital input7 Terminal X17.4
24V = logical one

## parameter: D1721 Dig.input8 X17.6

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08
Digital input8 Terminal X17.6
24V = logical one

## parameter: D1722 Dig.output1 X14.2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08
Digital output1 Terminal X14.2
24V = logical one

## parameter: D1723 Dig.output2 X14.3

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08
Digital output2 Terminal X14.3
24V = logical one

## parameter: D1724 Dig.output3 X14.4

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Digital output3 Terminal X14.4
24V = logical one

## parameter: D1725 Relay Output X16

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Relay output Connector X16
logical one = relay has pulled-in.

## parameter: D1727 RFG stop

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 16

Ramp-up stop (D1727) for logical one

The "Ramp-up stop" command holds the actual value at the ramp-function generator output, i.e. it is no longer ramped-up to the setpoint.

## parameter: D1728 RFG reset

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 16 |

RFG reset (D1728) for logical one

The command "RFG reset" sets the actual value at the ramp-function generator output to 0.

## parameter: D1729 s/p limiter active

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 17 |

The setpoint limiter is active, for logical one.

## parameter: D1730 Status ready

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 04, 08 |

Status word bit 0 Ready to power-up

## parameter: D1731 Status ON

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |

**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04
Status word bit 1 Ready

## parameter: D1732 Status operation

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04, 07, 08, 15, 16, 19, 20, 22, 23, 43, 44
Status word bit 2 Run (operation)

## parameter: D1733 Status fault

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04, 08
Status word bit 3 Fault

## parameter: D1734 Status not Off2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04
Status word bit 4 Not Off2 (power not disconnected)

## parameter: D1735 Status not faststop

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 04 |

Status word bit 5 Not Off3 (no fast stop)

## parameter: D1736 Status inhibit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 04 |

Status word bit 6 Power-on inhibit

## parameter: D1737 Status alarm

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 04 |

Status word bit 7 Alarm

## parameter: D1738 Statusword 1 bit 8

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04
Status word bit 8

## parameter: D1739 Statusword 1 bit 9

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04
Status word bit 9 Remote

## parameter: D1740 Statusword 1 bit 10

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04
Status word bit 10

## parameter: D1741 Statusword 1 bit 11

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04
Status word bit 11

## parameter: D1742 Statusword 1 bit 12

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 04 |
| | Status word bit 12 |

## parameter: D1743 Statusword 1 bit 13

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 04 |
| | Status word bit 13 |

## parameter: D1744 Statusword 1 bit 14

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 04 |
| | Status word bit 14 |

## parameter: D1745 Statusword 1 bit 15

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Status word bit 15 On, off from the interface

## parameter: D1748 Comp: x0 < xs0

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 29

Inverted output x < xs Comparator 0

This output is a logical one if the measured value x is less than the threshold value xs.

## parameter: D1749 Comp: x1 < xs1

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 29

Inverted output x < xs Comparator 1

This output is a logical one if the measured value x is less than the threshold value xs.

## parameter: D1750 T-controller limit

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 35

The technology controller is in limiting, for logical one.

## parameter: D1751 Limiter active

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 34

The limiter is active, for logical one.

## parameter: D1757 Comp: x2 < xs2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 29

Output x < xs Comparator with subtraction element

This output is a logical one if the measured value x is less than the threshold value xs.

## parameter: D1758 Comp: x2 > xs2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 29

Inverted output x > xs Comparator with subtraction element

This output is a logical one if the measured value x is greater than the threshold value xs.

## parameter: D1760 Dig.inp1 inv X14.2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1

**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08
Digital input1 inverted Terminal X14.2
24V = logical zero

## parameter: D1761 Dig.inp2 inv X14.3

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08
Digital input2 inverted Terminal X14.3
24V = logical zero

## parameter: D1762 Dig.inp3 inv X14.4

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08
Digital input3 inverted Terminal X14.4
24V = logical zero

## parameter: D1763 Dig.inp4 inv X14.5

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit

**function diagram:** plan 08
Digital input4 inverted Terminal X14.5
24V = logical zero

## parameter: D1764 Dig.inp5 inv X14.6

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08
Digital input5 inverted Terminal X14.6
24V = logical zero

## parameter: D1765 Dig.inp6 inv X17.2

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08
Digital input6 inverted Terminal X17.2
24V = logical zero

## parameter: D1766 Dig.inp7 inv X17.4

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08
Digital input7 inverted Terminal X17.4
24V = logical zero

## parameter: D1767 Dig.inp8 inv  X17.6

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 08

Digital input8 inverted   Terminal X17.6
24V = logical zero

## parameter: D1768 Controlword 1 bit 8

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03

Control word1 bit 8

## parameter: D1769 Controlword 1 bit 9

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03

Control word1 bit 9

## parameter: D1770 Controlword 1 bit10

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no

**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03
Control word1 bit 10

## parameter: D1771 Controlword 1 bit11

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03
Control word1 bit 11

## parameter: D1772 Controlword 1 bit12

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03
Control word1 bit 12

## parameter: D1773 Controlword 1 bit13

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03
Control word1 bit 13

## parameter: D1774 Controlword 1 bit14

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03
Control word1 bit 14

## parameter: D1775 Controlword 1 bit15

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03
Control word1 bit 15

## parameter: D1776 Braking

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 16, 18, 20, 21, 43
DC braking active / DC current braking active

## parameter: D1777 Comp: x3 < xs3

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 29

Output x < xs Comparator with subtraction element

This output is a logical one if the measured value x is less than the threshold value xs.

## parameter: D1778 Comp: x3 > xs3

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 29

Inverted output x > xs Comparator with subtraction element

This output is a logical one if the measured value x is greater than the threshold value xs.

## parameter: D1779 stallprot. activ

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 17

The stall protection controller is active, for logical one.

## parameter: D1781 RFG parking

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 16

RFG park (D1781) for logical one

The command "Park RFG" holds the actual value absolutely fixed at the ramp-function generator output, i.e. it can no longer be increased or reduced by changing the setpoint.

**Note:** When the "RFG park" and "Off1" are simultaneously active with braking, the ramp-function generator does not go to zero, but stops at the actual value.

## parameter: D1782 Sign of D1943

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Actual sign of the setpoint D1943 before frequency normalization

0 = for positive values in D1943

1 = for negative values in D1943

## parameter: D1788 Main contactor ctrl

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Main contactor control is active for logical one

## parameter: D1789 Main contactor on

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Pre-charging relay control is active for logical one

## parameter: D1790 Brake resistor ON

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Brake resistor control is active for logical one

## parameter: D1791 Pre-charging ON

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Brake resistor control is active for logical one

## parameter: D1792 Status NotOperation

**maximum index:** -
**minimal value:** 0
**maximal value:** 1
**default value:** -
**unit:** no
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04

Status word bit 2 inverted

## parameter: D1793 Fault code

**maximum index:** -
**minimal value:** 0
**maximal value:** 255
**default value:** -
**unit:** no
**passwordlevel:** 0

**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Code number of the fault which is presently available.

## parameter: D1794 Alarm bits

**maximum index:** -
**minimal value:** 00000000
**maximal value:** FFFFFFFF
**default value:** -
**unit:** hex
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 32 bit
**function diagram:** plan -

Alarm bits

## parameter: D1795 Fault bits

**maximum index:** 01
**minimal value:** 00000000
**maximal value:** FFFFFFFF
**default value:** -
**unit:** hex
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 32 bit
**function diagram:** plan -

Fault bits

## parameter: D1796 St. PU:S 1P W21P

**maximum index:** -
**minimal value:** 00000000
**maximal value:** 10111111
**default value:** -
**unit:** bin
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan -

Control, power section

Bit 0 Control, brake resistor
Bit 1 Control, main contactor
Bit 2 Control, pre-charging relay
Bit 3 Enable inverter

Bit 4 Checkback signal, brake resistor
Bit 5 Checkback signal, main contactor
Bit 6 -
Bit 7 Fault message, power section

## parameter: D1797 Outp. fan control

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 1 |
| **default value:** | - |
| **unit:** | no |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Control of the fan in the power section

## parameter: D1798 DO Rel321

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 00000000 |
| **maximal value:** | 00001111 |
| **default value:** | - |
| **unit:** | bin |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Group display parameter D1798

The status (status 0 or 1) of the 3 digital outputs and the relay output can be simultaneously displayed in the operator panel monitor using the group display parameter D1798.

## parameter: D1799 Dig inputs 11..1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0000 |
| **maximal value:** | 07FF |
| **default value:** | - |
| **unit:** | hex |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan - |

Group display parameter D1799

The status (status 0 or 1) of all of the digital inputs can be simultaneously displayed in the operator panel monitor using the group display parameter D1799.

Bit 0 input 1
Bit 1 input 2
Bit 2 input 3
Bit 3 input 4
Bit 4 input 5
Bit 5 input 6
Bit 6 input 7
Bit 7 input 8
Bit 8 input 9
Bit 9 input10
Bit10 input11
Bit11 input12

## parameter: D1800 Fixvalue 0.00%

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.00 |
| **maximal value:** | 0.00 |
| **default value:** | 0.00 |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 01 |

Process constant 0.00%

## parameter: D1801 Analog input X14.9

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 09, 14 |

Analog input Terminals X14.9 + and X14.10 -

## parameter: D1802 Input-block 2

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 11 |

Output from input block 2

Input block

The firmware contains an input block for an optional analog input with the same functions as the standard analog input (only in conjunction with a terminal strip expansion KL11037). If the input block is not used for an additional analog input, it can be used to process signals from other process values.

## parameter: D1803 Input-block 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 12 |

Output from input block 3

## parameter: D1804 Input-block 4

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 12 |

Output from input block 4

## parameter: D1805 Analog input 1 opt.

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -

Option 1 Analog input

## parameter: D1806 Analog input 2 opt.

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 10

Option slot for terminal strip expansion

The SR 17000 control board has 2 option slots. There is a firmware module for an analog input for the 2nd option slot. In this case, the terminal strip extension option must be inserted in the drive at slot 2.

The setpoint of the optional analog input (D1806) can be further processed with the input blocks (Function chart, Sheets 9 and 10). P0297.x setpoint smoothing, refer to the explanation for P0297.

## parameter: D1808 PT1-Modul 0

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 33

Output from filter element 0

## parameter: D1809 PT1-Modul 1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 33 |

Output from filter element 1

## parameter: D1810 Limiter 1 output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 34 |

Output from the limiter

## parameter: D1811 Gain-Modul

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 34 |

Output from the P element before the offset intervention.

## parameter: D1812 Gain-Modul + Offset

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 34

Output from the P element after the offset intervention.

## parameter: D1813 Changeover switch 0

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 31

Output from the process channel changeover switch 0.

## parameter: D1814 Changeover switch 1

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 31

Output from the process channel changeover switch 1.

## parameter: D1815 TC normalization

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 35

Normalization value of the technology controller.

## parameter: D1816 TC actual value

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 35 |

Input from DT1 element.

## parameter: D1817 TC actual value+TD

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 35 |

Output from DT1 element.

## parameter: D1818 TC error signal

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 35 |

System deviation of the technology controller.

## parameter: D1819 TC setpoint

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 35

Setpoint of the technology controller.

## parameter: D1820 TC output

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 35

Output of the technology controller before the normalization location.

## parameter: D1821 TC o/p normalized

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 35

Output of the technology controller after the normalization location.

## parameter: D1822 TC o/p norm + s/p

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 35

Addition result, technology controller setpoint and technology controller output.

## parameter: D1832 Main setpoint

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 14 |

Main setpoint after the selector switch (P0264)
for variable value or fixed values for the main setpoint.

## parameter: D1833 Ramp generator i/p

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 16 |

Input, ramp-function generator

## parameter: D1834 Ramp generator o/p

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 16, 17, 43 |

Output, ramp-function generator

## parameter: D1838 Additional s/p

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |

**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 17

Supplementary setpoint 1 after the selector switch (P0301) for variable value or fixed value for supplementary setpoint 1.

## parameter: D1839 Setpoint limit i/p

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 17

Setpoint before the intervention, slip compensation.

## parameter: D1840 Setpoint for stall

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 17

Setpoint before the intervention, stall protection controller.

## parameter: D1860 Fixvalue P435.00

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 01

The programmed fixed value from parameter P0435.00 is freely connected with display parameter D1860

## parameter: D1861 Fixvalue P435.01

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 02 |

The programmed fixed value from parameter P0435.01 is freely connected with display parameter D1861

## parameter: D1870 Heat sink temp. PS

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | °C |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 25 |

Actual temperature at the power section cooler.

## parameter: D1871 Motor temp. sensor

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0 |
| **maximal value:** | 10000 |
| **default value:** | - |
| **unit:** | Ohm |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 25 |

Actual resistance value of the connected temperature sensor.

## parameter: D1872 Motor temp. linear

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |

**unit:** °C
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -

Actual temperature of the motor with the KTY temperature sensor connected and selected.

## parameter: D1873 Speed feedback

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 36

Actual value of the motor actual frequency measured

using the encoder, normalized as a % using [P0390].

## parameter: D1874 Motor current

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 24

Actual summed output current of the drive.

The filtered summed output current of the drive (D1884) should preferably be used or connected further.

## parameter: D1875 Output-block 1

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit

**function diagram:** plan 13

Output from output block 1

## parameter: D1884 Motor current filtr

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 21, 24 |

Filtered summed output current of the drive.

## parameter: D1885 Isq filtered

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 24 |

Filtered value of the torque-generating
output current Isq.

## parameter: D1886 PT1-Modul 2

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 33 |

Output from filter element 2

## parameter: D1887 PT1-Modul 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 33 |

Output from filter element 3

## parameter: D1893 MFB 1 Output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 32 |

Output from multi-function block 1

## parameter: D1894 MFB 2 Output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 32 |

Output from multi-function block 2

## parameter: D1895 MFB 3 Output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 32

Output from multi-function block 3

## parameter: D1896 MFB 4 Output

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 32

Output from multi-function block 4

## parameter: D1898 [P406.0] - [407.0]

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 29

Result of the subtraction [P0406.0] - [P0407.0].

## parameter: D1899 Motorpot. setvalue

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 1
**read / write:** R/W on
**type:** signed 16 bit
**function diagram:** plan -

Memory for the motorized potentiometer setpoint.

After a change, this value is automatically saved by the drive in the EEprom so that it is not lost at power failure.

## parameter: D1900 SI1: PZD1-input X12

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Actually received value from the process data
PZD1 of interface SI1.

Processing process data SI1

The process data, received via SI1, is converted into display parameters in the drive which can be freely connected into the variable parameter sources for drive control.

The drive sends its actual values as process data via SI1, by connecting the D parameters into the variable parameter sources of output SI1.

## parameter: D1901 SI1: PZD2-input X12

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Actually received value from the process data PZD2 of interface SI1.

## parameter: D1902 SI1: PZD3-input X12

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Actually received value from the process data PZD3 of interface SI1.

## parameter: D1903 SI1: PZD4-input X12

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 37 |

Actually received value from the process data PZD4 of interface SI1.

## parameter: D1904 SI1: PZD5-input X12

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 37 |

Actually received value from the process data PZD5 of interface SI1.

## parameter: D1905 SI1: PZD6-input X12

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 37 |

Actually received value from the process data PZD6 of interface SI1.

## parameter: D1910 SI2: PZD1-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 38

Actually received value from the process data PZD1 of interface SI2.

Processing process data SI2

The process data, received via SI2, is converted into display parameters in the drive which can be freely connected into the variable parameter sources for drive control.

The drive sends its actual values as process data via SI2, by connecting the D parameters into the variable parameter sources of output SI2.

## parameter: D1911 SI2: PZD2-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 38

Actually received value from the process data PZD2 of interface SI2.

## parameter: D1912 SI2: PZD3-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 38

Actually received value from the process data PZD3 of interface SI2.

## parameter: D1913 SI2: PZD4-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0

| | |
|---|---|
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 38 |

Actually received value from the process data PZD4 of interface SI2.

## parameter: D1914 SI2: PZD5-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 38 |

Actually received value from the process data PZD5 of interface SI2.

## parameter: D1915 SI2: PZD6-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 38 |

Actually received value from the process data PZD6 of interface SI2.

## parameter: D1916 SI2: PZD7-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 38 |

Actually received value from the process data PZD7 of interface SI2.

## parameter: D1917 SI2: PZD8-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 38

Actually received value from the process data PZD8 of interface SI2.

## parameter: D1918 SI2: PZD9-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 38

Actually received value from the process data PZD9 of interface SI2.

## parameter: D1919 SI2: PZD10-input

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 38

Actually received value from the process data PZD10 of interface SI2.

## parameter: D1920 Control word 1

**maximum index:** -
**minimal value:** 0000
**maximal value:** FFFF
**default value:** -
**unit:** hex
**passwordlevel:** 0

**read / write:** Read

**type:** unsigned 16 bit

**function diagram:** plan 03

The drive is controlled using the control word.

The control word comprises 16 bits. Bits 0 to 7 are defined according to the VDI/VDE Directives 3689. Bits 8 to 15 can only be set via the serial interface and each bit can be freely assigned a drive control function. The control word is formed by logically combining control word KL and control word MS.

The control word MS can be entered from three sources, selected via a switch. The switch is actuated using parameter P0073.x.

Switch setting 0:

Control word MS is formed in a mask in which bits 2 to 15 are permanently specified.

Only bit 1 can be set to 1 (ON command) or 0

(OFF1 command) using the HE51 handheld terminal or BF51 operator panel.

Switch setting 1:

Control word MS is received from a variable parameter source. Only the process data of serial interfaces 1 and 2 can be used in the parameter source.

This means that the control word MS is entered via the interface. In this configuration, bits 8 to 15 can also be set via the serial interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

Switch setting 2:

Control word MS is formed using a mask, in which bits 1 to 15 are permanently specified. The mask is assigned so that the drive can only be controlled via control word KL.

Switch setting 3:

Control word MS is entered from the service interface (RS232). In this configuration, bits 8 to 15 can also be set via the service interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

Bits 0 to 7 of control word KL are entered from the variable parameter sources P0050 to P0057. By connecting digital inputs 1 to 8 in these parameter sources, the bits of control word KL are set via the digital inputs 1 or 0.

The drive only recognizes bit 1 (ON command) and bit 7 (fault acknowledgement) for a signal edge from 0 to 1.

---

**Note:** More detailed information regarding the control/status logic is provided in the control and status word flowdiagram on Function chart, Sheets 44 and 45.

---

# parameter: D1921 Control word MS

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0000 |
| **maximal value:** | FFFF |
| **default value:** | - |
| **unit:** | hex |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | unsigned 16 bit |
| **function diagram:** | plan 03 |

The drive is controlled using the control word.

The control word comprises 16 bits. Bits 0 to 7 are defined according to the VDI/VDE Directives 3689. Bits 8 to 15 can only be set via the serial interface and each bit can be freely assigned a drive control function. The control word is formed by logically combining control word KL and control word MS.

The control word MS can be entered from three sources, selected via a switch. The switch is actuated using parameter P0073.x.

Switch setting 0:

Control word MS is formed in a mask in which bits 2 to 15 are permanently specified. Only bit 1 can be set to 1 (ON command) or 0 (OFF1 command) using the HE51 handheld terminal or BF51 operator panel.

Switch setting 1:

Control word MS is received from a variable parameter source. Only the process data of serial interfaces 1 and 2 can be used in the parameter source. This means that the control word MS is entered via the interface. In this configuration, bits 8 to 15 can also be set via the serial interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

Switch setting 2:

Control word MS is formed using a mask, in which bits 1 to 15 are permanently specified. The mask is assigned so that the drive can only be controlled via control word KL.

Switch setting 3:

Control word MS is entered from the service interface (RS232). In this configuration, bits 8 to 15 can also be set viathe service interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

Bits 0 to 7 of control word KL are entered from the variable parameter sources P0050 to P0057. By connecting digital inputs 1 to 8 in these parameter sources, the bits of control word KL are set via the digital inputs 1 or 0.

The drive only recognizes bit 1 (ON command) and bit 7 (fault acknowledgement) for a signal edge from 0 to 1.

**Hinweis:** More detailed information regarding the control/status logic is provided in the control and status word flow diagram on Function chart, Sheets 44 and 45.

## parameter: D1922 Status word

**maximum index:** -
**minimal value:** 0000
**maximal value:** FFFF
**default value:** -
**unit:** hex
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 04, 37

Drive status word

The status word comprises 16 bits.

Bits 0 to 7, 9 and 15 are defined according to the VDI/VDE Directive 3689. Bits 8 and 15 are pre-assigned to VDI/VDE Directive 3689. However, the user can freely assign them to other functions in the free parameterization.

The user can freely assign bits 11 to 14 in the free parameterization.

**Note:** More information about the control/status logic is provided in the control and status word flow diagram on function chart sheets 44 and 45.

## parameter: D1923 Control word 2

**maximum index:** -
**minimal value:** 0000
**maximal value:** FFFF
**default value:** -
**unit:** hex
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 05

Actual value from control word 2

## parameter: D1924 Status word 2

**maximum index:** -
**minimal value:** 0000
**maximal value:** FFFF

**default value:** -
**unit:** hex
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 05

Actual value from status word 2

## parameter: D1927 Control word KL

**maximum index:** -
**minimal value:** 0000
**maximal value:** FFFF
**default value:** -
**unit:** hex
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03

The drive is controlled using the control word.

The control word comprises 16 bits. Bits 0 to 7 are defined according to the VDI/VDE Directives 3689. Bits 8 to 15 can only be set via the serial interface and each bit can be freely assigned a drive control function. The control word is formed by logically combining control word KL and control word MS. The control word MS can be entered from three sources, selected via a switch. The switch is actuated using parameter P0073.x.

Switch setting 0:

Control word MS is formed in a mask in which bits 2 to 15 are permanently specified. Only bit 1 can be set to 1 (ON command) or 0 (OFF1 command) using the HE51 handheld terminal or BF51 operator panel.

Switch setting 1:

Control word MS is received from a variable parameter source. Only the process data of serial interfaces 1 and 2 can be used in the parameter source. This means that the control word MS is entered via the interface. In this configuration, bits 8 to 15 can also be set via the serial interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

Switch setting 2:

Control word MS is formed using a mask, in which bits 1 to 15 are permanently specified. The mask is assigned so that the drive can only be controlled via control word KL.

Switch setting 3:

Control word MS is entered from the service interface (RS232). In this configuration, bits 8 to 15 can also be set via the service interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

Bits 0 to 7 of control word KL are entered from the variable parameter sources P0050 to P0057. By connecting digital inputs 1 to 8 in these parameter sources, the bits of control word KL are set via the digital inputs 1 or 0.

The drive only recognizes bit 1 (ON command) and bit 7 (fault acknowledgement) for a signal edge from 0 to 1.

**Hinweis:** More detailed information regarding the control/status logic is provided in the control and status word flow diagram on Function chart, Sheets 44 and 45.

## parameter: D1928 DC link voltage

**maximum index:** -
**minimal value:** -1000
**maximal value:** 1000
**default value:** -
**unit:** V
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 24

Actual DC link voltage

100.00% = 500V

## parameter: D1929 powr.actual filt

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 24

Actual apparent power P act

100.00% = P0558 in x.x kVA

## parameter: D1930 power true filt

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99

| | |
|---|---|
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 24 |

Actual active power P active

100.00% = P0558 in x.x kW

## parameter: D1931 motorpot. output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 14 |

Actual value of the motorized potentiometer output

## parameter: D1932 characteristic fa

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 15 |

Voltage Va of the characteristic of the currently selected parameter set.

## parameter: D1933 mainsetp.aft.limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 15 |

Actual main setpoint after the setpoint limiter.

## parameter: D1934 fixv. mainsetpoint

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 14 |

Actual fixed value for the main setpoint in front of the selector switch (P0264).

## parameter: D1935 mainsetp.bef.limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 14, 15 |

Actual main setpoint before the setpoint limiter.

## parameter: D1936 f-max

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 15 |

Actual limit value f max. This value is used to limit the main setpoint.

## parameter: D1937 f-min

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | 0.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 15

Actual limit value f min. This value is used to limit the main setpoint.

## parameter: D1938 setp.aft.wait time

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 15, 16

Actual main setpoint after the direction reversal.

## parameter: D1939 i-max variabel

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -

Actual variable limit value for I max before the selector switch (P0531).

## parameter: D1940 current limit

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 17, 19, 21

Actual limit value I max to limit the drive output current.

## parameter: D1941 stall protection

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 17 |

Actual value at the output of the stall protection controller.

## parameter: D1942 slipcompensation

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 17 |

Actual value at the output of the slip compensation.

## parameter: D1943 f-set bef. norm.

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 18 |

Actual setpoint before the frequency normalization.

## parameter: D1944 IxR boost

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -817 |
| **maximal value:** | 816 |
| **default value:** | - |
| **unit:** | V |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 21

Actual value at the output of the I*R compensation.

## parameter: D1945 i-controler setp

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 21

Actual current limit value at the current controller input.

## parameter: D1946 i-controler outp

**maximum index:** -
**minimal value:** -817
**maximal value:** 816
**default value:** -
**unit:** V
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 21

Actual voltage value at the current controller output.
The output voltage is limited using this value.

## parameter: D1947 voltage after IxR

**maximum index:** -
**minimal value:** -817
**maximal value:** 816
**default value:** -
**unit:** V
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 21

Output voltage in front of the voltage limiting.

## parameter: D1948 output voltage

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -817 |
| **maximal value:** | 816 |
| **default value:** | - |
| **unit:** | V |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 21, 24 |

Actual output voltage.

## parameter: D1949 Isq

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 18, 22, 24 |

Actual value of the torque-generating output current Isq.

The filtered summed output current of the drive (D1885) should be preferably used.

## parameter: D1950 SI3: PZD1-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Actually received value from the process data

PZD1 of interface SI3.

Processing the process data SI3

The process data, received via the SI3, is converted into display parameters in the drive, which can be freely connected into the variable parameter sources for the drive control. The drive sends its actual values as process data via the SI3, by connecting D parameters into the variable parameter sources of output SI3.

## parameter: D1951 SI3: PZD2-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Actually received value from the process data PZD2 of interface SI3.

## parameter: D1952 SI3: PZD3-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Actually received value from the process data PZD3 of interface SI3.

## parameter: D1953 SI3: PZD4-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Actually received value from the process data PZD4 of interface SI3.

## parameter: D1954 SI3: PZD5-input

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |

| | |
|---|---|
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Actually received value from the process data PZD5 of interface SI3.

## parameter: D1960 voltage aft. charct

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -817 |
| **maximal value:** | 816 |
| **default value:** | - |
| **unit:** | V |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 18, 21 |

Actual voltage setpoint according to the V/Hz characteristic.

## parameter: D1962 actual Ixt-Limit

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan - |

Actual drive current limit from the module drive Ixt protection

## parameter: D1963 o/p changeover 0

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 31 |

Output from the process channel changeover switch 0.

## parameter: D1964 o/p changeover 1

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 31 |

Output from the process channel changeover switch 1.

## parameter: D1965 o/p changeover 2

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 31 |

Output from the process channel changeover switch 2.

## parameter: D1966 o/p changeover 3

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 31 |

Output from the process channel changeover switch 3.

## parameter: D1967 fixvalue P435.02

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.02 can be freely combined with display parameter D1867.

## parameter: D1968 fixvalue P435.03

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.03 can be freely combined with display parameter D1868.

## parameter: D1969 fixvalue P435.04

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.04 can be freely combined with display parameter D1869.

## parameter: D1975 setp. before enable

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 16

Main setpoint before enable.

## parameter: D1976 sum [P0610]

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 33 |

Actual result of the addition [P0610.0] + [P0610.1].

## parameter: D1977 multipl. output

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 33 |

Actual output of the multiplication element.

## parameter: D1978 output free RFG

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |
| **read / write:** | Read |
| **type:** | signed 16 bit |
| **function diagram:** | plan 33 |

Actual output of the free ramp-function generator.

## parameter: D1979 [P0406.1] - [0407.1]

| | |
|---|---|
| **maximum index:** | - |
| **minimal value:** | -200.00 |
| **maximal value:** | 199.99 |
| **default value:** | - |
| **unit:** | % |
| **passwordlevel:** | 0 |

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 29

Actual result of the subtraction [P0406.1] - [P0407.1].

## parameter: D1980 Control word BF

**maximum index:** -
**minimal value:** 0000
**maximal value:** FFFF
**default value:** -
**unit:** hex
**passwordlevel:** 0
**read / write:** Read
**type:** unsigned 16 bit
**function diagram:** plan 03

The drive is controlled using the control word.

The control word comprises 16 bits. Bits 0 to 7 are defined according to the VDI/VDE Directives 3689. Bits 8 to 15 can only be set via the serial interface and each bit can be freely assigned a drive control function. The control word is formed by logically combining control word KL and control word MS. The control word MS can be entered from three sources, selected via a switch. The switch is actuated using parameter P0073.x.

Switch setting 0:

Control word MS is formed in a mask in which bits 2 to 15 are permanently specified. Only bit 1 can be set to 1 (ON command) or 0 (OFF1 command) using the HE51 handheld terminal or BF51 operator panel.

Switch setting 1:

Control word MS is received from a variable parameter source. Only the process data of serial interfaces 1 and 2 can be used in the parameter source. This means that the control word MS is entered via the interface. In this configuration, bits 8 to 15 can also be set via the serial interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

Switch setting 2:

Control word MS is formed using a mask, in which bits 1 to 15 are permanently specified. The mask is assigned so that the drive can only be controlled via control word KL.

Switch setting 3:

Control word MS is entered from the service interface (RS232). In this configuration, bits 8 to 15 can also be set via the service interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

Bits 0 to 7 of control word KL are entered from the variable parameter sources P0050 to P0057. By connecting digital inputs 1 to 8 in these parameter sources, the bits of control word KL are set via the digital inputs 1 or 0.

The drive only recognizes bit 1 (ON command) and bit 7 (fault acknowledgement) for a signal edge from 0 to 1.

**Note:** More detailed information regarding the control/status logic is provided in the control and status word flow diagram on Function chart, Sheets 44 and 45.

## parameter: D1981 f-akt bef. norm.

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 13, 18, 37

Frequency actual value before normalization

This is the normalized frequency value with which the inverter gating unit is controlled. This is normalized via parameter P0390.

## parameter: D1982 differenz [P0621]

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 33

Actual result of the subtraction [P0621.0] - [P0621.1].

## parameter: D1983 abs.value D1982

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 33

Absolute value from D1982

## parameter: D1984 setp. after stall

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 17, 18

Setpoint after an intervention of the stall protection controller.

## parameter: D1998 mains voltage

**maximum index:** -
**minimal value:** -1000
**maximal value:** 1000
**default value:** -
**unit:** V
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan -

Actual line supply voltage

## parameter: D2000 Fixvalue 100.00%

**maximum index:** -
**minimal value:** 100.00
**maximal value:** 100.00
**default value:** 100.00
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

Process constant +100.00%

## parameter: D2001 Fixvalue -100.00%

**maximum index:** -
**minimal value:** -100.00
**maximal value:** -100.00
**default value:** -100.00
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

Process constant -100.00%

## parameter: D2002 Changeover switch 2

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 31

Output from process channel changeover switch 2.

## parameter: D2003 Changeover switch 3

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 31

Output from process channel changeover switch 3.

## parameter: D2004 Fixvalue P435.05

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.05 can be freely combined with display parameter D2004

## parameter: D2005 Fixvalue P0435.06

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.06 can be freely combined with display parameter D2005

## parameter: D2006 MFB 5 Output

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 32

Output from multi-function block 5

## parameter: D2007 MFB 6 Output

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 32

Output from multi-function block 6

## parameter: D2008 Fixvalue P0435.07

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.07 can be freely combined with display parameter D2008

## parameter: D2009 Fixvalue P0435.08

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.08 can be freely combined with display parameter D2009

## parameter: D2010 sp after dir.rotat.

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 15, 43

Main setpoint after the direction of rotation change function has been switched-in.

## parameter: D2011 counter IGR evaluat

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -

**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 36

Actual counter status of the IGR sensing.

## parameter: D2020 Fixvalue P435.09

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.09 can be freely combined with display parameter D2020

## parameter: D2021 Fixvalue P0435.10

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.10 can be freely combined with display parameter D2021

## parameter: D2022 Fixvalue P0435.11

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.11 can be freely combined with display parameter D2022

## parameter: D2023 Fixvalue P0435.12

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.12 can be freely combined with display parameter D2023

## parameter: D2024 Fixvalue P0435.13

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 24

The programmed fixed value from parameter P0435.13 can be freely combined with display parameter D2024

## parameter: D2025 Fixvalue P0435.14

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02

The programmed fixed value from parameter P0435.14 can be freely combined with display parameter D2025

## parameter: D2026 Fixvalue P0435.15

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -

**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 02, 15

The programmed fixed value from parameter P0435.15 can be freely combined with display parameter D2026

## parameter: D2029 Heat sink temp.rect

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** °C
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 25

Actual temperature at the rectifier cooler.

## parameter: D2030 Service PZD1 in X11

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 03, 37

Actually received value from the process data

PZD1 of service interface RS232. Connector X11

Processing the process data of the service interface

The process data, received via the service interface, is converted into display parameters in the drive which can be freely connected into the variable parameter sources for drive control.

## parameter: D2031 Service PZD2 in X11

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0

**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Actually received value from the process data

PZD2 of the service interface RS232. Connector X11

Processing the process data of the service interface

The process data, received via the service interface, is converted into display parameters in the drive which can be freely connected into the variable parameter sources for drive control.

## parameter: D2032 Service PZD3 in X11

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Actually received value from the process data

PZD3 of the service interface RS232. Connector X11

Processing the process data of the service interface

The process data, received via the service interface, is converted into display parameters in the drive which can be freely connected into the variable parameter sources for drive control.

## parameter: D2033 Service PZD4 in X11

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Actually received value from the process data

PZD4 of the service interface RS232. Connector X11

Processing the process data of the service interface

The process data, received via the service interface, is converted into display parameters in the drive which can be freely connected into the variable parameter sources for drive control.

## parameter: D2034 Service PZD5 in X11

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Actually received value from the process data

PZD5 of the service interface RS232. Connector X11

Processing the process data of the service interface

The process data, received via the service interface, is converted into display parameters in the drive which can be freely connected into the variable parameter sources for drive control.

## parameter: D2035 Service PZD6 in X11

**maximum index:** -
**minimal value:** -200.00
**maximal value:** 199.99
**default value:** -
**unit:** %
**passwordlevel:** 0
**read / write:** Read
**type:** signed 16 bit
**function diagram:** plan 37

Actually received value from the process data

PZD6 of the service interface RS232. Connector X11

Processing the process data of the service interface

The process data, received via the service interface, is converted into display parameters in the drive which can be freely connected into the variable parameter sources for drive control.

# 4 Resources used for the basic parameterization

## 4.1 Macro parameters

There are so-called „macro parameters“ in the „basic parameterization“ which can be used to select the complex functions via text display in the operator panel. A macro program in the firmware sets the required parameters and links to the selected function.

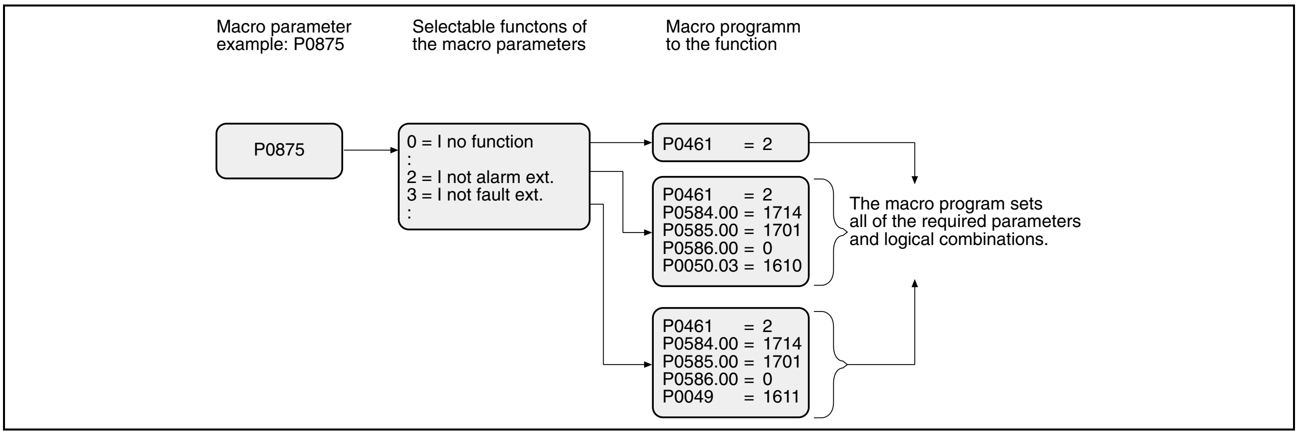


Abb. 4-1: Macro parameter

Parameter numbers P0850 to P0897 are reserved for the macro parameters. Presently, numbers P0870 to P0892are assigned, refer to the „list of macro parameters“. The selectable functions for each macro parameter are in this list, under „Parameter value“

The parameters, which the macro program uses to set the selected function of macro parameter, are located in the „list of resources used“.

**Note:** The optional inputs and outputs are only supported in the „basic parameterization“ if the option card „terminal strip expansion“ (RZP01.1-T1) was inserted in the option slot 2 (standard slot for RZP01.1-T1).

Macro Parameters for the optional inputs and outputs: P0872 ... P0874, P0882 ... P0889, P0891 and P0892.

# 4.2 List of the resources used

## Fixed resource assignment

The inputs and outputs are permanently assigned with modules from the firmware (logic gates, output blocks etc.)

The arrangement and layout of the tables with the resource lists clearly illustrates the fixed resource assignment.

| Function | Resource assignment | Func. diagram |
|---|---|---|
| Digital input /output 1 | Logic gate 1 (IND 00) | BL26 |
| Digital input /output 2 | Logic gate 2 (IND 01) | BL26 |
| Digital input /output 3 | Logic gate 3 (IND 02) | BL26 |
| Digital input 4 | Logic gate 4 (IND 03) | BL26 |
| Digital input 5 | Logic gate 5 (IND 04) | BL26 |
| Digital input 6 | Switch on / switch off logic (D1636) | BL41 |
| Digital input 7 | Switch on / switch off logic (D1636) | BL41 |
| Digital input 8 | Logic gate 8 (IND 07) | BL26 |
| Digital input 9 | Logic gate 17 (IND 16) | BL27 |
| Digital input 10 | Logikgatter 18 (Index 17) | BL27 |
| Digital input 11 | Logikgatter 19 (Index 18) | BL27 |
| Option Digital input 1 | Logic gate 9 (IND 08) | BL26 |
| Option Digital input 2 | Logic gate 10 (IND 09) | BL26 |
| Option Digital input 3 | Logic gate 11 (IND 10) | BL26 |
| Option Digital input 4 | Logic gate 12 (IND 11) | BL26 |
| Relay output | Logic gate 6 (IND 05) | BL26 |
| Option Relay output 1 | Logic gate 13 (IND 12) | BL27 |
| Option Relay output 2 | Logic gate 14 (IND 13) | BL27 |
| Option Relay output 3 | Logic gate 15 (IND 14) | BL27 |
| Option Relay output 4 | Logic gate 16 (IND 15) | BL27 |
| Option analog-input | Input module (D1802) | BL11 |
| Reference- / analog-output | Output module 1 (D1875) | BL13 |
| Option analog-output 1 | Output module 2 (D1120) | BL13 |
| Option analog-output 2 | Output module 3 (D1121) | BL13 |
| Signal: Motor rotates 1 | System constant P0435.00<br>comparator logic 1 (D1576) | BL02<br>BL42 |
| Signal: Motor rotates 2 | System constant P0435.01<br>comparator logic 2 (D1578) | BL01<br>BL42 |
| Signal: Setpoint reached | Logic $f_{set}$ reached (D1574) | BL43 |
| Signal: Setpoint in tolerance band | Logic $f_{set}$ in tolerance band (D1575) | BL43 |
| fact <= $f_{min}$ | Comparator 1 (D1712) | BL29 |
| Mains contactor control | Logic gate 7 (IND06) | BL26 |
| DC-brake | DC-brake (D1697) | BL43 |

# Fixed process data assignment

By using the interface as an input for commands and setpoint, the assignment of the process data is fixed. The design of the tables with the resources elucidate the fact of the fixed process data assignment.

| Selected function | Prcess data | Receive | Send |
|---|---|---|---|
| ON/OFF from interface | PZD 1 | Control word | Status word |
| Setpoint from interface | PZD 2 | Setpoint | Actual value |
| Additional setpoint from interface | PZD 3 | Additional setpoint | - |
| WLM sensitivity from interface | PZD 5 | WLM sensitivity | WLM distance touch message |
| WLM load limit from interface | PZD 6 | WLM load limit | WLM distance load limit |

# Explanations regarding the resource lists

| **Example: P0872** | | | | **Example: P0873 setpoint in TEST** | | |
|---|---|---|---|---|---|---|
| Column1 | Column 2 | Column 3 | | Column1 | Column 2 | Column 3 |
| **Parameter** | **Par. value** | **Fct.plan** | | **Parameter** | **Par. value** | **Fct.plan** |
| 0 = motor potentiometer 1) | | | | 0 = motor potentiometer 1) | | |
| P0190.00 2) | P1701 3) | BL14 4) | | P0190.01 2) | P1701 3) | BL 13 4) |

**1) Function** Title for the function of macro parameter with parameter value and text display, which appears in the operator panel display.

**2) Parameter** Paramters used by the macro program.

**3) Parameter-value** Parameter setting.

**4) Fct.plan** The parameter from column 1 is located in the appropriate function diagram.
BL14 = function diagram No. 14.

For macro parameters which have the same functions for the TEST/NORMAL operation, and for the analog input options, the tables are arranged next to one another so that you can see the different settings at a single glance.

| **Example:** P0875 ... P0880, P0893 ... P0895 optional digital inputs | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Column 1 | Column 2 | Column 3 | | 5) Table with the variables | | | | | | | | | |
| **Param.** | **P-Wert** | **Fkt.plan** | | **Variable for the optional digital input** | | | | | | | | | |
| 32 = IN not alarm ext. 1) | | | | | | | | | | | | | |
| | | | | 5) | Dig. inputs | | | | | | | | |
| **2)** | **3)** | **4)** | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| **P)** | 0 | BL08 | | **P)** | P0471 | P0473 | 0475 | - | - | - | - | - | - |
| P0584.**xx** | W1) | BL26 | | **xx** | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P0585.**xx** | 1670 | BL26 | | **W1)** | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P0586.**xx** | 0 | BL26 | | | | | | | | | | | |
| P0049 | **W2)** | BL07 | | **W2)** | 1611 | 1613 | 1615 | 1617 | 1619 | 1655 | 1593 | 1595 | 1597 |

**1) 2) 3) 4)** Refer to the explanations above!

**5) Variable** In order to shorten the tables and to make the resource assignment clear, variables are used in the resource lists, for the digital inputs, digital outputs and relay outputs. The values for the variables used are in the righthand tables, marked with 5) in columns 1 and 2, e.g. for each of the 10 digital inputs. The lines of the table with the variables do not have to coincide with the lines of the first three columns.

P) = Variable for the parameter in column 1
xx / yy = Variable for the index of the parameter in column 1
W1) = Variable for the parameter value in column 2
W2) = refer above

## P0870 on / off in NORMAL

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **0 = term. strip static** | | |
| P0073.00 | 2 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1720 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| **1 = term. static. + panel** | | |
| P0073.00 | 0 | BL03 |
| P0620 | 1920 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1720 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| **2 = term. static + PC** | | |
| P0073.00 | 3 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1720 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| **3 = term. static + Bus SI1** | | |
| P0073.00 | 1 | BL03 |
| P0074 | 1900 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1720 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0470.00 | 1922 | BL37 |

## P0871 on / off in TEST

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **0 = term. strip static** | | |
| P0073.01 | 2 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1720 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| **1 = term. static. + panel** | | |
| P0073.01 | 0 | BL03 |
| P0620 | 1920 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1720 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| **2 = term. static + PC** | | |
| P0073.01 | 3 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1720 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| **3 = term. static + Bus SI1** | | |
| P0073.01 | 1 | BL03 |
| P0074 | 1900 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1720 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0470.00 | 1922 | BL37 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **4 = term. static + Bus SI2** | | |
| P0073.00 | 1 | BL03 |
| P0074 | 1910 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1720 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0480.00 | 1922 | BL38 |
| **5 = term. static + Bus SI4** | | |
| P0073.00 | 1 | BL03 |
| P0074 | 1100 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1720 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0491.00 | 1922 | BL39 |
| **6 = term. dyn. (OFF always)** | | |
| P0073.00 | 2 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1766 | BL41 |
| P0051.07 | 1700 | BL41 |
| P0050.00 | 1636 | BL03 |
| **7 = panel dyn. (OFF always)** | | |
| P0073.00 | 2 | BL03 |
| P0620 | 1920 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1640 | BL41 |
| P0051.05 | 1641 | BL41 |
| P0051.07 | 1700 | BL41 |
| P0050.00 | 1636 | BL03 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **4 = term. static + Bus SI2** | | |
| P0073.01 | 1 | BL03 |
| P0074 | 1910 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1720 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0480.00 | 1922 | BL38 |
| **5 = term. static + Bus SI4** | | |
| P0073.01 | 1 | BL03 |
| P0074 | 1100 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1720 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0491.00 | 1922 | BL39 |
| **6 = term. dyn. (OFF always)** | | |
| P0073.01 | 2 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1766 | BL41 |
| P0051.06 | 1701 | BL41 |
| P0050.00 | 1636 | BL03 |
| **7 = panel dyn. (OFF always)** | | |
| P0073.01 | 2 | BL03 |
| P0620 | 1920 | BL03 |
| P0051.00 | 1640 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1641 | BL41 |
| P0051.06 | 1701 | BL41 |
| P0050.00 | 1636 | BL03 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **8 = term. strip dynamic** | | |
| P0073.00 | 2 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1766 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1636 | BL03 |
| **9 = panel dynamic** | | |
| P0073.00 | 2 | BL03 |
| P0620 | 1920 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1640 | BL41 |
| P0051.05 | 1641 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1636 | BL03 |
| **10 = panel static** | | |
| P0073.00 | 2 | BL03 |
| P0620 | 1920 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1980 | BL41 |
| P0051.05 | 1701 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| **11 = term. strip static + BUS SI6** | | |
| P0073.00 | 1 | BL03 |
| P0074.00 | 1160 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1720 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0494.00 | 1922 | BL40 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **8 = term. strip dynamic** | | |
| P0073.01 | 2 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1766 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1636 | BL03 |
| **9 = panel dynamic** | | |
| P0073.01 | 2 | BL2 |
| P0620 | 1920 | BL03 |
| P0051.00 | 1640 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1641 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1636 | BL03 |
| **10 = panel static** | | |
| P0073.01 | 2 | BL03 |
| P0620 | 1920 | BL03 |
| P0051.00 | 1980 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1701 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| **11 = term. strip static + BUS SI6** | | |
| P0073.01 | 1 | BL03 |
| P0074.00 | 1160 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1720 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0494.00 | 1922 | BL40 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **12 =term. stip static + BUS SI2 SERCOS** | | |
| P0073.00 | 1 | BL03 |
| P0074.00 | 1910 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1701 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0480.00 | 1922 | BL38 |
| **13 =term. stip static + BUS SI4 SERCOS** | | |
| P0073.00 | 1 | BL03 |
| P0074.00 | 1100 | BL03 |
| P0051.02 | 1670 | BL41 |
| P0051.03 | 1719 | BL41 |
| P0051.05 | 1701 | BL41 |
| P0051.07 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0491.00 | 1922 | BL38 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **12 =term. stip static + BUS SI2 SERCOS** | | |
| P0073.01 | 1 | BL03 |
| P0074.00 | 1910 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1701 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0480.00 | 1922 | BL38 |
| **13 =term. stip static + BUS SI4 SERCOS** | | |
| P0073.01 | 1 | BL03 |
| P0074.00 | 1100 | BL03 |
| P0051.00 | 1719 | BL41 |
| P0051.01 | 1670 | BL41 |
| P0051.04 | 1701 | BL41 |
| P0051.06 | 1670 | BL41 |
| P0050.00 | 1634 | BL03 |
| P0050.03 | 1635 | BL03 |
| P0491.00 | 1922 | BL38 |

## P0872 setpoint in NORMAL

| Parameter | Par. Value | Fct.plan |
|---|---|---|
| **0 = motor potentiometer** | | |
| P0190.00 | 1701 | BL14 |
| **1 = fix setpoint** | | |
| P0264.00 | 1701 | BL14 |
| P0190.00 | 1701 | BL14 |
| **2 = analog input 0 ... ±10 V** | | |
| P0201 | 0 | BL09 |
| P0263.00 | 1801 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0190.00 | 1701 | BL14 |
| **3 = analog input 0 ... +20 mA** | | |
| P0201 | 2 | BL09 |
| P0263.00 | 1801 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0190.00 | 1701 | BL14 |

## P0873 setpoint in TEST

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **0 = motor potentiometer** | | |
| P0190.01 | 1701 | BL14 |
| **1 = fix setpoint** | | |
| P0264.01 | 1701 | BL14 |
| P0190.01 | 1701 | BL14 |
| **2 = analog input 0 ... ±10 V** | | |
| P0201 | 0 | BL09 |
| P0263.01 | 1801 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0190.01 | 1701 | BL14 |
| **3 = analog input 0 ... +20 mA** | | |
| P0201 | 2 | BL09 |
| P0263.01 | 1801 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0190.01 | 1701 | BL14 |

| Parameter | Par. Value | Fct.plan |
|---|---|---|
| **4 = analog input +4 ... +20 mA** | | |
| P0201 | 1 | BL09 |
| P0570 | 1670 | BL09 |
| P0263.00 | 1801 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0190.00 | 1701 | BL14 |
| **5 = opt. an. Input 0 ... ±10 V** | | |
| P0735.01 | 0 | BL10 |
| P0217 | 1806 | BL11 |
| P0736 | 0 | BL11 |
| P0263.00 | 1802 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0190.00 | 1701 | BL14 |
| **6 = opt. an. Input 0 ... +20 V** | | |
| P0735.01 | 1 | BL10 |
| P0217 | 1806 | BL11 |
| P0736 | 0 | BL11 |
| P0263.00 | 1802 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0190.00 | 1701 | BL14 |
| **7 = opt. an. Input +4 ... +20 V** | | |
| P0735.01 | 1 | BL10 |
| P0217 | 1806 | BL11 |
| P0736 | 1 | BL11 |
| P0753 | 1670 | BL11 |
| P0263.00 | 1802 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0190.00 | 1701 | BL14 |
| **8 = PC** | | |
| P0263.00 | 2031 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0190.00 | 1701 | BL14 |
| **9 = Bus SI1** | | |
| P0263.00 | 1901 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0470.01 | 1981 | BL37 |
| P0190.00 | 1701 | BL14 |
| **10 = Bus SI2** | | |
| P0263.00 | 1911 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0480.01 | 1981 | BL38 |
| P0190.00 | 1701 | BL14 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **4 = analog input +4 ... +20 mA** | | |
| P0201 | 1 | BL09 |
| P0570 | 1670 | BL09 |
| P0263.01 | 1801 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0190.01 | 1701 | BL14 |
| **5 = opt. an. Input 0 ... ±10 V** | | |
| P0735.01 | 0 | BL10 |
| P0217 | 1806 | BL11 |
| P0736 | 0 | BL11 |
| P0263.01 | 1802 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0190.01 | 1701 | BL14 |
| **6 = opt. an. Input 0 ... +20 V** | | |
| P0735.01 | 1 | BL10 |
| P0217 | 1806 | BL11 |
| P0736 | 0 | BL11 |
| P0263.01 | 1802 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0190.01 | 1701 | BL14 |
| **7 = opt. an. Input +4 ... +20 V** | | |
| P0735.01 | 1 | BL10 |
| P0217 | 1806 | BL11 |
| P0736 | 1 | BL11 |
| P0753 | 1670 | BL11 |
| P0263.01 | 1802 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0190.01 | 1701 | BL14 |
| **8 = PC** | | |
| P0263.01 | 2031 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0190.01 | 1701 | BL14 |
| **9 = Bus SI1** | | |
| P0263.01 | 1901 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0470.01 | 1981 | BL37 |
| P0190.01 | 1701 | BL14 |
| **10 = Bus SI2** | | |
| P0263.01 | 1911 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0480.01 | 1981 | BL38 |
| P0190.01 | 1701 | BL14 |

| Parameter | Par. Value | Fct.plan |
|---|---|---|
| **11 = Bus SI4** | | |
| P0263.00 | 1101 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0491.01 | 1981 | BL39 |
| P0190.00 | 1701 | BL14 |
| **12 = analog input +2 ... +10 V** | | |
| P0201 | 3 | BL09 |
| P0570 | 1670 | BL09 |
| P0263.00 | 1801 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0190.00 | 1701 | BL14 |
| **13 = Bus SI6** | | |
| P0263.00 | 1161 | BL14 |
| P0264.00 | 1700 | BL14 |
| P0494.01 | 1981 | BL40 |
| P0190.00 | 1701 | BL14 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **11 = Bus SI4** | | |
| P0263.01 | 1101 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0491.01 | 1981 | BL39 |
| P0190.01 | 1701 | BL14 |
| **12 = analog input +2 ... +10 V** | | |
| P0201 | 3 | BL09 |
| P0570 | 1670 | BL09 |
| P0263.01 | 1801 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0190.01 | 1701 | BL14 |
| **13 = Bus SI6** | | |
| P0263.01 | 1161 | BL14 |
| P0264.01 | 1700 | BL14 |
| P0494.01 | 1981 | BL40 |
| P0190.01 | 1701 | BL14 |

## P0874 additional setpoint

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **0 = no funciton** | | |
| P0300 | 1800 | BL17 |
| P0301 | 0 | BL17 |
| **1= analog input 0 ... ±10 V** | | |
| P0300 | 1801 | BL17 |
| P0301 | 0 | BL17 |
| P0201 | 0 | BL09 |
| P0570 | 1700 | BL09 |
| P0564.00 | 0 | BL09 |
| P0564.01 | 0 | BL09 |
| **2 = analog input 0 ... +20 mA** | | |
| P0300 | 1801 | BL17 |
| P0301 | 0 | BL17 |
| P0201 | 2 | BL09 |
| P0570 | 1700 | BL09 |
| P0564.00 | 0 | BL09 |
| P0564.01 | 0 | BL09 |
| **3 = Analogeingang +4..+20mA** | | |
| P0300 | 1801 | BL17 |
| P0301 | 0 | BL17 |
| P0201 | 1 | BL09 |
| P0570 | 1700 | BL09 |
| P0564.01 | 0 | BL09 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **4 = Opt. an. Input 0 ... ±10 V** | | |
| P0217 | 1806 | BL11 |
| P0300 | 1802 | BL17 |
| P0301 | 0 | BL17 |
| P0735.01 | 0 | BL10 |
| P0736 | 0 | BL11 |
| P0753 | 1700 | BL11 |
| P0752.00 | 0 | BL11 |
| P0752.01 | 0 | BL11 |
| **5 = Opt. an. Input 0 ... +20 mA** | | |
| P0217 | 1806 | BL11 |
| P0300 | 1802 | BL17 |
| P0301 | 0 | BL17 |
| P0735.01 | 1 | BL10 |
| P0736 | 0 | BL11 |
| P0753 | 1700 | BL11 |
| P0752.00 | 0 | BL11 |
| P0752.01 | 0 | BL11 |
| **6 = Opt. an. Input +4 ... +20 mA** | | |
| P0217 | 1806 | BL11 |
| P0300 | 1802 | BL17 |
| P0301 | 0 | BL17 |
| P0735.01 | 1 | BL10 |
| P0736 | 1 | BL11 |
| P0753 | 1700 | BL11 |
| P0752.00 | 0 | BL11 |
| P0752.01 | 0 | BL11 |
| **7 = PC** | | |
| P0300 | 2032 | BL17 |
| P0301 | 0 | BL17 |
| **8 = Bus SI1** | | |
| P0300 | 1902 | BL17 |
| P0301 | 0 | BL17 |
| **9 = Bus SI2** | | |
| P0300 | 1912 | BL17 |
| P0301 | 0 | BL17 |
| **10 = Bus SI4** | | |
| P0300 | 1102 | BL16 |
| P0301 | 0 | BL16 |

| Parameter | Par. value | Fct.plan |
| --- | --- | --- |
| **11 = analog input +2 ... +10 V** | | |
| P0300 | 1801 | BL17 |
| P0301 | 0 | BL17 |
| P0201 | 3 | BL09 |
| P0570 | 1700 | BL09 |
| P0564.01 | 0 | BL09 |
| **12 = Bus SI6** | | |
| P0300 | 1162 | BL17 |
| P0301 | 0 | BL17 |

# P0875 ... P0880,P0893..P0895 digital inputs

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0 = no function** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |

| **1 = I ready for operate** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P50.03 | W1) | BL03 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| **2 = I not alarm ext.** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P49 | W1 | BL07 | W1 | 1760 | 1761 | 1762 | 1763 | 1764 | 1767 | 1151 | 1153 | 1155 |

| **3 = I not fault ext.** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P48 | W1) | BL07 | W1) | 1760 | 1761 | 1762 | 1763 | 1764 | 1767 | 1151 | 1153 | 1155 |

| **4 = I fault reset** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P50.07 | W1) | BL03 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| **5 = I $f_{min}$ select** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P66 | W1) | BL14 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| **6 = I direct. rotat.** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P67 | W1) | BL15 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **7 = I not volt. desc.** | | | | | | | | | | | | | |
| | | | | | **Dig. Inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P50.01 | W1) | BL03 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8 = I not fast stop** | | | | | | | | | | | | | |
| | | | | | **Dig. Inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P50.02 | W1) | BL03 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9 = I RFG parking** | | | | | | | | | | | | | |
| | | | | | **Dig. Inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P605 | W1) | BL16 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10 = I RFG up stop** | | | | | | | | | | | | | |
| | | | | | **Dig. Inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P50.05 | W2) | BL03 | | W2) | 1760 | 1761 | 1762 | 1763 | 1764 | 1767 | 1151 | 1153 | 1155 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **11 = I motp. faster** | | | | | | | | | | | | | |
| | | | | | **Dig. Inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P191 | W1) | BL14 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12 = I motp. slower** | | | | | | | | | | | | | |
| | | | | | **Dig. inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P192 | W1) | BL14 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **13 = I WLM sensit. up** | | | | | | | | | | | | | |
| | | | | | **Dig. inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P1207 | W1) | BL22 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14= I WLM sensit. down** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P1208 | W1) | BL22 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15 = I WLM sens. StrtStp** | | | | | | | | | | | | |
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P1212 | W1) | BL22 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 = I inhib. touch mess** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P1205 | W1) | BL22 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **17 = I inhib. load limit** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P1219 | W1) | BL23 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 = I setp. Mem. Bit 4** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P591.04 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P69.00 | 1673 | BL07 | | | | | | | | | | |
| P69.01 | 1673 | BL07 | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **21 = I TEST/NORMAL** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1792 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 4 | BL26 | | | | | | | | | | |
| P68 | W2) | BL07 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 = I setp. mem. Bit 0** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P591.00 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P69.00 | 1673 | BL07 | | | | | | | | | | |
| P69.01 | 1673 | BL07 | | | | | | | | | | |

| **23 = I setp. mem. Bit 1** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P591.01 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P69.0 | 1673 | BL07 | | | | | | | | | | |
| P69.1 | 1673 | BL07 | | | | | | | | | | |

| **24 = I setp. mem. Bit 2** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P591.02 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P69.0 | 1673 | BL07 | | | | | | | | | | |
| P69.1 | 1673 | BL07 | | | | | | | | | | |

| **25 = I setp. mem. Bit 3** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P591.03 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P69.0 | 1673 | BL07 | | | | | | | | | | |
| P69.1 | 1673 | BL07 | | | | | | | | | | |

| **26 = I param. set Bit 0** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P711.00 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P70 | 1129 | BL07 | | | | | | | | | | |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **27 = I param. set Bit 1** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P711.01 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P70 | 1129 | BL07 | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **28 = I param. Set Bit 2** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P711.02 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P70 | 1129 | BL07 | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **29 = I param. Set Bit 3** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P711.03 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P70 | 1129 | BL07 | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30 = I param. set Bit 4** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P711.04 | W1) | BL28 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P70 | 1129 | BL07 | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **31 = IN ready f. operat.** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P50.03 | W2) | BL03 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **32 = IN not alarm ext.** | | | | | | | | | | | | |
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P49 | W2) | BL07 | W2) | 1611 | 1613 | 1615 | 1617 | 1619 | 1655 | 1592 | 1594 | 1596 |

| **33 = IN not fault ext.** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P48 | W2) | BL07 | W2) | 1611 | 1613 | 1615 | 1617 | 1619 | 1655 | 1592 | 1594 | 1596 |

| **34 = IN fault resset** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P50.07 | W2) | BL03 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **35 = IN $f_{min}$ select** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P66 | W2) | BL14 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **36 = IN direct. rotat.** | | | | | | | | | | | | |
| | | | | Dig. inputs | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P67 | W2) | BL15 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **37 = IN not volt. disc.** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dig. inputs | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P50.01 | W2) | BL03 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **38 = IN not fast stop** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dig. inputs | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P50.02 | W2) | BL03 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **39 = IN RFG parking** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dig. inputs | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P605 | W2) | BL16 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **40 = IN RFG up stop** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P50.05 | W2) | BL03 | W2) | 1611 | 1613 | 1615 | 1617 | 1619 | 1655 | 1592 | 1594 | 1596 |

| **41 = IN motp. faster** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P191 | W2) | BL14 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **42 = IN motp. slower** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P192 | W2) | BL14 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **43 = IN WLM sensit. up** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P1207 | W2) | BL22 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **44 = IN WLM sensit. down** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P1208 | W2) | BL22 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **45 = IN WLM sens. StrtStp.** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P1212 | W2) | BL22 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **46 = IN inhib. touch mess** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P1205 | W2) | BL22 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **47 = IN inhib. load limit** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P1219 | W2) | BL23 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **51 = IT ready f. operat.** | | | | | | | | | | | | |
| | | | | **Dig. Inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P50.03 | W2) | BL03 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **52 = IT not alarm ext.** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P49 | W2) | BL07 | W2) | 1611 | 1613 | 1615 | 1617 | 1619 | 1655 | 1593 | 1595 | 1597 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **53 = IT not fault ext.** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P48 | W2) | BL07 | W2) | 1611 | 1613 | 1615 | 1617 | 1619 | 1655 | 1593 | 1595 | 1597 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **54 = IT fault reset** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P50.07 | W2) | BL03 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 = IT $f_{min}$ select. | | | | | | | | | | | | |
| | | | | Dig. inputs | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P66 | W2) | BL14 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| 56 = IT direct. rotat. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dig. inputs | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P67 | W2) | BL15 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| 57 = IT not volt. disc. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dig. inputs | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P50.01 | W2) | BL03 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| 58 = IT not fast stop | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dig. inputs | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1638 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 1 | BL26 | | | | | | | | | | |
| P50.02 | W2) | BL03 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **59 = IT RFG parking** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P605 | W2) | BL16 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **60 = IT RFG up stop** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P50.05 | W2) | BL03 | W2) | 1611 | 1613 | 1615 | 1617 | 1619 | 1655 | 1593 | 1595 | 1597 |

| **61 = IT motp. faster** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P191 | W2) | BL14 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| **62 = IT motp. slower** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P192 | W2) | BL14 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63 = IT WLM sensit. up** | | | | | | | | | | | | | |
| | | | | | **Dig. Inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | | |
| P1207 | W2) | BL22 | | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **64 = IT WLM sensit. down** | | | | | | | | | | | | | |
| | | | | | **Dig. inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | | |
| P1208 | W2) | BL22 | | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **65 = IT WLM sens. StrtStp** | | | | | | | | | | | | | |
| | | | | | **Dig. inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | | |
| P1212 | W2) | BL22 | | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **66 = IT inhib. touch mess** | | | | | | | | | | | | | |
| | | | | | **Dig. inputs** | | | | | | | | |
| | | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | | |
| P1205 | W2) | BL22 | | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **67 = IT inhib. load limit** | | | | | | | | | | | | |
| | | | | **Dig. inputs** | | | | | | | | |
| | | | | **1** | **2** | **3** | **4** | **5** | **8** | **9** | **10** | **11** |
| P) | 0 | BL08 | P) | 471 | 473 | 475 | - | - | - | - | - | - |
| P584.xx | W1) | BL26 | xx | 00 | 01 | 02 | 03 | 04 | 07 | 16 | 17 | 18 |
| P585.xx | 1670 | BL26 | W1) | 1714 | 1715 | 1716 | 1717 | 1718 | 1721 | 1150 | 1152 | 1154 |
| P586.xx | 0 | BL26 | | | | | | | | | | |
| P1219 | W2) | BL23 | W2) | 1610 | 1612 | 1614 | 1616 | 1618 | 1654 | 1592 | 1594 | 1596 |

# P0882 ... P0885 optional digital inputs (RZP01.1-T1)

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|
| **0 = I no function** | | | | | | | |
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| - | - | - | - | - | - | - | - |

| **1 = I ready f. operat.** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P50.03 | W1) | BL03 | W1) | 1100 | 1101 | 1102 | 1103 |

| **2 = I not alarm ext.** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1701 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P49 | W2) | BL07 | W2) | 1657 | 1659 | 1581 | 1583 |

| **3 = I not fault ext.** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1701 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P48 | W2) | BL07 | W2) | 1657 | 1659 | 1581 | 1583 |

| **4 = I fault reset** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P50.07 | W1) | BL03 | W1) | 1100 | 1101 | 1102 | 1103 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|---|
| 5 = I $f_{min}$ select | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P66 | W1) | BL14 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 = I dirct. rotat. | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P67 | W1) | BL15 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7 = I not volt. disc. | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P50.01 | W1) | BL03 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8 = I not fast stop | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P50.02 | W1) | BL03 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9 = I RFG parking | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P605 | W1) | BL16 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10 = I RFG up stop | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1701 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P50.05 | W2) | BL03 | | W2) | 1657 | 1659 | 1581 | 1583 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 11 = I motp. faster | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P191 | W1) | BL14 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12 = I motp. slower | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P192 | W1) | BL14 | | W1) | 1100 | 1101 | 1102 | 1103 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|---|
| **13 = I WLM sensit. up** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P1207 | W1) | BL22 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **14 = I WLM sensit. down** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P1208 | W1) | BL22 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **15 = I WLM sens. StrtStp** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P1212 | W1) | BL22 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **16 = I inhib. touch mess** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P1205 | W1) | BL22 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **17 = I inhib. load limit** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P1219 | W1) | BL23 | | W1) | 1100 | 1101 | 1102 | 1103 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **20 = I setp. mem. Bit 4** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P591.04 | W1) | BL28 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P69.00 | 1673 | BL07 | | | | | | |
| P69.01 | 1673 | BL07 | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **21 = I TEST/NORMAL** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1792 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 4 | BL26 | | | | | | |
| P68 | W2) | BL07 | | W2) | 1656 | 1658 | 1580 | 1582 |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|
| **22 = I setp. mem. Bit 0** | | | | | | | |
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P591.00 | W1) | BL28 | W1) | 1100 | 1101 | 1102 | 1103 |
| P69.00 | 1673 | BL07 | | | | | |
| P69.01 | 1673 | BL07 | | | | | |

| **23 = I setp. mem. Bit 1** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P591.01 | W1) | BL28 | W1) | 1100 | 1101 | 1102 | 1103 |
| P69.00 | 1673 | BL07 | | | | | |
| P69.01 | 1673 | BL07 | | | | | |

| **24 = I setp. mem. Bit 2** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P591.02 | W1) | BL28 | W1) | 1100 | 1101 | 1102 | 1103 |
| P69.00 | 1673 | BL07 | | | | | |
| P69.01 | 1673 | BL07 | | | | | |

| **25 = I setp. mem. Bit 3** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P591.03 | W1) | BL28 | W1) | 1100 | 1101 | 1102 | 1103 |
| P69.00 | 1673 | BL07 | | | | | |
| P69.01 | 1673 | BL07 | | | | | |

| **26 = I param. set Bit 0** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P711.00 | W1) | BL28 | W1) | 1100 | 1101 | 1102 | 1103 |
| P70 | 1129 | BL07 | | | | | |

| **27 = I param. set Bit 1** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | **Opt. dig. inputs** | | | |
| | | | | **1** | **2** | **3** | **4** |
| P711.01 | W1) | BL28 | W1) | 1100 | 1101 | 1102 | 1103 |
| P70 | 1129 | BL07 | | | | | |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | |
|---|---|---|---|---|---|---|---|
| 28 = I param. set Bit 2 | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P711.02 | W1) | BL28 | W1) | 1100 | 1101 | 1102 | 1103 |
| P70 | 1129 | BL07 | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 29 = I param. set Bit 3 | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P711.03 | W1) | BL28 | W1) | 1100 | 1101 | 1102 | 1103 |
| P70 | 1129 | BL07 | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 30 = I param. set Bit 4 | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P711.04 | W1) | BL28 | W1) | 1100 | 1101 | 1102 | 1103 |
| P70 | 1129 | BL07 | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 31 = IN ready f. operat. | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | |
| P50.03 | W2) | BL03 | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 32 = IN not alarm ext. | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | |
| P49 | W2) | BL07 | W2) | 1657 | 1659 | 1581 | 1583 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 33 = IN not fault ext. | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | |
| P48 | W2) | BL07 | W2) | 1657 | 1659 | 1581 | 1583 |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|
| 34 = IN fault reset | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P50.07 | W2) | BL03 | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 35 = IN $f_{min}$ select | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P66 | W2) | BL14 | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 36 = IN direct. rotat. | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P67 | W2) | BL15 | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 37 = IN not volt. disc. | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | |
| P50.01 | W2) | BL03 | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 38 = IN not fast stop | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | |
| P50.02 | W2) | BL03 | W2) | 1656 | 1658 | 1580 | 1582 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|---|
| **39 = IN RFG parking** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P605 | W2) | BL16 | | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **40 = IN RFG up stop** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P50.05 | W2) | BL03 | | W2) | 1657 | 1659 | 1581 | 1583 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **41 = IN motp. fast stop** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P191 | W2) | BL14 | | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **42 = IN motp. slower** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P192 | W2) | BL14 | | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **43 = IN WLM sensit. up** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P1207 | W2) | BL22 | | W2) | 1656 | 1658 | 1580 | 1582 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|---|
| 44 = IN WLM sensit. down | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P1208 | W2) | BL22 | | W2) | 1656 | 1658 | 1580 | 1582 |

| 45 = IN WLM sens.StrtStp | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P1212 | W2) | BL22 | | W2) | 1656 | 1658 | 1580 | 1582 |

| 46= IN inhib. touch mess | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P1205 | W2) | BL22 | | W2) | 1656 | 1658 | 1580 | 1582 |

| 47= IN inhib. load limit | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P1219 | W2) | BL23 | | W2) | 1656 | 1658 | 1580 | 1582 |

| 51 = IT ready f. operat. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | | |
| P50.03 | W2) | BL03 | | W2) | 1656 | 1658 | 1580 | 1582 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|---|
| **52 = IT not alarm ext.** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | | |
| P49 | W2) | BL07 | | W2) | 1657 | 1659 | 1581 | 1583 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **53 = IT not fault ext.** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | | |
| P48 | W2) | BL07 | | W2) | 1657 | 1659 | 1581 | 1583 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **54 = IT fault reset** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P50.07 | W2) | BL03 | | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **55 = IT $f_{min}$ select.** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P66 | W2) | BL14 | | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **56 = IT direct. rotat.** | | | | | | | | |
| | | | | | Opt. dig. inputs | | | |
| | | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P67 | W2) | BL15 | | W2) | 1656 | 1658 | 1580 | 1582 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|---|
| **57 = IT not volt. disc.** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | | |
| P50.01 | W2) | BL03 | | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **58 = IT not fast stop** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1638 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 1 | BL26 | | | | | | |
| P50.02 | W2) | BL03 | | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **59 = IT RFG parking** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P605 | W2) | BL16 | | W2) | 1656 | 1658 | 1580 | 1582 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **60 = IT RFG up stop** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P50.05 | W2) | BL03 | | W2) | 1657 | 1659 | 1581 | 1583 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **61 = IT motp. faster** | | | | | | | | |
| | | | | | **Opt. dig. inputs** | | | |
| | | | | | **1** | **2** | **3** | **4** |
| P584.xx | W1) | BL26 | | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | | |
| P191 | W2) | BL14 | | W2) | 1656 | 1658 | 1580 | 1582 |

| Param. | P-value | Fct.plan | Variable for digital inputs | | | | |
|---|---|---|---|---|---|---|---|
| 62 = IT motp. slower | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P192 | W2) | BL14 | W2) | 1656 | 1658 | 1580 | 1582 |

| 63 = IT WLM sensit. up | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P1207 | W2) | BL22 | W2) | 1656 | 1658 | 1580 | 1582 |

| 64 = IT WLM sensit. down | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P1208 | W2) | BL22 | W2) | 1656 | 1658 | 1580 | 1582 |

| 65 = IT WLM sens. StrtStp | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P1212 | W2) | BL22 | W2) | 1656 | 1658 | 1580 | 1582 |

| 66= IT inhib. touch mess | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P1205 | W2) | BL22 | W2) | 1656 | 1658 | 1580 | 1582 |

| Param. | P-value | Fct.plan | | Variable for digital inputs | | | |
|---|---|---|---|---|---|---|---|
| 67= IT inhib. load limit | | | | | | | |
| | | | | Opt. dig. inputs | | | |
| | | | | 1 | 2 | 3 | 4 |
| P584.xx | W1) | BL26 | xx | 08 | 09 | 10 | 11 |
| P585.xx | 1670 | BL26 | W1) | 1100 | 1101 | 1102 | 1103 |
| P586.xx | 0 | BL26 | | | | | |
| P1219 | W2) | BL23 | W2) | 1656 | 1658 | 1580 | 1582 |

## P0875 ... P0877 digital outputs

| Param. | P-value | Fct.plan | | Variable for digital outputs | | |
|---|---|---|---|---|---|---|
| 70 = O no fuction | | | | | | |
| | | | | Dig. output 1 | Dig. output 2 | Dig. output 3 |
| P) | 0 | BL08 | | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 71 = O redy to switch on | | | | | | |
| | | | | Dig. output 1 | Dig. output 2 | Dig. output 3 |
| P1) | 1730 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 72 = O ST rady switchon | | | | | | |
| | | | | Dig. output 1 | Dig. output 2 | Dig. output 3 |
| P1) | 1572 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 73 = O redy f. operating | | | | | | |
| | | | | Dig. output 1 | Dig. output 2 | Dig. output 3 |
| P1) | 1731 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 74 = O ST ready f. operat. | | | | | | |
| | | | | Dig. output 1 | Dig. output 2 | Dig. output 3 |
| P1) | 1573 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 75 = O operating | | | | | | |
| | | | | Dig. output 1 | Dig. output 2 | Dig. output 3 |
| P1) | 1732 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| Param. | P-value | Fct.plan | Variable for digital outputs | | | |
|---|---|---|---|---|---|---|
| **76 = O not fault** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P584.xx | 1733 | BL26 | | | | |
| P585.xx | 1701 | BL26 | xx | 00 | 01 | 02 |
| P586.xx | 0 | BL26 | | | | |
| P460 | W1) | BL08 | W1) | 1611 | - | - |
| P462 | W2) | BL08 | W2) | - | 1613 | - |
| P464 | W3) | BL08 | W3) | - | - | 1615 |
| P) | 1 | BL08 | P) | P471 | P473 | P475 |

| **77 = O switch on inhibit** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1736 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| **78 = O not alarm** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P584.xx | 1737 | BL26 | | | | |
| P585.xx | 1701 | BL26 | xx | 00 | 01 | 02 |
| P586.xx | 0 | BL26 | | | | |
| P460 | W1) | BL08 | W1) | 1611 | - | - |
| P462 | W2) | BL08 | W2) | - | 1613 | - |
| P464 | W3) | BL08 | W3) | - | - | 1615 |
| P) | 1 | BL08 | P) | P471 | P473 | P475 |

| **79 = O motor rotating 1** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P754.00 | 1660 | BL42 | | | | |
| P754.01 | 1517 | BL42 | | | | |
| P754.02 | 1884 | BL42 | | | | |
| P754.03 | 1730 | BL42 | | | | |
| P755 | 2 | BL42 | | | | |
| P1) | 1576 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| Param. | P-value | Fct.plan | Variable for digital outputs | | | |
|---|---|---|---|---|---|---|
| **80 = O motor rotating 2** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P758.00 | 1937 | BL42 | | | | |
| P758.01 | 1981 | BL42 | | | | |
| P758.02 | 1861 | BL42 | | | | |
| P758.03 | 1519 | BL42 | | | | |
| P758.04 | 1660 | BL42 | | | | |
| P1) | 1578 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **81 = O act. direct. right** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P584.xx | 1782 | BL26 | | | | |
| P585.xx | 1701 | BL26 | xx | 00 | 01 | 02 |
| P586.xx | 0 | BL26 | | | | |
| P460 | W1) | BL08 | W1) | 1611 | - | - |
| P462 | W2) | BL08 | W2) | - | 1613 | - |
| P464 | W3) | BL08 | W3) | - | - | 1615 |
| P) | 1 | BL08 | P) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **82 = O current limitting** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1678 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **83 = O not mot. alarmtemp.** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P584.xx | 1707 | BL26 | | | | |
| P585.xx | 1701 | BL26 | xx | 00 | 01 | 02 |
| P586.xx | 0 | BL26 | | | | |
| P460 | W1) | BL08 | W1) | 1611 | - | - |
| P462 | W2) | BL08 | W2) | - | 1613 | - |
| P464 | W3) | BL08 | W3) | - | - | 1615 |
| P) | 1 | BL08 | P) | P471 | P473 | P475 |

| **Param.** | **P-value** | **Fct.plan** | | **Variable for digital outputs** | | | |
|---|---|---|---|---|---|---|---|
| **84 = O not mot. overtemp.** | | | | | | | |
| | | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P584.xx | 1708 | BL26 | | | | | |
| P585.xx | 1701 | BL26 | | xx | 00 | 01 | 02 |
| P586.xx | 0 | BL26 | | | | | |
| P460 | W1) | BL08 | | W1) | 1611 | - | - |
| P462 | W2) | BL08 | | W2) | - | 1613 | - |
| P464 | W3) | BL08 | | W3) | - | - | 1615 |
| P) | 1 | BL08 | | P) | P471 | P473 | P475 |

| **85 = O RFG up** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1704 | BL08 | | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | | P2) | P471 | P473 | P475 |

| **86 = O RFG down** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1705 | BL08 | | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | | P2) | P471 | P473 | P475 |

| **87 = O RFG reached** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1706 | BL08 | | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | | P2) | P471 | P473 | P475 |

| **88 = O setpoint reached** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1574 | BL08 | | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | | P2) | P471 | P473 | P475 |

| **89 = O setp. in tolerance** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1575 | BL08 | | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | | P2) | P471 | P473 | P475 |

| **90 = O $f_{min}$ limitting** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1675 | BL08 | | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | | P2) | P471 | P473 | P475 |

| Param. | P-value | Fct.plan | | Variable for digital outputs | | |
|---|---|---|---|---|---|---|
| **91 = O $f_{max}$ limitting** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1674 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **92 = O selection TEST** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1670 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **93 = O ctrl. main contact** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P584.06 | 1660 | BL26 | | | | |
| P585.06 | 1732 | BL26 | | | | |
| P586.06 | 1 | BL26 | | | | |
| P584.xx | 1652 | BL26 | | | | |
| P585.xx | 1730 | BL26 | xx | 00 | 01 | 02 |
| P586.xx | 0 | BL26 | | | | |
| P460 | W1) | BL08 | W1) | 1610 | - | - |
| P462 | W2) | BL08 | W2) | - | 1612 | - |
| P464 | W3) | BL08 | W3) | - | - | 1614 |
| P) | 1 | BL08 | P) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **94 = O $f_{actual}$ <= $f_{min}$** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P402.00 | 1937 | BL29 | | | | |
| P403.00 | 0 | BL29 | | | | |
| P396.00 | 1981 | BL29 | | | | |
| P397.00 | 0 | BL29 | | 00 | 01 | 02 |
| P1) | 1748 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **95 = O WLM touch message** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1144 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **96 = O WLM load limit** | | | | | | |
| | | | | **Dig. output 1** | **Dig. output 2** | **Dig. output 3** |
| P1) | 1149 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

| Param. | P-value | Fct.plan | | Variable for digital outputs | | |
|---|---|---|---|---|---|---|
| 97 = O mech. Brake open | | | | | | |
| | | | | Dig. output 1 | Dig. output 2 | Dig. output 3 |
| P1) | 1697 | BL08 | P1) | P460 | P462 | P464 |
| P2) | 1 | BL08 | P2) | P471 | P473 | P475 |

## P0881 Relay output,

## P0886 ... P0889 optional relay outputs (RZP01.1-T1)

| Param. | P-value | Fct. Plan | | Variable for relay outputs | | | | |
|---|---|---|---|---|---|---|---|---|
| 70 = O no function | | | | | | | | |
| | | | | Relay | Opt. relay 1 | Opt. relay 2 | Opt. relay 3 | Opt. relay 4 |
| P466 | W1) | BL08 | W1) | 1700 | - | - | - | - |
| P491.xx | 1700 | BL39 | xx | - | 00 | 01 | 02 | 03 |

| 71 = O ready to switch on | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Relay | Opt. relay 1 | Opt. relay 2 | Opt. relay 3 | Opt. relay 4 |
| P466 | W1) | BL08 | W1) | 1730 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1730 | 1730 | 1730 | 1730 |

| 72 = O ST readdy switchon | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Relay | Opt. relay 1 | Opt. relay 2 | Opt. relay 3 | Opt. relay 4 |
| P466 | W1) | BL08 | W1) | 1572 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1572 | 1572 | 1572 | 1572 |

| 73 = O ready f. operating | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Relay | Opt. relay 1 | Opt. relay 2 | Opt. relay 3 | Opt. relay 4 |
| P466 | W1) | BL08 | W1) | 1731 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1731 | 1731 | 1731 | 1731 |

| 74 = O ST ready f. operat | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Relay | Opt. relay 1 | Opt. relay 2 | Opt. relay 3 | Opt. relay 4 |
| P466 | W1) | BL08 | W1) | 1573 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1573 | 1573 | 1573 | 1573 |

| Param. | P-value | Fct. Plan | | Variable for relay outputs | | | | |
|---|---|---|---|---|---|---|---|---|
| **75 = O operating** | | | | | | | | |
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1732 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1732 | 1732 | 1732 | 1732 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **76 = O not fault** | | | | | | | | |
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P584.xx | 1733 | BL26 | | | | | | |
| P585.xx | 1701 | BL26 | xx | 05 | 12 | 13 | 14 | 15 |
| P586.xx | 0 | BL26 | | | | | | |
| P466 | W1) | BL08 | W1) | 1651 | - | - | - | - |
| P491.yy | W2) | BL39 | yy | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1585 | 1587 | 1589 | 1591 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **77 = O switch on inhibit** | | | | | | | | |
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1736 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1736 | 1736 | 1736 | 1736 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **78 = O not alarm** | | | | | | | | |
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P584.xx | 1737 | BL26 | | | | | | |
| P585.xx | 1701 | BL26 | xx | 05 | 12 | 13 | 14 | 15 |
| P586.xx | 0 | BL26 | | | | | | |
| P466 | W1) | BL08 | W1) | 1651 | - | - | - | - |
| P491.yy | W2) | BL39 | yy | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1585 | 1587 | 1589 | 1591 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **79 = O motor rotating 1** | | | | | | | | |
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P754.00 | 1660 | BL42 | | | | | | |
| P754.01 | 1860 | BL42 | | | | | | |
| P754.02 | 1884 | BL42 | | | | | | |
| P754.03 | 1730 | BL42 | | | | | | |
| P755 | 2 | BL42 | | | | | | |
| P466 | W1) | BL08 | W1) | 1576 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1576 | 1576 | 1576 | 1576 |

| Param. | P-value | Fct. Plan | Variable for relay outputs | | | | | |
|---|---|---|---|---|---|---|---|---|
| **80 = O motor rotating 2** | | | | | | | | |
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P758.00 | 1937 | BL42 | | | | | | |
| P758.01 | 1981 | BL42 | | | | | | |
| P758.02 | 1519 | BL42 | | | | | | |
| P758.03 | 1884 | BL42 | | | | | | |
| P758.04 | 1660 | BL42 | | | | | | |
| P466 | W1) | BL08 | W1) | 1678 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1678 | 1678 | 1678 | 1678 |

| **81 = O act. direct. right** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P584.xx | 1782 | BL26 | | | | | | |
| P585.xx | 1701 | BL26 | xx | 05 | 12 | 13 | 14 | 15 |
| P586.xx | 0 | BL26 | | | | | | |
| P466 | W1) | BL08 | W1) | 1651 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1585 | 1587 | 1589 | 1591 |

| **82 = O current limitting** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1678 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1678 | 1678 | 1678 | 1678 |

| **83 = O not mot. alarmtemp.** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P584.xx | 1707 | BL26 | | | | | | |
| P585.xx | 1701 | BL26 | xx | 05 | 12 | 13 | 14 | 15 |
| P586.xx | 0 | BL26 | | | | | | |
| P466 | W1) | BL08 | W1) | 1651 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1585 | 1587 | 1589 | 1591 |

| Param. | P-value | Fct. Plan | Variable for relay outputs | | | | | |
|---|---|---|---|---|---|---|---|---|
| **84 = O not mot. overtemp.** | | | | | | | | |
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P584.xx | 1708 | BL26 | | | | | | |
| P585.xx | 1701 | BL26 | xx | 05 | 12 | 13 | 14 | 15 |
| P586.xx | 0 | BL26 | | | | | | |
| P466 | W1) | BL08 | W1) | 1651 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1585 | 1587 | 1589 | 1591 |

| **85 = O RFG up** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1704 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1704 | 1704 | 1704 | 1704 |

| **86 = O RFG down** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1705 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1705 | 1705 | 1705 | 1705 |

| **87 = O RFG reached** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1706 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1706 | 1706 | 1706 | 1706 |

| **88 = O setpoint reached** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1574 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1574 | 1574 | 1574 | 1574 |

| **89 = O setp. in tolerance** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1575 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1575 | 1575 | 1575 | 1575 |

| Param. | P-value | Fct. Plan | | Variable for relay outputs | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **90 = O $f_{min}$ limitting** | | | | | | | | | |
| | | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | | W1) | 1675 | - | - | - | - |
| P491.xx | W2) | BL39 | | xx | - | 00 | 01 | 02 | 03 |
| | | | | W2) | - | 1675 | 1675 | 1675 | 1675 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **91 = O $f_{max}$ limitting** | | | | | | | | | |
| | | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | | W1) | 1674 | - | - | - | - |
| P491.xx | W2) | BL39 | | xx | - | 00 | 01 | 02 | 03 |
| | | | | W2) | - | 1674 | 1674 | 1674 | 1674 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **92 = O selection TEST** | | | | | | | | | |
| | | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | | W1) | 1670 | - | - | - | - |
| P491.xx | W2) | BL39 | | xx | - | 00 | 01 | 02 | 03 |
| | | | | W2) | - | 1670 | 1670 | 1670 | 1670 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **93 = O ctrl. main contact** | | | | | | | | | |
| | | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P584.06 | 1660 | BL26 | | | | | | | |
| P585.06 | 1732 | BL26 | | | | | | | |
| P586.06 | 1 | BL26 | | | | | | | |
| P584.xx | 1652 | BL26 | | | | | | | |
| P585.xx | 1730 | BL26 | | xx | 05 | 12 | 13 | 14 | 15 |
| P586.xx | 0 | BL26 | | | | | | | |
| P466 | W1) | BL08 | | W1) | 1650 | - | - | - | - |
| P491.xx | W2) | BL39 | | xx | - | 00 | 01 | 02 | 03 |
| | | | | W2) | - | 1584 | 1586 | 1588 | 1590 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **94 = O $f_{actual}$ <= $f_{min}$** | | | | | | | | | |
| | | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P402.00 | 1937 | BL29 | | | | | | | |
| P403.00 | 0 | BL29 | | | | | | | |
| P396.00 | 1981 | BL29 | | | | | | | |
| P397.00 | 0 | BL29 | | | | | | | |
| P466 | 1748 | BL08 | | | | | | | |
| P491.xx | 1748 | BL39 | | xx | - | 00 | 01 | 02 | 03 |

| Param. | P-value | Fct. Plan | Variable for relay outputs | | | | | |
|---|---|---|---|---|---|---|---|---|
| **95 = O WLM touch message** | | | | | | | | |
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1144 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1144 | 1144 | 1144 | 1144 |

| **96 = O WLM load limit** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1149 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1149 | 1149 | 1149 | 1149 |

| **97 = O mech. brake open** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | **Relay** | **Opt. relay 1** | **Opt. relay 2** | **Opt. relay 3** | **Opt. relay 4** |
| P466 | W1) | BL08 | W1) | 1697 | - | - | - | - |
| P491.xx | W2) | BL39 | xx | - | 00 | 01 | 02 | 03 |
| | | | W2) | - | 1697 | 1697 | 1697 | 1697 |

## P0890 reference-, analog output

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **0 = +10 V reference outp.** | | |
| P0436 | 0 | BL13 |
| **1 = -10 V reference outp.** | | |
| P0436 | 1 | BL13 |
| **2 = fact out.frequenc** | | |
| P0220.00 | 1981 | BL33 |
| P0410 | 1808 | BL13 |
| P0434 | 1875 | BL13 |
| P0436 | 2 | BL13 |
| **3 = Iact outp.current** | | |
| P0220.00 | 1884 | BL33 |
| P0410 | 1808 | BL13 |
| P0434 | 1875 | BL13 |
| P0436 | 2 | BL13 |
| **4 = Isq** | | |
| P0220.00 | 1885 | BL33 |
| P0410 | 1808 | BL13 |
| P0434 | 1875 | BL13 |
| P0436 | 2 | BL13 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **5 = Uact outp.voltage** | | |
| P0220.00 | 1948 | BL33 |
| P0410 | 1808 | BL13 |
| P0434 | 1875 | BL13 |
| P0436 | 2 | BL13 |
| **6 = Pact outp.power** | | |
| P0410 | 1929 | BL13 |
| P0434 | 1875 | BL13 |
| P0436 | 2 | BL13 |
| **7 = Pactiv** | | |
| P0410 | 1930 | BL13 |
| P0434 | 1875 | BL13 |
| P0436 | 2 | BL13 |

## P0891 option analog output 1

| Parameter | Par. Value | Fct.plan |
|---|---|---|
| **0 = no function** | | |
| P491.04 | 1800 | BL39 |
| **1 = fact outp. frequenc** | | |
| P220.01 | 1981 | BL33 |
| P740.00 | 1809 | BL13 |
| P491.04 | 1120 | BL39 |
| **2 = Iact outp. current** | | |
| P220.01 | 1884 | BL33 |
| P740.00 | 1809 | BL13 |
| P491.04 | 1120 | BL39 |
| **3 = Isq** | | |
| P220.01 | 1885 | BL33 |
| P740.00 | 1809 | BL13 |
| P491.04 | 1120 | BL39 |
| **4 = Uact outp. voltage** | | |
| P220.01 | 1948 | BL33 |
| P740.00 | 1809 | BL13 |
| P491.04 | 1120 | BL39 |
| **5 = Pact outp. power** | | |
| P740.00 | 1929 | BL13 |
| P491.04 | 1120 | BL39 |
| **6 = Pactiv** | | |
| P740.00 | 1930 | BL13 |
| P491.04 | 1120 | BL39 |

## P0892 option analog output 2

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **0 = no function** | | |
| P491.05 | 1800 | BL39 |
| **1 = fact outp. frequenc** | | |
| P220.02 | 1981 | BL33 |
| P740.01 | 1886 | BL13 |
| P491.05 | 1121 | BL39 |
| **2 = Iact outp. current** | | |
| P220.02 | 1884 | BL33 |
| P740.01 | 1886 | BL13 |
| P491.05 | 1121 | BL39 |
| **3 = Isq** | | |
| P220.02 | 1885 | BL33 |
| P740.01 | 1886 | BL13 |
| P491.05 | 1121 | BL39 |
| **4 = Uact outp. voltage** | | |
| P220.02 | 1948 | BL33 |
| P740.01 | 1886 | BL13 |
| P491.05 | 1121 | BL39 |
| **5 = Pact outp. power** | | |
| P740.01 | 1929 | BL13 |
| P491.05 | 1121 | BL39 |
| **6 = Pactiv** | | |
| P740.01 | 1930 | BL13 |
| P491.05 | 1121 | BL39 |

## P0896 WLM touch sensitiv.

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **1 = fix fixvalue(s)** | | |
| P1204 | 1 | BL22 |
| **2 = analog inp 0 ... ±10 V** | | |
| P201 | 0 | BL09 |
| P1202 | 1801 | BL22 |
| P1204 | 0 | BL22 |
| **3 = analog input 0 ... +20 mA** | | |
| P201 | 2 | BL09 |
| P1202 | 1801 | BL22 |
| P1204 | 0 | BL22 |
| **4 = analog input +4 ... +20 mA** | | |
| P201 | 1 | BL09 |
| P570 | 1700 | BL09 |
| P1202 | 1801 | BL22 |
| P1204 | 0 | BL22 |
| **5 = opt.an.inp. 0 ... .±10 V** | | |
| P735.01 | 0 | BL10 |
| P217 | 1806 | BL11 |
| P736 | 0 | BL11 |
| P1202 | 1802 | BL22 |
| P1204 | 0 | BL22 |
| **6 = opt.an.inp. 0 ... +20 V** | | |
| P735.01 | 1 | BL10 |
| P217 | 1806 | BL11 |
| P736 | 0 | BL11 |
| P1202 | 1802 | BL22 |
| P1204 | 0 | BL22 |
| **7 = opt.an.inp. +4 ... +20 V** | | |
| P735.01 | 1 | BL10 |
| P217 | 1806 | BL11 |
| P736 | 1 | BL11 |
| P753 | 1700 | BL11 |
| P1202 | 1802 | BL22 |
| P1204 | 0 | BL22 |
| **8 = PC** | | |
| P1202 | 2034 | BL22 |
| P1204 | 0 | BL22 |

## P0897 WLM load limit

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **1 = fix fixvalue(s)** | | |
| P1217 | 1 | BL22 |
| **2 = analog inp 0 ... ±10 V** | | |
| P201 | 0 | BL09 |
| P1215 | 1801 | BL22 |
| P1217 | 0 | BL22 |
| **3 = analog input 0 ... +20 mA** | | |
| P201 | 2 | BL09 |
| P1215 | 1801 | BL22 |
| P1217 | 0 | BL22 |
| **4 = analog input +4 ... +20 mA** | | |
| P201 | 1 | BL09 |
| P570 | 1700 | BL09 |
| P1215 | 1801 | BL22 |
| P1217 | 0 | BL22 |
| **5 = opt.an.inp. 0 ... .±10 V** | | |
| P735.01 | 0 | BL10 |
| P217 | 1806 | BL11 |
| P736 | 0 | BL10 |
| P1215 | 1802 | BL22 |
| P1217 | 0 | BL22 |
| **6 = opt.an.inp. 0 ... +20 V** | | |
| P735.01 | 1 | BL10 |
| P217 | 1806 | BL11 |
| P736 | 0 | BL11 |
| P1215 | 1802 | BL22 |
| P1217 | 0 | BL22 |
| **7 = opt.an.inp. +4 ... +20 V** | | |
| P735.01 | 1 | BL10 |
| P217 | 1806 | BL11 |
| P736 | 1 | BL11 |
| P753 | 1700 | BL11 |
| P1215 | 1802 | BL21 |
| P1217 | 0 | BL21 |
| **8 = PC** | | |
| P1215 | 2035 | BL22 |
| P1217 | 0 | BL22 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **9 = Bus SI1** | | |
| P1202 | 1904 | BL22 |
| P1204 | 0 | BL22 |
| P470.04 | 1142 | BL22 |
| **10 = Bus SI2** | | |
| P1202 | 1914 | BL22 |
| P1204 | 0 | BL22 |
| P480.04 | 1142 | BL38 |
| **11 = Bus SI4** | | |
| P1202 | 1104 | BL22 |
| P1204 | 0 | BL22 |
| P491.04 | 1142 | BL22 |
| **12 = analog input +2 ... +10 V** | | |
| P201 | 3 | BL09 |
| P570 | 1700 | BL09 |
| P1202 | 1801 | BL22 |
| P1204 | 0 | BL22 |
| **13 = Bus SI6** | | |
| P1202 | 1164 | BL22 |
| P1204 | 1700 | BL22 |
| P494.04 | 1142 | BL40 |

| Parameter | Par. value | Fct.plan |
|---|---|---|
| **9 = Bus SI1** | | |
| P1215 | 1905 | BL22 |
| P1217 | 0 | BL22 |
| P470.05 | 1147 | BL22 |
| **10 = Bus SI2** | | |
| P1215 | 1915 | BL22 |
| P1217 | 0 | BL22 |
| P480.05 | 1147 | BL38 |
| **11 = Bus SI4** | | |
| P1215 | 1105 | BL22 |
| P1217 | 0 | BL22 |
| P491.05 | 1147 | BL22 |
| **12 = analog input +2 ... +10 V** | | |
| P201 | 3 | BL09 |
| P570 | 1700 | BL09 |
| P1215 | 1801 | BL22 |
| P1217 | 0 | BL22 |
| **13 = Bus SI6** | | |
| P1215 | 1165 | BL22 |
| P1217 | 1700 | BL22 |
| P494.05 | 1147 | BL40 |

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Ansatie 6
SF-017 40 Vantaa

Telefon: +358 (0)9/84 91-11
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Mannesmann Rexroth S.A.
Division Rexroth Indramat
Parc des Barbanniers
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F-92632 Gennevilliers Cedex

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Telefax: +33 (0)147 94 69 41
Hotline: +33 (0)6 08 33 43 28

**France** ☒ SALES ☐ Service

Mannesmann Rexroth S.A.
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nakase@infovia.com.ar

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Divisão Rexroth Indramat
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[ Caixa Postal 377 ]
[ BR-09901-970 Diadema-SP ]
Telefon: +55 (0)11/745 90 60
+55 (0)11/745 90 70
Telefax: +55 (0)11/745 90 50
e-mail: awittwer@rexroth.com.br

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R. Dr.Humberto Pinheiro Vieira, 100
Distrito Industrial
BR - 89220-390 Joinville - SC
[ Caixa Postal 1273 ]
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e-mail: prochnow@zaz.com.br

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Canada L7M 1A8
Telefon: +1 905/335 55 11
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Rexroth Automation Co., Ltd.
Service Center Japan
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NAGOYA 465-0035, Japan
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+52 5 752 59 43
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P254

**Control parameter** to changeover switches

P210

**Value parameter** e.g. to enter percentage values, times, functions, normalization etc. The parameters in this documentation are always specified as three characters. When entering, the leading 0 must be used, P210 -> P0210. This is valid for value parameters and contol parameters.

P435.0

**Parameter with index**
The parameter number is located to the left of the point; The index to the right. The point is only a separator character for the parameter number and index and may not be considered as decimal point.

D1855

**Display parameter**
D Parameters can be connected into variable parameter sources as signal sources.

P217
D1805

**Variable parameter source:**
The required D parameter is entered as signal source in variable parameter sources. The standard factory setting D1700 and D1800 is not shown in the function charts.

HLG
Ausg.

Data in boxes with gray background are the **factory settings**. Switch settings are also shown in the factory setting. The factory setting can always be replaced by the customer-specific parameterization.

/ 18.1
Spg. U/f

**Process value** "Volt. V/Hz" with signal contiued on, e.g. Sheet 18, Field 1

\+
–

**Summing point**
If the sum is formed from a positive and negative value, then only the negative input is designated with a [-] at the summing point.

**Control signal** to change-over the motor parameter set

**Control signal** to change-over the setpoint memory

**Control signal** to toggle between NORMAL / TEST operation; signal generation of the controls, refer to Function chart Sheet 06.

**Analog / digital converter**

**Digital / analog converter**

≥1

**OR logic operatioon**

&

**AND logic operation**

\+
–

**Threshold value switch** (comparator)

**Absolute value generating element**

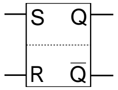
-1

**Inverting element**

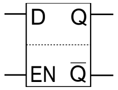
X

**Multiplier element**
Example: If, e.g. two percentage values (90% and 128% are multiplied, this results in: 0.9 x 1.28 = 1.152 => 115.2%.

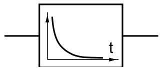
**Amplifier**



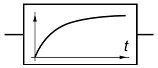

**R-S flipflop**



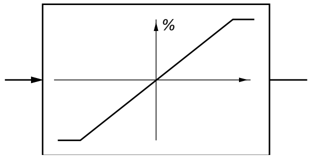

**D-latch**



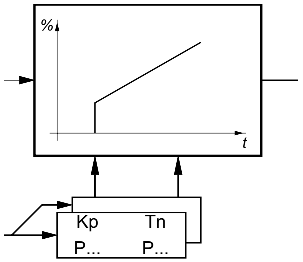

**Differential element**




**Filter element**




Two-sided (positive, negative) **limiter**




**PI controller** (proportional and integral control component is disabled and a pure P controller is obtained.
Kp = gain factor of the P controller
Tn = integral action time of the I controller

$t_A$: 1 ms / 8

**$t_A$ = sampling time**

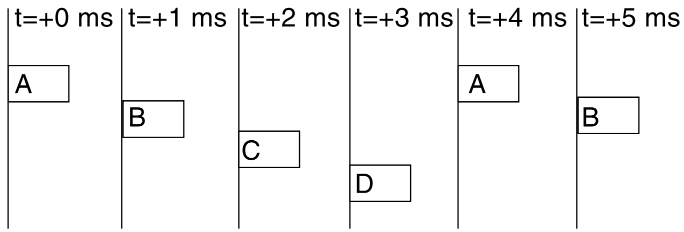
Processing sewquence in time sectors 1 ... n; i.B eighth pos.
time sector

The individual modules af the firmware are processed in 5 time sectors. 1ms, 5 ms, 10 ms, 50 ms and 100 ms. Each firmware module is numbered according to the processing sequence of its time sector.

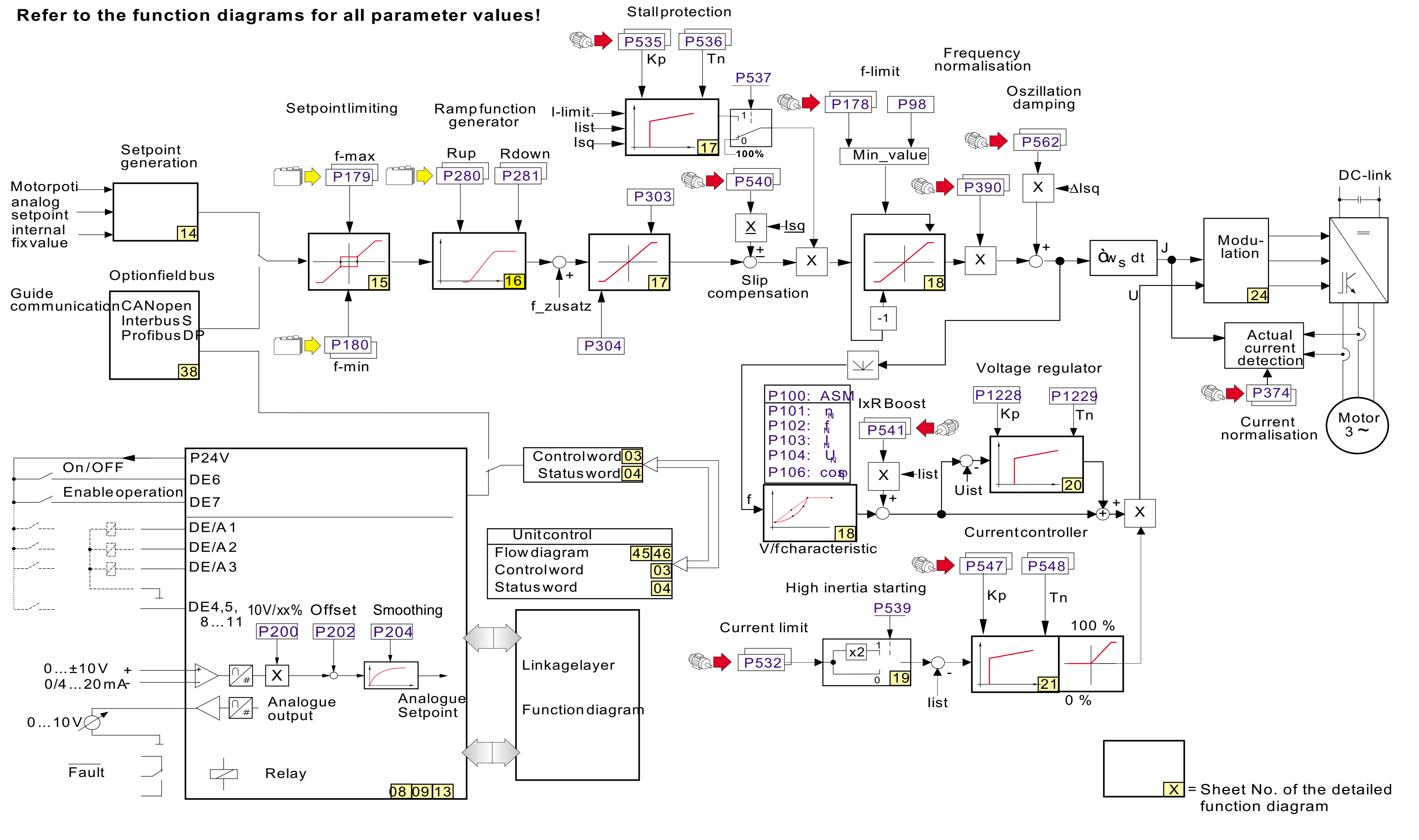
$t_A$: 1 ms / 10A

**A B C D**

The modules are processed, for the setting P0026 <= 8.0 kHz, in a 1 ms time sector
For P0026 > 8.0 kHz, these modules are processed every 4 ms.



**Refer to the function diagrams for all parameter values!**




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

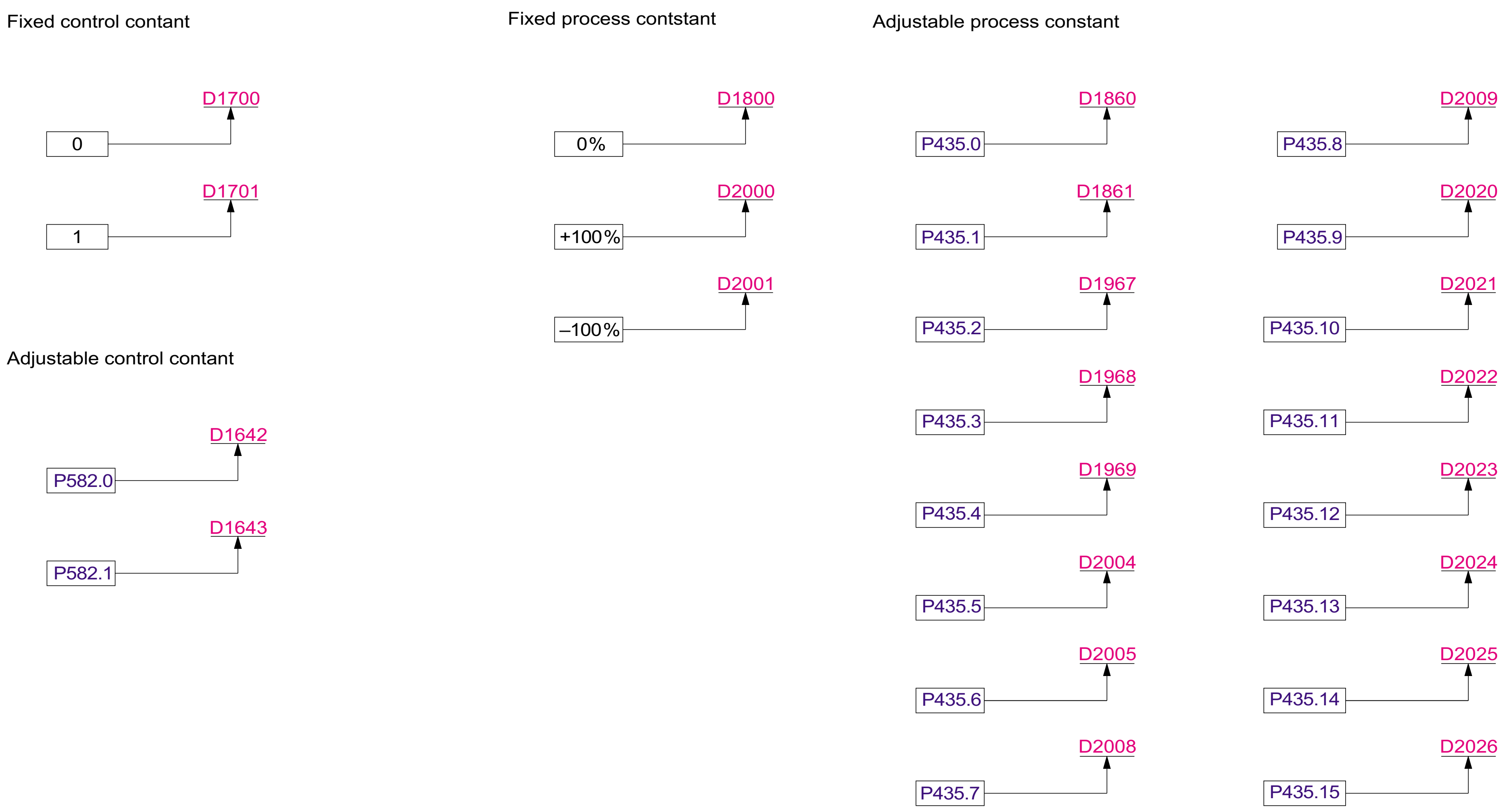
Function chart **REFU*drive 500* - RS51**

Rexroth Indramat

Datum: 2002-07-11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **01**




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
System constants

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **02**

## Control word generation

The drive is controlled using the control word. The control word comprises 16 bits. Bits 0 to 7 are defined according the VDI/VDE Directive 3689. Bits 8 to 15 can only be set via the serial interface, and each bit can be freely assigned a drive control function. The control word is formed by logically combining the control word KL [1)] and control word MS [1)]. The contol word MS can be entered from four sources which are selected using P0073.

**P0073, switch setting 0:**

Control word MS is formed by a mask, in which bits 1 to 15 are permanently assigned. Only bit 0 can be set to 1 (ON command) or 0 (OFF1 command) using the operator panel.

**P0073, switch setting 1:**

Control word MS is received from a variable parameter source. In the parameter source, only the process data of the serial interfaces can be used. This means, that control word MS is entered via the interface.

Bits 8 to 15 can also be set in this configuration via the serial interface and each bit can be freely assigned a drive control function. These become effective in the drive by further connecting parameters D1768 to D1775.

**P0073, switch setting 2:**

Control word MS is formed using a mask in which bits 0 to 15 are permanently assigned. The mask is assigned so that the drive is only controlled via the control word KL. Bits 0 to 7 of control word KL are permanently assigned control functions. To control the drive via the terminal strip, the D parameters of the digital inputs which are used must be connected to the variable parameter sources (P0050.x).

**P0073, switch setting 3:**

Control word MS is received from the service interface RS232. Process data word 1 is accepted as control word MS. Switch setting 3 is intended for control operation via REFUwin, which sends its control commands as PZD 1.

**Note**

To power-up the drive, in the „ready-to-power-up" operating status, bit 0 must change from 0 to 1. The fault acknowledgements (bit 7) is also only accepted for a signal change form 0 to 1.

## Assignment of the control word bits

Bits 0 to 7 of the cotrol word are in compliance with the functions defined in the VDI/VDE Directives 3689:

| | | | |
|---|---|---|---|
| Bit 0 | = | ON (signal edge L-> H) / OFF 1 | (L activ) |
| Bit 1 | = | OFF 2, power disconnect | (L activ) |
| Bit 2 | = | OFF 3, fast stop | (L activ) |
| Bit 3 | = | Operating enable | (H activ) |
| Bit 4 | = | RFG reset | (L activ) |
| Bit 5 | = | Ramp-up stop | (L activ) |
| Bit 6 | = | Setpoint enable | (H activ) |
| Bit 7 | = | Fault acknowledgement | (Flanke L-> H) |

Bits 8 to 15 can only be entered from the serial interface via the control word. The functions for these bits can be freely configured.

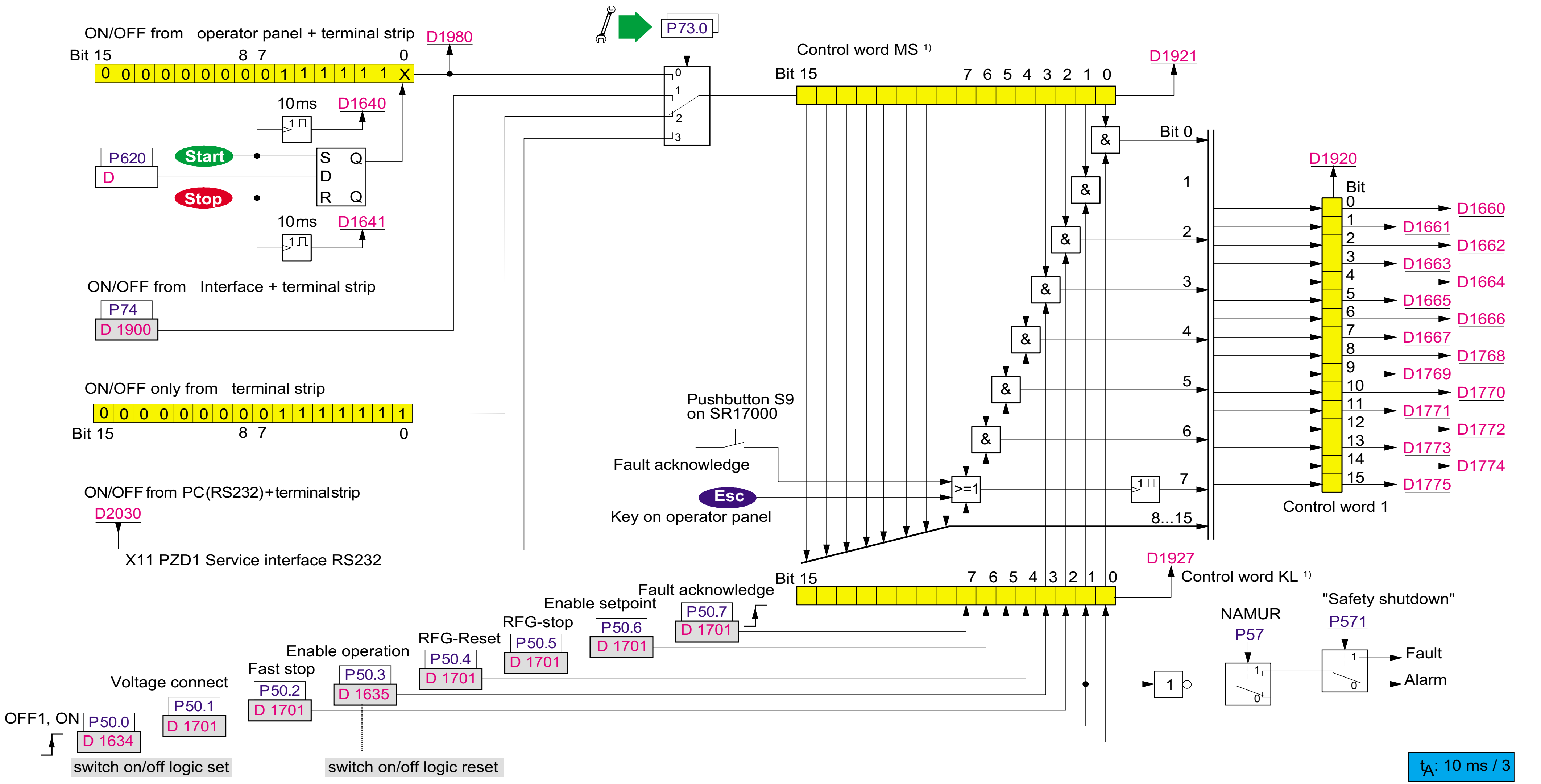
### Braking operation coast down:

P0043 „inhibit operation" defines the mode when the operating enable, control word bit 3 is withdrawn.
P0044 „inhibit drive" defines the mode for OFF 1 control word bit 0. P0044 has priority if bit o and 3 are simultaneously set to 0.

### Note

More detailed information regarding the control/status logic is provided in the control and status word flow diagram on function chart, sheets 45 and 46.

1) Control word KL: KL = Terminal strip
Control word MS: MS = Mask or interface




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Control word 1

Rexroth Indramat

Datum: 2002- 07- 11

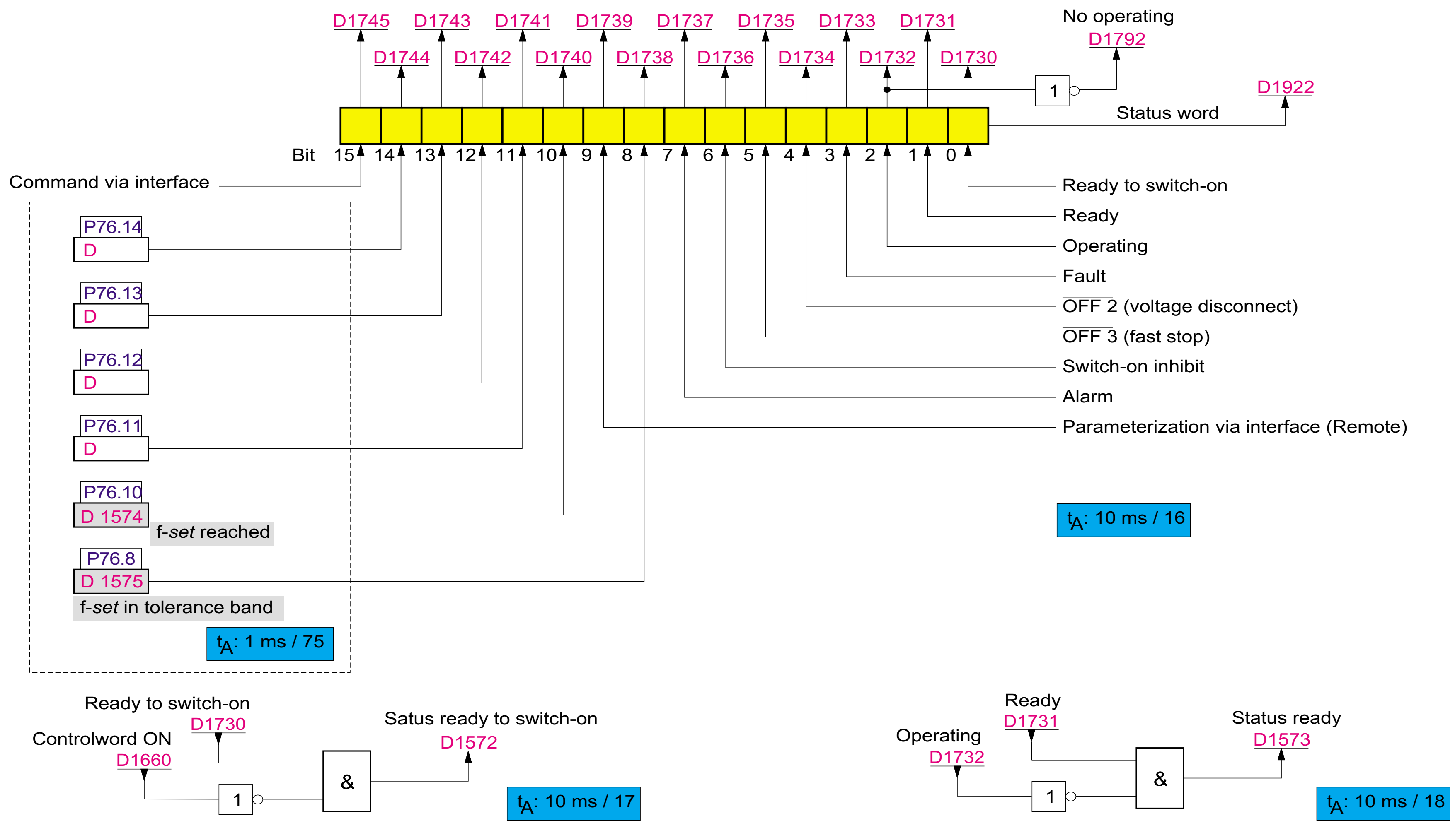
Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **03**

## Assignment of the status word bits

Bits 0 to 7 of the status word are in compliance with the functions defined in the VDI/VDE Directives 3689.

**Note**
More detailed information regarding the control/status logic is provided in the control and status word flow diagram on function chart, sheets 45 and 46.




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

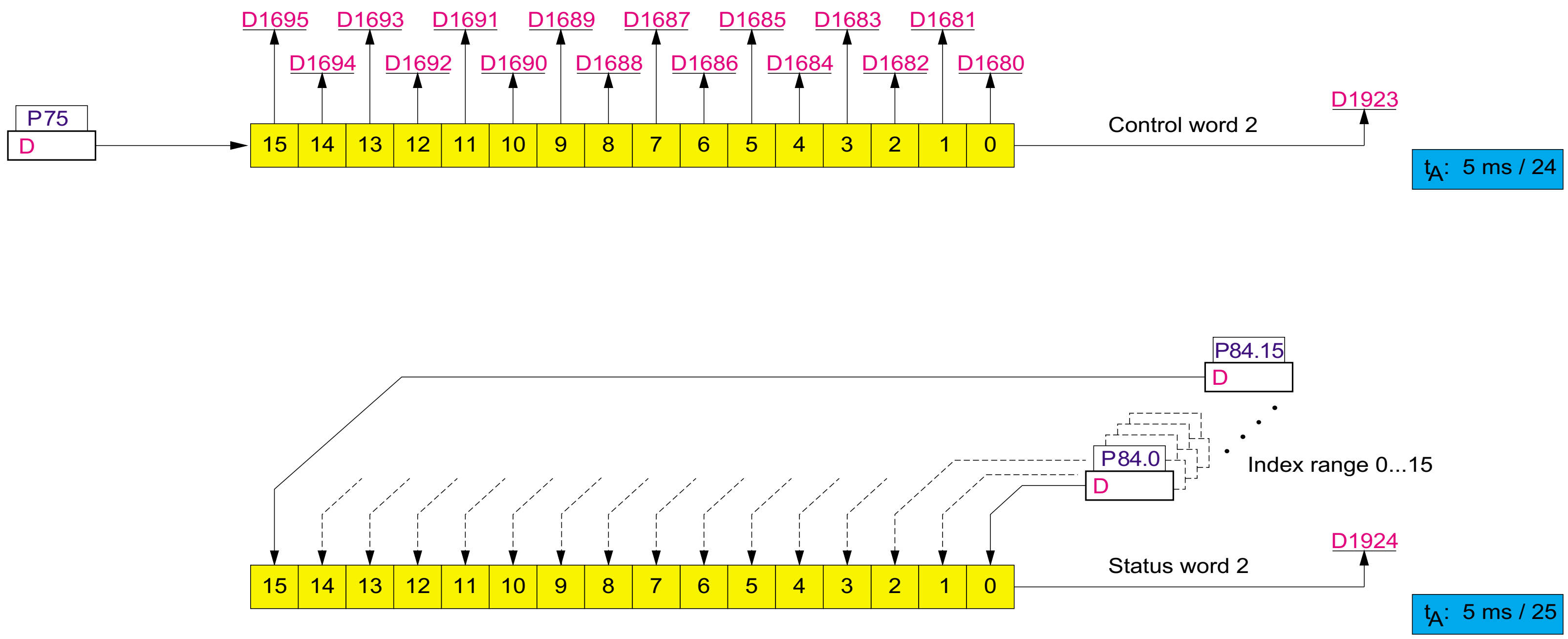
Function chart **REFU*drive 500* - RS51**
Status word 1

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **04**




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

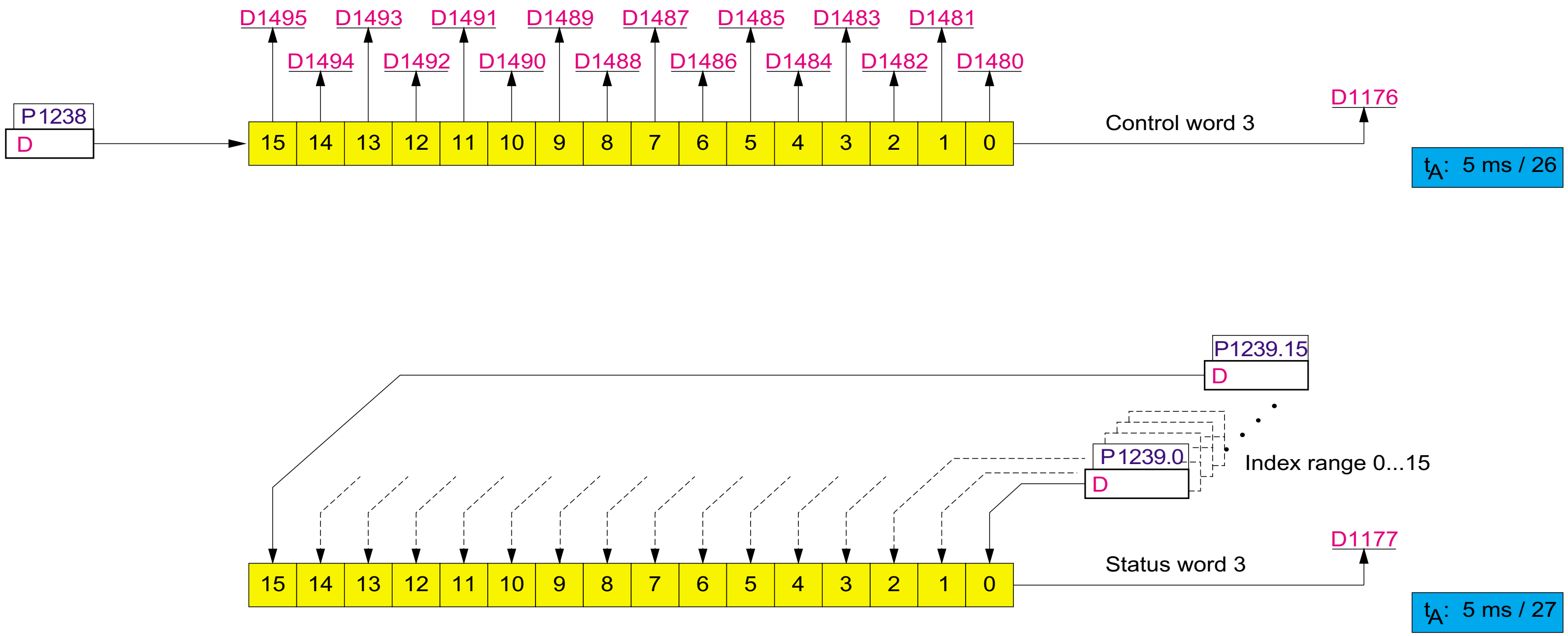
Function chart **REFU*drive 500* - RS51**
Control and status word 2

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **05**




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500*** **- RS51**
Control and status word 3

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **06**

## Changeover, NORMAL / TEST operation

You can toggle between the NORMAL / TEST operation at the operator panel by simultaneously pressing the ◁+ ▷ symbol keys, or using P0068. In order that you can change over using the operator panel, D1770 od D1701 must be connected to P0068 (factory setting, P0068 = D1700). the variable parameter source for the setpoint memory is simultaneously changed over when the operating mode is changed-over.

| | | | | | |
|---|---|---|---|---|---|
| Status after initialization: | P0068 | = | 1700 | -> | N O R M A L |
| | P0068 | = | 1701 | -> | TEST |

## Setpoint memory

The control signal „setpoint memory“ is formed using P0069. P0069.0 is selected in the factory setting. The coder output D1673 is connected to the variable parameter source P0069.0. This means that the control signal „setpoint memory“ can be parameterized from 0 ... 31. Correspondingly, index levels 0 ... 31 of the specified parameters are simultaneously selected using the „setpoint memory“ control signal.

## Motor parameter set changeover

For REFUdrive 500 drives, you can enter the data of two different motors. All of the motorspecific data in the drive are changed-over using the „motor parameter set“ control signal. The „motor parameter set“ control signal either has the value range 0 ... 31 and is set with P0070. The default value of P0070 is D1770 (a constant logical 0). This means that motor 0 is selected with the associated data.

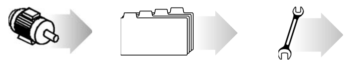
To select motor 1, set D1701 in P0070. You can also selection of motor 0 and 1 from a digital input. The coder can be used to select the motors.

The changeover of control signal „parameter set“ is inhibited with the operating enable. It is not possible to change over the parameter set during operation.

All motor model data are re-calculated as a result of the changeover.

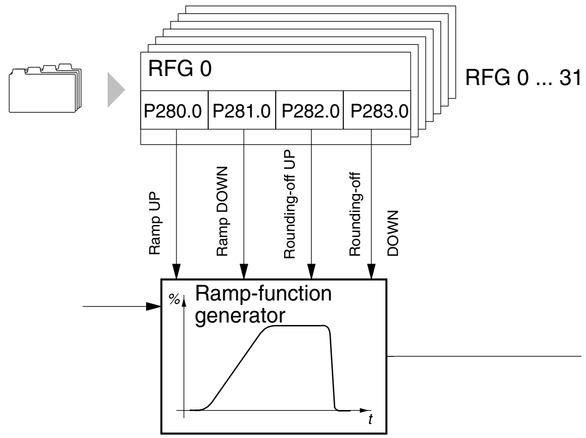
## Selecting index parameters via a control signal

Only the appropriate control signal symbols are used in the function charts.

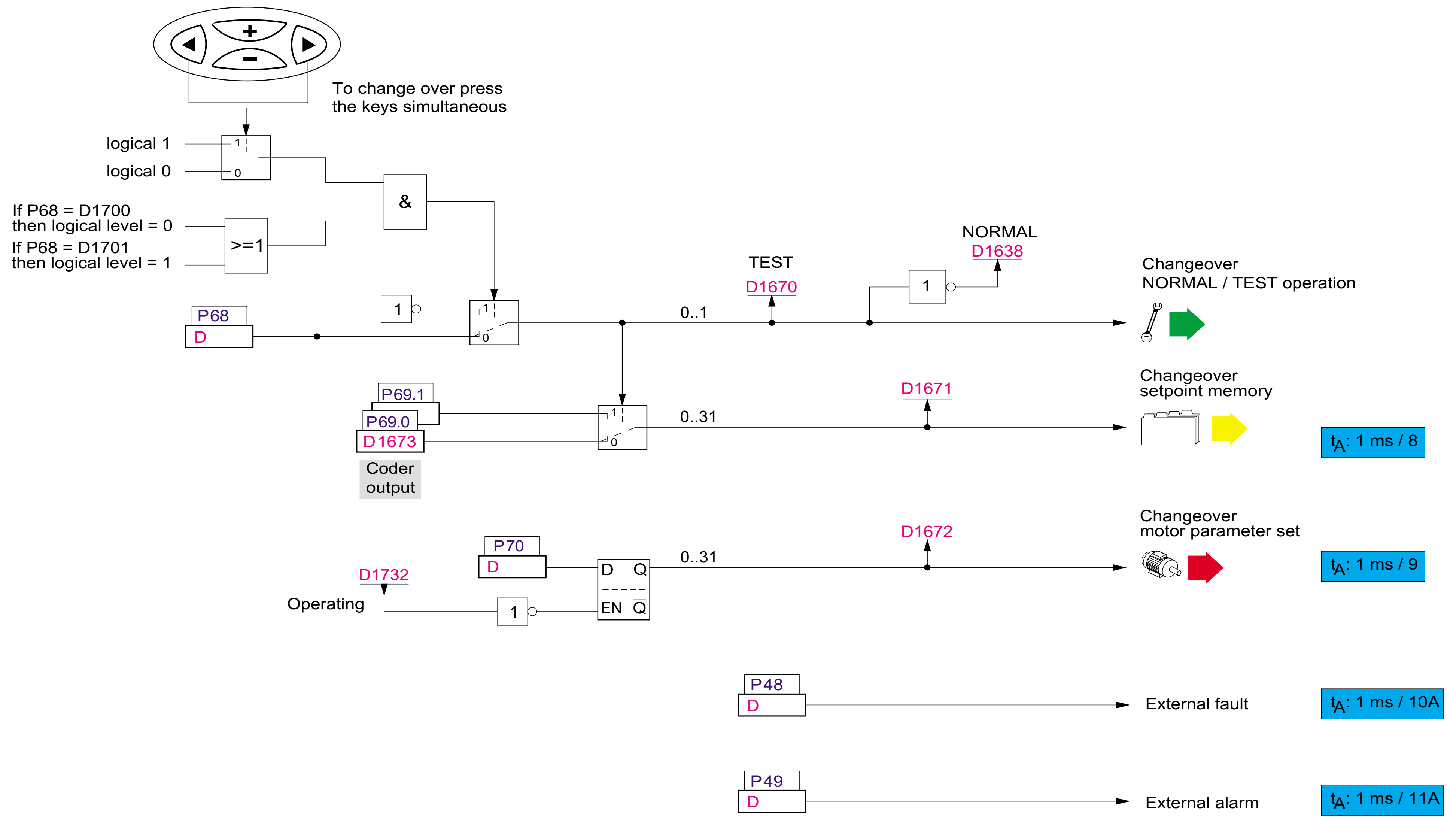


They indicate via which control signal the index levels are selected.

**Example:** Selecting the ramp-function generator with the setpoint memory (Sheet No. 16)




If the „setpoint memory“ control signal has the value 4, then the index level 4 of the RFG parameters (P0280.4, P0281.4, P0282.4, P0283.4) are correspondingly selected and become effective in the ramp-function generator.



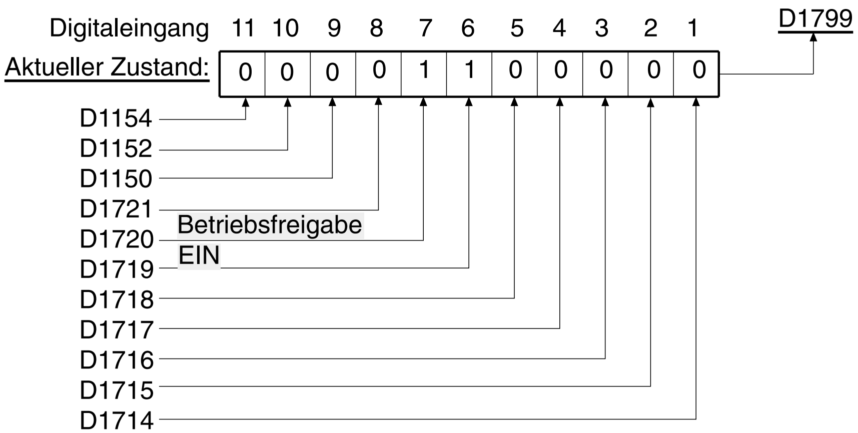
To change over press
the keys simultaneous
logical 1
logical 0
If P68 = D1700
then logical level = 0
If P68 = D1701
then logical level = 1
&
>=1
1
P68
D
0
TEST
D1670
NORMAL
D1638
0..1
Changeover
NORMAL / TEST operation
P69.1
P69.0
D1673
Coder
output
0..31
D1671
Changeover
setpoint memory
tA: 1 ms / 8
P70
D
D1732
Operating
D Q
EN Q
0..31
D1672
Changeover
motor parameter set
tA: 1 ms / 9
P48
D
External fault
tA: 1 ms / 10A
P49
D
External alarm
tA: 1 ms / 11A


| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

## Group display parameter D1799

The status (status 0 or 1) of all of the digital inputs can be simultaneously displayed in the operator panel monitor using the group display parameter D1799.

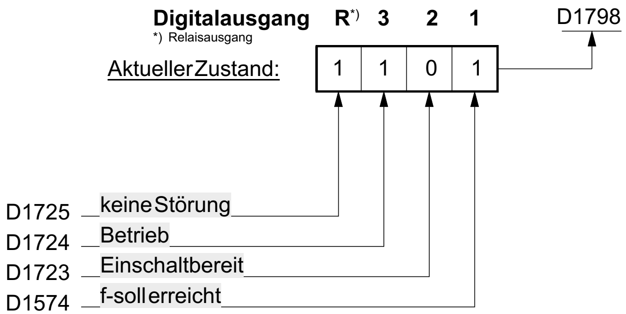
**Example:** The digital outputs are assigned typical functions.

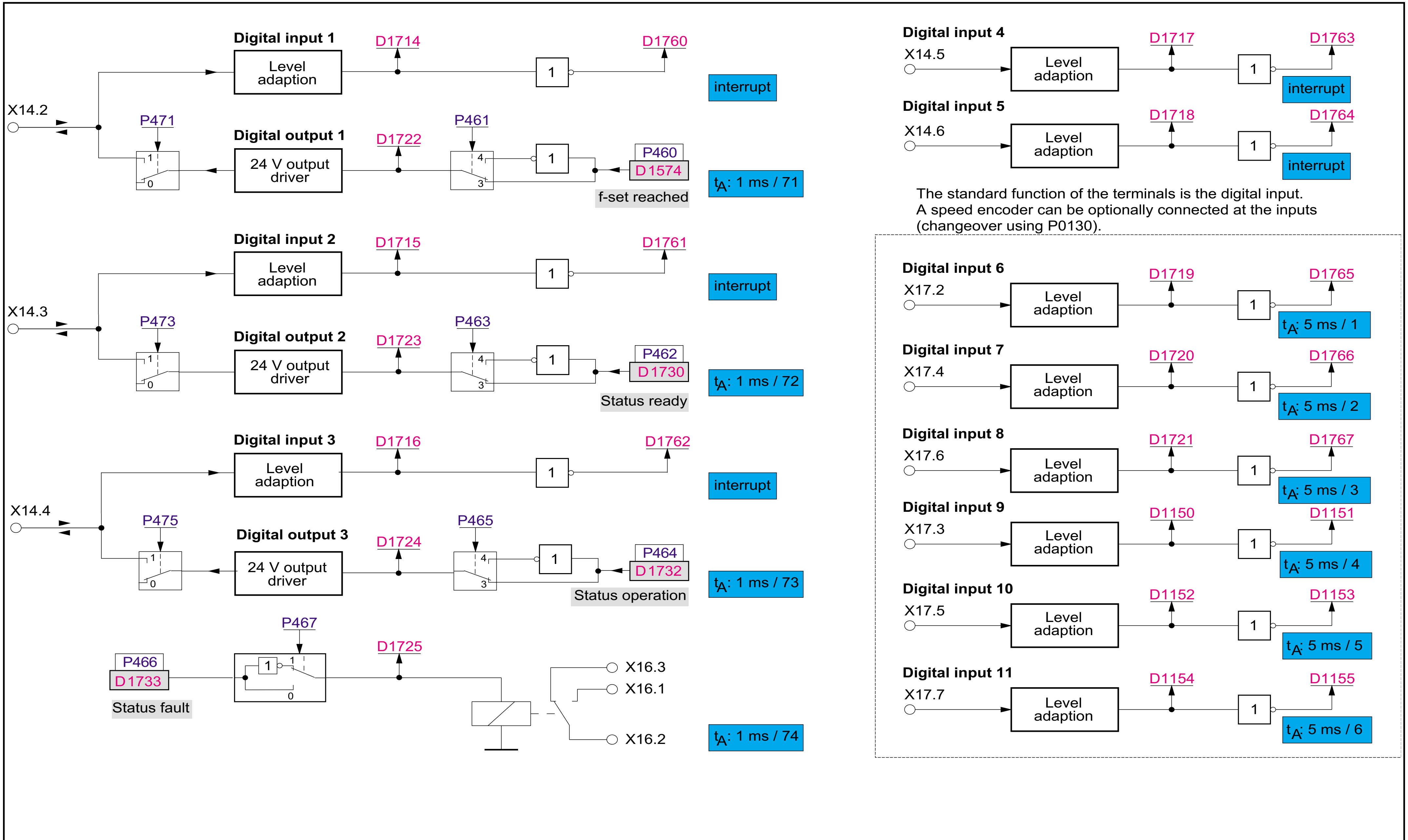



## Group display parameter D1798

The status (status 0 or 1) of the 3 digital outputs and the relay output can be simultaneously displayed in the operator panel monitor using group disply parameter D17098.

**Example:** The digital outputs are assigned typical functions






| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Digital inputs / outputs

Rexroth Indramat

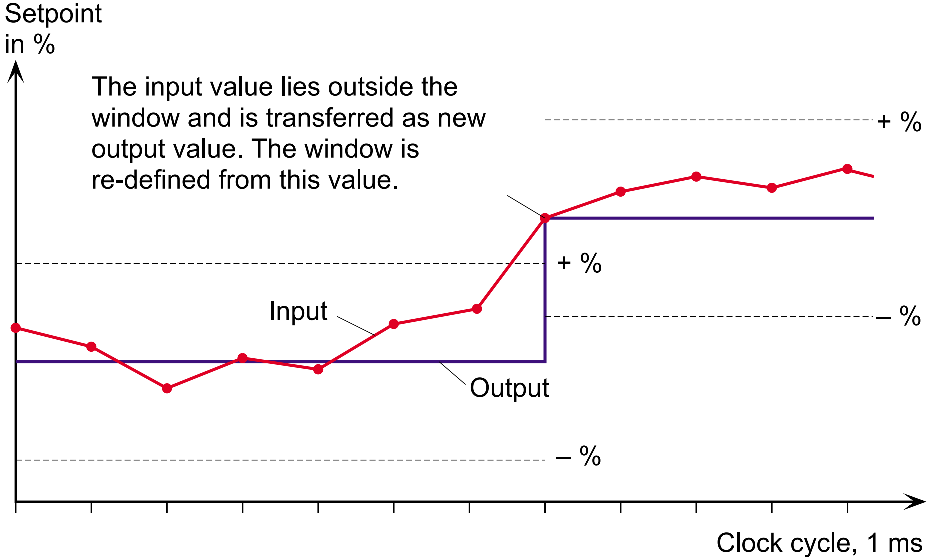
Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **08**

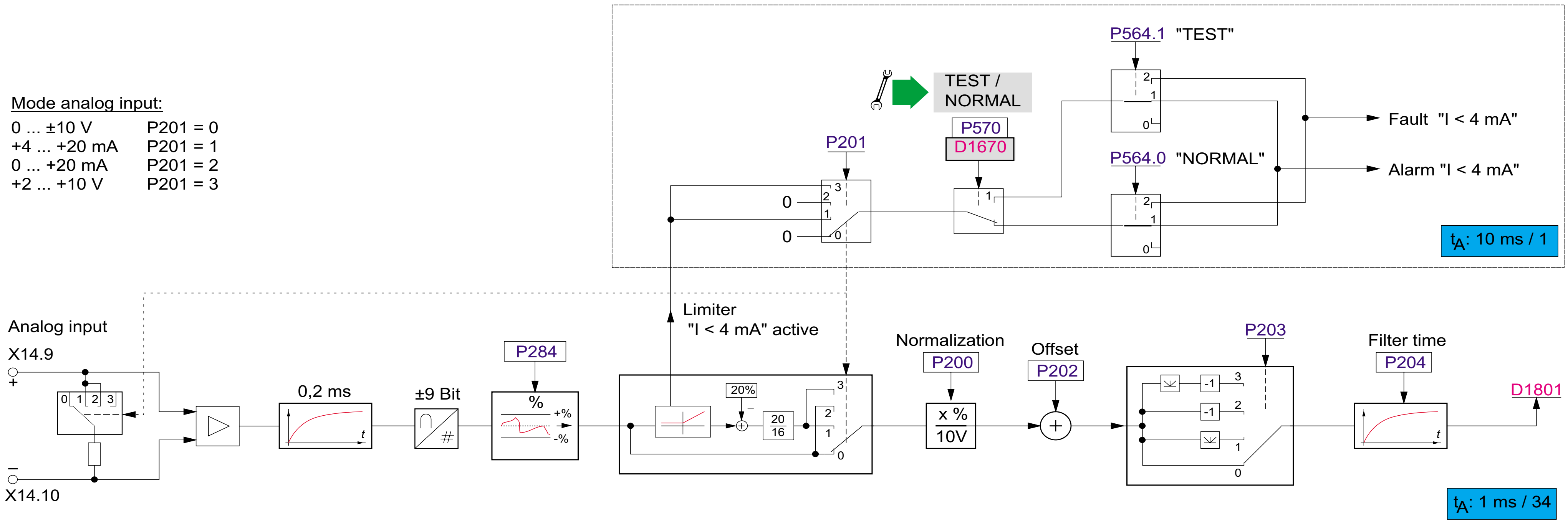
## P0284 Setpoint smoothing

A firmware module with parameterizable window is inserted after the A/D converter to smooth the setpoint from the analog input. A window is entered as a % using P0284. Setpoint fluctuations within this window are not accepted. The setpoint at the firmware module output remains constant. Only if the setpoint lies outside the parameterized window, is this value accepted at the output and the window is re-defined, from this value with ±%.



Mode analog input:

| | |
|---|---|
| 0 ... ±10 V | P201 = 0 |
| +4 ... +20 mA | P201 = 1 |
| 0 ... +20 mA | P201 = 2 |
| +2 ... +10 V | P201 = 3 |




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Analog input

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

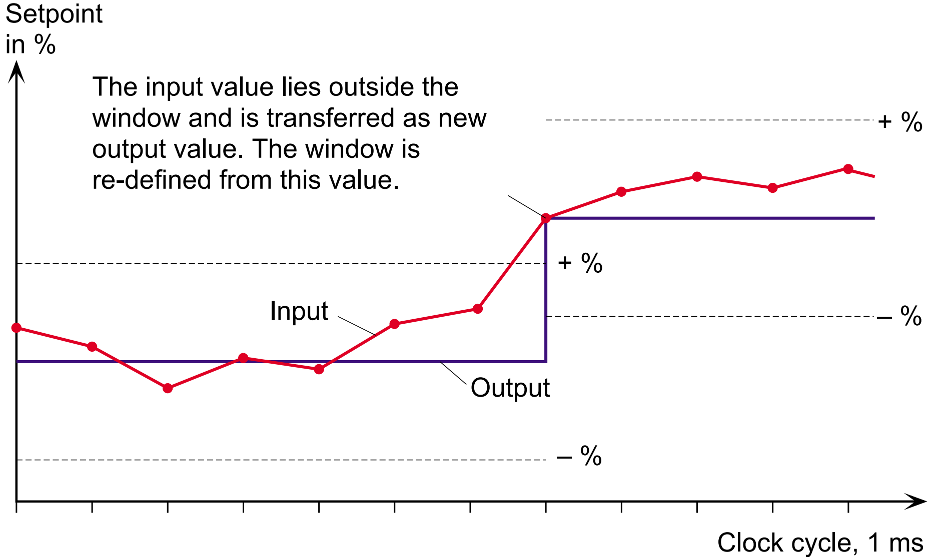
Sheet No. **09**

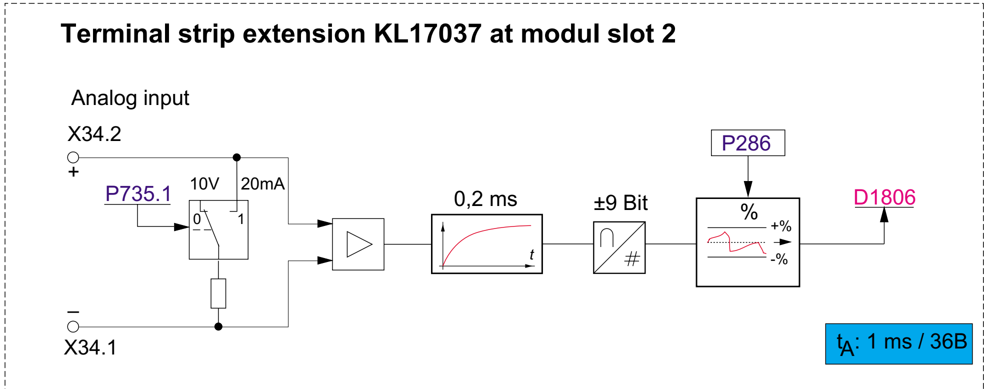
## Option slot for terminal strip expansion

The SR1700 control board has 2 option slots. A firmware module for one analog input is available for the second slot. In this case, the option terminal strip expansion must be inserted at slot 2 in the drive. The setpoint of the optional analog input (D1806) can be further processed using the input blocks (function chart, sheets 11 and 12).

### P0286 Setpoint smoothing

A firmware module with parameterizable window is inserted after the A/D converter to smooth the setpoint from the analog input. A window is entered as a % using P0286. Setpoint fluctuations within this window are not accepted. The setpoint at the firmware module output remains constant. Only if the setpoint lies outside the parameterized window, is this value accepted at the output and the window is re-defined, from this value with ±%.

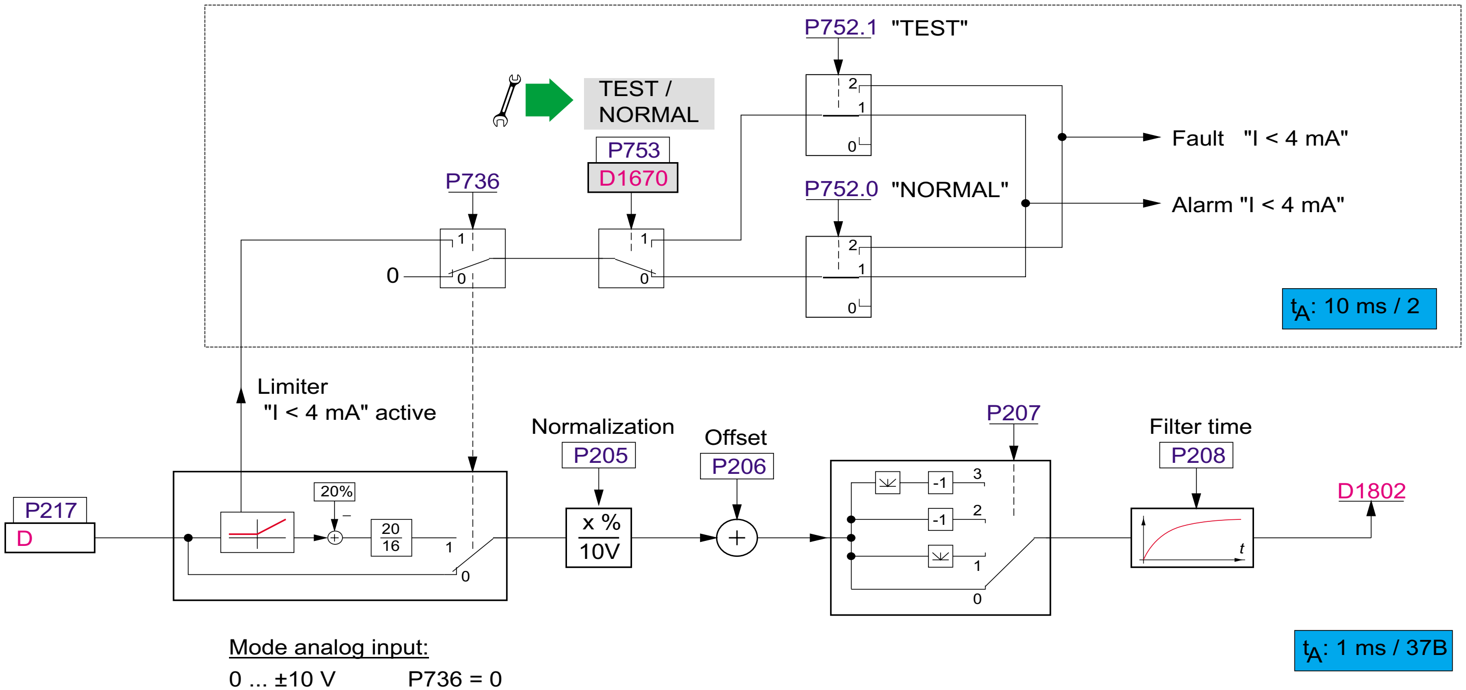



Terminal strip extension KL17037 at modul slot 2
Analog input
X34.2
+
P735.1
10V
20mA
0
1
–
X34.1
0,2 ms
t
±9 Bit
#
P286
%
+%
-%
D1806
$t_A$: 1 ms / 36B

## Input block

The firmware includes an input block for an optional analog input with the same functions as for the standard analog input (only in conjunction with a terminal strip expansion KL11037). If the input block is not used for an additional analog input, it can also be used to process signals from other process values.

Input modul 2



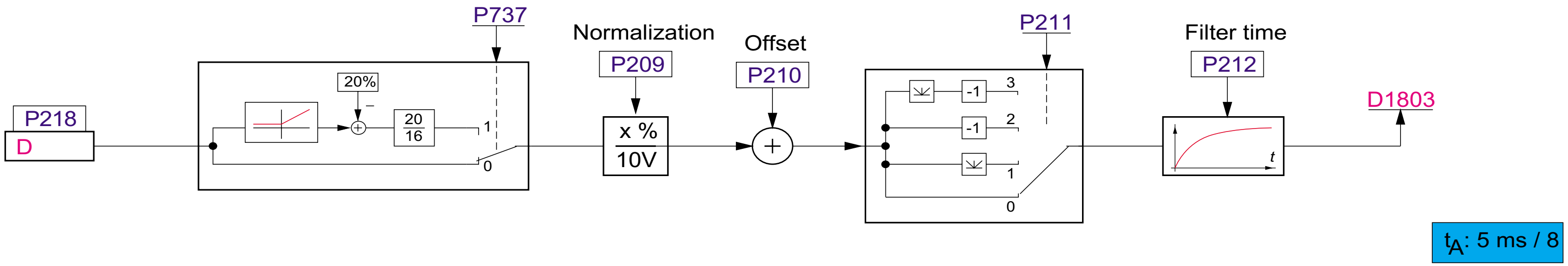

Mode analog input:

| | |
|---|---|
| 0 ... ±10 V | P736 = 0 |
| +4 ... +20 mA | P736 = 1 |

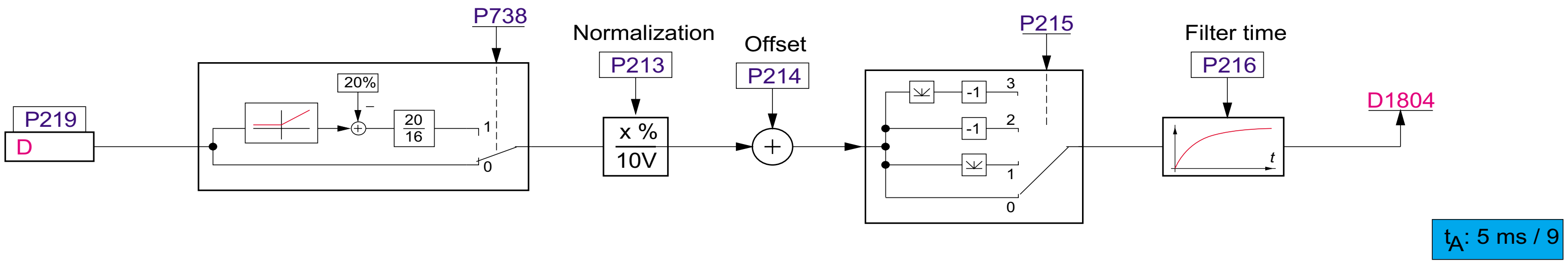
## Input blocks

The firmware includes two additional input blocks for optional analog inputs (option, terminal strip expansion KL 11037). If an input block is not used for an additional analog input, it can be used process signals from other process values.

Input blcok 3




Input blcok 4




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Function chart **REFU*drive 500* - RS51**<br>Input blocks | Rexroth Indramat | | Datum:<br>2002- 07- 11 | Firmware:<br>FWC-SR1700-004-04VRS-MS | Sheet No. **12** |

## Output blocks

The firmware includes 3 output blocks for signal conditioning, which are processed in different time sectors. Output block 1 runs in the 1ms time sector and should be used for the standard analog output. Output blocks 2 and 3 runs in the 5 ms time sector and are intended for optional analog outputs (option, terminal strip expansion KL 11037).

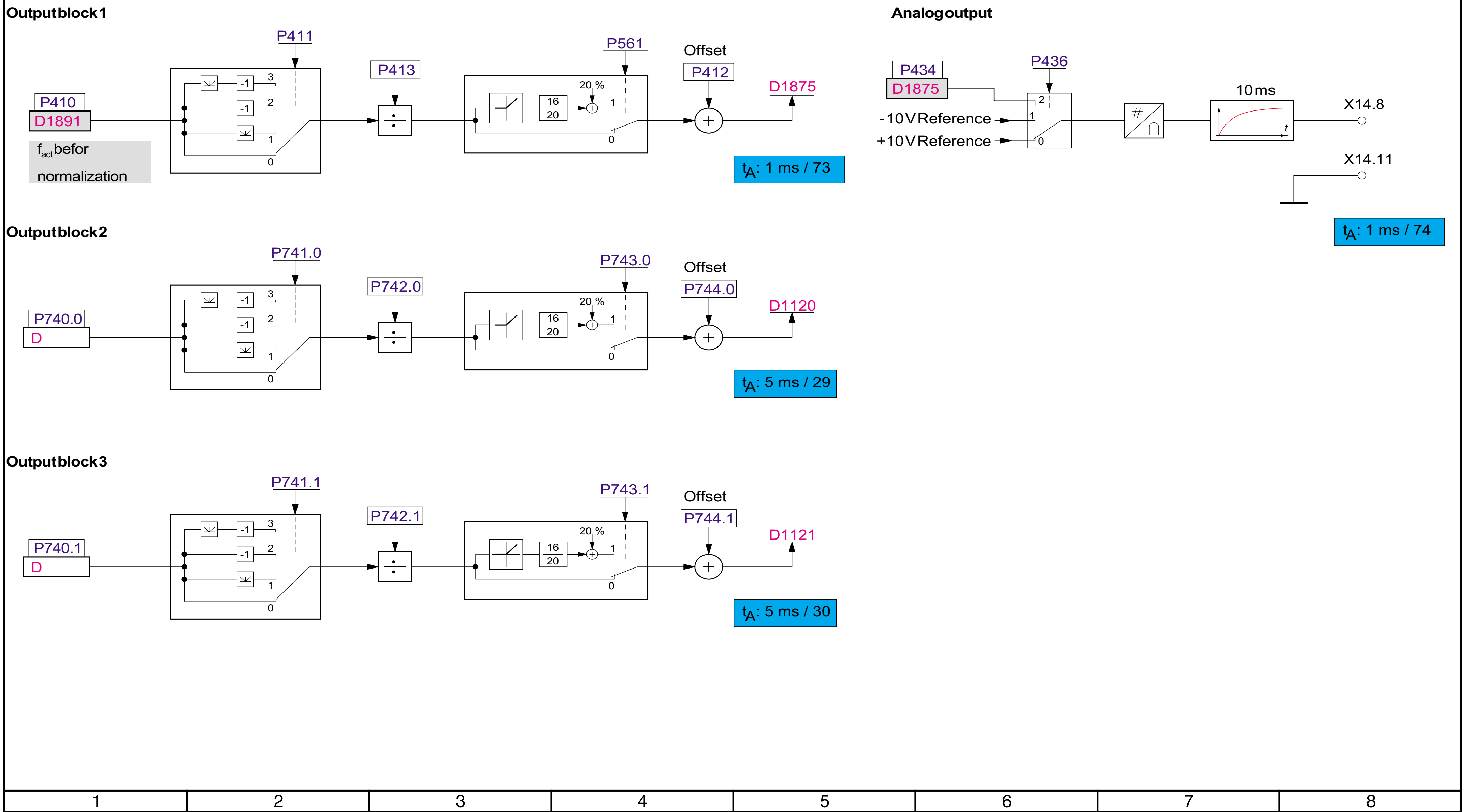
**Note**

The outputs of output blocks 2 and 3, D1120 and D1121 must be switched to the terminal strip expansion KL 11037 via the process data interface; refer to function chart 39, „Process data interface SI4“.

If an output block is not used for an additional analog output, it can be used to process the signals from other process values.

## Normalization, analog output

100,00 % = 10 V at the analog output




| | | | |
|---|---|---|---|
| Function chart **REFU*drive 500* - RS51**<br>Output blocks, analog output | Rexroth Indramat | Datum:<br>2002- 07- 11 | Firmware:<br>FWC-SR1700-004-04VRS-MS | Sheet No. **13** |

## Motorized potentiometer module

The mechanical motorized potentiometer, which was previously used, has been replaced in the firmware by a module which can be flexibly parameterized. The motorized potentiometer can be controlled via the operator panel or via the terminal strip.

### Rate-of-change

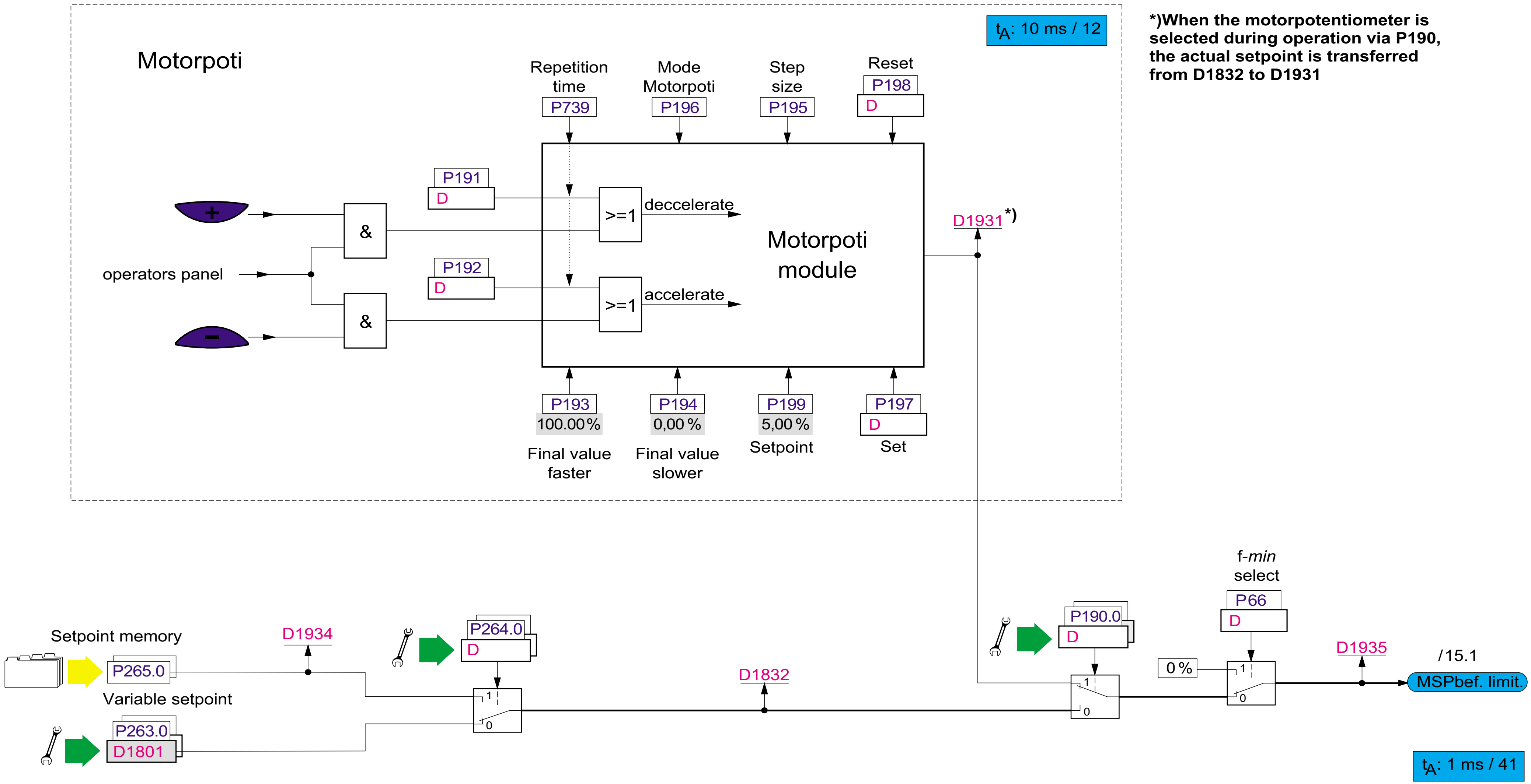
When controlled via the operator panel, the rate-of-change depends on P0195 (motorized potentiometer, increment size) and P0196 (motorized potentiometer starting value, linear/exponential)
<u>Linear setting:</u> Consistent change with the selected increment size (P0195) as long as the + or – key is kept pressed.
<u>Exponential setting:</u> The rate-of-change increases the longer that the + or – key is pressed.

If the digital inputs are used to control the motorized potentiometer module via the two variable paramteter sources P0191 and P0192, a time cycle (rate-of-change) can be additionally entered using P0739.

### Changing-over to the motorized potentiometer

The motorized potentiometer can also be selected during operation. In order that there is no setpoint step, when changing-over using P0190, the actual setpoint is transferred from D1832 to D1931. The motorized potentiometer then either ramps-up from this setpoint to the „final value faster“ or down to the „final value slower“.

**Note**
When the setpoint motorized potentiometer module is activated (i.e.: P0190.xx => logical one), it is not possible to control the sensitivity-motorized potentiometer of the active load monitor using the operator panel, also refer to Sheet No. 22. The setpoint motorized potentiometer has higher priority.


*)When the motorpotentiometer is selected during operation via P190, the actual setpoint is transferred from D1832 to D1931
Motorpoti
tA: 10 ms / 12
Repetition time
P739
Mode Motorpoti
P196
Step size
P195
Reset
P198
D
P191
D
&
>=1
deccelerate
operators panel
Motorpoti module
D1931*)
P192
D
&
>=1
accelerate
P193
100.00 %
Final value faster
P194
0,00 %
Final value slower
P199
5,00 %
Setpoint
P197
D
Set
f-min select
P66
D
Setpoint memory
D1934
P264.0
D
P190.0
D
0 %
D1935
/15.1
MSPbef. limit.
P265.0
Variable setpoint
D1832
P263.0
D1801
tA: 1 ms / 41

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8

## Frequency search

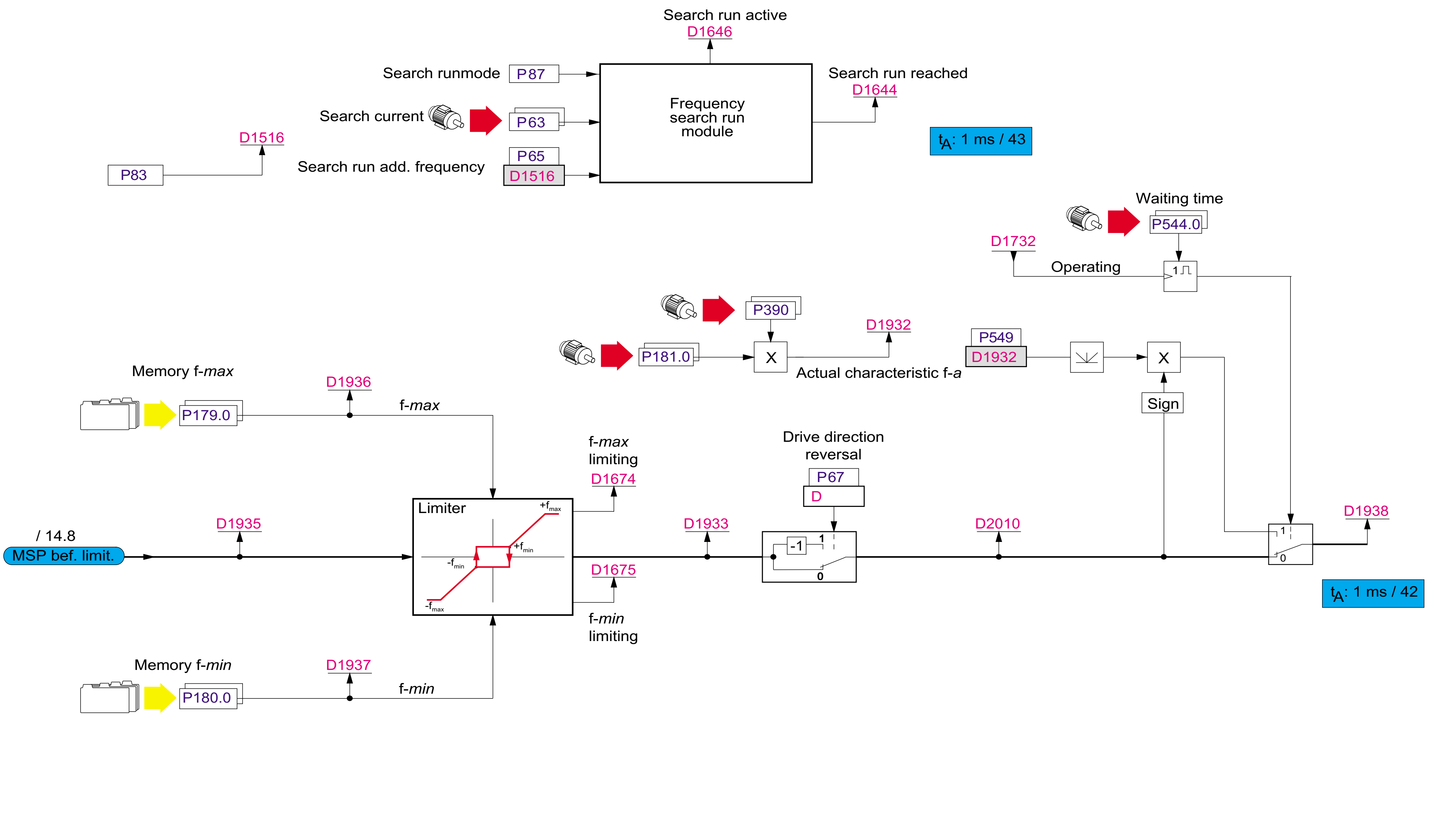
The frequency search is switched-in and the operating mode selected using parameter P0087.

**P0087: No**
A search run is not executed after the on command.

**P0087: After the on command**
After the on command, the drive starts with the last direction of rotation and searches for the motor which is coasting down. The output frequency starts at Fmax and is continually reduced. If the motor speed is found, the search stops and the actual setpoint is approached via the ramp-function generator.

**P0087: After on command±**
The drive converter starts after the on command with the last direction of rotation and searches for the motor which is coasting down. The output frequency starts at Fmax and is continually reduced. If the motor speed is found, the search runs stops and the actual setpoint is approached via the ramp-function generator.
If the motor speed was not found by f = 0 Hz, then the search run, described above restarts with a different direction of rotation.

**Search run, addition frequency P0065:**
If the frequency search run module has found the frequency of the rotating motor, the value of variable parameter P0065 is added to the frequency found and then transferred to the ramp-function generator.




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Setpoint limiting, frequency search

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **15**

## Ramp-function generator (RFG)

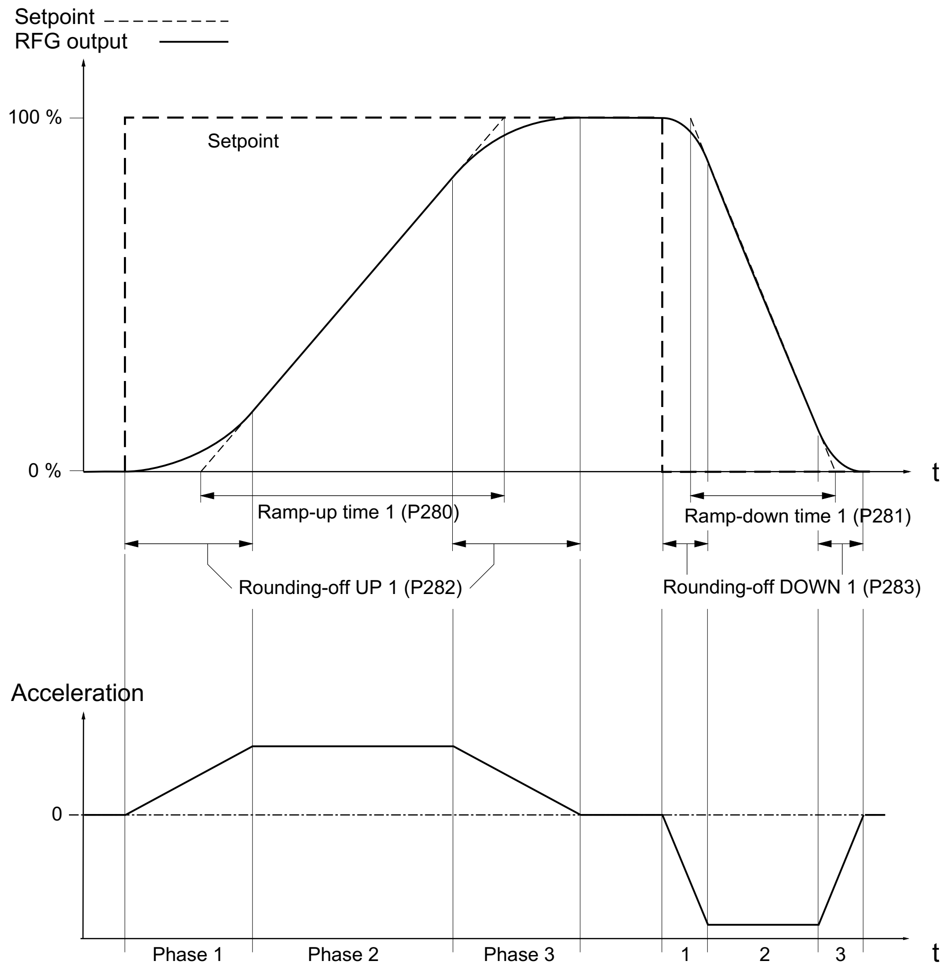
**Ramp-up time and ramp-down time:** When defining the ramp-up and ramp-down times, possibly selected rounding-off functions are not taken into account. The ramp-up time is the time which the RFG output requires to change from 0 % to 100 % and correspondingly, the ramp-down time form 100 to 0 %. If there is rounding-off, the ramp-up and ramp-down times are obained by extending the linear section of the curve up to the intersection points 0 % and 100 % - refer to the adjacent drawing.

**Rounding-off UP and DOWN:** Rounding-off is defined as the time, in which the output quantity reaches the maximum acceleration value starting from a constant inital value (phase 1). Rounding-off is also defined as the time which the output quantity, starting from its maximum acceleration value, raches a constant final value (phase 3).
The ramp-up operation with rounding-off is sub-divided into three phases:

**Phase 1:**
When the setpoint is increased, in the first phase, acceleration is increased linearly with time. In this rounding-off phase, the ramp-function generator output value increases to the square of the time.

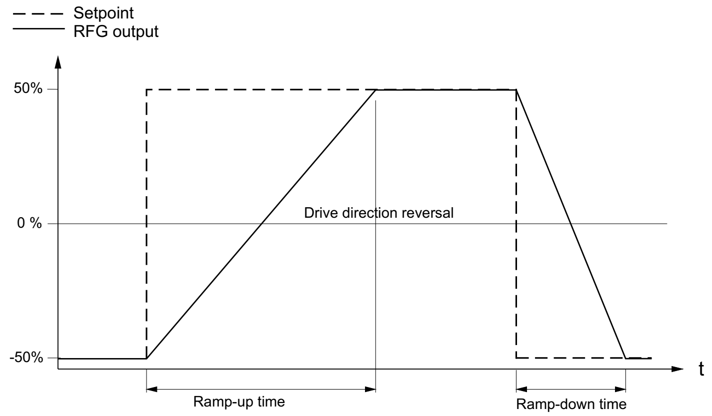
**Phase 2:**
After the maximum rate of acceleration has been reached, corresponding to the specified ramp-up time, the acceleration is constant. The output of the ramp-function generator increases linearly with respect to time.

**Phase 3:**
In the 3rd phase, acceleration linearly decreases with respect to time. In this rounding-off phase, the ramp-function generator output approaches the final value to the square of the time (setpoint). The deceleration or ramp-down process is essentially the same as previously described.

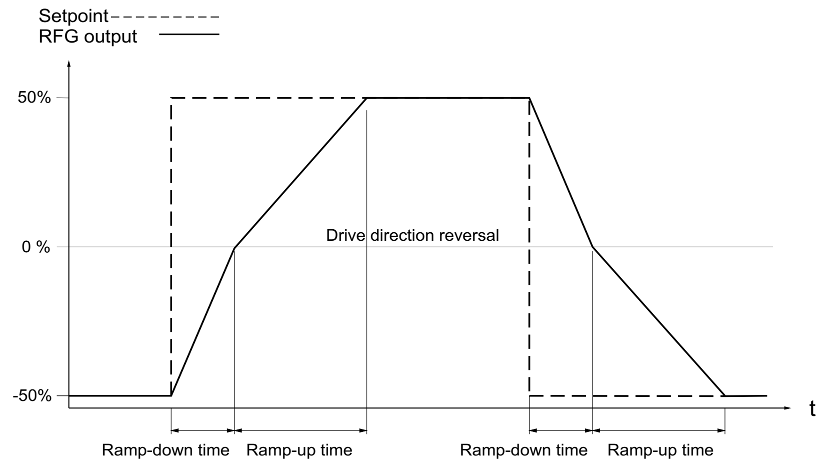


## Ramp-up and Ramp-down with direction of rotation change

**RFG up/down mode: P0249 = sign**
For arithmetic positive setpoint changes, the RFG UP times are effective. For arithmetic negative setpoint changes, the RFG DOWN times are effective.




**RFG up/down mode: P0249 = Absolute value**
For absolute setpoint increases, the RFG UP times are effective, for absolute setpoint decreases, the RFG DOWN times are effective.




## Ramp-up stop (D1727)

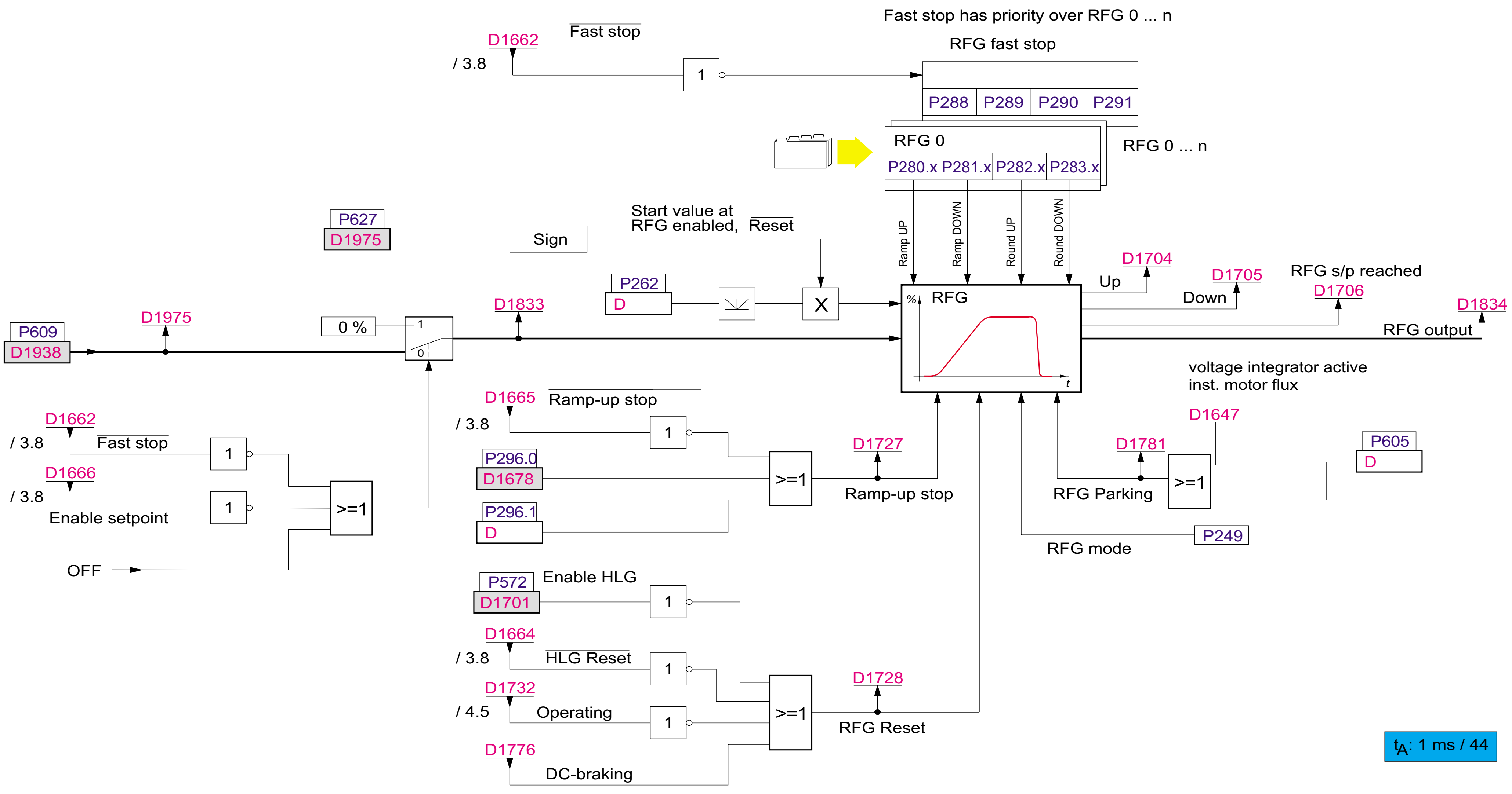
The „ramp-up stop“ command holds the actual value at the ramp-function generator output, i.e. it is no longer ramped-up to the setpoint.

## RFG park (D1781)

The command „RFG park“ holds the actual value fixed at the ramp-function generator output, i.e. it can no longer be increases or reduced by changing the setpoint.
**Note:** When the „RFG park“ and „Off 1“ are simultaneously active with braking, the ramp-function generator does not got to zero, but stops at the actual value.

## RFG reset (D1728)

The command „RFG reset“ sets the actual value at the ramp-function generator output to 0.




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

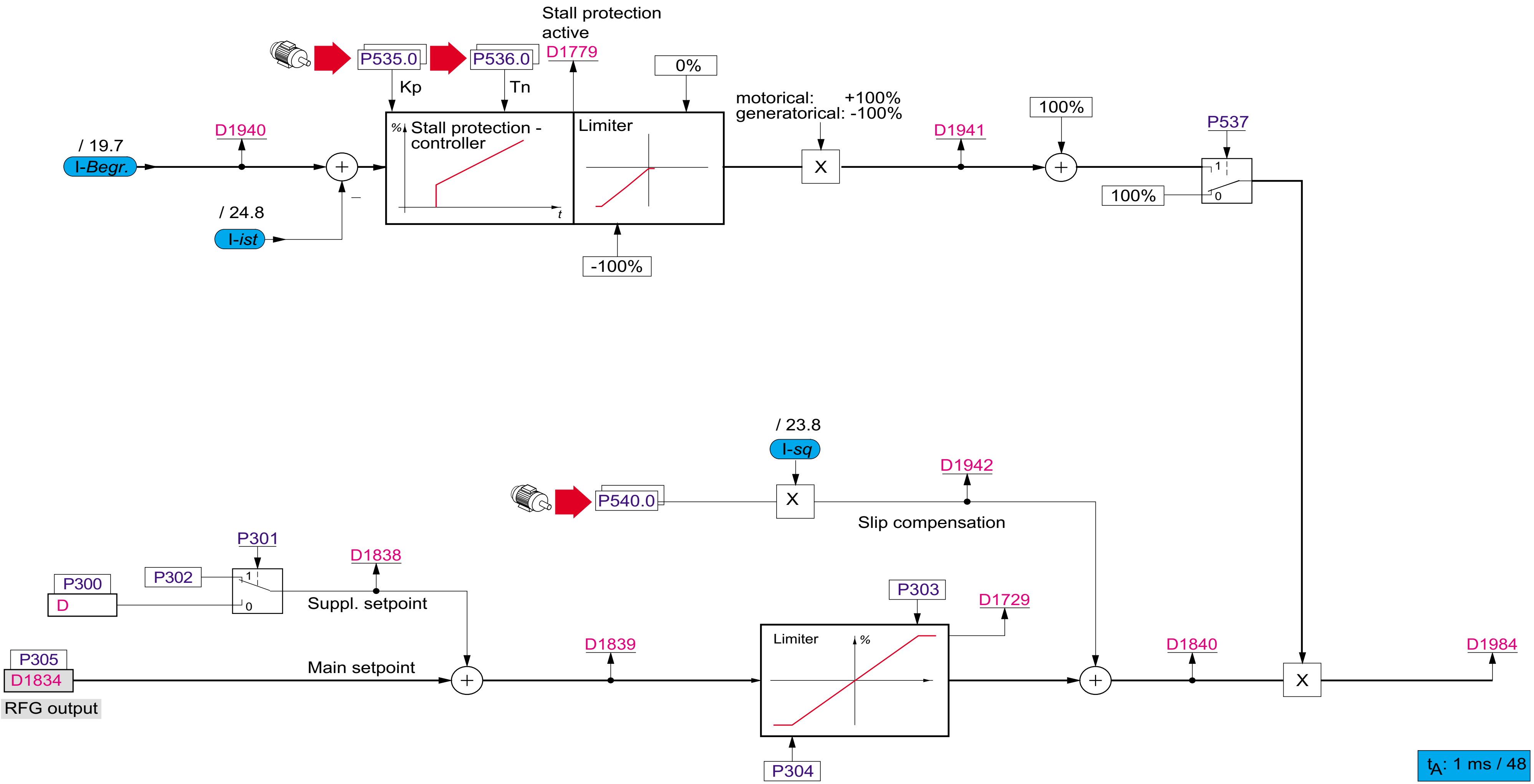
Function chart **REFU*drive 500* - RS51**
Ramp-function generator (RFG)

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **16**




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Function chart **REFU*drive 500* - RS51**<br>Slip compensation, stall protection | Rexroth Indramat | | Datum:<br>2002-07-11 | Firmware:<br>FWC-SR1700-004-04VRS-MS | Sheet No. **17** |

## The V/Hz characteristic

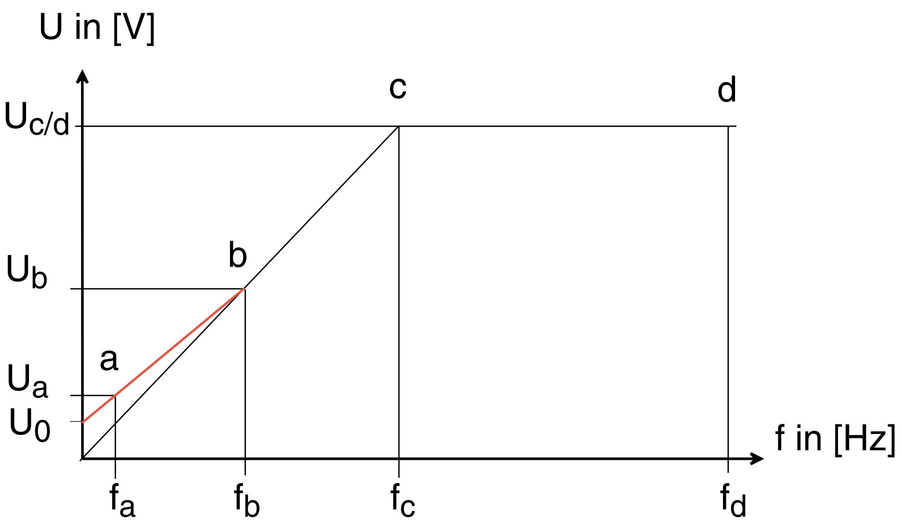
The V/Hz characteristic values (P0181 - P0188) are calculated from the rating plate data. After you have entered the rating plate data of your motor, the drive calculates the characteristic data. You can then modify and optimize these characteristic values. If you change the rating plate data, the characteristic data is re-calculated and your optimized data is overwritten.

### Linear V/Hz characteristic

The characteristic data is calculated from the rating plate data according to the following formulas:

$$U_0 = R_s \text{ [P0120]} * Isd_{Nenn} \text{ [P0117]}$$

| | | | |
|---|---|---|---|
| [P181] | $f_a = f_{schlupf}$ | [P0185] | $U_a = \frac{U_{nenn} \times f_{schlupf}}{f_{nenn}} + R_s * Isd_{Nenn}$ |
| [P182] | $f_b = f_{nenn} / 2$ | [P0186] | $U_b = U_{nenn} / 2$ |
| [P183] | $f_c = f_{nenn}$ | [P0187] | $U_c = U_{nenn}$ |
| [P184] | $f_d = 2 \times f_{nenn}$ | [P0188] | $U_d = U_{nenn}$ |

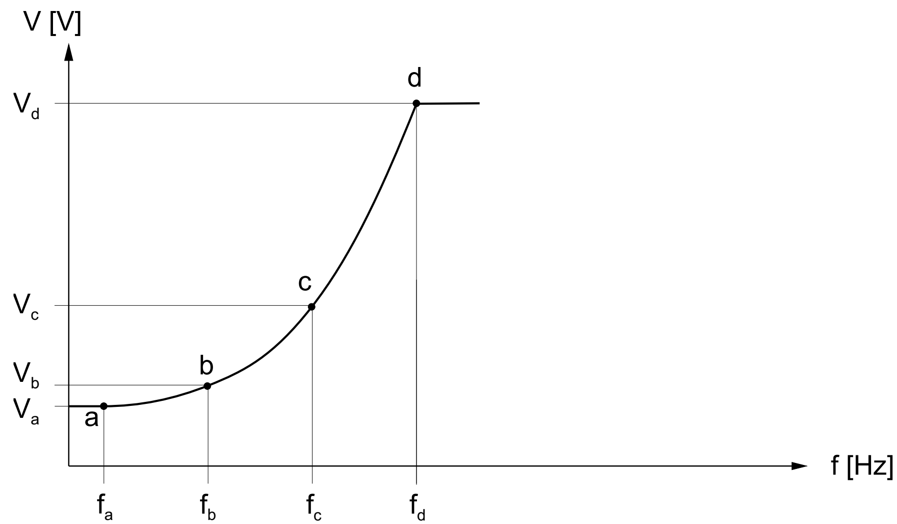


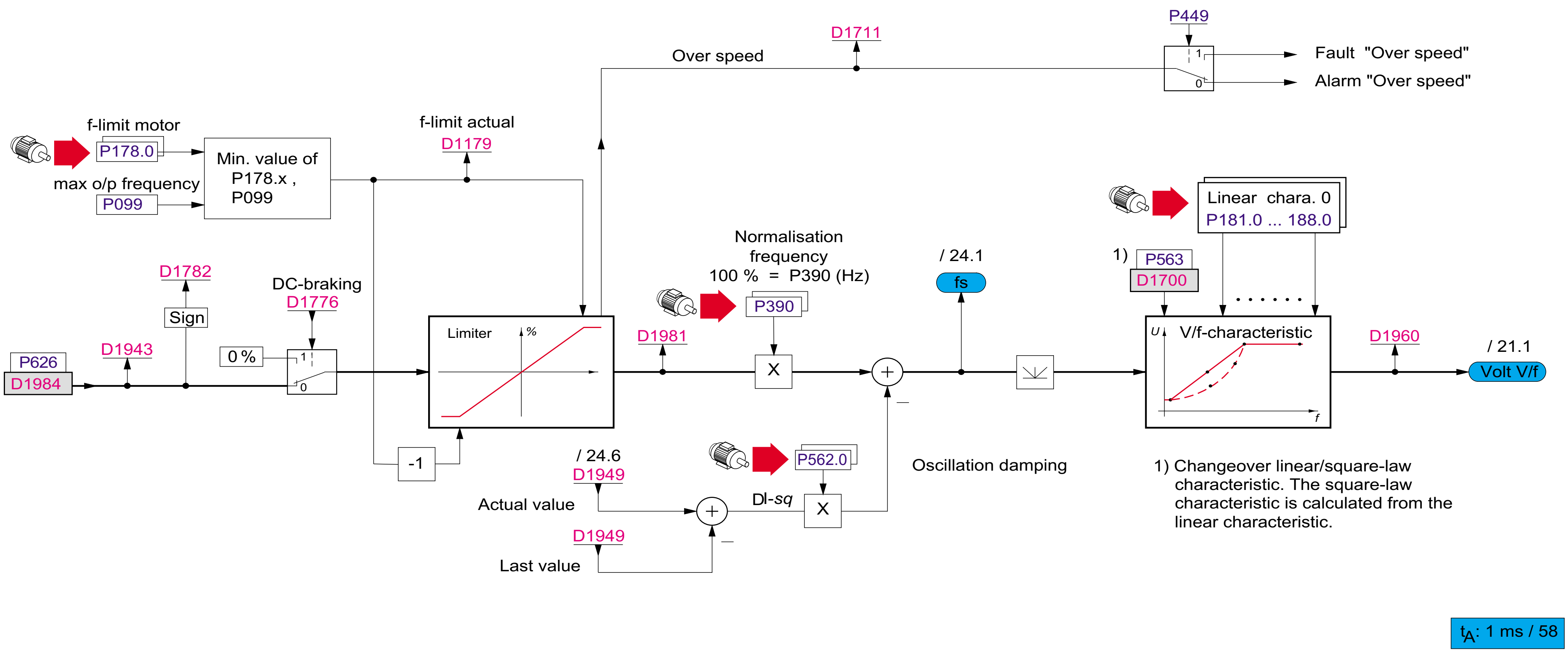

### Square-law V/Hz characteristic

The characteristic data is calculated from the rating plate data according to the following formulas:

$$U_0 = R_s \text{ [P0120]} * Isd_{Nenn} \text{ [P0117]}$$

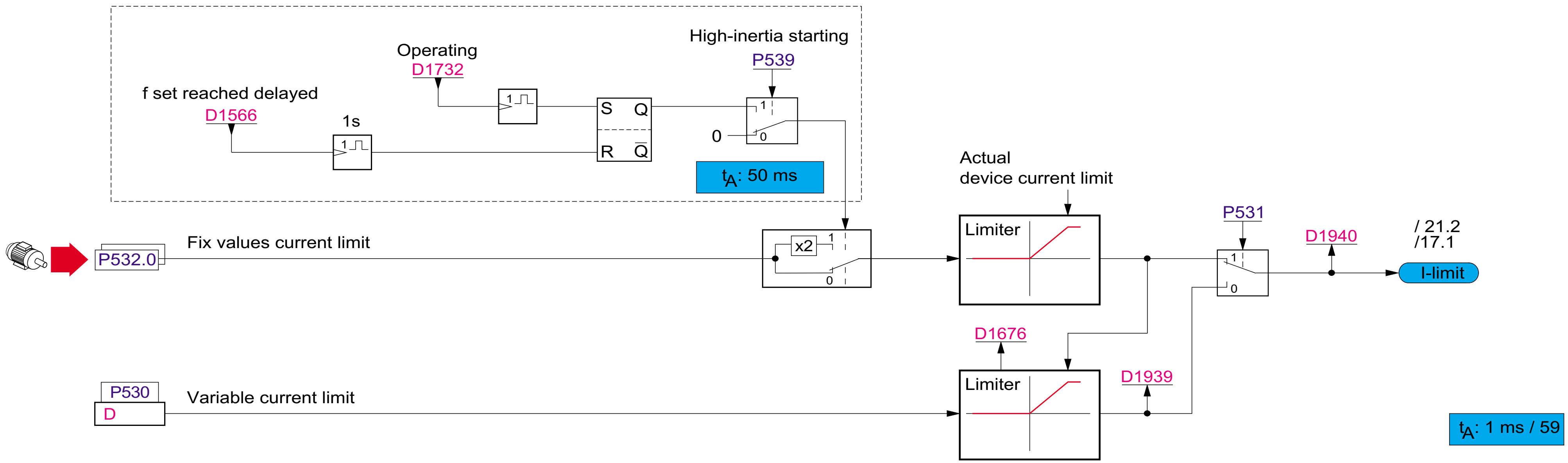
| | | | |
|---|---|---|---|
| [P181] | $f_a = f_{schlupf}$ | [P0185] | $U_a = \frac{U_{nenn} \times f_{schlupf}}{f_{nenn}} + R_s * Isd_{Nenn}$ |
| [P184] | $f_d = f_{nenn}$ | [P0187] | $U_d = U_{nenn}$ |
| [P182] | $f_b = f_a + (f_d - f_a / 3)$ | [P0186] | $U_b = U_a + (U_d - U_a) \cdot f_b^2 / f_d^2$ |
| [P183] | $f_c = f_b + (f_d - f_a / 3)$ | [P0188] | $U_c = U_a + (U_d - U_a) \cdot f_c^2 / f_d^2$ |





P449
D1711
Over speed
Fault "Over speed"
Alarm "Over speed"
f-limit motor
P178.0
Min. value of P178.x , P099
max o/p frequency
P099
f-limit actual
D1179
Linear chara. 0
P181.0 ... 188.0
Normalisation frequency
100 % = P390 (Hz)
P390
/ 24.1
fs
1)
P563
D1700
D1782
Sign
DC-braking
D1776
0 %
P626
D1984
D1943
Limiter
%
D1981
X
V/f-characteristic
U
f
D1960
/ 21.1
Volt V/f
-1
/ 24.6
D1949
Actual value
P562.0
DI-sq
X
Oscillation damping
D1949
Last value
1) Changeover linear/square-law characteristic. The square-law characteristic is calculated from the linear characteristic.
$t_A$: 1 ms / 58

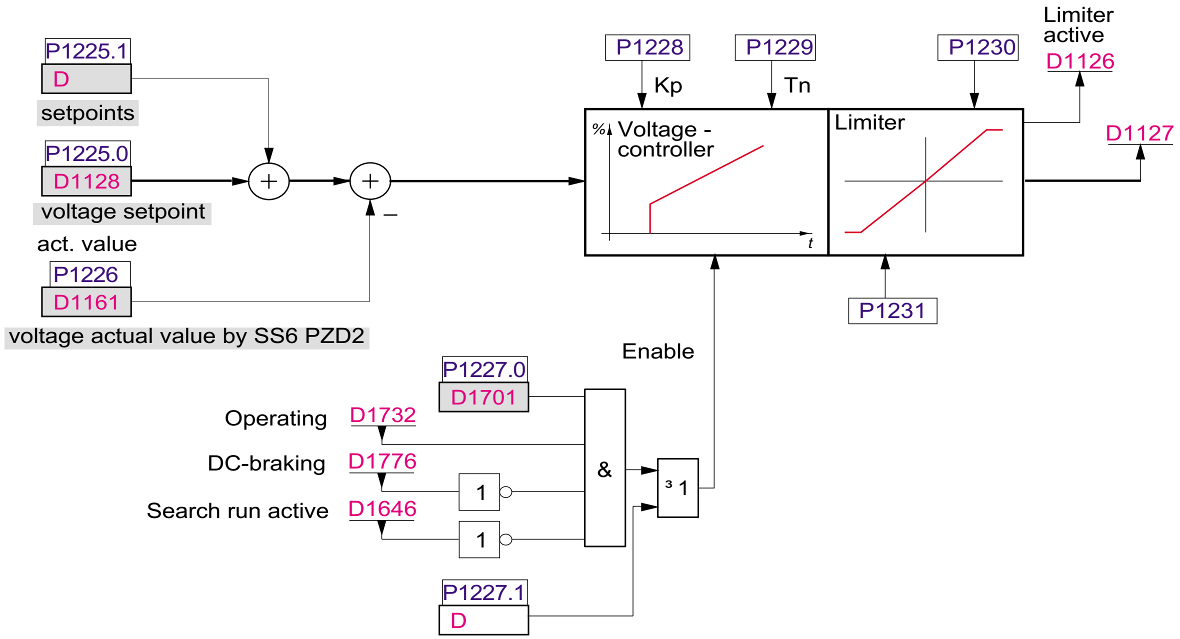
The current limiting has been split-up to 2 function charts for space reasons.
The setpoint path, coming from the V/Hz characteristic, is continued on Sheet No. 21.


High-inertia starting
P539
Operating
D1732
f set reached delayed
D1566
1s
S
Q
R
Q̄
0
tA: 50 ms
Actual
device current limit
Limiter
P532.0
Fix values current limit
x2
P531
D1940
/ 21.2
/17.1
I-limit
D1676
D1939
P530
D
Variable current limit
tA: 1 ms / 59

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

**Voltage controller:**

The voltage controller is used to correct the voltage drop obtained at the integrated output filter.
The required voltage setpoint is provided by the firmware in D1128, refer to Sheet 21.
The actual voltage is measured by the coupling module KB21004 and transferred to D1161 in process data channel PZD2 via interface SI6.
The voltage controller output intervention is supplied at P1232, refer to Sheet 21.




$t_A$: 5 ms / 28

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**

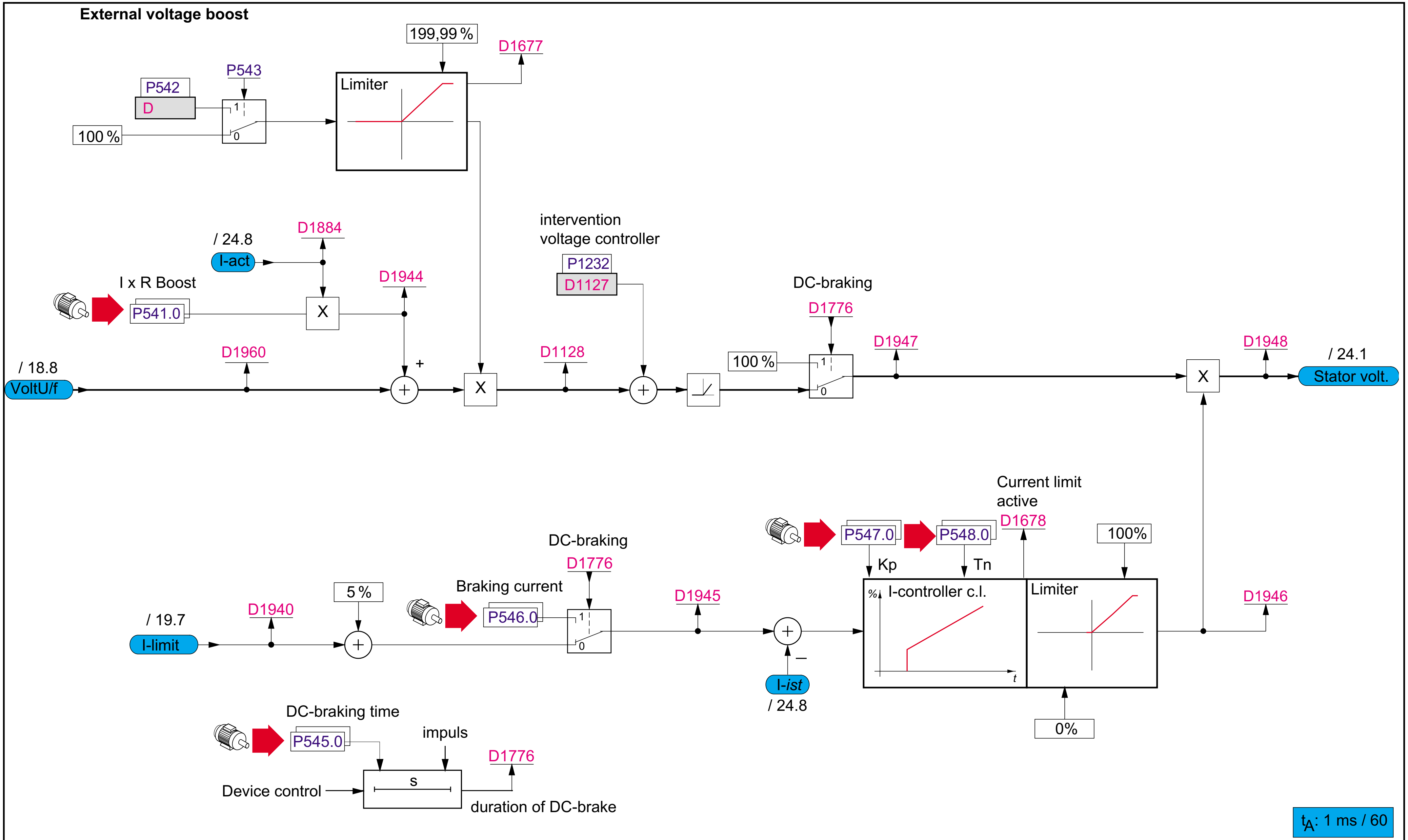
Voltage controller

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **20**


External voltage boost
199,99 %
D1677
P543
P542
D
100 %
Limiter
intervention
voltage controller
P1232
D1127
/ 24.8
I-act
D1884
I x R Boost
P541.0
X
D1944
DC-braking
D1776
D1947
D1948
/ 18.8
VoltU/f
D1960
D1128
100 %
/ 24.1
Stator volt.
X
Current limit
active
D1678
P547.0
P548.0
Kp
Tn
100%
DC-braking
D1776
Braking current
P546.0
D1945
/ 19.7
I-limit
D1940
5 %
I-controller c.l.
Limiter
D1946
I-ist
/ 24.8
0%
DC-braking time
P545.0
impuls
D1776
Device control
s
duration of DC-brake
tA: 1 ms / 60

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

## „Sparking“ active load monitor

The „Sparking“ active load monitor module has the task of reliably detecting even the smallest dynamic active load increases an signaling them via a digital control signal. For example, this can be used to change over the feed when the grinding wheel touches the workpiece from a fast search velocity to a grinding volocity.

## Selecting sensitivity P1204 = 0 = var. source:

The sensitivity can, e.g. be manually changed using a potentiometer, analog from external via P1202.

## Selecting the sensitivity P1204 = 1 = fixed values:

With this selection, the sensitivity is centrally input into the module via P1203.xx. The following alternative possibilities are available to adapt the active fixed value:

- **Input at the operator panel**
- **Parameterization via a serial interface**
- **Sensitivity-motorized potentiometer**
  The motorized potentiometer module only acts, either adding or subtracting, to the actual setting of P1203.xx.

  1st operator control possibility:

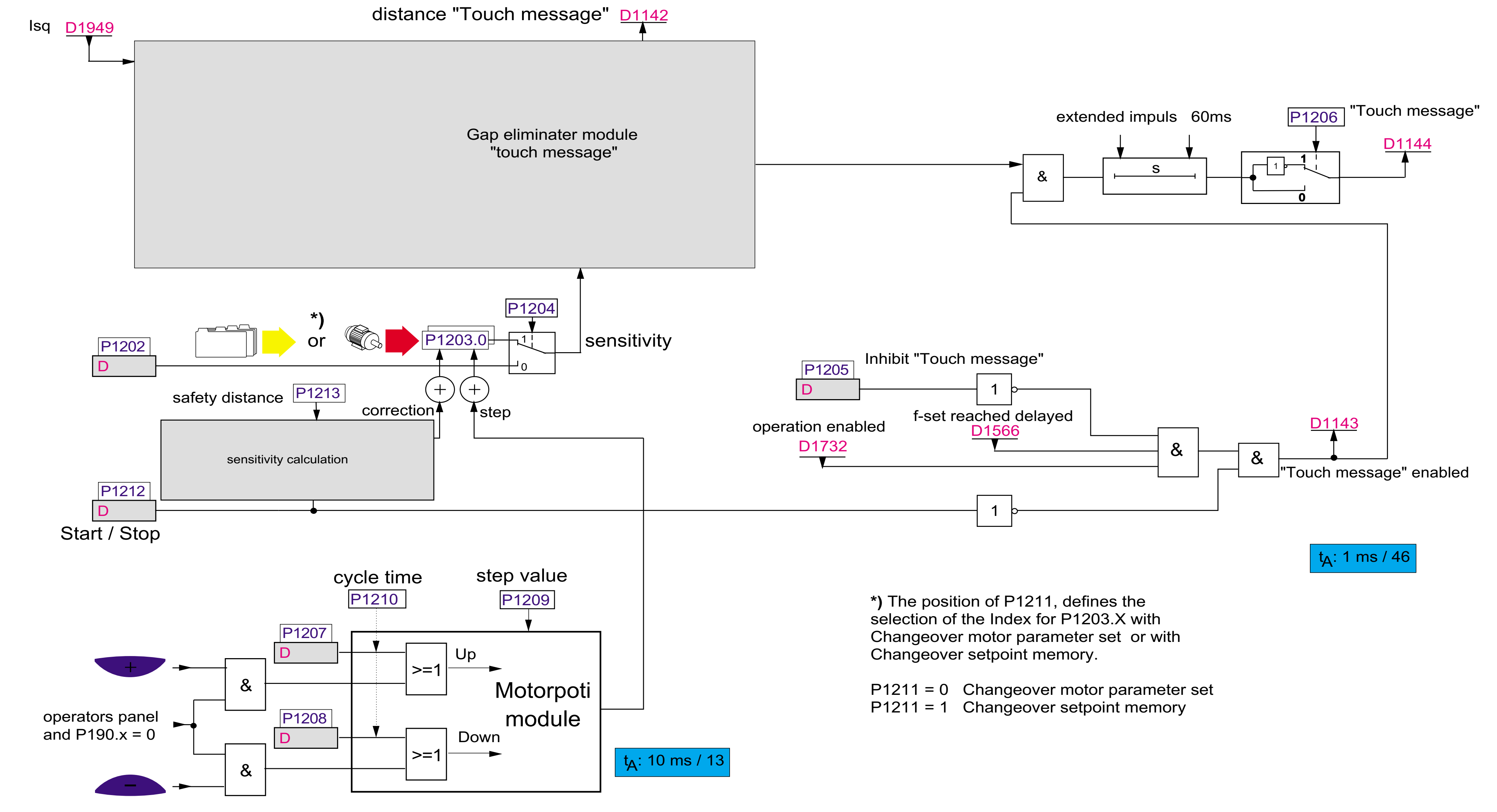
  Change using the + o r − at the operator panel. It is not possible to control the sensitivity-motorized potentiometer of the active load monitor using the operator panel when activating the setpoint-motorized potentiometer module (i.e.: P0190.xx => logical 1), also refer to Sheet No.: 22. The setpoint motorized potentiometer has, in this case, a higher priority.

  2nd operator control possibility:
  Digital inputs are used to make the change, which are linked via parameters P1207 and P1208
- **Automatically determining the sensitivity**
  The automatic sensitivity sensing is activated using the start/stop signal (P1212). The machine control positions the grinding wheel at a position from where the contact point is to be searched for. The cooling and lubricating medium is now switched-in. The machine control connects a digital signal of logical 1 for approx. 2 - 3 seconds to start/stop via P1212. The actual sensitivity is sensed in the time between the rising and falling edge of the signal. At the falling edge of the signal, the safety margin from P1213 is added to the value to be determined and then entered into P1203.xx. The safety margin defines the clearance between the actual sensitivity and the initiation point so that the sparking signal does not incorrectly respond.

## „Sparking“ inhibit:

Using the „sparking“ inhibit, the „sparking“ output D1144 is inhibited so that the machine control can identify if the feed is undesirably changed. This inhibit function is controlled as follows:

- The inhibit is activated during frequency changes and when the inverter is inhibited.
- The inhibit is activated during the automatic sensitivity sensing.
- The inhibit can also be additionally activated via P1205 if the machine operating sequence makes it necessary.




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Active load monitor

Rexroth Indramat

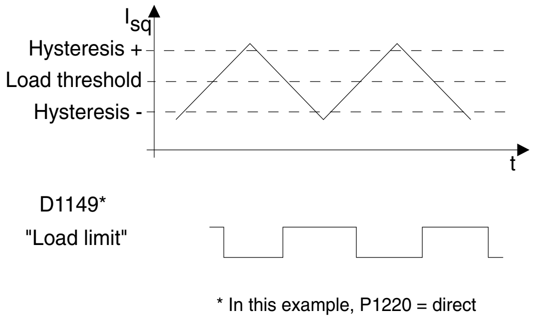
Datum: 2002-07-11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **22**

## Active load monitor - load limit

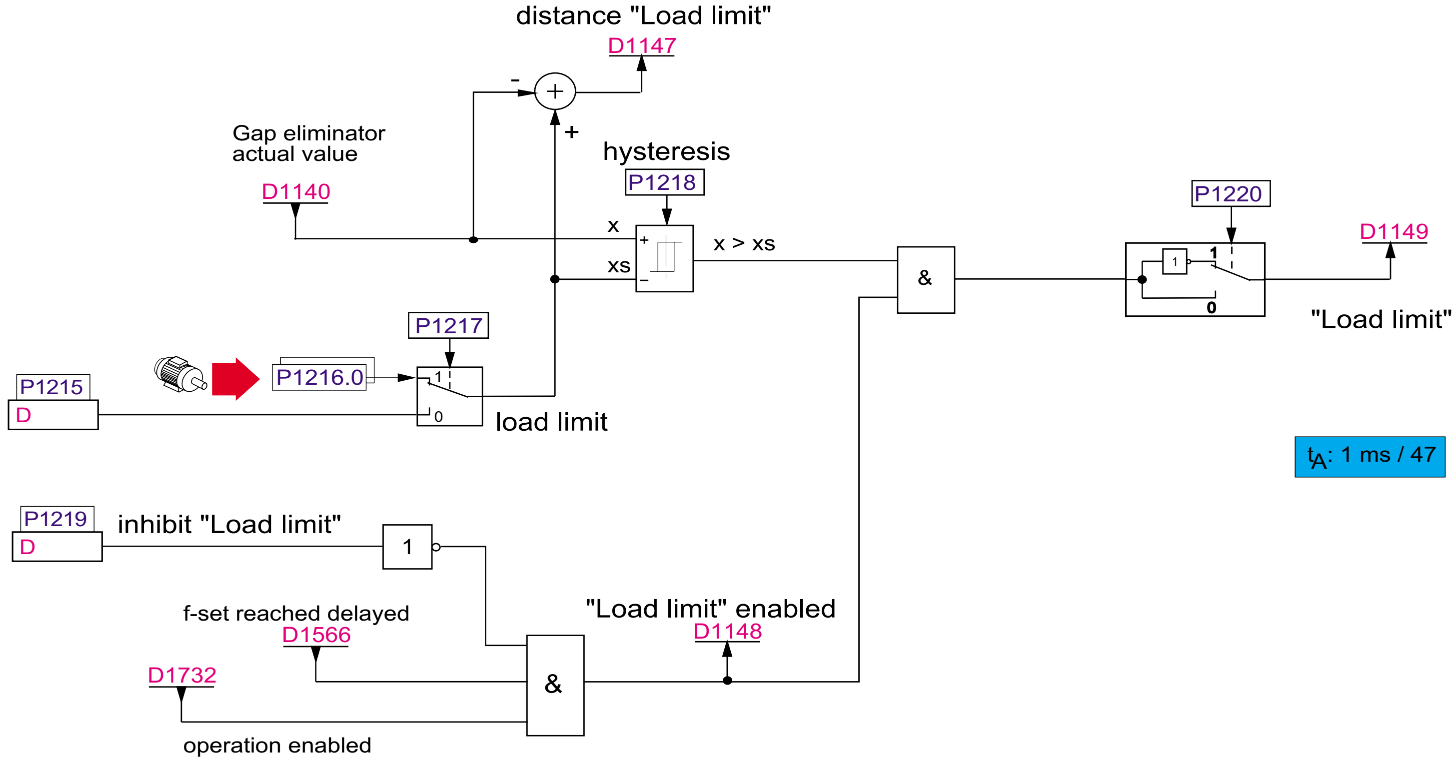
The „load limit“ active load monitor module is a comparator with symmetrical hysteresis. This increases or reduces the grinding wheel feed so that the grinding power is kept at the power limit of the grinding spindle.




## „Load limit“ inhibit:

The „load limit“ output D1149 is inhibited with the „load limit“ inhibit so that the machine control can detect if the feed is undesirably changed over. The inhibit is controlled as follows:

- The inhibit is activated during frequency changes and when the inverter is inhibited.
- The inhibit can also be additionally activated via P1219 if the machine operating sequence makes it necessary.




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**

Active load monitor - load limit

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **23**

## Overload protection

The overload protection is switched-in and switched-out using P0565 and the response type, either alarm or fault, is selected.

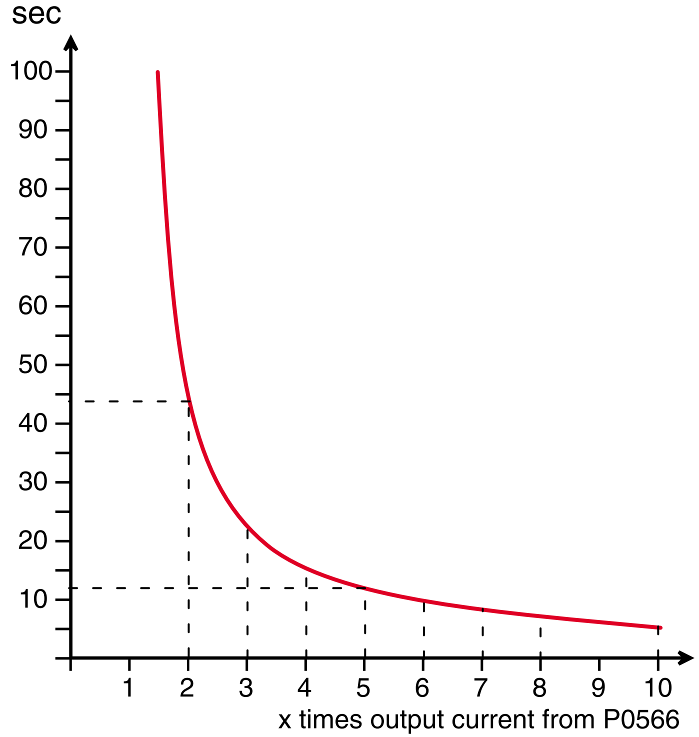
The response threshold of the overload protection (P0566) can be set between 0.5 A and the peak current P0025. The overload function was implemented corresponding to the Siemens 3UB1 overload relay, Class 10 setting.

The delay time until the drive is ready to be powered-up after “overload protection” fault depends on the response threshold:

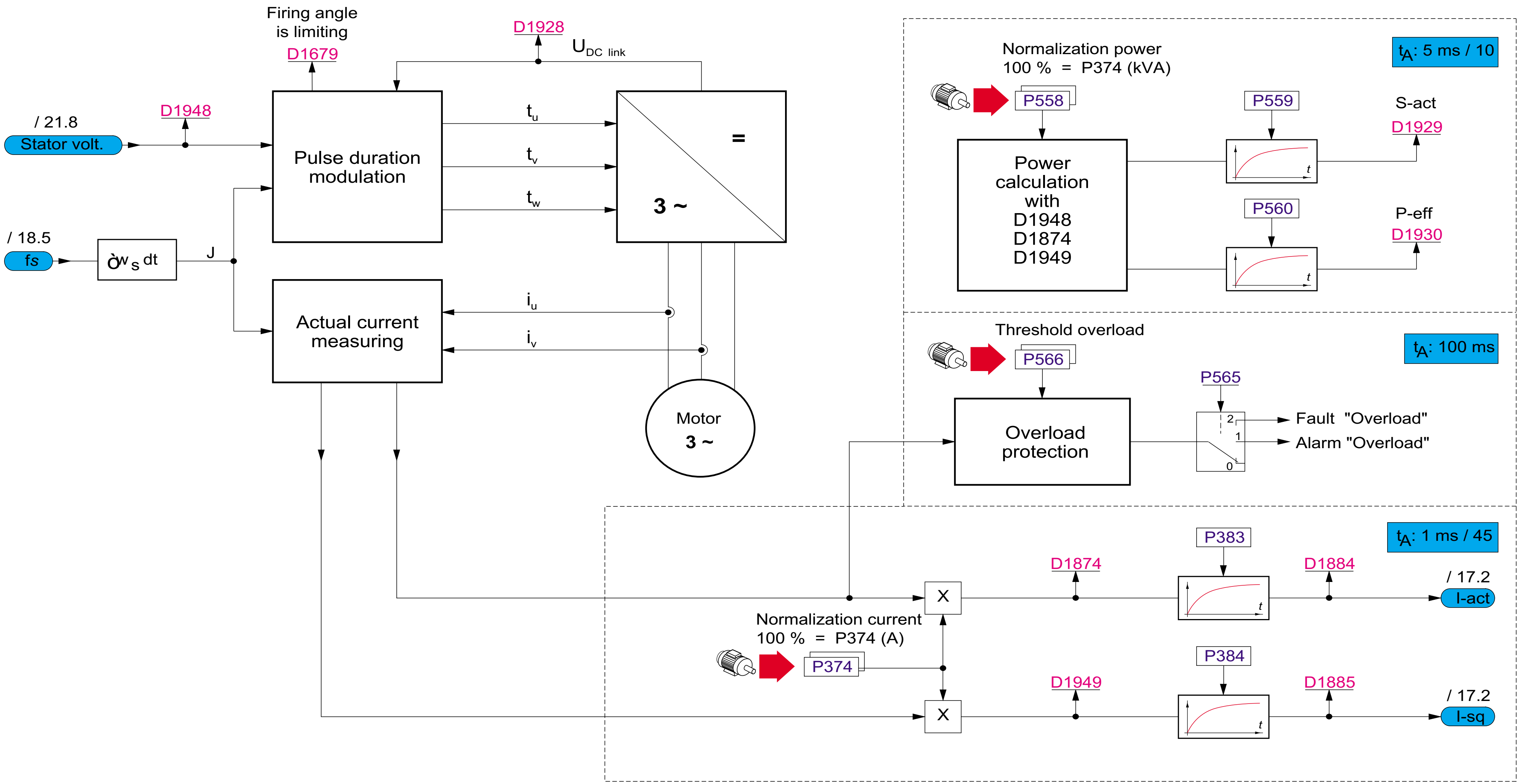
- For P0566 < 20 A, the drive converter can be powered-up again after 1 minute.
- For P0566 > 20 A, the drive converter cab be powered-up again after 10 minutes.

As long as the delay time is running, after the fault has been successfully acknowledged, the „motor overload“ alarm is displayed. The drive cannot be powered-up again during this time.

### Emulation, thermal overcurrent release




| x times output current from P0566 | 1,05 | 1,15 | 3 | 4 | 5 | 6 | 7 | 8 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| Release time | 2 hours | 20min | 22,5 s | 15,4 s | 12 s | 9,8 s | 8,4 s | 7,3 s | 5,8 s |




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500*** **- RS51**
Pulse-width modulation, measured value sensing

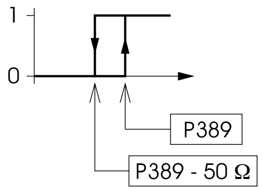
Rexroth Indramat

Datum: 2002- 07- 11

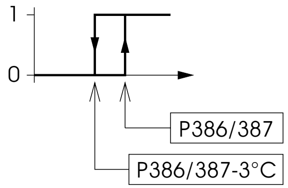
Firmware: FWC-SR1700-004-04VRS-MS

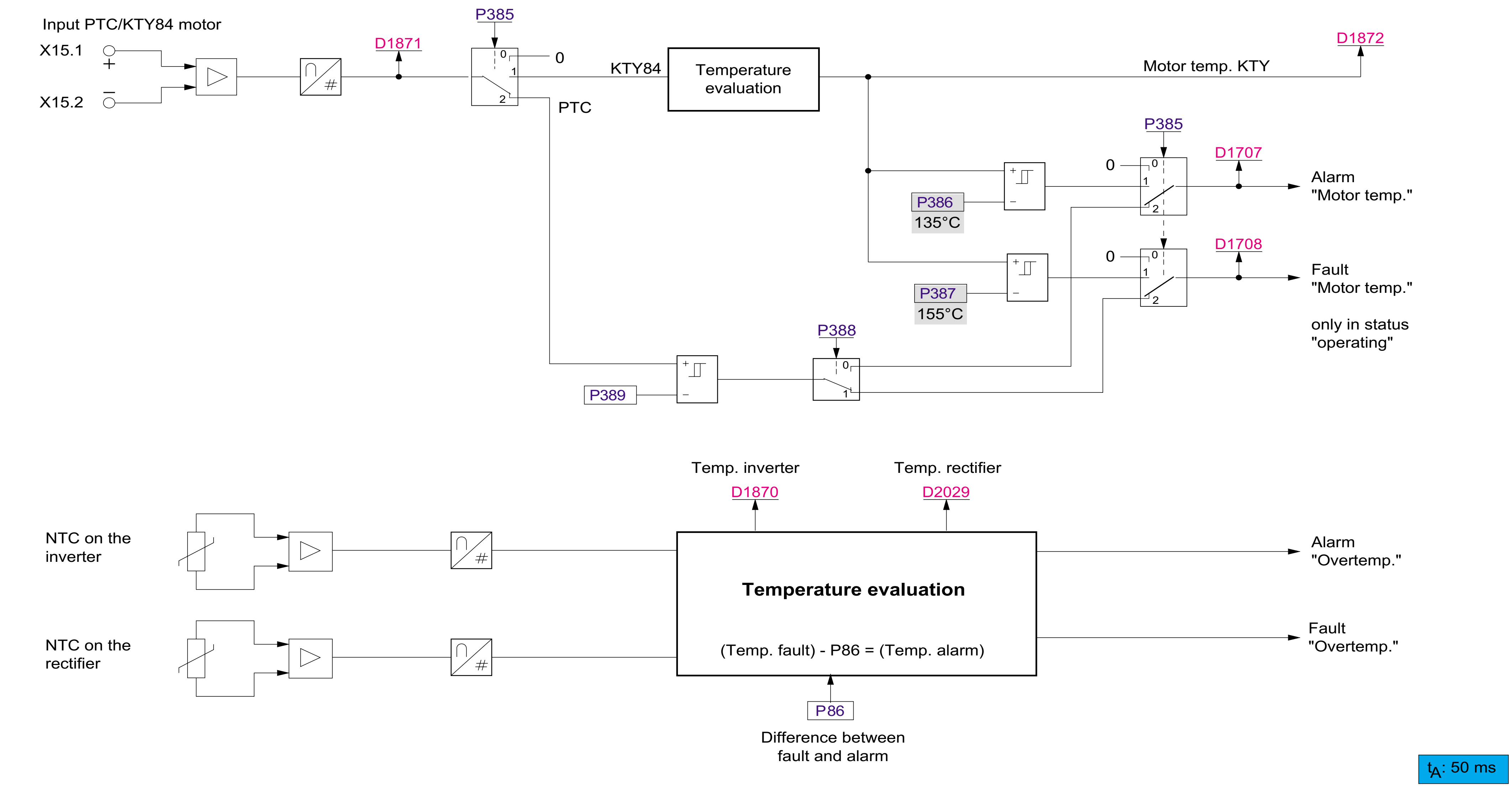
Sheet No. **24**

**Switching diagram of the PTC comparator**




**Switching diagram of the KTY comparator**



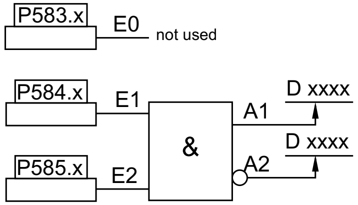



| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Function chart **REFU*drive 500* - RS51**<br>Temperature monitoring | Rexroth Indramat | Datum:<br>2002-07-11 | Firmware:<br>FWC-SR1700-004-04VRS-MS | Sheet No. **25** |

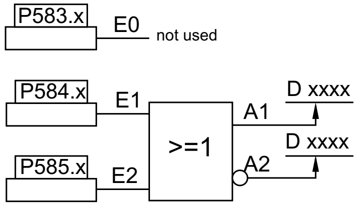
## Function of logic modules 0 ... 19

Function No. 0: P0586.xx = AND



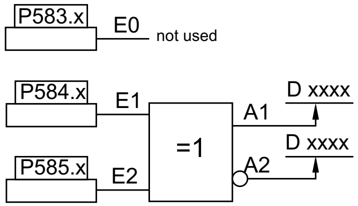

| AND | | | |
|---|---|---|---|
| E1 | E2 | Q | /Q |
| 0 | 0 | 0 | 1 |
| 0 | 1 | 0 | 1 |
| 1 | 0 | 0 | 1 |
| 1 | 1 | 1 | 0 |

Function No. 1: P0586.xx = OR




| OR | | | |
|---|---|---|---|
| E1 | E2 | Q | /Q |
| 0 | 0 | 0 | 1 |
| 0 | 1 | 1 | 0 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 1 | 0 |

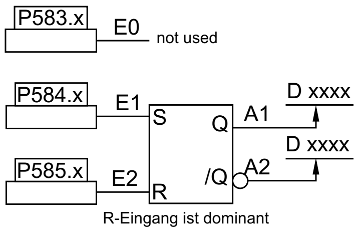
Function No. 2: P0586.xx = XOR




| XOR | | | |
|---|---|---|---|
| E1 | E2 | Q | /Q |
| 0 | 0 | 0 | 1 |
| 0 | 1 | 1 | 0 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 |

Function No. 3: P0586.xx = RS-memory

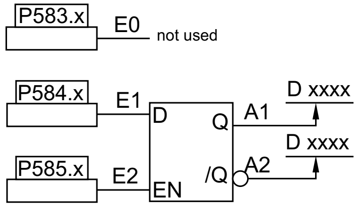
n = No change




| RS-Flipflop | | | |
|---|---|---|---|
| S | R | Q | /Q |
| 0 | 0 | n | n |
| 0 | 1 | 0 | 1 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 |

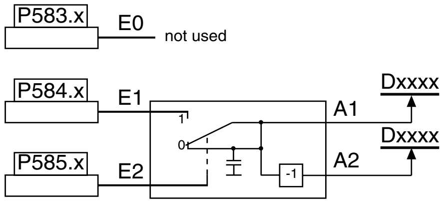
Function No. 4: P0586.xx = D-memory

n = No change

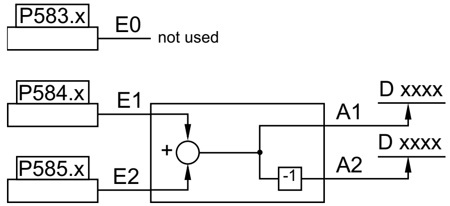



| D-Latch | | | |
|---|---|---|---|
| D | EN | Q | /Q |
| 0 | 0 | n | n |
| 0 | 1 | 0 | 1 |
| 1 | 0 | n | n |
| 1 | 1 | 1 | 0 |

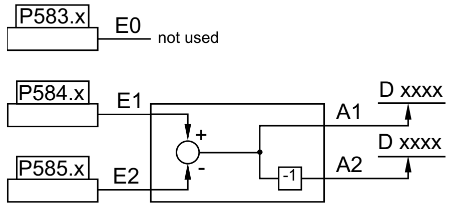
Function No. 5: P0586.xx = Sampel & hold



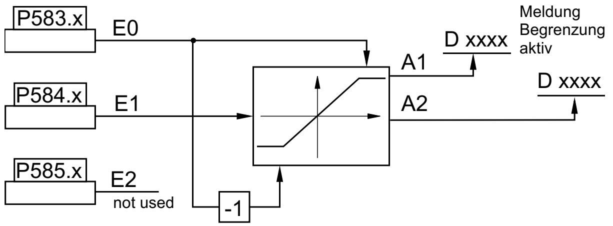

Function No. 6: P0586.xx = Angle adder



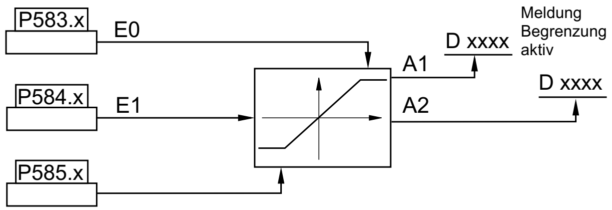

Function No. 7: P0586.xx = Angle subtractor



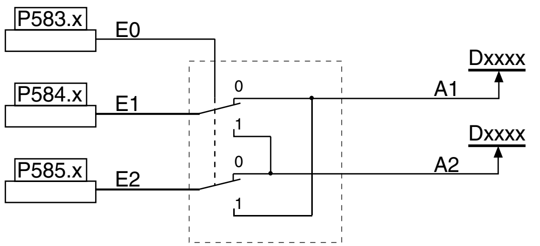
Function No. 8: P0586.xx = Symmetrical limiter



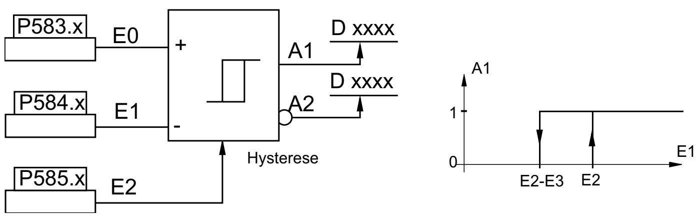

Function No. 9: P0586.xx = Limiter, 3 inputs



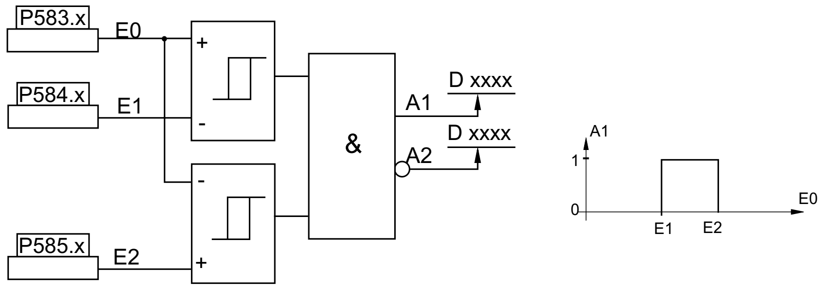

Function No. 10: P0586.xx = Process data switch



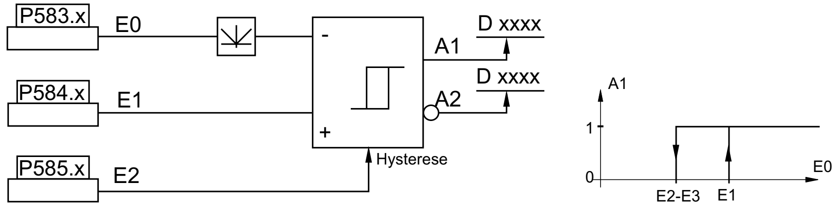

Function No. 11: P0586.xx = Comparator



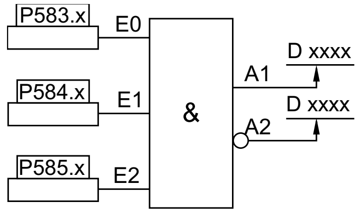

Function No. 12: P0586.xx = Window comparator



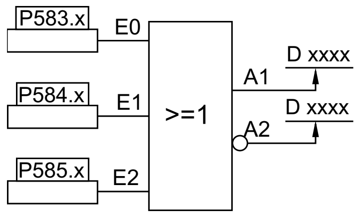

Function No. 13: P0586.xx = Absolute value comparator



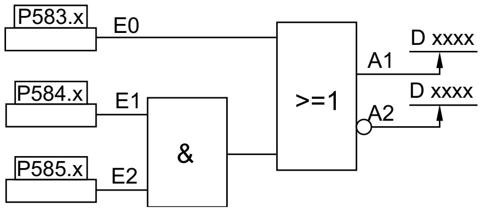

Function No. 14: P0586.xx =3 x AND



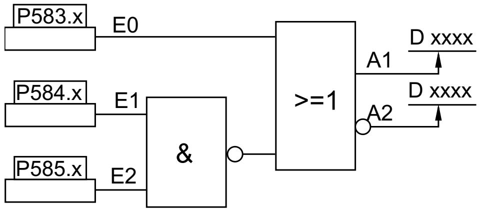

Function No. 15: P0586.xx = 3 x OR



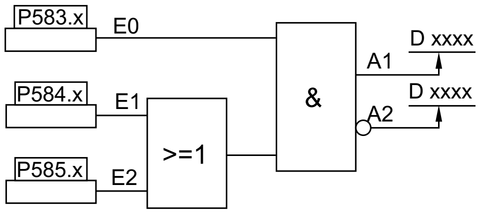
Function No. 16: P0586.xx = AND - OR



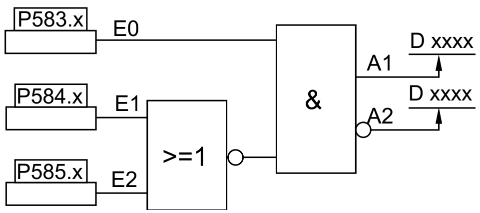

Function No. 17: P0586.xx = NAND - OR



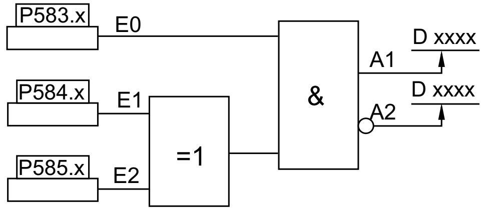

Function No. 18: P0586.xx = OR - AND



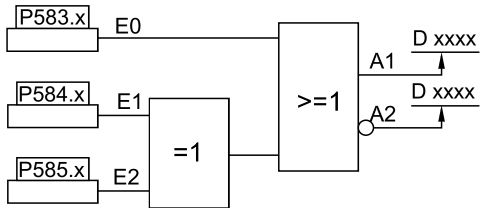

Function No. 19: P0586.xx = NOR - AND



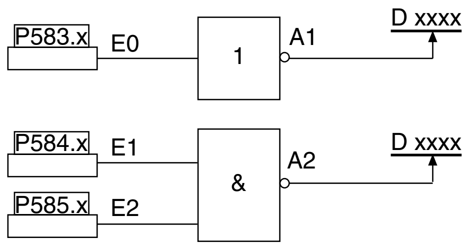

Function No. 20: P0586.xx = XOR - AND



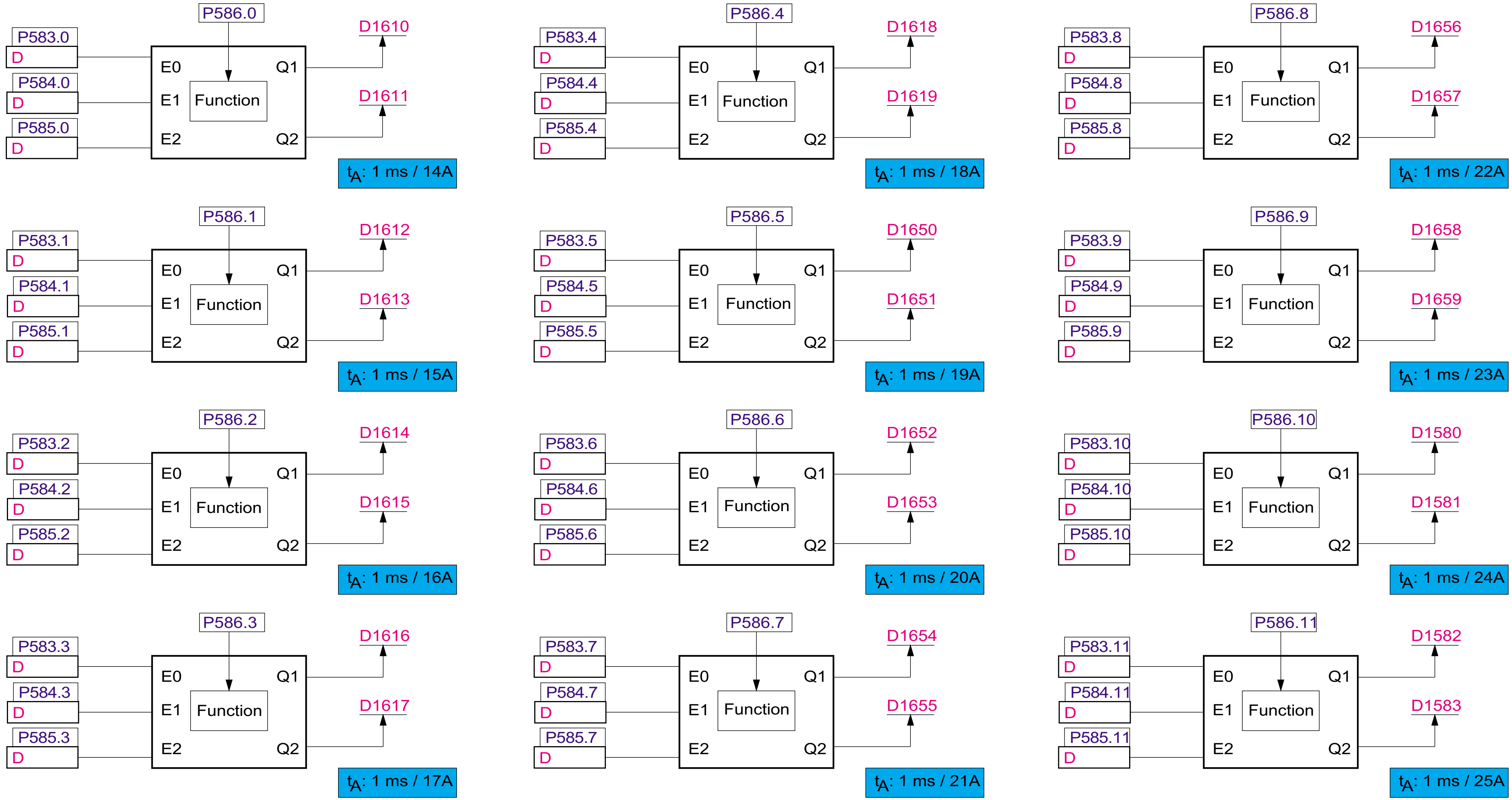

Function No. 21: P0586.xx = XOR - OR




Function No. 22: P0586.xx = NOT / NAND



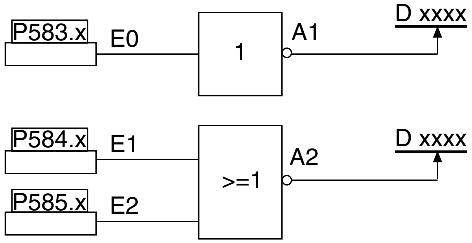

The result A1 of the NOT function is available in the same clock cycle before processing inputs E1 and E2.



P586.0
P583.0
D
P584.0
D
P585.0
D
E0
E1
E2
Function
Q1
Q2
D1610
D1611
tA: 1 ms / 14A
P586.4
P583.4
D
P584.4
D
P585.4
D
E0
E1
E2
Function
Q1
Q2
D1618
D1619
tA: 1 ms / 18A
P586.8
P583.8
D
P584.8
D
P585.8
D
E0
E1
E2
Function
Q1
Q2
D1656
D1657
tA: 1 ms / 22A
P586.1
P583.1
D
P584.1
D
P585.1
D
E0
E1
E2
Function
Q1
Q2
D1612
D1613
tA: 1 ms / 15A
P586.5
P583.5
D
P584.5
D
P585.5
D
E0
E1
E2
Function
Q1
Q2
D1650
D1651
tA: 1 ms / 19A
P586.9
P583.9
D
P584.9
D
P585.9
D
E0
E1
E2
Function
Q1
Q2
D1658
D1659
tA: 1 ms / 23A
P586.2
P583.2
D
P584.2
D
P585.2
D
E0
E1
E2
Function
Q1
Q2
D1614
D1615
tA: 1 ms / 16A
P586.6
P583.6
D
P584.6
D
P585.6
D
E0
E1
E2
Function
Q1
Q2
D1652
D1653
tA: 1 ms / 20A
P586.10
P583.10
D
P584.10
D
P585.10
D
E0
E1
E2
Function
Q1
Q2
D1580
D1581
tA: 1 ms / 24A
P586.3
P583.3
D
P584.3
D
P585.3
D
E0
E1
E2
Function
Q1
Q2
D1616
D1617
tA: 1 ms / 17A
P586.7
P583.7
D
P584.7
D
P585.7
D
E0
E1
E2
Function
Q1
Q2
D1654
D1655
tA: 1 ms / 21A
P586.11
P583.11
D
P584.11
D
P585.11
D
E0
E1
E2
Function
Q1
Q2
D1582
D1583
tA: 1 ms / 25A

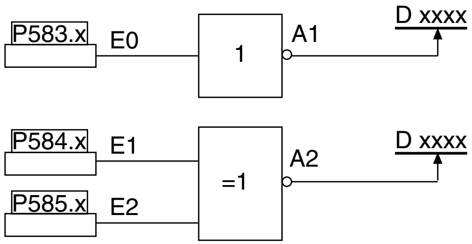

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function No. 23: P0586.xx = NOT / NOR

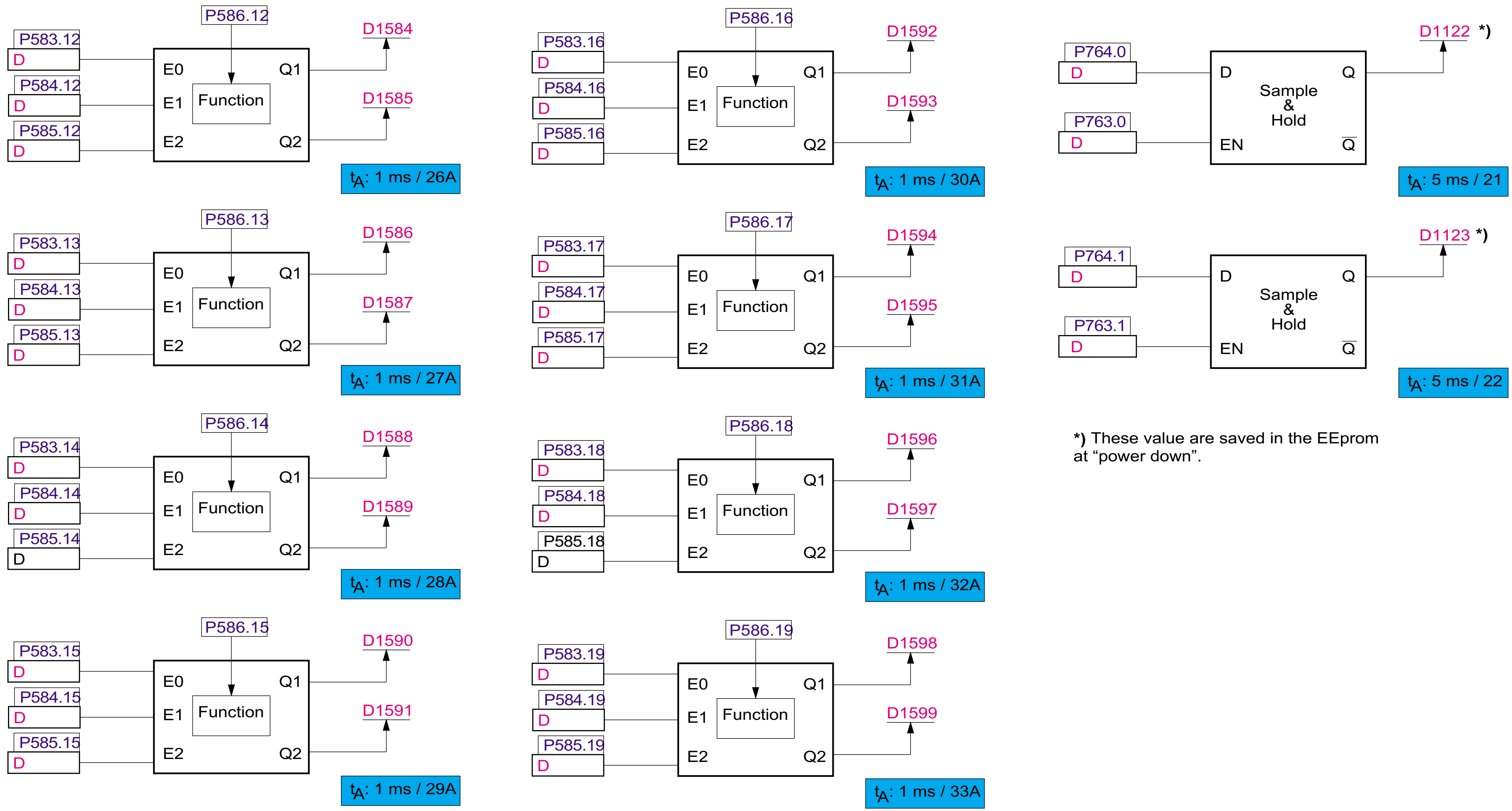



The result A1 of the NOT function is available in the same clock cycle before processing inputs E1 and E2.

Function No. 24: P0586.xx = NOT / XNOR




The result A1 of the NOT function is available in the same clock cycle before processing inputs E1 and E2.




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Logic gates 2

Rexroth Indramat

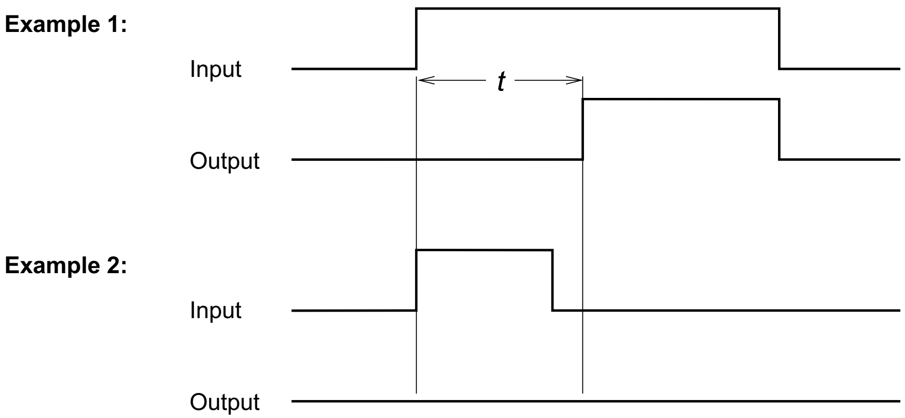
Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

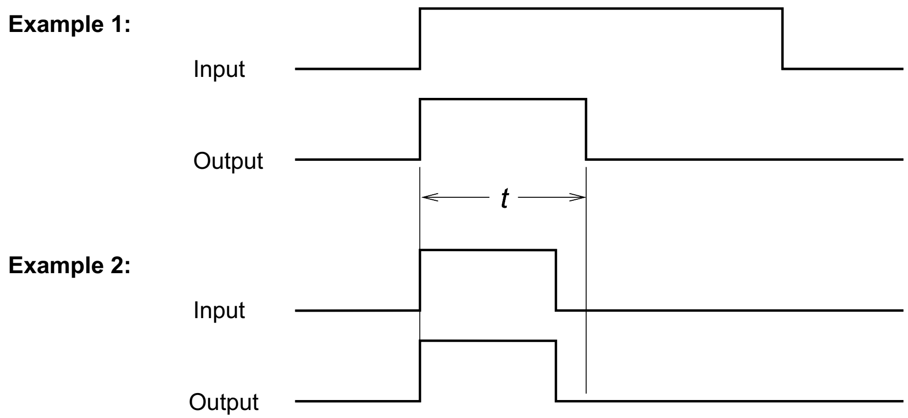
Sheet No. **27**

## Function diagrams of the timers:

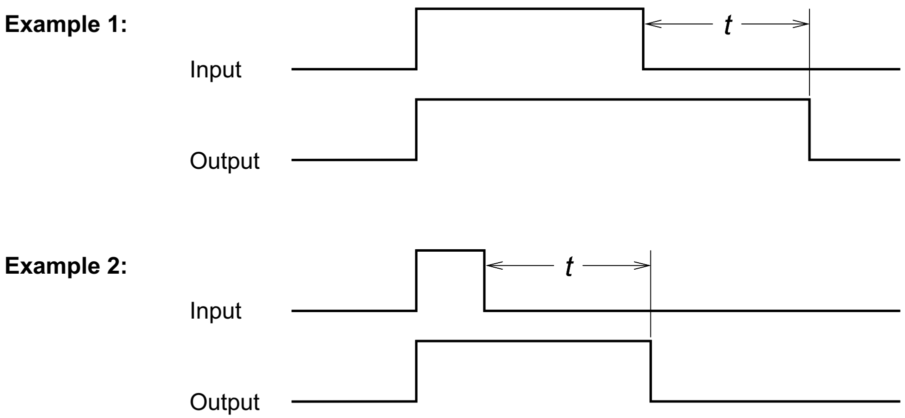
### Function 0 = Switch-on delay



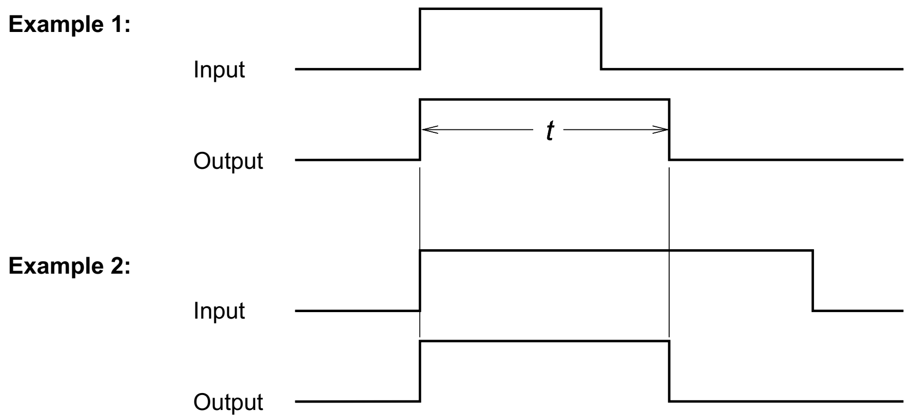

### Function 2 = pulse




### Function 1 = Switch-out delay

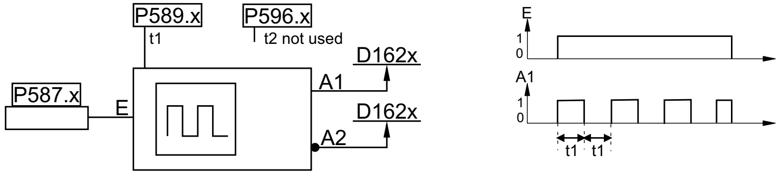



### Function 3 = Extended pulse

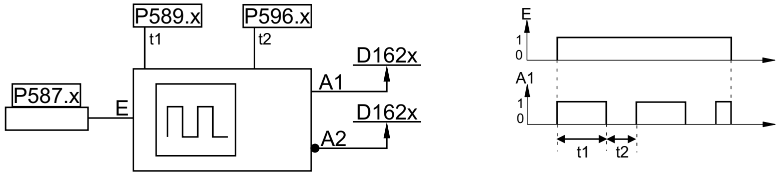



The characteristics of functions 0 ... 3 indicates the characteristic of $t_1$ ($t_2$ is not used).

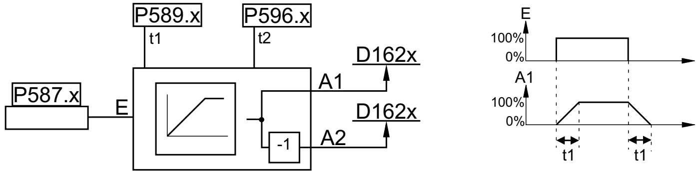
## Function No. 4 = Symmetrical pulse generator



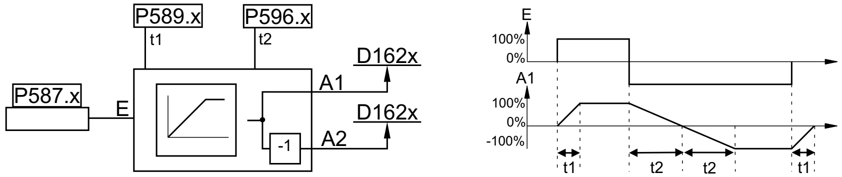

## Function No. 5 = Non-symmetrical pulse generator



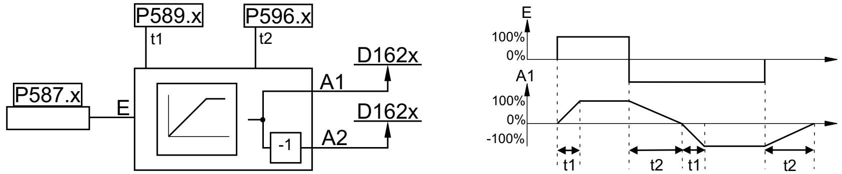

## Function No. 6 = Symmetrical ramp-function generator

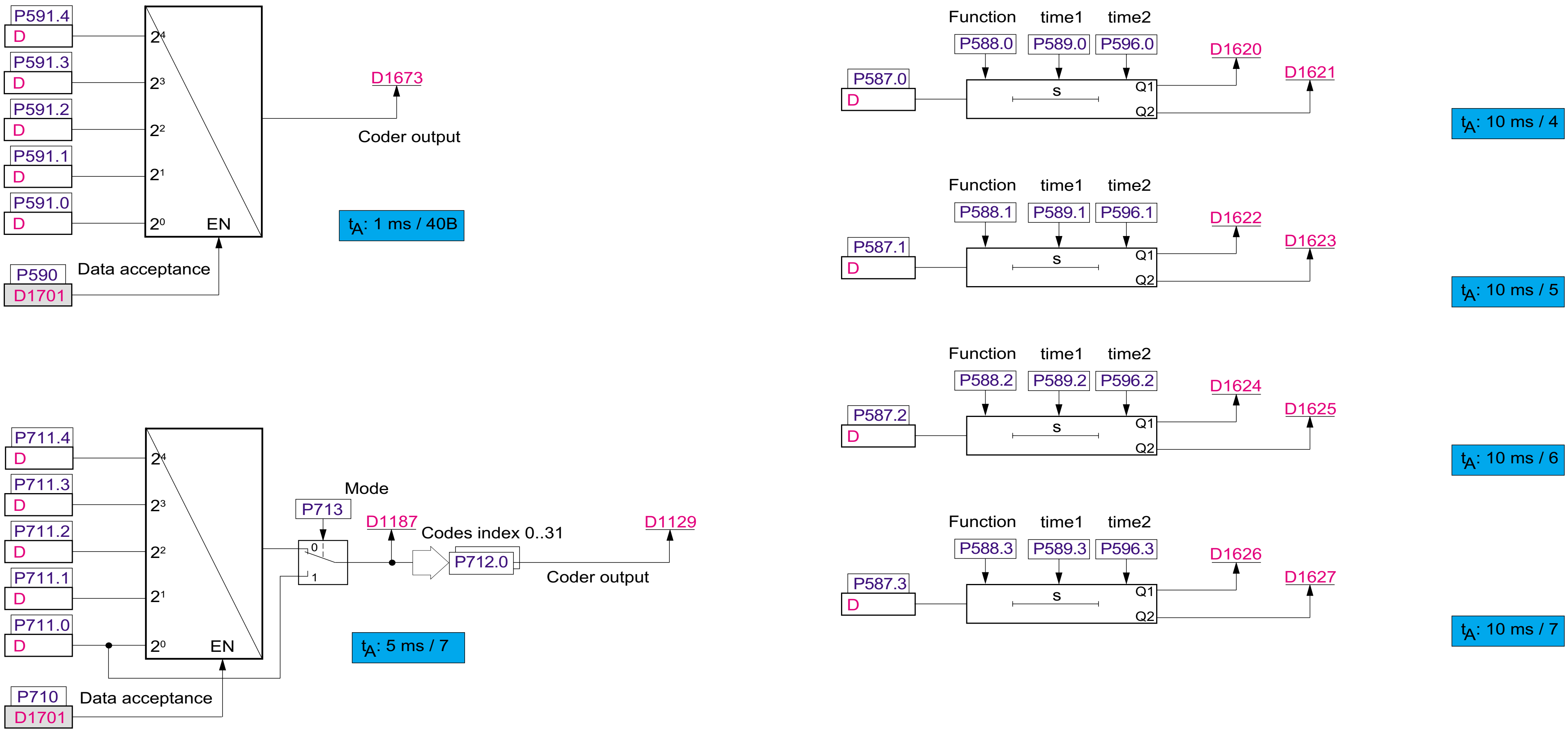



## Function No. 7 = Ramp-function generator M direction / sign




## Function No. 8 = Ramp-function generator, n direction / absolute value

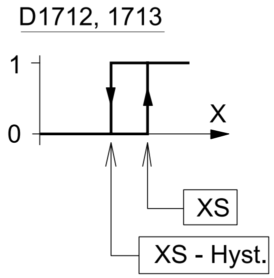


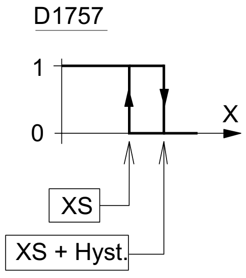


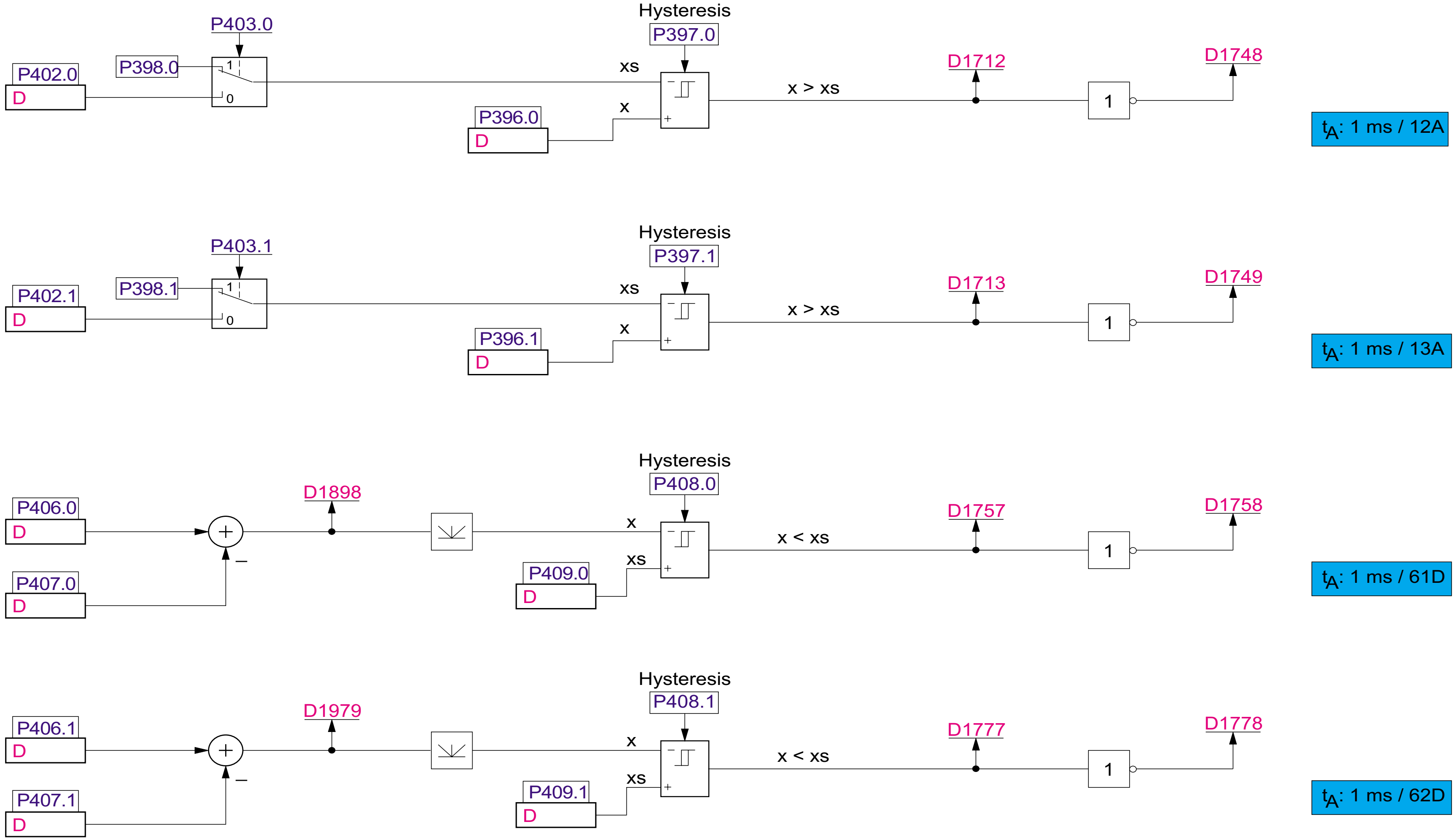

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Function chart **REFU*drive 500* - RS51**<br>Coder, timers | Rexroth Indramat | Datum:<br>2002- 07- 11 | Firmware:<br>FWC-SR1700-004-04VRS-MS | Sheet No. **28** |

## Switching diagrams of the comparators






| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

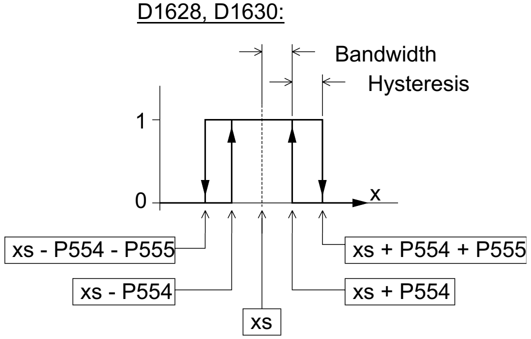
Function chart **REFU*drive 500* - RS51**
Comparators

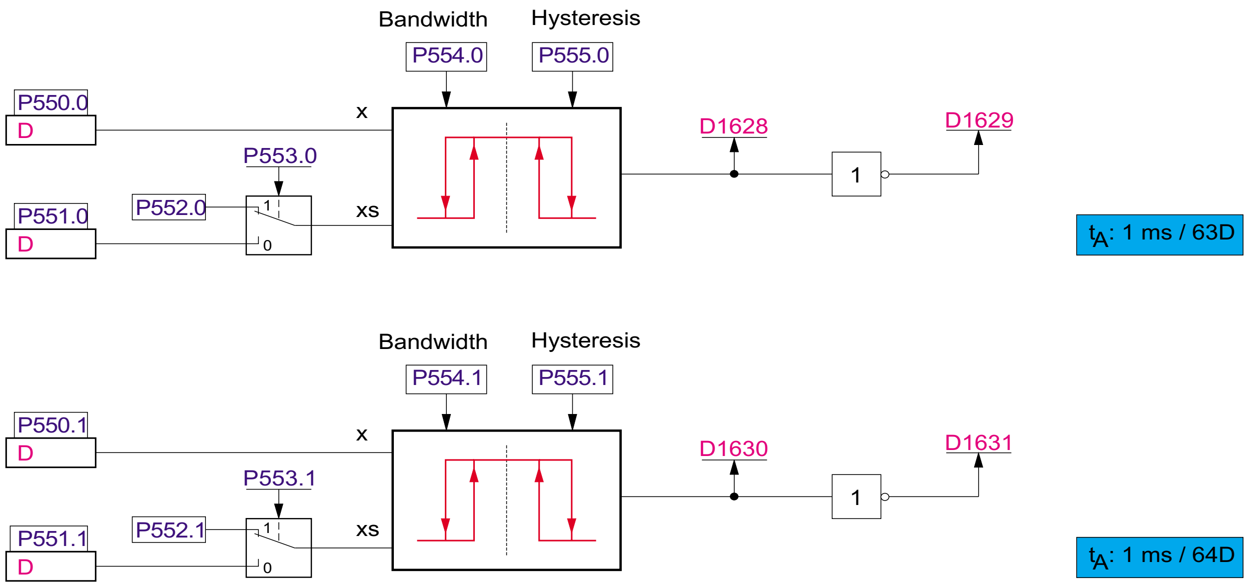
Rexroth Indramat

Datum: 2002- 07- 11

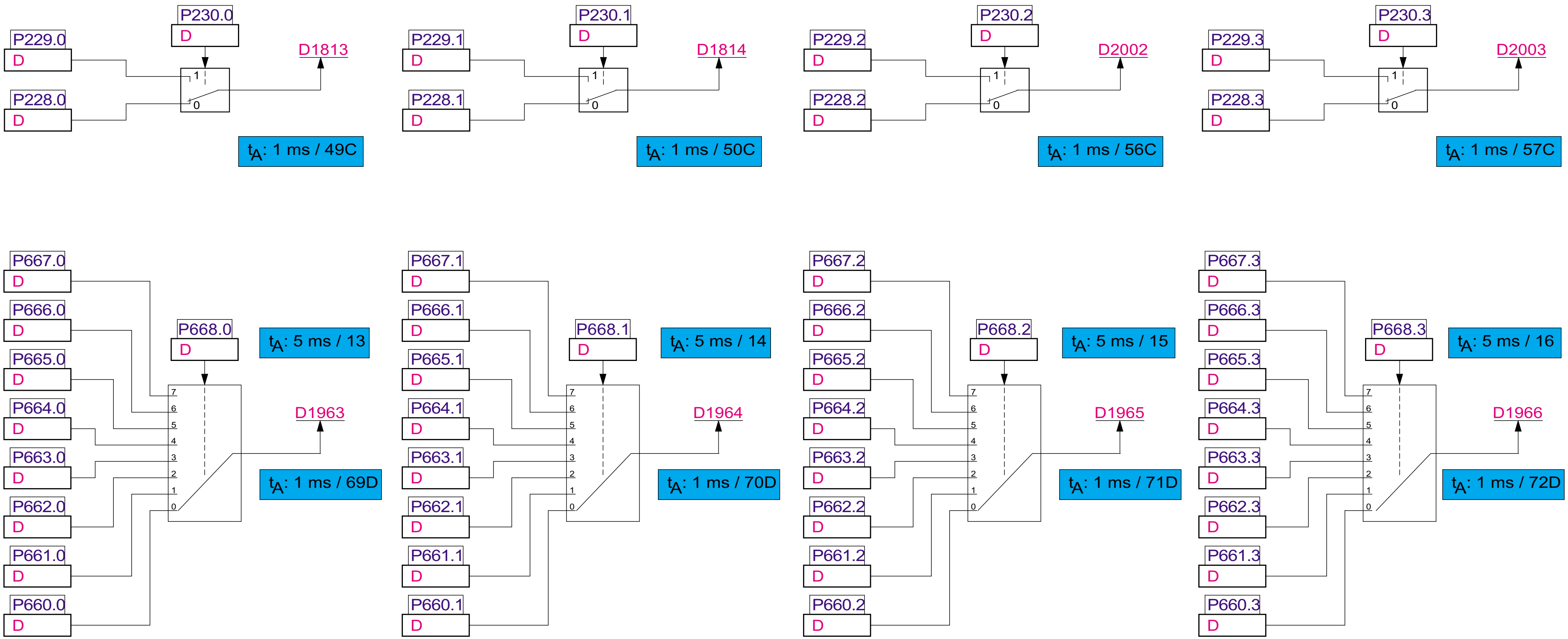
Firmware: FWC-SR1700-004-04VRS-MS

# Switching diagram, window comparator




Bandwidth
Hysteresis
P554.0
P555.0
P550.0
D
x
P553.0
P551.0
D
P552.0
1
0
xs
D1628
1
D1629
$t_A$: 1 ms / 63D
Bandwidth
Hysteresis
P554.1
P555.1
P550.1
D
x
P553.1
P551.1
D
P552.1
1
0
xs
D1630
1
D1631
$t_A$: 1 ms / 64D

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|



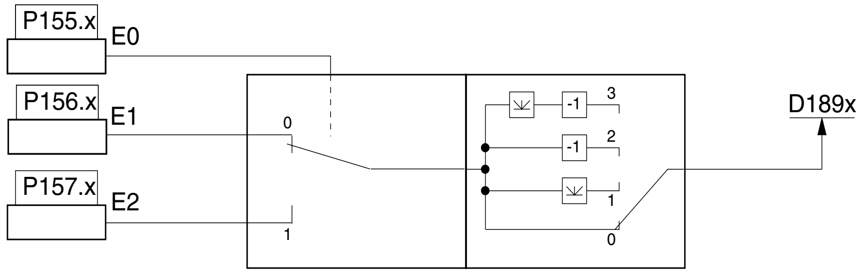

Processing time for P660.x ... P667.x : $t_A$= 1 ms. The change in the specified parameter becomes effective at the output (D-parameter) with a 1 ms delay (without changeover).

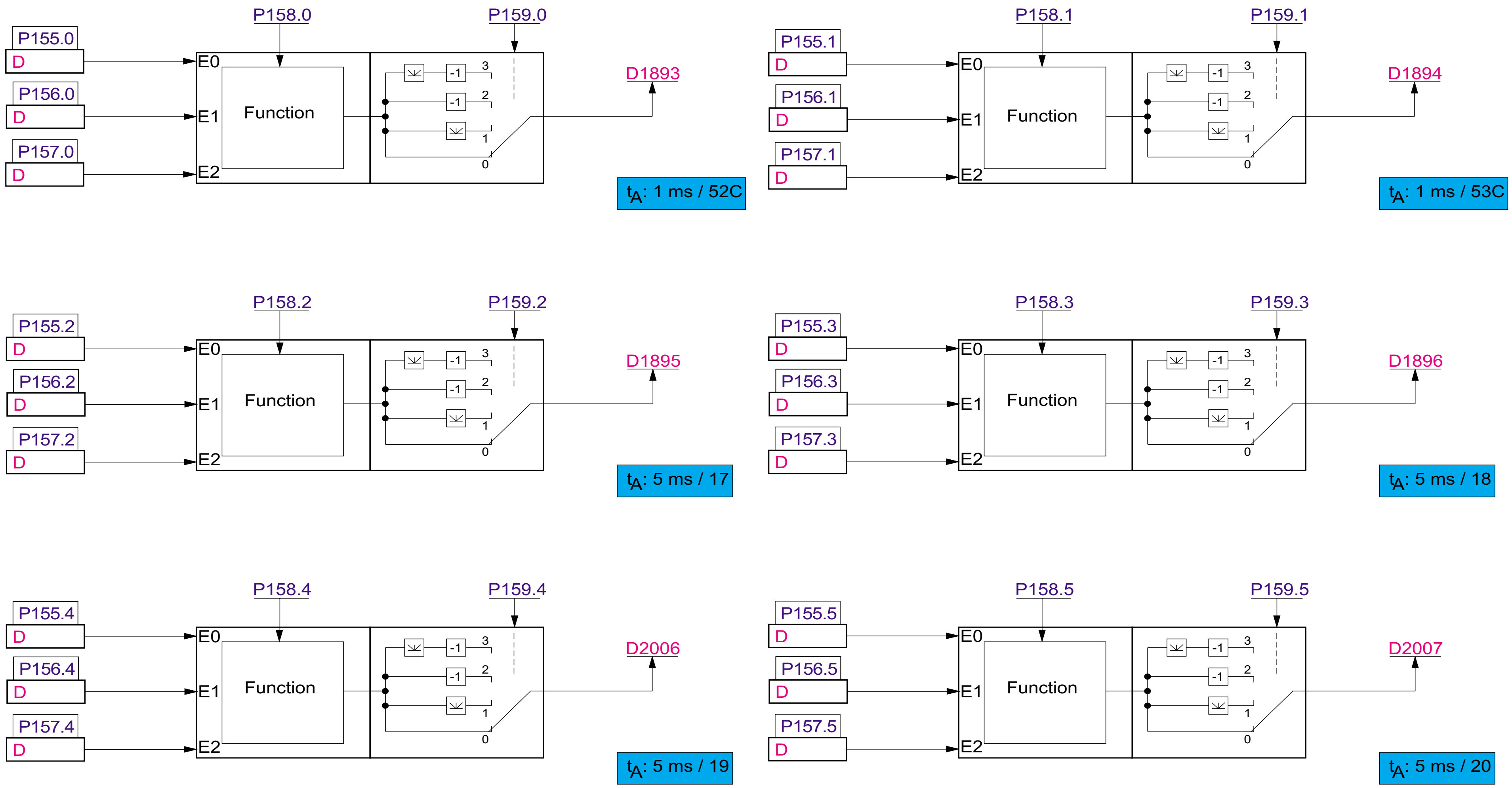
The multi-function blocks (Add,Sub,Mul,Div,Min,Max..) have been expanded by a 3rd input (P0153=E0) and the range of functions has been expanded by a process data switch.

For functions 0..5, input E0 is not used.

| | |
|---|---|
| Function 0 = Addition | E1 + E2 |
| Function 1 = Subtraction | E1 - E2 |
| Function 2 = Multiplication | E1 * E2 |
| Function 3 = Division | E1 / E2 |
| Function 4 = Min. value | Min. value of E1 or E2 |
| Function 5 = Max. value | Max. value of E1 or E2 |

Function No. 6: P0158.x = process data switch



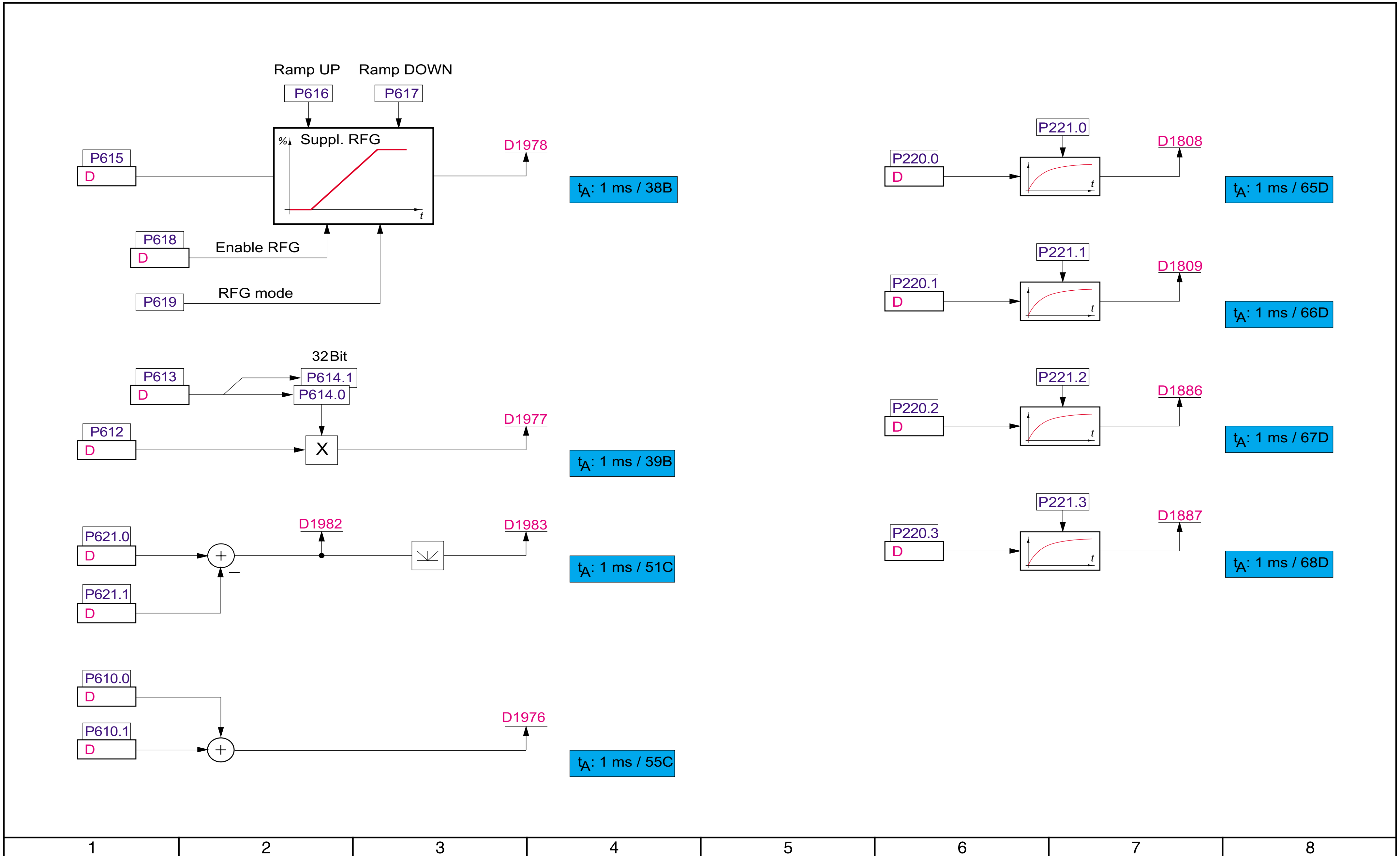



| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

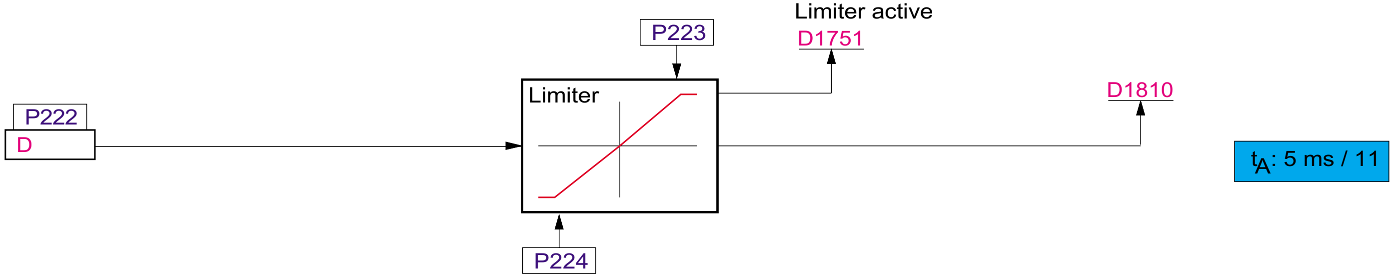
Function chart **REFU*drive 500* - RS51**
Multi-function blocks

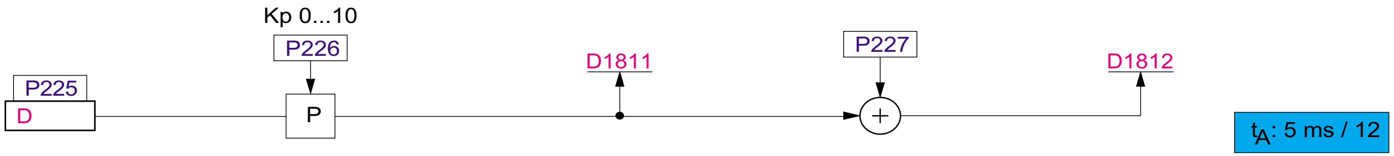
Rexroth Indramat

| Datum: | Firmware: | Sheet No. **32** | |
|---|---|---|---|
| 2002- 07- 11 | FWC-SR1700-004-04VRS-MS | | |

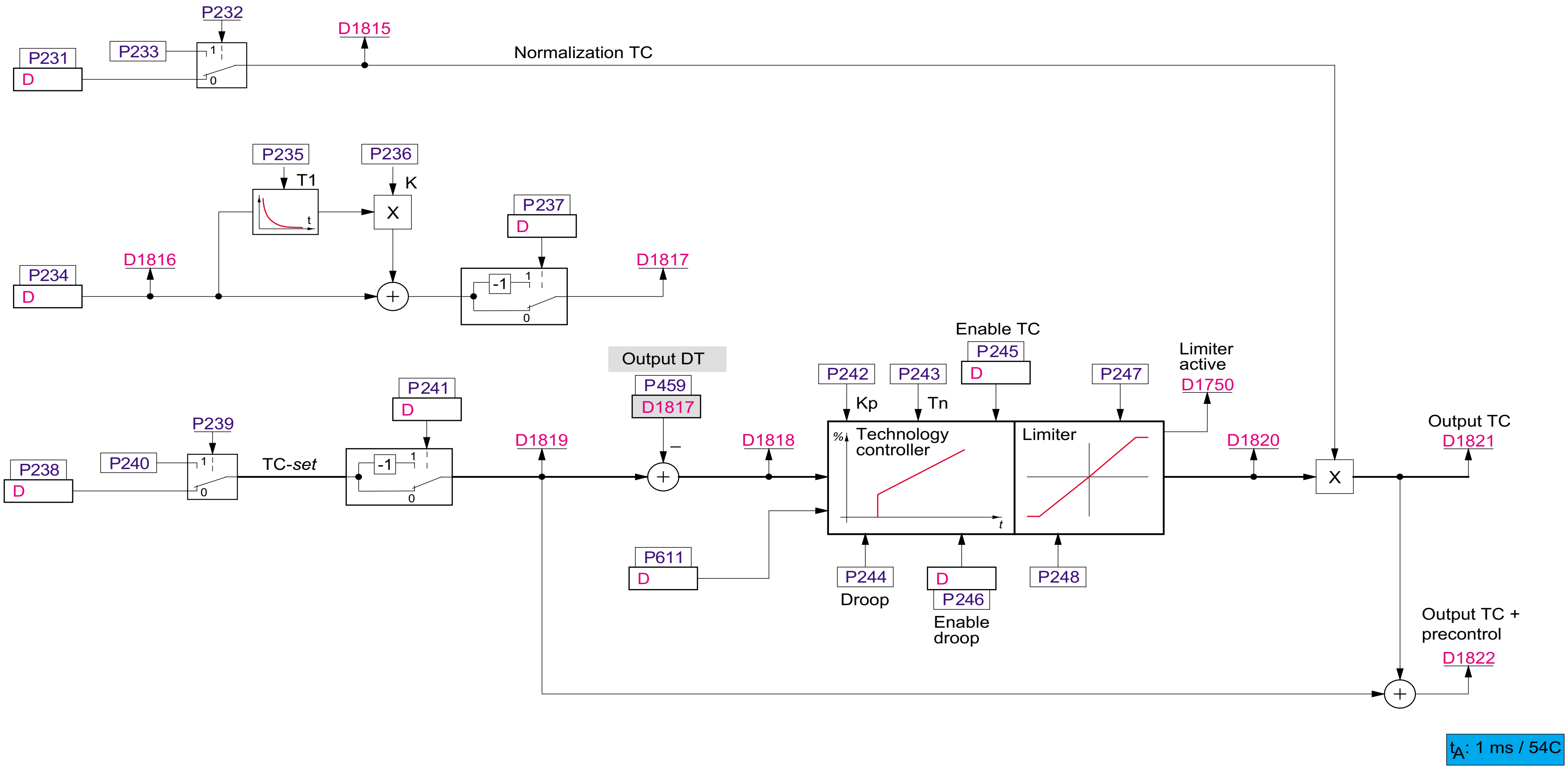


Ramp UP
P616
Ramp DOWN
P617
P615
D
Suppl. RFG
%
t
D1978
P618
D
Enable RFG
P619
RFG mode
tA: 1 ms / 38B
32 Bit
P613
D
P614.1
P614.0
P612
D
X
D1977
tA: 1 ms / 39B
P621.0
D
D1982
D1983
P621.1
D
tA: 1 ms / 51C
P610.0
D
P610.1
D
D1976
tA: 1 ms / 55C
P221.0
P220.0
D
D1808
tA: 1 ms / 65D
P221.1
P220.1
D
D1809
tA: 1 ms / 66D
P221.2
P220.2
D
D1886
tA: 1 ms / 67D
P221.3
P220.3
D
D1887
tA: 1 ms / 68D
1
2
3
4
5
6
7
8


Limiter active
D1751
P223
Limiter
D1810
P222
D
P224
tA: 5 ms / 11


Kp 0...10
P226
P
D1811
P227
D1812
P225
D
tA: 5 ms / 12

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Technological controller

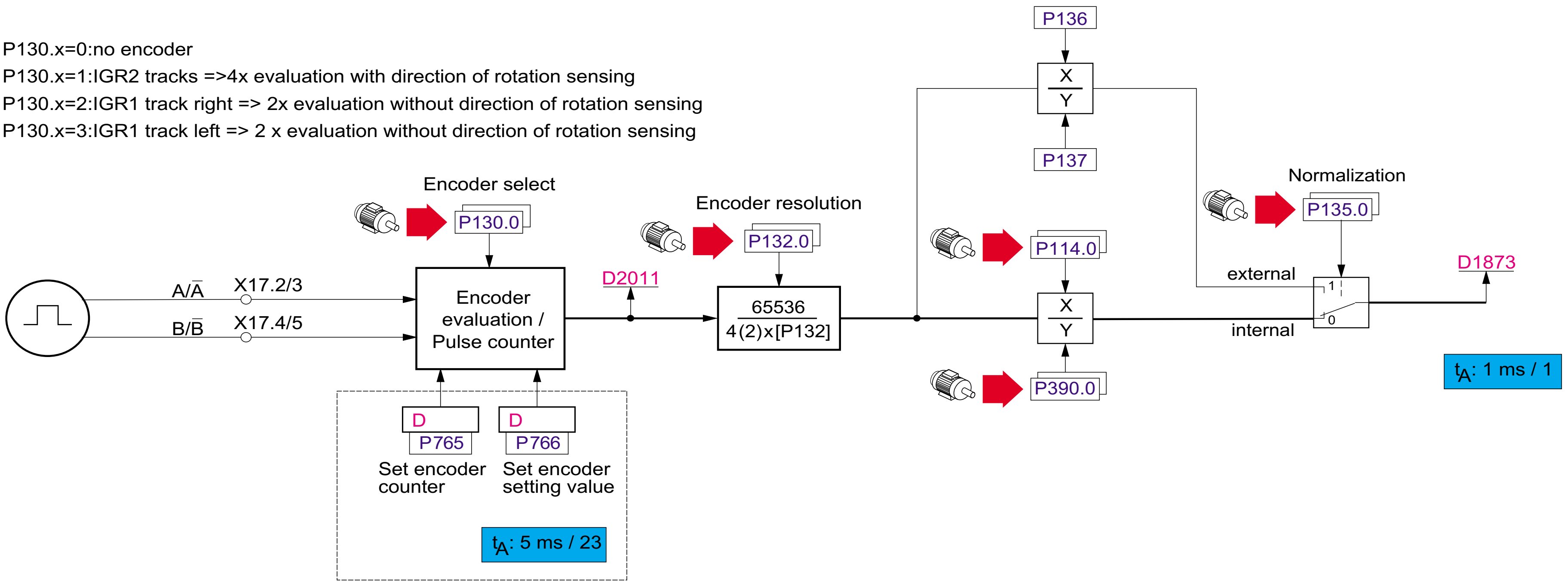
Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **35**

P130.x=0:no encoder
P130.x=1:IGR2 tracks =>4x evaluation with direction of rotation sensing
P130.x=2:IGR1 track right => 2x evaluation without direction of rotation sensing
P130.x=3:IGR1 track left => 2 x evaluation without direction of rotation sensing




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

## Definition, service interface

The service interface is a serial RS 232 interface which is integrated in the drive as standard (X11 on SR17000).

## Processing the service interface process data

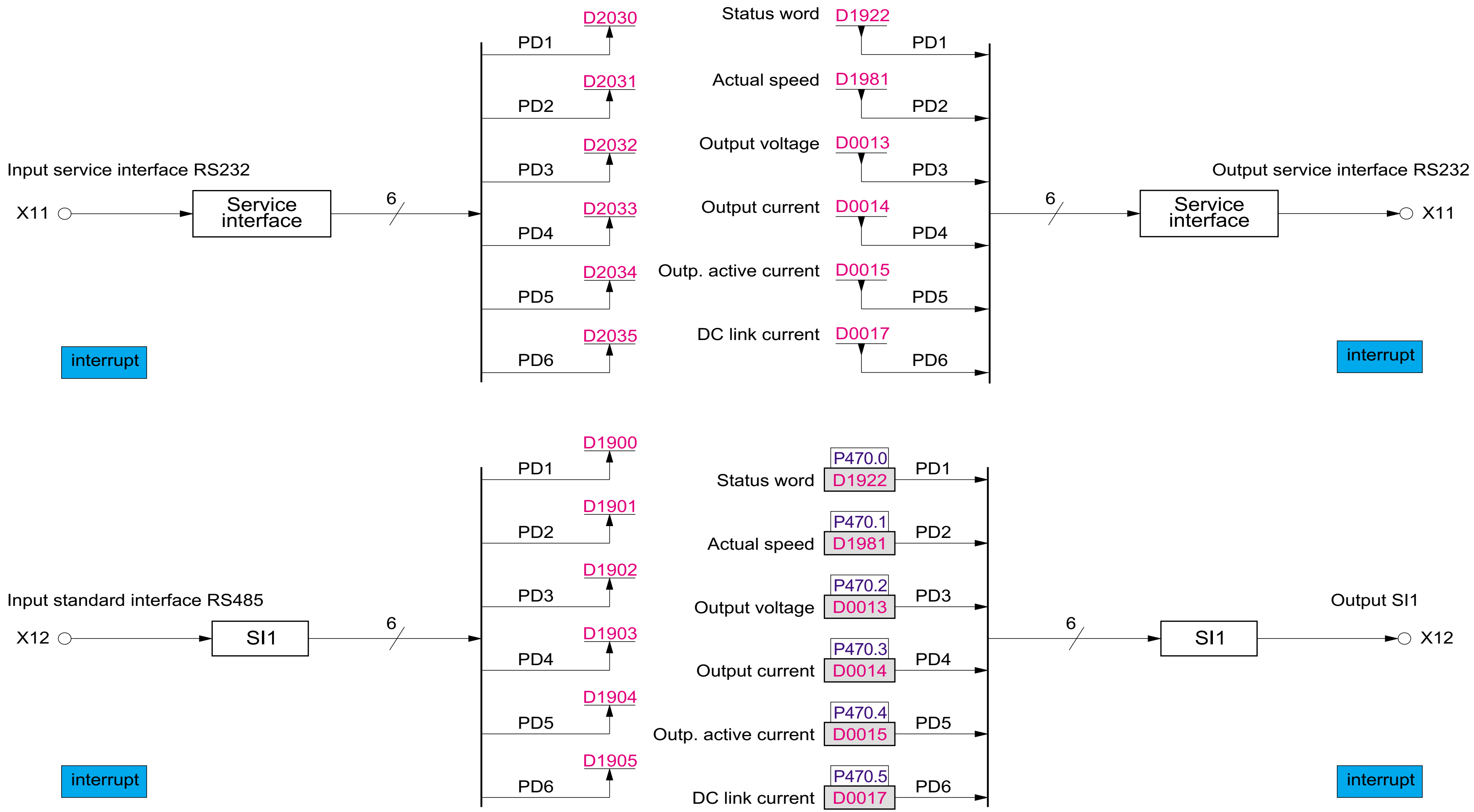
The process data, received via the service interface, is converted in the drive into display parameters which can be freely connected to the variable parameters sources to control the drive.

## SI1 definition

SI1 is the serial RS 485 interface which is integrated into the converter as standard (X12 on the SR17000)

## Processing process data SI1

The process data, received via SI1, is converted into display parameters in the drive which can be connected to the variable parameters sources for drive control. The drive sends its actual values and process data via SI1 by connecting D parameters in the variable parameter sources for output SI1.




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Process data service interface and SI1

Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

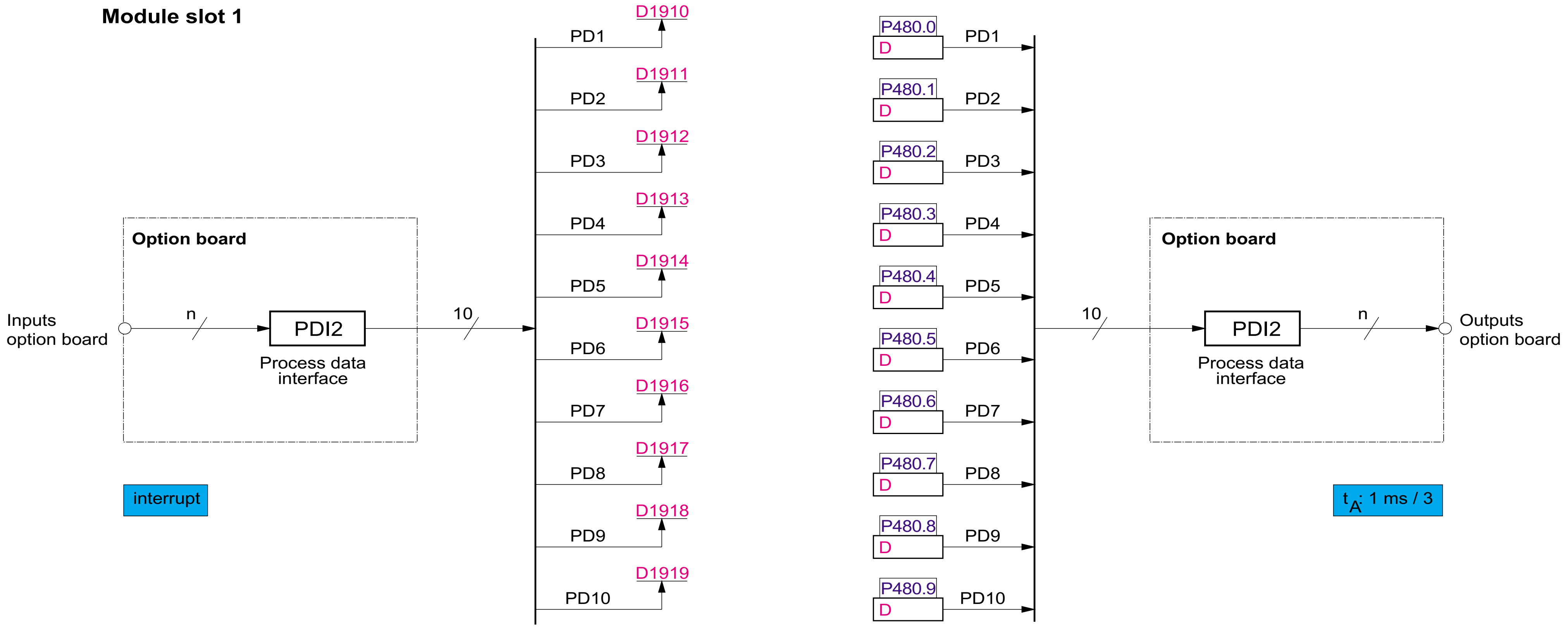
Sheet No. **37**

## Option slot 1

Communications between the “control board” (SR 17000) and the option card are realized via the process data interface. The option slot 1 is the standard slot for serial interfaces. An option card can be inserted at each of the two option slots of the “control board”.
The firmware addresses an option card in slot 1 as interface 2 (SI2).

## Communications of a serial interface card via the process data interface SI2.

The process data, received via the serial interface protocol, is appropriately implemented on the process data channels of SI2 and are available as D parameters in the drive. They can then be freely connected to the variable parameter sources to control the drive. The drive sends its actual values as process data via SI2 by connecting D parameters in the variable parameter sources for output SI2.


Module slot 1
Option board
Inputs option board
n
PDI2
Process data interface
10
interrupt
PD1
PD2
PD3
PD4
PD5
PD6
PD7
PD8
PD9
PD10
D1910
D1911
D1912
D1913
D1914
D1915
D1916
D1917
D1918
D1919
P480.0
P480.1
P480.2
P480.3
P480.4
P480.5
P480.6
P480.7
P480.8
P480.9
D
Option board
PDI2
Process data interface
Outputs option board
$t_A$: 1 ms / 3

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

## Option slot 2

Communications between the control board (SR 17000) and the option card is realized via the process data interface. Option slot 2 is the slot for the terminal strip expansion (KL17037).
The firmware addresses the option card at slot 2 as interface 4 (SI4).

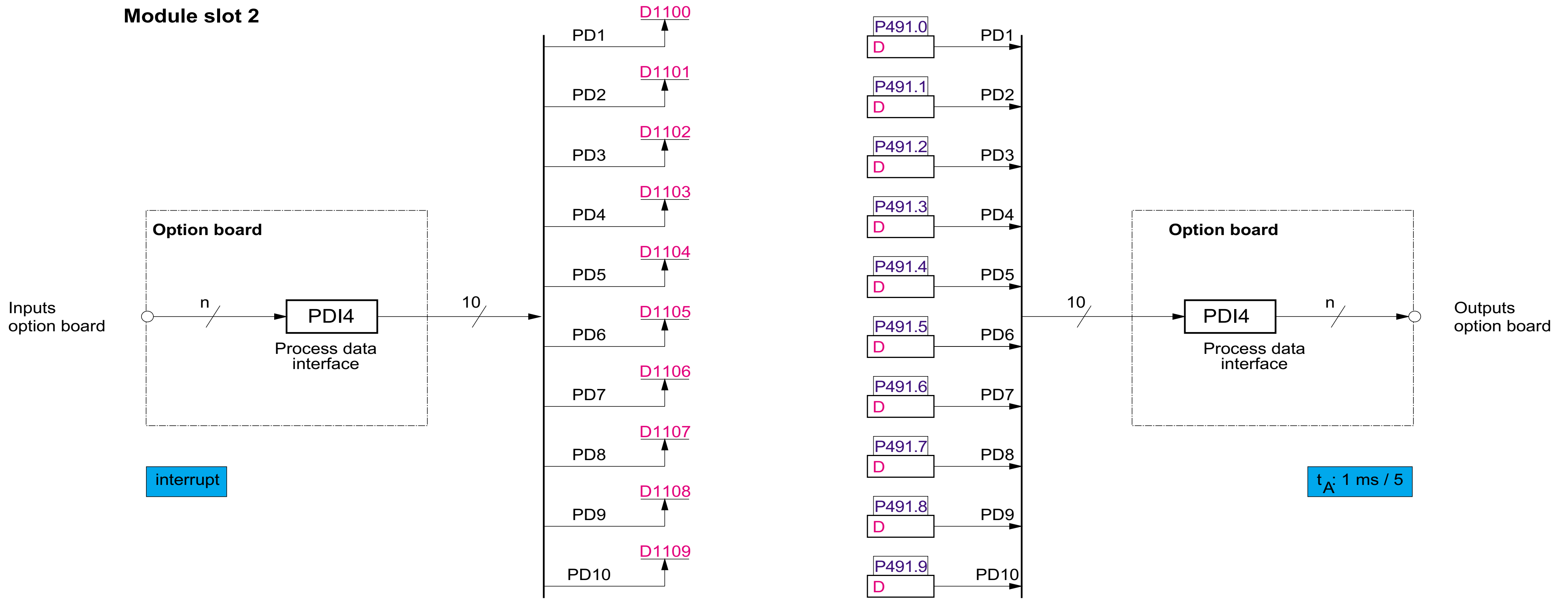
## Communications of the terminal strip expansion via the process data interface SI4

The digital inputs of the terminal strip expansion are converted to the process data channels of SS4 and are available as D parameters.

| Option input | Process data channel | D-parameter |
|---|---|---|
| Digital input 1 | PZD1 from SI4 | D1100 |
| Digital input 2 | PZD2 from SI4 | D1101 |
| Digital input 3 | PZD3 from SI4 | D1102 |
| Digital input 4 | PZD4 from SI4 | D1103 |

The analog input of the terminal strip expansion is permanently connected to the firmware module for the analog input of option slot 2 and is available as D1806, refer to function chart Sheet 10.
Signals are connected to the digital and analog outputs by connecting the appropriate D parameters to the variable sources of output SI4.

| Option output | Process data channel | Var. parameter source |
|---|---|---|
| Relay output 1 | PZD1 from SI4 | P0491.0 |
| Relay output 2 | PZD2 from SI4 | P0491.1 |
| Relay output 3 | PZD3 from SI4 | P0491.2 |
| Relay output 4 | PZD4 from SI4 | P0491.3 |
| Analog output 1 | PZD5 from SI4 | P0491.4 |
| Analog output 2 | PZD6 from SI4 | P0491.5 |




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Process data interface SI4

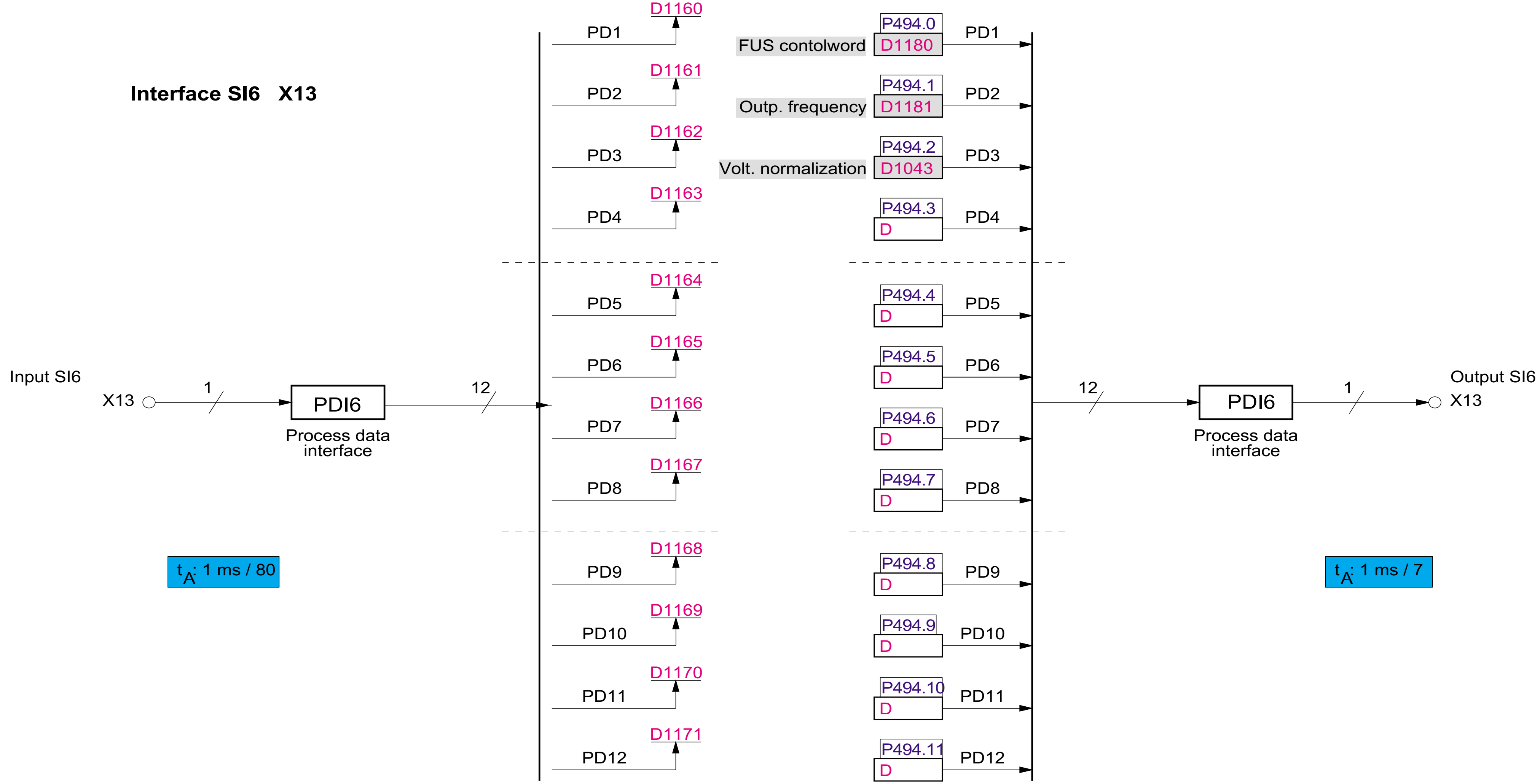
Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

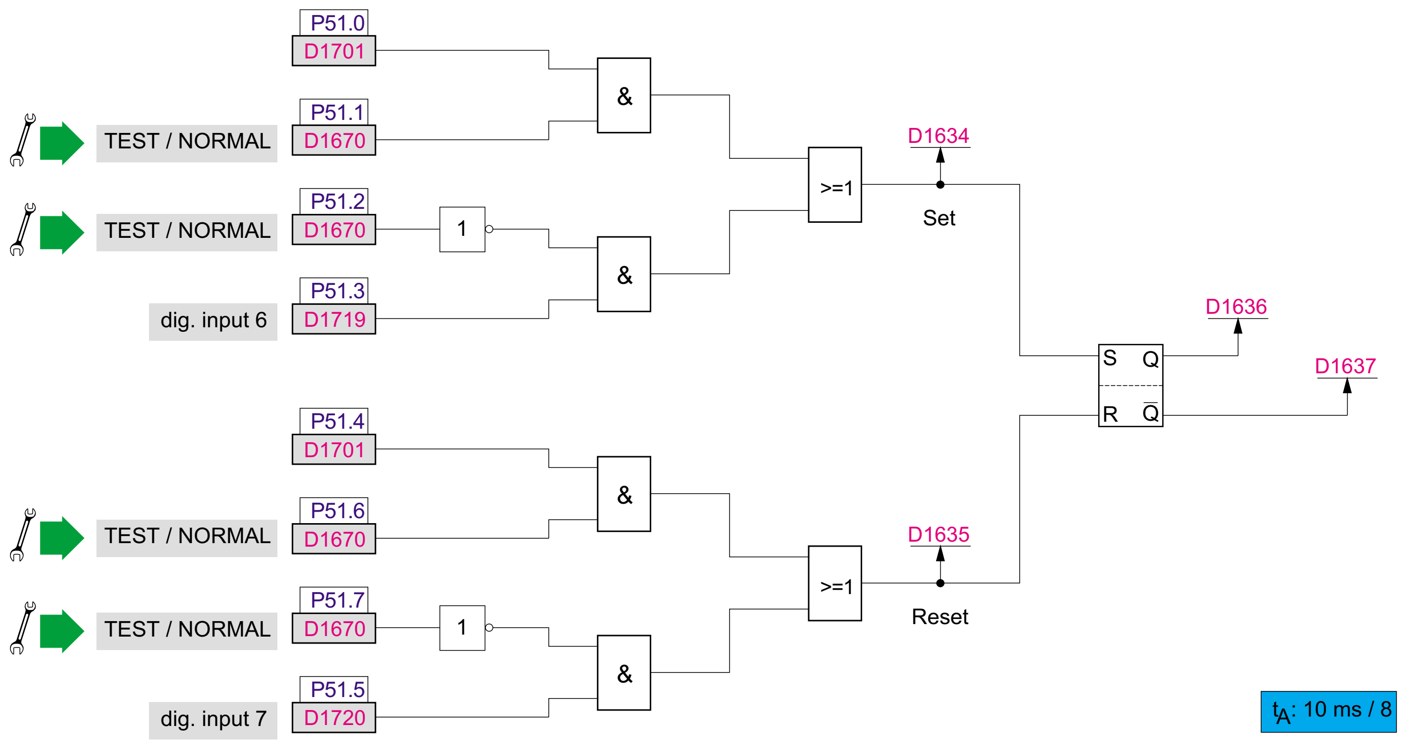
**Serial interface SI6 X13:**

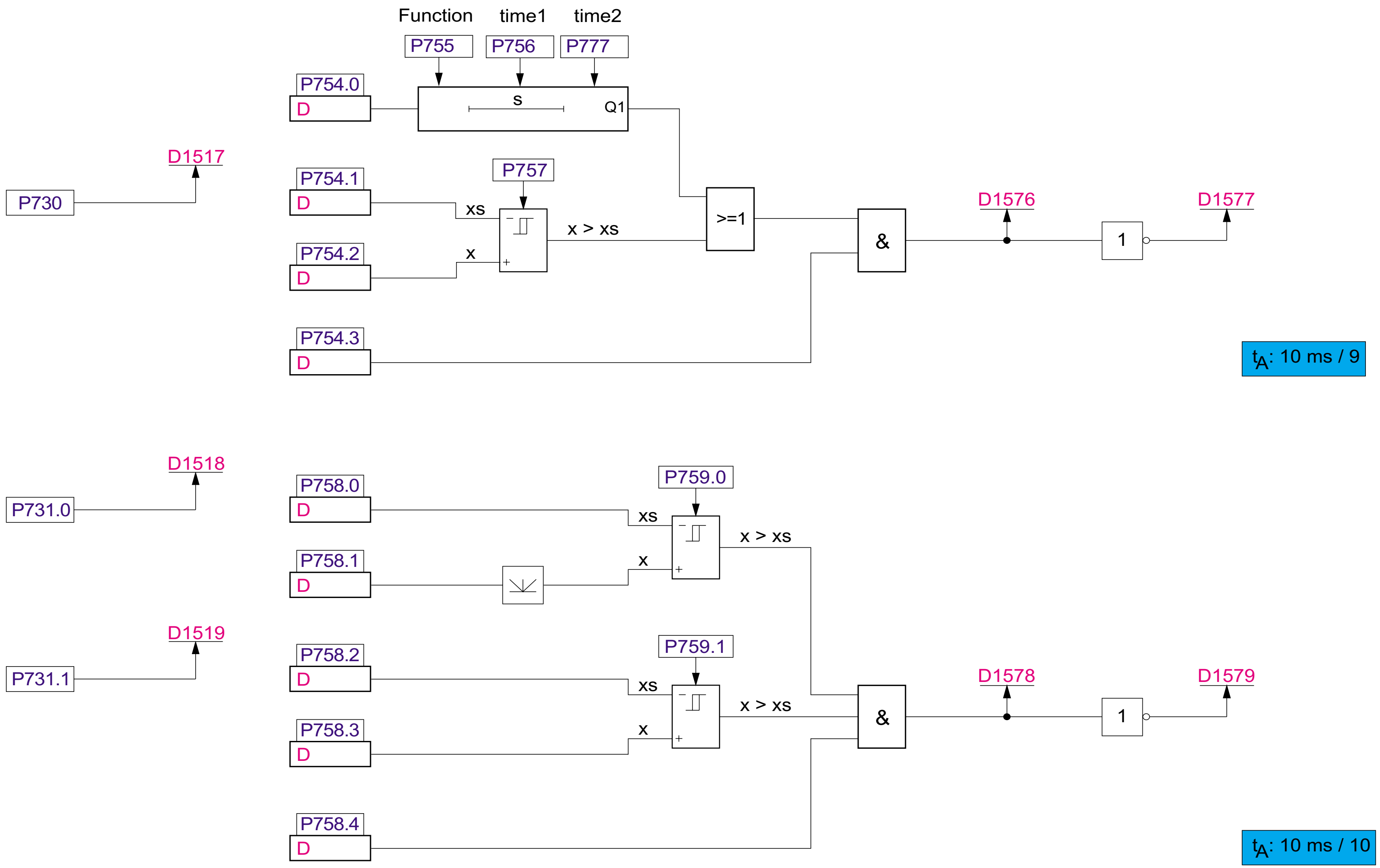
**Only for internal use**




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Function chart **REFU*drive 500* - RS51**<br>Process data interface SI6 | Rexroth Indramat | Datum:<br>2002- 07- 11 | Firmware:<br>FWC-SR1700-004-04VRS-MS | Sheet No **40** |


P51.0
D1701
P51.1
TEST / NORMAL
D1670
P51.2
TEST / NORMAL
D1670
1
P51.3
dig. input 6
D1719
&
&
>=1
D1634
Set
D1636
D1637
S Q
R Q
P51.4
D1701
P51.6
TEST / NORMAL
D1670
P51.7
TEST / NORMAL
D1670
1
P51.5
dig. input 7
D1720
&
&
>=1
D1635
Reset
tA: 10 ms / 8
1 2 3 4 5 6 7 8




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

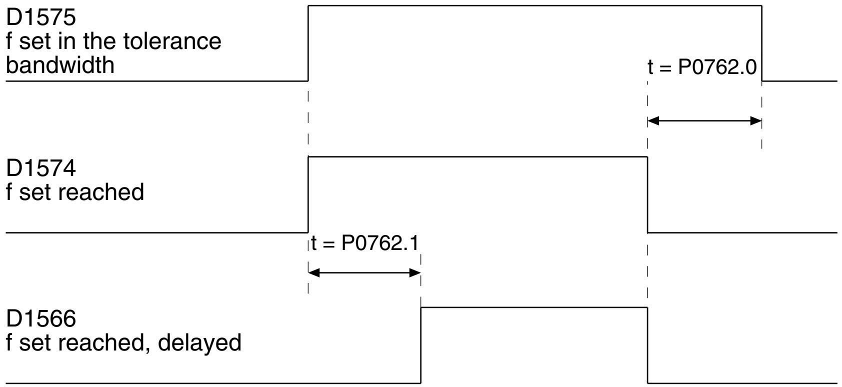
Function chart **REFU*drive 500* - RS51**
Threshold value logic

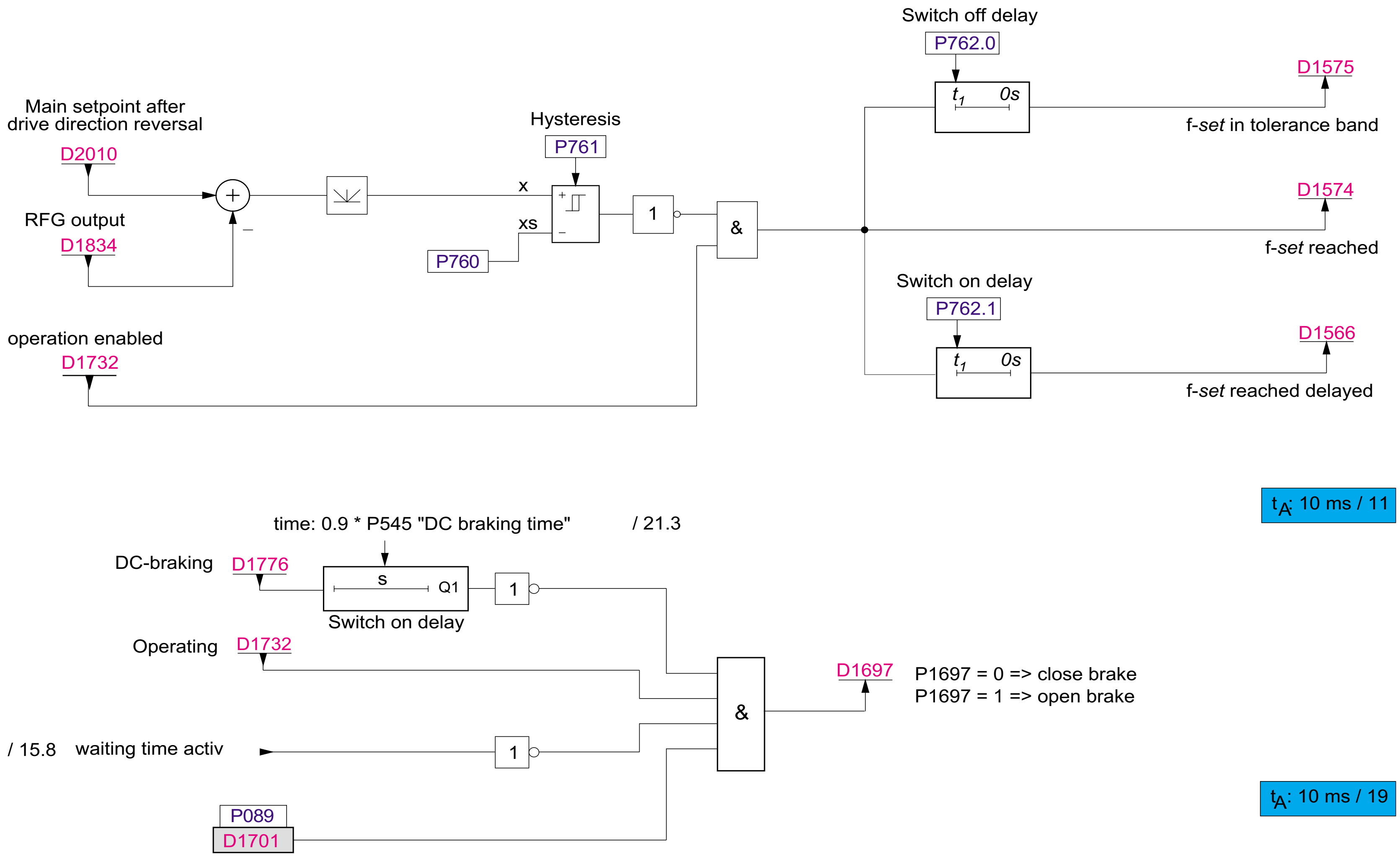
Rexroth Indramat

Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **42**


D1575
f set in the tolerance
bandwidth
t = P0762.0
D1574
f set reached
t = P0762.1
D1566
f set reached, delayed




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Function chart **REFU*drive 500* - RS51**
Logic, „f set reached“

Rexroth Indramat

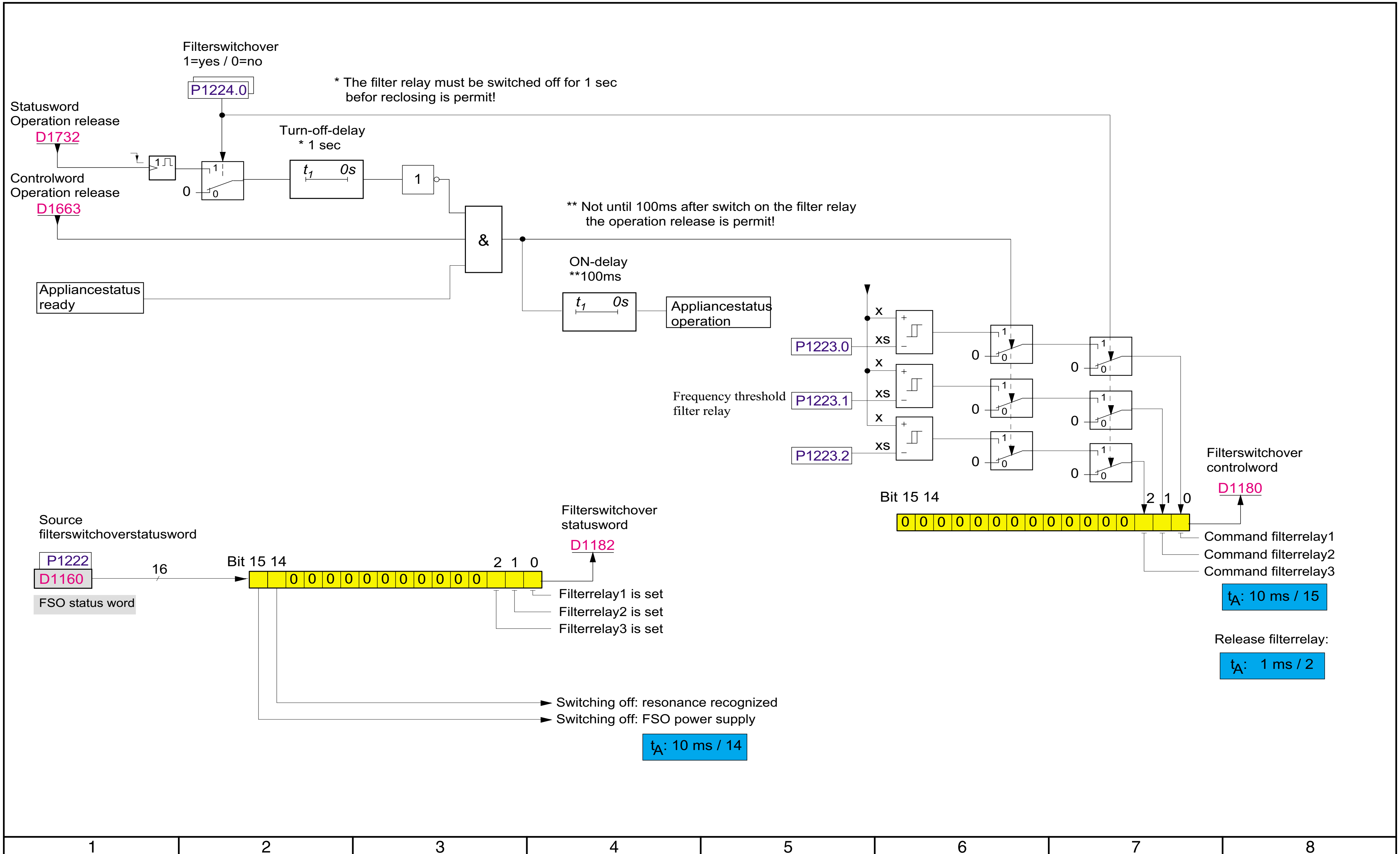
Datum: 2002- 07- 11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **43**

**Output filter changeover:**

The drive is equipped with an output filter which can be changed-over. The filter avoids that the motor winding is stressed by harmonics as a result of the pulse-width modulated output voltage. This is especially important for grinding spindle drives as it is difficult to dissipate the resulting heat loss.
The drive automatically selects the appropriate filter bank using the actual limiting frequency (D1179). The selected filter bank is automatically switched-in before operation is enabled. The limit frequency can be entered in parameter P0178.xx as a function of the parameter set.
Refer to Sheet 18.




Function chart **REFU*drive 500* - RS51**

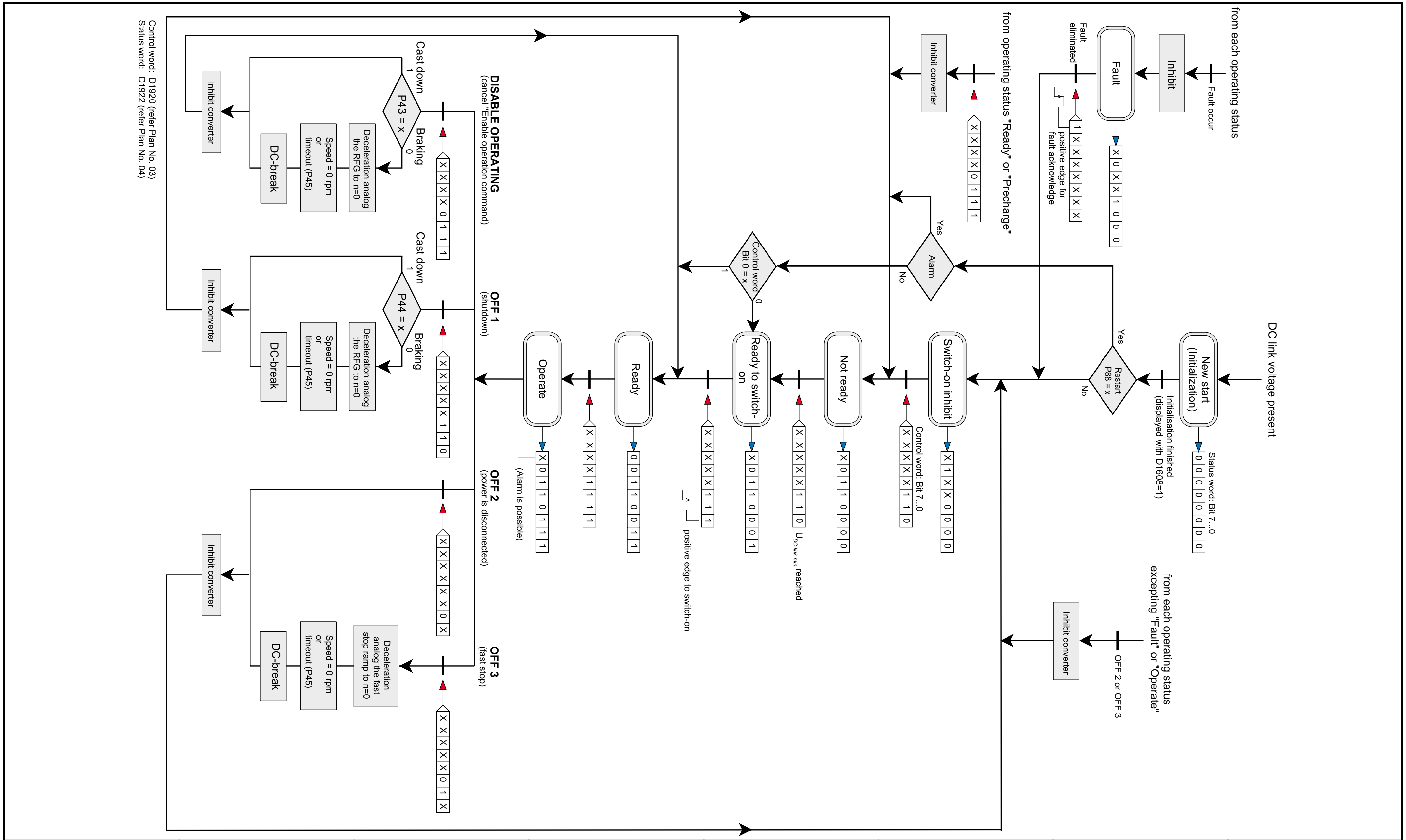
Output filer changeover

Rexroth Indramat

Datum: 2002- 07- 11

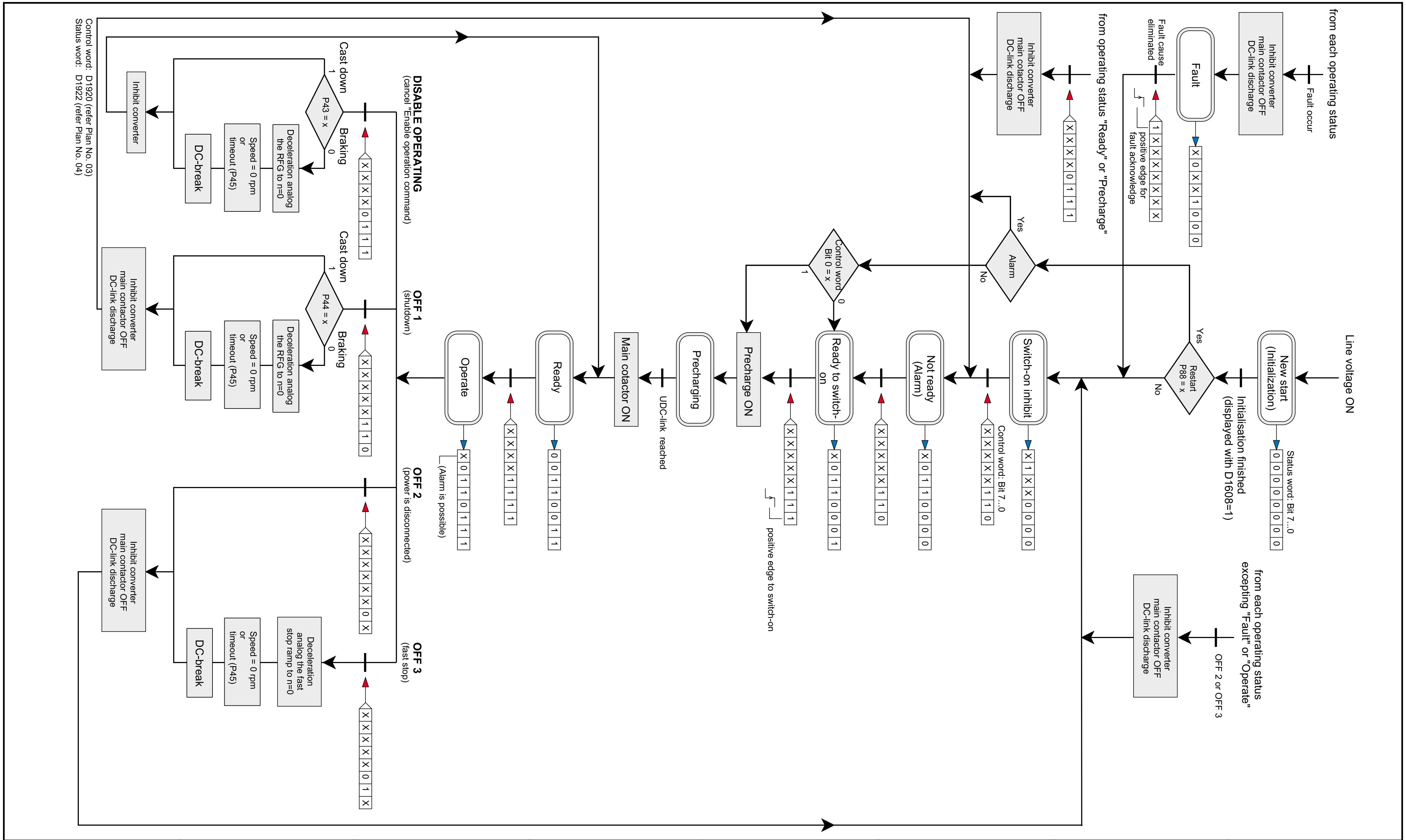
Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **44**




| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Function chart **REFU*drive 500*** **- RS51**<br>Control and status word diagram, drive | Rexroth Indramat | Datum:<br>2002-07-11 | Firmware:<br>FWC-SR1700-004-04VRS-MS | Sheet No. **45** |




Function chart **REFU*drive 500* - RS51**
Control and status word diagram, inverter

Rexroth Indramat

Datum: 2002-07-11

Firmware: FWC-SR1700-004-04VRS-MS

Sheet No. **46**

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