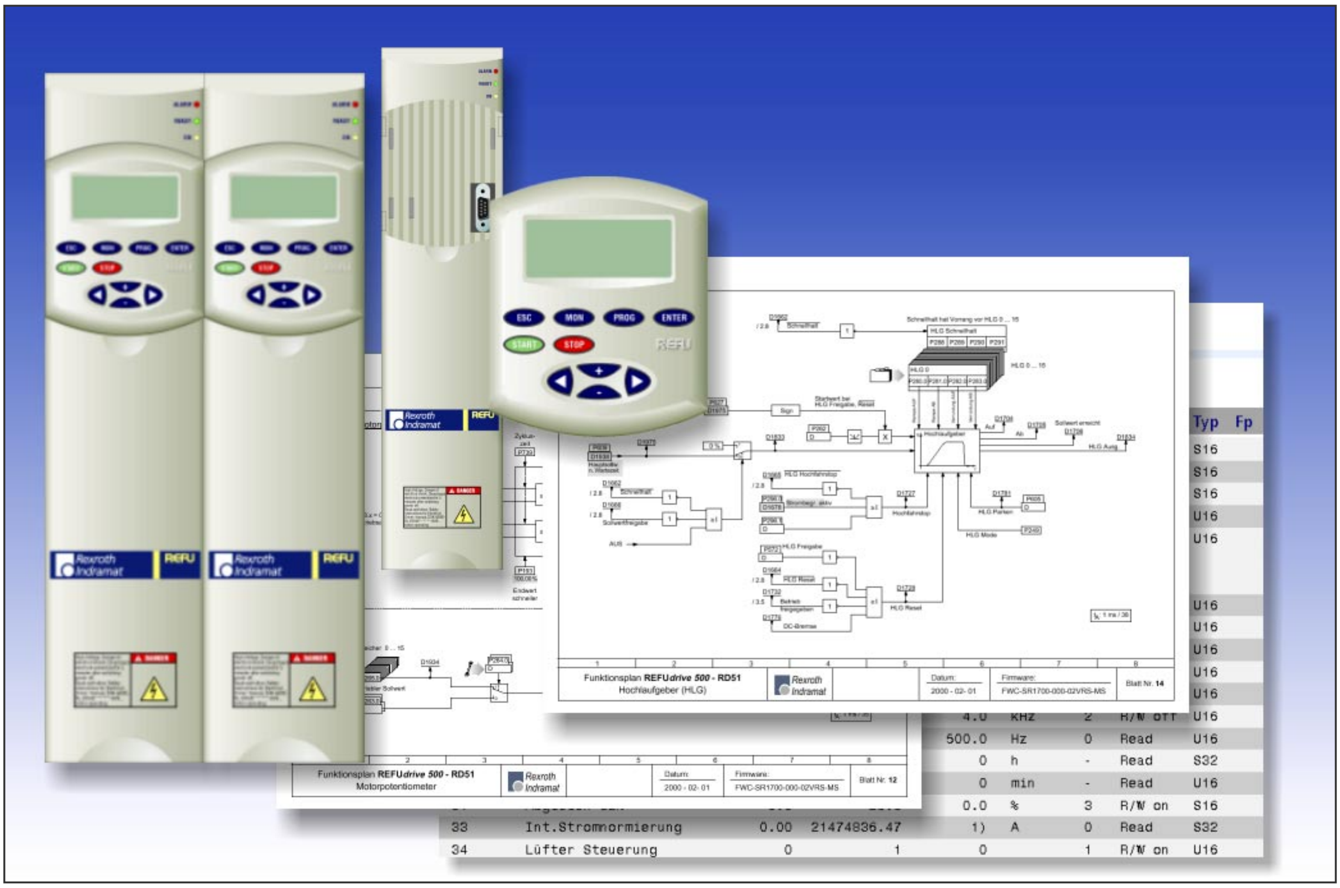
Rexroth



REFUdrive 500 RD51
Function diagrams and parameter list

Functional Description: Firmware 04VRS

Rexroth Indramat

DOK-RD500*-RD51*04VRS*-FK01-EN-P

Title REFUdrive 500 RD51
Firmware discription for free parameterization
Function diagrams and parameter list

Type of Documentation Functional Description: Firmware 04VRS

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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
DOK-RD500*-RD51*04VRS*-FK01-EN-P	07.2002	First edition

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1 Parameterization

1.1 Basic parameterization

The operator has pre-defined parameters in the "basic parameterization". It is menu-prompted, and it allows many applications to be quickly set in a user-friendly fashion. It is selected in the condition when supplied from the factory. The detailed description of the "basic parameterization" is provided in the basic instructions.

There are so-called "macro parameters" in the "basic parameterization" with which complex functions can be selected in the operator panel via a text display. A macro program in the firmware sets all of the required parameters and logic operations to the selected function. The macro parameters are not available in the "free parameterization". Refer to Section 3 for a detailed explanation.

1.2 Free parameterization

The operator has access to the complete functional scope of the firmware, documented in the function diagrams and in the parameter list, in the "free parameterization". Using P064, a change must be made from the "basic parameterization" into the "free parameterization". All of the parameters can then be selected with the "numerical list" using their parameter number.

1.3 Working with the free parameterization

The basic parameterization is selected in the condition when supplied from the factory. This means that the input and output modules from the firmware are permanently assigned (logic gates, output blocks etc.), also if a change is made into the "free parameterization". They are no longer available for free use. If you wish to freely use all of the firmware modules, the resource assignment of the "basic parameterization" can be reset using the function load standard values "free standard values".

Load standard values

The standard values for the "basic parameterization" or the "free parameterization" can be set using P0071 (load parameter set). The following two options are available for selection:

Free standard values The standard values are set as documented in the parameter list in Section 2. All of the function modules are available.

Basic standard values The standard values are set, and then standard settings of the macro parameters executed. The function modules are logically combined corresponding to the resource assignment of "basic parameterization", documented in Section 3.

1.4 Working with the basic parameterization and free parameterization

It is possible to use the advantages of both parameterizing modi and the basic settings for a drive in the menu-prompted procedure, and then to change into "free parameterization" in order to parameterize a more complex application, which is not possible using the pre-defined parameters of the "basic parameterization".

The operator, who toggles between the two parameterizing modi, must however know the resources of the "basic parameterization" and must be comfortable with the "free parameterization" using the function charts and the parameter list.

We recommend, that when using both parameterizing modes, you get to know the "basic parameterization" using the "used resources of the basic parameterization" (refer to Section 3) and the function charts.

Data can always be lost, if the parameterizing mode is changed.
Always observe the warnings specified below!

Selecting free parameterization

CAUTION

Loss of funktion!

⇒ When changing from the "basic parameterization" into the "free parameterization" function data can be lost". Individual parameters from a macro program of the "basic parameterization" can be changed, either accidentally or deliberately by the operator, in the "free parameterization". Thus, under certain circumstances, the selected functions of the "basic parameterization" may no longer be effective!

⇒ The operator must know the resources which are used for the "basic parameterization", which may not be changed, refer to Section 3, "Resources used for the basic parameterization.

The following messages are displayed, alternating:

```
!!! ATTENTION !!!
basic-paramet. end
possible data loss
```

```
!!! ATTENTION !!!
basic-paramet. end
 enter = yes
 esc   = no
```

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

Select basic paramterization

CAUTON

Data loss!

⇒ Data can be lost when changing from “free parameterization” into the “basic parameterization”!

⇒ The firmware resets all of the parameters to the last setting of the “basic parameterization”.

⇒ If logic operations (links) are changed from the “basic parameterization” into the “free parameterization”, these changes are lost, and, under certain circumstances, the complete drive functionality, parameterized by the user.

The following messages are displayed, alternating:

```
!!! ATTENTION !!!
basic-paramet. start
possible data loss
```

```
!!! ATTENTION !!!
basic-paramet. start
 enter = yes
 esc   = no
```

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

1.5 Parameterization using the operator panel

Abb. 1-1: Operator panel with graphic display (optional)

Key function for parameterization

Button	Menu level	Parameterization level
Esc	Return the previous menu item	Reject the changed value.
Mon	Change into the monitor.	
Prog	Change into the param-eterization.	The value is temporarily accepted. All of the values are only accepted after the “Enter“ button has been pressed.
Enter	Accept the selected menu item.	Accepts the changed value.
+	To the previous menu item.	Increases the value.
–	To the next menu item.	Reduces the value.
▶	Jumps to the end of the list.	Cursor is positioned to the right.
◀	Jumps to the beginning of the list.	Cursor is positioned to the left.

Abb. 1-2: Key function for parameterization

Fast parameterization using various key combinations

Key	Response
+ + –	When these keys are pressed at the same time: – all of the parameter numbers are set to 0 (nu merical list). – the complete parameter value is set to 0 (for numerical parameters). – the text selection is continued in steps of 10 (practical, e.g. for parameter P0875 with almost 100 selection texts).

	- sets the standard value.
◄	The first selection text for text parameters is directly selected.
►	The last selection text for text parameters is directly selected.
◄ + ►	When these keys are pressed at the same time: – the active value is set to the factory setting.
Mon + Prog	When these keys are pressed at the same time: – changes from the mon- or prog range into the temporary actual value display. By pressing the ESC again, the display goes back to the selected menu. In order that the operator can differentiate between the normal operating display and the temporary actual value display, the temporary actual value display has a flashing frame.

Abb. 1-3: Key combinations

Error messages when parameterizing

Error message	Cause	Solution
Parameter not accessible in the basic parameterization.	Incorrect parameter number has been entered in the numerical list.	Only pre-defined parameters are available in the basic parameterization. Only enter parameter numbers from the tables, Section 5.
Please select basic parameterization.	Selected parameter is not accessible in the free parameterization.	Changeover into the basic parameterization. **Caution! This can cause data to be lost.**
Parameter inhibited.	Unit is operational.	Inhibit the inverter and then change the parameter.
Data conflict (general)	Several parameter settings are dependent on one another. If a parameter value is changed and confirmed with Enter, data conflict can occur.	
Data conflict e.g. P0182 with P0183	The V/Hz characteristic frequencies are not correct. The frequencies must have a minimum 1 Hz clearance between them.	Temporarily accept the value of the first parameter change with Prog, after the second parameter change, confirm that both values are saved using Enter.
Data conflict e.g. P0870 static<==>dynamic	Changing from static- into dynamic on/off command or vice/versa. Static/dynamic operation for the test/standard operating modes cannot be selected mixed.	Temporarily accept the value of the first parameter change with Prog, after the second parameter change, confirm that both values are saved using Enter.

Abb. 1-4: Error messages when parameterizing

1.6 Structure of menu PARAMETERIZATION

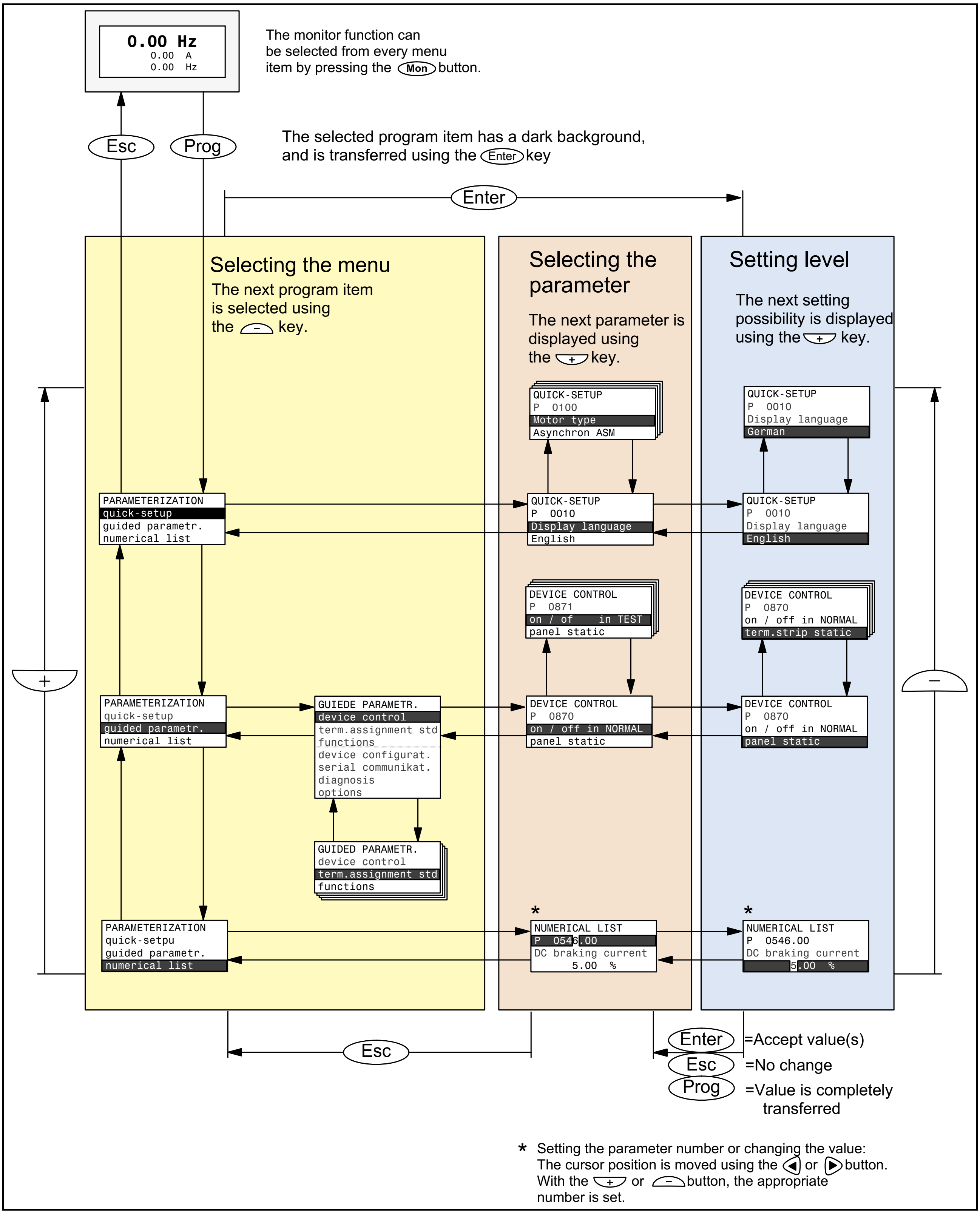

Abb. 1-5: Menu structure

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).

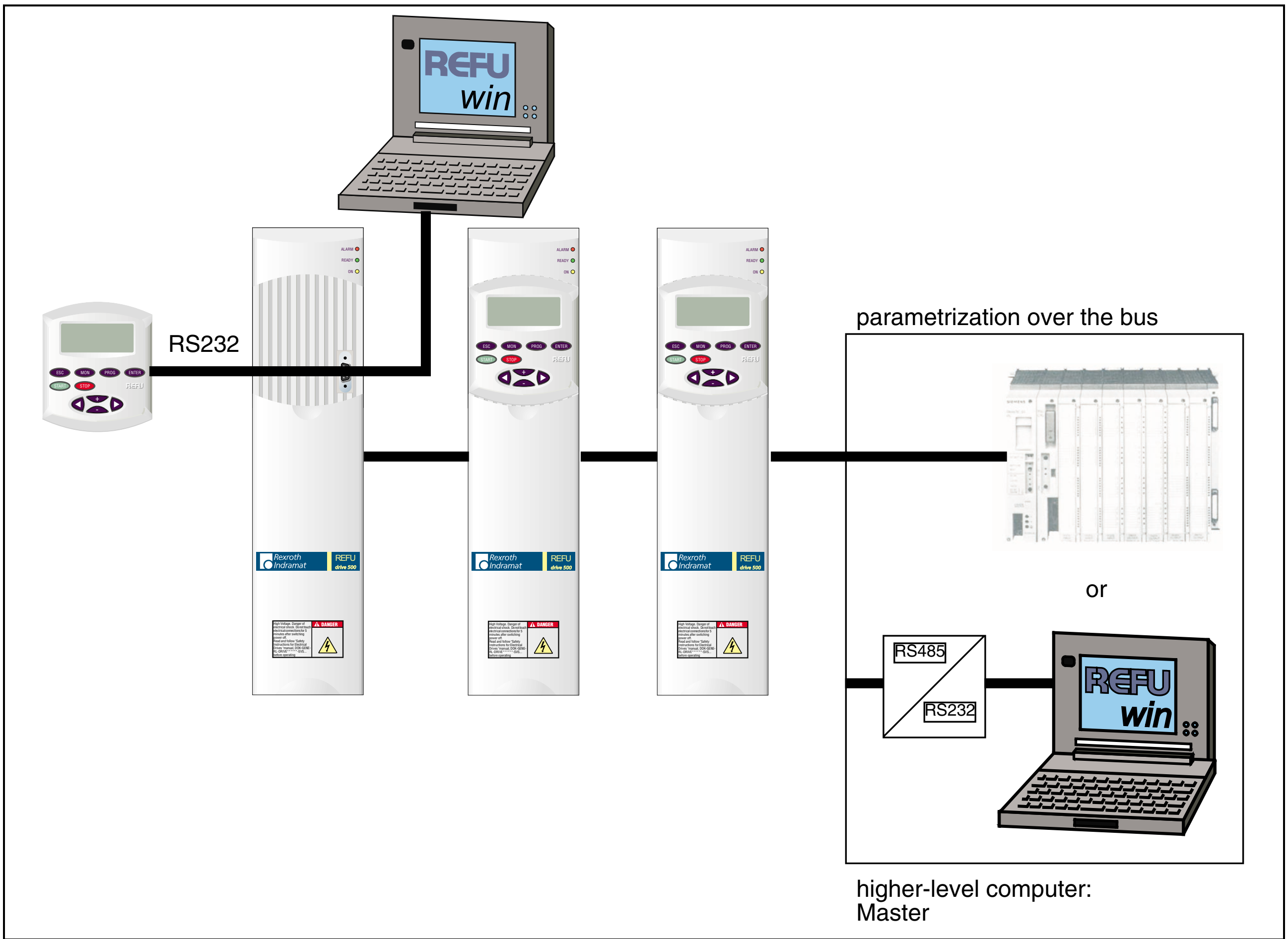

Fig. 2-1:USS communications

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):

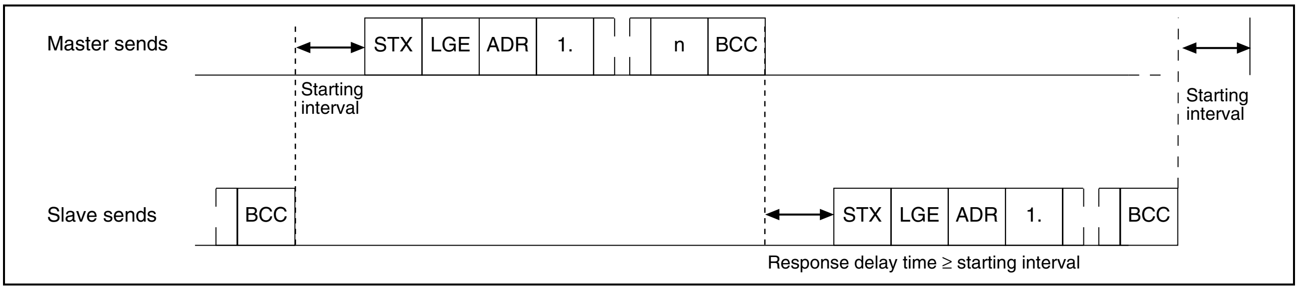

Fig. 2-2:USS data transfer

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)

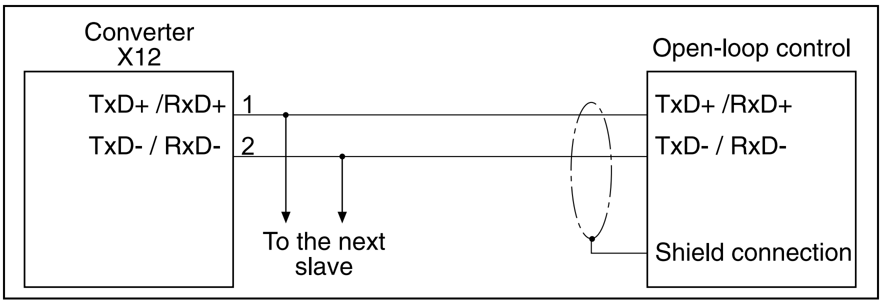

Fig. 2-4:RS485

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

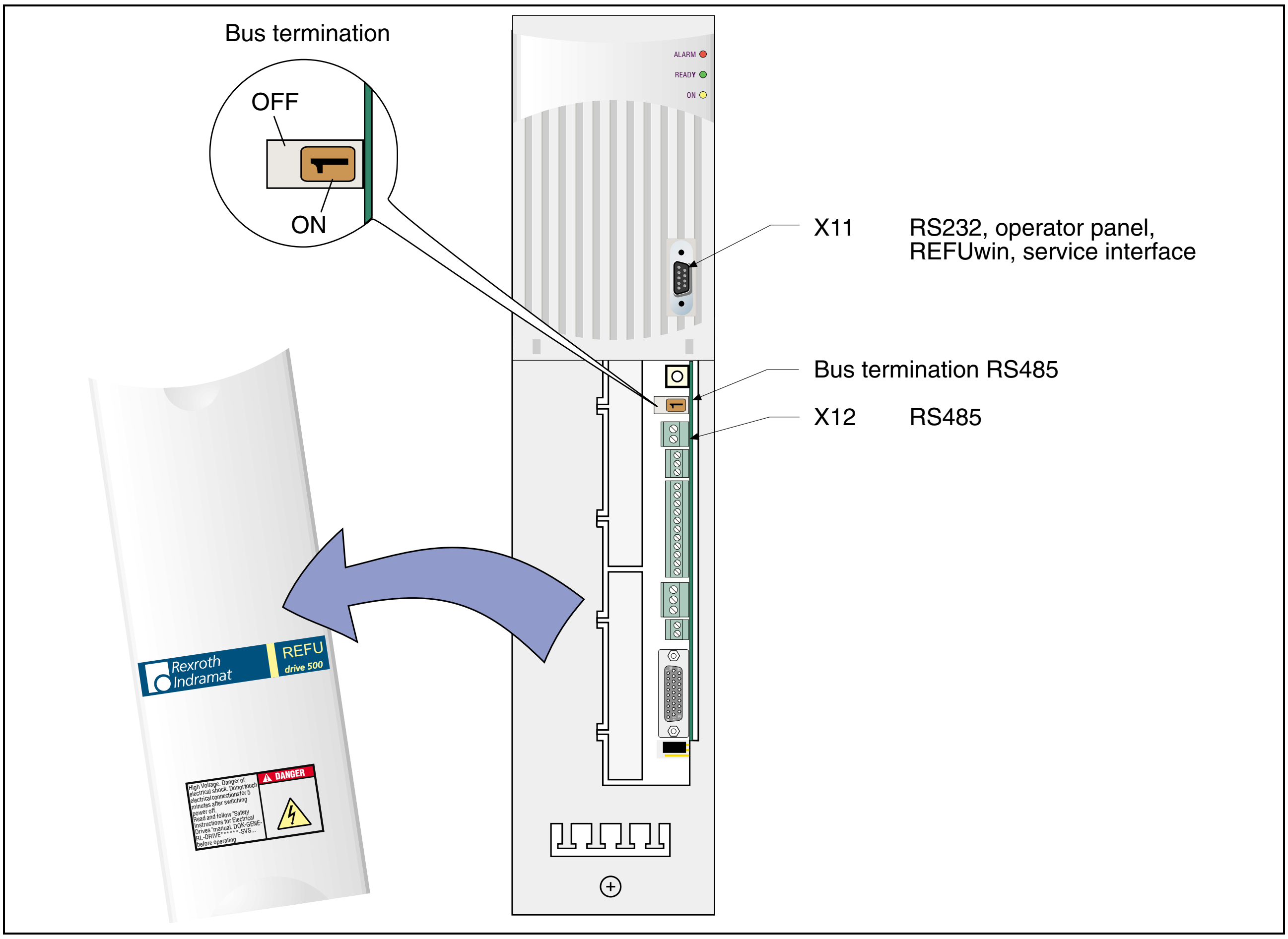

Fig. 2-5:Terminal diagram SR17002

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) 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	USS 4/6 words 0 ... 5	2
0501	SS1 baud rate X12	Parameter value: 0 = no protocol 1 = 1200 baud 2 = 4800 baud 3 = 9600 baud 4 = 19200 baud 5 = 38400 baud 6 = 76800 baud	9600 baud 0 ... 6	2
0502	SS1 parity X12	Parameter value: 0 = no parity 1 = ODD 2 = EVEN	EVER 0 ... 2	2
0503	SS1 stop bits X12	Either 1 or 2 stop bits can be set.	1 1 ... 2	2
0504	SS1 slave address	For the RS485 bus, the address of the device can be set between 0 and 31. **Caution:** This address must be unique on the bus, i.e. there must be no identical addresses!	0 0 ... 31	2
0505	SS1 Rx monitoring	Parameter value: 0 = no action 1 = warning 2 = fault	Fault 0 ... 2	2
0506	SS1 Rx monitoring time	Monitoring time for the standard interface SS1. If the interface does not receive an error-free protocol within this time, then the response, selected in P0505, is initiated.	0.1 s 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 1 = 2400 baud 2 = 4800 baud 3 = 9600 baud 4 = 19200 baud 5 = 38400 baud 6 = 57600 baud 7 = 76800 baud	9600 baud 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

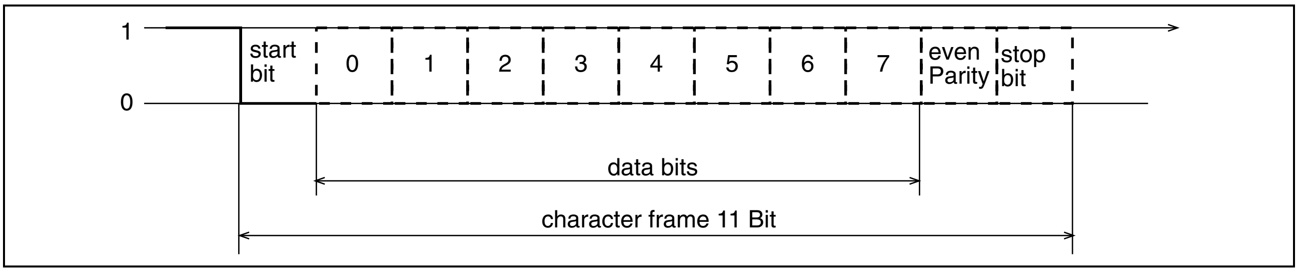

Fig. 2-8:USS character frame

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.

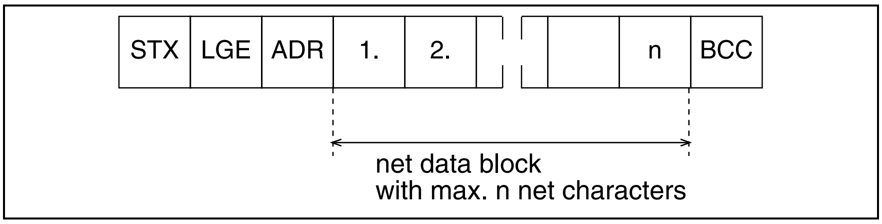

Fig. 2-9:USS telegram structure

Data coding

STX (Start of Text)	ASCII characters: 02 hex.
LGE (telegram length)	1 byte, contains the telegram length as binary number. Refer to the next Section, Telegram length.
ADR (address byte)	1 byte, contains the slave address and the telegram type as binary number. 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. Refer to the Section, Telegram lengths.
BCC	Block check character. 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:

$$LGE = n + 2$$

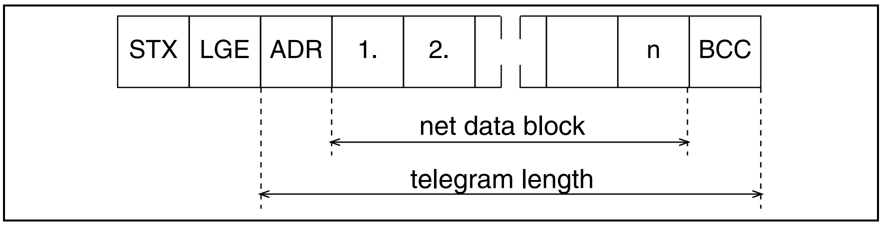

Fig. 2-11:USS telegram length

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:

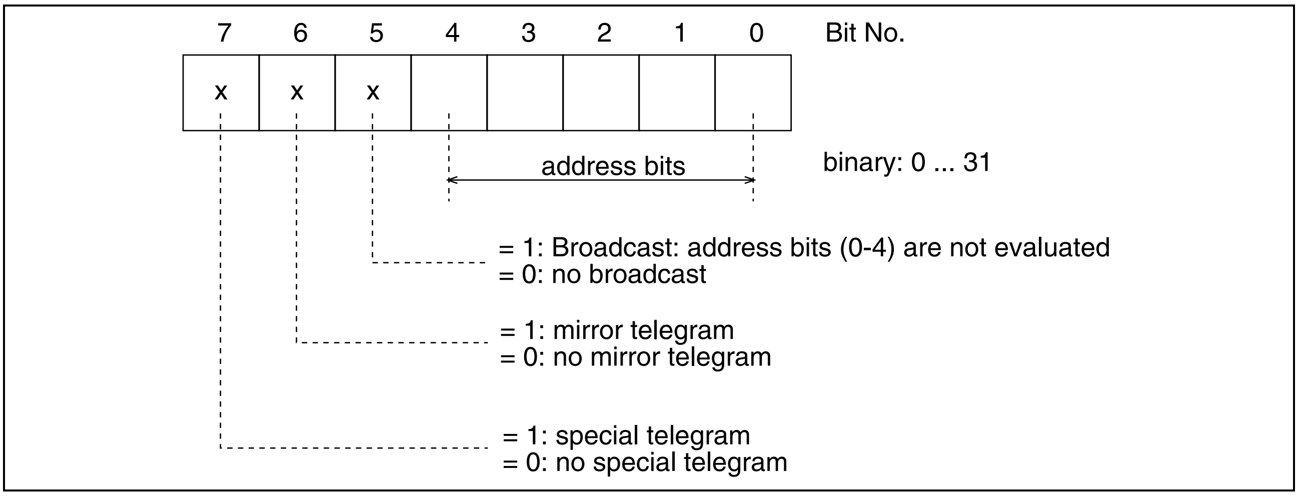

Fig. 2-13:USS address bits

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

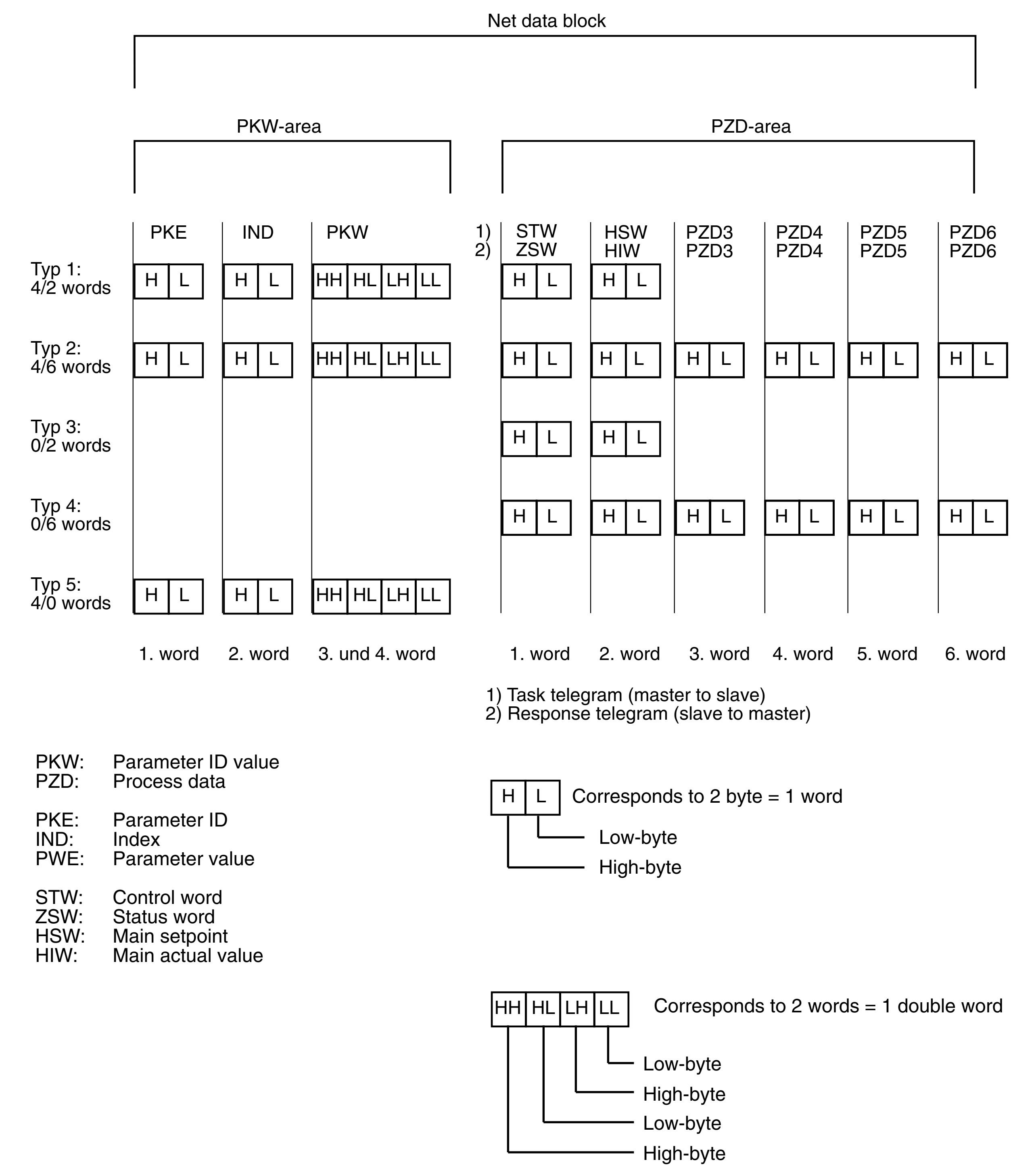

Fig. 2-15:USS net data block

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)

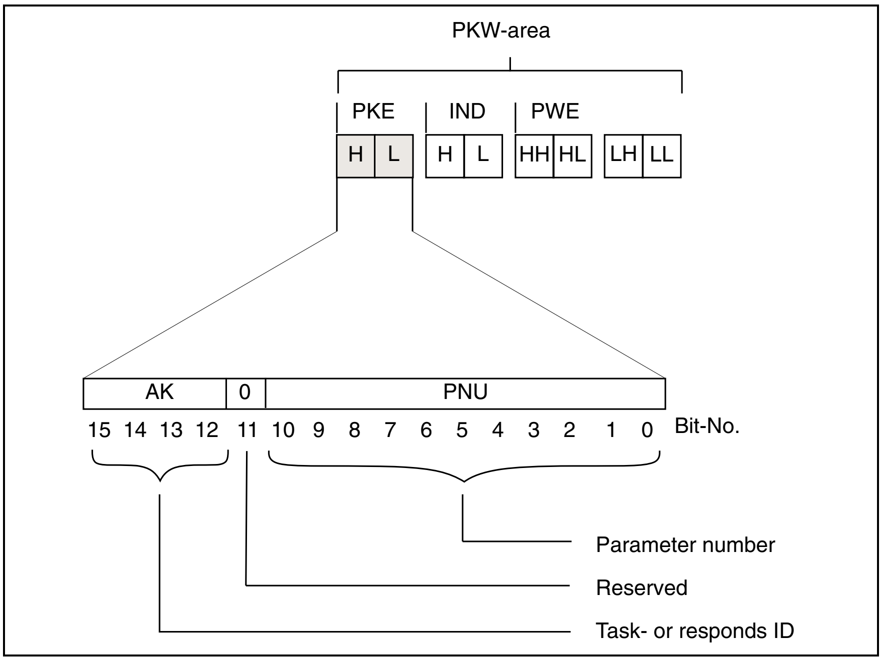

Fig. 2-16:USS PKW area

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. **15 14 13 12**	**Function** **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 5^{th} 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. 15 14 13 12	Function 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. 15 14 13 12	Function, task ID master to slave	AK bit No. 15 14 13 12	Function, response ID 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 The two conflict parameters can be read-out via parameter P1019: P1019.0 = parameter X 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)

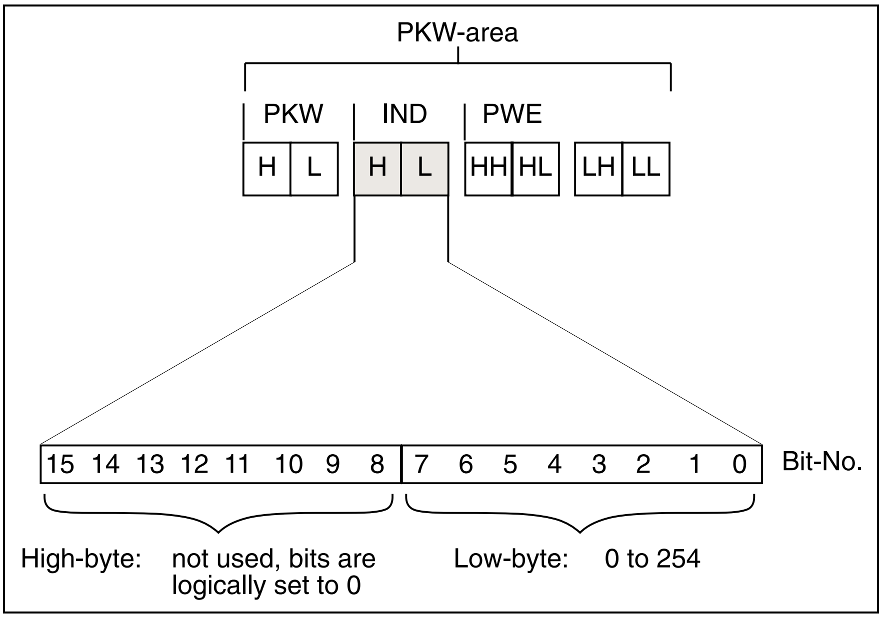

Fig. 2-22: USS index word in the PKW area

Tasks with index word (IND)

PKE		IND	
AK bit No. **15 14 13 12**	**Function** **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. 15 14 13 12	**Function 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.

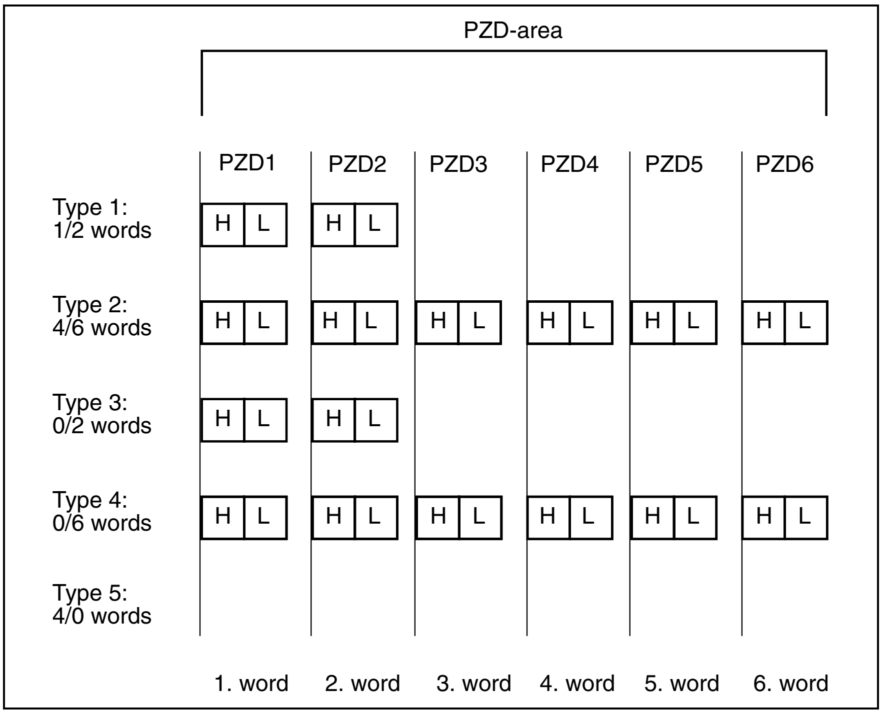

Fig. 2-25:USS, PZD area

	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.

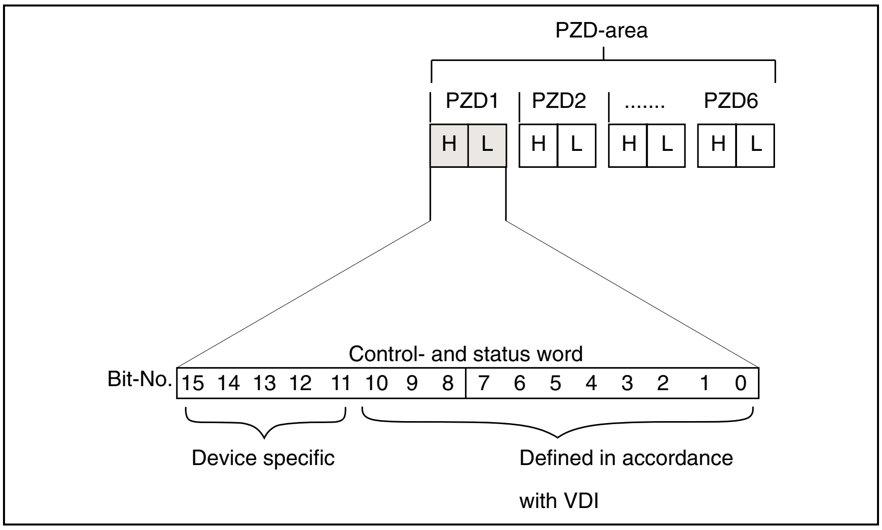

Fig. 2-26:USS control and status word

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

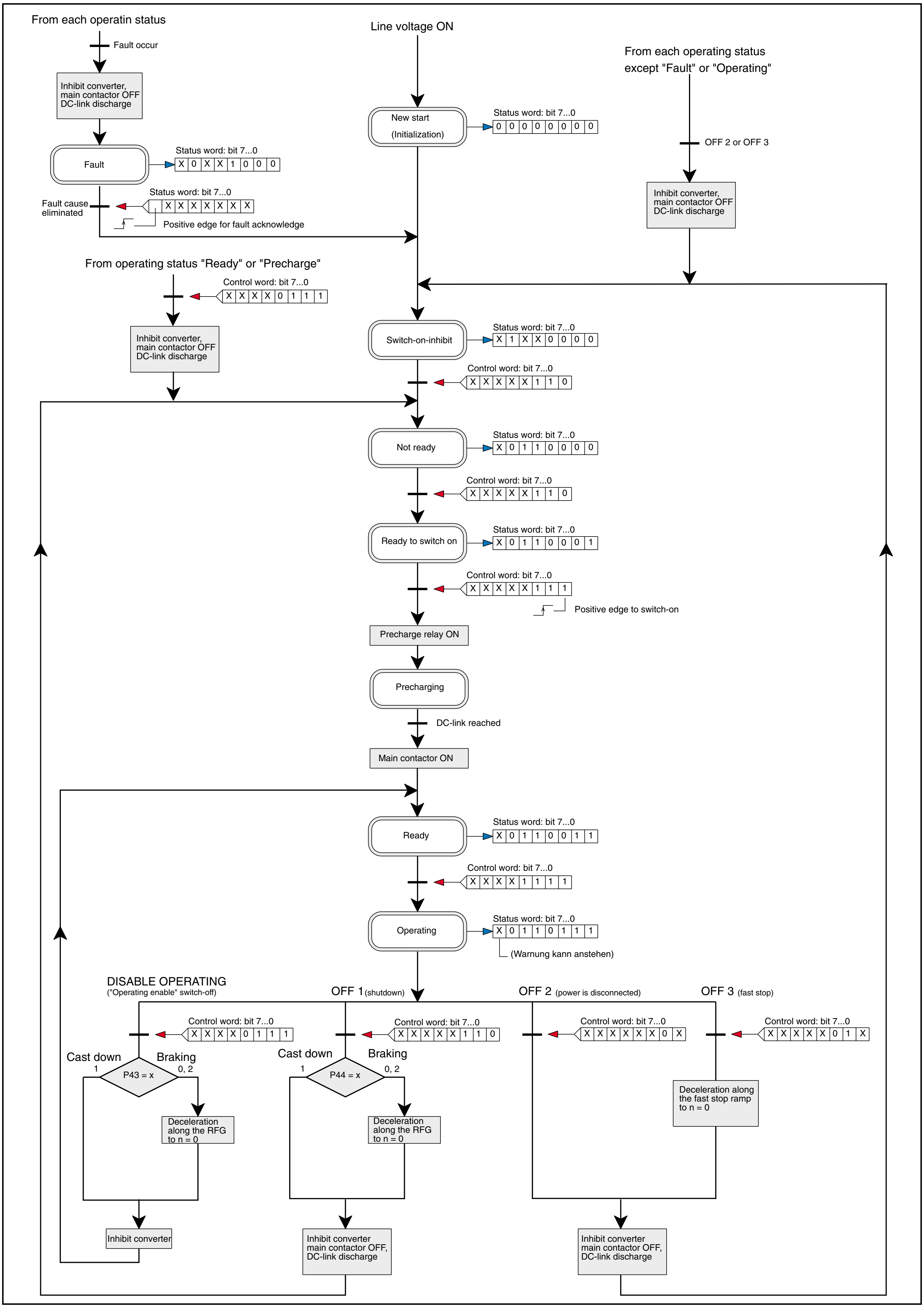

Fig. 2-27:USS control and status word diagram for drive converters

Control and status word diagram for inverters

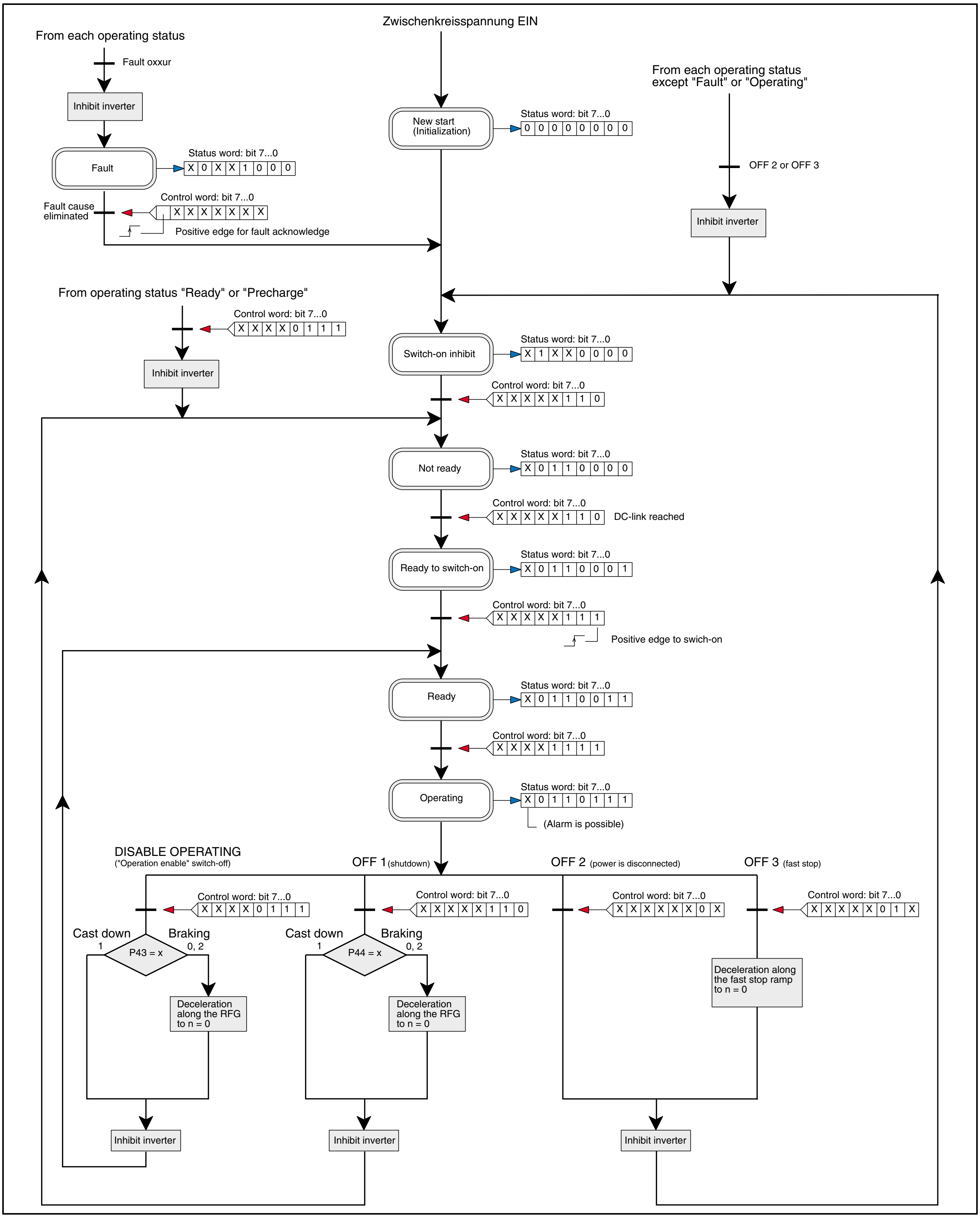

Fig. 2-28:USS control and status word diagram for inverters

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). * 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! 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: 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). DC link is charged; inverter pulses are inhibited.
	0	Not ready to power-up	
2	1	Operation enabled	The electronics and pulses are enabled. Enable the inverter pulses: RD51: For F_{min}, wait for the delay time P0544 to expire. RD52: Wait until the field has been established, D1756. 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 501.2.3.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
Exception:			
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 = SR1700-000-04V01-MS
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan -
	Actual firmware designation FWC-SR1700-000-03VRS-MS-

parameter: P0001 Device ID

maximum index:	-
minimal value:	501
maximal value:	501
default value:	501
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -
	Drive firmware version

parameter: P0003 Firmware modul

maximum index:	-
minimal value:	0
maximal value:	65535
default value:	4
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -
	Drive firmware module

parameter: P0004 Firmware revision

maximum index:	-
minimal value:	0
maximal value:	65535
default value:	1
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -
	Drive firmware revision

parameter: P0005 Firmware discript.

maximum index:	-
minimal value:	0
maximal value:	9
default value:	0
parameter value:	0 = RD51 Standard
	1 = RD51 A1 special Ver
	2 = RD51 A2 special Ver
	3 = RD51 A3 special Ver
	4 = RS51 REFU speed
	:
	9 = RD51 A9 tmp. Sonder
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	-
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	R/W on
basic parameterization:	accessible
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
	1 = German
unit:	no
password level:	0
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 34

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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34

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
password level: 0
read / write: Read
basic parameterization: accessible
type: signed 16 bit
function diagram: plan 34

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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
type: signed 16 bit
function diagram: plan 34

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
password level:	0
read / write:	Read
basic parameterization:	accessible
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:	kW
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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, $t_{on} : t_{off} = 1 : 4$

parameter: P0026 Pulse frequency

maximum index:	-
minimal value:	1.0
maximal value:	12.0
default value:	4.0
unit:	kHz
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

Pulse frequency

The frequency with which the drive inverter semiconductor devices are clocked. The optimum output current waveform and the lowest noise are achieved with the highest for f_p.

When selecting lower clock frequencies, the switching losses are reduced, where by the maximum drive output is increased.

The noise level is then somewhat higher.

parameter: P0027 Max.normaliz. freq.

maximum index:	-
minimal value:	5.0
maximal value:	6000.0
default value:	500.0
unit:	Hz
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	-
read / write:	Read
basic parameterization:	accessible
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
password level:	-
read / write:	Read
basic parameterization:	accessible
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:	%
password level:	3
read / write:	R/W on
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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:	0
maximal value:	2
default value:	0
parameter value:	0 = automatic 1 = ON permanently 2 = ON if inverter on
unit:	no
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible

type: unsigned 16 bit

function diagram: plan -

Fan control

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

Automatic

The fan is automatically powered-up / powered-down corresponding to the temperature threshold specified in P0035.

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

password level: 1

read / write: R/W on

basic parameterization: accessible

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 standard
1 = disabled
2 = no protection
3 = external programabl

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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

password level: 0

read / write: R/W on

basic parameterization: inaccessible

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
password level: 0
read / write: Read
basic parameterization: inaccessible
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
password level: -
read / write: Read
basic parameterization: inaccessible
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
password level: -
read / write: Read
basic parameterization: accessible
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
password level: -
read / write: Read
basic parameterization: accessible
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
1 = inverter off
unit: no
password level: 2
read / write: R/W on
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan -

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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
type: signed 16 bit

function diagram: plan -

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

password level: 2

read / write: R/W on

basic parameterization: accessible

type: unsigned 16 bit

function diagram: plan -

Monitoring time down to f zero

For an off command when braking, the time between the ramp-unction 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

password level: 0

read / write: Read

basic parameterization: accessible

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 07

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 38

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

1 = active

unit: no

password level: 2

read / write: Read

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 03

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.

The Select is only available with P0071 "Load factory setting"

parameter: P0060 special quit

maximum index: -

minimal value: 0

maximal value: 1

default value: 0

unit: no

password level: 2

read / write: R/W off

basic parameterization: accessible

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

password level: 0

read / write: Read

basic parameterization: accessible

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

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: P0062 par.value faultlist

maximum index: 19

minimal value: 0

maximal value: 999999

default value: 0

unit: no

password level: 0

read / write: Read

basic parameterization: accessible

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

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: P0063 Search current

maximum index: 01

minimal value: 0.00

maximal value: 100.00

default value: 50.00

unit: %

password level: 1

read / write: R/W on

basic parameterization: accessible

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
password level: 2
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan -

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 P0870 and onwards are ineffective here and are not accessible through the operator panel menus.

The Select is only available with P0071 "Load factory setting"

parameter: P0065 Src. srch.add.frequ

maximum index: -
minimal value: 1
maximal value: 2044
default value: 1516
unit: D-Par
password level: 2
read / write: R/W off
basic parameterization: inaccessible
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
password level: 2

read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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 changed-over, 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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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 ... 15. Correspondingly, the index levels 0 ... 15 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 ... 15:

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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 re-calculated as a result of the changeover. Parameter set.

parameter: P0071 Load factorySetting

maximum index: -

minimal value: 0

maximal value: 4

default value: 0

parameter value: 0 = no action
1 = basic parametrizat.
2 = free parametrizat.
3 = NAMUR applications
4 = Sercos applic. free

unit: no

password level: 0

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan -

Load factory setting

0 = no action

1 = basic, standard values are loaded

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.

P0064 "Parameterization level" 0 = Basic parameterization

P0057 "NAMUR functions" 0 = not active

2 = free standard values are loaded

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

P0064 "Parameterization level" 1 = Free parameterization

P0057 "NAMUR functions" 0 = not active

3 = standard values for NAMUR applications are loaded

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 with activated NAMUR functions.

P0064 "Parameterization level" 0 = Basic parameterization

P0057 "NAMUR functions" 1 = active

4 = standard values for SERCOS applications are loaded

Parameters, with a password level less than or the same as the entered password level are set to the standard value of the free parameterization for SERCOS applications.

P0064 "Parameterization level" 1 = Free parameterization

P0057 "NAMUR functions" 0 = not active

The parameters with are relevant for applications with SERCOS option interface are set.

parameter: P0072 Source parameter

maximum index:	-
minimal value:	0
maximal value:	5
default value:	4
parameter value:	0 = keypad, PC(RS232)
	1 = bus SI1
	2 = bus SI2
	3 = bus SI4
	4 = all busses SIx
	5 = bus SI6
unit:	no
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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 SI1 standard interface
2 = Parameterization enabled from the SI2 option interface
3 = Parameterization enabled from the SI4 option interface
4 = Parameterization enabled from all SIx interfaces
5 = Parameterization enabled from the SI6 standard 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 SIx + term.strip
	2 = terminal strip
	3 = PC(RS232) + term.str.
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

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: P0083 Fixvalue for D1516

maximum index: -

minimal value: -199.99

maximal value: 199.99

default value: 0.00

unit: %

password level: 1

read / write: R/W on

basic parameterization: accessible

type: signed 16 bit

function diagram: plan 15

Enters a fixed value which can be connected to variable parameter sources for process signals via display parameter.

P0083 --> D1516

parameter: P0084 Src stat.word 2 bit

maximum index: 15

minimal value: 1

maximal value: 2044

default value: 1700

unit: D-Par

password level: 2

read / write: R/W off

basic parameterization: inaccessible

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

password level: 1

read / write: R/W on

basic parameterization: accessible

type: unsigned 16 bit

function diagram: plan 22

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

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 f_{max} 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 f_{max} 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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan -

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 40

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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
password level:	3
read / write:	R/W off
basic parameterization:	accessible
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
password level:	3
read / write:	R/W off
basic parameterization:	accessible
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
password level:	3
read / write:	R/W off
basic parameterization:	accessible
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
password level:	3
read / write:	R/W off
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan -

Difference: VDC link max - BRon threshold

parameter: P0098 DCmax - BR OFF

maximum index:	-
minimal value:	10
maximal value:	100
default value:	45
unit:	V
password level:	3
read / write:	R/W off
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 01

Difference: VDC link max - BRoff threshold

parameter: P0099 Max. o/p frequency

maximum index:	-
minimal value:	5.0
maximal value:	1500.0
default value:	500.0
unit:	Hz
password level:	0
read / write:	Read
basic parameterization:	accessible
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:	01
minimal value:	0
maximal value:	1
default value:	0
parameter value:	0 = Asynchron ASM 1 = Synchron SM
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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:	01
minimal value:	100
maximal value:	210000
default value:	2)
unit:	1/min
password level:	2
read / write:	R/W off
basic parameterization:	accessible
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:	01
minimal value:	5.0
maximal value:	3500.0
default value:	2)
unit:	Hz
password level:	2
read / write:	R/W off
basic parameterization:	accessible
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:	01
minimal value:	0.5
maximal value:	P 33
default value:	2)
unit:	A
password level:	2
read / write:	R/W off
basic parameterization:	accessible
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:	01
minimal value:	10
maximal value:	600
default value:	2)
unit:	V
password level:	2
read / write:	R/W off
basic parameterization:	accessible
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:	01
minimal value:	0.01
maximal value:	50.00
default value:	2)
unit:	V/Hz
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

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:	01
minimal value:	0.50
maximal value:	0.98
default value:	2)
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 01

COS-PHI ASM (induction motor)

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

parameter: P0107 Pole number SM

maximum index:	01
minimal value:	2
maximal value:	64
default value:	2)
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
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:	01
minimal value:	0.5
maximal value:	P 33
default value:	2)
unit:	A
password level:	2
read / write:	R/W off
basic parameterization:	accessible
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:	01
minimal value:	100
maximal value:	210000
default value:	2)
unit:	1/min
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 32 bit
function diagram:	plan -

Rated speed SM (synchronous motor)

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

parameter: P0114 Pole pair number

maximum index:	01
minimal value:	1
maximal value:	64
default value:	2)
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 33

Pole pair number

Pole pair number of the connected induction or synchronous motor.

parameter: P0117 Rated Isd ASM

maximum index:	01
minimal value:	0.0
maximal value:	6553.5
default value:	5.6
unit:	A
password level:	0
read / write:	Read
basic parameterization:	accessible
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:	01
minimal value:	0.001
maximal value:	65.535
default value:	0.628
unit:	Ohm
password level:	0
read / write:	Read
basic parameterization:	accessible
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:	01
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 33

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:	01
minimal value:	1
maximal value:	8192
default value:	1024
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 33

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:	01
minimal value:	0
maximal value:	1
default value:	0
parameter value:	0 = internal 1 = external
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 33

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 33

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 33

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:	01
minimal value:	1
maximal value:	64
default value:	8
unit:	ms
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 29

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 29

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 29

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 1 = subtraction 2 = multiply 3 = divide 4 = minimum of all i/p 5 = maximum of all i/p 6 = processData switch
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 29

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 29

Selects the sign handling for multi-function blocks.

parameter: P0178 f-limit motor

maximum index:	01
minimal value:	0.0
maximal value:	P 27
default value:	50.0
unit:	Hz
password level:	2
read / write:	R/W off
basic parameterization:	accessible
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:	15
minimal value:	P 180
maximal value:	199.99
default value:	100.00
unit:	%
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 01, 15

f max

16 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:	15
minimal value:	0.00
maximal value:	P 179
default value:	0.00
unit:	%
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 01, 15

f min

16 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:	01
minimal value:	0.0
maximal value:	6000.0
default value:	2)
unit:	Hz
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 18, 15

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] $f_a = f_{slip}$

[P0182] $f_b = f_{rated} / 2$

[P0183] $f_c = f_{rated}$

[P0184] $f_d = 2 \times f_{rated}$

[P0185] $V_a = V_{slip}$ + (Rs [P0120] * I_{sd} rated [P0117])

[P0186] $V_b = V_{rated} / 2$

[P0187] $V_c = V_{rated}$

[P0188] $V_d = V_{rated}$

parameter: P0182 V/f characterist.Fb

maximum index: 01

minimal value: 0.0

maximal value: 6000.0

default value: 2)

unit: Hz

password level: 2

read / write: R/W on

basic parameterization: accessible

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] $f_a = f_{slip}$

[P0182] $f_b = f_{rated} / 2$

[P0183] $f_c = f_{rated}$

[P0184] $f_d = 2 \times f_{rated}$

[P0185] $V_a = V_{slip}$ + (Rs [P0120] * I_{sd} rated [P0117])

[P0186] $V_b = V_{rated} / 2$

[P0187] $V_c = V_{rated}$

[P0188] $V_d = V_{rated}$

parameter: P0183 V/f characterist.Fc

maximum index: 01

minimal value: 0.0

maximal value: 6000.0

default value: 2)

unit: Hz

password level: 2

read / write: R/W on

basic parameterization: accessible

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: 01
minimal value: 0.0
maximal value: 6000.0
default value: 2)
unit: Hz
password level: 2
read / write: R/W on
basic parameterization: accessible
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: 01
minimal value: 0
maximal value: 3000
default value: 2)
unit: V
password level: 2
read / write: R/W on
basic parameterization: accessible
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: 01
minimal value: 0
maximal value: 3000
default value: 2)

unit:	V
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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:	01
minimal value:	0
maximal value:	3000
default value:	2)
unit:	V
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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:	01
minimal value:	0
maximal value:	3000
default value:	2)
unit:	V
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 14

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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
password level: 1
read / write: R/W on
basic parameterization: accessible
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
password level: 1
read / write: R/W on
basic parameterization: inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 14

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:	%
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 01, 09

Analog input Normalization

Normalization for the signal at the analog input. e.g.: 100.00 % = 10 V

parameter: P0201 Analog input1 mode

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

Analog input Selection

Selects the signal type for the analog input,

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

parameter: P0202 Analog input1 offs.

maximum index:	-
minimal value:	-199.99
maximal value:	199.99
default value:	0.00
unit:	%
password level:	2
read / write:	R/W on

basic parameterization: accessible
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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2
read / write: R/W on
basic parameterization: accessible
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: %

password level: 2

read / write: R/W on

basic parameterization: accessible

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: %

password level: 2

read / write: R/W on

basic parameterization: accessible

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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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

password level: 2

read / write: R/W on

basic parameterization: accessible

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: %

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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 KL11037). 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: %

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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 KL11037). 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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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 KL11037). 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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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 KL11037). 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:	%
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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 KL11037). 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:	%
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible

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 KL11037). 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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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 KL11037). 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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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 KL11037). 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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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 KL11037). 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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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 KL11037). 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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 30

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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 30

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 31

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 31

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 31

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 31

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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 31

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 31

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
password level:	2
read / write:	R/W off

basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 28

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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 28

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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 28

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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 32

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 1 = fixvalue
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 32

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit

function diagram: plan 32

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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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
	1 = fixvalue
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 32

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 32

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 32

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 32

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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:	1932
unit:	D-Par
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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:	15
minimal value:	-199.99
maximal value:	199.99
default value:	5.00
unit:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 14

Fixed values for the main setpoint.

16 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:	15
minimal value:	0.000
maximal value:	90000.000
default value:	5.000
unit:	sec
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 32 bit
function diagram:	plan 01, 16

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:	15
minimal value:	0.000
maximal value:	90000.000
default value:	5.000
unit:	sec
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 32 bit
function diagram:	plan 01, 16
	Ramp-function generator Ramp-up time

Note: Refer to P0280

parameter: P0282 Rounding ramp up

maximum index:	15
minimal value:	0.000
maximal value:	800.000
default value:	0.000
unit:	sec
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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:	15
minimal value:	0.000
maximal value:	800.000
default value:	0.000
unit:	sec
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 32 bit
function diagram:	plan 16

Ramp-function generator Rounding-off DOWN

Note: Refer to P0280

parameter: P0284 Analog window std

maximum index:	-
minimal value:	0.00
maximal value:	20.00
default value:	0.50
unit:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 09

Setpoint smoothing

A firmware module with parameterizable window is inserted after the A/D converter to smooth the setpoint standard at the analog input.

Using P0284, 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: P0285 Analog window opt1

maximum index:	-
minimal value:	0.00
maximal value:	20.00
default value:	0.50
unit:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit

function diagram: plan -

Setpoint smoothing

A firmware module with parameterizable window is inserted after the A/D converter to smooth the setpoint option1 at the analog input.

Using P0285, 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: P0286 Analog window opt2

maximum index: -

minimal value: 0.00

maximal value: 20.00

default value: 0.50

unit: %

password level: 1

read / write: R/W on

basic parameterization: accessible

type: signed 16 bit

function diagram: plan 10

Setpoint smoothing

A firmware module with parameterizable window is inserted after the A/D converter to smooth the setpoint option2 at the analog input.

Using P0286, 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: P0288 Ramp up fast stop

maximum index: -

minimal value: 0.000

maximal value: 3200.000

default value: 5.000

unit: sec

password level: 1

read / write: R/W on

basic parameterization: accessible

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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 16

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

parameter: P0300 Source add.setpoint

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

Selects addition setpoint

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

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parameter: P0302 Fixvalue add.setpnt

maximum index:	-
minimal value:	-199.99
maximal value:	199.99
default value:	0.00
unit:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
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: 01
minimal value: 0.5
maximal value: 6553.5
default value: P 24
unit: A
password level: 2
read / write: R/W off
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 01, 21

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 % = 10.0 A

parameter: P0383 I-actual PT1 time

maximum index: -
minimal value: 0
maximal value: 10000
default value: 0
unit: ms
password level: 1
read / write: R/W on
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 21

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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 21

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 22

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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 22

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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 22

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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 22

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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 22

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:	01
minimal value:	15.0
maximal value:	P 27
default value:	50.0
unit:	Hz
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 01, 18, 15, 33

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 % = 50.0 Hz

parameter: P0396 Source x comp

maximum index:	01
minimal value:	1
maximal value:	2044
default value:	1800
unit:	D-Par
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 26

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible

type: signed 16 bit

function diagram: plan 26

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: %

password level: 1

read / write: R/W on

basic parameterization: inaccessible

type: signed 16 bit

function diagram: plan 26

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 26

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 26

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 26

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 26

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: %

password level: 1

read / write: R/W on

basic parameterization: inaccessible

type: signed 16 bit

function diagram: plan 26

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 26

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: 1981

unit: D-Par

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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 SI4".

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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
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 SI4".

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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 SI4".

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: %

password level: 1

read / write: R/W on

basic parameterization: accessible

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 SI4".

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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:	%
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 02

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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 13

Mode, analog output Terminal X14.8

0 = +10 V reference voltage

1 = -10 V reference voltage

2 = ±8 bit 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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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.

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parameter: P0459 source TC actual

maximum index:	-
minimal value:	1
maximal value:	2044
default value:	1817
unit:	D-Par
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
	4 = inverted
unit:	no
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	1
read / write:	R/W on

basic parameterization: inaccessible
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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 34
SI1 PZD1 ... 6

Variable parameter source for the function, output interface SI1 process data1 ... 6.

Processing process data SI1

The process data, received via the SI1 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 SI1, by connecting D parameters to the variable parameter sources for output SI1.

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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2
read / write: R/W off
basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 35

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan -

SI3 PZD1 ... 5

Variable parameter source for the function, output interface SI3, process data 1 ... 5.

parameter: P0491 Source SI4 PZD

maximum index: 09

minimal value: 1

maximal value: 2044

default value: 1800

unit: D-Par

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 36

SI4 PZD1 ... 10

Variable parameter source for the function, output interface SI4, process data 1 ... 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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 37

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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan -

Interface, SI1 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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

Interface SI1 monitoring time Connector X12

The monitoring time for the standard interfaceSI1 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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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 firmware of 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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan -

Mask for the SI2 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

password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible

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

password level: 2

read / write: R/W on

basic parameterization: accessible

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

password level: 2

read / write: R/W on

basic parameterization: accessible

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

password level: 2

read / write: R/W on

basic parameterization: accessible

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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

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
password level: 2
read / write: R/W on
basic parameterization: accessible
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
password level: 2
read / write: R/W on
basic parameterization: accessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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 (SI2)

In index 1 for the module at slot2 (SI4)

parameter: P0523 PB address

maximum index:	-
minimal value:	3
maximal value:	124
default value:	9
unit:	no
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
	1 = fault
unit:	no

password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
1 = 4/2 words
2 = 4/6 words
3 = 0/2 words
4 = 0/6 words
5 = 4/10 words
6 = 0/10 words

unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
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
password level: 2
read / write: R/W on
basic parameterization: inaccessible

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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level: 2
read / write: R/W on
basic parameterization: accessible
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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
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: 01
minimal value: 0.00
maximal value: 190.00
default value: 100.00
unit: %
password level: 1
read / write: R/W on
basic parameterization: accessible
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: 01
minimal value: 0.00
maximal value: 128.00
default value: 0.10
unit: no
password level: 1
read / write: R/W on
basic parameterization: accessible
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: 01
minimal value: 0
maximal value: 5000
default value: 50
unit: ms
password level: 1
read / write: R/W on
basic parameterization: accessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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:	01
minimal value:	0.00
maximal value:	20.00
default value:	0.00
unit:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible

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:	01
minimal value:	0.00
maximal value:	20.00
default value:	0.00
unit:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 01, 20

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 20

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 U_a ... U_d (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 % = 10 V (P0205), the output voltage can be varied between 0V and the limit value, which is saved in U_a ... U_d, 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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 20

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:	01
minimal value:	0.0
maximal value:	100.0
default value:	0.3
unit:	sec
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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:	01
minimal value:	0.0
maximal value:	100.0
default value:	0.0
unit:	sec
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit

function diagram:	plan 20, 40

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:	01
minimal value:	1.00
maximal value:	100.00
default value:	5.00
unit:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 20

Braking current

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

parameter: P0547 Current control Kp

maximum index:	01
minimal value:	0.01
maximal value:	128.00
default value:	0.10
unit:	no
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 01, 20

Current controller - controller Kp

The gain factors for the current controller controller are saved here.

parameter: P0548 Current control Tn

maximum index:	01
minimal value:	0
maximal value:	5000
default value:	10
unit:	ms
password level:	1
read / write:	R/W on
basic parameterization:	accessible

type:	unsigned 16 bit
function diagram:	plan 01, 20
	Current controller - controller Tn
	The integral action times for the current controller are saved here.

parameter: P0549 Src.setp. at delay

maximum index:	-
minimal value:	1
maximal value:	2044
default value:	1932
unit:	D-Par
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 27
	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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit

function diagram: plan 27

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 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: %

password level: 1

read / write: R/W on

basic parameterization: inaccessible

type: signed 16 bit

function diagram: plan 27

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 27

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: %

password level: 1
read / write: R/W on
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 27

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: %
password level: 1
read / write: R/W on
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 27

Hysteresis x : xs Window comparators

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

parameter: P0558 Power normalize

maximum index: 01
minimal value: 0.1
maximal value: 1000.0
default value: P 22
unit: kVA
password level: 2
read / write: R/W on
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 21

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 % = 5.0 kVA or 100.00 % = 5.0 kW

parameter: P0559 Pactual PT1 time

maximum index: -
minimal value: 0
maximal value: 10000
default value: 50

unit:	ms
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 21

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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 21

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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 13

Analog output block 1

Selects the signal type for analog output 1

+2 ... +10 V or +4 ... +20 mA via an externally connected V/I converter.

or

0 ... ±10 V or 0 ... ±20 mA 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 SI4".

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: 01

minimal value: -127

maximal value: 127

default value: 0

unit: no

password level: 1

read / write: R/W on

basic parameterization: accessible

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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 < +4 mA, if the parameter P0201 is set to +4 ... +20 mA. If, in this case the current load resistor on the open-loop & closed-loop control card is not active, the monitoring for V < +2 V 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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 21

Overload protection

The overload protection is switched-in or switched-out with P565 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:	01
minimal value:	0.5
maximal value:	6553.5
default value:	0.5
unit:	A
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 21

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 09

Variable parameter source for the function, selects the monitoring I < +4 mA

The signal to select analog input 1 can be entered here, to control the selection of the monitoring I < +4 mA.

parameter: P0571 Sel. security break

maximum index: -
minimal value: 0
maximal value: 1
default value: 0
parameter value: 0 = alarm
1 = fault
unit: no
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
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: 01
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
password level: 1
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan -

Variable parameter source for the function, SI2 monitoring can be disabled.

parameter: P0582 Fixvalue for Dxxxx

maximum index: 01
minimal value: 0
maximal value: 65535
default value: 0
unit: no
password level: 2
read / write: R/W on
basic parameterization: inaccessible
type: unsigned 16 bit

function diagram: plan 02

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 23, 24

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 23, 24

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 23, 24

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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 23, 24
	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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 25

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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 25

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
password level: 1
read / write: R/W on
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 25

Selectable time1 for the time elements.

parameter: P0590 4 to 1 coder enable

maximum index: -
minimal value: 1
maximal value: 2044
default value: 1701
unit: D-Par
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 25

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..P0593), it can be avoided that an intermediate status is briefly accepted during the changeover.

parameter: P0591 4 to 1 coder bit0

maximum index: -
minimal value: 1
maximal value: 2044
default value: 1700
unit: D-Par
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 25

Variable parameter source for the function, input 2 high 0 Coder.

parameter: P0592 4 to 1 coder bit1

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

unit:	D-Par
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25

Variable parameter source for the function, input 2 high 1 Coder.

parameter: P0593 4 to 1 coder bit2

maximum index:	-
minimal value:	1
maximal value:	2044
default value:	1700
unit:	D-Par
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25

Variable parameter source for the function, input 2 high 2 Coder.

parameter: P0594 4 to 1 coder bit3

maximum index:	-
minimal value:	1
maximal value:	2044
default value:	1700
unit:	D-Par
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25

Variable parameter source for the function, input 2 high 3 Coder.

parameter: P0595 SI3-watchdog OFF

maximum index:	-
minimal value:	1
maximal value:	2044
default value:	1700
unit:	D-Par
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level: 1
read / write: R/W on
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 25

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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 30

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 32

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 30

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 30

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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	signed 32 bit
function diagram:	plan 30

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 30

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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 32 bit
function diagram:	plan 30

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
password level:	1
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 32 bit
function diagram:	plan 30

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 30

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 30

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

password level: 2

read / write: R/W off

basic parameterization: inaccessible

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 bit 0).

parameter: P0621 Src. subtract.value

maximum index: 01

minimal value: 1

maximal value: 2044

default value: 1800

unit: D-Par

password level: 2

read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 30
	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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 16

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 28

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 28

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 28

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 28

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 28

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 28

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 28

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 28

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 28

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25

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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit

function diagram: plan 25
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
password level: 2
read / write: R/W on
basic parameterization: accessible
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
5 = 250 kBaud
6 = 500 kBaud
7 = 1 MBaud
unit: no
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2

read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan - CANopen profile

parameter: P0730 Fixvalue for D1517

maximum index:	-
minimal value:	-199.99
maximal value:	199.99
default value:	0.00
unit:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 39

Enters a fixed value which can be connected to variable parameter sources for process signals via display parameter.

P0730 --> D1517

parameter: P0731 Fixv.for D1518,1519

maximum index:	01
minimal value:	-199.99
maximal value:	199.99
default value:	0.00
unit:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit

function diagram: plan 39

Enters fixed values which can be connected to variable parameter sources for process signals via display parameters.

P0731.00 --> D1518

P0731.01 --> D1519

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

password level: 0

read / write: R/W on

basic parameterization: inaccessible

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. 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

password level: 0

read / write: R/W on

basic parameterization: inaccessible

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: 11

unit: no

password level: 0

read / write: R/W on

basic parameterization: accessible

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

password level: 2

read / write: R/W on

basic parameterization: inaccessible

type: unsigned 16 bit

function diagram: plan 10

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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on

basic parameterization: inaccessible
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
password level: 1
read / write: R/W on
basic parameterization: accessible
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. 900 ms per step.

parameter: P0740 src. output block

maximum index: 01
minimal value: 1
maximal value: 2044
default value: 1800
unit: D-Par
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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

password level: 1

read / write: R/W on

basic parameterization: inaccessible

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 KL11037)

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
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 KL11037)

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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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 KL11037)

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: %

password level: 1

read / write: R/W on

basic parameterization: accessible

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 KL11037)

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: 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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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
password level: 2
read / write: R/W on
basic parameterization: accessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
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
password level:	2

read / write: R/W off
basic parameterization: inaccessible
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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
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 < +4 mA 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
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 11

Variable parameter source for the function, selecting the monitoring I < +4 mA at input block 2

Using this parameter source, the response to the I < +4 mA signal is selected.

parameter: P0754 src. comp. logic 1

maximum index: 03
minimal value: 1
maximal value: 2044
default value: 1800
unit: D-Par
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 39

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
password level: 2
read / write: R/W on
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 39

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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 39

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 39

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 39

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 39

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 40

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:	%
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 40

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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 40

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 24

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 24

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 33

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 33

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
password level:	0
read / write:	R/W on
basic parameterization:	accessible
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
password level:	1
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 39

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:	13
default value:	0
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
	12 = term.st.+SI2 SERCOS
	13 = term.st.+SI4 SERCOS
unit:	no
password level:	1
read / write:	R/W off
basic parameterization:	inaccessible
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 P0071, refer also P0064

parameter: P0871 on / off in TEST

maximum index: -

minimal value: 0

maximal value: 13

default value: 10

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
12 = term.st.+SI2 SERCOS
13 = term.st.+SI4 SERCOS

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also 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 ... ±10 V
3 = analog inp 0 ... +20 mA
4 = analog inp 4 ... +20 mA
5 = opt.an.inp 0 ... ±10 V
6 = opt.an.inp 0 ... +20 mA
7 = opt.an.inp 4 ... +20 mA
8 = PC
9 = bus SI1
10 = bus SI2
11 = bus SI4
12 = analog inp 2 ... +10 V
13 = bus SI6

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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

Caution: This parameter is only effective if the basic parameterization is selected using P0071, refer also 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 ... ±10 V
3 = analog inp 0 ... +20 mA
4 = analog inp 4 ... +20 mA
5 = opt.an.inp 0 ... ±10 V
6 = opt.an.inp 0 ... +20 mA
7 = opt.an.inp 4 ... +20 mA
8 = PC
9 = bus SI1
10 = bus SI2
11 = bus SI4
12 = analog inp 2 ... +10 V

13 = bus SI6

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also 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 ... ±10 V
2 = analog inp 0 ... +20 mA
3 = analog inp 4 ... +20 mA
4 = opt.an.inp 0 ... ±10 V
5 = opt.an.inp 0 ... +20 mA
6 = opt.an.inp 4 ... +20 mA
7 = PC
8 = bus SI1
9 = bus SI2
10 = bus SI4
11 = analog inp 2 ... +10 V
12 = bus SI6

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also P0064

parameter: P0875 dig. in-,output1

maximum index:	-
minimal value:	0
maximal value:	97
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
	:
	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
	:
	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
	:
	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
:
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
:
97 = O mech.brake open

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also P0064

parameter: P0876 dig. in-,output2

maximum index: -

minimal value: 0

maximal value: 97

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
:
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
:
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
:
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
:
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
:
97 = O mech.brake open

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also P0064

parameter: P0877 dig. in-,output3

maximum index: -
minimal value: 0
maximal value: 97
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
:
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
:
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
:
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
:
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
:
97 = O mech.brake open

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also P0064

parameter: P0878 digital input4

maximum index: -

minimal value: 0

maximal value: 69

default value: 21

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
:
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
:
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

:
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
:

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also 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

:

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

:

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

:

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

:

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also P0064

parameter: P0880 digital input8

maximum index:	-
minimal value:	0
maximal value:	69
default value:	6
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
	:
	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
	:
	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
	:
	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
:

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also 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 limiting
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 limiting
91 = O fmax limiting

92 = O selection TEST
93 = O ctrl.main contact
94 = O f-actual <= f-min
:
97 = O mech.brake open

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also 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
:
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
:
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
:
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
:

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also 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
:
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
:
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
:
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
:

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also 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

:

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

:

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
:
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
:

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also 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
:
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
:
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
:
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
:

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also 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 limiting
	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 limiting
	91 = O fmax limiting
	92 = O selection TEST
	93 = O ctrl.main contact
	94 = O f-actual <= f-min
	:
	97 = O mech.brake open
unit:	no
password level:	1
read / write:	R/W off
basic parameterization:	inaccessible
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 P0071, refer also 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 limiting
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 limiting
91 = O fmax limiting
92 = O selection TEST
93 = O ctrl.main contact
94 = O f-actual <= f-min
:
97 = O mech.brake open

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also 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 limiting
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 limiting
91 = O fmax limiting
92 = O selection TEST
93 = O ctrl.main contact
94 = O f-actual <= f-min
:
97 = O mech.brake open

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also P0064

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 limiting

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 limiting

91 = O fmax limiting

92 = O selection TEST

93 = O ctrl.main contact

94 = O f-actual <= f-min

:

97 = O mech.brake open

unit: no

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also 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
password level:	1
read / write:	R/W off
basic parameterization:	inaccessible
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 P0071, refer also 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
password level:	1
read / write:	R/W off

basic parameterization: inaccessible

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 P0071, refer also 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

password level: 1

read / write: R/W off

basic parameterization: inaccessible

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 P0071, refer also P0064

parameter: P0893 digital input9

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
:
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
:
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
:
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
:

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also P0064

parameter: P0894 digital input10

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
:
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
:
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
:
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
:

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also P0064

parameter: P0895 digital input11

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
:
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
:
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
:
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
:

unit: no
password level: 1
read / write: R/W off
basic parameterization: inaccessible
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 P0071, refer also P0064

parameter: P0898 scratchpad REFU

maximum index:	-
minimal value:	0.000
maximal value:	2147483.647
default value:	0.000
unit:	no
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 32 bit
function diagram:	plan -

Scratchpad 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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 32 bit
function diagram:	plan -

Scratchpad 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: P1019 data conflict

maximum index:	01
minimal value:	0
maximal value:	2047
default value:	0
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

Data conflict between parameters A and B

parameter: P1020 WS bus info

maximum index:	48
minimal value:	0000
maximal value:	FFFF
default value:	0000
unit:	hex
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
96	SC22243	SERCOS

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
password level:	0
read / write:	Read
basic parameterization:	accessible

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
96	SC22243	SERCOS

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
password level:	0
read / write:	Read
basic parameterization:	accessible
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

password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan -

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 = 8.Oct.2001 16:44
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 36

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 36
	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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 36
	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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 36
	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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 36
	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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 36
	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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 36
	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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit

function diagram: plan 36

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 36

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 36

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 24

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 24

Output from the sample&hold module 1

This output is saved at power-down in the EEprom.

parameter: D1129 coder output 2

maximum index: -
minimal value: 0
maximal value: 65535
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 25

Output2 of the programmable coder

parameter: D1150 Dig.input9 X17.3

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read

basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 08
Digital input9 Terminal X17.3
24 V = logical one

parameter: D1151 Dig.inp9 inv X17.3

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 08
Digital input9, inverted Terminal X17.3
24 V = logical zero

parameter: D1152 Dig.input10 X17.5

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 08
Digital input10 Terminal X17.5
24 V = logical one

parameter: D1153 Dig.inp10 inv X17.5

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit

function diagram: plan 08
Digital input10, inverted Terminal X17.5
24 V = logical zero

parameter: D1154 Dig.input11 X17.7

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 08
Digital input11 Terminal X17.7
24 V = logical one

parameter: D1155 Dig.inp11 inv X17.7

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 08
Digital input11, inverted Terminal X17.7
24 V = logical zero

parameter: D1160 SI6: PZD1-input X13

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 37
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 37

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 37

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 37

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 37

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 37

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 37

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 37

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 37

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 37

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 37

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 37

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 18
	f limit, actual
	The output frequency of the drive is limited with this value

parameter: D1181 frequency actual

maximum index:	-
minimal value:	-32768
maximal value:	32767
default value:	-
unit:	Hz
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan -
	Actual output frequency at the drive inverter in Hz
	Positive values = clockwise rotation
	Negative values = counter-clockwise rotation

parameter: D1187 coder output 1

maximum index:	-
minimal value:	0
maximal value:	31
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25
	Output1 of the programmable coder

parameter: P1238 Src control word 3

maximum index:	-
minimal value:	1
maximal value:	2044
default value:	1800
unit:	D-Par
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan -

SI6 baud rate X13

parameter: P1271 SI6 Tx ID numb. X13

maximum index:	03
minimal value:	1
maximal value:	2047
default value:	176
unit:	no
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

SI6 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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

SI6 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
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

SI6 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 --> 4 ms 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
password level:	2
read / write:	R/W on
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan -

SI6 Rx monitoring

Selects the response for the receive monitoring of standard interface SI6.

Master principle: (P1273 = 1 ... 253)

The device is the master and sends self active data.

The monitoring starts with the first send protocol.

When here no receive data expected, the monitoring must be switched off

Slave principle: (P1273 = 254)

An external control or an external device is master. The device here sends only data if from the master requested.

The monitoring starts with the first correct received protocol.

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: P1275 SI6 Rx timeout X13

maximum index:	-
minimal value:	0.01
maximal value:	60.00
default value:	0.50
unit:	sec
password level:	2
read / write:	R/W on
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

SI6 monitoring time

The monitoring time for the standard SI6 interface is set here.

Master principle: (P1273 = 1 ... 253)

The device is the master and sends self active data.

The monitoring starts with the first send protocol.

When here no receive data expected, the monitoring must be switched off

Slave principle: (P1273 = 254)

An external control or an external device is master. The device here sends only data if from the master requested. The monitoring starts with the first correct received protocol.

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
password level:	2
read / write:	R/W off
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan -

Variable parameter sources for the function, switch: SI6 Rx monitoring off

parameter: P1322 SC address

maximum index:	-
minimal value:	0
maximal value:	254
default value:	0
unit:	no
password level:	2
read / write:	Read

basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan -

Shows the actual SERCOS-bus address of this drive.

Is set with rotary coded switches S3 and S4 on interface-board.

parameter: P1323 SC baud rate

maximum index: -
minimal value: 0
maximal value: 1
default value: 0
parameter value: 0 = 2 MBaud
1 = 4 MBaud
unit: no
password level: 2
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan -

Shows the actual baudrate.

Is set with DIP-switch S1 on interface board.

parameter: P1324 S15 telegram type

maximum index: -
minimal value: 0
maximal value: 7
default value: 2
parameter value: 0 = prefered telegr. 0
1 = prefered telegr. 1
2 = prefered telegr. 2
3 = prefered telegr. 3
4 = prefered telegr. 4
5 = prefered telegr. 5
6 = prefered telegr. 6
7 = configur. telegr.
unit: no
password level: 2
read / write: R/W off
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0015 "Telegram type parameter" on the SR.

For a detailed description of S-0-0015 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1325 S16 konfig. list AT

maximum index:	09
minimal value:	0
maximal value:	34836
default value:	40
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0016 "Configuration list of AT" on the SR.

For a detailed description of S-0-0016 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

In order to generate the "Configuration list of AT" via for example REFUwin, it is important only to implement those parameters, that are desired for AT.

Other indicised values have to be zero.

Example: P1325.0 = 40 (for S-0-0040)

P1325.1 = 34828 (for P-0-2060)
(Note: 32768 + 2060 = 24828)

P1325.2 to P1325.9 = 0

this means S-0-0016 contains the parameters S-0-0040 and P-0-2060

parameter: P1326 S24 konfig. list MDT

maximum index:	09
minimal value:	0
maximal value:	34826
default value:	36
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0024 "Configuration list of MDT" on the SR.

For a detailed description of S-0-0024 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

In order to generate the "Configuration list of MDT" via for example REFUwin, it is important only to implement those parameters, that are desired for MDT.

Other indicised values have to be zero.

Example:	P1326.0 = 36	(for S-0-0036)
	P1326.1 = 34818	(for P-0-2050)
	(Note: 32768 + 2050 = 24818)	
	P1326.2 to P1326.9 = 0	

this means S-0-0024 contains the parameters S-0-0036 and P-0-2050.

parameter: P1327 S32 main operat.mode

maximum index:	-
minimal value:	0
maximal value:	65535
default value:	2
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0032 "Primary operation mode" on the SR.

For a detailed description of S-0-0032 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1328 S33 aux operat.mode1

maximum index:	-
minimal value:	0
maximal value:	65535
default value:	2
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0033 "Secondary operation mode 1" on the SR.

For a detailed description of S-0-0033 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1329 S34 aux operat.mode2

maximum index: -
minimal value: 0
maximal value: 65535
default value: 2
unit: no
password level: 2
read / write: R/W off
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0034 "Secondary operation mode 2" on the SR.

For a detailed description of S-0-0034 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1330 S35 aux operat.mode3

maximum index: -
minimal value: 0
maximal value: 65535
default value: 2
unit: no
password level: 2
read / write: R/W off
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0035 "Secondary operation mode 3" on the SR.

For a detailed description of S-0-0035 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1331 S43 speed polarities

maximum index: -
minimal value: 0
maximal value: 7
default value: 0
unit: no
password level: 2
read / write: R/W off
basic parameterization: accessible
type: unsigned 16 bit

function diagram: plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0043 "Velocity polarity parameter" on the SR.

For a detailed description of S-0-0043 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1332 S44 speed signif.mod

maximum index: -

minimal value: 0

maximal value: 127

default value: 0

unit: no

password level: 2

read / write: R/W off

basic parameterization: accessible

type: unsigned 16 bit

function diagram: plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0044 "Velocity data scaling type" on the SR.

For a detailed description of S-0-0044 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1333 S45 speedsignif.fact

maximum index: -

minimal value: 0

maximal value: 65535

default value: 0

unit: no

password level: 2

read / write: R/W off

basic parameterization: accessible

type: unsigned 16 bit

function diagram: plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0045 "Velocity data scaling factor" on the SR.

For a detailed description of S-0-0045 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1334 S46 speed signif.exp

maximum index:	-
minimal value:	-32768
maximal value:	32767
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0046 "Velocity data scaling exponent" on the SR.

For a detailed description of S-0-0046 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1337 S85 torque polarity

maximum index:	-
minimal value:	0
maximal value:	7
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

parameter: P1338 S86 torq. signif.mod

maximum index:	-
minimal value:	0
maximal value:	63
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

parameter: P1339 S91 speed limit symm

maximum index:	01
minimal value:	0
maximal value:	2147483647
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 32 bit
function diagram:	plan -

This parameter is used, in order to store the values of SERCOS-Parameter S-0-0091 and S-1-0091 "Bipolar velocity limit value" on the SR.

For a detailed description of S-i-0091 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

P1339.0 stores the value of S-0-0091

P1339.1 stores the value of S-1-0091

parameter: P1340 S92 torquelimit symm

maximum index:	-
minimal value:	0
maximal value:	65535
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

parameter: P1341 S93 torqueSignif.fac

maximum index:	-
minimal value:	0
maximal value:	65535
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

parameter: P1342 S94 torqueSignif.exp

maximum index:	-
minimal value:	-32768
maximal value:	32767
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan -

parameter: P1344 S124 standstil value

maximum index:	-
minimal value:	0
maximal value:	2147483647
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 32 bit
function diagram:	plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0124 "Standstill window" on the SR.

For a detailed description of S-0-0124 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1347 S157 speed window

maximum index:	-
minimal value:	0
maximal value:	2147483647
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 32 bit
function diagram:	plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0157 "Velocity window" on the SR.

For a detailed description of S-0-0157 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

parameter: P1349 S265 language switch

maximum index:	-
minimal value:	0
maximal value:	1
default value:	0
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

This parameter is used, in order to store the value of SERCOS-Parameter S-0-0265 "Language selection" on the SR.

For a detailed description of S-0-0265 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

With SERCOS the value:

0 corresponds to the German language

1 corresponds to the English language

In REFUdrive there is the Parameter P0010, where:

0 corresponds to the English language

1 corresponds to the German language

When writing S-0-0265 via SERCOS, the parameter P0010 is modified accordingly.

When writing parameters P0010 (via Operator panel or REFUwin), the value of S-0-0265 (and also P1349) is not modified!

parameter: P1360 P2070 RD500-SC-Norm.

maximum index:	01
minimal value:	0
maximal value:	2147483647
default value:	3000
unit:	no
password level:	2
read / write:	R/W off
basic parameterization:	accessible
type:	unsigned 32 bit
function diagram:	plan -

This parameter is used, in order to store the values of SERCOS-Parameter P-0-2070 and P-1-2070 "RD500 Speed for standardization" on the SR.

For a detailed description of P-i-2070 please check the manual of the SERCOS-interface-board RZP01.1-S1.

This parameter can be modified with operator panel, REFUwin or another serial interface, although the usual way is by the SERCOS-Master.

P1360.0 stores the value of P-0-2070

P1360.1 stores the value of P-1-2070

parameter: D1480 Control word3 Bit 0

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 06

Control word3 bit 15 On, for logical one.

parameter: D1499 start protect.activ

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan -

Start protection is active

parameter: D1516 Fixvalue P083

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 15

parameter: D1517 Fixvalue P730

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 39

parameter: D1518 Fixvalue P731.0

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 39

parameter: D1519 Fixvalue P731.1

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 39

parameter: D1520 SC state

maximum index:	-
minimal value:	0
maximal value:	27
default value:	-
parameter value:	0 = 0 Phase 0
	1 = 0 Phase 0, Ph.sw.a.
	2 = 1 Phase 1
	3 = 1 Phase 1, Ph.sw.a.
	4 = 2 Phase 2
	5 = 2 Phase 2, Ph.sw.a.
	6 = 3 Phase 3
	7 = 3 Phase 3, Ph.sw.a.
	8 = b operational
	9 = 5 Tst: Zero Bit str
	10 = 6 Tst: Perm. light
	11 = 7 Fbr. r. n. closed
	12 = 8 Reset
	13 = A Dr. adr. n. corr.
	14 = C 2 x AT absence

15 = C 2 x MST absence
16 = L Fbr. r. interrup.
17 = n configurat. error
18 = o Err. t.slot calc.
19 = r internal error
20 = U Err. lifecounter
21 = u cpy.time too long
22 = y checksum error
23 = c SYNCIN erroneous
24 = d HS-Timeout
25 = E com. 2->3 imposs.
26 = F com. 3->4 imposs.
27 = h Drive error

unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan -

Shows the actual SERCOS-Phase

parameter: D1521 SC cycle time S-002

maximum index: -
minimal value: 0.000
maximal value: 65.535
default value: -
unit: ms
password level: 0
read / write: Read
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan -

Shows the value of SERCOS-Parameter S-0-0002. Used for fault-diagnosis and for installation.

parameter: D1522 SC control word

maximum index: -
minimal value: 0000
maximal value: FFFF
default value: -
unit: hex
password level: 0
read / write: Read
basic parameterization: accessible
type: unsigned 16 bit

function diagram: plan -

Shows the value of SERCOS-Parameter S-0-0134. Used for fault-diagnosis and for installation.

parameter: D1523 SC status word

maximum index:	-
minimal value:	0000
maximal value:	FFFF
default value:	-
unit:	hex
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

Shows the value of SERCOS-Parameter S-0-0135. Used for fault-diagnosis and for installation.

parameter: D1524 SC light intensity

maximum index:	-
minimal value:	0
maximal value:	3
default value:	-
parameter value:	0 = weak
	1 = mid weak
	2 = mid strong
	3 = strong
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan -

Shows the actual optical transmission power Is set with DIP-switch S2 on interface board.

parameter: D1566 f-set reach.delayed

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible

type: unsigned 16 bit
function diagram: plan 40, 19
Message f set reached, delayed

parameter: D1571 PS control volt. ok

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
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

password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 40

Message, f set reached

parameter: D1575 f-set in tolerance

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 40

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible

type: unsigned 16 bit
function diagram: plan 39
Output, threshold value logic 1

parameter: D1577 Comp.logic1 o/p not

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 39
Output, threshold value logic 1, inverted

parameter: D1578 Comp.logic2 o/p

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 39
Output, threshold value logic 2

parameter: D1579 Comp.logic2 o/p not

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 39
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	Inverted output Logic gate 10

parameter: D1582 Logic gate 11

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	Inverted output Logic gate 11

parameter: D1584 Logic gate 12

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 24
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 24
	Inverted output Logic gate 12

parameter: D1586 Logic gate 13

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible

type: signed 16 bit
function diagram: plan 24
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 24
Inverted output Logic gate 13

parameter: D1588 Logic gate 14

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 24
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 24
Inverted output Logic gate 14

parameter: D1590 Logic gate 15

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 24
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 24
	Inverted output Logic gate 15

parameter: D1592 Logic gate 16

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 24
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 24
	Inverted output Logic gate 16

parameter: D1594 Logic gate 17

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 24
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 24
	Inverted output Logic gate 17

parameter: D1596 Logic gate 18

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible

type: signed 16 bit
function diagram: plan 24
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 24
Inverted output Logic gate 18

parameter: D1598 Logic gate 19

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 24
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 24
Inverted output Logic gate 19

parameter: D1608 Init finished

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

Firmware initialization has been completed

parameter: D1609 Par.calculat. activ

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan -

parameter: D1610 logic gate 0

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23

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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 23
Inverted output Logic gate 0

parameter: D1612 logic gate 1

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 23
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 23
Inverted output Logic gate 1

parameter: D1614 logic gate 2

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit

function diagram:	plan 23 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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23 Inverted output Logic gate 2

parameter: D1616 logic gate 3

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23 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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23 Inverted output Logic gate 3

parameter: D1618 logic gate 4

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	Inverted output Logic gate 4

parameter: D1620 timer 0

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25
	Direct output, Timer element 0

parameter: D1621 timer 0 not

maximum index:	-
minimal value:	0
maximal value:	1

default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25
	Inverted output, Timer element 0

parameter: D1622 timer 1

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25
	Direct output, Timer element 1

parameter: D1623 timer 1 not

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25
	Inverted output, Timer element 1

parameter: D1624 timer 2

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible

type:	unsigned 16 bit
function diagram:	plan 25
	Direct output, Timer element 2

parameter: D1625 timer 2 not

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25
	Inverted output, Timer element 2

parameter: D1626 timer 3

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25
	Direct output, Timer element 3

parameter: D1627 timer 3 not

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25
	Inverted output, Timer element 3

parameter: D1628 compare: x = xs

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 27

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 27

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 27

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 27
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 38
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 38
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 38
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 38
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 03

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0

read / write: Read
basic parameterization: inaccessible
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 23
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 23
Inverted output Logic gate 5

parameter: D1652 logic gate 6

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 23
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	Inverted output Logic gate 6

parameter: D1654 logic gate 7

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	Inverted output Logic gate 7

parameter: D1656 logic gate 8

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	Inverted output Logic gate 8

parameter: D1658 logic gate 9

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 23
	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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 23
Inverted output Logic gate 9

parameter: D1660 ctrl-word1 Bit0

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible

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
password level: 0
read / write: Read
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 03
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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 03, 16
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 07
	Active source block TEST
	0 = NORMAL D1670 = 0
	1 = TEST D1670 = 1

parameter: D1671 setpoint memory

maximum index:	-
minimal value:	0
maximal value:	15
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 07

Active setpoint memory

parameter: D1672 parameterset

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 07

Active parameter set

parameter: D1673 coder output

maximum index:	-
minimal value:	0
maximal value:	15
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 25

Output, coder

parameter: D1674 f-max limit

maximum index:	-
minimal value:	0
maximal value:	1

default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 15

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible

type:	unsigned 16 bit
function diagram:	plan 20
	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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 20
	The current limiting is active, for logical one.

parameter: D1679 voltage limit

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 21
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 40
	Control, open mechanical brake

parameter: D1698 I*t-protect on

maximum index:	-
minimal value:	0
maximal value:	1

default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 02
Constant, logical zero

parameter: D1701 Constant logical 1

maximum index: -
minimal value: 1
maximal value: 1
default value: 1
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 02
Constant, logical one

parameter: D1704 RFG active up

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: accessible

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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 22
Alarm, motor temperature, for logical one.

parameter: D1708 Fault motor temp.

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 22

Fault, motor temperature, for logical one.

parameter: D1711 Overspeed

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 26

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 26

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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input1 Terminal X14.2

24 V = logical one

parameter: D1715 Dig.input2 X14.3

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input2 Terminal X14.3

24 V = logical one

parameter: D1716 Dig.input3 X14.4

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input3 Terminal X14.4
24 V = logical one

parameter: D1717 Dig.input4 X14.5

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input4 Terminal X14.5
24 V = logical one

parameter: D1718 Dig.input5 X14.6

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input5 Terminal X14.6
24 V = logical one

parameter: D1719 Dig.input6 X17.2

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input6 Terminal X17.2
24 V = logical one

parameter: D1720 Dig.input7 X17.4

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input7 Terminal X17.4
24 V = logical one

parameter: D1721 Dig.input8 X17.6

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input8 Terminal X17.6
24 V = logical one

parameter: D1722 Dig.output1 X14.2

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08
	Digital output1 Terminal X14.2
	24 V = logical one

parameter: D1723 Dig.output2 X14.3

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08
	Digital output2 Terminal X14.3
	24 V = logical one

parameter: D1724 Dig.output3 X14.4

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 08
	Digital output3 Terminal X14.4
	24 V = logical one

parameter: D1725 Relay Output X16

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 04

Status word bit 0 Ready to power-up

parameter: D1731 Status ON

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 07, 04, 15, 16, 19, 40
	Status word bit 2 Run (operation)

parameter: D1733 Status fault

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	unsigned 16 bit
function diagram:	plan 04
	Status word bit 3 Fault

parameter: D1734 Status not Off2

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible

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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: accessible

type:	unsigned 16 bit
function diagram:	plan 04
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 26
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 26
	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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit

function diagram: plan -

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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 31

The limiter is active, for logical one.

parameter: D1757 Comp: x2 < xs2

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 26

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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 26

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input1 inverted Terminal X14.2
24 V = logical zero

parameter: D1761 Dig.inp2 inv X14.3

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input2 inverted Terminal X14.3
24 V = logical zero

parameter: D1762 Dig.inp3 inv X14.4

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input3 inverted Terminal X14.4
24 V = logical zero

parameter: D1763 Dig.inp4 inv X14.5

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input4 inverted Terminal X14.5

24 V = logical zero

parameter: D1764 Dig.inp5 inv X14.6

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input5 inverted Terminal X14.6

24 V = logical zero

parameter: D1765 Dig.inp6 inv X17.2

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input6 inverted Terminal X17.2

24 V = logical zero

parameter: D1766 Dig.inp7 inv X17.4

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input7 inverted Terminal X17.4
24 V = logical zero

parameter: D1767 Dig.inp8 inv X17.6

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	unsigned 16 bit
function diagram:	plan 08

Digital input8 inverted Terminal X17.6
24 V = logical zero

parameter: D1768 Controlword 1 bit 8

maximum index:	-
minimal value:	0
maximal value:	1
default value:	-
unit:	no
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible

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
password level: 0
read / write: Read
basic parameterization: accessible
type: unsigned 16 bit
function diagram: plan 20, 16, 18, 40
DC braking active / DC current braking active

parameter: D1777 Comp: x3 < xs3

maximum index: -
minimal value: 0
maximal value: 1
default value: -
unit: no
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 26
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: unsigned 16 bit
function diagram: plan 26
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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 he 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
password level:	0
read / write:	Read
basic parameterization:	accessible

type: unsigned 16 bit
function diagram: plan 18

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
password level: 0
read / write: Read
basic parameterization: inaccessible
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
password level: 0
read / write: Read
basic parameterization: inaccessible
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
password level: 0
read / write: Read
basic parameterization: inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 02
	Process constant 0.00 %

parameter: D1801 Analog input X14.9

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 09
	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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: accessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 30

Output from filter element 0

parameter: D1809 PT1-Modul 1

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -

unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 30
	Output from filter element 1

parameter: D1810 Limiter 1 output

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 31
	Output from the limiter

parameter: D1811 Gain-Modul

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 31
	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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit

function diagram: plan 31

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 28

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 28

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 32

Normalization value of the technology controller.

parameter: D1816 TC actual value

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 32

Input from DT1 element.

parameter: D1817 TC actual value+TD

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 32

Output from DT1 element.

parameter: D1818 TC error signal

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 32

System deviation of the technology controller.

parameter: D1819 TC setpoint

maximum index: -
minimal value: -200.00
maximal value: 199.99

default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 32
	Setpoint of the technology controller.

parameter: D1820 TC output

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 32
	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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 32
	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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible

type:	signed 16 bit
function diagram:	plan 32
	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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 16, 40
	Output, ramp-function generator

parameter: D1838 Additional s/p

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: accessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 02

The programmed fixed value from parameter P435.00 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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 22

Actual temperature at the power section cooler.

parameter: D1871 Motor temp. sensor

maximum index:	-
minimal value:	0
maximal value:	10000
default value:	-
unit:	Ohm
password level:	0

read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 22

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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 22

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 33

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit

function diagram: plan 21

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 21, 20

Filtered summed output current of the drive.

parameter: D1885 Isq filtered

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 21

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 30
	Output from filter element 2

parameter: D1887 PT1-Modul 3

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 30
	Output from filter element 3

parameter: D1893 MFB 1 Output

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 29
	Output from multi-function block 1

parameter: D1894 MFB 2 Output

maximum index:	-
minimal value:	-200.00
maximal value:	199.99

default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 29
	Output from multi-function block 2

parameter: D1895 MFB 3 Output

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 29
	Output from multi-function block 3

parameter: D1896 MFB 4 Output

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 29
	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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible

type: signed 16 bit
function diagram: plan 26

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: %
password level: 1
read / write: R/W on
basic parameterization: accessible
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: %
password level: 0
read / write: Read
basic parameterization: accessible
type: signed 16 bit
function diagram: plan 34

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: %
password level: 0

read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34
	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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34
	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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34
	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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34
	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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 35

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 35

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 35

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 35

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 35

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 35

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 35

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 35

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 35

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 35

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
password level: 0
read / write: Read
basic parameterization: accessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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 re 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: D1922 Status word

maximum index: -

minimal value: 0000

maximal value: FFFF

default value: -

unit: hex

password level: 0

read / write: Read

basic parameterization: accessible

type: unsigned 16 bit

function diagram: plan 04, 34

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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: D1928 DC link voltage

maximum index: -

minimal value: -1000

maximal value: 1000

default value: -

unit: V

password level: 0

read / write: Read

basic parameterization: accessible

type: signed 16 bit

function diagram: plan 21

Actual DC link voltage

100.00 % = 500 V

parameter: D1929 powr.actual filt

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 21

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 21

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 15

Voltage V_a 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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
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: %
password level: 0
read / write: Read
basic parameterization: accessible
type: signed 16 bit
function diagram: plan 15

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 19

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: %
password level: 0
read / write: Read
basic parameterization: accessible
type: signed 16 bit
function diagram: plan 19, 17, 20

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: %
password level: 0
read / write: Read
basic parameterization: accessible

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: accessible
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 20
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 20

Actual current limit value at the current controller input.

parameter: D1946 i-controler outp

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 20

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
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 20

Output voltage in front of the voltage limiting.

parameter: D1948 output voltage

maximum index:	-
minimal value:	-817
maximal value:	816
default value:	-
unit:	V
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 20, 21

Actual output voltage.

parameter: D1949 Isq

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 18, 21

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 18, 20

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible

type: signed 16 bit
function diagram: plan 28
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 28
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 28
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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 28
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 16
	Main setpoint before enable.

parameter: D1976 sum [P610]

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 30
	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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 30
	Actual output of the multiplication element.

parameter: D1978 output free RFG

maximum index:	-
minimal value:	-200.00
maximal value:	199.99

default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 30

Actual output of the free ramp-function generator.

parameter: D1979 [P406.1] - [407.1]

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 26

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
password level: 0
read / write: Read
basic parameterization: inaccessible
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 P50 to P57. 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: %
password level: 0
read / write: Read
basic parameterization: accessible
type: signed 16 bit
function diagram: plan 18, 34

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 [P621]

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %

password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 30

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 30

Absolute value from D1982

parameter: D1984 setp. after stall

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 17

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
password level: 0
read / write: Read
basic parameterization: accessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 28

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 28

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: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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 P435.06

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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: %
password level: 0

read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 29

Output from multi-function block 5

parameter: D2007 MFB 6 Output

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
type: signed 16 bit
function diagram: plan 29

Output from multi-function block 6

parameter: D2008 Fixvalue P435.07

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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 P435.08

maximum index: -
minimal value: -200.00
maximal value: 199.99
default value: -
unit: %
password level: 0
read / write: Read
basic parameterization: inaccessible
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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 15, 40

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 33

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:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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 P435.10

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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 P435.11

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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 P435.12

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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 P435.13

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 02

The programmed fixed value from parameter P0435.13 can be freely combined with display parameter D2024

parameter: D2025 Fixvalue P435.14

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
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 P435.15

maximum index:	-
minimal value:	-200.00
maximal value:	199.99
default value:	-
unit:	%
password level:	0
read / write:	Read
basic parameterization:	inaccessible
type:	signed 16 bit
function diagram:	plan 02

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
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 22

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34, 03

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34

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:	%
password level:	0
read / write:	Read
basic parameterization:	accessible
type:	signed 16 bit
function diagram:	plan 34

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:	%

password level: 0

read / write: Read

basic parameterization: accessible

type: signed 16 bit

function diagram: plan 34

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: %

password level: 0

read / write: Read

basic parameterization: accessible

type: signed 16 bit

function diagram: plan 34

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.

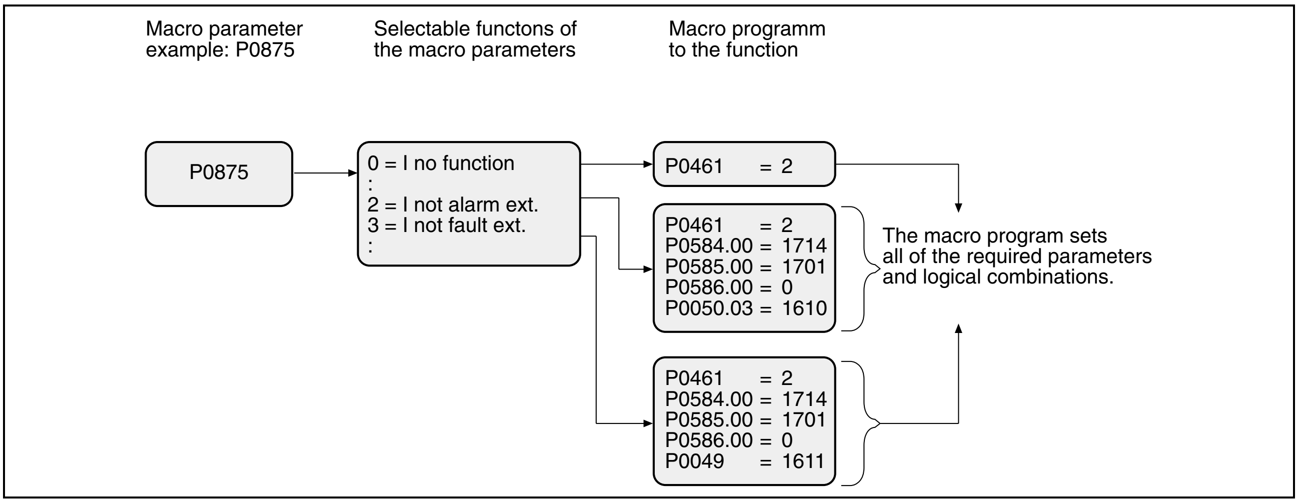

Abb. 4-1: Macro parameter

Parameter numbers P0850 to P0897 are reserved for the macro parameters. Presently, numbers P0870 to P0892 are assigned, refer to the "list of macro parameters". The selectable functions for each macro parameter are in this list, under Parameter value". The list is structured the same as the parameter lists from Section 2.

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, P0892

4.2 Lists 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 0)	23
Digital input / output 2	Logic gate 2 (IND 1)	23
Digital input / output 3	Logic gate 3 (IND 2)	23
Digital input 4	Logic gate 4 (IND 3)	23
Digital input 5	Logic gate 5 (IND 4)	23
Digital input 6	Switch on / switch off logic (D1636)	38
Digital input 7	Switch on / switch off logic (D1636)	38
Digital input 8	Logic gate 8 (IND 7)	23
Digital input 9	Logic gate 17 (IND 16)	24
Digital input 10	Logic gate 18 (IND 17)	24
Digital input 11	Logic gate 19 (IND 18)	24
Option digital input 1	Logic gate 9 (IND 8)	23
Option digital input 2	Logic gate 10 (IND 9)	23
Option digital input 3	Logic gate 11 (IND 10)	23
Option digital input 4	Logic gate 12 (IND 11)	23
Relay output	Logic gate 6 (IND 5)	23
Option relay output 1	Logic gate 13 (IND 12)	24
Option relay output 2	Logic gate 14 (IND 13)	24
Option relay output 3	Logic gate 15 (IND 14)	24
Option relay output 4	Logic gate 16 (IND 15)	24
Option analog input	Input module (D1802)	11
Reference / analog output	Output module 1 (D1875)	13
Option analog output 1	Output module 2 (D1120)	13
Option analog output 2	Output module 3 (D1121)	13
Signal: Motor rotates 1	System constant P0730 comparator logic 1 (D1576)	39 39
Signal: Motor rotates 2	System constant P0731.01 comparator logic 2 (D1578)	39 39
Siganl: Setpoint reached	Logic f-set reached (D1574)	40
Signal: Setpoint in tolerance band	Logic f-set in tolerance band (D1575)	40
Signal: $f_{act} <= f_{min}$	Comparator 1 (D1712)	26
Mains contactor control	Logic gate 7 (IND 6)	23
Control mechanical brake	Brake control (D1697)	40

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	Process 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	-

Explanations regarding the resource lists

Example: P0872 setpoint in NORMAL				**Example: P0873 setpoint in TEST**		
Column 1	Column 2	Column 3		Column 1	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)	D1701 3)	14 4)		P0190.01 2)	D1701 3)	14 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 Parameters used by the macro program

3) Par. value Parameter setting

4) Fct. plan The parameter from column 1 is located in the appropriate function diagram.
Fct.plan = Function diagram

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 digital inputs, P0882 ... P0885 optional digital inputs													
Column 1	Column 2	Column 3		5) Table with the variables									
Param.	**P-value**	**Fct.plan**		**Varable for the optional digital input**									
2 = I not alarm ext. 1)													
				5)	**Dig. inputs**								
2)	3)	4)			1	2	3	4	5	8	9	10	11
P)	2	8		P)	P0471	P0473	P0475	-	-	-	-	-	-
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) = Varible 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	BL38
P0051.03	1719	BL38
P0051.05	1720	BL38
P0051.07	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
1 = term. static. + panel		
P0073.00	0	BL03
P0620	1920	BL03
P0051.02	1670	BL38
P0051.03	1719	BL38
P0051.05	1720	BL38
P0051.07	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
2 = term. static + PC		
P0073.00	3	BL03
P0051.02	1670	BL38
P0051.03	1719	BL38
P0051.05	1720	BL38
P0051.07	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
3 = term. static + Bus SI1		
P0073.00	1	BL03
P0074	1900	BL03
P0051.02	1670	BL38
P0051.03	1719	BL38
P0051.05	1720	BL38
P0051.07	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0470.00	1922	BL34

P0871 on / off in TEST

Parameter	Par. value	Fct.plan
0 = term. strip static		
P0073.01	2	BL03
P0051.00	1719	BL38
P0051.01	1670	BL38
P0051.04	1720	BL38
P0051.06	1670	BL38
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	BL38
P0051.01	1670	BL38
P0051.04	1720	BL38
P0051.06	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
3 = term. static + Bus SI1		
P0073.01	1	BL03
P0074	1900	BL03
P0051.00	1719	BL38
P0051.01	1670	BL38
P0051.04	1720	BL38
P0051.06	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0470.00	1922	BL34

Parameter	Par. value	Fct.plan
4 = term. static + Bus SI2		
P0073.00	1	BL03
P0074	1910	BL03
P0051.02	1670	BL38
P0051.03	1719	BL38
P0051.05	1720	BL38
P0051.07	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0480.00	1922	BL35
5 = term. static + Bus SI4		
P0073.00	1	BL03
P0074	1100	BL03
P0051.02	1670	BL38
P0051.03	1719	BL38
P0051.05	1720	BL38
P0051.07	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0491.00	1922	BL36
6 = term.dyn. (OFF always)		
P0073.00	2	BL03
P0051.02	1670	BL38
P0051.03	1719	BL38
P0051.05	1766	BL38
P0051.07	1700	BL38
P0050.00	1636	BL03
7 = panel.dyn. (OFF always)		
P0073.00	2	BL03
P0620	1920	BL03
P0051.02	1670	BL38
P0051.03	1640	BL38
P0051.05	1641	BL38
P0051.07	1700	BL38
P0050.00	1636	BL03
8 = term.strip dynamic		
P0073.00	2	BL03
P0051.02	1670	BL38
P0051.03	1719	BL38
P0051.05	1766	BL38
P0051.07	1670	BL38
P0050.00	1636	BL03

Parameter	Par. value	Fct.plan
4 = term. static + Bus SI2		
P0073.01	1	BL03
P0074	1910	BL03
P0051.00	1719	BL38
P0051.01	1670	BL38
P0051.04	1720	BL38
P0051.06	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0480.00	1922	BL35
5 = term. static + Bus SI4		
P0073.01	1	BL03
P0074	1100	BL03
P0051.00	1719	BL38
P0051.01	1670	BL38
P0051.04	1720	BL38
P0051.06	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0491.00	1922	BL36
6 = term.dyn. (OFF always)		
P0073.01	2	BL03
P0051.00	1719	BL38
P0051.01	1670	BL38
P0051.04	1766	BL38
P0051.06	1701	BL38
P0050.00	1636	BL03
7 = panel.dyn. (OFF always)		
P0073.01	2	BL03
P0620	1920	BL03
P0051.00	1640	BL38
P0051.01	1670	BL38
P0051.04	1641	BL38
P0051.06	1701	BL38
P0050.00	1636	BL03
8 = term.strip dynamic		
P0073.01	2	BL03
P0051.00	1719	BL38
P0051.01	1670	BL38
P0051.04	1766	BL38
P0051.06	1670	BL38
P0050.00	1636	BL03

Parameter	Par. value	Fct.plan
9 = panel dynamic		
P0073.00	2	BL03
P0620	1920	BL03
P0051.02	1670	BL38
P0051.03	1640	BL38
P0051.05	1641	BL38
P0051.07	1670	BL38
P0050.00	1636	BL03
10 = panel static		
P73.00	2	BL03
P0620	1920	BL03
P0051.02	1670	BL38
P0051.03	1980	BL38
P0051.05	1701	BL38
P0051.07	1670	BL38
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	BL38
P0051.03	1719	BL38
P0051.05	1720	BL38
P0051.07	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0494.00	1922	BL37
12 = term.strip static + Bus SI2 SERCOS		
P0073.00	1	BL03
P0074.00	1910	BL03
P0051.02	1670	BL38
P0051.03	1719	BL38
P0051.05	1701	BL38
P0051.07	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0480.00	1922	BL35

Parameter	Par. value	Fct.plan
9 = panel dynamic		
P0073.01	2	BL03
P0620	1920	BL03
P0051.00	1640	BL38
P0051.01	1670	BL38
P0051.04	1641	BL38
P0051.06	1670	BL38
P0050.00	1636	BL03
10 = panel static		
P0073.01	2	BL03
P0620	1920	BL03
P0051.00	1980	BL38
P0051.01	1670	BL38
P0051.04	1701	BL38
P0051.06	1670	BL38
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	BL38
P0051.01	1670	BL38
P0051.04	1720	BL38
P0051.06	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0494.00	1922	BL37
12 = term.strip static + Bus SI2 SERCOS		
P0073.01	1	BL03
P0074.00	1910	BL03
P0051.00	1719	BL38
P0051.01	1670	BL38
P0051.04	1701	BL38
P0051.06	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0480.00	1922	BL35

Parameter	Par. value	Fct.plan
13 = term.strip static + Bus SI4 SERCOS		
P0073.00	1	BL03
P0074.00	1100	BL03
P0051.02	1670	BL38
P0051.03	1719	BL38
P0051.05	1701	BL38
P0051.07	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0491.00	1922	BL36

Parameter	Par. value	Fct.plan
13 = term.strip static + Bus SI4 SERCOS		
P0073.01	1	BL03
P0074.00	1100	BL03
P0051.00	1719	BL38
P0051.01	1670	BL38
P0051.04	1701	BL38
P0051.06	1670	BL38
P0050.00	1634	BL03
P0050.03	1635	BL03
P0491.00	1922	BL36

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	1700	BL14
2 = analog input 0..±10V		
P0201	0	BL09
P0263.00	1801	BL14
P0264.00	1700	BL14
P0190.00	1700	BL14
3 = analog input 0..+20mA		
P0201	2	BL09
P0263.00	1801	BL14
P0264.00	1700	BL14
P0190.00	1700	BL14
4 = analog input +4..+20mA		
P0201	1	BL09
P0570	1670	BL09
P0263.00	1801	BL14
P0264.00	1700	BL14
P0190.00	1700	BL14
5 = opt.an.input 0..±10V		
P0735.01	0	BL10
P0217	1806	BL11
P0736	0	BL11
P0263.00	1802	BL14
P0264.00	1700	BL14
P0190.00	1700	BL14

P0873 setpoint in TEST

Parameter	Par. value	Fct.plan
0 = motor potentiometer		
P0190.01	1701	BL14
1 = fix setpoint		
P0264.01	1701	BL14
P0190.00	1700	BL14
2 = analog input 0..±10V		
P0201	0	BL09
P0263.01	1801	BL14
P0264.01	1700	BL14
P0190.00	1700	BL14
3 = analog input 0..+20mA		
P0201	2	BL09
P0263.01	1801	BL14
P0264.01	1700	BL14
P0190.00	1700	BL14
4 = analog input +4..+20mA		
P0201	1	BL09
P0570	1670	BL09
P0263.01	1801	BL14
P0264.01	1700	BL14
P0190.00	1700	BL14
5 = opt.an.input 0..±10V		
P0735.01	0	BL10
P0217	1806	BL11
P0736	0	BL11
P0263.01	1802	BL14
P0264.01	1700	BL14
P0190.00	1700	BL14

Parameter	Par. value	Fct.plan
6 = opt.an.input 0..+20V		
P0735.01	1	BL10
P0217	1806	BL11
P0736	0	BL11
P0263.00	1802	BL14
P0264.00	1700	BL14
P0190.00	1700	BL14
7 = opt.an.input +4..+20V		
P0735.01	1	BL10
P0217	1806	BL11
P0736	1	BL11
P0753	1670	BL11
P0263.00	1802	BL14
P0264.00	1700	BL14
P0190.00	1700	BL14
8 = PC		
P0263.00	2031	BL14
P0264.00	1700	BL14
P0190.00	1700	BL14
9 = Bus SI1		
P0263.00	1901	BL14
P0264.00	1700	BL14
P0470.01	1981	BL34
P0190.00	1700	BL14
10 = Bus SI2		
P0263.00	1911	BL14
P0264.00	1700	BL14
P0480.01	1981	BL35
P0190.00	1700	BL14
11 = Bus SI4		
P0263.00	1101	BL14
P0264.00	1700	BL14
P0491.01	1981	BL36
P0190.00	1700	BL14
12 = analog input +2..+10V		
P0201	3	BL09
P0570	1670	BL09
P0263.00	1801	BL14
P0264.00	1700	BL14
P0190.00	1700	BL14

Parameter	Par. value	Fct.plan
6 = opt.an.input 0..+20V		
P0735.01	1	BL10
P0217	1806	BL11
P0736	0	BL11
P0263.01	1802	BL14
P0264.01	1700	BL14
P0190.00	1700	BL14
7 = opt.an.input +4..+20V		
P0735.01	1	BL10
P0217	1806	BL11
P0736	1	BL11
P0753	1670	BL11
P0263.01	1802	BL14
P0264.01	1700	BL14
P0190.00	1700	BL14
8 = PC		
P0263.01	2031	BL14
P0264.01	1700	BL14
P0190.00	1700	BL14
9 = Bus SI1		
P0263.01	1901	BL14
P0264.01	1700	BL14
P0470.01	1981	BL34
P0190.00	1700	BL14
10 = Bus SI2		
P0263.01	1911	BL14
P0264.01	1700	BL14
P0480.01	1981	BL35
P0190.00	1700	BL14
11 = Bus SI4		
P0263.01	1101	BL14
P0264.01	1700	BL14
P0491.01	1981	BL36
P0190.00	1700	BL14
12 = analog input +2..+10V		
P0201	3	BL09
P0570	1670	BL09
P0263.01	1801	BL14
P0264.01	1700	BL14
P0190.00	1700	BL14

Parameter	Par. value	Fct.plan
13 = Bus SI6		
P0263.00	1161	BL14
P0264.00	1700	BL14
P0494.01	1981	BL37
P0190.00	1700	BL14

Parameter	Par. value	Fct.plan
13 = Bus SI6		
P0263.01	1161	BL14
P0264.01	1700	BL14
P0494.01	1981	BL37
P0190.00	1700	BL14

P0874 additional setpoint

Parameter	Par. value	Fct.plan
0 = no function		
P0300	1800	BL17
P0301	0	BL17
1= analog input 0..±10V		
P0300	1801	BL17
P0301	0	BL17
P0201	0	BL09
P0570	1700	BL09
P0564.00	0	BL09
P0564.01	0	BL09
2 = analog input 0..+20mA		
P0300	1801	BL17
P0301	0	BL17
P0201	2	BL09
P0570	1700	BL09
P0564.00	0	BL09
P0564.01	0	BL09
3 = analog input +4..+20mA		
P0300	1801	BL17
P0301	0	BL17
P0201	1	BL09
P0570	1700	BL09
P0564.01	0	BL09
4 = opt.an.input 0..±10V		
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

Parameter	Par. value	Fct.plan
5 = opt.an.input 0..+20mA		
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..+20mA		
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
11 = analog input +2..+10V		
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 = I 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

Param.	P-value	Fct.plan		Variable for digital inputs								
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1792	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	4	BL23										
P68	W2)	BL07	W2)	1610	1612	1614	1616	1618	1654	1592	1594	1596

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)	BL25	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)	BL25	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)	BL25	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P69.0	1673	BL07										
P69.1	1673	BL07										

Param.	P-value	Fct.plan		Variable for digital inputs									
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)	BL25		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)	BL23		xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23		W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23											
P50.03	W2)	BL03		W2)	1610	1612	1614	1616	1618	1654	1592	1594	1596

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)	BL23		xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23		W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23											
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)	BL23		xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23		W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23											
P48	W2)	BL07		W2)	1611	1613	1615	1617	1619	1655	1592	1594	1596

34 = IN fault reset													
					Dig. inputs								
					1	**2**	**3**	**4**	**5**	**8**	**9**	**10**	**11**
P)	0	BL08		P)	471	473	475	-	-	-	-	-	-
P584.xx	W1)	BL23		xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23		W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23											
P50.07	W2)	BL03		W2)	1610	1612	1614	1616	1618	1654	1592	1594	1596

Param.	P-value	Fct.plan		Variable for digital inputs								
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

36 = IN dirct.rotat.												
				Dig. inputs								
				1	**2**	**3**	**4**	**5**	**8**	**9**	**10**	**11**
P)	0	BL08	P)	471	473	475	-	-	-	-	-	-
P584.xx	W1)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23										
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23										
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23										
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154

Param.	P-value	Fct.plan		Variable for digital inputs									
P586.xx	0	BL23											
P605	W2)	BL16		W2)	1610	1612	1614	1616	1618	1654	1592	1594	1596

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)	BL23		xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23		W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23											
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)	BL23		xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23		W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23											
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)	BL23		xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23		W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23											
P192	W2)	BL14		W2)	1610	1612	1614	1616	1618	1654	1592	1594	1596

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)	BL23		xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23		W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23											
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	-	-	-	-	-	-

Param.	P-value	Fct.plan	Variable for digital inputs									
P584.xx	W1)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23										
P49	W2)	BL07	W2)	1611	1613	1615	1617	1619	1655	1593	1595	1597

53 = IT fault ext.												
				Dig. inputs								
				1	2	3	4	5	8	9	10	11
P)	0	BL08	P)	471	473	475	-	-	-	-	-	-
P584.xx	W1)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23										
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23										
P50.07	W2)	BL03	W2)	1610	1612	1614	1616	1618	1654	1592	1594	1596

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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23										
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23										
P67	W2)	BL15	W2)	1610	1612	1614	1616	1618	1654	1592	1594	1596

Param.	P-value	Fct.plan		Variable for digital inputs								
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23										
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1638	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	1	BL23										
P50.02	W2)	BL03	W2)	1610	1612	1614	1616	1618	1654	1592	1594	1596

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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23										
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23										
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)	BL23	xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23	W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23										

Param.	P-value	Fct.plan		Variable for digital inputs									
P191	W2)	BL14		W2)	1610	1612	1614	1616	1618	1654	1592	1594	1596

62 = IT motpot.slower													
					Dig. inputs								
					1	2	3	4	5	8	9	10	11
P)	0	BL08		P)	471	473	475	-	-	-	-	-	-
P584.xx	W1)	BL23		xx	00	01	02	03	04	07	16	17	18
P585.xx	1670	BL23		W1)	1714	1715	1716	1717	1718	1721	1150	1152	1154
P586.xx	0	BL23											
P192	W2)	BL14		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)	BL23		xx	08	09	10	11
P585.xx	1701	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
P49	W2)	BL07		W2)	1657	1659	1581	1583

3 = I not fault ext.								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1701	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
P48	W2)	BL07		W2)	1657	1659	1581	1583

Param.	P-value	Fct.plan		Variable for digital inputs			
4 = I fault reset							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P50.07	W1)	BL03	W1)	1100	1101	1102	1103

5 = I f_{min} select							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P66	W1)	BL14	W1)	1100	1101	1102	1103

6 = I direct. 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)	BL23	xx	08	09	10	11
P585.xx	1701	BL23	W1)	1100	1101	1102	1103
P586.xx	0	BL23					
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

Param.	P-value	Fct.plan	Variable for digital inputs				
12 = I motpot. slower							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P192	W1)	BL14	W1)	1100	1101	1102	1103

21 = I TEST/NORMAL							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1792	BL23	W1)	1100	1101	1102	1103
P586.xx	4	BL23					
P68	W2)	BL07	W2)	1656	1658	1580	1582

22 = I setp. mem. bit 0							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P591.00	W1)	BL25	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)	BL25	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)	BL25	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)	BL25	W1)	1100	1101	1102	1103
P69.00	1673	BL07					
P69.01	1673	BL07					

Param.	P-value	Fct.plan		Variable for digital inputs			
26 = I param. set bit 0							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P711.00	W1)	BL25	W1)	1100	1101	1102	1103
P70	1129	BL07					

31 = IN ready f. operat.							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1670	BL23	W1)	1100	1101	1102	1103
P586.xx	1	BL23					
P50.03	W2)	BL03	W2)	1656	1658	1580	1582

32 = IN not alarm ext							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1670	BL23	W1)	1100	1101	1102	1103
P586.xx	1	BL23					
P49	W2)	BL07	W2)	1657	1659	1581	1583

33 = IN not fault ext							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1670	BL23	W1)	1100	1101	1102	1103
P586.xx	1	BL23					
P48	W2)	BL07	W2)	1657	1659	1581	1583

34 = IN fault reset							
				Opt. dig. inputs			
				1	**2**	**3**	**4**
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1638	BL23	W1)	1100	1101	1102	1103
P586.xx	0	BL23					
P50.07	W2)	BL03	W2)	1656	1658	1580	1582

Param.	P-value	Fct.plan	Variable for digital inputs				
35 = IN f_{min} select							
				Opt. dig. inputs			
				1	2	3	4
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1638	BL23	W1)	1100	1101	1102	1103
P586.xx	0	BL23					
P66	W2)	BL14	W2)	1656	1658	1580	1582

36 = IN direct. rotat.							
				Opt. dig. inputs			
				1	2	3	4
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1638	BL23	W1)	1100	1101	1102	1103
P586.xx	0	BL23					
P67	W2)	BL15	W2)	1656	1658	1580	1582

37 = IN not volt. disc.							
				Opt. dig. inputs			
				1	2	3	4
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1670	BL23	W1)	1100	1101	1102	1103
P586.xx	1	BL23					
P50.01	W2)	BL03	W2)	1656	1658	1580	1582

38 = IN not fast stop							
				Opt. dig. inputs			
				1	2	3	4
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1670	BL23	W1)	1100	1101	1102	1103
P586.xx	1	BL23					
P50.02	W2)	BL03	W2)	1656	1658	1580	1582

39 = IN RFG parking							
				Opt. dig. inputs			
				1	2	3	4
P584.xx	W1)	BL23	xx	08	09	10	11
P585.xx	1638	BL23	W1)	1100	1101	1102	1103
P586.xx	0	BL23					
P605	W2)	BL16	W2)	1656	1658	1580	1582

Param.	P-value	Fct.plan		Variable for digital inputs				
40 = IN RFG up stop								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1638	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
P50.05	W2)	BL03		W2)	1657	1659	1581	1583

41 = IN motp. faster								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1638	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
P191	W2)	BL14		W2)	1656	1658	1580	1582

42 = IN motp. slower								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1638	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
P192	W2)	BL14		W2)	1656	1658	1580	1582

51 = IT ready f. operat.								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1638	BL23		W1)	1100	1101	1102	1103
P586.xx	1	BL23						
P50.03	W2)	BL03		W2)	1656	1658	1580	1582

52 = IT not alarm ext.								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1638	BL23		W1)	1100	1101	1102	1103
P586.xx	1	BL23						
P49	W2)	BL07		W2)	1657	1659	1581	1583

Param.	P-value	Fct.plan		Variable for digital inputs				
53 = IT not fault ext.								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1638	BL23		W1)	1100	1101	1102	1103
P586.xx	1	BL23						
P48	W2)	BL07		W2)	1657	1659	1581	1583

54 = IT fault reset								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1670	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
P50.07	W2)	BL03		W2)	1656	1658	1580	1582

55 = IT f_{min} select								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1670	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
P66	W2)	BL14		W2)	1656	1658	1580	1582

56 = IT direct. rotat.								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1670	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
P67	W2)	BL15		W2)	1656	1658	1580	1582

57 = IT not volt. disc.								
					Opt. dig. inputs			
					1	2	3	4
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1638	BL23		W1)	1100	1101	1102	1103
P586.xx	1	BL23						
P50.01	W2)	BL03		W2)	1656	1658	1580	1582

Param.	P-value	Fct.plan		Variable for digital inputs				
58 = IT not fast stop								
					Opt. dig. inputs			
					1	**2**	**3**	**4**
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1638	BL23		W1)	1100	1101	1102	1103
P586.xx	1	BL23						
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)	BL23		xx	08	09	10	11
P585.xx	1670	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
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

62 = IT motp. slower								
					Opt. dig. inputs			
					1	**2**	**3**	**4**
P584.xx	W1)	BL23		xx	08	09	10	11
P585.xx	1670	BL23		W1)	1100	1101	1102	1103
P586.xx	0	BL23						
P192	W2)	BL14		W2)	1656	1658	1580	1582

P0875 ... P0877 digital outputs

Param.	P-value	Fct.plan		Variable for digital outputs		
70 = O no function						
				Dig. output 1	**Dig. output 2**	**Dig. output 3**
P)	0	BL08		P471	P473	P475

71 = O ready 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 ready 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 ready 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. operating						
				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

76 = O not fault						
				Dig. output 1	**Dig. output 2**	**Dig. output 3**
P584.xx	1733	BL23				
P585.xx	1701	BL23	xx	00	01	02
P586.xx	0	BL23				
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		
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	BL23				
P585.xx	1701	BL23	xx	00	01	02
P586.xx	0	BL23				
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	BL39				
P754.01	1517	BL39				
P754.02	1884	BL39				
P754.03	1730	BL39				
P755	2	BL39				
P1)	1576	BL08	P1)	P460	P462	P464
P2)	1	BL08	P2)	P471	P473	P475

80 = O motor rotating 2						
				Dig. output 1	**Dig. output 2**	**Dig. output 3**
P758.00	1937	BL39				
P758.01	1981	BL39				
P758.02	1519	BL39				
P758.03	1884	BL39				
P758.04	1660	BL39				
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	BL23				
P585.xx	1701	BL23	xx	00	01	02
P586.xx	0	BL23				
P460	W1)	BL08	W1)	1611	-	-
P462	W2)	BL08	W2)	-	1613	-

Param.	P-value	Fct.plan		Variable for digital outputs			
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	BL23					
P585.xx	1701	BL23		xx	00	01	02
P586.xx	0	BL23					
P460	W1)	BL08		W1)	1611	-	-
P462	W2)	BL08		W2)	-	1613	-
P464	W3)	BL08		W3)	-	-	1615
P)	1	BL08		P)	P471	P473	P475

84 = O not mot. overtememp.							
					Dig. output 1	Dig. output 2	Dig. output 3
P584.xx	1708	BL23					
P585.xx	1701	BL23		xx	00	01	02
P586.xx	0	BL23					
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

Param.	P-value	Fct.plan		Variable for digital outputs		

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

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	BL23				
P585.06	1732	BL23				
P586.06	1	BL23				
P584.xx	1652	BL23				
P585.xx	1730	BL23	xx	00	01	02
P586.xx	0	BL23				
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	BL26				

Param.	P-value	Fct.plan		Variable for digital outputs			
P403.00	0	BL26					
P396.00	1981	BL26					
P397.00	0	BL26			00	01	02
P1)	1748	BL08		P1)	P460	P462	P464
P2)	1	BL08		P2)	P471	P473	P475

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 Relayoutput,

P0886 ... P0889 optional relay outputs (RZP01.1-T1)

Param.	P-value	Fct. plan		Varable 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)	BL36		xx	-	00	01	02	03
				W2)	-	1730	1730	1730	1730

72 = O ST ready switchon									
					Relay	Opt.Relay 1	Opt.Relay 2	Opt.Relay 3	Opt.Relay 4
P466	W1)	BL08		W1)	1572	-	-	-	-
P491.xx	W2)	BL36		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)	BL36		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	-	-	-	-

Param.	P-value	Fct. plan		Varable for relay outputs					
P491.xx	W2)	BL36		xx	-	00	01	02	03
				W2)	-	1573	1573	1573	1573

75 = O operating									
					Relay	Opt.Relay 1	Opt.Relay 2	Opt.Relay 3	Opt.Relay 4
P466	W1)	BL08		W1)	1732	-	-	-	-
P491.xx	W2)	BL36		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	BL23							
P585.xx	1701	BL23		xx	05	12	13	14	15
P586.xx	0	BL23							
P466	W1)	BL08		W1)	1651	-	-	-	-
P491.yy	W2)	BL36		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)	BL36		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	BL23							
P585.xx	1701	BL23		xx	05	12	13	14	15
P586.xx	0	BL23							
P466	W1)	BL08		W1)	1651	-	-	-	-
P491.yy	W2)	BL36		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	BL39							
P754.01	1517	BL39							
P754.02	1884	BL39							
P754.03	1730	BL39							
P755	2	BL39							
P466	W1)	BL08		W1)	1576	-	-	-	-
P491.xx	W2)	BL36		xx	-	00	01	02	03

Param.	P-value	Fct. plan		Varable for relay outputs					
				W2)	-	1576	1576	1576	1576

80 = O motor rotating 2									
					Relay	Opt.Relay 1	Opt.Relay 2	Opt.Relay 3	Opt.Relay 4
P758.00	1937	BL39							
P758.01	1981	BL39							
P758.02	1519	BL39							
P758.03	1884	BL39							
P758.04	1660	BL39							
P466	W1)	BL08		W1)	1678	-	-	-	-
P491.xx	W2)	BL36		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	BL23							
P585.xx	1701	BL23		xx	05	12	13	14	15
P586.xx	0	BL23							
P466	W1)	BL08		W1)	1651	-	-	-	-
P491.xx	W2)	BL36		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)	BL36		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	BL23							
P585.xx	1701	BL23		xx	05	12	13	14	15
P586.xx	0	BL23							
P466	W1)	BL08		W1)	1651	-	-	-	-
P491.xx	W2)	BL36		xx	-	00	01	02	03
				W2)	-	1585	1587	1589	1591

Param.	P-value	Fct. plan	Varable for relay outputs					
84 = O not mot.overtemp.								
				Relay	**Opt.Relay 1**	**Opt.Relay 2**	**Opt.Relay 3**	**Opt.Relay 4**
P584.xx	1708	BL23						
P585.xx	1701	BL23	xx	05	12	13	14	15
P586.xx	0	BL23						
P466	W1)	BL08	W1)	1651	-	-	-	-
P491.xx	W2)	BL36	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)	BL36	xx	-	00	01	02	03
			W2)	-	1704	1704	1704	1704

86 = O RFG up								
				Relay	**Opt.Relay 1**	**Opt.Relay 2**	**Opt.Relay 3**	**Opt.Relay 4**
P466	W1)	BL08	W1)	1705	-	-	-	-
P491.xx	W2)	BL36	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)	BL36	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)	BL36	xx	-	00	01	02	03
			W2)	-	1574	1574	1574	1574

89 = O seetpoint in tolerance								
				Relay	**Opt.Relay 1**	**Opt.Relay 2**	**Opt.Relay 3**	**Opt.Relay 4**
P466	W1)	BL08	W1)	1575	-	-	-	-
P491.xx	W2)	BL36	xx	-	00	01	02	03
			W2)	-	1575	1575	1575	1575

Param.	P-value	Fct. plan	Varable 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)	BL36	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)	BL36	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)	BL36	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	BL23						
P585.06	1732	BL23						
P586.06	1	BL23						
P584.xx	1652	BL23						
P585.xx	1730	BL23	xx	05	12	13	14	15
P586.xx	0	BL23						
P466	W1)	BL08	W1)	1650	-	-	-	-
P491.xx	W2)	BL36	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	BL26						
P403.00	0	BL26						
P396.00	1981	BL26						
P397.00	0	BL26						
P466	1748	BL08						
P491.xx	1748	BL36	xx	-	00	01	02	03

Param.	P-value	Fct. plan		Varable for relay outputs				
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)	BL36	xx	-	00	01	02	03
			W2)	-	1697	1697	1697	1697

P0890 reference-, analog output

Parameter	Par. value	Fct.plan
0 = +10V reference outp.		
P0436	0	BL13
1 = -10V reference outp.		
P0436	1	BL13
2 = f_{act} out.frequenc		
P0220.00	1981	BL30
P0410	1808	BL13
P0434	1875	BL13
P0436	2	BL13
3 = i_{act} outp.current		
P0220.00	1884	BL30
P0410	1808	BL13
P0434	1875	BL13
P0436	2	BL13
4 = I_{sq}		
P0220.00	1885	BL30
P0410	1808	BL13
P0434	1875	BL13
P0436	2	BL13
5 = U_{act} outp.voltage		
P0220.00	1948	BL30
P0410	1808	BL13
P0434	1875	BL13
P0436	2	BL13
6 = P_{act} outp.power		
P0410	1929	BL13
P0434	1875	BL13
P0436	2	BL13
7 = P_{activ}		
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	BL36
1 = f_{act} outp.frequenc		
P220.01	1981	BL30
P740.00	1809	BL13
P491.04	1120	BL36
2 = I_{act} outp.current		
P220.01	1884	BL30
P740.00	1809	BL13
P491.04	1120	BL36
3 = I_{sq}		
P220.01	1885	BL30
P740.00	1809	BL13
P491.04	1120	BL36
4 = U_{act} outp.voltage		
P220.01	1948	BL30
P740.00	1809	BL13
P491.04	1120	BL36
5 = P_{act} outp.power		
P740.00	1929	BL13
P491.04	1120	BL36
6 = P_{activ}		
P740.00	1930	BL13
P491.04	1120	BL36

P0892 option analog output 2

Parameter	Par. value	Fct.plan
0 = no function		
P491.05	1800	BL36
1 = f_{act} outp.frequenc		
P220.02	1981	BL30
P740.01	1886	BL13
P491.05	1121	BL36
2 = I_{act} outp.current		
P220.02	1884	BL30
P740.01	1886	BL13
P491.05	1121	BL36
3 = I_{sq}		
P220.02	1885	BL30
P740.01	1886	BL13
P491.05	1121	BL36
4 = U_{act} outp.voltage		
P220.02	1948	BL30
P740.01	1886	BL13
P491.05	1121	BL36
5 = P_{act} outp.power		
P740.01	1929	BL13
P491.05	1121	BL36
6 = P_{activ}		
P740.01	1930	BL13
P491.05	1121	BL36

5 Index

6 Kundenbetreuungsstellen - Sales & Service Facilities

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Deutschland – Germany

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Europa – Europe

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Außerhalb Europa - outside Europe

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Kundenbetreuungsstellen außerhalb Europa - Service agencies outside Europe

Außerhalb Europa / USA - outside Europe / USA

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Mannesmann Rexroth Corporation Rexroth Indramat Division Charlotte Regional Sales Office 14001 South Lakes Drive USA - Charlotte, North Carolina 28273 Telefon: +1 704/5 83 97 62 +1 704/5 83 14 86			**+1-800-860-1055** - 7 days / 24hrs -

Kundenbetreuungsstellen außerhalb Europa / USA
Service agencies outside Europe / USA

List of function diagrams

P254 — **Control parameters** for switching switches

P210 — **Value parameters** 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 usec, P210 -> P0210. This is valid for value parameters and control parameters.

P435.0 — **Parameter with index**
The parameter number is located to the left of the point and, to the right the index. The point is only used as separator between the parameter number and index, and is not a decimal point.

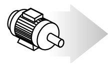
D1855 — **Display parameters**
D-Parameters can freely be configured in variable parameter sources.

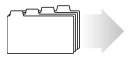
P217 / D1805 — **Variable parameter source**: The desired signal source from the D prameter area is entered in a variable source parameter. The standard factory setting for var. parameter sources D1700 and D1800 ist not drawnin the function diagrams.

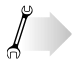
RFG output — The information in the dotted areas represents the **delivery condition**. The switch positions are also drawn in delivery condition. The works setting can be replaced at any time by the customer-specific parameter assignment.

/ 18.1
Spg. U/f — **Process value** with signal contiouation on sheet 18, field 1

+ / − — **Summation point**
If the sum of a positive and a negative value is generated, only the negative Input of the summation point is marked with the sign (-).


Control signal to switch-over the motor parameter set.


Control signal to switch-over the setpoint memory.


Control signal to switch-over the NORMAL / TEST - operation.
For signal generating refer to function diagram 5.

Analog-digital converter

Digital-analog converter

≥1 — **OR gate**

& — **AND gate**

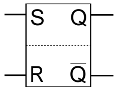
Comparator

Total value generator

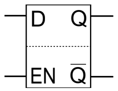
-1 — **Inverter**

× — **Multiplier**
Example: If to process values are miltiplied (90 % und 128 %), it results: 0,9 x 1,28 = 1,152 => 115,2 %

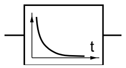
Amplifier



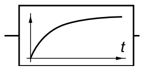
R-S Flipflop



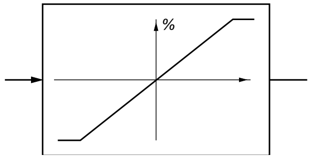
D-Latch



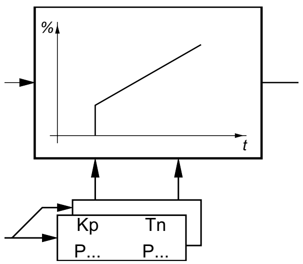
Differentiater



Filter



Two sided (positive, negative) **limiter**



PI-controller (proportional and integral control component)
The integral-action component is deactivated if the reset time Tn is set to 0 sec., thus producing a pure P-controller.

Kp = P-controller gain factor
Tn = I-controller intagral time

t_A: 1 ms / 8

t_A = sampling time

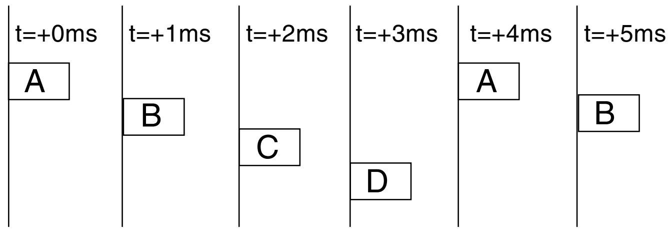
Processing sequencing in the time sector 1 … n; i.B. 8th pos.
time sector

The individual firmware modules are executed in 5 time sectors: 1 ms, 5 ms, 10 ms, 50 ms and 100 ms. Each firmware module is numbered according to the processing sequence of its time sector.

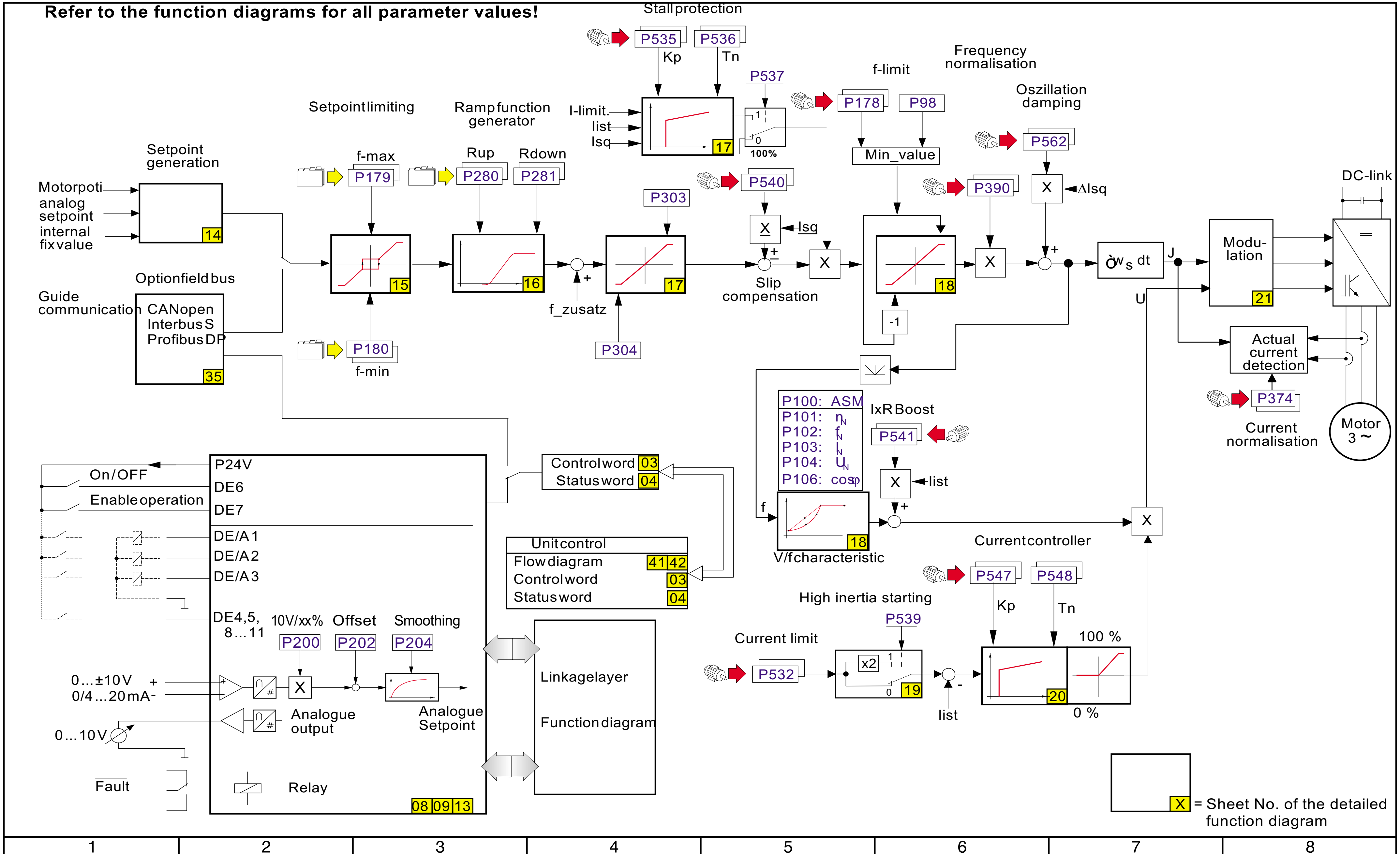
t_A: 1 ms / 10A

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!



Function diagram **REFU*drive 500* - RD51**

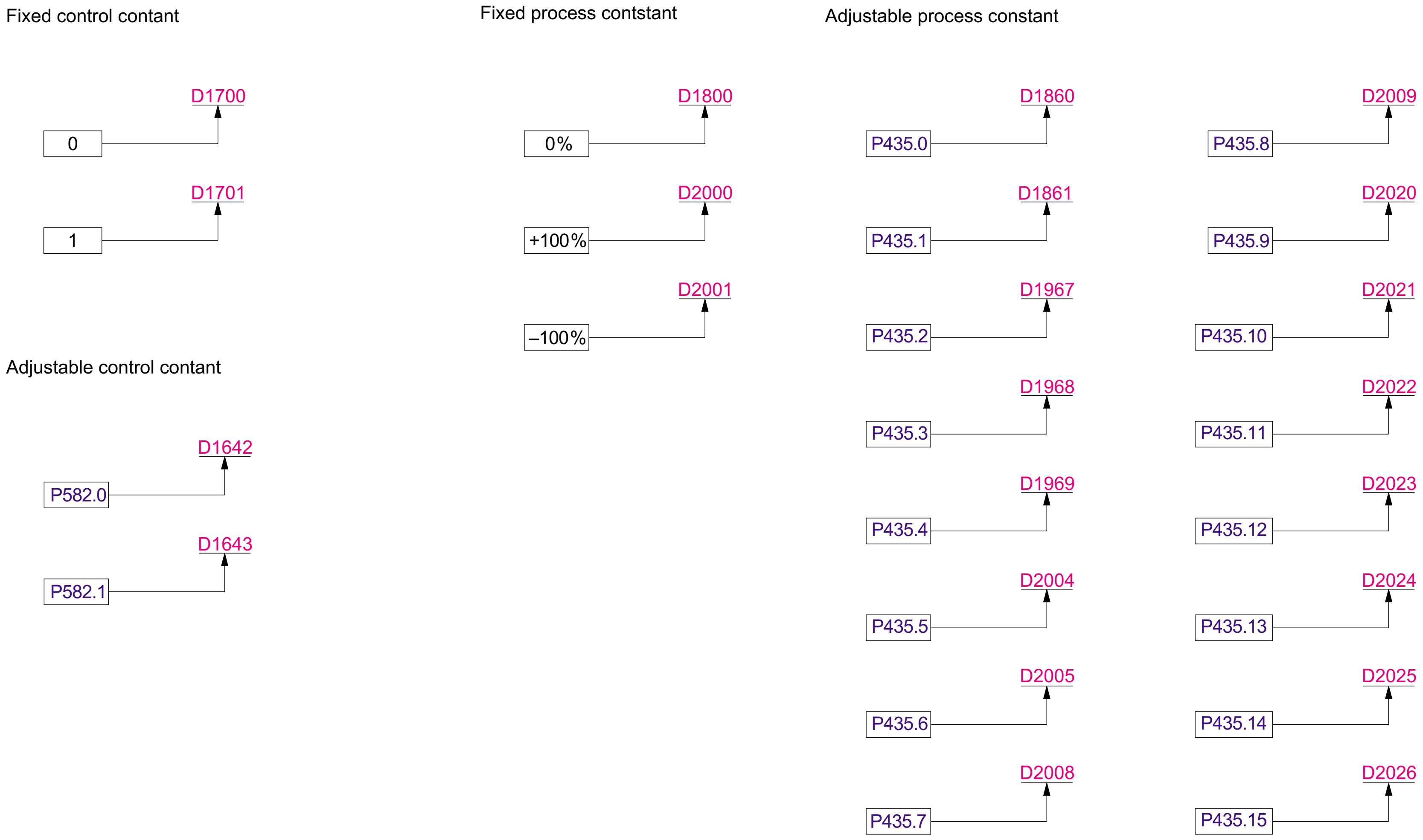
Overview

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **01**



1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500*** **- RD51**
System constants

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **02**

Control word 1 generating

The unit is controlled with the help of the control word. The control word consists of 16 bits. Bits 0 to 7 are defined in accordance with VDI Guidelines . Bits 8 to 15 can be set only via the serial interface, and a unit control function can be assigned freely to each bit. The control word is generated from logic gating of the **control word KL**[1)] and **control word MS**[1)]. The control word MS can be defined by four sources, which are selected with parameter P0073.x.

P0073, switch position 0

The control word MS is generated by a mask in which bits 2 to 15 are predefined. Only bit 1 can be set to 1 (ON command) or 0 (OFF1 command) with the operator panel.

P0073, switch position 1

The control word MS originates from a variable parameter source. Only the process data of serial interfaces can be entered in the parameter source. This means that the control word MS is defined via the interface.
Bits 8 to 15 can also be set via the serial interface in this configuration, and a unit control function can be assigned to each bit. These are then activated in the unit by connection of parameters D1768 to D1775.

P0073, switch position 2

The control word MS is generated by a mask in which bits 1 to 15 are predefined. The mask is configured so that unit control takes place only by means of the control word KL.
Bits 0 to 7 of control word KL are permanently assigned control functions. D parameters of the digital inputs used must be connected to the variable parameter sources (P0050.x) in order to control the unit via the terminal strip.

P0073, switch position 3

Control word MS is received from the service interface RS232. The process data word 1 is transferred as control word MS. Switch position three is provided for control operation via REFUwin, which sends its control commands as PZD1.

Note

Bit 1 (ON command) and bit 7 (fault acknowledge) of the control word are only recognized by the device in the event of an signal change from 0 to 1.

Assignment of the control word bits

The bits 0 to 7 are corresponding to the functions determined by VDI directives:

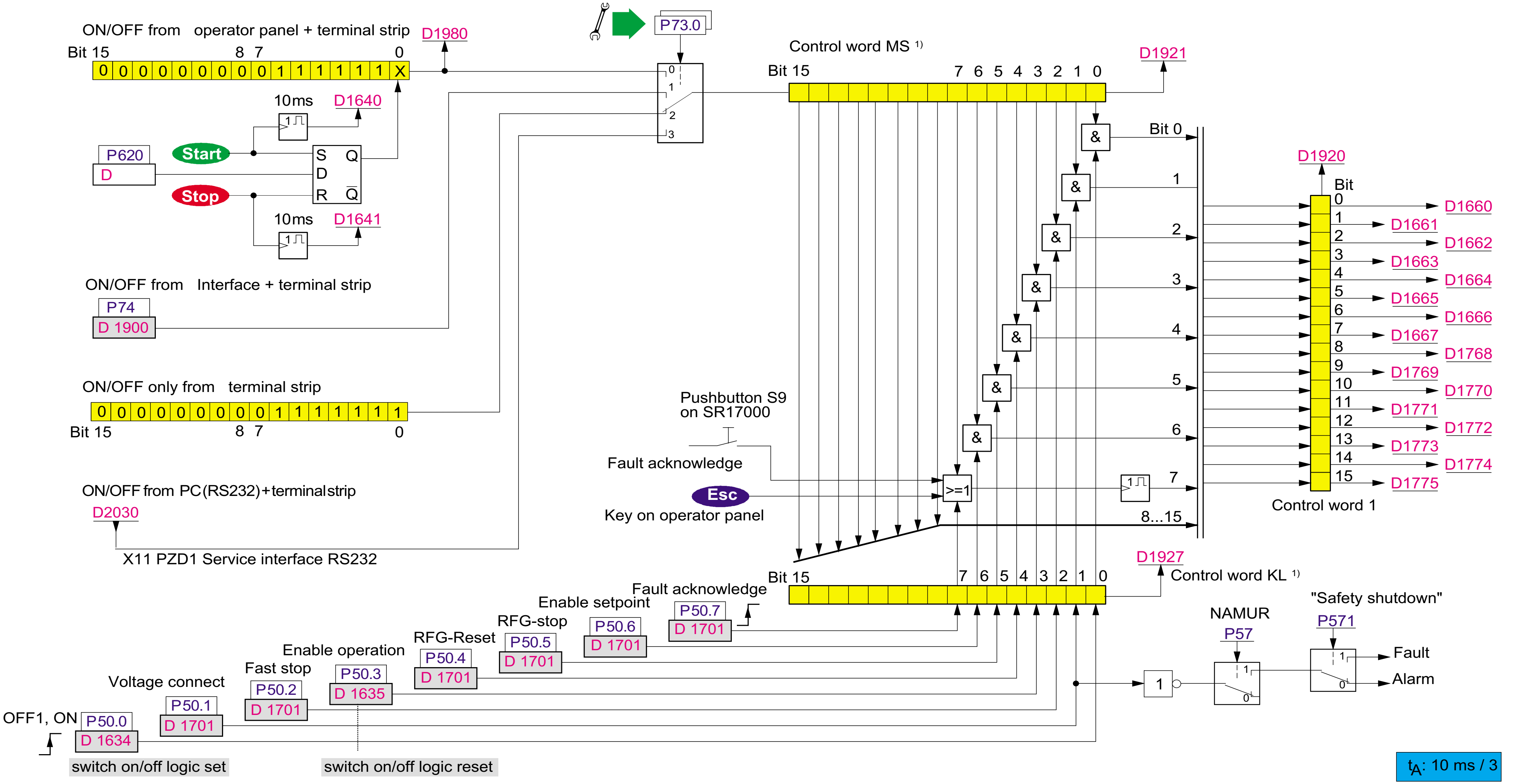
Bit 0	=	ON (solpe L-> H) / OFF 1	(L-active)
Bit 1	=	OFF 2, Voltage disconnect	(L-active)
Bit 2	=	OFF 3, Fast stop	(L-active)
Bit 3	=	Enable	(H-active)
Bit 4	=	RFG-reset	(L-active)
Bit 5	=	Ramp-up stop	(L-active)
Bit 6	=	Enable setpoint	(H-active)
Bit 7	=	Fault acknowledgement	(solpe L-> H)

Bits 8 to 15 can be set only via the serial interface, and a unit control function can be assigned freely to each bit.

Note

Also refer to the function diagrams sheet 41 and 42 for control- status word flowchart.

1) control word KL: KL = terminal strip
control word MS: MS = mask or interface



1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500* - RD51**
Control word 1

Rexroth Indramat

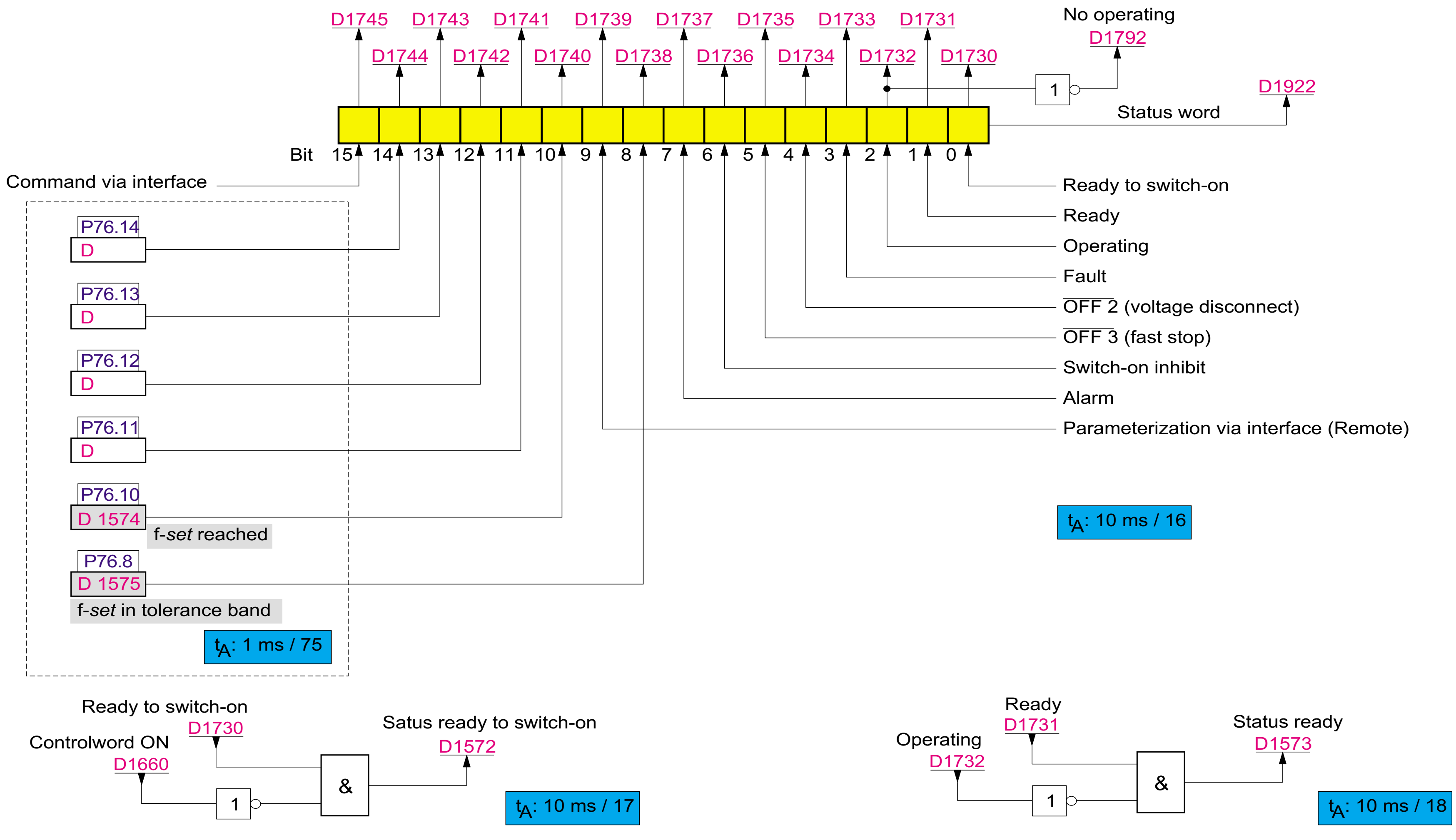
Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **03**

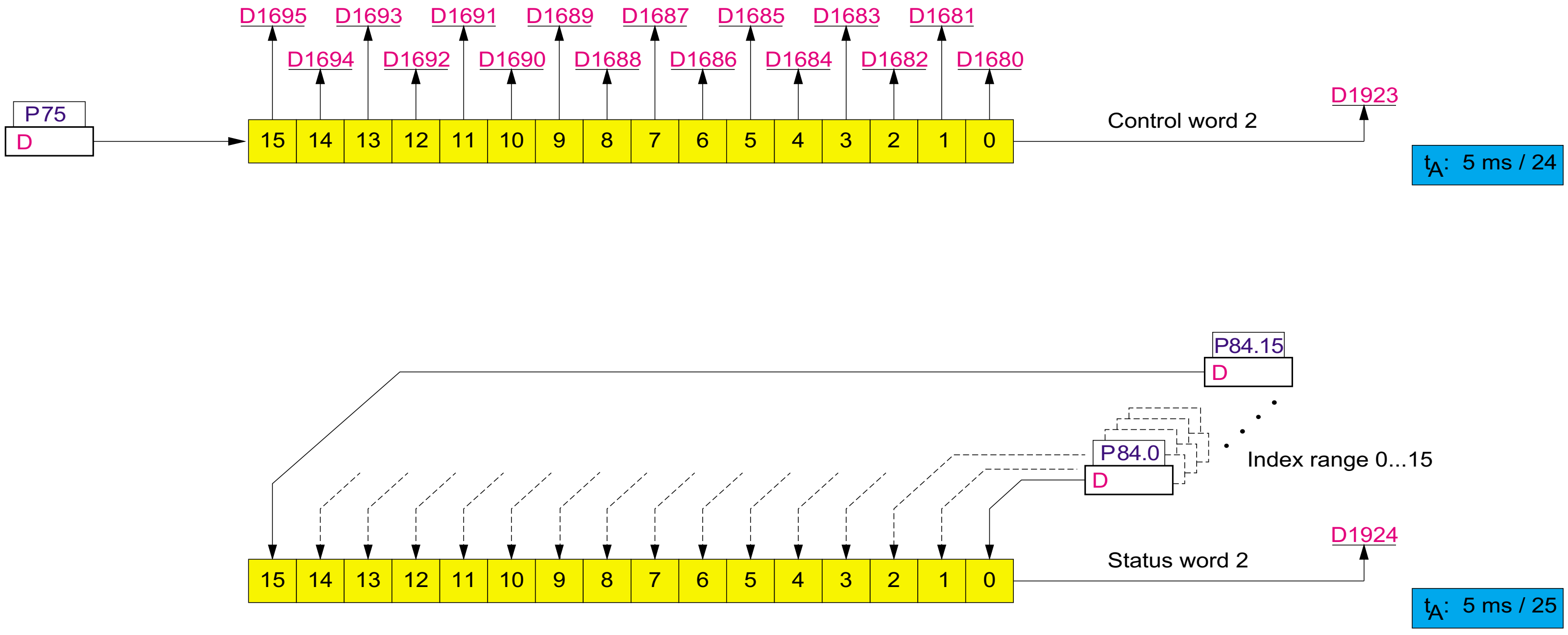
Note

Also refer to the function diagrams sheet 41 and 42 for control- status word flowchart.



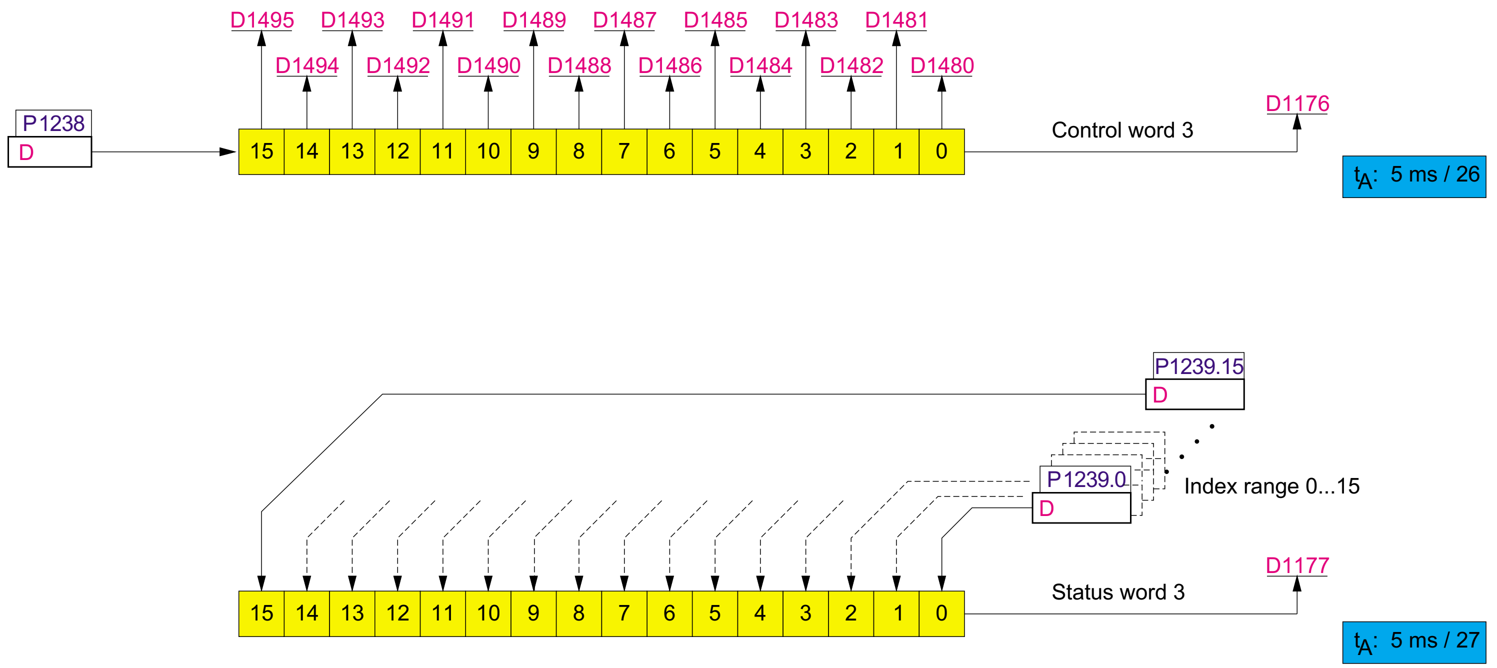
1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500* - RD51** Status word 1	*Rexroth Indramat*	Date: 2002 - 06- 05	Firmware: FWC-SR1700-000-04VRS-MS	Sheet No. **04**



D1695
D1693
D1691
D1689
D1687
D1685
D1683
D1681
D1694
D1692
D1690
D1688
D1686
D1684
D1682
D1680
P75
D
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
Control word 2
D1923
tA: 5 ms / 24
P84.15
D
P84.0
D
Index range 0...15
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
Status word 2
D1924
tA: 5 ms / 25

1	2	3	4	5	6	7	8



D1495
D1493
D1491
D1489
D1487
D1485
D1483
D1481
D1494
D1492
D1490
D1488
D1486
D1484
D1482
D1480
P1238
D
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
Control word 3
D1176
tA: 5 ms / 26
P1239.15
D
P1239.0
D
Index range 0...15
Status word 3
D1177
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
tA: 5 ms / 27

1	2	3	4	5	6	7	8

Changeover, STANDARD / TEST mode

You can toggle between STANDARD/test mode using the operator panel by simultaneously pressing keys ◁ + ▷ or using P0068. In order that you can toggle with the operator panel, D1700 or D1701 must be connected in P0068 (factory setting, when supplied). When the operating mode is changed over, the variable parameter source for the setpoint memory is also changed over.

Setpoint memory

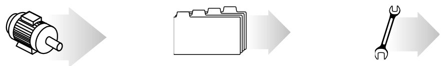
The “setpoint memory” control signal is generated using P0069. P0069.0 is selected in the factor setting. The coding output D1673 is connected in the variable parameter source P0069.0. This means that the “setpoint memory” control signal can be parameterized as a value 0…15.

Changing over the motor parameter set

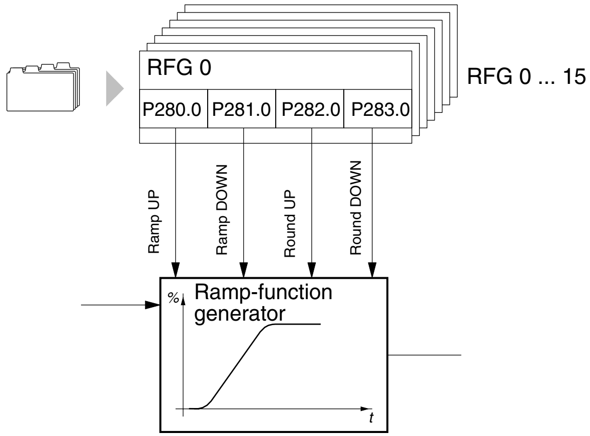
For REFUdrive 500 drive converters, you can enter data for two different motors. All of the motor-specific data in the drive converter are changed-over using the “motor parameter set” control signal. The “motor parameter set” control signal either has the value 0 or 1 and is set using P0070. The default value of P0070 is D1700 (constant, logical 0). This meens that motor 0 is selected with its associated data.
To select motor 1, use D1701 in P0070. You can select motor 0 and 1 from a digital input. If you wish to use, for example digital input 8, then set D1721 in P0070. If a low signal is connected to digital input 8, motor data 0 is selected, and for a high signal, motor data 1.
The changeover of the control signal “parameter set” is inhibited with the operating enable. It is **not** possible to change over the parameter set during operation.
By changing over, all of the motor model data are re-calculated.

Selecting index parameters by a control signal

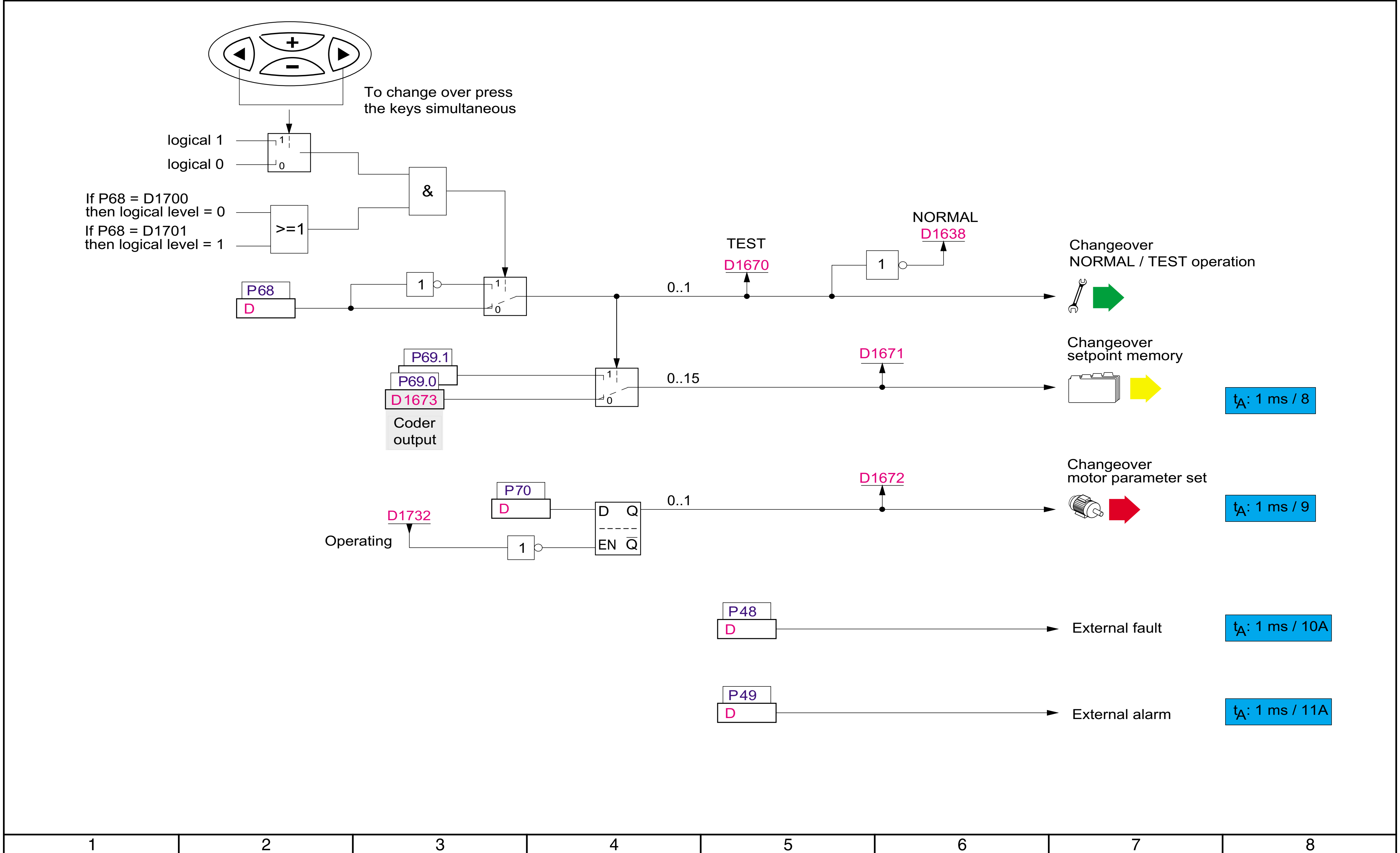
Only the appropriate control signal symbols are used in the function charts: They indicate the control signal which is used to the select the index levels.



Example: Selecting the ramp-function generator with the setpoint memory (sheet No. 16)



If the “setpoint memory” control signal has the value 4, the index level 4 of the RFG parameter (P0280.4, P0281.4, P0282.4, P0283.4) is correspondingly selected and becomes effective in the ramp-function generator.



Function diagram **REFU*drive 500*** **- RD51**
Device control signals

Rexroth Indramat

Date: 2002 - 06- 05

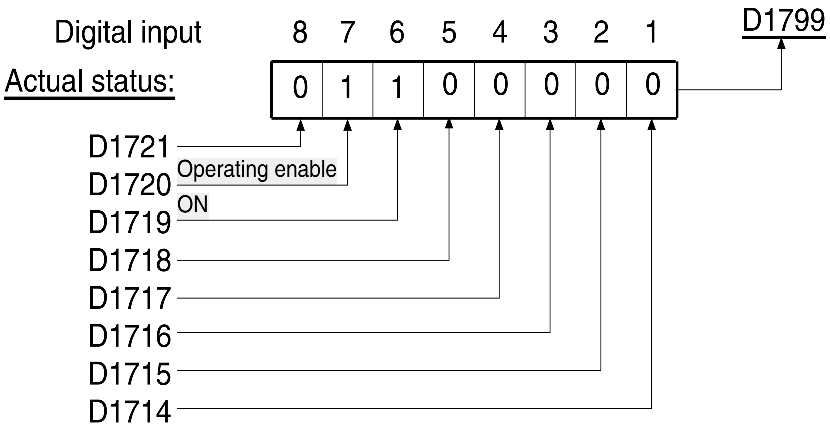
Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **07**

Group display parameter D1799

The status (0 or 1) of all digital inputs can be indicated with the group display parameter D1799 on the monitor of the operators panel.

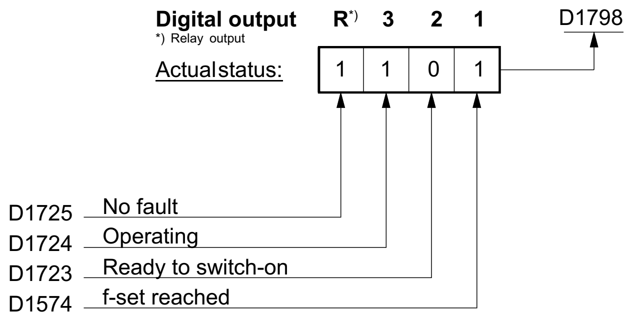
Example : The digital outputs are assigned typical functions.

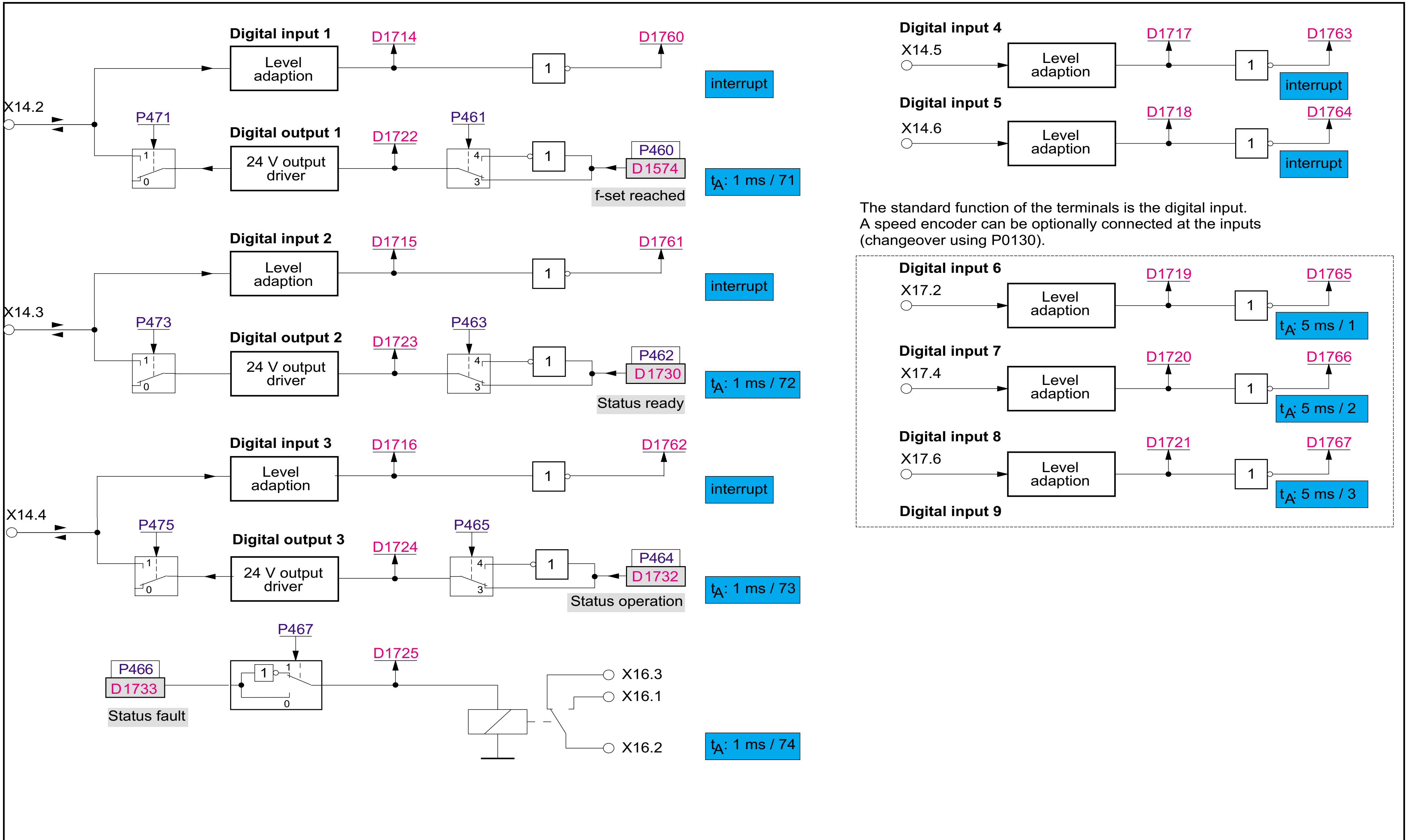


Group display parameter D1798

The status (0 or 1) of all digital outputs and the relay output can be indicated with the group display parameter D1798 on the monitor of the operators panel.

Example: The digital outputs are assigned typical functions.



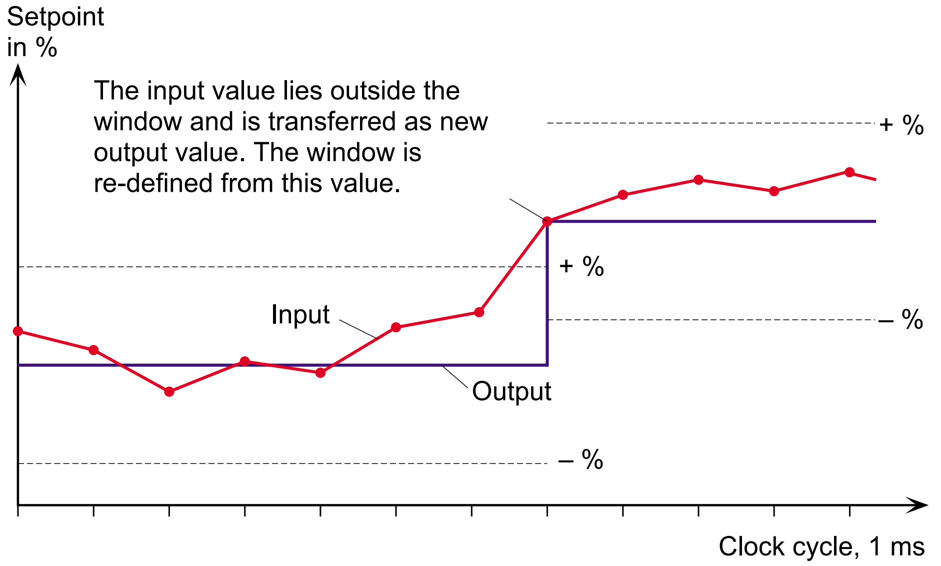


1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500* - RD51** Digital inputs, digital outputs	Rexroth Indramat	Date: 2002 - 06- 05	Firmware: FWC-SR1700-000-04VRS-MS	Sheet No. **08**

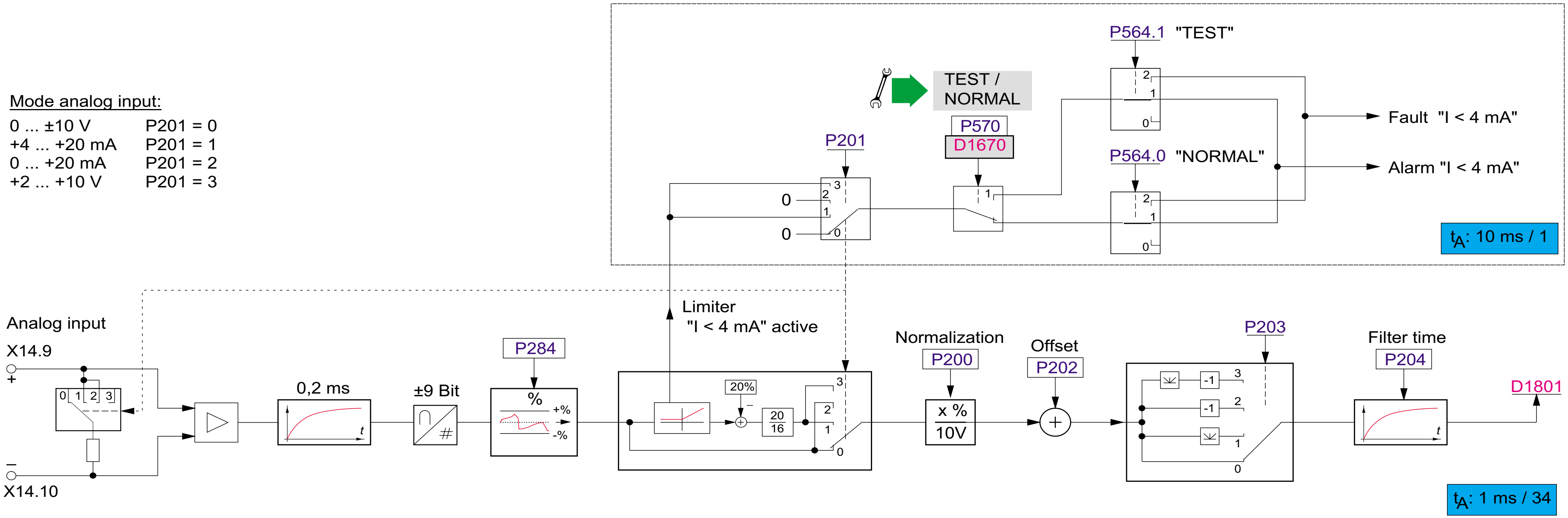
P0284 setpoint smoothing

A firmware module with a window which can be parameterized is inserted after the A/D converter to smooth the setpoint from the analog input. A window is specified in % with P0284. If the setpoint fluctuates within this window, the setpoint is not transferred. The setpoint at the firmware module output remains constant. This value is only transferred to output when the setpoint is outside the parameterized window and the window is re-defined with ±% from this value.



Mode analog input:

0 ... ±10 V	P201 = 0
+4 ... +20 mA	P201 = 1
0 ... +20 mA	P201 = 2
+2 ... +10 V	P201 = 3



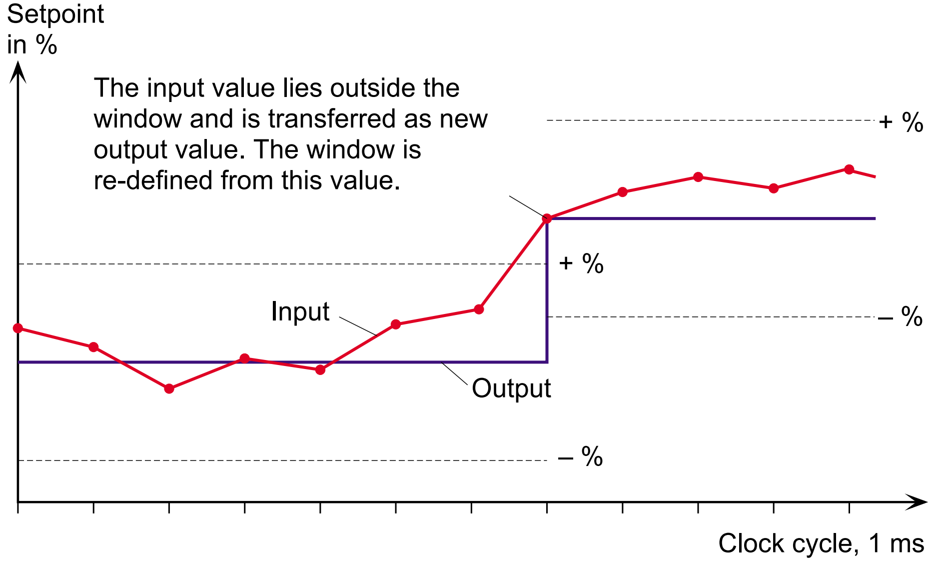
1	2	3	4	5	6	7	8

Option slots for the terminal strip expansion

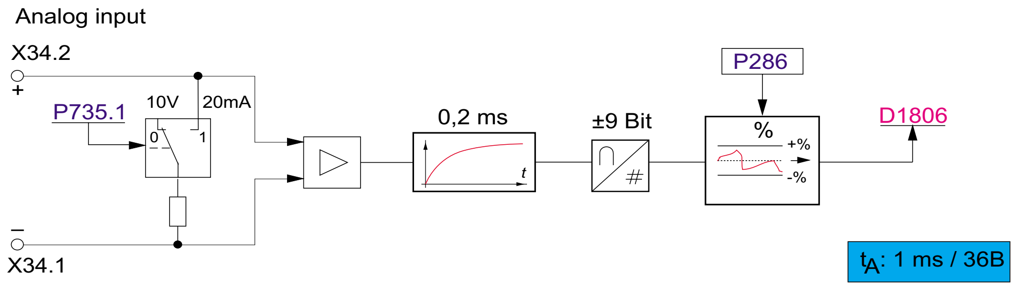
The SR 17000 control board has 2 option slots. There is a firmware module for an analog input for each option slot. The terminal strip expansion option must be installed in the unit. The setpoint of the optional analog input (D1805 or D1806) can be processed with the input blocks (function chart, Sheets 11 and 12).

P0286 setpoint smoothing

A firmware module with a window which can be parameterized is inserted after the A/D converter to smooth the setpoint from the analog input. A window is specified in % with P0286. If the setpoint fluctuates within this window, the setpoint is not transferred. The setpoint at the firmware module output remains constant. This value is only transferred to output when the setpoint is outside the parameterized window and the window is re-defined with ±% from this value.



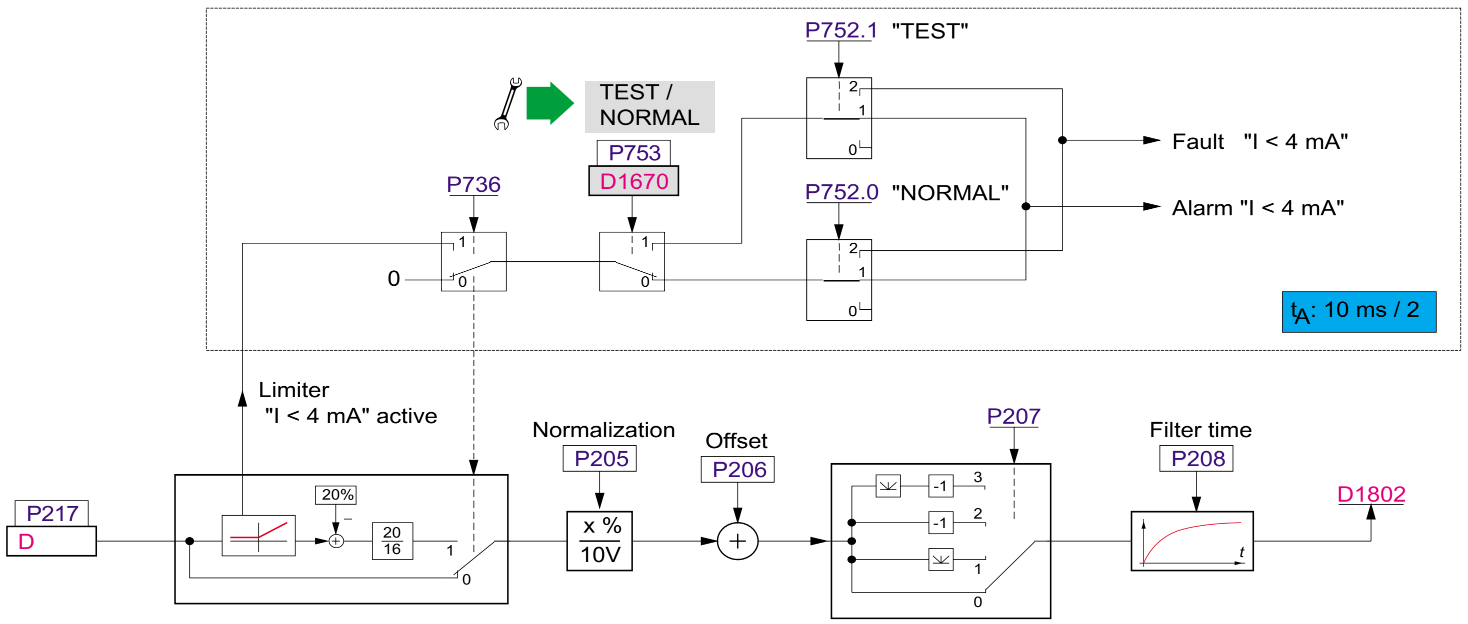
Terminal strip extension KL17037 at modul slot 2



Input block 1

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 KL 11037). If the input block is not used for an additional analog input, then it can be used to process other process values.

Input modul 2



Mode analog input:

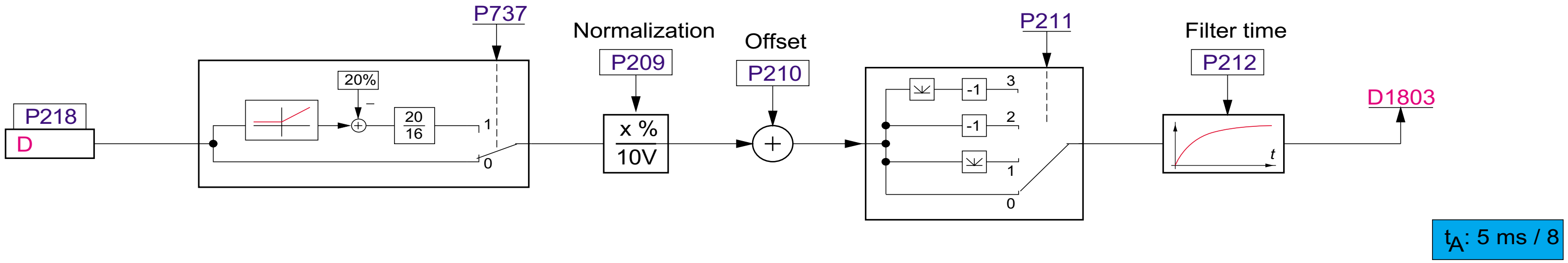
0 ... ±10 V P736 = 0
+4 ... +20 mA P736 = 1

1	2	3	4	5	6	7	8

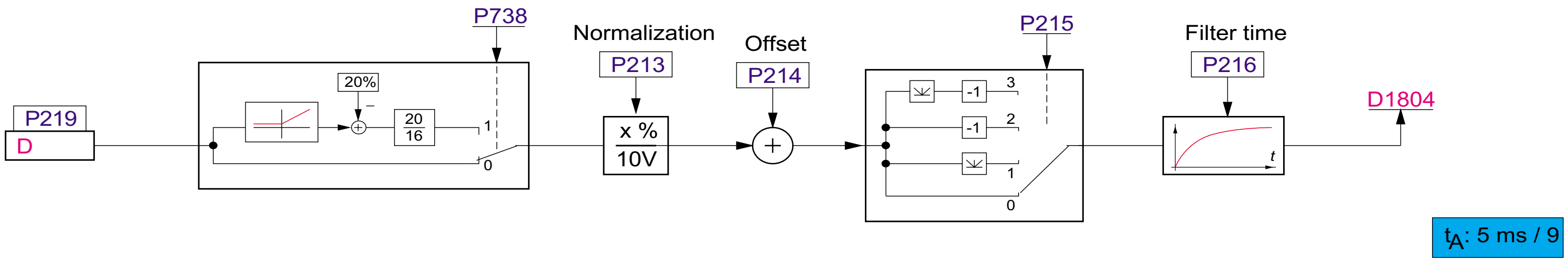
Input blocks

The firmware contains 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 also be used to process other process values.

Input block 3



Input block 4



1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500*** - **RD51** Input blocks	Rexroth Indramat		Date: 2002 - 06- 05	Firmware: FWC-SR1700-000-04VRS-MS	Sheet No. **12**

Output blocks

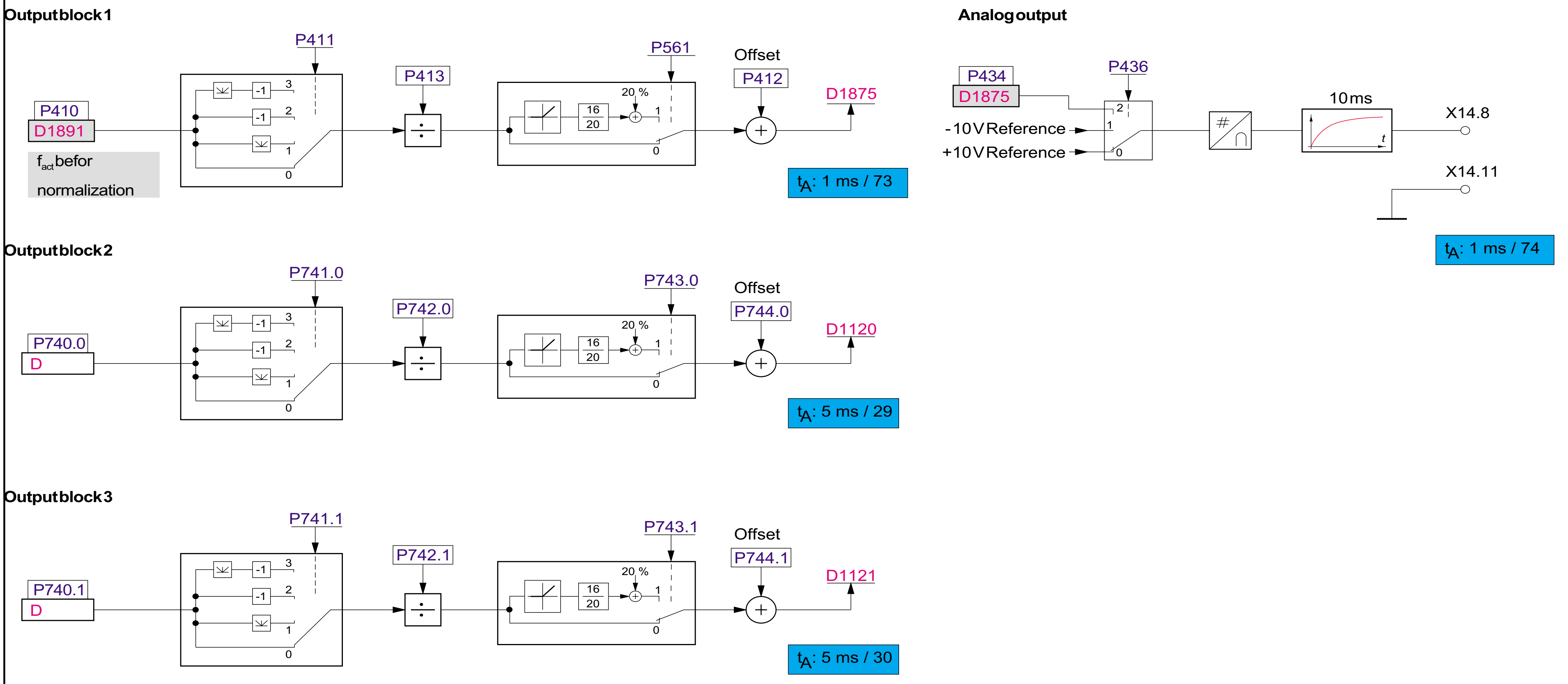
The firmware contains 3 output blocks, which are executed in different time sectors. Output block 1 runs in the 1 ms time sector and should be used for the standard analog output. Output blocks 2 and 3 run in the 5 ms time sector, and are intended for optional analog outputs (optional terminal expansion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

Note:

The outputs of output blocks 2 and 3, D1120 and D1121 must be swit ched to the terminal strip expansion KL 11037 via the process data inter face; refer to function chart 36, „Process data interface SS4"

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

Normalization, analog output
100.00 % = 10 V analog output



1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500* - RD51** Output blocks, analog output	Rexroth Indramat		Date: 2002 - 06- 05	Firmware: FWC-SR1700-000-04VRS-MS	Sheet No. **13**

Motorized potentiometer module

The earlier used mechanical motorized potentiometer was 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.

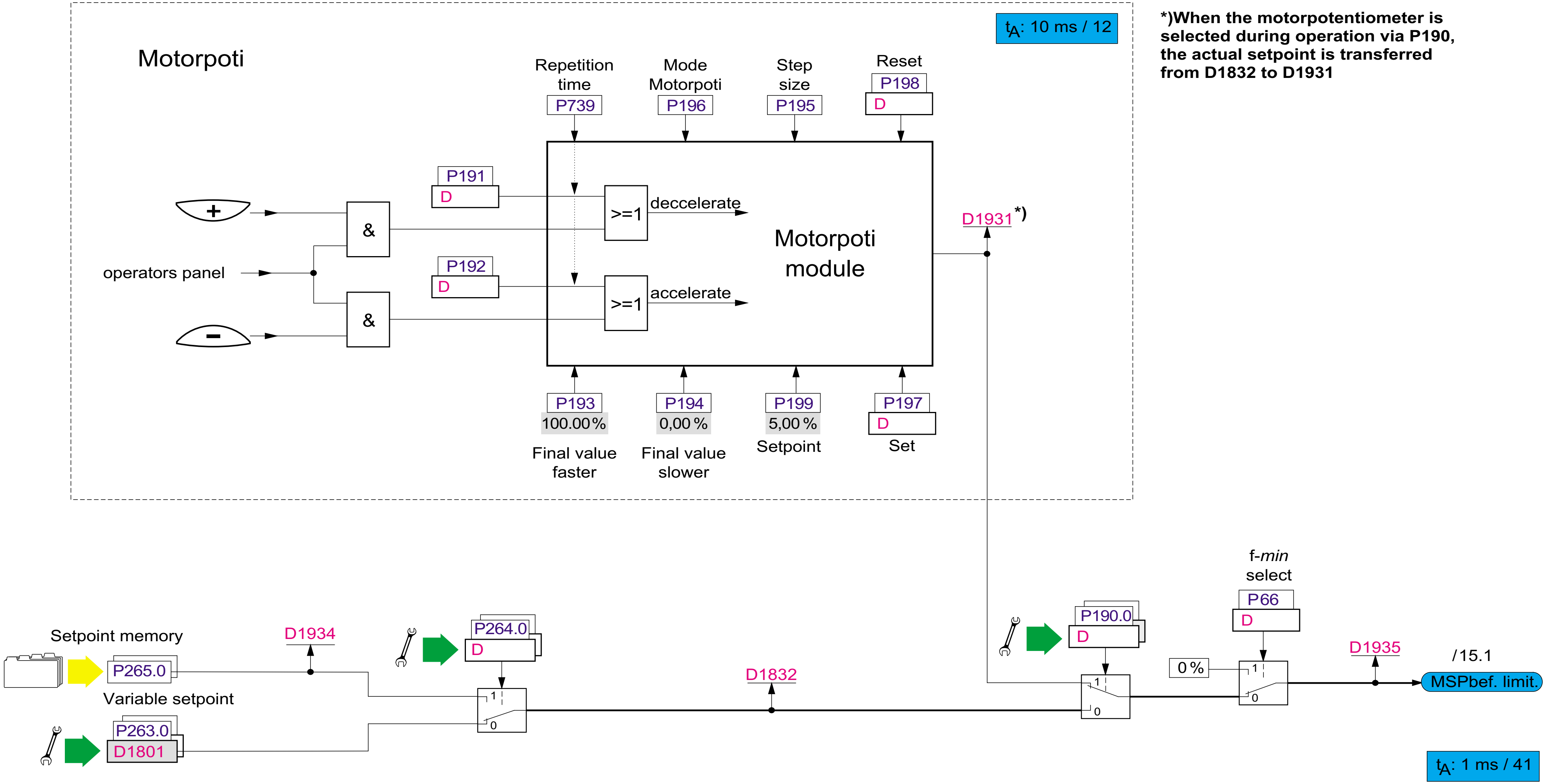
Rate-of-change

When controlled via the operator panel, the rate of change depends on P0195 (motorized potentiometer stepping width) and P0196 (motorized potentiometer, start value, linear/exponential).
Linear setting: Uniform change with the selected stepping width (P0195) as long as the + or – keys are pressed.
Exponential setting: The rate-of-change increases the longer that the + or – keys are pressed.

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

Changing over to the motorized potentiometer during operation

It is possible to change over to the motorized potentiometer during operation. In order that there is no setpoint jump, when changing over the actual setpoint is transferred from D1832 to D1931 via P0190. From this setpoint, the motorized potentiometer changes the setpoint to the “final value faster” or the “final value slower”.



1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500*** **- RD51** Motor potentiometer function	Rexroth Indramat		Date: 2002 - 06- 05	Firmware: FWC-SR1700-000-04VRS-MS	Sheet No. **14**

Frequency search run

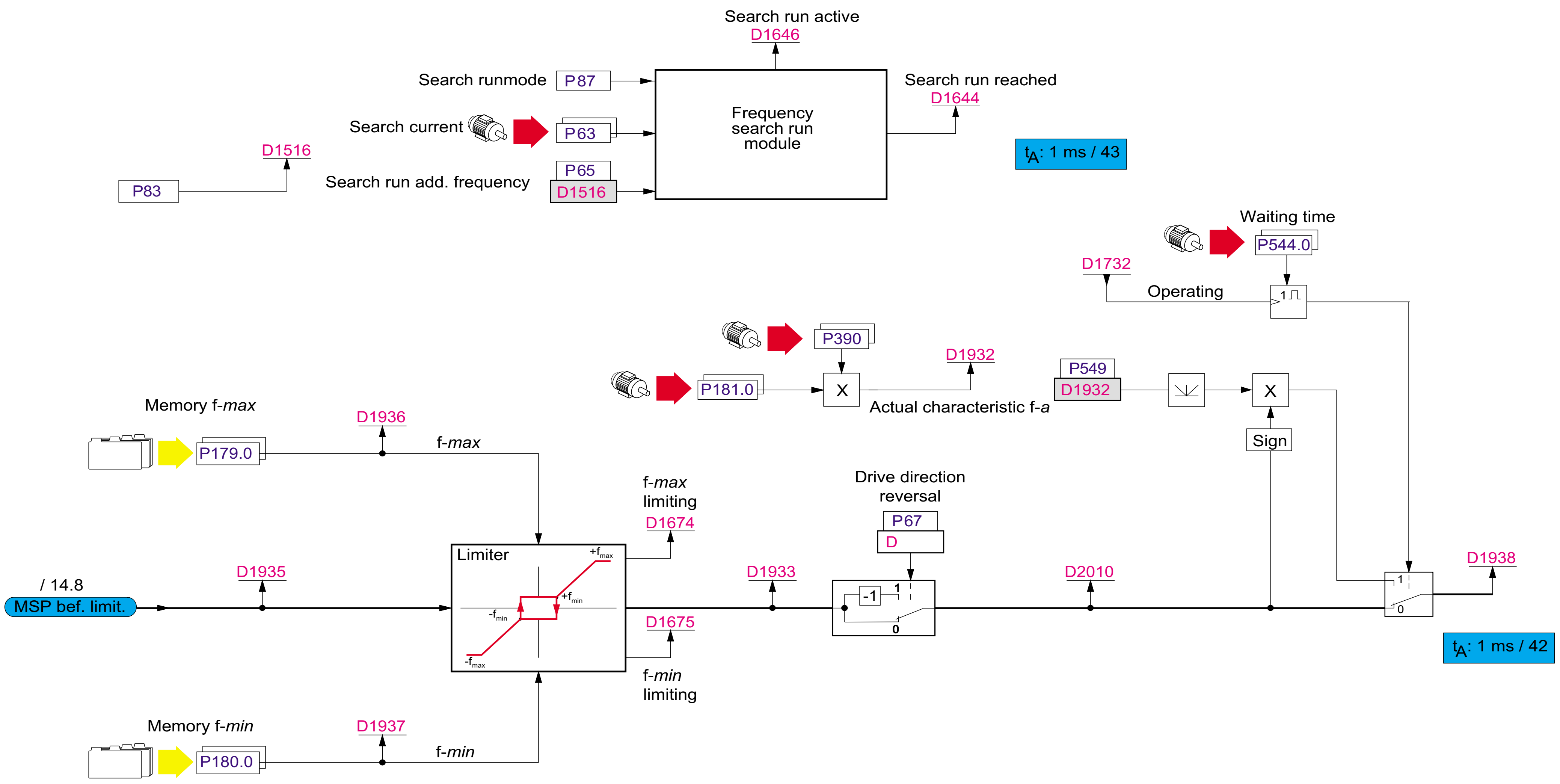
The frequency search is enabled and the mode selected using parameter P0087.

P0087: No
A search run is not executed after the ON command.

P0087: After command ON
After the ON command, the drive converter starts with the last direction of rotation and searches for the motor which is coasting down, starting at fmaxand 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 diagram **REFU*drive 500*** **- RD51**
Setpoint limiting, Frequency such run

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **15**

Ramp function generator (RFG)

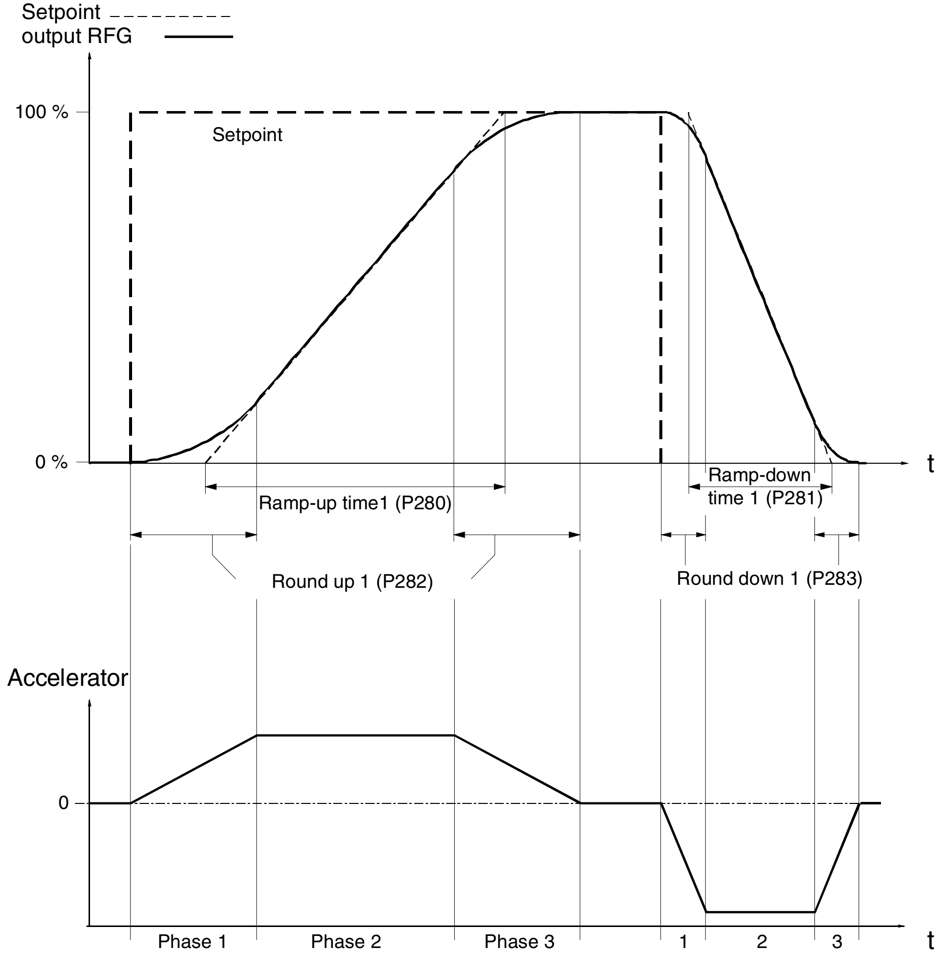
Ramp-up time and ramp-down time: When defining the ramp-up- and ramp-down times, rounding-off functions which may have been set, are not taken into account.
The ramp-up time is the time which the RFG output requires to go from 0% to 100% and for the ramp-down time, correspondingly from 100% to 0%.
If there is rounding-off, the ramp-up and ramp-down times are obtained by extending the linear portion of the characteristic up to the intersection points 0% and 100%; refer to the adjacent drawing.

Rounding UP and DOWN: Rounding is defined as the time in which the output variable reaches the maximum acceleration value starting from a constant initial value (Phase 1). Rounding is also defined as the time in which the output variable reaches a constant end value from its maximum acceleration value (Phase 3).
The ramp-up operation with rounding is divided into three phases:

Phase 1:
The acceleration is increased proportionally to time in the first phase when the setpoint is increased. In this rounding phase, the output value of the ramp-function generator increases quadratically as a function of time.

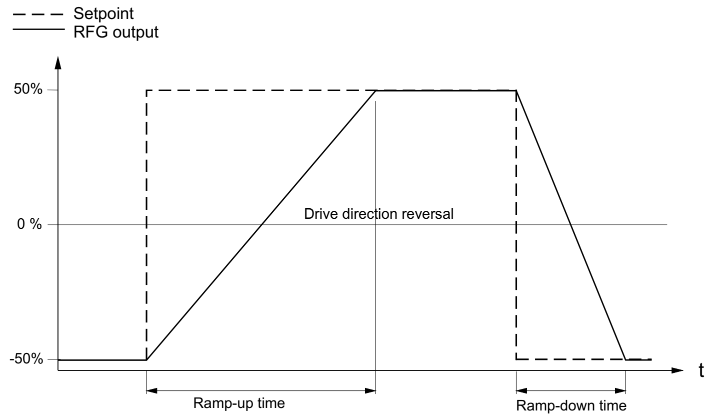
Phase 2:
The acceleration is constant after the maximum acceleration is reached corresponding to the predefined ramp-up time. The output value of the ramp-function generator increases proportionally to time.

Phase 3:
The acceleration is reduced proportionally to time in the third phase. In this rounding phase, the output value of the ramp-function generator ap

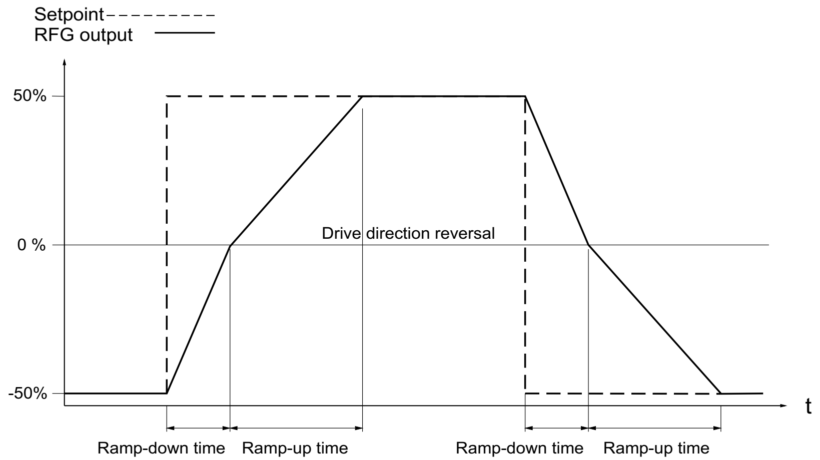


Ramp-up and Ramp-down with direction of rotation change

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.



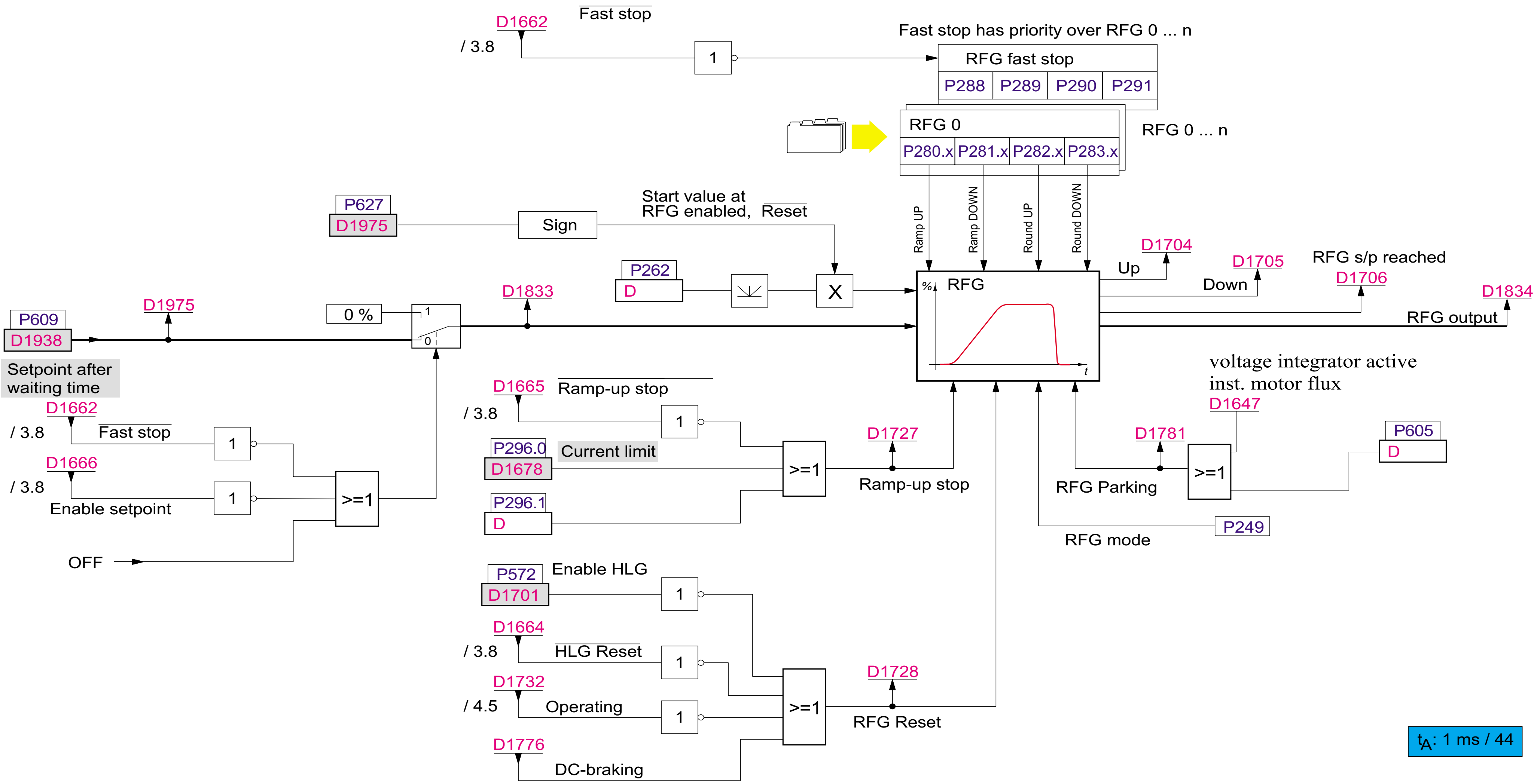
Ramp-up stop (D1727)

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.



1	2	3	4	5	6	7	8

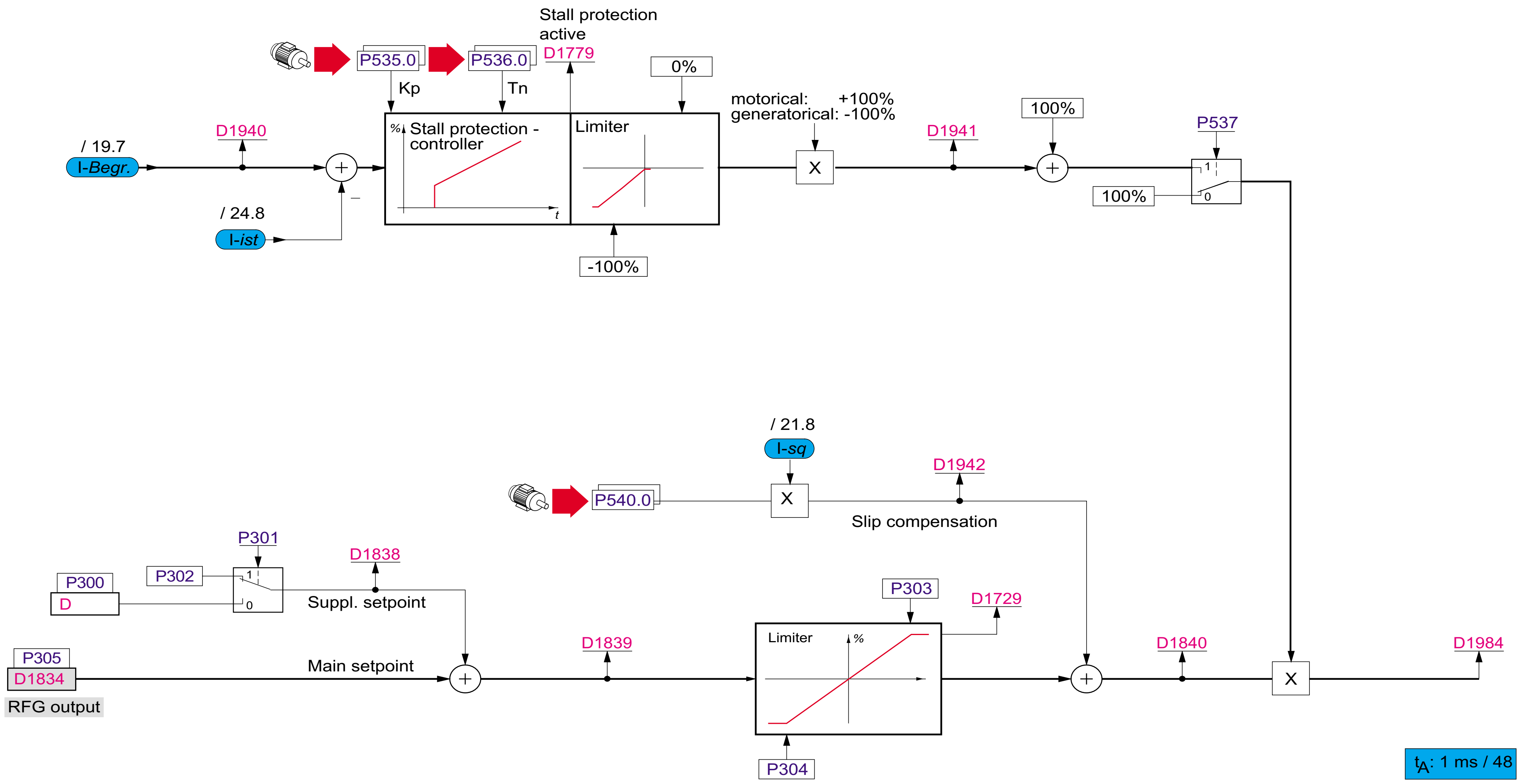
Function diagram **REFU*drive 500* - RD51**
Ramp function generator (RFG)

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **16**



1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500*** **- RD51** Slip compensation, Stall protection	Rexroth Indramat	Date: 2002 - 06- 05	Firmware: FWC-SR1700-000-04VRS-MS	Sheet No. **17**

V/f characteristic

The values of the V/f characteristic (P181 - P188) are calculated from the rating plate data (P181 - P188). The unit calculates the characteristic data after you have entered the data on the rating plate of your motor. You can then modify and optimize the characteristic values. If you subsequently change the rating plate data again, this will cause recalculation of the characteristic data and your optimized data will be overwritten.

Linear V/f characteristic

Default calculation of the characteristic data from the rating plate data:

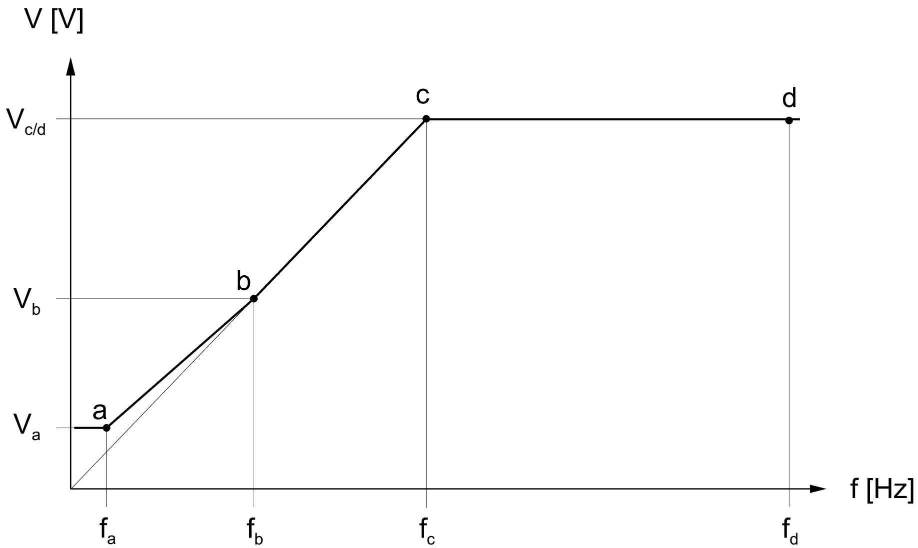
[P181] $f_a = f_{slip}$ [P185] $V_a = \dfrac{V_{nom} \times f_{slip}}{f_{nom}} + R_{stator} \times I_{sd}$

nom

[P182] $f_b = f_{nom} / 2$ [P186] $V_b = V_{nom} / 2$

[P183] $f_c = f_{nom}$ [P187] $V_c = V_{nom}$

[P184] $f_d = 2 \times f_{nom}$ [P188] $V_d = V_{nom}$



Square-law V/f characteristic

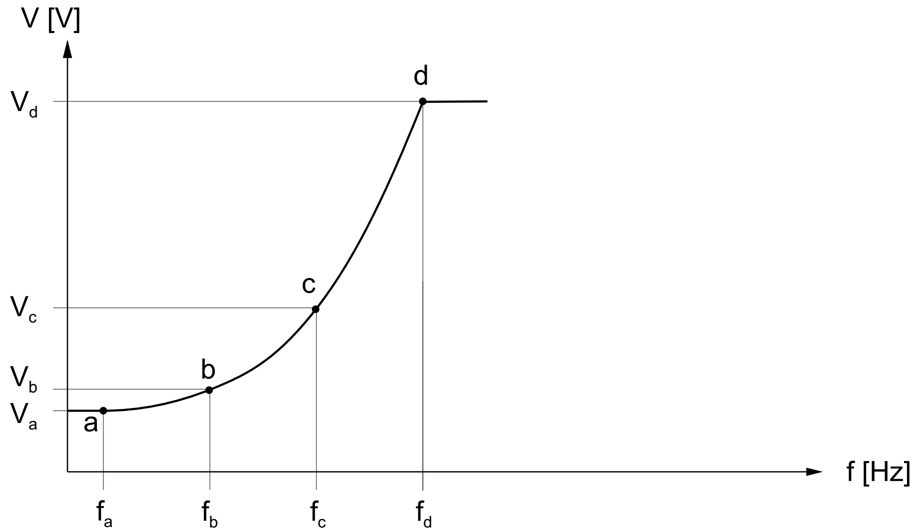
Default calculation of the characteristic data from the rating plate data:

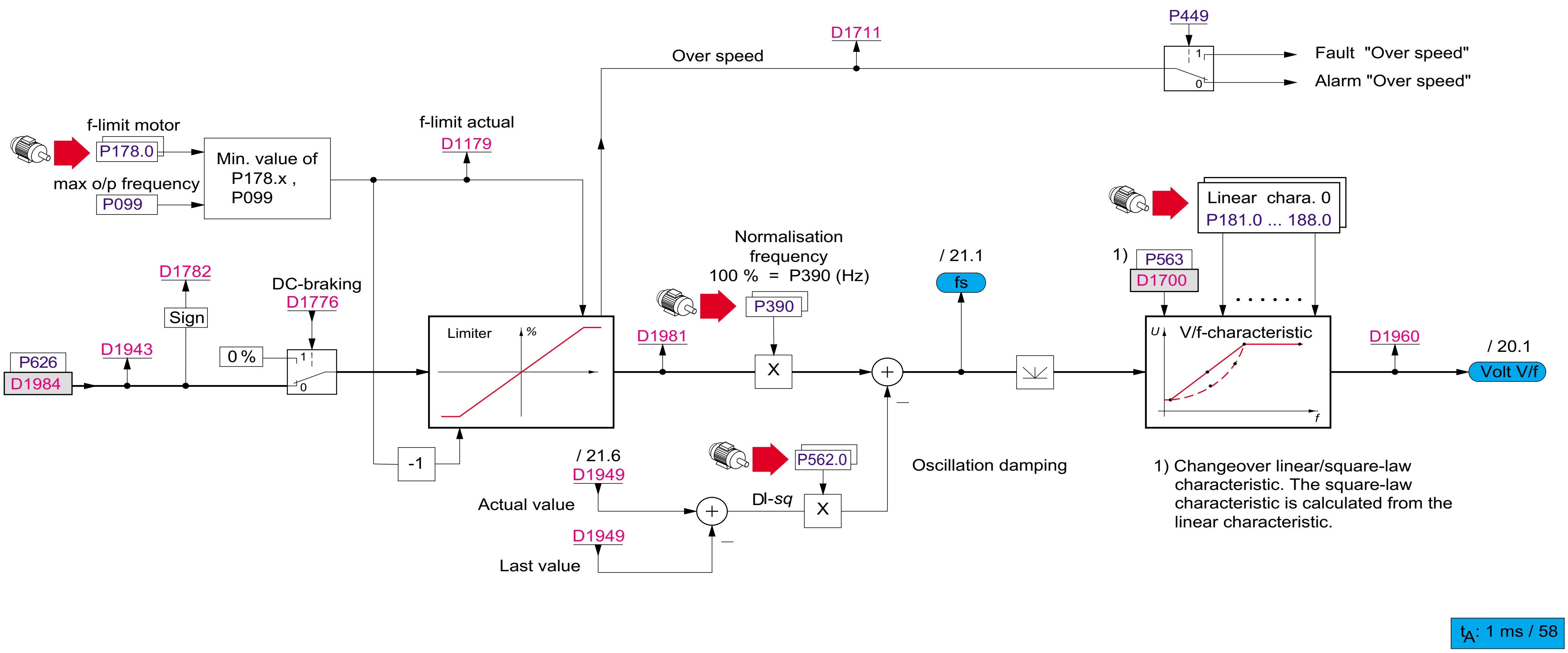
[P181] $f_a = f_{slip}$ [P185] $V_a = \dfrac{V_{nom} \times f_{slip}}{f_{nom}} + R_{stator} \times I_{sd\ nom}$

[P183] $f_d = f_{nom}$ [P187] $V_d = V_{nom}$

[P182] $f_b = f_a + (f_d - f_a / 3)$ [P186] $U_b = U_a + (U_d - U_a) \cdot f_b^2 / f_d^2$

[P183] $f_c = f_b + (f_d - f_a / 3)$ [P188] $U_c = U_a + (U_d - U_a) \cdot f_c^2 / f_d^2$

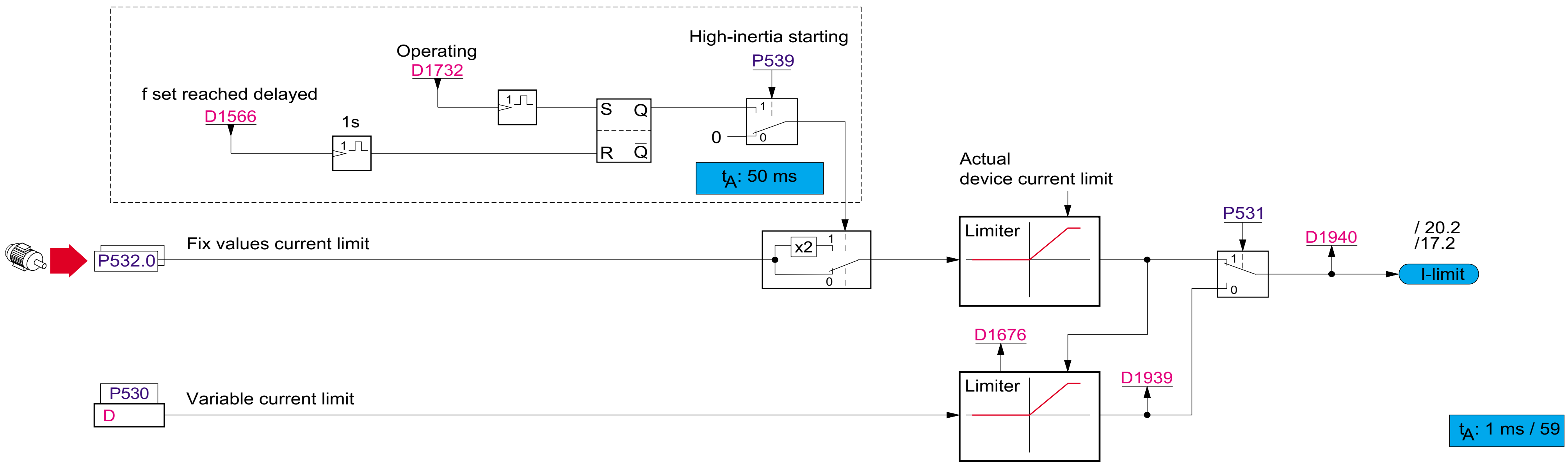




1	2	3	4	5	6	7	8

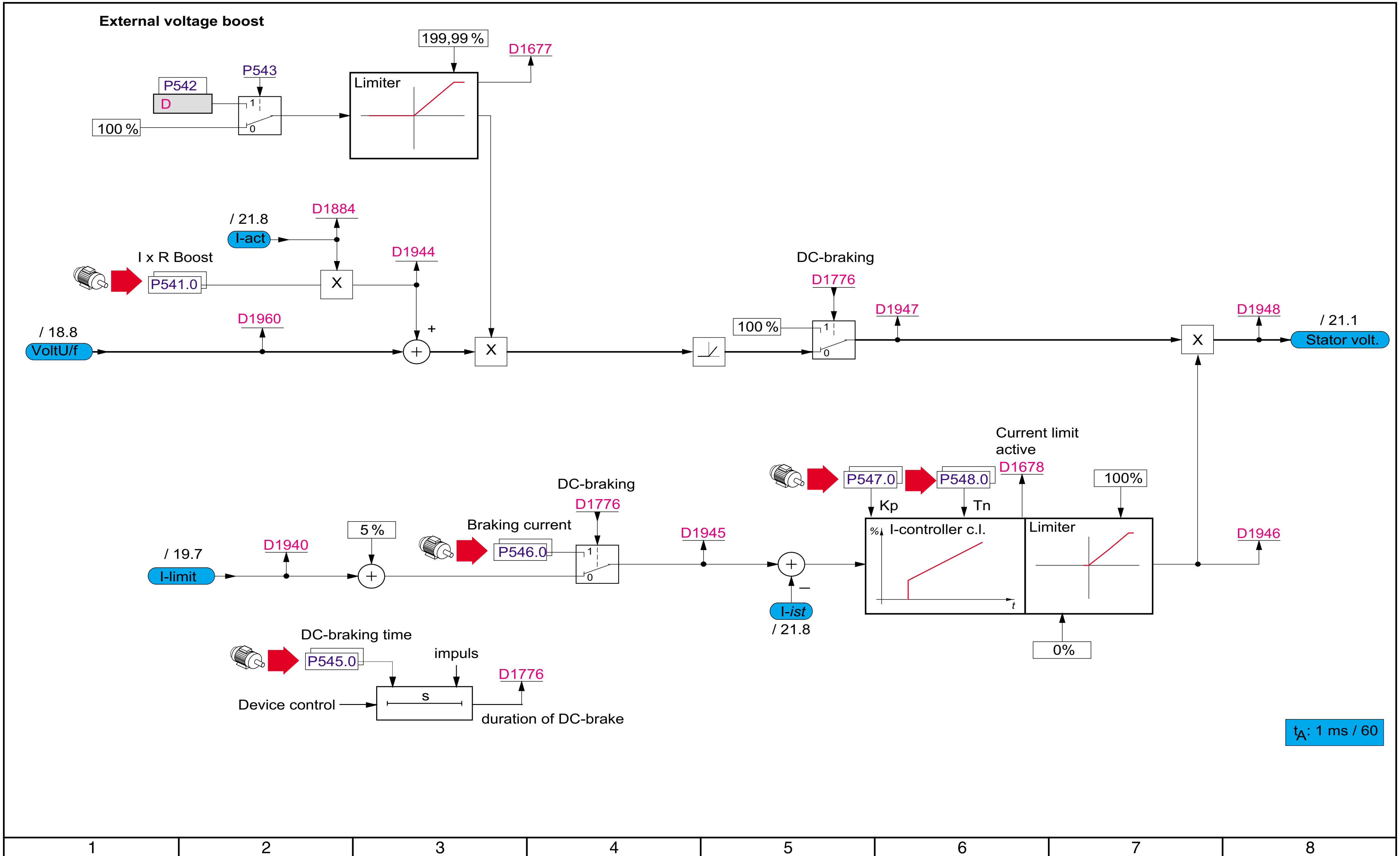
Function diagram **REFU*drive 500*** **- RD51** V/f - characteristic, Overspeed	Rexroth Indramat	Date: 2002 - 06- 05	Firmware: FWC-SR1700-000-04VRS-MS	Sheet No. **18**

The current limiting has been split-up to 2 function diagrams for space reasons. The setpoint path, coming from the V/Hz characteristic, is continued on Sheet No. 20.



f set reached delayed
D1566
1s
Operating
D1732
S
Q
R
Q
High-inertia starting
P539
0
tA: 50 ms
P532.0
Fix values current limit
x2
Actual
device current limit
Limiter
P531
D1940
/ 20.2
/17.2
I-limit
D1676
P530
D
Variable current limit
Limiter
D1939
tA: 1 ms / 59

1	2	3	4	5	6	7	8



Function diagram **REFU*drive 500* - RD51**
Current limiting (continuation)

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **20**

Overload protection

The overload protection is switched-in and switched-out using P0565 and the response type, either alarm or fault, is selected.

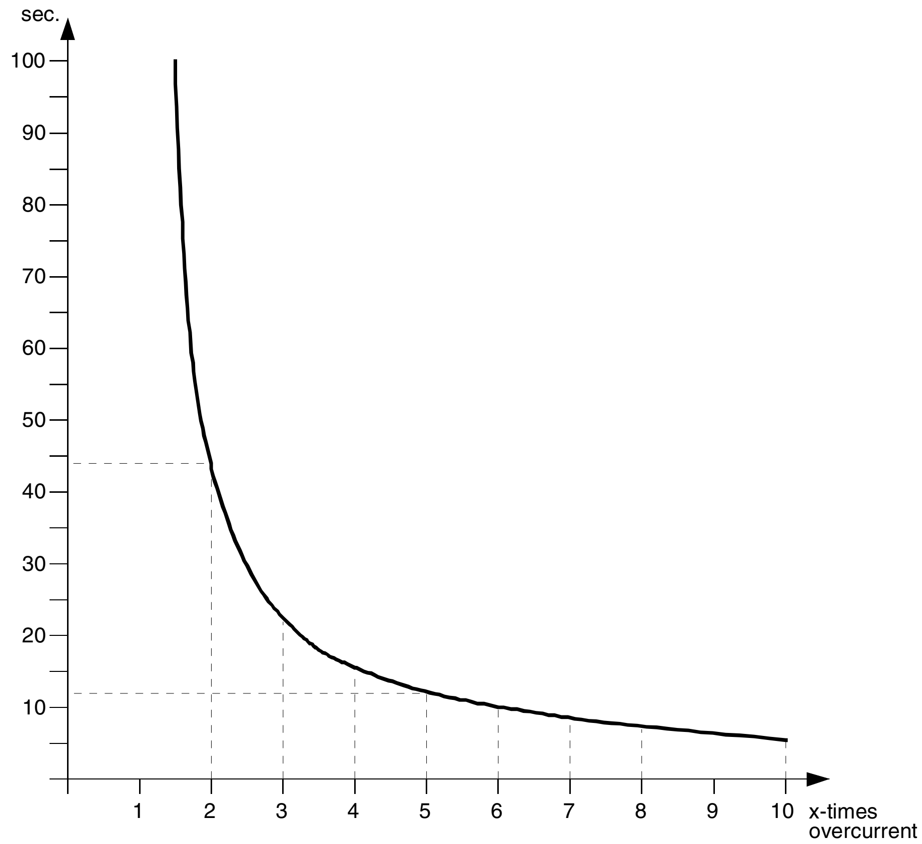
The response threshold of the overload protection (P0566) can be set between 0.5 A and the peak current P0025. The overload function was implemented corresponding to the Siemens 3UB1 overload relay, Class 10 setting.

The delay time until the drive is ready to be powered-up after „overload protection" fault depents on the response threshold:

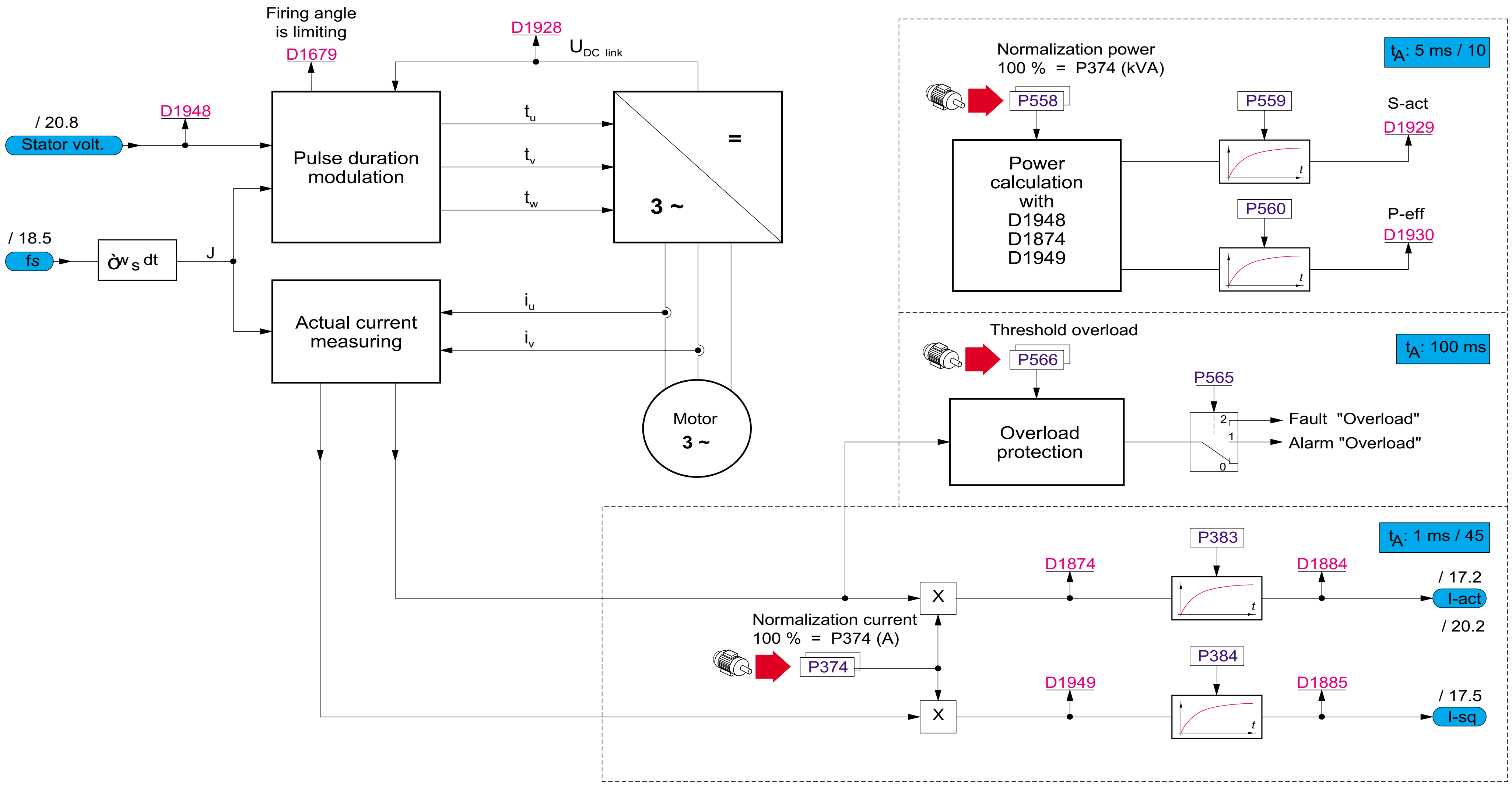
- For P0566 < 20 A, the drive converter can be powered-up again after 1 minute.
- For P0566 > 20 A, the drive converter can be powered-up again after 10 minutes.

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.

Release characteristic



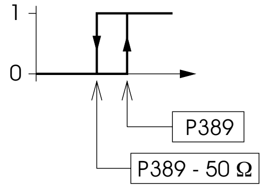
x-times valus from P0566	1,05	1,15	3	4	5	6	7	8	10
Release time	2 h	20 min.	22,5 s	15,4 s	12 s	9,8 s	8,4 s	7,3 s	5,8 s



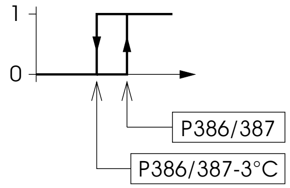
Firing angle is limiting
D1679
D1928
UDC link
/ 20.8
Stator volt.
D1948
Pulse duration modulation
tu
tv
tw
=
3 ~
/ 18.5
fs
ò ws dt
J
Actual current measuring
iu
iv
Motor
3 ~
Normalization power
100 % = P374 (kVA)
tA: 5 ms / 10
P558
P559
S-act
D1929
Power calculation with D1948 D1874 D1949
P560
P-eff
D1930
Threshold overload
tA: 100 ms
P566
P565
Overload protection
Fault "Overload"
Alarm "Overload"
tA: 1 ms / 45
P383
D1874
D1884
/ 17.2
I-act
/ 20.2
Normalization current
100 % = P374 (A)
P374
X
X
P384
D1949
D1885
/ 17.5
I-sq

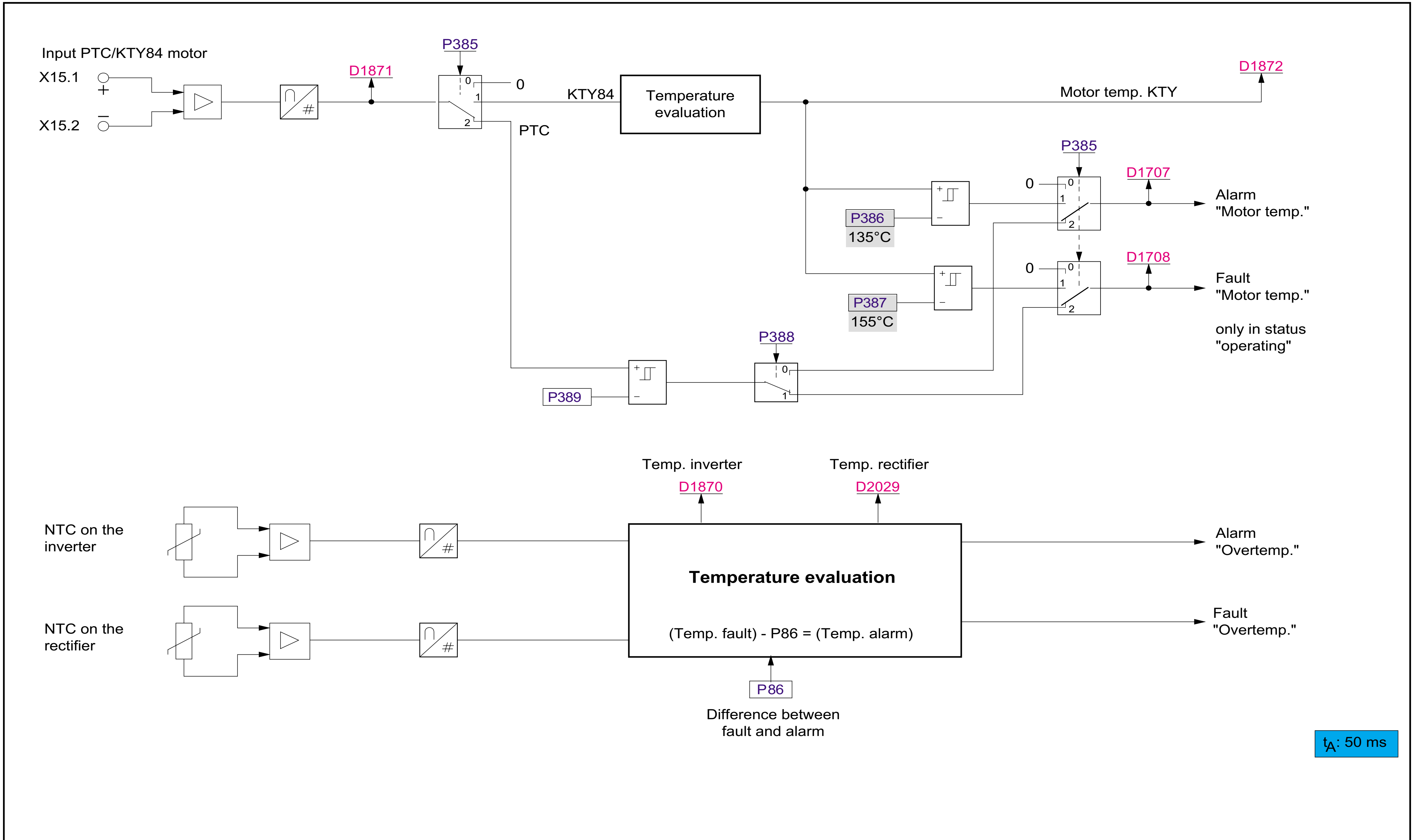
1	2	3	4	5	6	7	8

Switching diagram of the PTC comparator



Switching diagram of the KTY comparator



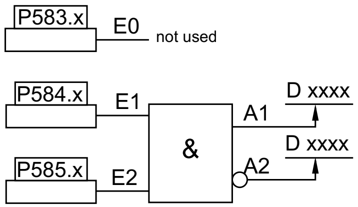


Input PTC/KTY84 motor
X15.1
+
X15.2
−
D1871
P385
0
1
2
KTY84
PTC
Temperature evaluation
Motor temp. KTY
D1872
P385
D1707
0
Alarm "Motor temp."
P386
135°C
D1708
0
Fault "Motor temp."
P387
155°C
only in status "operating"
P388
P389
Temp. inverter
D1870
Temp. rectifier
D2029
NTC on the inverter
NTC on the rectifier
Temperature evaluation
(Temp. fault) - P86 = (Temp. alarm)
Alarm "Overtemp."
Fault "Overtemp."
P86
Difference between fault and alarm
t_A: 50 ms

1	2	3	4	5	6	7	8

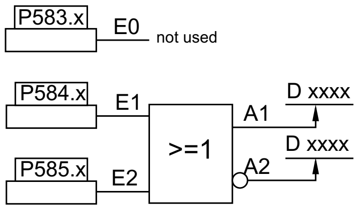
Function of logic modules 0 ... 19

Function No. 0: P0586.xx = AND



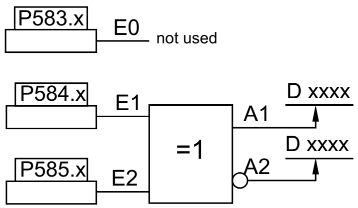
AND			
E1	E2	Q	/Q
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

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

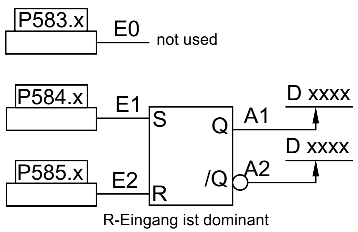
Function No. 2: P0586.xx = XOR



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

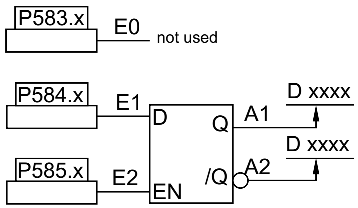
n = No change



RS-Flipflop			
S	R	Q	/Q
0	0	n	n
0	1	0	1
1	0	1	0
1	1	0	1

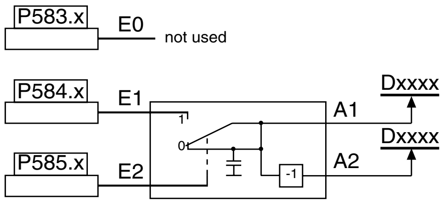
Function No. 4: P0586.xx = D-memory

n = No change

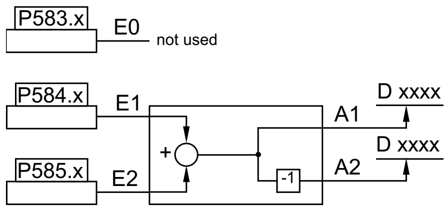


D-Latch			
D	EN	Q	/Q
0	0	n	n
0	1	0	1
1	0	n	n
1	1	1	0

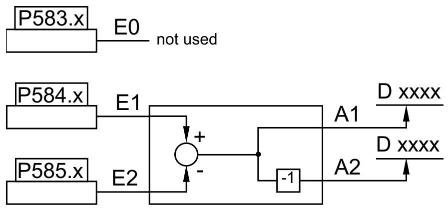
Function No. 5: P0586.xx = Sampel & hold



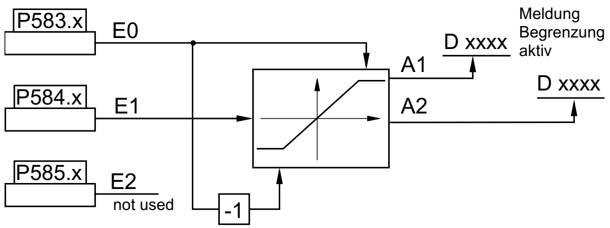
Function No. 6: P0586.xx = Angle adder



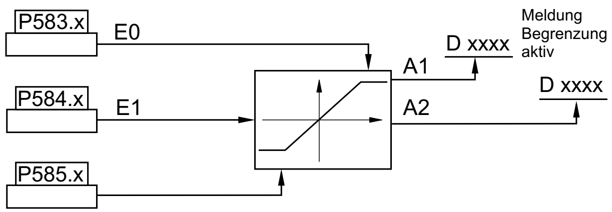
Function No. 7: P0586.xx = Angle subtractor



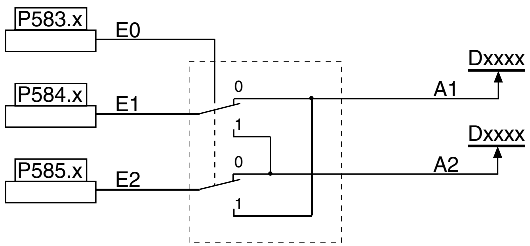
Function No. 8: P0586.xx = Symmetrical limiter



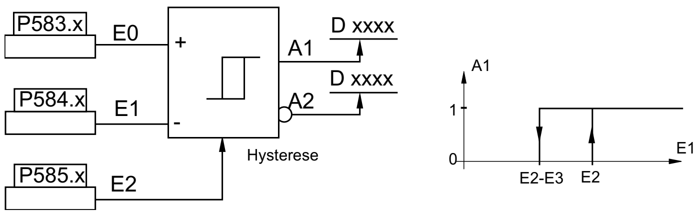
Function No. 9: P0586.xx = Limiter, 3 inputs



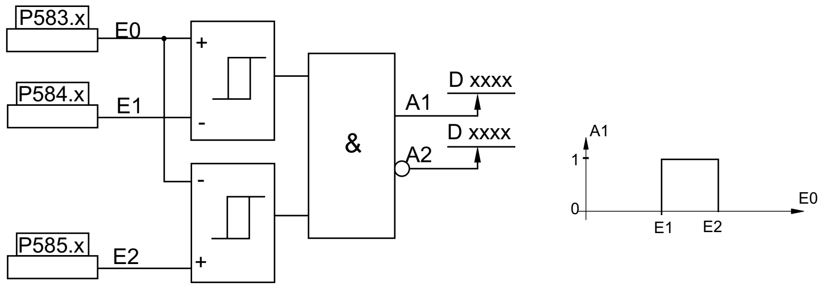
Function No. 10: P0586.xx = Process data switch



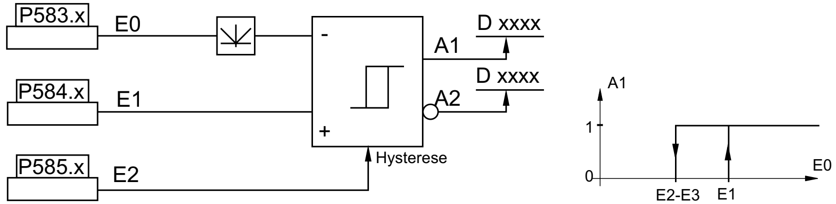
Function No. 11: P0586.xx = Comparator



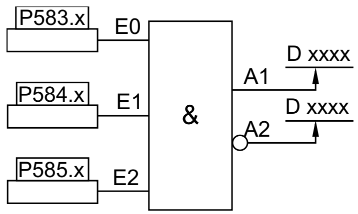
Function No. 12: P0586.xx = Window comparator



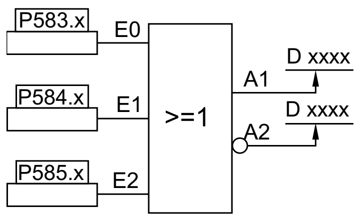
Function No. 13: P0586.xx = Absolute value comparator



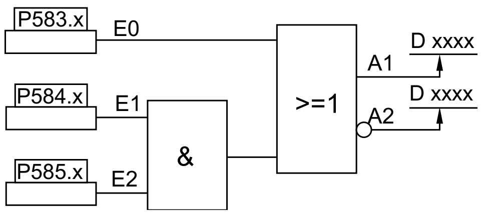
Function No. 14: P0586.xx =3 x AND



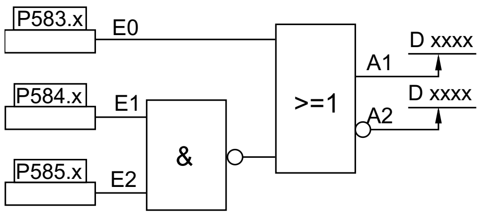
Function No. 15: P0586.xx = 3 x OR



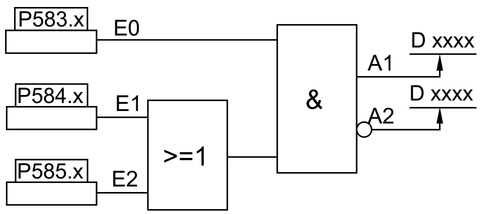
Function No. 16: P0586.xx = AND - OR



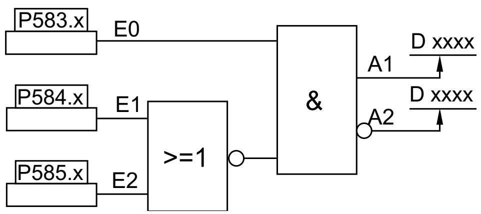
Function No. 17: P0586.xx = NAND - OR



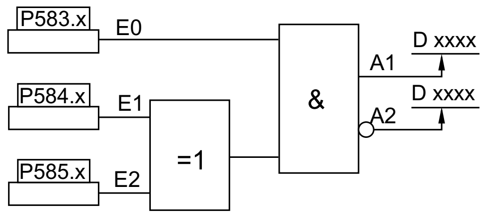
Function No. 18: P0586.xx = OR - AND



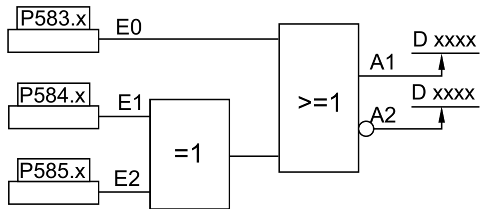
Function No. 19: P0586.xx = NOR - AND



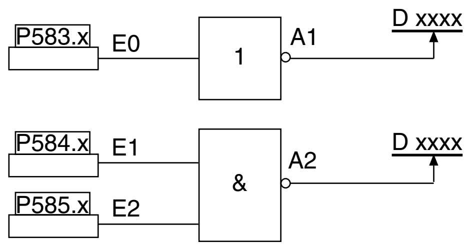
Function No. 20: P0586.xx = XOR - AND



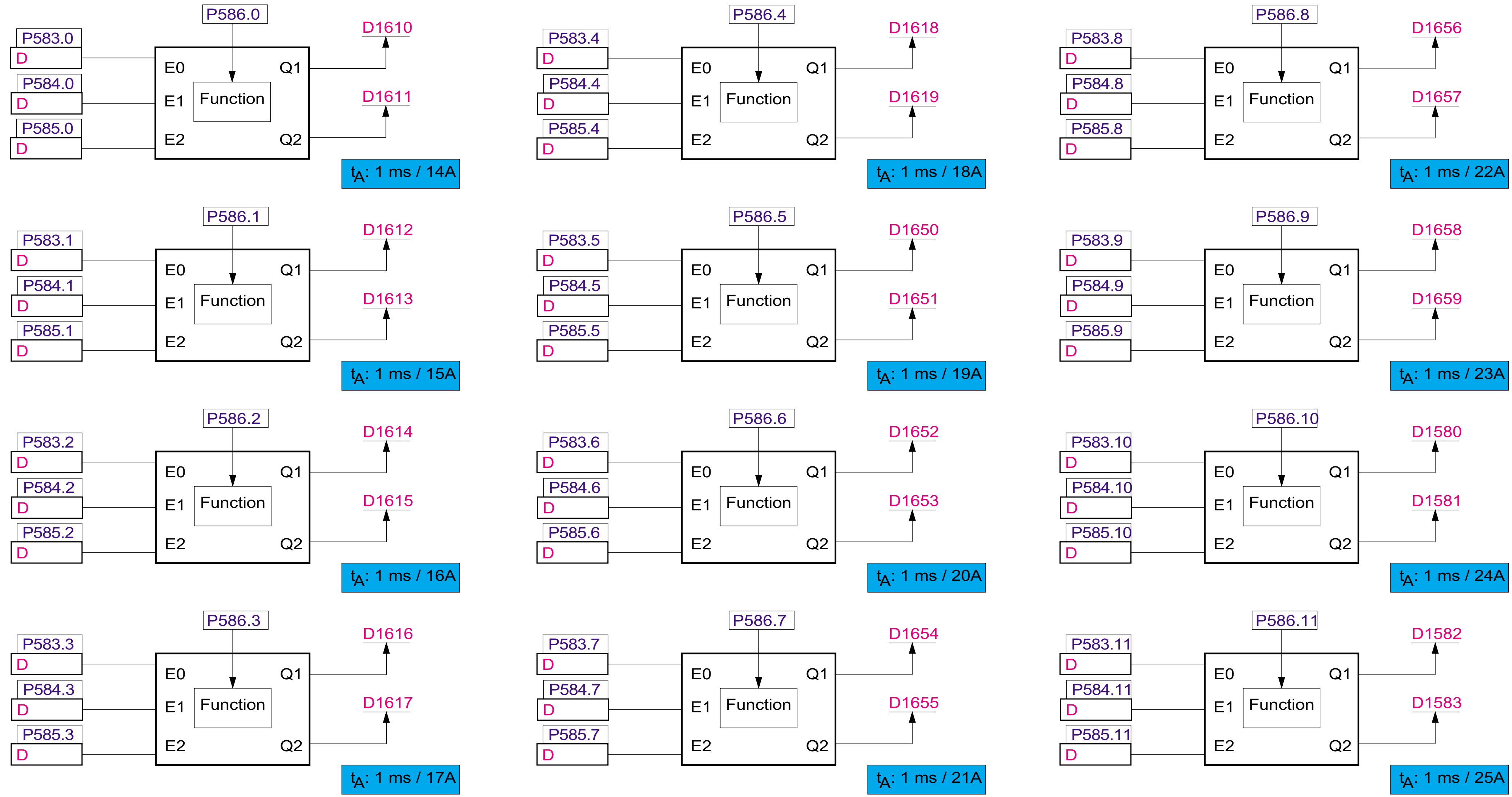
Function No. 21: P0586.xx = XOR - OR



Function No. 22: P0586.xx = NOT / NAND



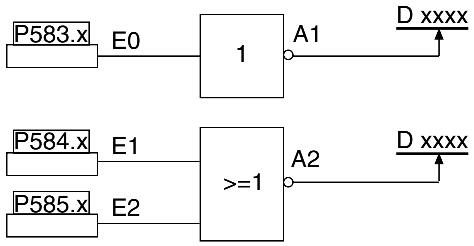
The result A1 of the NOT function is available in the same clock cycle before processing inputs E1 and E2.



1	2	3	4	5	6	7	8

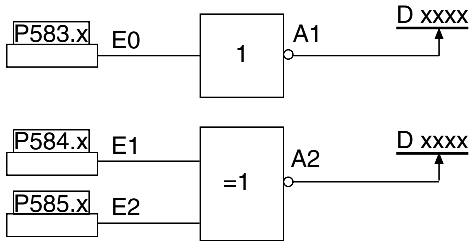
Function diagram **REFU*drive 500* - RD51** Logic gates 1	Rexroth Indramat		Date: 2002 - 06- 05	Firmware: FWC-SR1700-000-04VRS-MS	Sheet No. **23**

Function No. 23: P0586.xx = NOT / NOR

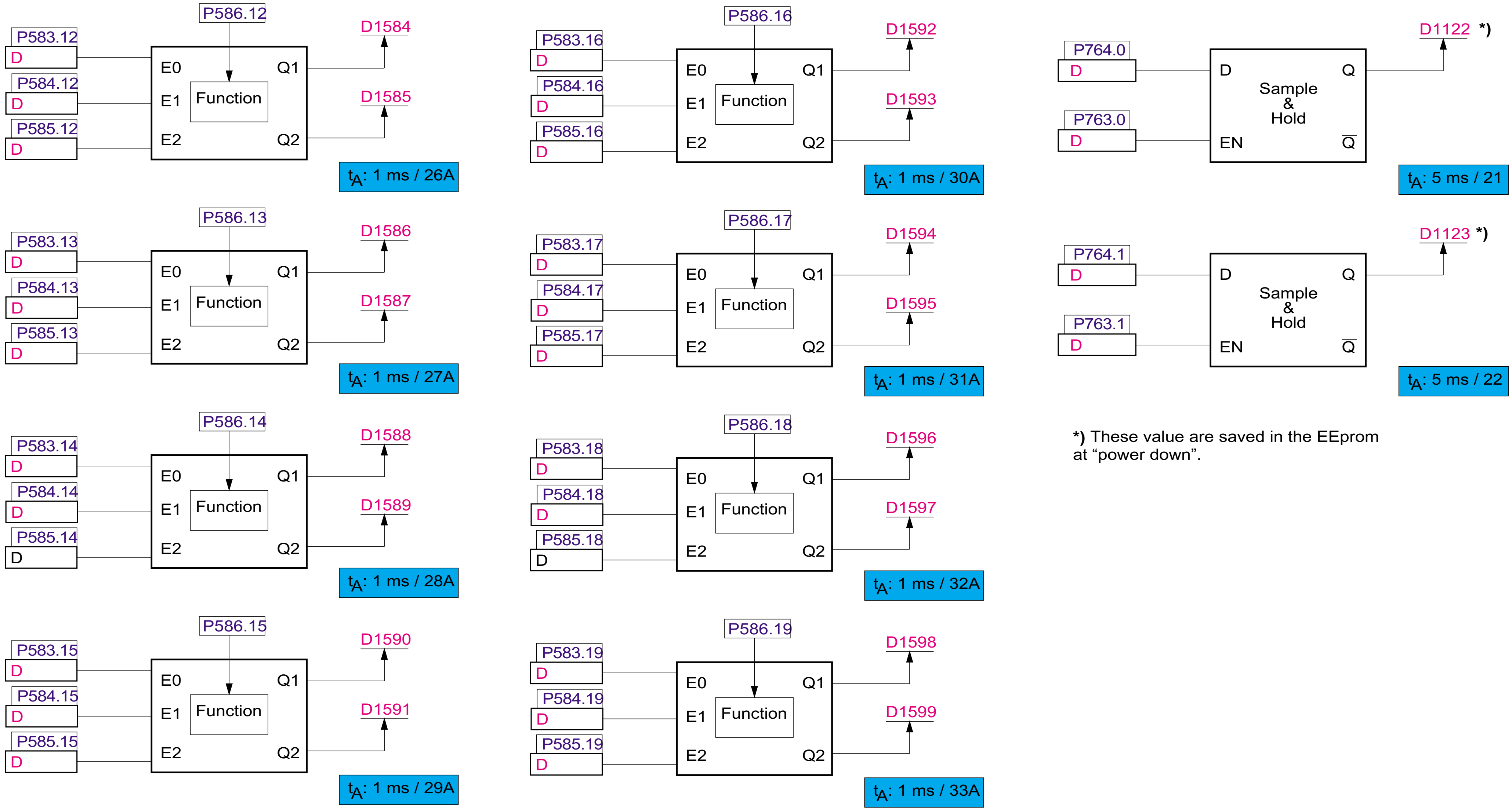


The result A1 of the NOT function is available in the same clock cycle before processing inputs E1 and E2.

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.



*) These value are saved in the EEprom at “power down”.

1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500*** **- RD51**
Logic gates 2

Rexroth Indramat

Date: 2002 - 06- 05

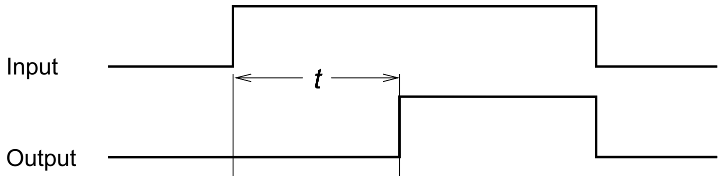
Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **24**

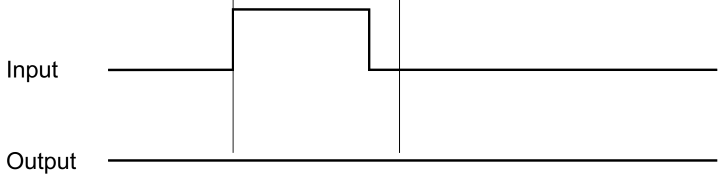
Function diagrams of timing elements:

Function 0 = ON delay

Example 1:

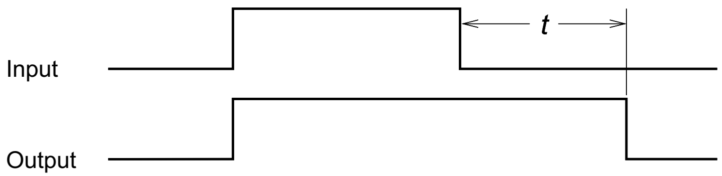


Example 2:

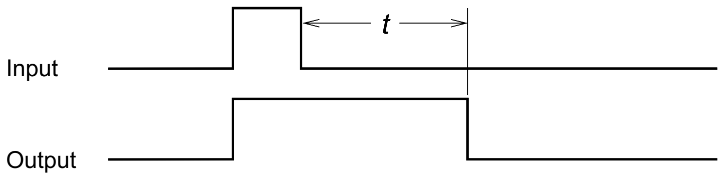


Function 1 = OFF delay

Example 1:

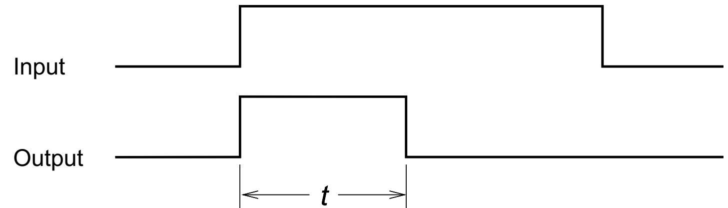


Example 2:

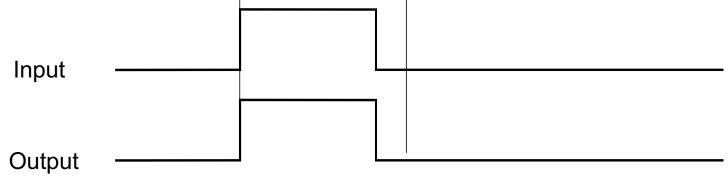


Function 2 = Pulse

Example 1:

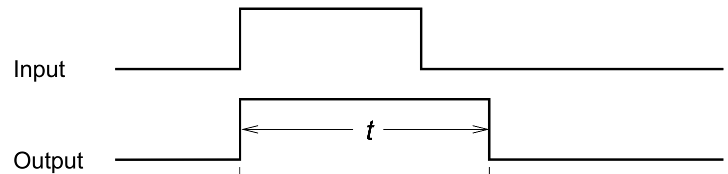


Example 2:

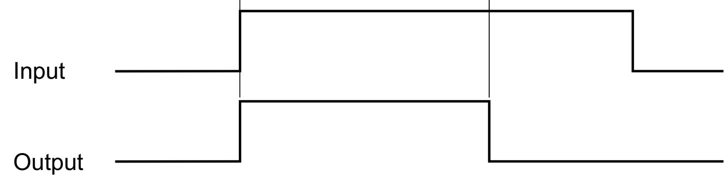


Function 3 = Extended pulse

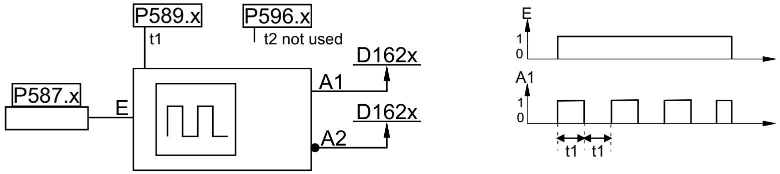
Example 1:



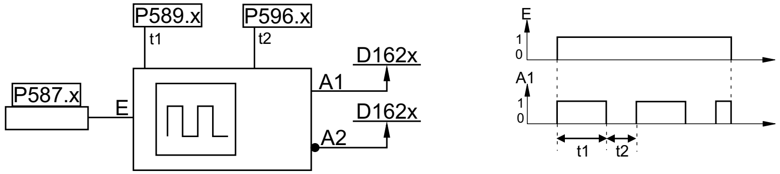
Example 2:



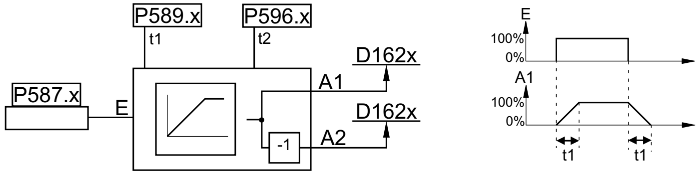
Function No. 4 = Symmetrical pulse generator



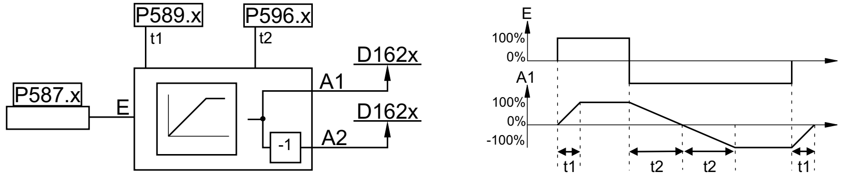
Function No. 5 = Non-symmetrical pulse generator



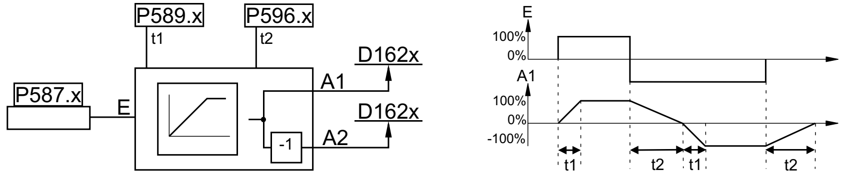
Function No. 6 = Symmetrical ramp-function generator

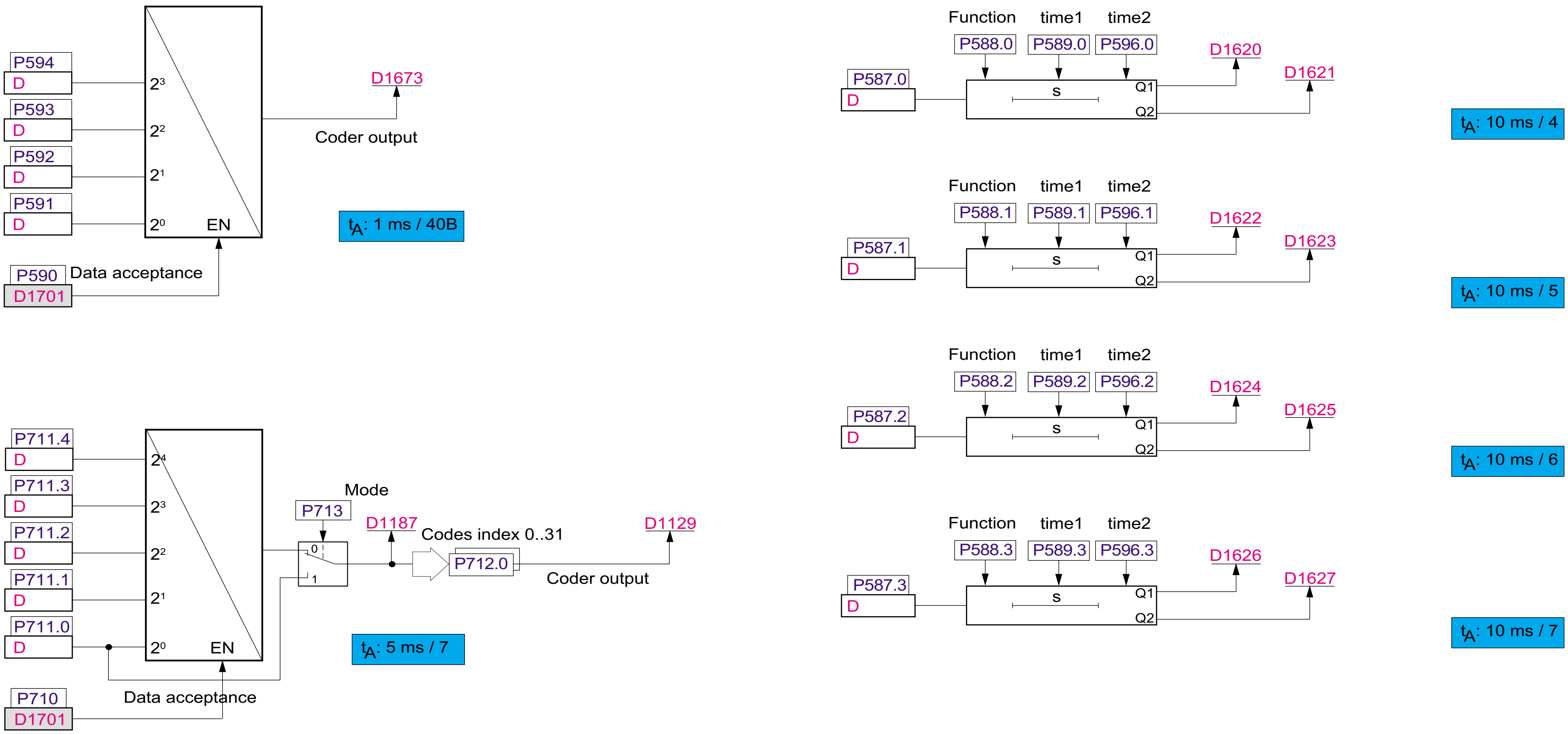


Function No. 7 = Ramp-function generator M direction / sign



Function No. 8 = Ramp-function generator, n direction / absolute value



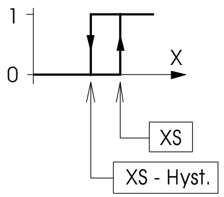


P594
D
P593
D
P592
D
P591
D
2^3
2^2
2^1
2^0
EN
D1673
Coder output
t_A: 1 ms / 40B
P590
Data acceptance
D1701
P711.4
D
P711.3
D
P711.2
D
P711.1
D
P711.0
D
2^4
2^3
2^2
2^1
2^0
EN
Mode
P713
D1187
Codes index 0..31
P712.0
D1129
Coder output
t_A: 5 ms / 7
P710
Data acceptance
D1701
Function
time1
time2
P588.0
P589.0
P596.0
P587.0
D
s
Q1
Q2
D1620
D1621
t_A: 10 ms / 4
Function
time1
time2
P588.1
P589.1
P596.1
P587.1
D
s
Q1
Q2
D1622
D1623
t_A: 10 ms / 5
Function
time1
time2
P588.2
P589.2
P596.2
P587.2
D
s
Q1
Q2
D1624
D1625
t_A: 10 ms / 6
Function
time1
time2
P588.3
P589.3
P596.3
P587.3
D
s
Q1
Q2
D1626
D1627
t_A: 10 ms / 7

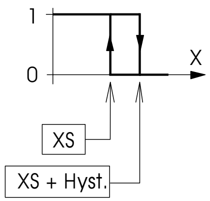
1	2	3	4	5	6	7	8

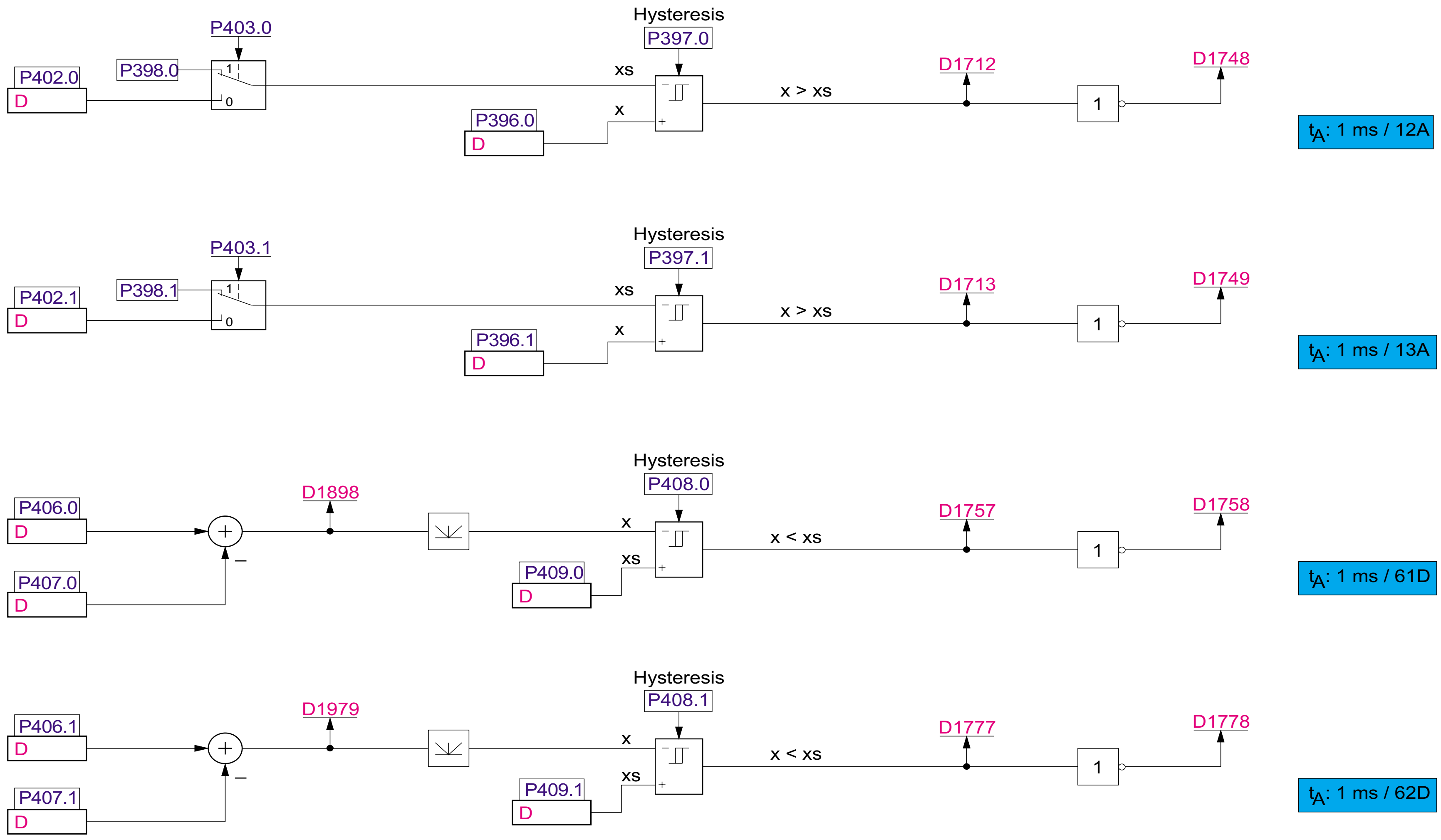
Switching diagrams of the comparators

D1712, D1713:



D1757, D1777:

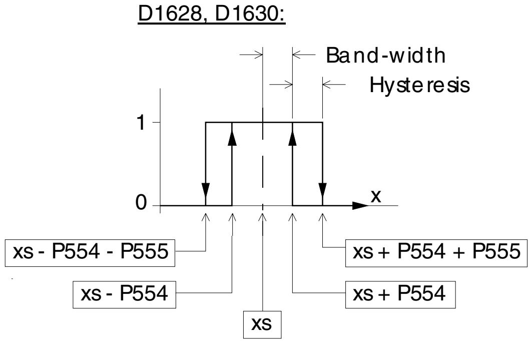


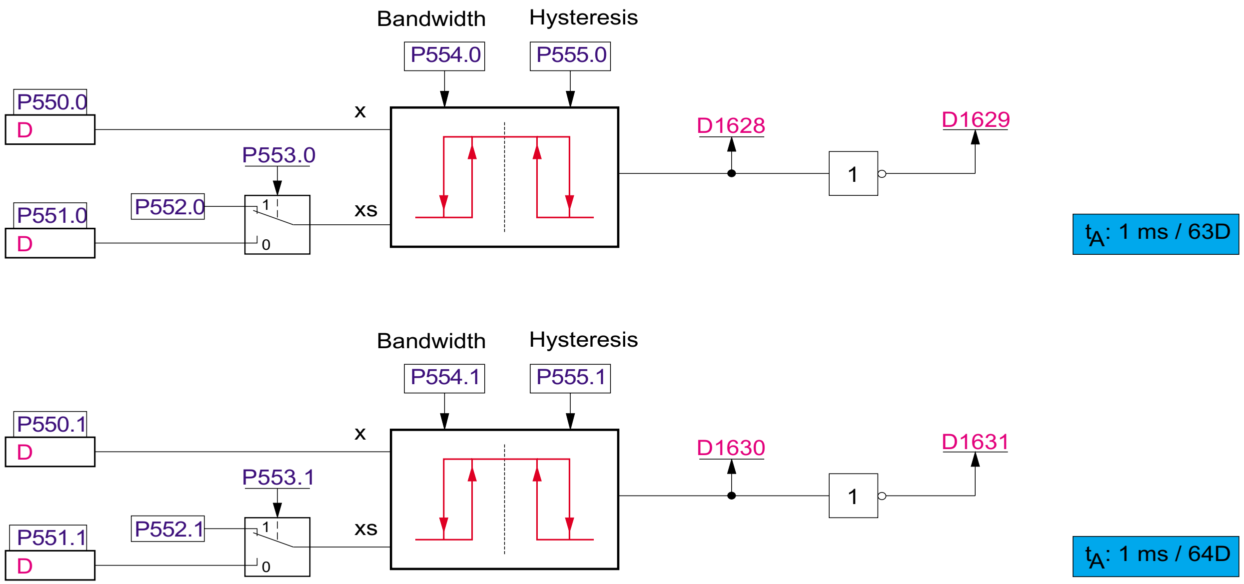


P403.0
Hysteresis
P397.0
P402.0
D
P398.0
xs
x > xs
D1712
1
D1748
P396.0
x
D
tA: 1 ms / 12A
P403.1
Hysteresis
P397.1
P402.1
D
P398.1
xs
x > xs
D1713
1
D1749
P396.1
x
D
tA: 1 ms / 13A
Hysteresis
P408.0
P406.0
D
D1898
x
x < xs
D1757
1
D1758
P407.0
D
P409.0
xs
D
tA: 1 ms / 61D
Hysteresis
P408.1
P406.1
D
D1979
x
x < xs
D1777
1
D1778
P407.1
D
P409.1
xs
D
tA: 1 ms / 62D

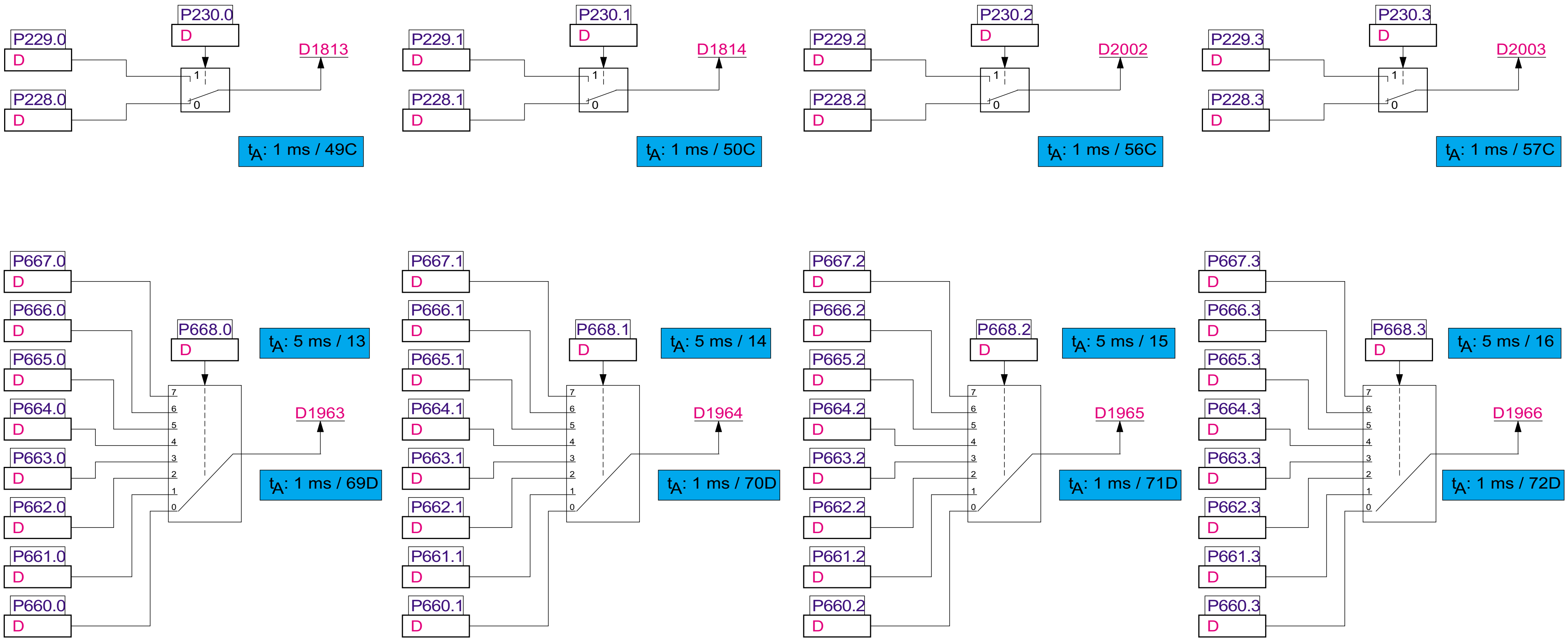
1	2	3	4	5	6	7	8

Switching diagram of the comparators





Bandwidth
Hysteresis
P554.0
P555.0
P550.0
D
x
D1628
D1629
P553.0
1
P551.0
D
P552.0
1
0
xs
tA: 1 ms / 63D
Bandwidth
Hysteresis
P554.1
P555.1
P550.1
D
x
D1630
D1631
P553.1
1
P551.1
D
P552.1
1
0
xs
tA: 1 ms / 64D



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).

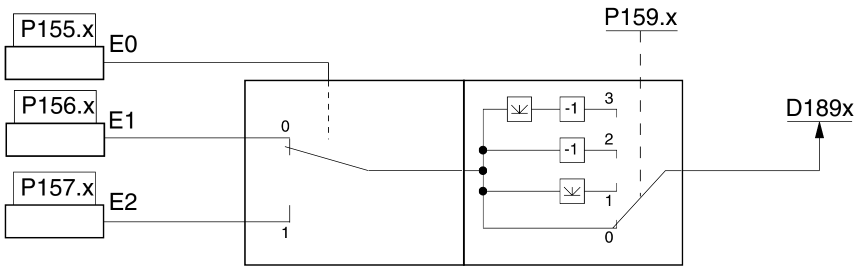
1	2	3	4	5	6	7	8

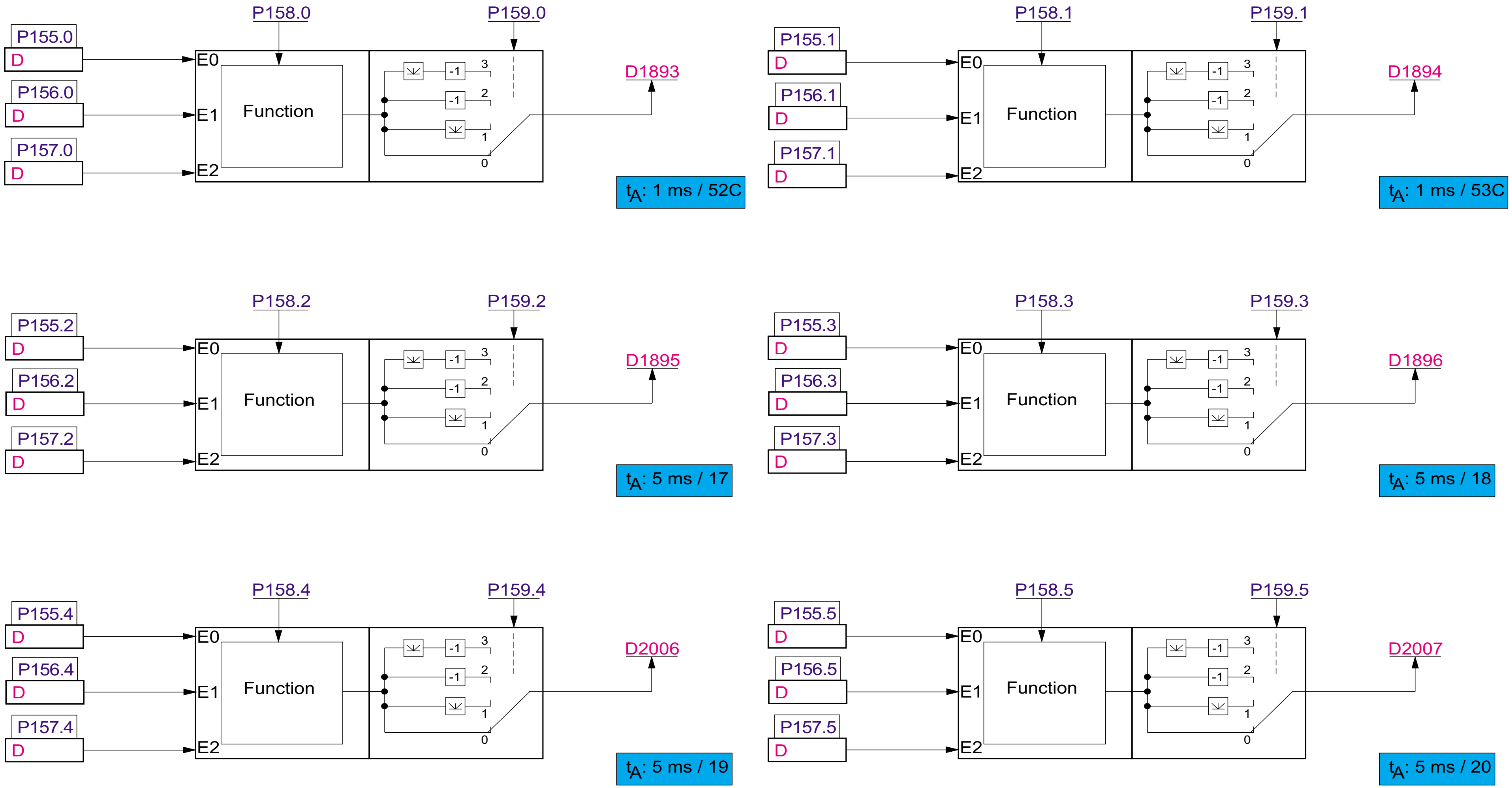
The multi-function blocks (Add,Sub,Mul,Div,Min,Max..) have been expanded by a 3rd input (P0153=E0) and the range of functions has been expanded by a process data switch.

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

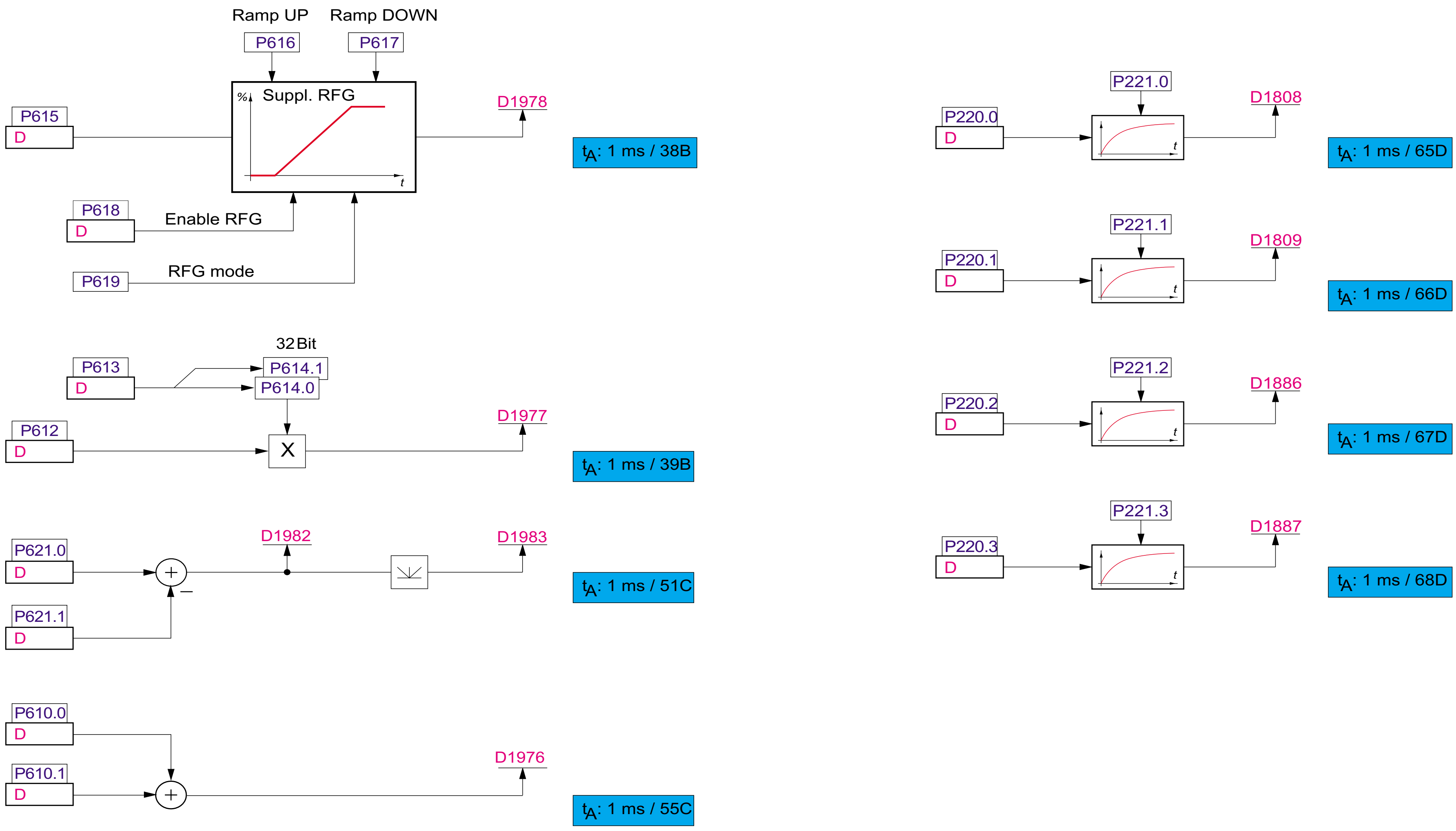
Function 0 = Addition	E1 + E2
Function 1 = Subtraction	E1 - E2
Function 2 = Multiplication	E1 * E2
Function 3 = Division	E1 / E2
Function 4 = Min. value	Min. value of E1 or E2
Function 5 = Max. value	Max. value of E1 or E2

Function No. 6: P0158.x = process data switch




P155.0
D
P156.0
D
P157.0
D
P158.0
E0
E1
E2
Function
P159.0
3
2
1
0
-1
-1
D1893
tA: 1 ms / 52C
P155.1
D
P156.1
D
P157.1
D
P158.1
E0
E1
E2
Function
P159.1
D1894
tA: 1 ms / 53C
P155.2
D
P156.2
D
P157.2
D
P158.2
E0
E1
E2
Function
P159.2
D1895
tA: 5 ms / 17
P155.3
D
P156.3
D
P157.3
D
P158.3
E0
E1
E2
Function
P159.3
D1896
tA: 5 ms / 18
P155.4
D
P156.4
D
P157.4
D
P158.4
E0
E1
E2
Function
P159.4
D2006
tA: 5 ms / 19
P155.5
D
P156.5
D
P157.5
D
P158.5
E0
E1
E2
Function
P159.5
D2007
tA: 5 ms / 20

1	2	3	4	5	6	7	8



1	2	3	4	5	6	7	8

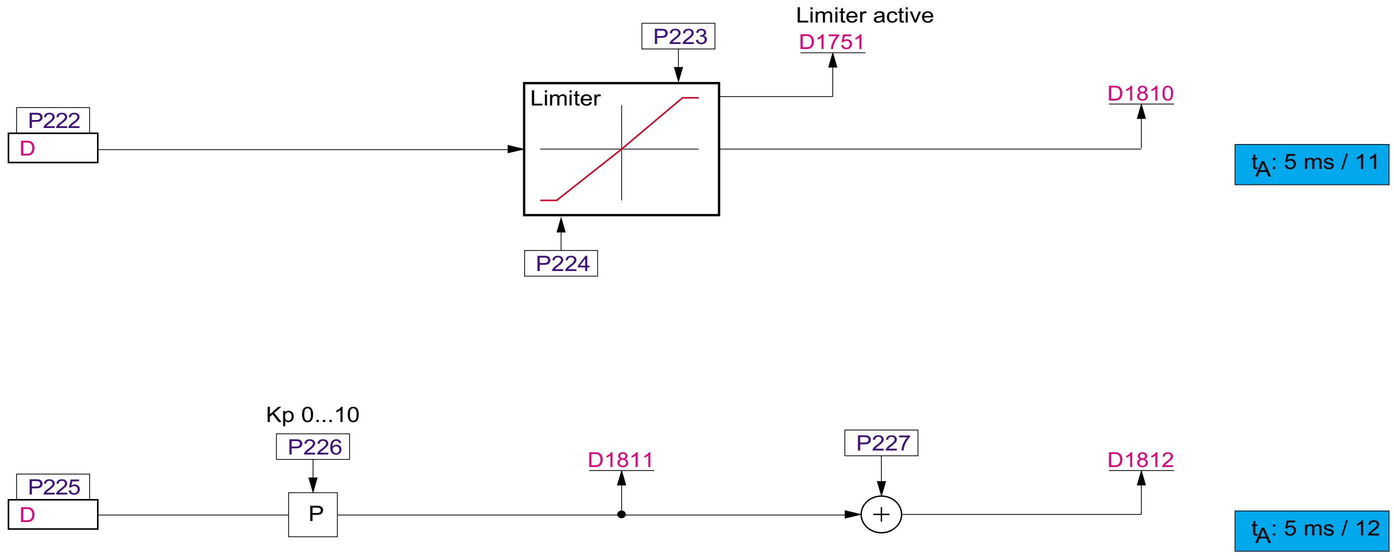
Function diagram **REFU*drive 500* - RD51**
Process module 1

Rexroth Indramat

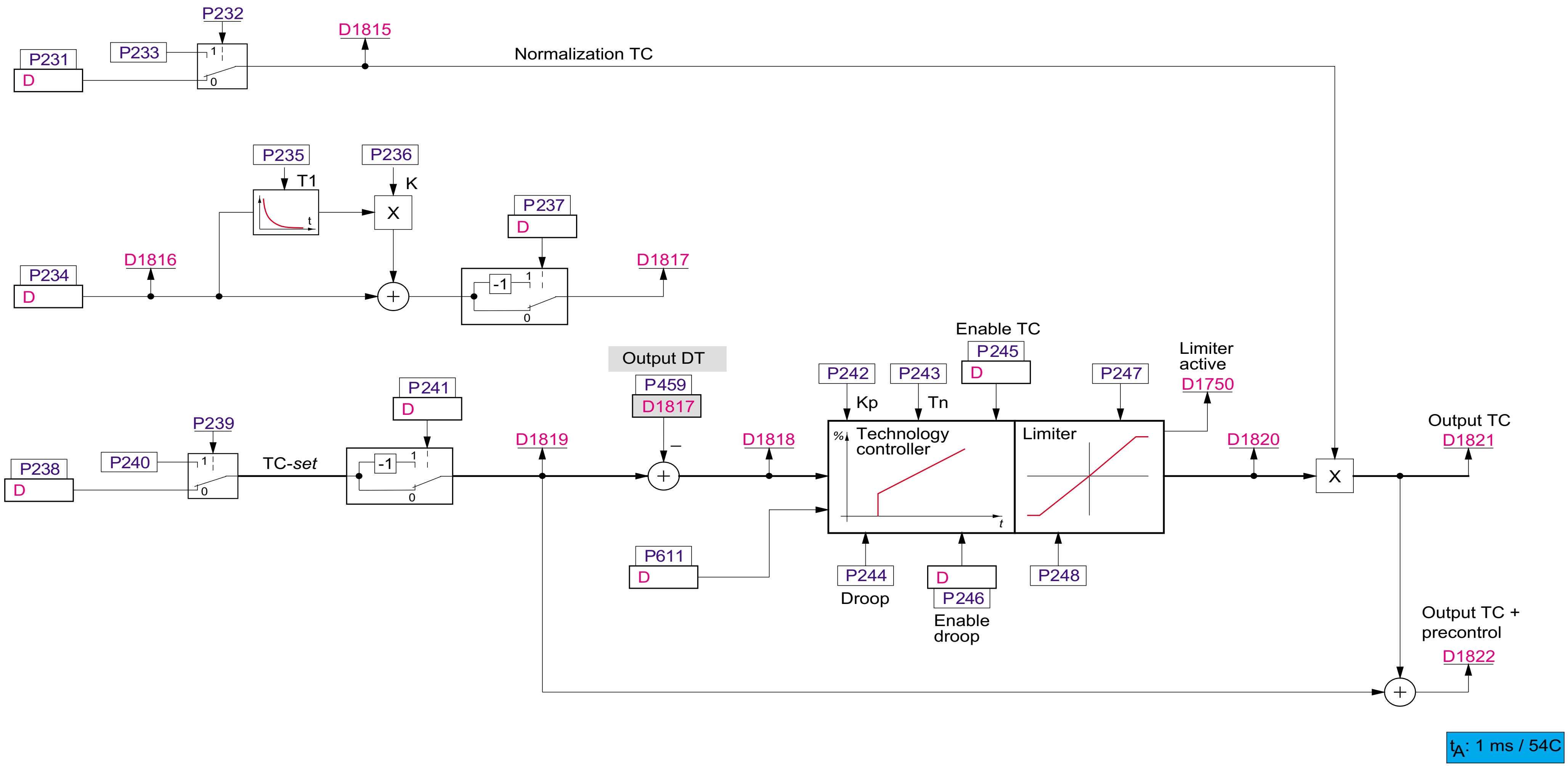
Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **30**


Limiter active
P223
D1751
Limiter
D1810
P222
D
t_A: 5 ms / 11
P224
Kp 0...10
P226
P227
D1811
D1812
P225
D
P
t_A: 5 ms / 12

1	2	3	4	5	6	7	8



1	2	3	4	5	6	7	8

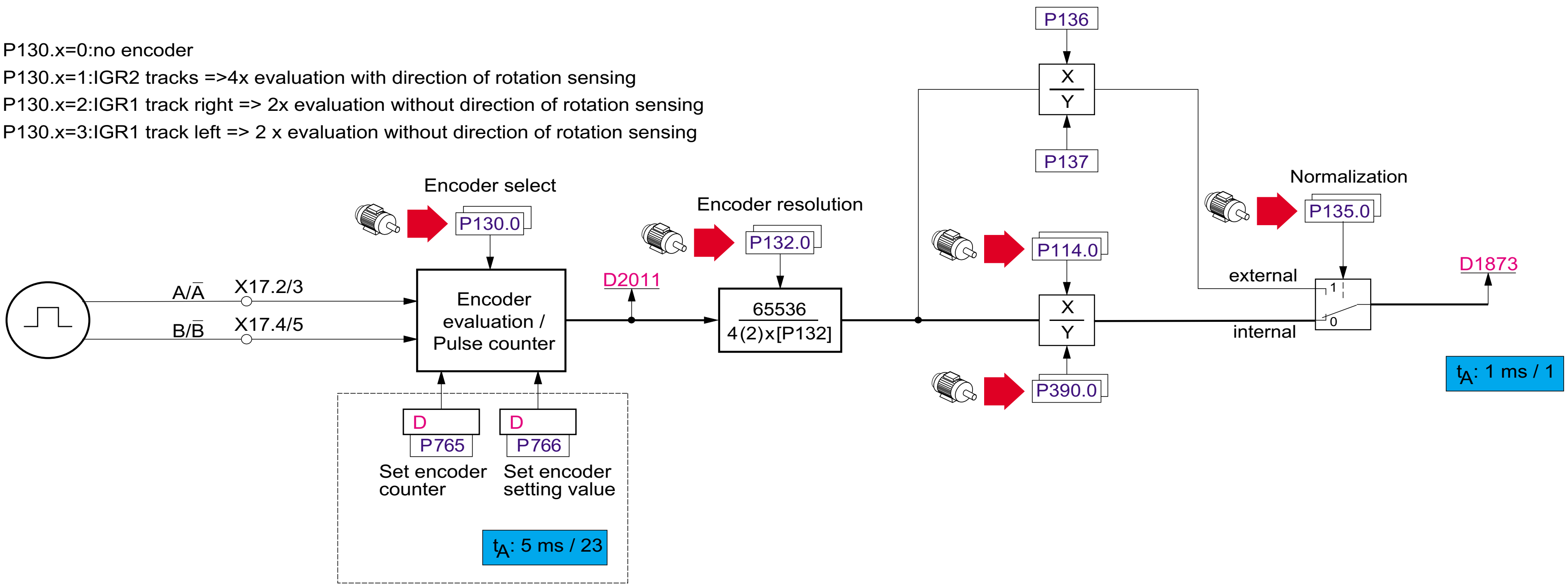
Function diagram **REFU*drive 500* - RD51**
Technology controller

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **32**



1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500* - RD51**
Speed sensor

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **33**

Definition, service interface

The service interface is integrated as standard in the drive converter, serial interface RS232 (X11 on the SR 17000)

Service interface process data handling

The process data received via service interface are transformed in the converter to D-parameters, wich can freely be entered in the variable parameter sources for drive control.

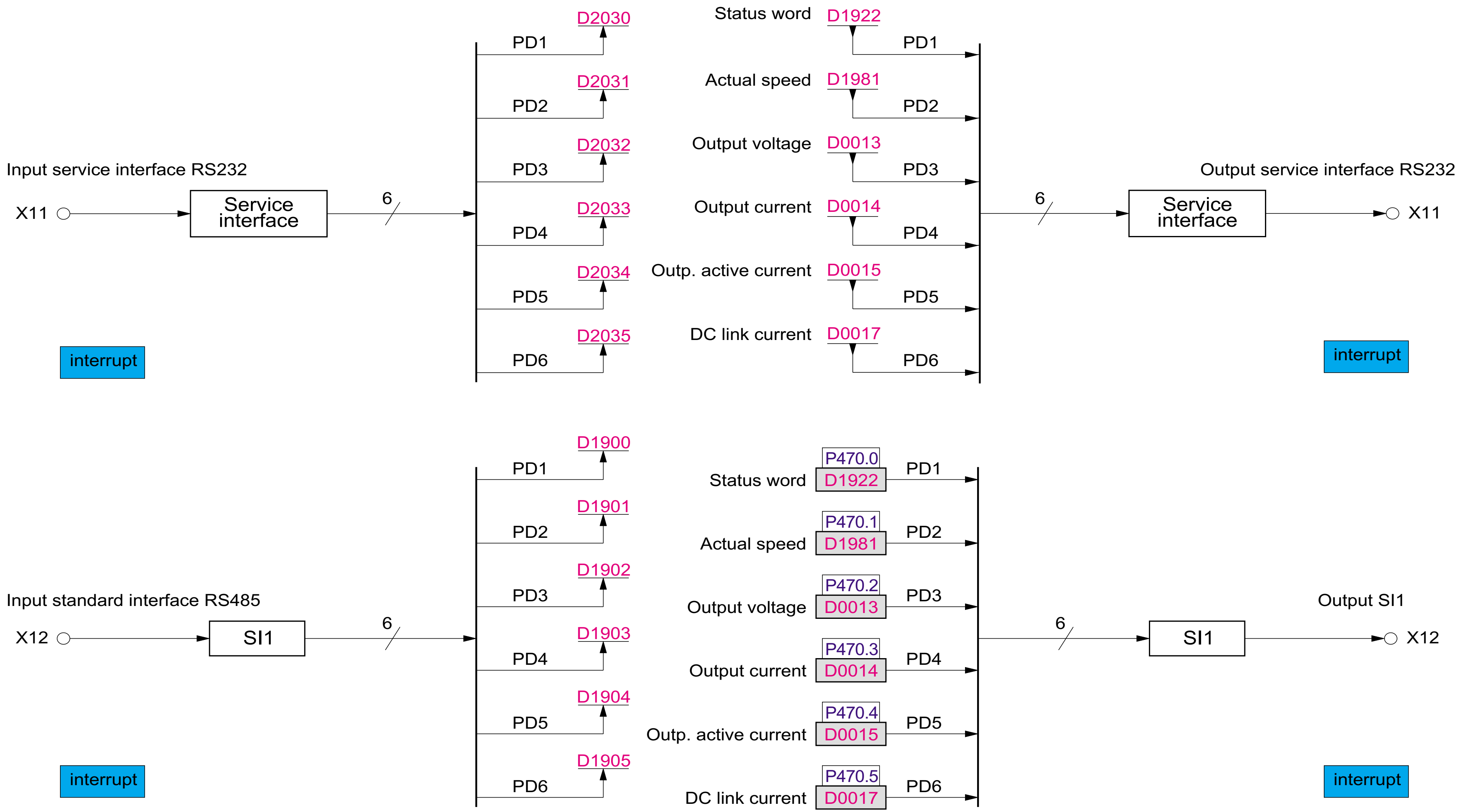
Definition, SI1

SI1 is the serial interface integrated as standard in the drive converter, RS485 (X12 on the SR 17000).

SI1 process data handling

The process data received via SI1 are transformed in the converter to D-parameters, wich can freely be entered in the variable parameter sources for drive control.
The drive converter sends its actual values as process data via the SI1, by connecting D parameters to the variable parameter sources for output SI1.

When operating REFUwin via the SI1 with interface converter RS232 -> RS485 with automatic three-state control, the standard parameterization of P0470.x can be used. This guarantees that the status- and actual value display is correctly processed in the “operator control & visualization” menu.



1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500*** **- RD51**
Process data service- and serial interface

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

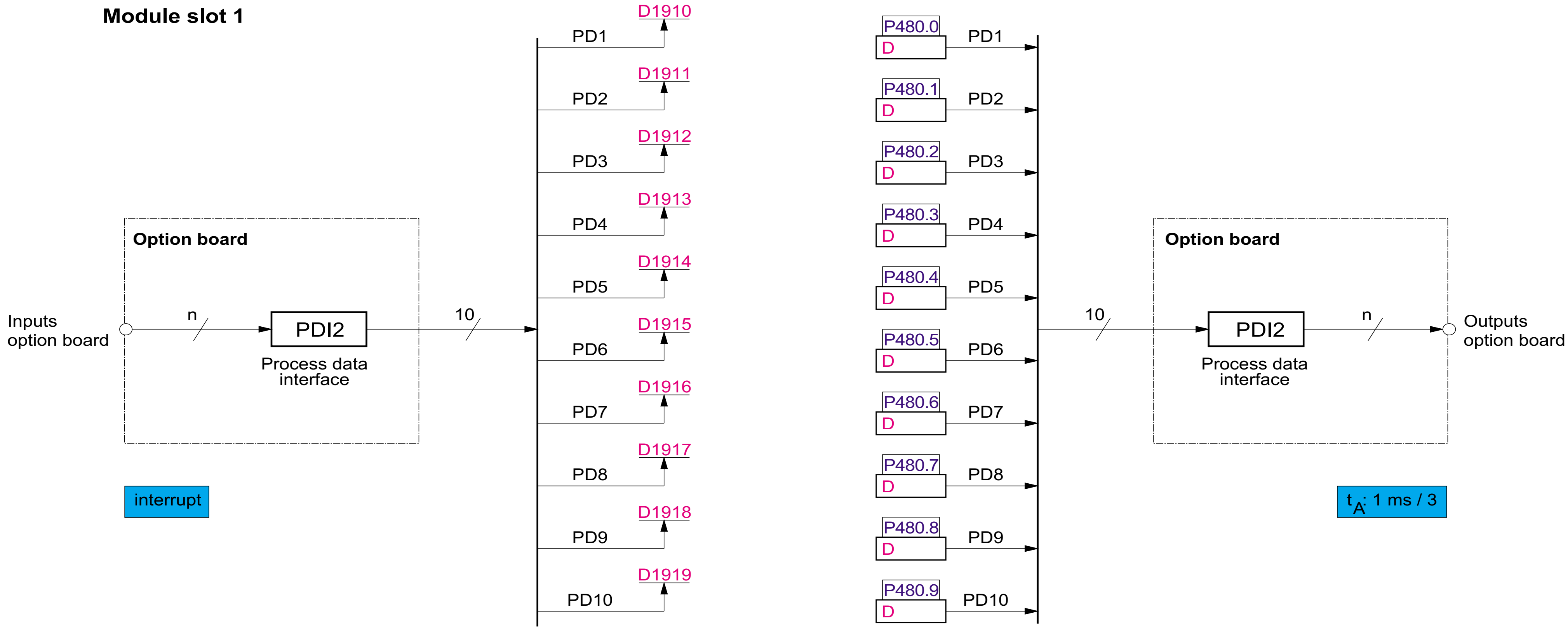
Module slot 1

Communications between the “Control board” (SR 17000) and the option card is realized via the process data interface. Option slot 1 is the standard slot for serial interface cards.
An option card can be installed at each of the two option slots of the “Control board”.
An option card at option slot 1 is addressed as interface 2 (SI2) by the firmware.

Communications via the process data interface SI2

The process data, received via the serial protocol of the interface, is appropriately converted to the process data channels of SI2 and is then available in the drive converter as D parameters. They can then be freely-connected to the variable parameters sources to control the unit. The drive converter sends its actual values as process data via the SI2, by connecting D parameters to the variable parameter sources for output SI2.

Module slot 1



Module 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 standard slot for the terminal strip expansion (KL17037). An option card can be inserted at both of the option slots of the control board.
An option card at slot 2 is addressed by the firmware as interface 4 (SI4).

Communications via the process data interface SI4

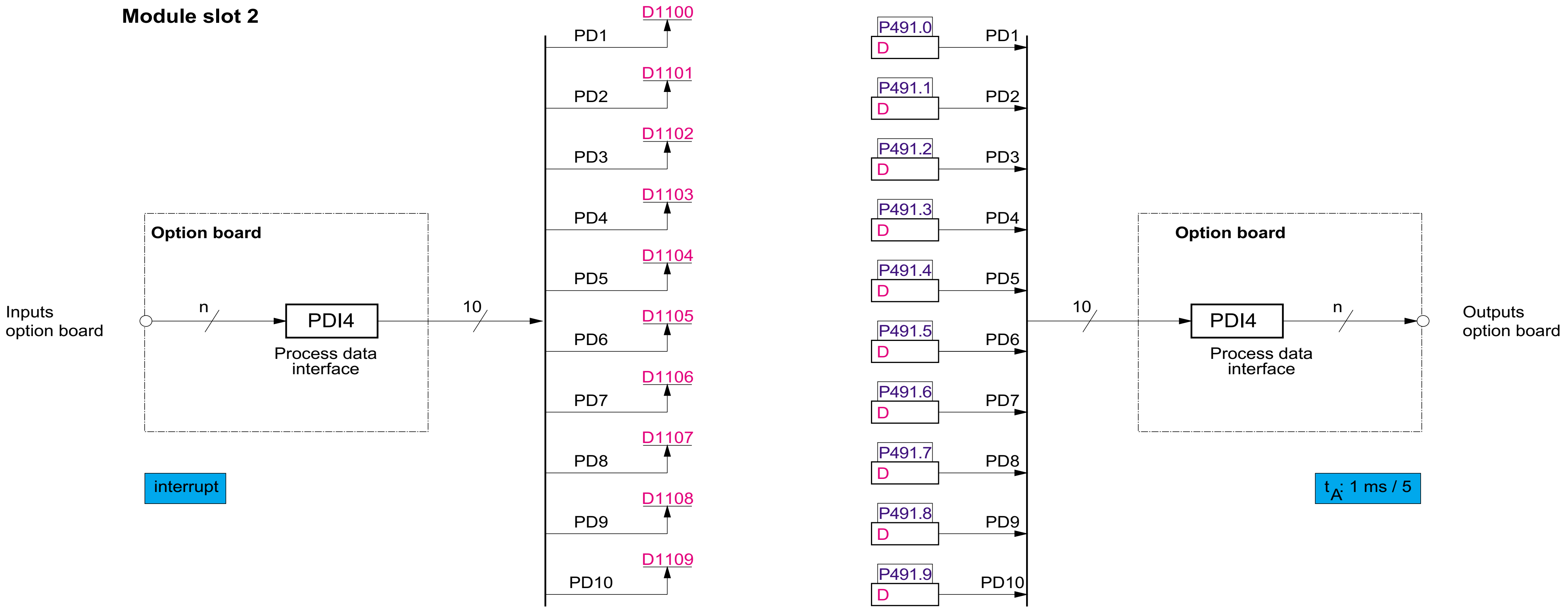
The terminal strip expansion digital inputs are converted to the process data channels of SI4 and are available as D parameters.

Option input	Process data channel	D-Parameter
Digital input 1	PD1 of SI4	D1100
Digital input 2	PD2 of SI4	D1101
Digital input 3	PD3 of SI4	D1102
Digital input 4	PD4 of SI4	D1103

The terminal strip expansion analog input is fix connected with the firmware module for the analog input of option slot 2 and is available as D1806, refer to function diagram 10.

Signals are connected to the digital- and analog outputs by connecting the appropriate D parameters into the variable parameter sources of output SI4.

Option input	Process data channel	D-Parameter
Relay output 1	PD1 of SI4	P0491.0
Relay output 2	PD2 of SI4	P0491.1
Relay output 3	PD3 of SI4	P0491.2
Relay output 4	PD4 of SI4	P0491.3
Analog output 1	PD5 of SI4	P0491.4
Analog output 2	PD6 of SI4	P0491.5



1	2	3	4	5	6	7	8

Function diagram **REFU*drive 500* - RD51**
Process data interface 4

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Process data interface SS6

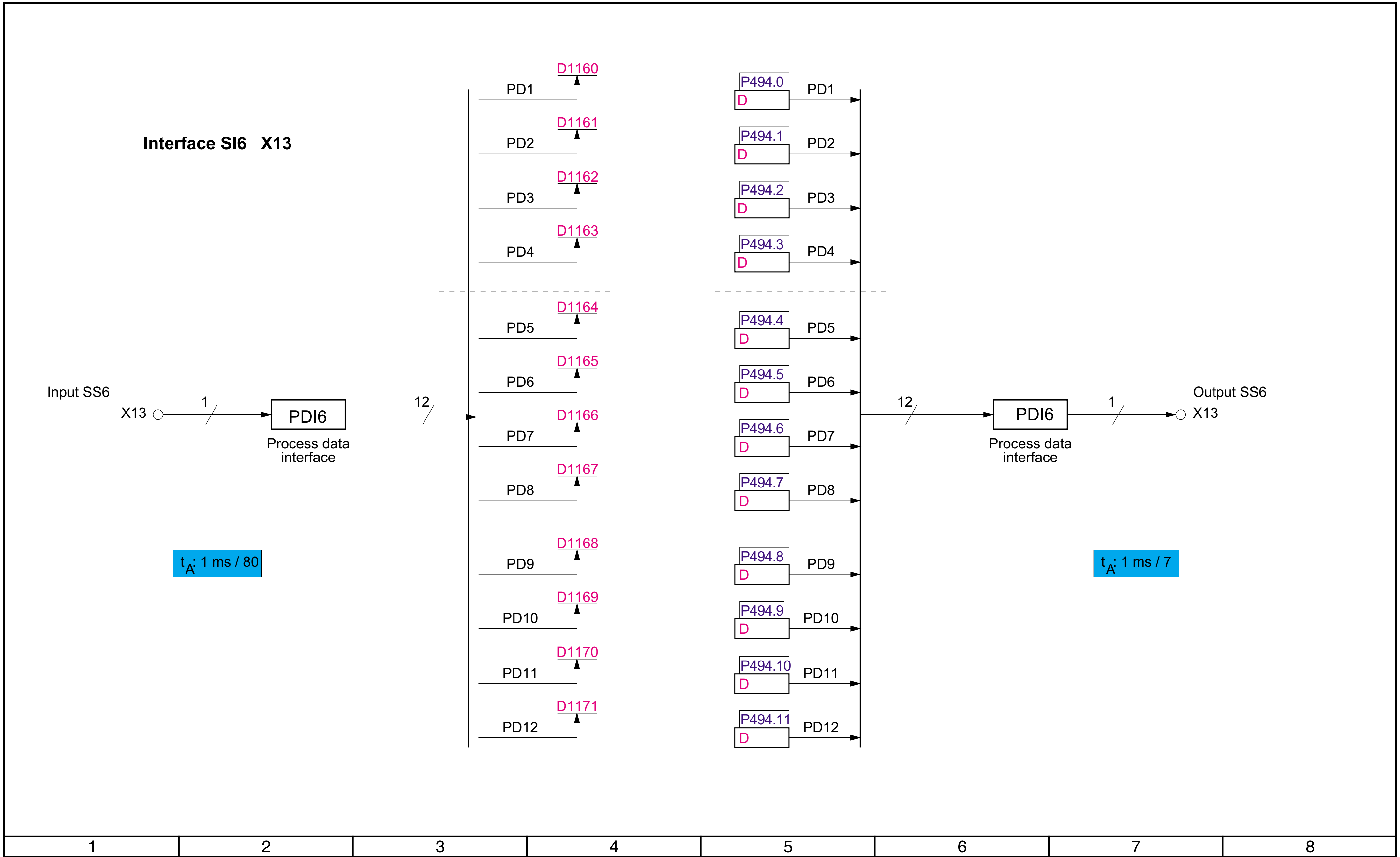
The SS6 (SI6) interface supports the CAN protocol 2.0 A (11 bit identifier) , which is used to control the drive converter from a PLC. The CAN protocol defines an access technique according to the master/slave principle for communications via a serial bus.

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

Exception: “SS6 Tx ID Number” and “SS6 Rx ID Number”, in this case, each node gets its own ID address).

Bus termination X13

The last node of a bus system must terminate the bus to protect against the influence of noise. The bus termination can be switched-in using a wire jumper located between X13.2 and X13.3.



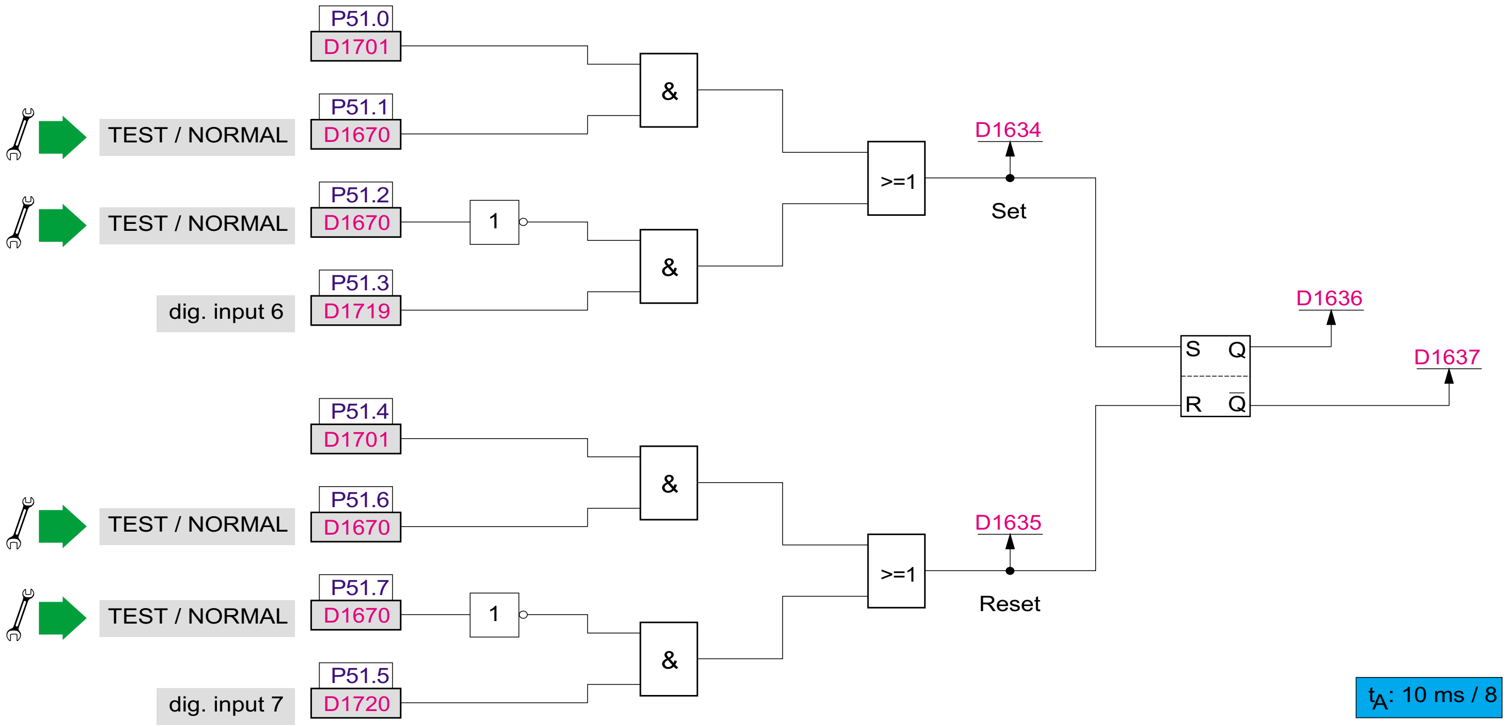
Function diagram **REFU*drive 500*** **- RD51**
Process data interface SS6

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **37**



1	2	3	4	5	6	7	8

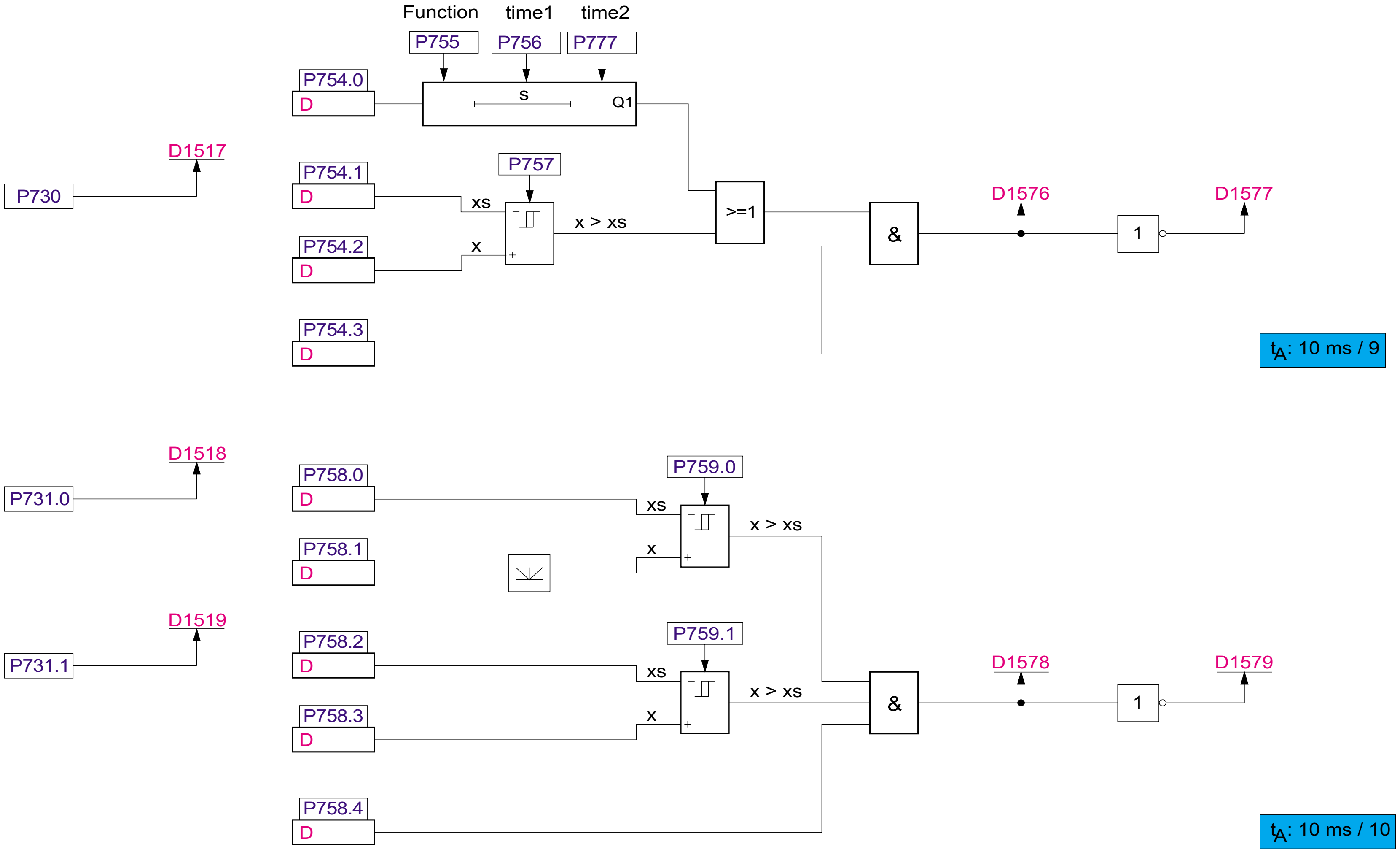
Function diagram **REFU*drive 500* - RD51**
Switch on / switch off logic

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

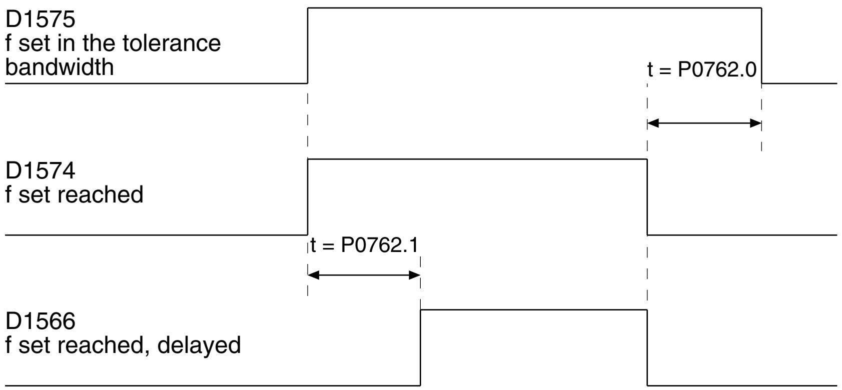
Sheet No. **38**

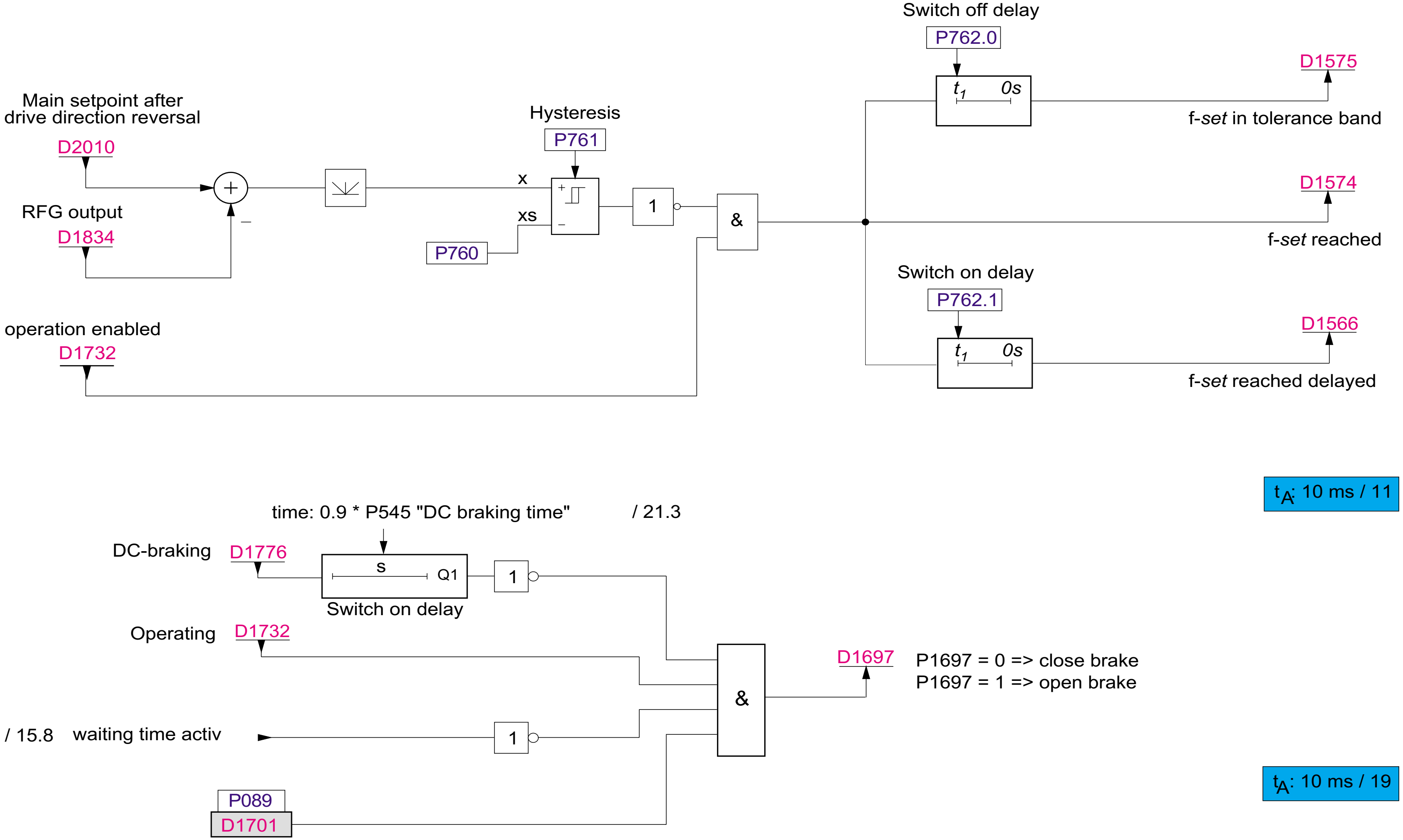

Function
time1
time2
P755
P756
P777
P754.0
D
s
Q1
D1517
P730
P754.1
D
P757
xs
x > xs
>=1
&
D1576
1
D1577
P754.2
D
x
P754.3
D
tA: 10 ms / 9
D1518
P731.0
P758.0
D
P759.0
xs
x > xs
P758.1
D
x
D1519
P731.1
P758.2
D
P759.1
xs
x > xs
&
D1578
1
D1579
P758.3
D
x
P758.4
D
tA: 10 ms / 10

1	2	3	4	5	6	7	8

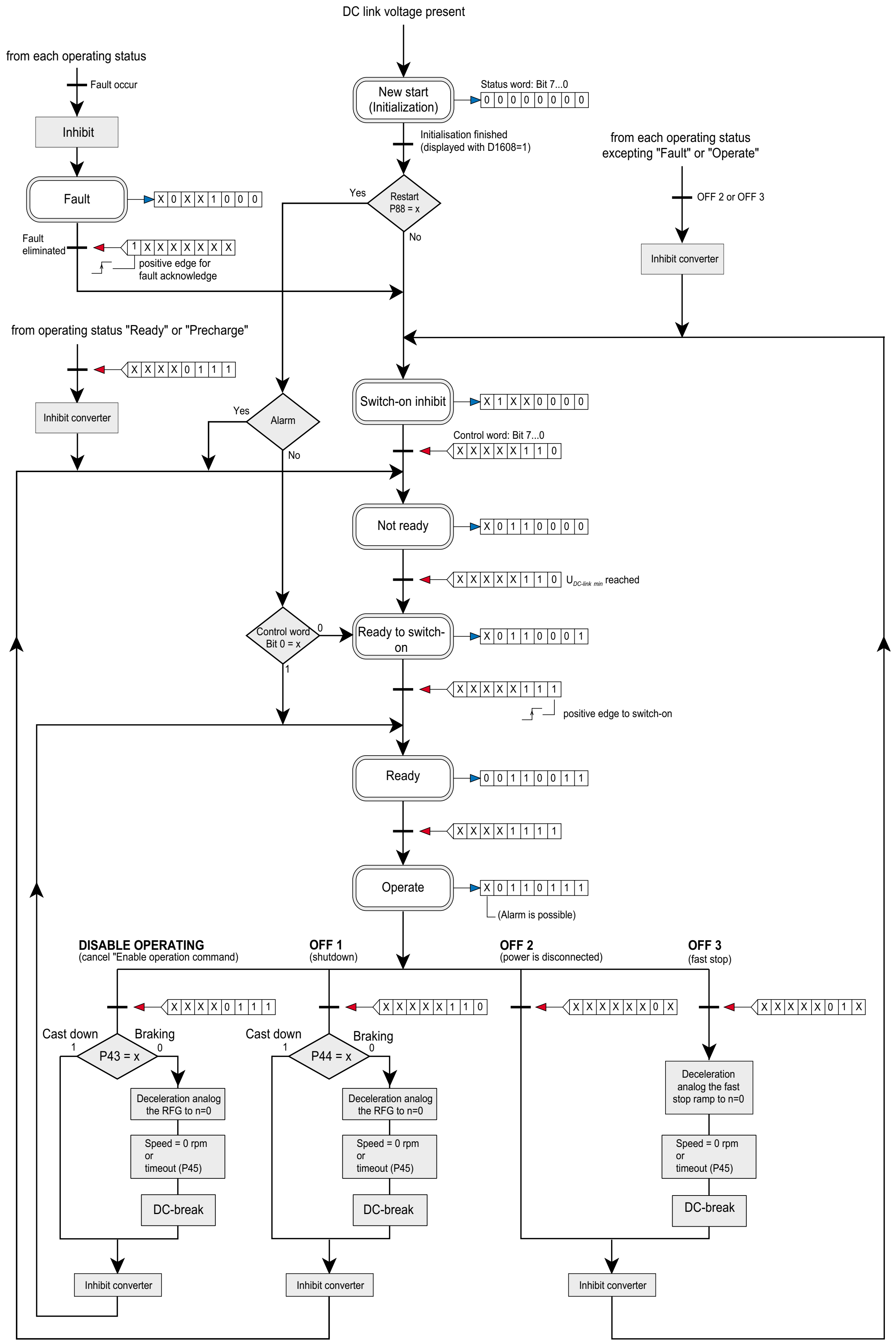
Explanation of function diagram
„f-set reached“ logic

Rexroth Indramat




Switch off delay
P762.0
t1 0s
D1575
f-set in tolerance band
Main setpoint after
drive direction reversal
D2010
Hysteresis
P761
x
xs
P760
RFG output
D1834
1
&
D1574
f-set reached
Switch on delay
P762.1
t1 0s
D1566
f-set reached delayed
operation enabled
D1732
tA: 10 ms / 11
time: 0.9 * P545 "DC braking time"
/ 21.3
DC-braking
D1776
s
Q1
Switch on delay
1
Operating
D1732
&
D1697
P1697 = 0 => close brake
P1697 = 1 => open brake
/ 15.8
waiting time activ
1
P089
D1701
tA: 10 ms / 19

1	2	3	4	5	6	7	8



Control word: D1920 (refer Plan No. 03)
Status word: D1922 (refer Plan No. 04)

Control word: D1920 (refer to sheet 02)
Status word: D1922 (refer to sheet 03)

Function diagram **REFU*drive 500* - RD51**
Converter control- and status word flowchart

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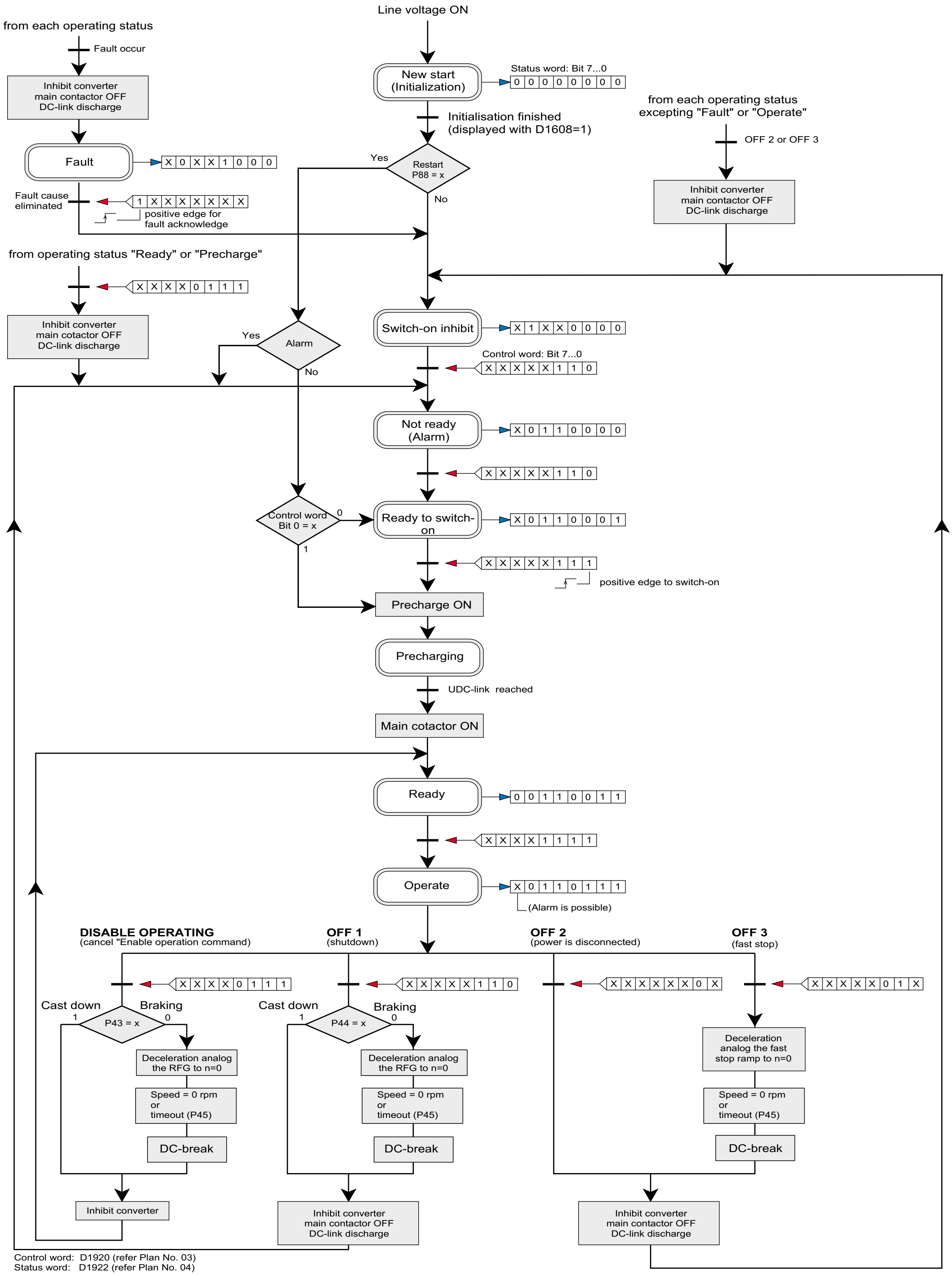
Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **41**

1 2 3 4 5 6 7 8



Control word: D1920 (refer to sheet 02)

Status word: D1922 (refer to sheet 03)

Function diagram REFU*drive 500* - RD51

Inverter control- and status word flowchart

Rexroth Indramat

Date: 2002 - 06- 05

Firmware: FWC-SR1700-000-04VRS-MS

Sheet No. **42**

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