

Rexroth System setup and access management in the BOS 5000

Confidential

1070 087 054
Edition 03

Technical Information

Title Rexroth System setup and access management in the BOS 5000

Confidential

Type of Documentation Technical Information

Document Type Code DOK-PS5000-Systeminfo*-PA03-EN-P

Purpose of Documentation The present manual informs about:

- the password protection of the BOS-5000 user interface, and
- the user levels.

Record of Revisions

Description	Release Date	Notes
DOK-PS5000-Systeminfo*-PA03-EN-P	08.2003	

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Notes:

Safety instructions and notes for the reader

1 Safety instructions and notes for the reader

Read this document before working for the first time with the system setup and the access management of the BOS-5000 software.

Store this manual in a place to which the system administrator has access at any time. The information contained in this manual should only be available to the system administrators.

The products described here were developed, manufactured, tested and documented in compliance with the safety standards of the EU Machinery Directive.

Nevertheless, there still is some residual risk!

The present documentation describes the

- Access management (access control)
- System setup

in the BOS-5000 software.

There is a certain **hierarchy of warnings** in **this manual**. The warnings are printed in **bold letters** and marked by a warning sign at the margin of the page to attract the reader's attention.

The hierarchy of warnings is as follows:

1. WARNING
2. ATTENTION
3. NOTE

WARNING!



The term **WARNING** will be used wherever **danger is imminent**. The possible consequences may be death or severe injury (personal injury).

ATTENTION!



The term **ATTENTION** will be used wherever a **dangerous situation is possible**.

The possible consequences include death, severe or light injury (personal injury), damage to property (destruction of modules) or environmental hazards.

In any case, you will lose your warranty in the event of non-compliance with/non-observation of these warnings.

Safety instructions and notes for the reader



NOTE

The term **NOTE** will be used for making **recommendations on the use**. Here, you will find additional information, recommendations, notes, and tips.

Non-compliance with these recommendations may result in damage to property, e.g., to the machine or the workpiece.

Safety instructions and notes for the reader

1.1 Typographic conventions

General listing	-	Example:	- The message is displayed on the screen.
Activities	•	Example:	• Insert floppy disk, • Read value.
Screen displays, messages, displays	<i>Italics</i>	Example:	<i>Battery empty</i> <i>Dressing request.</i>
(Welding) parameters	[in brackets]	Example:	[Weld time], [Schedule].
Interface signals, keys, Command buttons	<Key>	Example:	Press <F8>
Inputs: Values, texts	CAPITAL LETTERS		



NOTE

*Please note: Black bars at the margin of the page indicate that changes have been made compared to the previous edition.
The present documentation has been completely revised.*

1.2 Proper use

The present manual contains information concerning the proper use of the system setup and the access management (access control) for programming and operating weld timers with the BOS-5000 software.

In conjunction with the prescribed welding equipment, weld timers serve for:

- **Resistance welding of metals**
- **in industrial environments pursuant to DIN EN 50082-2 and DIN EN 50081-2 relating to electromagnetic compatibility**

Any other application is deemed improper use!



ATTENTION!

The consequences of an improper use include personal damages of the user or of third parties as well as damages to property – the technical equipment, the workpiece to be processed, or environmental hazards. Therefore, you should only use our products for their intended purpose!

Safety instructions and notes for the reader

1.3 Not permitted for persons with cardiac pacemakers

WARNING for persons with cardiac pacemakers!



Warning signs should be posted for protecting persons with cardiac pacemakers because the function of these devices may be disturbed (impulse failure, total failure) and a negative influence on the pacemaker programming or even a total program destruction may occur!!!

We recommend posting a warning of the type shown below at all entrances to factory halls containing resistance welding equipment:



Safety instructions and notes for the reader

1.4 Qualified personnel

This manual is designed for specifically trained system administrators or skilled welding engineers with special knowledge of the welding technology.

They require profound knowledge of:

- Weld timers (WT)

The term qualified personnel refers to

- engineering personnel familiar with the safety standards of the electrical and automation technology
- commissioning personnel entitled to commission, earth and label electrical circuits and equipment/systems in compliance with the standards of safety technology.



WARNING!

An exception are persons with cardiac pacemakers!

Due to the strong magnetic fields arising from resistance welding, the function of cardiac pacemakers may be disturbed. This may cause the death or considerable health damages to the persons concerned! Therefore, these persons should avoid the welding system.

Please note our comprehensive range of training courses. Our **training center** will be pleased to provide you with further information, telephone +49 (0) 6062 / 78 258.

Safety instructions and notes for the reader

Notes:

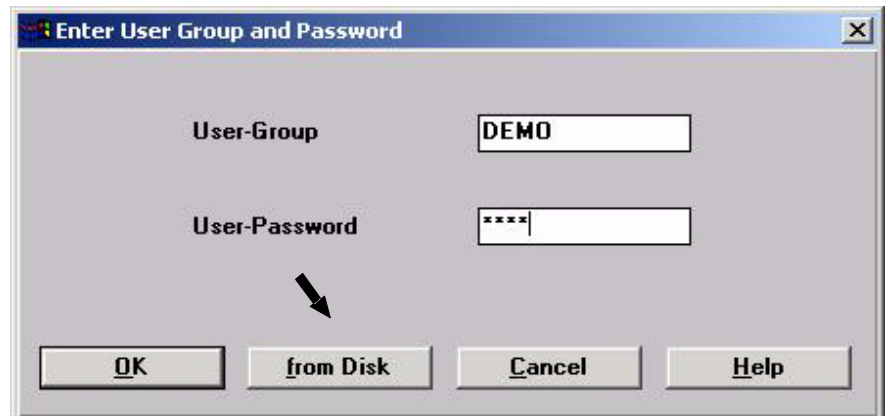
General

2 General

The installation of the BOS-5000 software is performed with default settings which may be adjusted to the internal requirements by the system administrator or the specialized welding engineer.

The first login is carried out by:

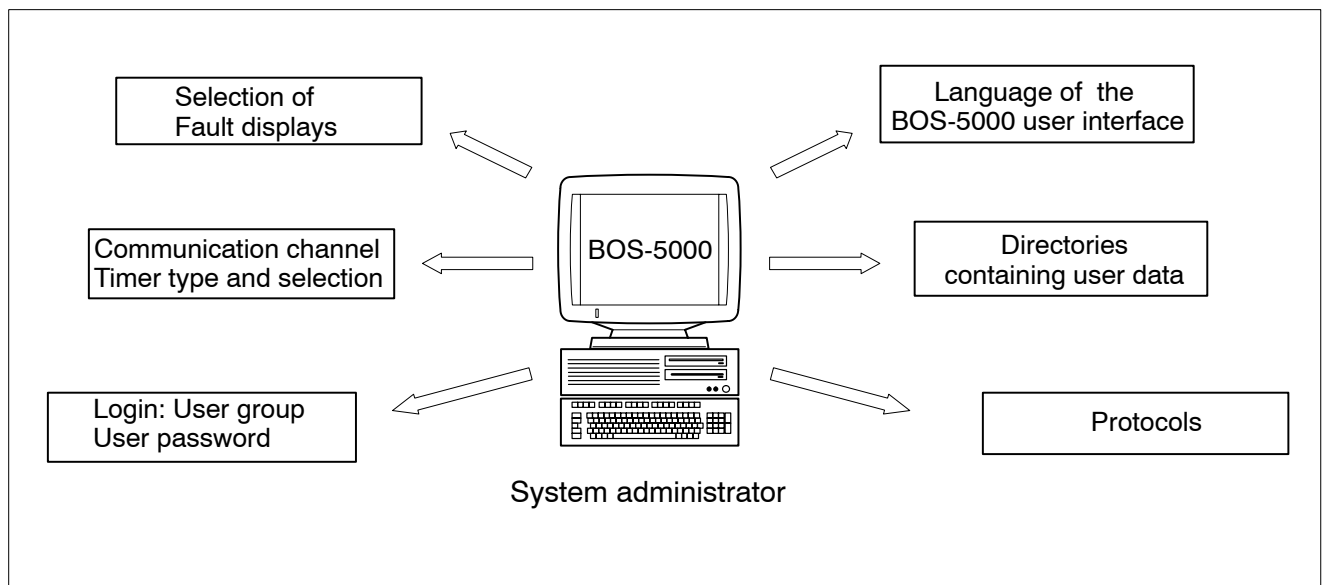
- User group DEMO
- User password DEMO



The following adjustments should be made after installation:

System setup

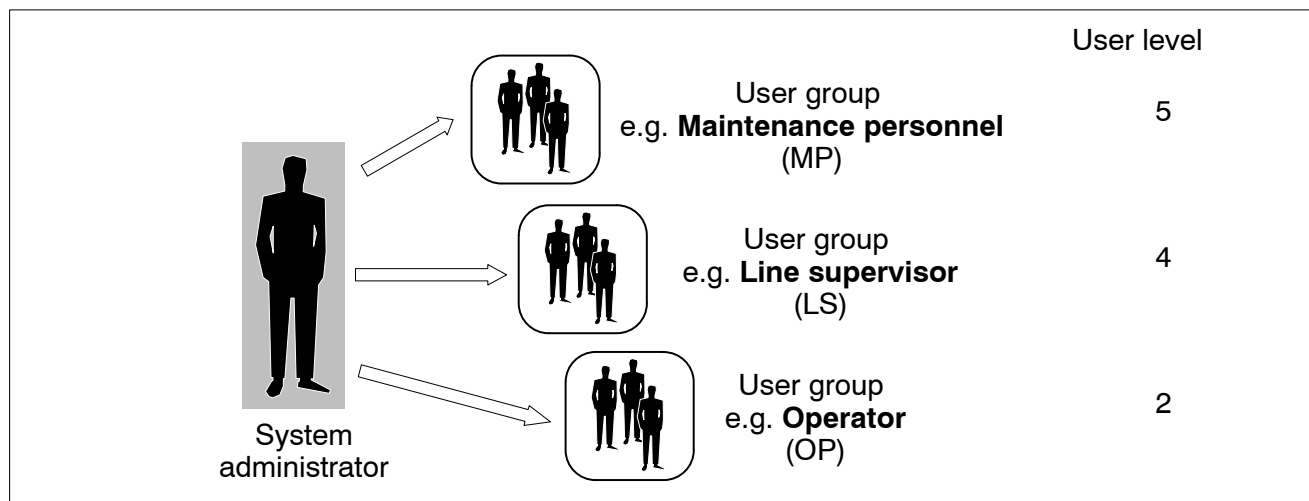
- How does the BOS-5000 software work, e.g., which communication channel (COM interface, PROFIBUS or INTERBUS) is used to link the programming terminal to the timer?



General

Access management

- Each user group is assigned a unique name and user level, refer to 3.2 and 3.3.
- Each mask displayed has an alterable read and write level.
- A screen mask will be displayed whenever the user level is higher than or equal to the read level for this screen.
- Values can be changed in a screen mask if the user level is higher than or equal to the write level for this screen.
- The user name and password can be saved on a floppy disk to provide for logging in without keyboard entry, refer to 3.



General

2.1 Adjusting the access management

The access privileges for the various user groups can be assigned after the installation of the BOS-5000 software.

Procedure

- New Login with system disk:
 - Start window BOS-5000 - *System - New Login* or <F12>
- Define user groups, user passwords and user levels
 - Start window BOS-5000 - *System - Access management*, refer to section 3.2
- or
- Read and adjust user file, refer to section 3.3
- Read mask file (access rights have also been defined without "Read mask file"), refer to section 3.4
- New Login with lowest user level:
 - Start window BOS-5000 - *System - New Login* or <F12>
- Inform user groups of user passwords together with the information that user passwords can be individually changed by the user groups.
- Changing the user password by the user group:
 - Start window BOS-5000 - *System - Password edit*

NOTE



User passwords that have been changed later on by the user group will render a previously generated user disk invalid.

- Create user floppies containing the user group and user password, refer to section 3.5.

General

Notes:

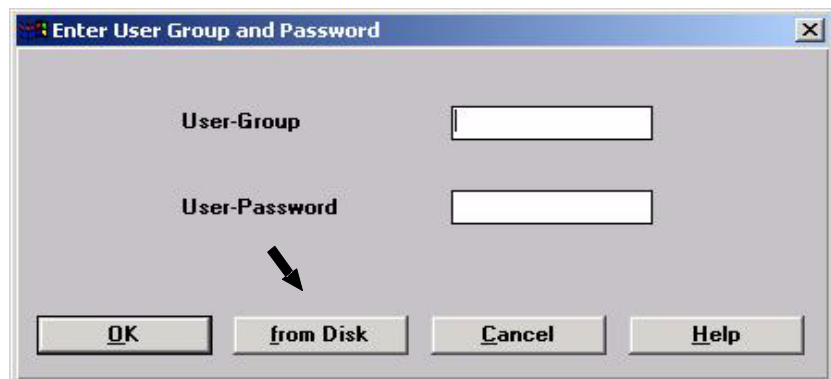
System menu BOS-5000

3 System menu BOS-5000

The items of the System menu can only be selected if you have logged in from a floppy disk (System disk).

The System disk contains the following files:

- BOS_USER.TXT, predefined user groups with specifically assigned user privileges
- BOS_MASK.TXT, numbers of the screen masks with predefined user privileges
- BOS_PASS.TXT, for Login as system administrator

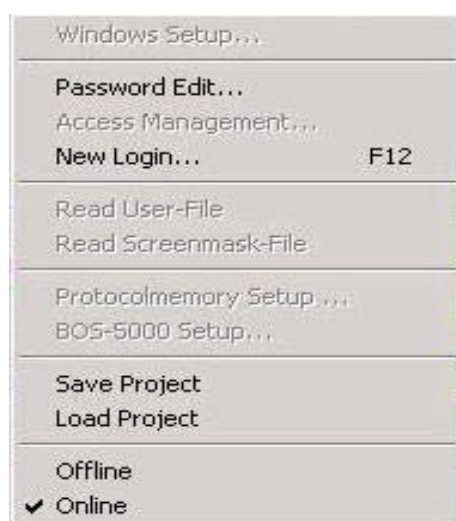


Calling up the System menu for the system administrator

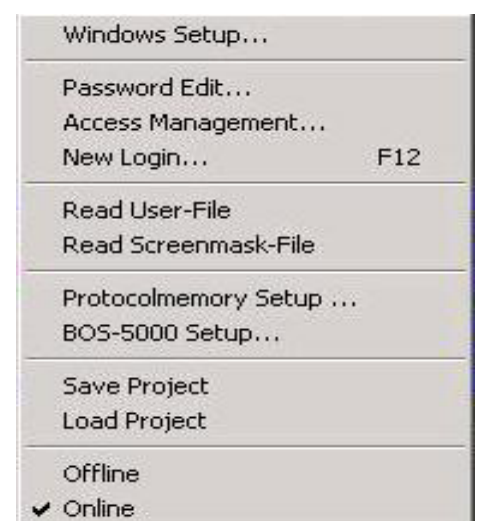
Condition: System disk in the floppy disk drive

- BOS-5000 start window
- <F12> or menu item *New Login*
- Command button <from disk>

The picture on the right shows the System menu after Login from the System disk:



System menu options after Login
without system disk



System menu options after Login
with system disk

System menu BOS-5000

3.1 Windows Setup

Windows system setup

- For details, refer to your Windows manual.

3.2 Access management

The following user groups will be available after the installation of the BOS-5000 software:

Index	Benutzer-Grp.	Level
1	DEMO	8
2	EVERYONE	0
3	SPECIAL	9
4	SYSTEM	9

NOTE

The column width of the user table can be changed by clicking with the left mouse button in the first line of the table.



Changes for internal requirements are made by:

- Editing the user table.
- Reading and changing the user file on the system disk.

System menu BOS-5000

When a user file has been read (refer to section 3.3), e.g., the following user groups may be used:

Index	Benutzer-Grp.	Level
2	EVERYONE	0
3	SPECIAL	9
4	SYSTEM	9
5	USER1	1
6	USER2	2
7	USER3	3
8	USER4	4
9	USER5	5
10	USER6	6
11	USER7	7
12	USER8	8
13	USER9	9

The system administrator defines the names of the user groups and the related user passwords. Each user group can change its user password later on, BOS 5000 start window - *System* - *Password edit*.

The new user password is no longer visible, not even for the system administrator.


- [1] Name of the user group, e.g., Service:
- Maximum of 8 ASCII characters without special characters.
- [2] User password of the user group:
- Maximum of 8 ASCII characters without special characters.
 - The user password is not visible, not even for the system administrator.

**NOTE**

As the user password is not displayed in the BOS-5000 software:

- you have to enter it carefully,
- you should select a user password that is easy to remember,
- the user password must be stored safely.

System menu BOS-5000

- [3] Definition of user level (access privileges) of the user group:
- Input range 0 to 9.
 - The highest access privileges are reserved to user level 9.
 - The access privileges of the system administrator are above the highest user level.
- [4] Table containing the user group and the user privileges assigned to it:
- The user password is not displayed.
- [5] Command buttons:
-  >
Browsing in the user table:
First line, page up, one line up,
one line down, page down, last line.
 - **<Insert>**
Insert a new user group from the input field into the user table. The new name of the user group must be unique and must not yet exist in the user table.
 - **<Change>**
The data in the input field is transmitted to the user group marked in the user table. This will replace the old data.
 - **<Delete>**
To delete one or several user groups from the user table, these groups must be marked in the Index column. Deletion must be confirmed.
 - **<Clr. all>**
Deletes all user groups from the user table. Deletion must be confirmed.

**NOTE**

Reading the user file from the system disk will overwrite access management.

System menu BOS-5000

3.3 Read user file

The user file BOS_USER.TXT on the system disk is read as a default for defining the user groups and the related user privileges.

**NOTE**

When the user file has been read, the user groups and related user passwords are no longer valid. Only the user groups contained in the file and their passwords can be used afterwards for a new login. The EVERYONE and SYSTEM user groups are always maintained.

The names of the user groups and the user privileges can be changed to suit the internal requirements using menu item *Access management*, refer to section 3.2.

Contents of the file:

represents the beginning of a comment line

**ATTENTION!**

Never change the entry in the key line (first line).

The maximum line length in the BOS_USER.TXT file is 80 characters.

Example:

#	User-Name	Password	Level
	user1	test1	1
	user2	test2	2
	user3	test3	3
	user4	test4	4
	user5	test5	5
	user6	test6	6
	user7	test7	7
	user8	test8	8
	user9	test9	9

Example for user5:

The "user 5" user group has been assigned the password "test5" and user level "5".

**NOTE**

Changing the access management later will replace the user file read from the floppy.

System menu BOS-5000

3.4 Read mask file

The mask file BOS_MASK.TXT is read from the system disk. It contains the allocation of the user privileges (read only and modify) on the screen masks.



NOTE

When the mask file has been read-in, the user privileges contained in this file are available to the user groups.

The user privileges are assigned to the user groups in the *Access management* menu, refer to section 3.2.

The current mask file is stored as a .ZIP file in the `..\db\maske` folder (separate password protection).

Contents of the mask file (extracts):
represents the beginning of a comment line



ATTENTION!

Never change the entry in the key line (first line).

The maximum line length in the BOS_MASK.TXT file is 80 characters.

```
# Screen-Mask-Number  Read-Level  Modify-Level  Comment      #
Main: Exit
                0.0           0             8
# Main: Menu
                0.1           0             8
.
.
.
# Programming: Stepper param.
                4.16           1             8
# Programming: Schedule param:
                4.17         1             8
# Programming: Inverter
                4.18           9             9
```

Example:

Programming the schedule parameters, screen mask no. (screen mask number) **4.17**, display privileges (Read level) 1, write privileges (Modify level) 8

In this example, it is assumed that the user file was read from the disk and has not yet been changed by *Access management/control*.

- User group "user1" can only view the programming of the schedule parameters.
- User group "user8" can view and modify the programming of the schedule parameters.

System menu BOS-5000

3.5 Creating a user disk

The user group and user password can be stored on a floppy disk in the main folder.

- Create file named BOS_PASS.TXT with the following contents using a text editor:
 - <User group>_<User password><Return>
Example: OPERATOR_LINE8<Return> (_=blank).
- Save file BOS_PASS.TXT on user disk.

If a user disk is used, Login is performed by selecting the command button **<from disk>**.



ATTENTION!

Before saving the BOS_PASS.TXT file, you should check whether the right floppy has been inserted into the drive. The system disk contains a file with the same name for the system administrator.

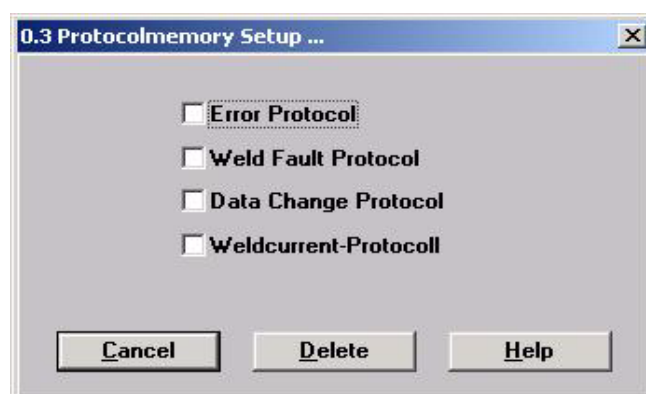


NOTE

User passwords that have been changed later on by the user group will render a previously generated user disk invalid.

3.6 Protocol memory setup

Serves to delete all protocol memories displayed in a widow.

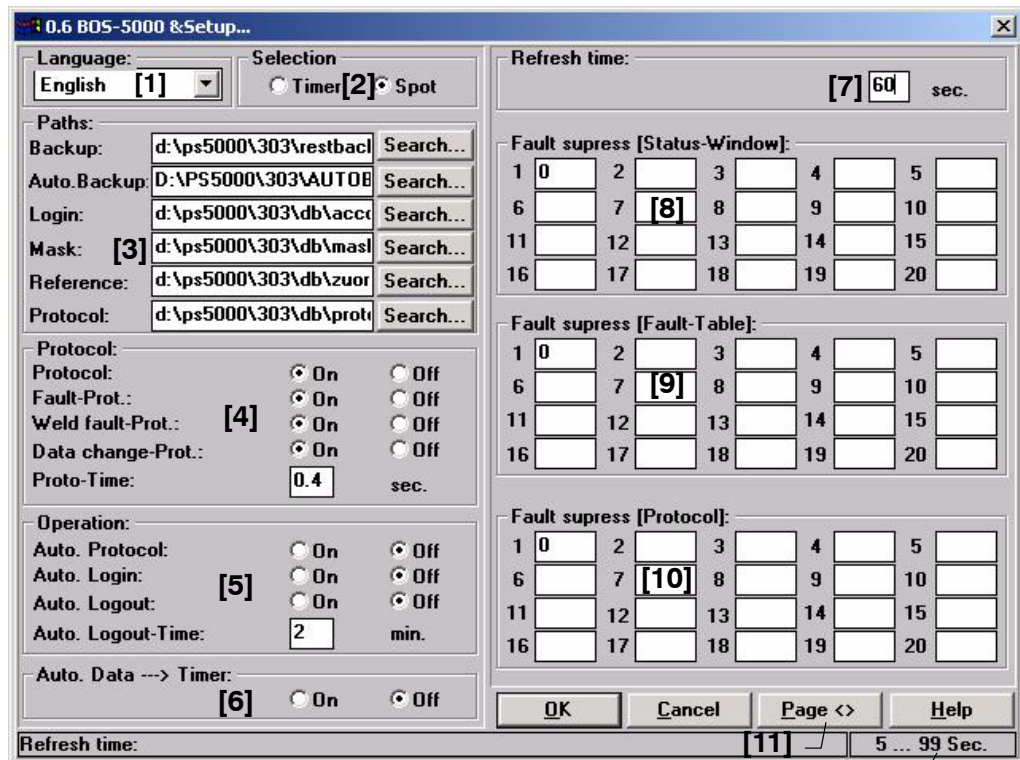


System menu BOS-5000

3.7 BOS-5000 Setup

A changed system setup is saved in the file BOS_5000.INI which had been copied to the Windows folder (e.g. C:\WINDOWS) during the installation.

The following system data may be adjusted to the individual requirements:



Input range at cursor position

- [1] The language in which the BOS-5000 user interface is displayed.
 - All languages available in the user interface are displayed for selection.

- [2] The *Selection* to be made for *Programming* <F9> or *Quick programming* <F11>?

Changing over the *Selection* between *Timer* ↔ *Spot* in the BOS-5000 user interface acts on this setting.

 - The *Selection* is made via a display of the weld timers assigned.
 - The *Selection* is made via a display of the spots assigned, provided that a Spot Reference Table has been entered.

System menu BOS-5000

- [3]** The target directories used to save user data
Hitting the **<Search>** command button will open the path selection or enable the creation of a new directory. By specifying the complete path, you determine which file is to be stored in which destination folder.
Directory selection is made for the following user files:
- *Backup files for welding parameters.*
 - *Login file including the user group and user password.*
 - *Mask file (BOS_MASK.TXT) containing the numbers of the screen masks and the related user level.*
 - *Files containing the *Timer* and *Spot Reference*.*
 - *Logfiles for welding faults, welding current faults or data changes.*
- [4]** The protocols generated
- *Protocol, the entire protocol function is activated or deactivated; if deactivated, none of the following individual protocols may be turned on*
 - *Fault protocol relating to the [schedule].*
 - *Weld fault protocol*
 - *Data change protocol*
 - *Protocol time*
Time interval between two refresh cycles of a protocol.
 - *Short refresh cycles increase data traffic, especially if the weld timers are linked by field bus systems.*
- [5]** Functioning of the protocol function and operator Login
- *Auto. Protocol:*
If turned "On", *Operation* and the protocol function are activated as soon as the program is started.
 - *Auto. Login*
If turned "On", the log-in is automatically performed at the lowest user level without querying the user group or the user password.
 - *Auto. Logout*
If switched "On", the system returns to the lowest user level when the logout time has elapsed (i.e. the time without any entries or operations of BOS-5000).

System menu BOS-5000

[6] Automatic data transfer to the timer after each data change in an input window

This option can also be set within the BOS-5000 user interface.

- If turned "Off", several pieces of data can be modified in an input field and then be transferred as a batch.
- If turned "On", the system queries Data -> WT after each parameter change in an input field.

[7] Refresh cycle for the following tables in the display on the programming terminal

- Stepper Prewarning Table
- %I Prewarning Table
- Fault Table

Short refresh cycles increase data traffic, especially if the weld timers are linked by field bus systems.

Fields **[8]** to **[10]** may contain a maximum of 20 fault codes. For these faults, the *Status* display, the entry in the *Fault Table* and the entry in the *Fault Protocol* are suppressed.

For the *Status* window, all fault messages will be suppressed if "*" is input.

If the cursor is located in an input field, clicking the right mouse button - left mouse button in turns will display the list of fault messages.

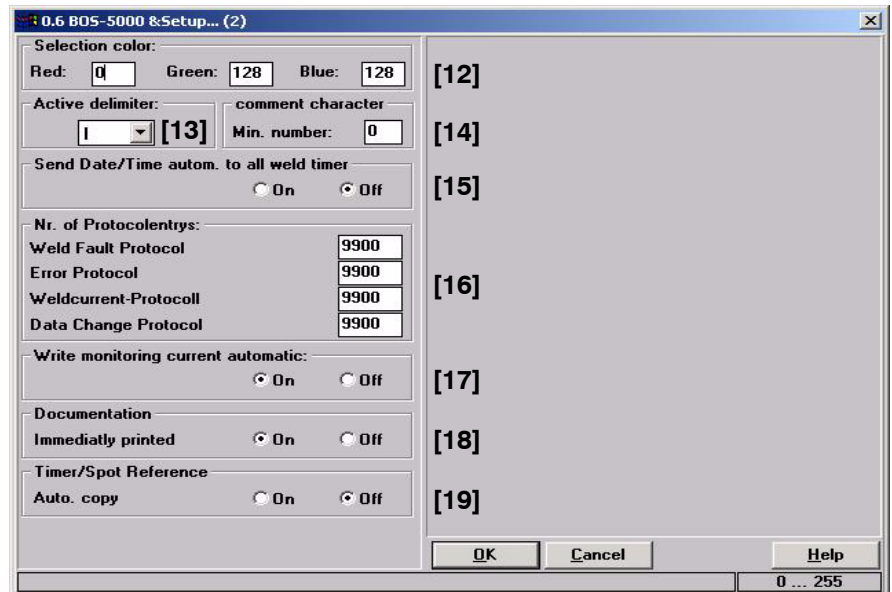
[8] The faults (e.g. *end of stepper*) not displayed in the *Timer Status* window

[9] The faults not displayed in the *Fault Table*.

[10] The faults not recorded in the *Fault Protocol*.

[11] Change-over to screen 2 of the System Setup

System menu BOS-5000



Input range at cursor position

[12] The background color setting of the following displays on the screen masks

- Timer selected
- Spot selected
- Program no. selected
- Stepper no. selected

Default = blue-grey (0,128,128).

The color setting is made using the three basic screen colors red green and blue and their proportionate share 0 to 255 in the background color.

[13] The delimiter used when importing/exporting parameter data

[14] The minimum length of comments to be entered after a data change

Whenever a value $\neq 0$ is entered, a different comment has to be entered after each data change for unique identification.

System menu BOS-5000

[15] Transmission of the date and time of the programming terminal to the timer

When this function is turned off, there may be differences between the date and time stored in the programming terminal and the weld timers. Protocols are generated including the timer date and time. Date and time are transmitted if the function is switched on for:

- *Backup*
- *Auto. Backup*
- *Timer change*

[16] The number of protocol memory entries recorded
Protocol memory entries are organized according to the “First-in-First-out” principle, i.e, when the number of protocol memory entries is exceeded, the oldest entries are deleted.**[17]** Recording of the %I value monitoring
When this function is switched off, the %I monitoring value has to be programmed separately.
When it is turned on, the %I monitoring value is automatically programmed when entering the commanded current.**ATTENTION!**

If the %I monitoring value is automatically recorded, it may still be necessary to adjust the %I monitoring value after a command value input for short weld times or active slope.

[18] Immediate printing of the documentation
Preliminary decision for subsequent generation of the documentation.

- Print documentation to file.
- Print documentation immediately.

[19] If turned “On“, the data of the *Spot Reference* and the *Timer Reference* are also copied to the selected *Backup* directory. Copying is performed for *Backup* and *Auto-Backup*.

Order data

4 Order data

Description	Part no.
System disk	on request

Order data

Notes:

Annex

A Annex

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