7.3.4 Start page

After you have logged in, the service function's start page is displayed. On the left hand side below the company logo is the main menu and to the right side the dialog box.

By clicking one of the main menu items, a submenu with the individual function calls displays. The particular function or information displays in the dialog box.

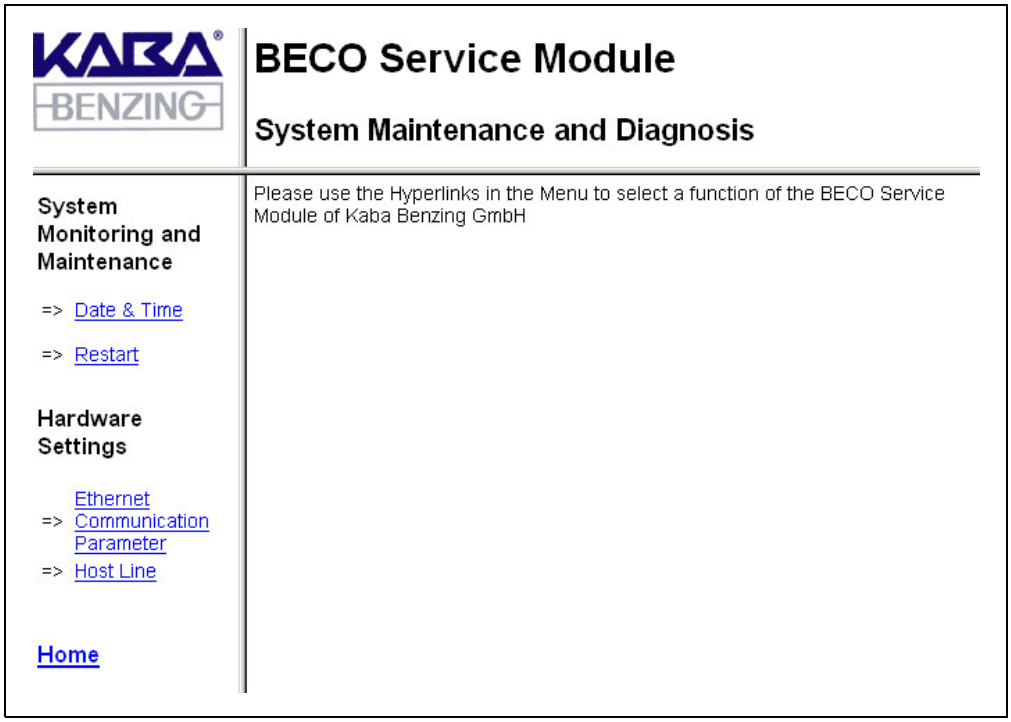


Fig. 30: Start page local user

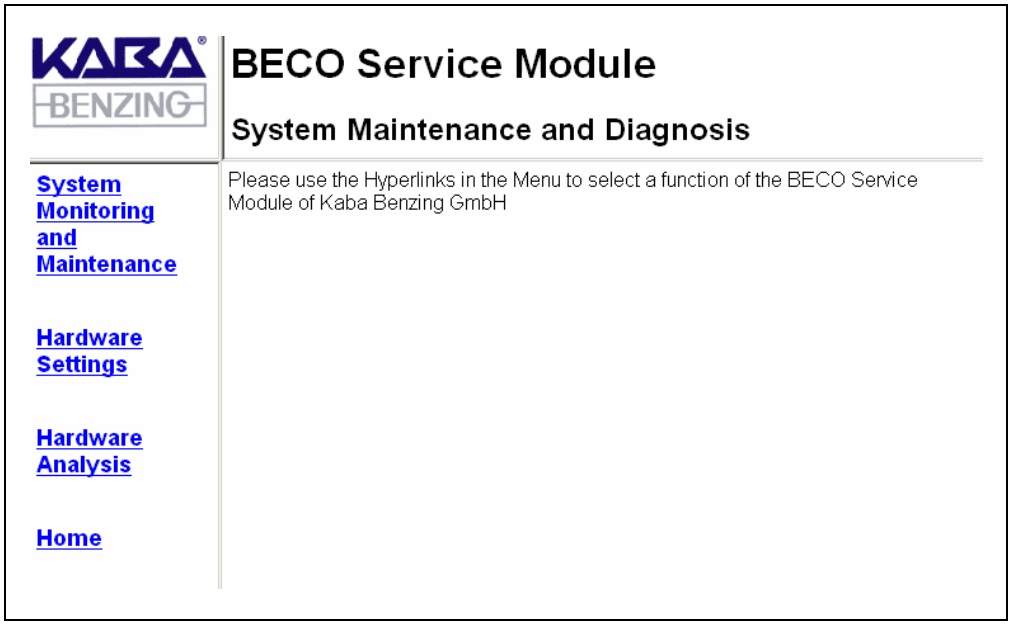


Fig. 31: Start page root

7.3.5 Overview of functions

Function	Description	Chapter	Authorization root	Authorization local user	Initial startup	Repair / exchange	Diagnosis	Information
System monitoring and maintenance		7.3.6						
Program version	Display of program version	7.3.6.1	X					X
File system maintenance	Formatting of file systems	7.3.6.2	X			X		
Date & time	Display/set date and time	7.3.6.5	X	X	X	X	X	
Security	Management of access rights to the service module	7.3.6.6 7.3.6.7	X		X			
Software option protection	License key	7.3.6.8	X			X		
Network boot parameters	Settings for remote boot	7.3.6.9	X			X		
Restart	Remote-controlled reboot of BECO	7.3.6.10	X	X	X	X	X	
Hardware settings		7.3.7						
Ethernet communication parameters	Setting of network parameters	7.3.7.1	X	X	X	X		
Serial line communication parameters	Setting of serial interfaces	7.3.7.2	X			X		
Reader	Setting of reader parameters	7.3.7.3	X			X		
Host Line	Setting of host line	7.3.7.4	X	X	X	X		
Sub Line	Setting of sub-partyline	7.3.7.5	X		X	X		
Serial number	Display/modify device serial number	7.3.7.6	X					X
RTC calibration	Alignment of hardware clock	7.3.7.7	X					
Modem setup	Initialization of modem	7.3.7.8	X		X	X		
Setup list	List with all hardware settings	7.3.7.9	X		X	X		X
Hardware analysis		7.3.8						
Hardware version	Display of hardware versions	7.3.8.1	X					X
SRAM option	Show optional memory	7.3.8.2	X					X
Memory size	Determine memory size	7.3.8.3	X				X	X
EEPROM dump	Read-out internal EEPROM	7.3.8.4	X				X	X
Display test	Display test	7.3.8.5	X				X	
Digital I/O test	Testing of inputs and outputs	7.3.8.6	X				X	

7.3.6 System monitoring and maintenance

7.3.6.1 Program version

Display of the application and service module program version.

Service Program Number is 698-00-X-K02 Build 2004.10.08

Application Program Number is 753-00-X-K01

Fig. 32: Example – display of program version

7.3.6.2 File system maintenance

NOTICE!
This function should only be used by system specialists.

7.3.6.3 Data file system

With this function, the BECO's data file system is being formatted. In doing so, master records, log file, and booking records are deleted. Parameters are reset to their default values.

File Maintenance: Format Data File System

Warning: Formatting will delete all data in the Data File System

Files or directories still stored in the Data File System

File Name	Size	Date
B-ClientHR3	<DIR>	2005.03.11 10:03:44

Cancel Format

Fig. 33: Example – formatting Data File System

By operating the "Format" button the formatting process is being started.

Remark
The formatting of the Data File System is also executed with a cold start of the device.

7.3.6.4 Program file system

With this function, the BECO's Program File System is formatted in the flash memory. All programs and the system parameter files are thereby deleted.

File Maintenance: Format Program File System

Warning:
Formatting will delete all programs and data in the Program File System

Some applications need licence information stored in
file /Program/Share/Init/sop.ini.
If this applies to you, make sure you have a copy of this file.

Files or directories still stored in the Program File System

File Name	Size	Date
Service	<DIR>	2005.03.11 09:54:56
Share	<DIR>	2005.03.11 09:55:02
service.lzo	767363	2005.03.11 09:57:02
B-ClientHR3	<DIR>	2005.03.11 09:58:32
boot.lzo	1256642	2005.03.11 10:00:24

Cancel Format

Fig. 34: Example – formatting Program File System

By operating the "Format" button the formatting process is being started.

Because all internal programs are deleted with the formatting, an external program file must be available for the booting after the formatting.

The computer's IP address where the boot file is located, as well as the file name are specified in the "Network Boot Parameters" function.

It must be ensured that the TFTP service is active on the source server and that the stated program file is available.

NOTICE!

Formatting is only executed if a valid program file is available in remote access. Please refer to chapter 7.3.6.9 Network boot parameters

Otherwise the message "There is no network boot server defined" displays.

7.3.6.5 Date & time

Show date and time and if necessary set date and time.

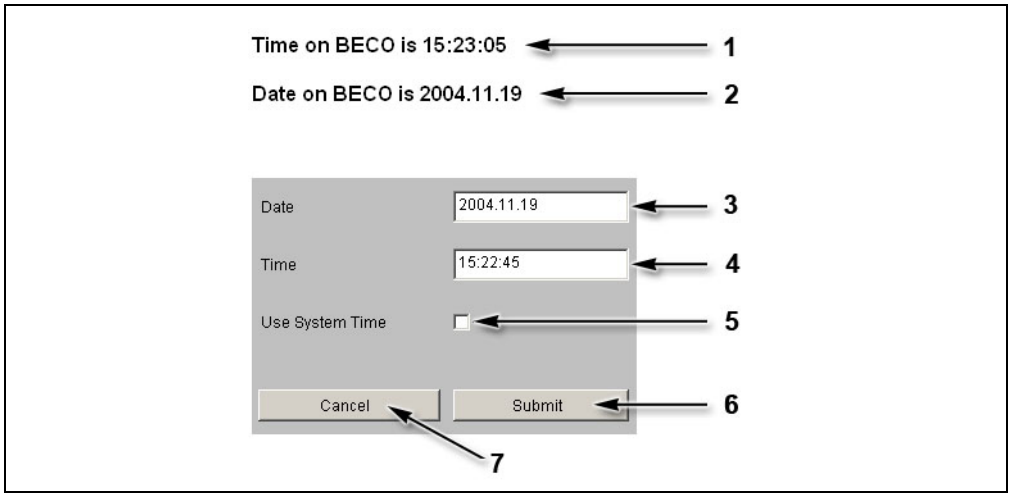


Fig. 35: Date and time

1 BECO’s current time

2 BECO’s current date

3 Input field for date, format "yyyy.mm.dd"

4 Input field for time, format "hh:mm.ss"

5 Take over time of the local computer into the Date/Time input fields

6 Take over submit, date, and time to the BECO

7 Cancel

7.3.6.6 Security/configuration manager

Access to the Service Module (HTTP server and FTP server) can be limited to certain IP addresses. If this is requested, the respective IP addresses must be deposited in the list “IP addresses with access rights.”

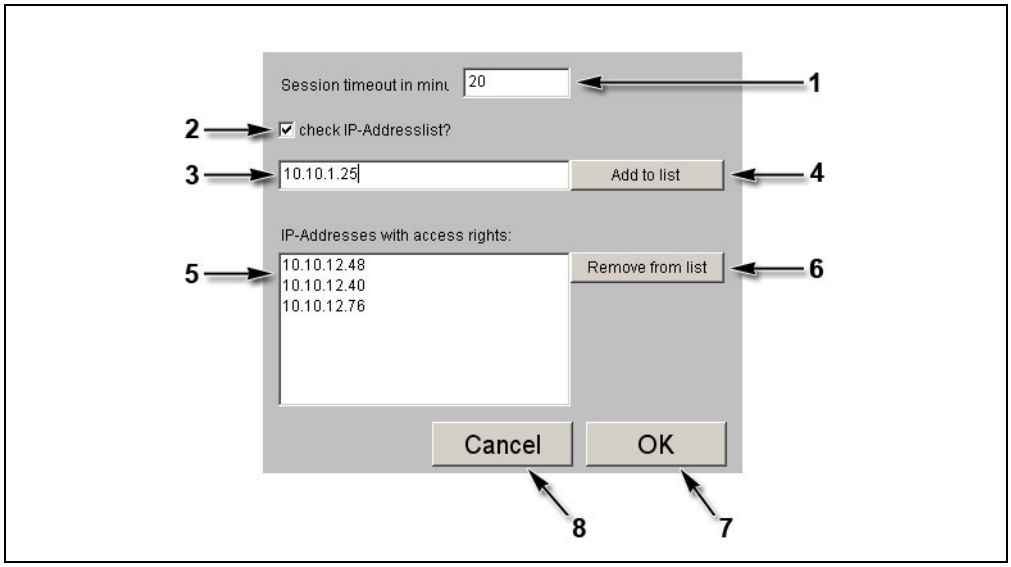


Fig. 36: Example - Security/Configuration manager

1 Session Timeout in minutes.

If no entry is made within this period of time, the current session is ended by the service module. Afterwards the user has to login again. Ten minutes are preset.

2 Check IP address list?

With this check box the IP address check can be activated or deactivated respectively. In ex-works condition, the IP address check is not activated!

If during start of the service mode the BECO is reset to the IP address 123.0.0.2, the access for host IP address 123.0.0.1 is also released again.

3 Input field for authorized host IP addresses.

4 Take over host IP address.

After the first operation, the specification on this button changes to “Confirm input.” Now, the IP address has to be entered and confirmed a second time. Afterwards the IP address appears in the list (5).

5 List with authorized IP addresses.

6 Remove marked IP address from the list.

7 OK, take over settings and end function.

8 Cancel, terminate function.

7.3.6.7 Security/user manager

This function manages the users for access to the Service Module. Users can be created, deleted, or modified.

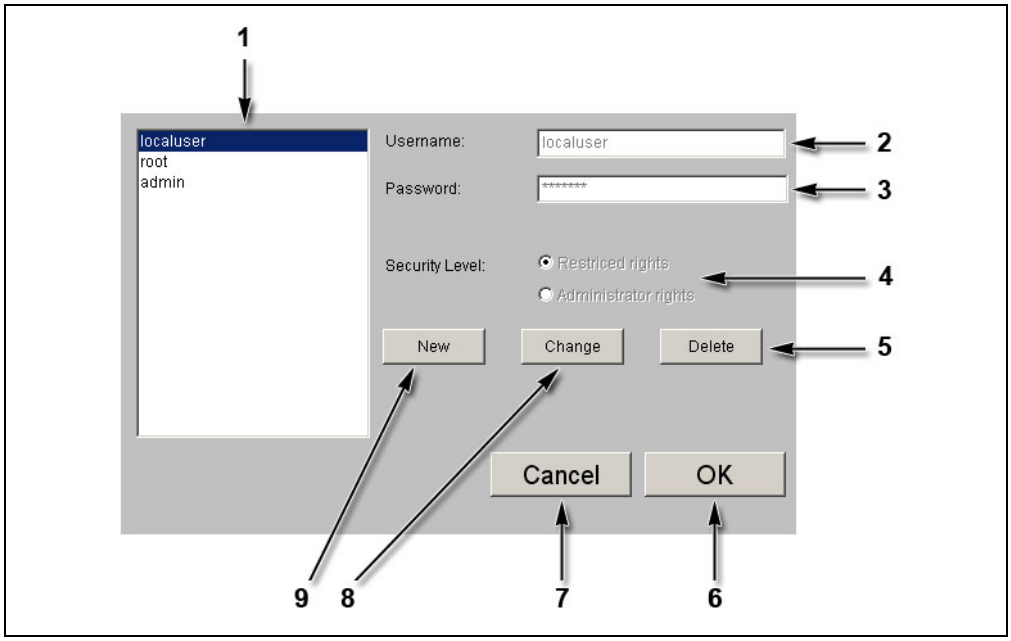


Fig. 37: Example – Security/User Manager

1 List of existing users.

2 Input field for user name.

3 Input field for password.

4 Selection of authorization, limited rights or administrator rights.

5 Delete marked user.

6 OK, take over modifications and end function.

7 Cancel, terminate function.

8 Change marked user.

9 Create new user.

Remark

User name and password may contain the characters a-z, A-Z, and 0-9 and may be up to 256 characters long.

7.3.6.8 Software option protection

In order to use the application a corresponding license key is required.

This license key is bound to the device's MAC address.

The function "Software Option Protection" allows to create a temporary test license.

Unlimited license key

NOTICE!

An unlimited license file can only be obtained from Kaba Benzing.

Normally, the license key is supplied with the "sop.ini" file.

The license key is being activated by copying this file via FTP to the /Program/Share/Init/ directory.

The license key is only accepted, if the application and their options indicated in the fields, corresponds with the license.

Test license

The "Software Option Protection" function offers the option to create a temporary license key. This test license allows you to utilize all options.

NOTICE!

The license key is valid for a duration of 7 days. After the license key has expired the device automatically switches to service mode.

A temporary license key can be created seven times altogether. By deploying an unlimited license file this counter is reset again.

Create test license

- Select "Create temporary test key."
- Confirm with "Submit."

Remark

A possibly already existing unlimited license file is saved as "sop.bak."

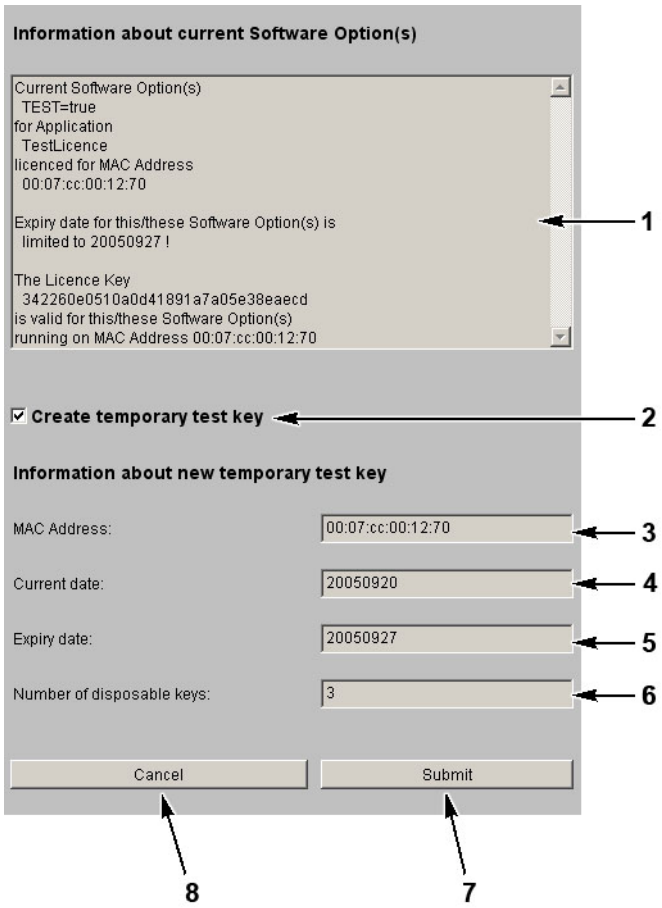


Fig. 38: Example - Software Option Protection

1 Current license data of the “sop.ini” file.

2 Selection temporary license.

3 MAC address of the BECO.

4 Current date.

5 Expiry date.

6 Number of remaining and temporarily limited licenses.

7 Submit; create temporary license file and terminate function.

8 Cancel; terminate function.

7.3.6.9 Network boot parameters

With this function an external program file can be stipulated for booting. In case of a warm start this program file is loaded remotely via TFTP.

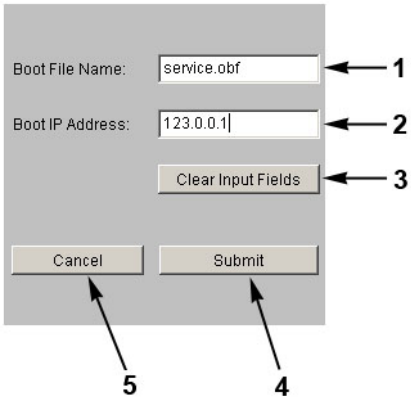


Fig. 39: Example - Show / Set Network Boot Parameters

1 Input field for file name of external program file (service.obf).

Packed files with the ending “Izo” cannot be used!

2 Input field for the computer’s IP address where the boot file is stored. A TFTP server must be active on the computer.

3 Delete content of data fields.

4 Submit; take over settings and terminate function.

5 Cancel; terminate function.

NOTICE!

If no remote boot is required, the input fields must be handed over empty. ("Clear Input Fields" button and "Submit" button afterwards).

Otherwise the device tries to load the quoted boot file after a reset or power failure. If it cannot be found, neither the application nor the Service Module can be started.

NOTICE!

During a restart of the BECO (refer to chapter 7.3.6.10) with a local program file, the values in the function Network Boot Parameters are deleted.

7.3.6.10 Restart

This function causes a remote-controlled reboot of the BECO.

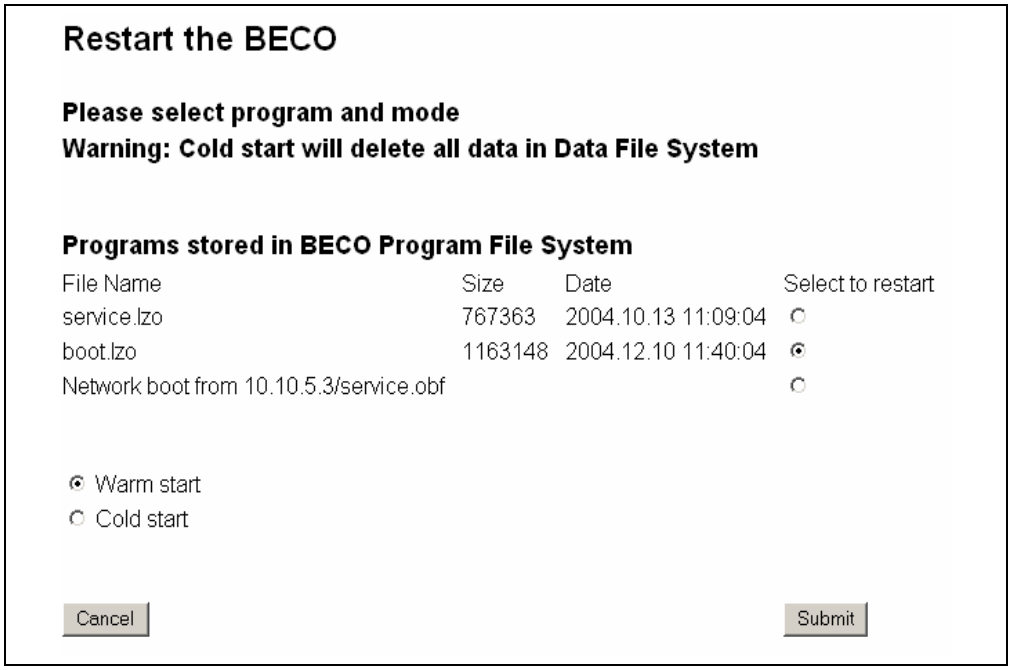


Fig. 40: Example – restart of BECO

Before carrying out this function, the program to be started must be stipulated.

- Files "**boot.obf**" or "**boot.lzo**"
  the BECO is started in application mode
- Files "**service.obf**" or "**service.lzo**"
  the BECO is started in service mode
- **Network boot**
  Start with the program file that has been stipulated in the "Show / Set Network Boot Parameters" function.

If you want to execute a cold start at the same time, the “Cold start” option must also be activated. The default setting is “Warm start.”

After operating the “Submit” button the restart is being performed.

NOTICE!

When performing a cold start, parameters are reset to their default values. Master records and booking records are deleted.

Network settings, group and device address, as well as the INI file entries remain unchanged.

7.3.7 Hardware settings

7.3.7.1 Ethernet communication parameters

This function is used for the setting of network parameters.

Remark

Those values are being displayed which are used with the next booting.

After a change the presently used values can be no longer be requested.

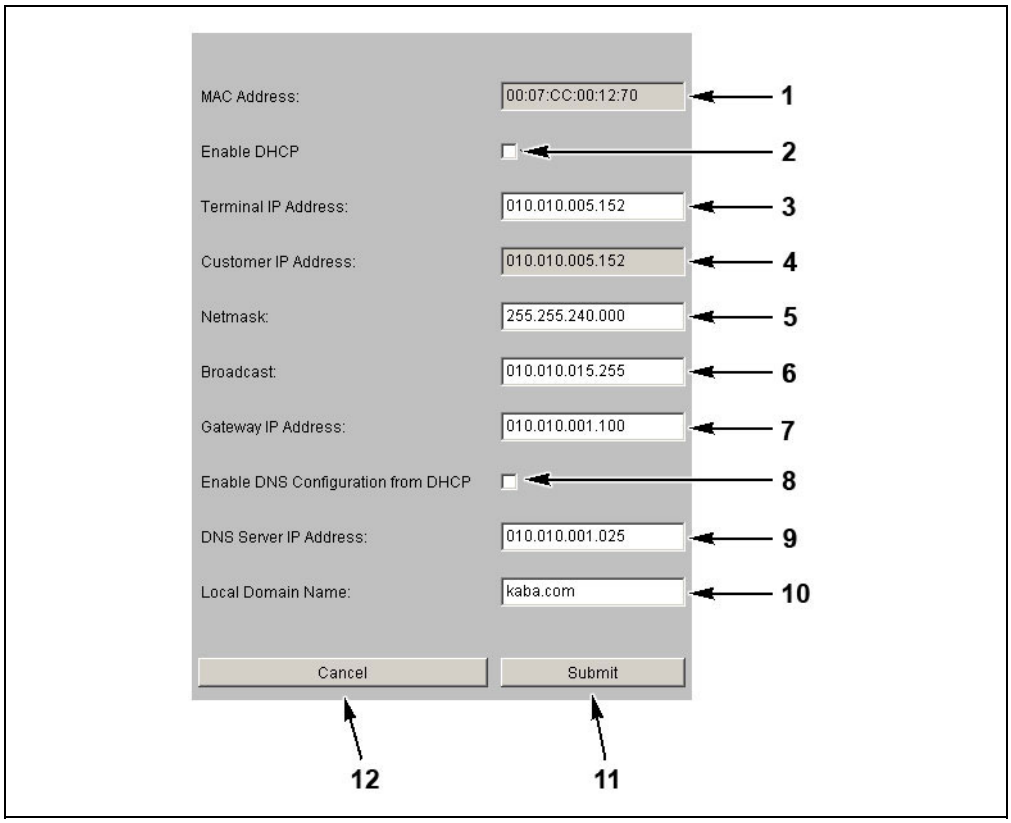


Fig. 41: Example Show / Set Ethernet Communication Parameter

1 MAC Address = **M**edia **A**ccess **C**ontrol Address

The MAC address is used for clear identification of the adapter within the network. It is firmly assigned to the BECO and cannot be modified.

2 DHCP = **D**ynamic **H**ost **C**onfiguration **P**rotocol, DHCP automatically assigns the device with a terminal IP address.

3 Terminal IP address = IP address of the device.

4 Customer IP address

Terminal IP address of the device that was set before the last reset to the default IP address (info field, cannot be edited).

5 Netmask

The netmask defines which bits of the terminal IP address belong to a sub-network and which bits belong to an individual device.

6 Broadcast

IP address for messages to all participants.

Broadcast = addressing mode for sending messages to all participants within a network.

7 Gateway IP address

A gateway connects different networks with each other that could otherwise not communicate with one another.

If the device and the host PC are in different network segments, you will have to enter the Gateway's IP address that connects the network segments.

8 This checkbox activates the DNS configuration through DHCP.

9 IP address of the DNS server
DNS = **D**omain **N**ame **S**ystem

10 Domain where the device is located.

11 Submit; take over settings and terminate function.
The settings are then active after the next reboot.

12 Cancel, terminate function.

Explanations

IP Address = **I**nternet **P**rotocol Address. With the IP address a computer can be clearly identified and addressed. An IP address consists of four, 8 bit large numbers seperated by points from one another.

Sub-network example

The network's address comes from the AND operation of netmask and host address.

The address of a broadcast within a sub-network results from the network address where all bits of the host part are set to "1."

		Class	Network part	Host part
Host IP	198.85.46.140	110	00110.01010101.00101110.10	001100
Netmask	255.255.255.192	111	11111.11111111.11111111.11	000000
Net IP	198.85.46.128	110	00110.01010101.00101110.10	000000
Broadcast	198.85.46.191	110	00110.01010101.00101110.10	111111

Permanently assign terminal IP address in the device

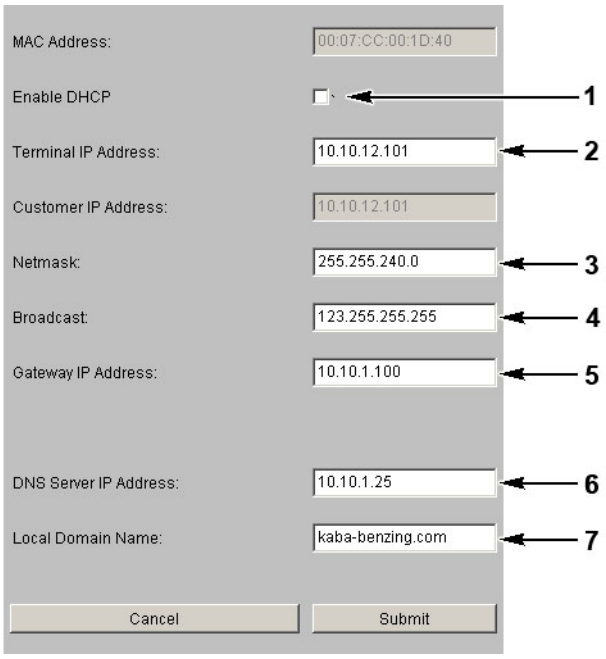


Fig. 42: Ethernet Communication Parameter

If the terminal IP address in the device is to be permanently assigned, the checkbox “Enable DHCP” (1) may not be activated.

The following must be entered: IP address of the BECO (2), the network mask (3), the broadcast address (4), and the gateway IP address (5).

If a DNS server is available and the name resolution is to be activated, then the DNS server’s IP address must be entered in the field "DNS Server IP Address"(6). The name of the domain, where the device is located, must be specified in the field "Local Domain Name“ (7).

If no DNS server is available within the network, then 0.0.0.0 must be entered in the "DNS Server IP Address" (6) field. The field “Local Domain Name” (7) is left empty.

Configuration for DHCP

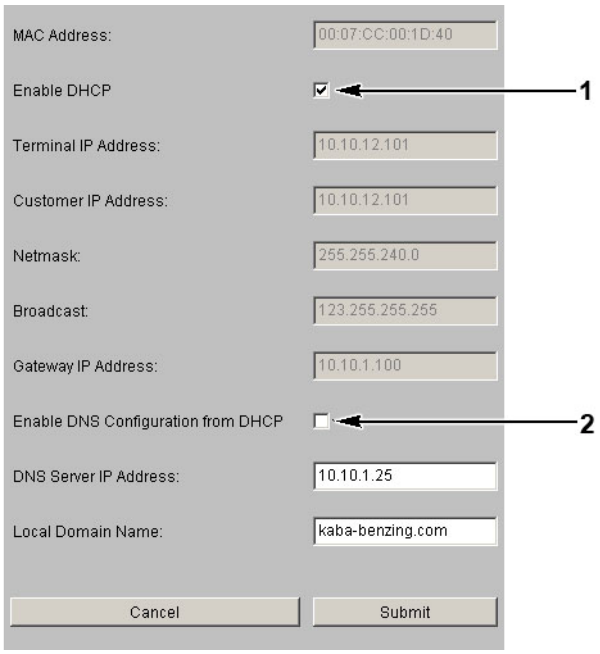


Fig. 43: Ethernet Communication Parameter

In order to configure terminals for **DHCP**, the checkbox “Enable DHCP" (1) must be activated at the terminal.

In case the DNS server IP address and the local domain name are to be requested at the DHCP server, the checkbox “Enable DNS Configuration from DHCP” (2) must be activated.

NOTICE!

The network provider / administrator must ensure that the DHCP server is accessible when booting the BECO.

Therefore, network components e.g. routers / firewalls must be configured in such a way that queries to address 255.255.255.255 with DHCP are transmitted properly.

7.3.7.2 Serial line communication parameters

Parameters of the serial interfaces (COM ports). Interface parameters depend on the usage of the interface.

NOTICE!

Unused interfaces must be deactivated.

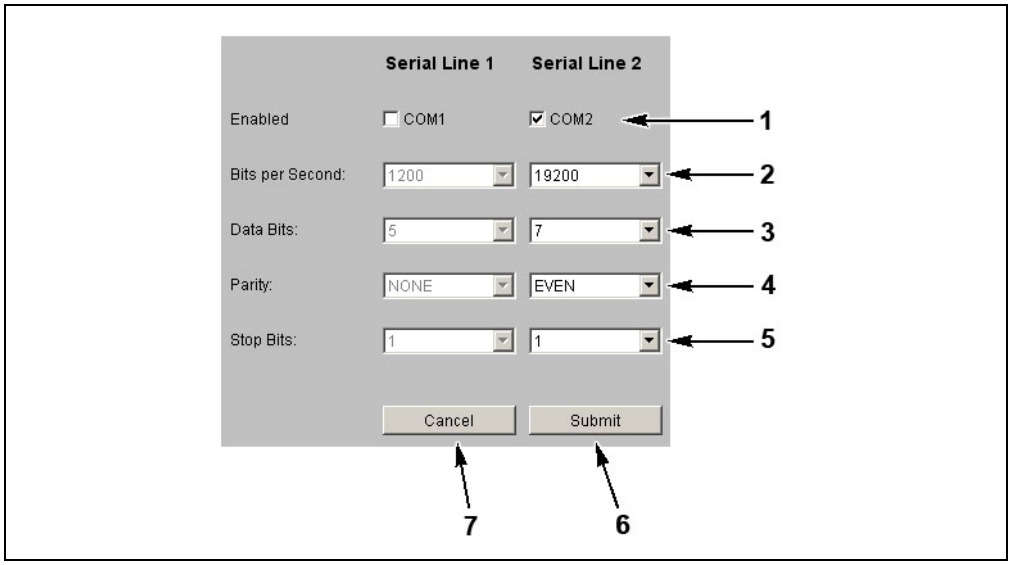


Fig. 44: Example - Show / Set Ethernet Communication Parameters

1 Activation / deactivation of the respective interface

2 Setting of bits per second transfer rate

3 Number of data bits

4 Setting of parity

5 Number of stop bits

6 Take over submit, settings and end function,
the settings are active after the next restart

7 Cancel; terminate function

Standard Setting	COM	BpS	Data Bits	Parity	Stop Bits
Internal reader	2	9600	8	NONE	1
Second reader	1	9600	8	NONE	1
Host line	1	9600	7	EVEN	1
Sub-partyline	1	19200	7	EVEN	1

7.3.7.3 Reader

Configuration of the connected readers.

NOTICE!
Unused readers must be deactivated!

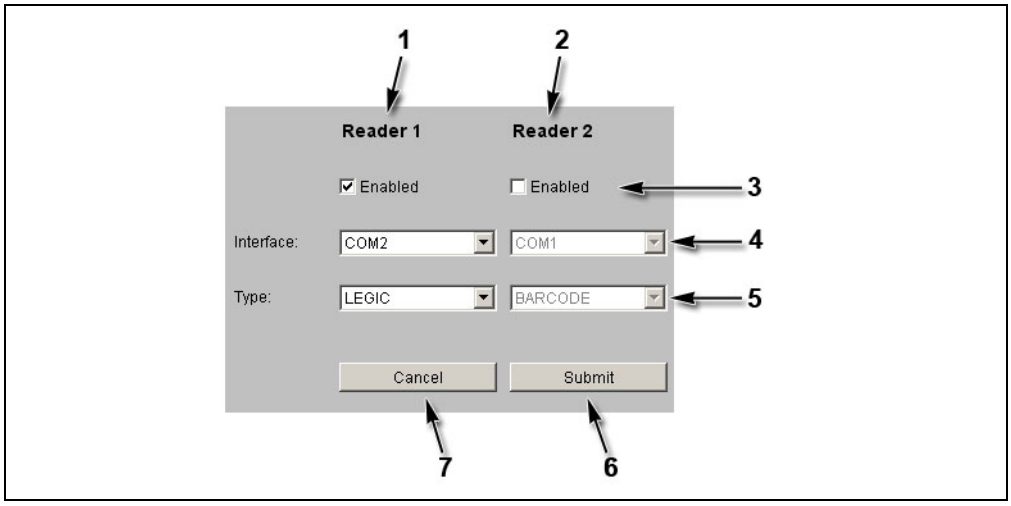


Fig. 45: Example - Show / Set Reader Parameter

1 Settings for reader 1 (internal reader module).

2 Settings for reader 2 (second, optional reader).

3 Activation / deactivation of readers.

4 Assignment of reader to interface (COM port).

5 Selection of reader type.

6 Submit; take over settings and terminate function.
The settings are active after the next reboot.

7 Cancel; terminate function.

Standard assignment:	Reader 1 (internal reader module)	COM2 (serial line 2)
	Reader 2 (optional)	COM1 (serial line 1)

7.3.7.4 Host line

Setting of interface to host.

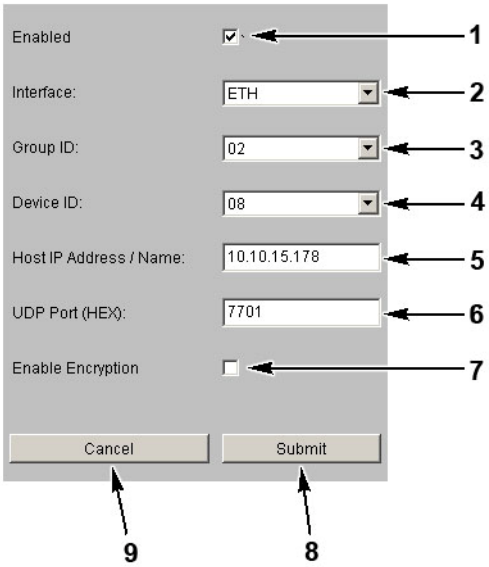


Fig. 46: Example - Show / Set Host Line Parameters

1 Activation / deactivation of interface to host.

2 Selection of interface

- ETH = Internal Ethernet Adapter
- COM1 = Serial interface 1 (serial line 1)
- COM2 = Serial interface 2 (serial line 2)

3 Group ID (GID); group address of the device; possible values from 00 to 29.

4 Device ID (DID) device address; possible values from 00 to 59.

5 Host IP address / name (only with ”ETH” interface).

IP address or DNS name of the computer that has to communicate with the BECO in application mode.

The host name is made up of the pure host name, e.g. BCOMM-PC and the domain name, e.g. kaba.com.

The host is in the same domain than the device:

- The “Local Domain Name“ stated under Ethernet parameter is sufficient.
- The mere host name, e.g. BCOMM-PC is entered.
- The device joins the two parts by itself.

The host is in another domain than the device:

- The full host name with domain name must be stated, e.g. BCOMM-PC.kaba.com. Whereas host name and domain are separated by a dot.

6 UDP port (only with "ETH" interface) UDP = **U**ser **D**atagram **P**rotocol

UDP port that is used in application mode for communication between the host computer and the BECO. Hexadecimal specification e.g., . 771C = $(30492)_D$, allowed specifications are 7700 to 77EF. Hex characters are indicated in lower case letters.

7 Activate or deactivate encryption via Ethernet UDP (optionally only with “ETH” interface).

The user data is encrypted with a key length of 448 bits via the Blowfish algorithm. Key exchange is done automatically via the Diffie-Hellman algorithm.

8 Submit; take over settings and terminate function.
The settings are active after the next reboot.

9 Cancel, terminate function.

7.3.7.5 Sub line

Setting of interface to the subterminals.

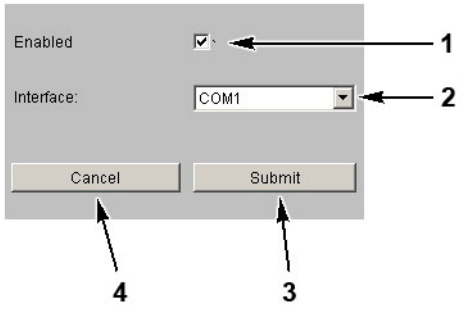


Fig. 47: Example - Show / Set Subline Parameters

1 Activation / deactivation of the sub line.

2 Assignment of sub-partyline to interface (COM port).

3 Submit; take over settings and terminate function.
The settings are active after the next reboot.

4 Cancel, terminate function.

Standard assignment:

Sub line 1 (standard sub-partyline)	COM1 (serial line 1)
Sub line 2 (optional)	COM2 (serial line 2)

7.3.7.6 Serial number

With this function the device's serial number can be read-out or modified.

The device's serial number is stated on the nameplate. With the serial number the manufacturer is able to resort to all technical details of the device.

NOTICE!

This serial number must match the serial number on the nameplate.

After exchanging the BECO CPU unit, the correct serial number should be entered again. In this way it is possible at any time to call up the serial number in the service mode via network.

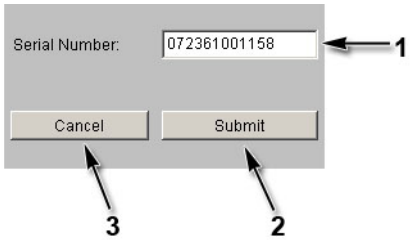


Fig. 48: Example – Show / Set Serial Number

1 Input field for serial number.

2 Submit; take over serial number and terminate function.

3 Cancel; terminate function.

7.3.7.7 RTC calibration

Alignment of hardware clock.

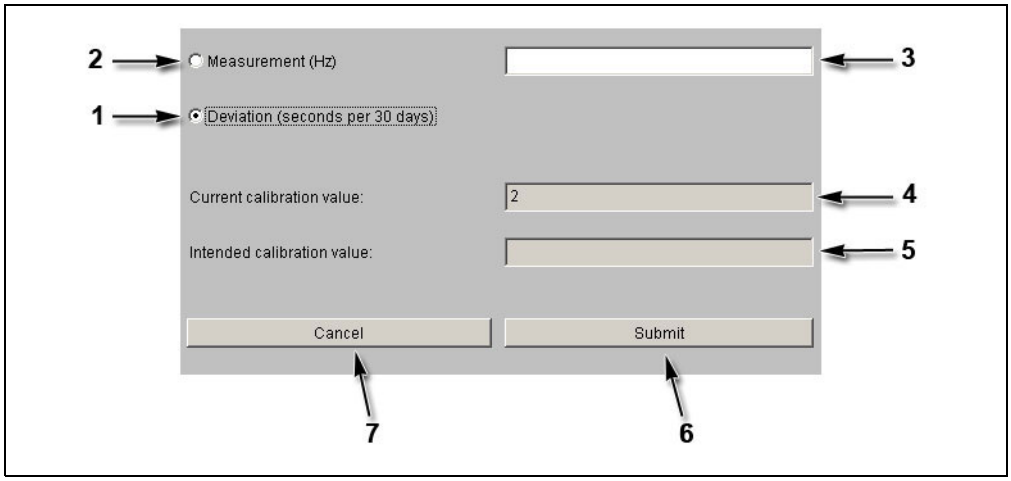


Fig. 49: Example – Show / Set RTC Calibration Value

1 Deviation

With this option, the deviation for the last 30 days must be entered in seconds (input field 3).

Positive values are recognized with or without leading sign, e.g., 20 or +20; Negative values must be provided with a leading sign, e.g. -20.

2 Measurement

This option specifies the factory-provided calibration.
This calibration type is not possible on-site at the customer's premises!

3 Input field for measurement or deviation respectively.

4 Current calibration value.

5 New calibration value.

6 Submit; take over value and calibrate hardware clock.

After a short period of time the message "RTC calibrated with new values" appears. After you have pressed "OK" the function is terminated.

7 Cancel; terminate function.

7.3.7.8 Modem setup

This function allows for initializing a modem at COM1.

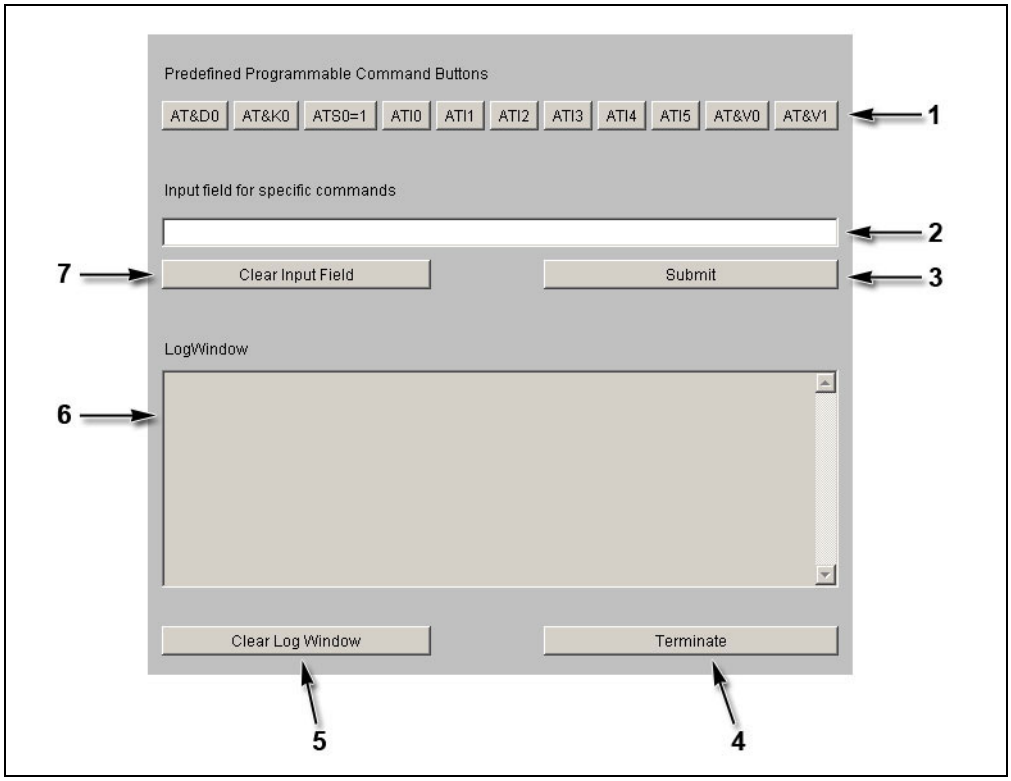


Fig. 50: Example—Gateway to serial host line port

1 Buttons preallocated with AT commands.
When pressing one of these buttons, an AT command is sent to the modem.

2 Input field for commands.

By pressing the “Submit“ (3) button this command is sent to the modem.

If one of the preallocated buttons (1) is pressed, the content of the input field is assigned to this button. The command can be sent over and over again by repeatedly pressing the button. The allocation remains as long as the function is terminated with “Terminate” (4) or is newly applied.

3 Submit; send command in input field (2) to modem.

4 Terminate function.

5 Clear LogWindow, reset log window (6).

6 LogWindow.

7 Clear Input Field; delete content of input field (2).

Initialization of optional modem

The initialization of ISDN modem and analog modem, deviating from the standard, is identical.

The following commands must be sent to the modem one after the other:

Command	Meaning
AT&D0	Ignore DTR.
AT&K0	No data flow control between DTE (Data Terminal Equipment) and DCE (Data Communication Equipment).
ATS0=1	Instructs the modem to answer on the first ring.
AT&W	Save settings.

With the AT&F command, the modem parameters can be reset to default values.

7.3.7.9 Setup list

The function ‘setup list’ shows an overview of the current settings:

- Ethernet parameters
- Serial line parameters
- Reader parameters
- Host line
- Sub line

Parameters can be adjusted by clicking the headlines.

7.3.8 Hardware analysis

7.3.8.1 Hardware version

The hardware version can be retrieved with this function.

Bootloader Version is 2.4.1

BEX Feature Code is 1

BECO Index is 15

NetArm Revision is 27

Fig. 51: Example – Display of hardware version

7.3.8.2 SRAM option

This function determines, if an SRAM option is installed and which one.

Installed SRAM Option

There is an 8 MB SRAM Option installed

Fig. 52: Example - SRAM option recognized

Installed SRAM Option

There is no SRAM Option installed

Warning:
The SRAM Option installed is not formatted and not available for the Application File System. BECO Applications use SRAM as Data File System. To make the installed memory available for the application, you must save the Application files and format the SRAM File System or perform a cold start.

Fig. 53: Example – no SRAM option recognized

7.3.8.3 Memory size

This function allows you to determine the memory size as well as the currently occupied and free memory.

Size of Memory

Memory Type	Total	Used	Free
RAM	14432192	4817484	9614708
Data File System	9437184	4275943	4866048
Program File System	7157351	1792103	5365248

Fig. 54: Example – memory size

7.3.8.4 EEPROM dump

This function allows you to read-out the content of the internal EEPROM.

Startaddress: 500

Length: 300 Submit

Address	Value																
500	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	B4	27	00	00	ÿÿÿÿÿÿÿÿÿÿÿÿ´'
516	4A	62	65	64	42	4C	56	32	45	54	48	3D	47	49	3A	30	JbedBLV2ETH=GI:0
532	2E	30	2E	30	2E	30	2C	55	50	3A	30	78	37	37	30	31	.0.0.0,UP:0x7701
548	2C	54	49	3A	31	30	2E	31	30	2E	35	2E	31	35	32	2C	,TI:10.10.5.152,
564	43	49	3A	31	30	2E	31	30	2E	35	2E	31	35	32	2C	48	CI:10.10.5.152,H
580	49	3A	31	30	2E	31	30	2E	31	35	2E	31	37	38	2C	4E	I:10.10.15.178,N
596	4D	3A	32	35	35	2E	32	35	35	2E	32	34	30	2E	30	2C	M:255.255.240.0,
612	44	49	3A	31	32	33	2E	30	2E	30	2E	32	2C	44	4D	3A	DI:123.0.0.2,DM:
628	30	2C	44	4E	3A	6B	61	62	61	2D	62	65	6E	7A	69	6E	0,DN:kaba-benzin
644	67	2E	63	6F	6D	2C	42	4D	3A	31	30	2E	31	30	2E	31	g.com,BM:10.10.1
660	35	2E	32	35	35	3B	43	4F	4D	31	3D	42	3A	31	39	32	5.255;COM1=B:192
676	30	30	2C	50	3A	45	56	45	4E	2C	44	3A	37	2C	53	3A	00,P:EVEN,D:7,S:
692	31	3B	00	4F	4D	31	3D	42	3A	31	32	30	30	2C	50	3A	1; OM1=B:1200,P:
708	4E	4F	4E	45	2C	44	3A	35	2C	53	3A	31	3B	00	3A	31	NONE,D:5,S:1; :1
724	3B	00	3B	00	44	3A	35	2C	53	3A	31	3B	00	FF	FF	FF	; ; D:5,S:1; ÿÿÿ
740	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	ÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿ
756	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	ÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿ
772	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	ÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿ
788	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF					ÿÿÿÿÿÿÿÿÿÿÿÿ

Fig. 55: Example – EEPROM Dump

7.3.8.5 Display test

This function starts an automatic display test (with devices with display) where the character set is displayed.

A repeated call of this function ends the test.

7.3.8.6 Digital I/O test

This function allows you to retrieve the states of the digital inputs and to set the outputs.

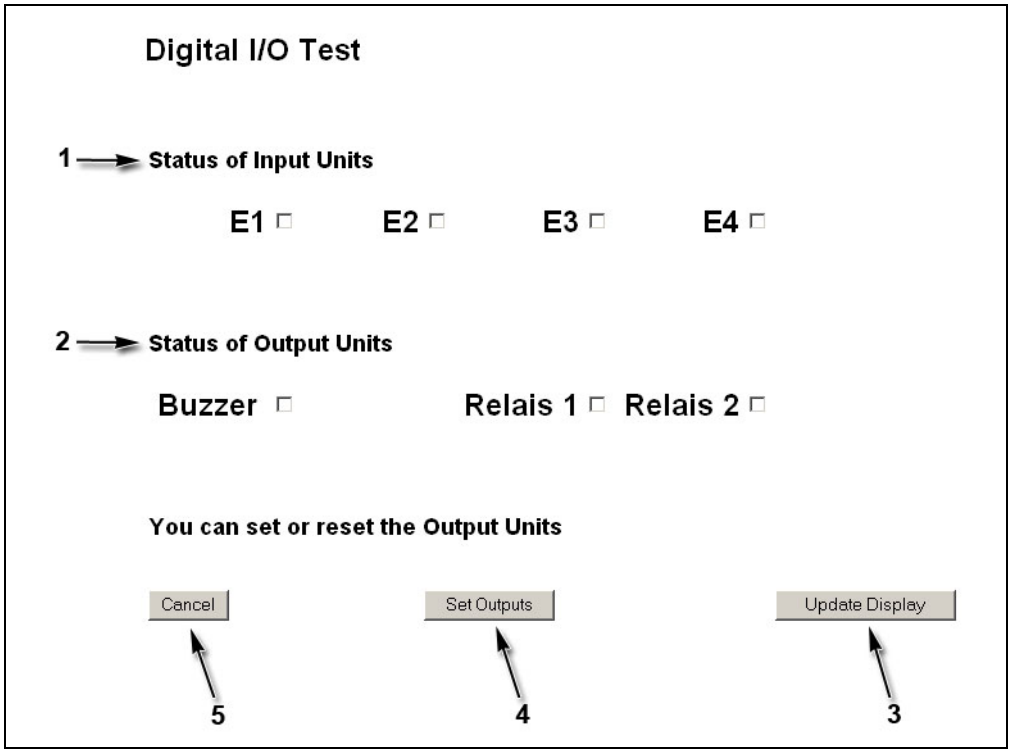


Fig. 56: Example – Digital I/O test

1 The current input status is shown under “**Status of Input Units**.“

2 By activating the check boxes under “**Status of Output Units**“ the output status is preset.

3 With the “**Update Display**“ button the current status can be retrieved.

4 By pressing the “**Set Outputs**” button the outputs are set.

5 Cancel; terminate function.

Remark

The number as well as the specification of the available inputs and outputs depends on the device hardware and on the used application.

7.4 FTP access

An FTP server is installed on the device. The FTP server can be addressed in application mode as well as in service mode.

When the system starts in service mode, the FTP is started principally.

In application mode (B-Client HR2 / HR3 / AC2 / AC3 / PDC3), the FTP server can be activated or deactivated with an entry in the */Program/Share/Init/bedanet.ini* file.

Example:

`[Programs]` `Application0 = FTPServer`	FTP server is started in application mode
`[Programs]` `Application0 =`	FTP server is not started in application mode

Remark
In case that no access via FTP is possible in application mode, this parameter must be checked in the *bedanet.ini* file.

Access is performed via a standard FTP client.

Users

The following users are already created by default:

User name:	Password:	Path:
localuser	*Bedanet*	*Ram/Transfer*
root	*Bedanet*	*/*

8 Operating elements

8.1 Badge input

8.1.1 Contactless media

Contactless media such as LEGIC® or Mifare is simply held in front of the terminal's reader module.

The reading distance with a badge is approximately 5 – 10 cm and 3 cm with a key tag.

Fig. 57: Present LEGIC® media

8.1.2 Mag-stripe badges and barcode badges

Swiftly slide the badges through the reading bar in any direction, either from top to bottom or from the bottom up. The magnetic stripe / barcode must show towards the scanning unit.

Fig. 58: Swipe mag-stripe badges and barcode badges

8.1.3 Inductive badges

The badge is simply inserted into the slot on the side as far as it will go. After the reading process the badge is released from the reader and can be taken out.

Fig. 59: Insert inductive badges

8.1.4 Verification LEGIC® & Fingerprint

The "Verification LEGIC® & Fingerprint" reader module has an insertion reader for segmented LEGIC® MIM 1024 badges and a sensor for thermal recording of a fingerprint. For user prompting, a tri color LED is located above the sensor.

First the LEGIC® badge is inserted. If no valid biometric segment is identified on the badge, the LED blinks after a short period of time. If a valid biometric segment is identified the LED blinks yellow. Now the finger must be evenly swiped over the sensor surface within the next 4 seconds.

During verification, the scanned biometric data of the individual is compared with the reference data record stored on the LEGIC® medium IM 1024.

If the two data records match within certain tolerances, a green LED lights up. If the result turns out to be negative, the LED lights up red. In this case the scan process is repeated twice.

Fig. 60: Verification LEGIC® & Fingerprint

8.2 Matrix touch

A matrix touch with 8 x 8 fields forms the B-Net 93 60's operator panel. Basically, the matrix touch is operated just like a keypad. After a valid operation a short acoustic signal sounds.

The matrix touch spreads across the visible display area as well as across the subjacent passepartout.

All functional elements can be designed and placed individually.

For this purpose a customized passepartout or label template must be created. Function and position of the individual buttons is tailored to the customer's specific needs via the terminal software's parameter setting feature.

Virtual buttons on the display can also be individually adapted with the parameter setting feature.

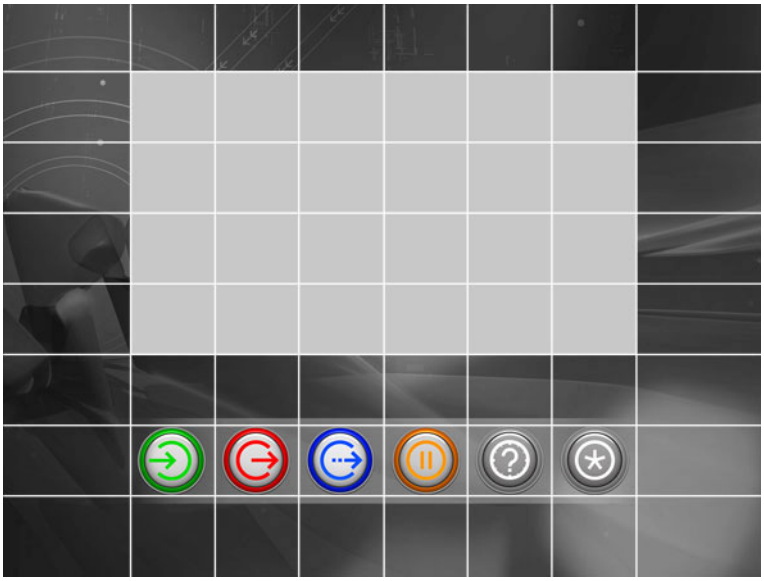


Fig. 61: Matrix touch of the B-Net 93 60 with standard passepartout. The 8 x 8 touch fields are accentuated with white lines.

The standard version has 6 buttons with the following meaning:

In

Out

Official absence

Break

Inquiry

Special function

Via virtually created buttons on the display, navigation takes place, numeric values can be entered, and languages can be selected.

The device is also available with an optional alphanumeric reader keypad.

8.3 Display illumination

The display illumination is switched off after a certain preset period of time (standard time 10 minutes after the last operation).

The display illumination is again activated after any operation.

9 Maintenance

9.1 Battery change

A Lithium Mangandioxid battery, type CR2032, is located on the BECO CPU unit to buffer the SRAM memory. Refer to chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**

The buffer battery must be replaced by a new one every 2 years when the devices are in operation.

The buffer battery must be replaced by a new one every 6 months if the device is stored and not in operation.

Safety advice

Only skilled specialists authorized by the manufacturer may exchange the buffer battery.

To prevent data loss the terminal may not be switched off during battery change.

WARNING

Hazardous voltage at the SV9001 power supply.

Carelessness can lead to an electric shock.

- Take off all metallic jewelry such as rings, necklaces, bracelets, etc.
- Avoid working around or near the power supply.

CAUTION

Lithium batteries can rupture or burst like an explosive.

Improper handling of Lithium batteries can lead to fire and explosions.

- The buffer battery may only be replaced by the same type of battery.
- Do not open, bore through, or crush Lithium batteries.
- Do not burn Lithium batteries or expose to high temperatures.
- Do not short-circuit Lithium batteries.

CAUTION

Danger of electrostatic discharge (ESD).

Touching printed circuit boards can cause damages that lead to complete failures or sporadic errors.

- Wear an ESD wrist strap when changing batteries.

Proceeding

- Do not switch off the device.
- Open the housing.
- Carefully remove the old buffer battery from the battery holder by hand. Do not use any tools such as screwdrivers etc.
- Gently push the new battery in the holder until it snaps into place.

10 Packaging / returns

Not properly packaged components and devices can cause costs due to damages during shipping.

Please note the following when dispatching Kaba Benzing products.

Kaba Benzing GmbH is not liable for products that have been damaged due to negligent packaging.

10.1 Devices

The original packaging has been specifically designed to fit the device. It offers maximum protection against damages in transit.

NOTICE!

When returning an item, please ensure that you always use the original packaging.

If this is not possible, packaging must be provided which ensures that the device is not damaged during shipping and handling.

- Use a robust and thick-walled transport box or cardboard box. Approximately 8 to 10 cm of room needs to be allowed on either side of the device.
- Wrap the device with a suitable foil or put it into a bag.
- Generously stuff for instance foam pads or air cushions all around device. Movements of the device inside the packaging must be avoided.
- Use only dustfree and environmentally friendly padding material.

10.2 Electronic assemblies

ESD sensitive electronic assemblies such as printed circuit boards, readers, etc. must be stored, transported, and shipped in appropriate ESD protective bags.

Packing of electronic assemblies may only

- take place at ESD secure workstations
- be done by persons familiar with general ESD safety standards and who apply them on a regular basis.

Returning electronic assemblies in packaging with sufficient ESD protection is a prerequisite for

- the submission of warranty claims after functional failures of any type.
- replacement of printed circuit boards and electronic components in exchange.

Electronic components delivered in packaging without sufficient ESD protection are --in order to maintain a high quality standard-- neither analyzed nor repaired but directly disposed of.

10.3 Labeling

Complete return documents and a correct labeling allow for fast processing.

Please make sure that each package includes a delivery note. The delivery note should contain the following information:

- Number of devices or components per package
- Product numbers, serial numbers, specifications
- Name and address of your company / contact person
- Reason for return, e.g. repair order
- Informative and detailed error description

Returns from countries outside the European Union require a customs invoice with the real customs value.

Some countries (e.g. Switzerland) require a preference.

11 Disposal

This product complies with the WEEE directive and is, according to the DIN norm EN 50419, marked with the “Crossed out garbage can” symbol. Please refer to chapter 3.4 Labeling.

The symbol refers to separated disposal of electric and electronic devices in EU countries.

Please do not dispose of device in your regular garbage.

Used devices contain valuable materials that should be recycled. Used devices should therefore be disposed of via your country’s take back system.

Kaba Benzing is committed to take back and dispose this device after the end of its life cycle.

Please dispose of in an environmentally responsible way

The packaging materials are recyclable. Please do not throw packaging material into your regular garbage can. Always take it to a recycling center or have it picked up by your local waste recycler.

Lithium batteries

⚠ CAUTION

Lithium batteries can rupture or burst like an explosive.

Improper handling of Lithium batteries can lead to fire and explosions.

Please carefully deposit the batteries that must be disposed, in order to avoid short-circuits, crushing, or damage of the battery housing.

Please refer to chapter 2.4 Handling of Lithium batteries

Used Lithium batteries must be disposed of according to state and local regulations.

12 Appendix

12.1 Dimensional drawings

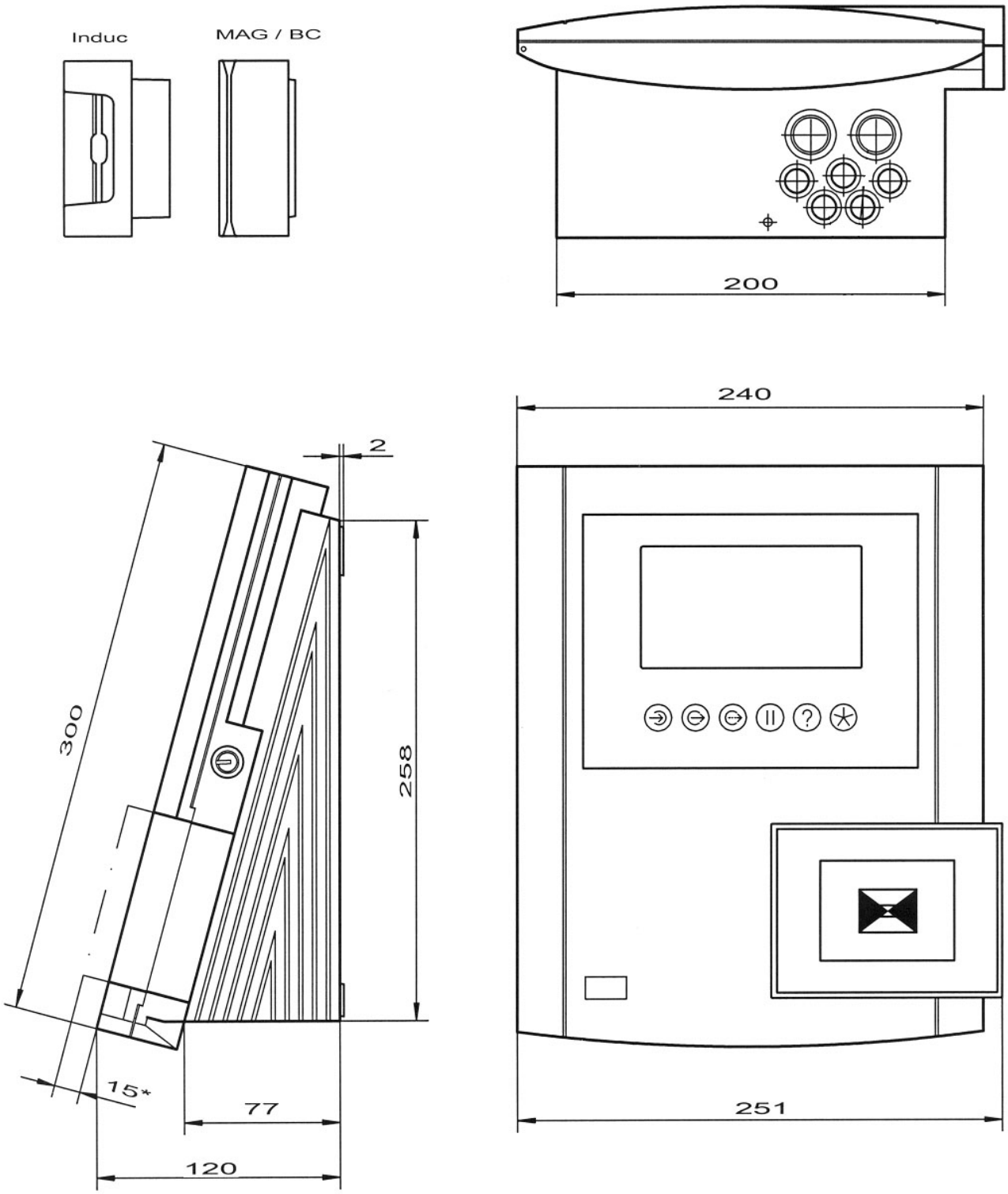
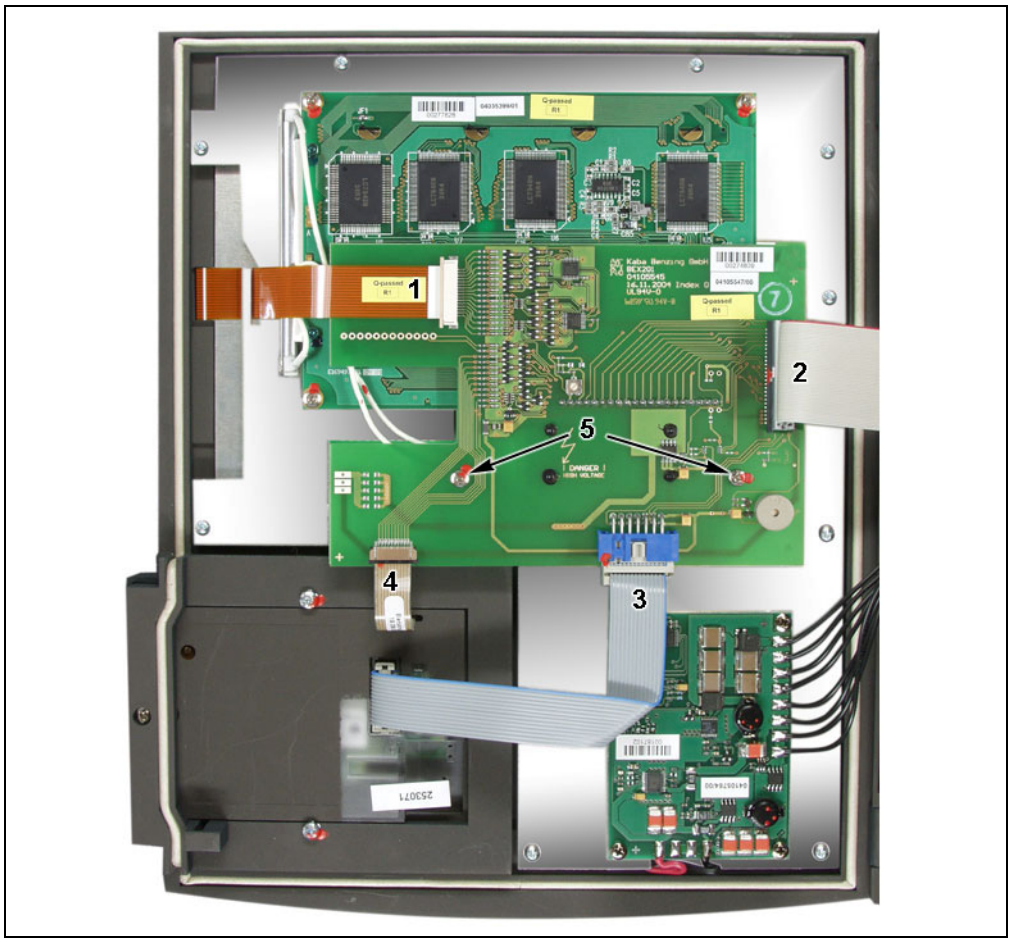


Fig. 62: Dimensional drawings B-Net 93 60; dimensions in mm

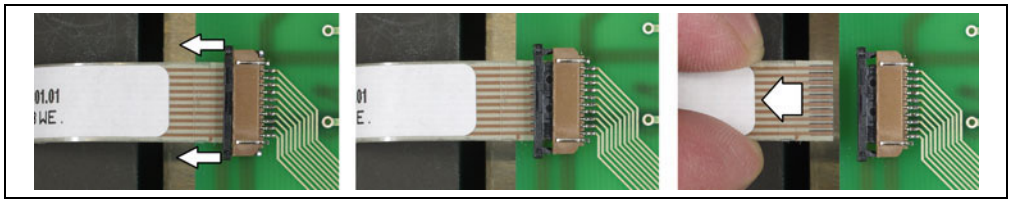
12.2 Exchange of passepartout

During execution of the tasks described below, the ESD protective measures must be considered.

To exchange the passepartout (label template), please proceed as follows:

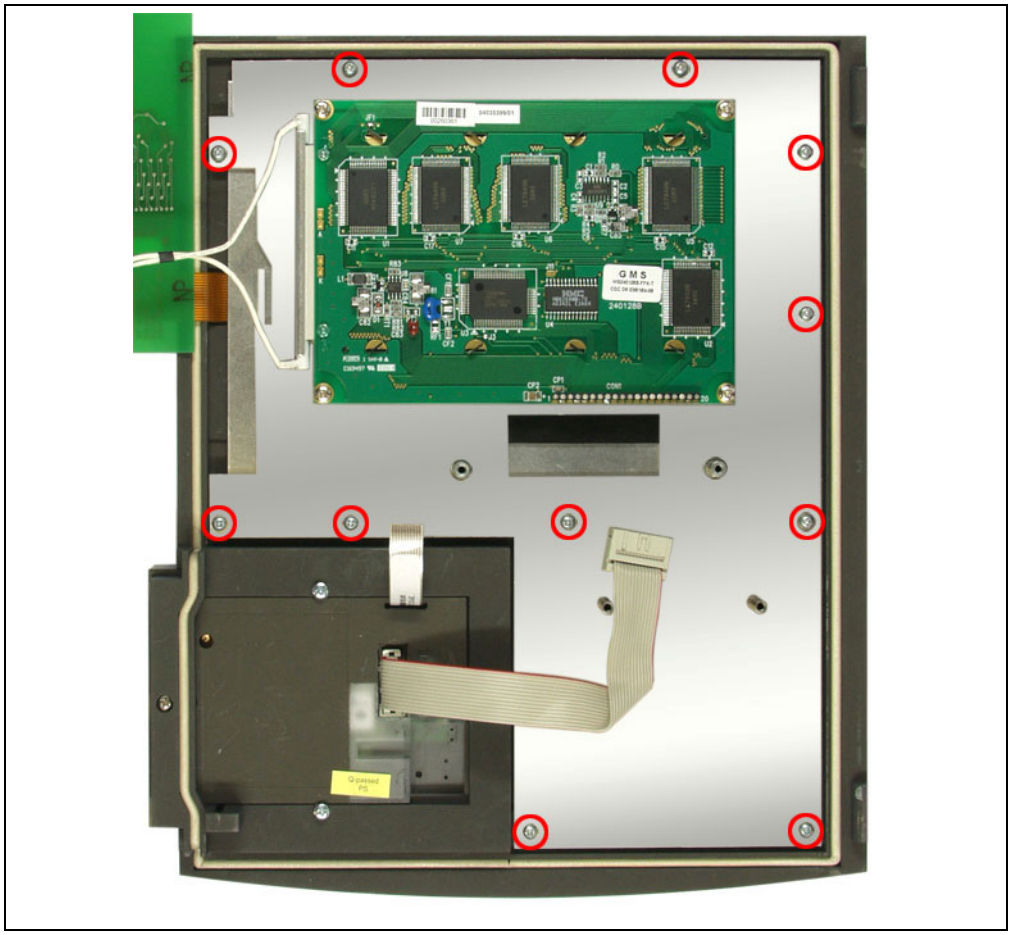


First remove the cable to the matrix touch on the user interface (1), the cable to the mother board (2), the cable to the reader module (3) and the cable to the reader keypad (4) if available.

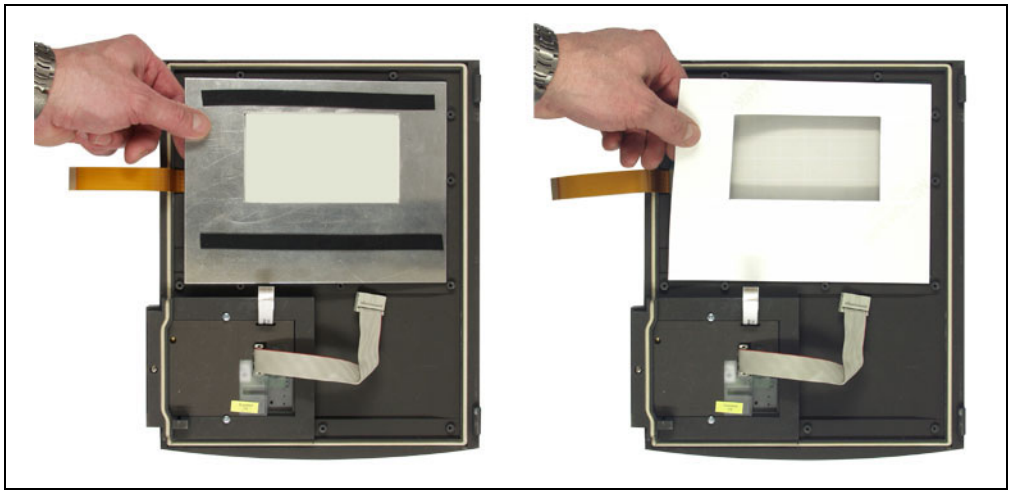


Please consider that the connectors of cables 1 and 4 must be unlocked first (see illustration). After connecting, the cable must be locked again.

The user interface is plugged on the display board. After the two screws (5) have been removed the user interface can be carefully lifted upwards and removed.



After you have unscrewed the 11 marked screws the mounting plate can be removed.



Now the carrier plate can be removed. Afterwards the passepartout can be exchanged.

Mounting takes place in reverse order.

13 Index

A

Analog modem....29
AT commands....72, 73
Available memory....75

B

Badge input....78
Battery....8, 17, 87
Battery change....84
BECO service module....48
BEX301....34
BEX400 memory expansion unit....39
BEX500 UPS....40
Block IP addresses....56
Broadcast....63
Buffer battery....16, 17, 39
Buffer time....12

C

Cable clamp....26
Cable inlet....18, 26
Capacity of data memory....12
CE....13
Cold start button....16, 46
Cold start of application....47
COM port settings....66
Communication....11
Conformity....13
Connection for second reader....34
Connection of subterminals....32
Connections on BECO500 CPU unit....27
Connections on BEX101 mother board....27
Connectors....18
Contrast control....15

D

Data retention in case of power failure....12
Default IP....47
Default IP address....49
Device address....68
DHCP....62
DID....68
Digital inputs....35
Dimensions....11
Display....11
Display contrast....15
Display illumination....83
Display test....75
Display/set date and time....55
Disposal....87
DNS server....63
Door control line....22
Door opener....36
Door-opener voltage....38

E

Earthing....18
EMC standard....13
Emergency power operation....41
Encryption....68
Environmental conditions....11
ESD (Electro Static Discharge) protective measures....9
Ethernet connector....28
Ethernet interface....11
Exchange of passepartout....89

F

File system formatting....53
FTP access....77
Fuse....16

G

GID....68
Group address....68

H

Hole pattern 23
Host connection 22
Host line settings 68

I

Identification plate 13
Input 24 V 37
Inputs 35
Installation 18
Installation lines 21
Installation scheme 20
Interface parameters 66
Interface to host settings 68
IP address 62
IP address default 49
ISDN modem 30

J

Jumper assignment BEX302 31
Jumper SV9001 38

K

Keypad 11

L

License key 58
Light emitting diodes on BEX101 46
Light-emitting diodes Ethernet 28
Line requirements 21
Lithium battery 8, 17, 87
Low voltage directive 13

M

MAC address 58, 62
Mains switch 16, 17
Maintenance 84
Matrix touch 82
Memory 11
Memory size 75
Modem 29
Modem initialization 73
Modem setup 72
Mounting 18
Mounting height 19
Mounting plate 24

N

Netmask 62
Network parameters 62

O

Outdoor installation 19
Outputs 36

P

Partyline 22
Partyline to host 31
Passepartout 82
Password 57
Power input 38
Power supply 11
Power supply line 21
Processor 11
Program version 53
Protection class 11
Protection roof 19

R

Reader 11
Reader keypad 82
Reader second 34
Reader settings 67
Relay outputs 36
Remoteboot 60
Restart 61
RS232 interface 34

S

Second reader 34, 43
Serial interface settings 66
Serial number 13, 70
Service button 16, 46
Service functions 49

Service mode 47
Service module access rights 56, 57
Service module password 50
Service module user administration 57
Service module user name 50
Set-up 42
Setup list 73
Software option protection 58
Start of application 47
Start of service module 48
Subpartyline 32
Subterminal 21, 45
Subterminal settings 69
Supply voltage 37
Surface mounting 23
SV9001 power supply 38

T

Technical data 11
Technical data BEX500 UPS 40
Test license 58
Transfer rate 66

U

UDP port 68
Uninterruptible power supply BEX500 40
Use as directed 7

V

Verification 81