

Technical Description

MEW00249

Revision 2

External Fire Brigade Panels 1826 & 1828

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1 Introduction

This document¹ describes the External **Fire Brigade Panels 1826 & 1828**. Also the shorter expression **Ext. FBP** will be used in this document.

It also describes **1835**, Printer for Ext. FBP 1826.

The 1826 & 1828 units can run in one of two SW modes:

SW mode **1826/28 - 1587**

or

SW mode **1826/28 – 1582**

For more information see chapter "General description", page 5.

¹ Original file name: K:\PRO\FIRE\EBL\Doc\Eng\MEW00249rev2.doc

2 Definitions / Explanations

Definitions / explanations / abbreviations / etc. frequently used or not explained elsewhere in the document.

Ext. FBP External Fire Brigade Panel

C.i.e. Control and indicating equipment (=control unit)

C.U. Control unit (=Control and indicating equipment)

SW Software

HW Hardware

3 General description

The ext. FBP is intended to be used by the fire brigade personnel to get fire alarm information², reset fire alarms, silence alarm devices and the built-in buzzer. See also chapter "Operation", page 27.

3.1 Ext. FBP 1826



Figure 1. The external Fire Brigade Panel 1826.

The ext. FBP consists of a grey metal cabinet with a door. The door has a Plexiglas ahead of the FBP front and has to be unlocked / opened, with a special (Swedish) fire brigade key, to get access to the push buttons. There is a door switch that can be used to indicate in the c.i.e. when the door in the ext. FBP is open and disable the outputs for routing equipment (Fire brigade and fault tx). This is programmable, see Planning Instructions for the system respectively.

The cabinet has cable inlets on the top, bottom and back sides and is intended to be surface mounted in dry premises. Two compression glands TET 10-14 (IP67) are attached.

3.1.1 SW mode 1826/28 - 1587

The ext. FBP 1826 in **SW mode 1826/28 - 1587** has the highest performance with regard to functionality, response time, ability to store fire alarms, etc. and is intended to succeed the ext. FBP 2426 (1826+printer 1835 will succeed the ext. FBP 2425) but not as a spare part, since 1826, in this SW mode, requires an Ext. FBP / DU interface board 1587 in the EBL512 c.i.e. and the look, dimensions, etc. are not the same. EBL512 software version ≥ 2.2 is required.

² Also pre-warning, co-incidence (2-zone / address dependence) and heavy smoke / heat alarm.

This SW mode has to be used in EBL128 and an optional RS485 transceiver component 4552 is required on the main board.

3.1.2 SW mode 1826/28 - 1582

The ext. FBP 1826 in **SW mode 1826/28 - 1582** has the same functionality as the ext. FBP 2426 and can be used as a spare part (1826+printer 1835 is a spare part for the ext. FBP 2425), i.e. the performance is the same but the look, dimensions, etc. are not the same.³ 1826, in this SW mode, requires an Ext. FBP interface board 1582 in the EBL512 c.i.e.

This SW mode can not be used in EBL128.

3.1.3 Printer 1835

The Printer 1835 can be mounted in the unit ext. FBP 1826. It will print all the alarms, including the user definable text messages.

NOTE! This is only valid if and when the door is being opened. If the door is not opened until after all the alarms are reset, there will be no printing.

3.2 Ext. FBP 1828



Figure 2. The external Fire Brigade Panel 1828.

The ext. FBP consists of a compact size enclosure made of grey high impact ABS. Fitted with a supplementary "O" ring gasket, it will comply with IP65, in respect of dust and moisture. The unit has no door, i.e. the front is accessed directly, when required. A key is, however, required to get access to the push buttons and they are disabled until they are supposed to be used. The unit is intended to be surface mounted and for indoor use in dry premises. Two compression glands TET 7-10 (IP67) for cable inlets are attached.

³ Note! The alarm presentation will be like in the c.i.e. that ext. FBP is connected to, not as in 2425 / 2426. The 1826 / 1828 front does not hold any LED "Zone/Detector not reset", i.e. an encapsulated alarm point/zone will only be indicated in the c.i.e. (see EBL512 Operating Instructions).

3.2.1 **SW mode 1826/28 - 1587**

The ext. FBP 1828 **in SW mode 1826/28 – 1587** has the highest performance with regard to functionality, response time, ability to store fire alarms, etc. and is an alternative to the ext. Presentation display 2428, the Display unit 2236 and a compact size alternative to the ext. FBP 2426 but not as a spare part, since 1828, in this SW mode, requires an Ext. FBP / DU interface board 1587 in the EBL512 c.i.e. and the look, dimensions, etc. are not the same. EBL512 software version ≥ 2.2 is required.

This SW mode has to be used in EBL128 and an optional RS485 transceiver component 4552 is required on the main board.

3.2.2 **SW mode 1826/28 - 1582**

The ext. FBP 1828 **in SW mode 1826/28 - 1582** is an alternative to the ext. Presentation display 2428, the Display unit 2236 and a compact size spare part to the ext. FBP 2426, i.e. the performance is the same but the look, dimensions, etc. are not the same.³ 1828, in this SW mode, requires an Ext. FBP interface board 1582 in the EBL512 c.i.e.

This SW mode can not be used in EBL128.

4 Selective alarm presentation

Normally all fire alarms will be presented in the c.i.e.s, ext. FBP:s and Presentation units, etc. There are some possibilities to select which alarms that shall be presented in each unit. It is also programmable, if the fire alarm presentation shall be according to EN54, i.e. when only one point in a zone is in alarm status it will be presented as a point alarm (zone and address), else presented as a zone alarm.

4.1 Ext. FBPs 1826 & 1828

The alarm presentation in an ext. FBP will be like in the c.i.e. that the ext. FBP is connected to, i.e. point alarm or zone alarm presentation. See Operating Instructions, chapter "Fire alarm" for the system respectively.

Via Win512/Win128, it is possible to select which alarms that shall be presented in the ext. FBP respectively. For example, if there are many buildings in an installation, the ext. FBP in one specific building shall only present alarms activated within this building.

The following, so called operands are available (CU alternatives not valid for EBL128):

1. Control unit (**CU**)
2. Consecutive control units (**CU1, CU2**)
3. Zone (**zone**)
4. Consecutive zones (**zone1, zone2**)
5. Zone – address (**zone, addr**)
6. Consecutive zone – addresses (**zone1, addr1, zone2, addr2**)

Explanations / example:

1. **CU** = Control unit number (c.i.e. no. 00-29)
2. **CU1** = The first control unit number in the sequence. **CU2** = The last control unit number in the sequence.
3. **zone** = Zone number (001-999) In EBL128 (01-32).
4. **zone1** = The first zone number in the sequence. **zone2** = The last zone number in the sequence.
5. **zone, addr** = Zone number and address within the zone (001, 01 – 999, 99)
6. **zone1, addr1** = The first zone number and address in the sequence. **zone2, addr2** = The last zone number and address in the sequence.

Up to 50 operands can be used to make a, so called selector for an ext. FBP. Here follows a selector example:

Control unit (00), Consecutive zones (100, 500), Zone – address (900, 01) In this ext. FBP will only be presented alarms that origin from the c.i.e. no. 00 or from zone 100 up to and including zone 500 or from the alarm point 900-01.

Default for each ext. FBP is, in system EBL512: **Control units (00, 29)**, i.e. all alarms from all c.i.e:s will be presented in all ext. FBP:s.

Default for each ext. FBP is, in system EBL128: **Zones (01 - 32)**, i.e. all alarms will be presented in all ext. FBP:s.

5 LED indicators, Push buttons, etc.

The functions of the LEDs, push buttons, display and buzzer are described below.

5.1 Ext. FBP 1826 & 1828 front

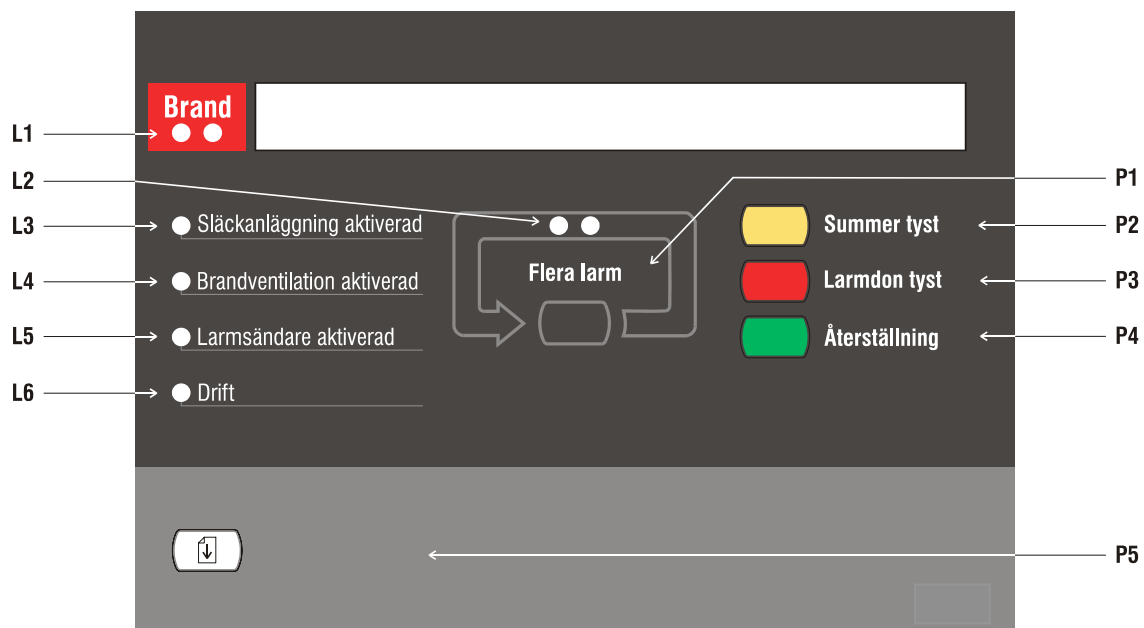


Figure 3. The external Fire Brigade Panel 1826 front. The designation texts are here shown in Swedish. The 1828 front looks the same, except the push button "P5" that is replaced with a keyhole. See also tables below.

The following is valid in quiescent (normal) condition:

- The LED "Operation" (L6) is turned on if 24 V DC is connected and the communication with the c.i.e. is working normally, else it is turned off.
- Buzzer is silent.
- No text in the display and no back-light.
- No button possible to use, except "Paper feed" (P5).

Table of LED indicators:


LED indicator		Colour	Indicating	
L1	Fire (Brand)	2 x Red	Blinking+ Buzzer (interm.)	Fire alarm. (Also indicating pre-warning, co-incidence ⁴ and heavy smoke / heat alarm the same way as in the c.i.e.)
			Cont. (no buzzer)	Like blinking + alarm devices are silenced by push button "P3".
L2	Alarms queued (Flera larm)	2 x Red	Blinking	More than one alarm. Use push button "Alarms queued" (P1) to scroll.
			Cont.	Like blinking + alarm devices are silenced by push button "P3".
L3	Extinguishing (Släckanläggning aktiverad)	Red	Cont.	Outputs for Extinguishing equipment are activated. ⁵
L4	Ventilation (Brandventilation aktiverad)	Yellow	Cont.	Outputs for (fire / smoke) ventilation equipment are activated. ⁵
L5	Fire brigade tx (Larmsändare aktiverad)	Red	Cont.	Output(s) for fire brigade tx (routing equipment is/are activated). ⁵
L6	Operation (Drift)	Green	Cont.	24 V DC is connected and the communication with the c.i.e. is working normally, i.e. the ext. FBP is in operation.

NOTE! Regarding "L2", see also chapter "SW mode & Address setting, page 15.

⁴ 2-zone / address dependence.

⁵ Indicating the same way, as in the c.i.e. the ext. FBP is connected to, i.e. by activated output(s) of the corresponding type or an activated input for the LED respectively.

Table of push buttons:

Push button		Colour	Operation / function
P1	Alarms queued (Flera larm)	Black	Used, when LED "Alarms queued" (L2) is turned on, to scroll through the queued alarms. (The first alarm will automatically be shown again after 20 seconds, if no button is used during that time.)
P2	Silence buzzer (Summer tyst)	Yellow	Used to silence the buzzer in the ext. FBP. The buzzer will re-sound for an alarm from another zone. ⁶
P3	Silence alarm devices (Larmdon tyst) ⁷	Red	Used to silence the alarm devices (sounders) ⁸ in the installation. The alarm devices will re-sound for an alarm from another zone ⁹ or if "P3" is pressed again. The LEDs "L1" and "L2" will change to cont. indicating silenced alarm devices.
P4	Reset (Återställning) ⁷	Green	Used to reset the fire alarm(s). ¹⁰
P5	 ¹¹	White	Used for paper feed (pappersframmatning) when a built-in printer 1835 is available. ¹²

NOTE! Regarding "P1" and "P2", see chapter "SW mode & Address setting, page 15 and regarding "P3", chapter "SW version", page 25.

In the Ext. FBP 1828, "P5" is replaced with a keyhole. A key is required to get access to the push buttons and they are disabled until they are supposed to be used.

⁶ When point alarm presentation is valid (set via Win512), the buzzer will re-sound for an alarm from another alarm point.

⁷ Press simultaneously "Silence alarm devices" (P3) & "Reset" (P4) for a test of the LEDs, the buzzer and the display (back light and dots). NOTE! This must only be done in quiescent condition.

⁸ I.e. the outputs for type 3 = alarm devices will be de-activated.

⁹ When point alarm presentation is valid (set via Win512), the alarm devices will re-sound for an alarm from another alarm point.

¹⁰ Multiple reset, Single reset or Single encapsulated reset, i.e. the same way as in the c.i.e. the ext. FBP is connected to.

¹¹ There is no symbol in this push button in the 1826 neutral front. The push button is replaced with a keyhole in the 1828 neutral front.

¹² A printer 1835 can be mounted in 1826 but not in 1828.

Table of others:

Component	Indicating	
Buzzer ¹³	Interm.	Fire alarm, pre-warning and co-incidence ⁴ , like in the c.i.e.
	Cont. + All LEDs turned off as well.	There is a CPU / memory fault in the ext. FBP
Display	Pre-warning, co-incidence ⁴ , Fire alarm and Heavy smoke / heat alarm presentation like in the c.i.e. the ext. FBP is connected to (including a user definable text message, if programmed). (NOTE! A fault message may be shown, indicating a communication fault (i.e. no connection between the ext. FBP and the c.i.e. All LEDs are turned off as well.).	
Printer ¹⁴	Fire alarm and Heavy smoke / heat alarm printout like the printer in the c.i.e. the ext. FBP is connected to (including a user definable text message, if programmed).	

NOTE! Regarding the Display, see also chapter "SW mode & Address setting, page 15.

¹³ The Buzzer may be programmed as "disabled" (via Win512/Win128), i.e. it will not sound.

¹⁴ A printer 1835 can be mounted in 1826 but not in 1828.

5.1.1 Neutral front

The ext. FBPs 1826 & 1828 are also available with a neutral front, where the designation texts are made separately and put into a transparent "text slot" for the LED and push button respectively.¹⁵

The LEDs and push buttons are described in chapter "Ext. FBP 1826 & 1828 front", page 10.

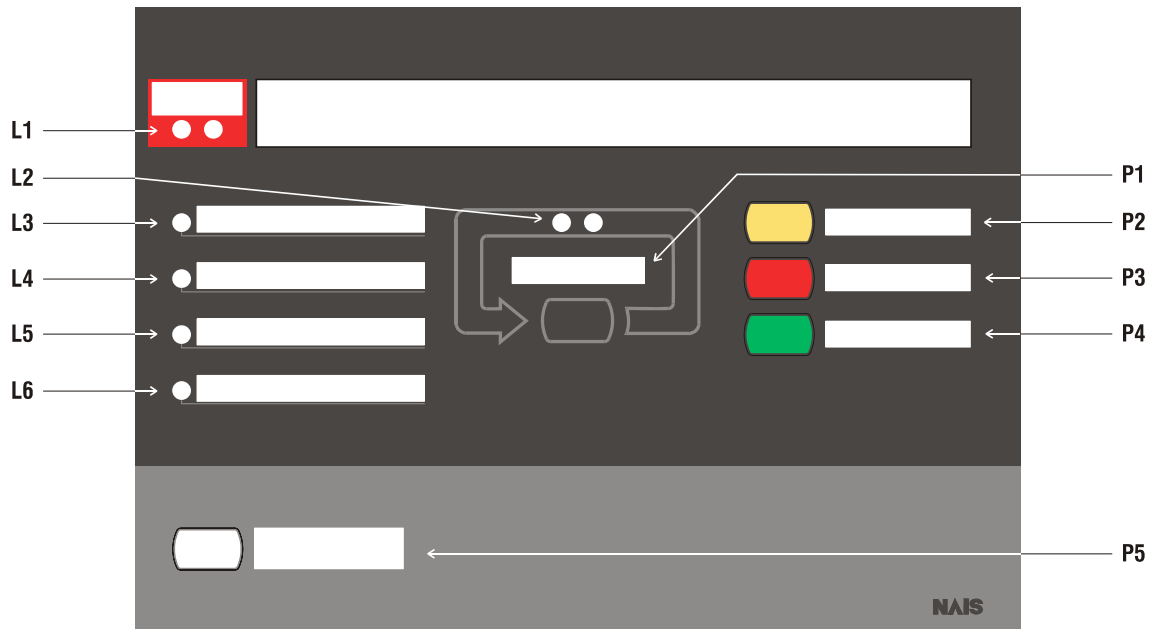


Figure 4. The external Fire Brigade Panel 1826 neutral front. The 1828 neutral front looks the same except the push button "P5" that is replaced with a keyhole. See also Figure 2, page 6.

¹⁵ This is made by the manufacturer before the front is mounted in the unit respectively.

6 SW mode & Address setting

Each ext. FBP can run in SW mode **1826/28 - 1587** or SW mode **1826/28 - 1582**, i.e. it can be used as two different types of units. It shall also have a unique **address** on the line connected to the 1587 or 1582 board in the EBL512 c.i.e. See EBL512 Planning Instructions.

The SW mode **1826/28 - 1587** has to be used in EBL128 and an optional RS485 transceiver component 4552 is required on the main board. See EBL128 Planning Instructions.

6.1 SW mode setting

A brand new ext. FBP has no SW mode. It is factory set to "**Not selected**" (and is hereby not addressable). When it is **powered** it will automatically be ready for the "SW mode setting".

As an alternative, an ext. FBP **in operation**¹⁶ can be ready for the "SW mode setting" via the jumper "J4" in the unit. See the following chapter.

When the ext. FBP is ready for the "SW mode setting" this is indicated by the LED "Alarms queued" (L2). The back-light is turned on and the following information is shown in the display:

MODE SETTING!	Change = Black
Type: XXXXXXXXXXXX	Store = Yellow

XXXXXXXXXXXX can be changed to one of the following:

- **1735 - 1587**
- **1736 - 1587**
- **1826/28 - 1587**
- **1826/28 - 1582**
- **1728 - 1587**
- **1728 - 1582**
- **Not selected**

Scroll to the wanted SW mode¹⁷ with the push button "P1" (black). Store the selected SW mode with the push button "P2" (yellow) and the unit will automatically be ready for the "Address setting", see below.

NOTE! If the stored SW mode is **1726/28 - 1582** also a **language** has to be set before the address can be set¹⁸. The following information will be shown in the display:

¹⁶ Or when a unit, not in operation but with the mode and address set before, is powered.

¹⁷ For an ext. FBP is one of the following modes possible to use: **1826/28 - 1587** or **1826/28 - 1582**. ("Not selected" can also be selected.)

¹⁸ If the stored SW mode is **1826/28 - 1587** the language will be downloaded via the c.i.e.

LANGUAGE SETTING!	Change = Black
Language: XXXXXXX	Store = Yellow

XXXXXXX can be changed to one of the following languages:

- **English**
- **Danish**
- **Swedish**

Scroll to the wanted language with the push button "P1" (black). Store the selected language with the push button "P2" (yellow) and the unit will automatically be ready for the "Address setting ", see below.

6.1.1

SW mode setting via jumper "J4"

An ext. FBP **in operation**¹⁶ will be ready for the "SW mode setting" via the jumper "J4" in the unit. Activate "J4" momentarily.¹⁹

When the ext. FBP is ready for the "SW mode setting" this is indicated by the LED "Alarms queued" (L2). The back-light is turned on and the following information is shown in the display:

MODE SETTING!	Change = Black
Type: XXXXXXXXXXXX	Store = Yellow

Continue in accordance with chapter "SW mode setting", page 15.

6.2

Address setting

After the SW mode setting or after the language setting (see above), the ext. FBP is ready for the "address setting".

As an alternative, an ext. FBP **in operation**²⁰ can be ready for the "address setting" directly via the c.i.e. (menu H5/A9). See the following chapter.

When the ext. FBP is ready for the "address setting" this is indicated by the LED "Alarms queued" (L2). The back-light is turned on and the following information is shown in the display:

ADDRESS SETTING	Change = Black
Address: XX	Store = Yellow

XX can be changed to the following:

For an ext. FBP with SW mode 1826/28 - **1587**, the address can be set to **00-15**.²¹ (Default is "00".)

For an ext. FBP with SW mode 1826/28 - **1582**, the address can be set to **01-08**.²¹ (Default is "01".)

¹⁹ If "J4" is not removed, the ext. FBP will not enter its normal operation mode after the restart but start from the beginning again, ready for the SW mode setting.

²⁰ Or all the ext. FBPs connected to the same Ext. FBP / DU interface board 1587.

²¹ This is the max. no. of addresses. The max. no. of units connected, is depending on the type of units (printer / no printer) as well as the system. Ext. power supply can be used.

Scroll to the wanted address with the push button "P1" (black). Store the selected address with the push button "P2" (yellow) and the unit will automatically restart and enter its normal operation mode.²²

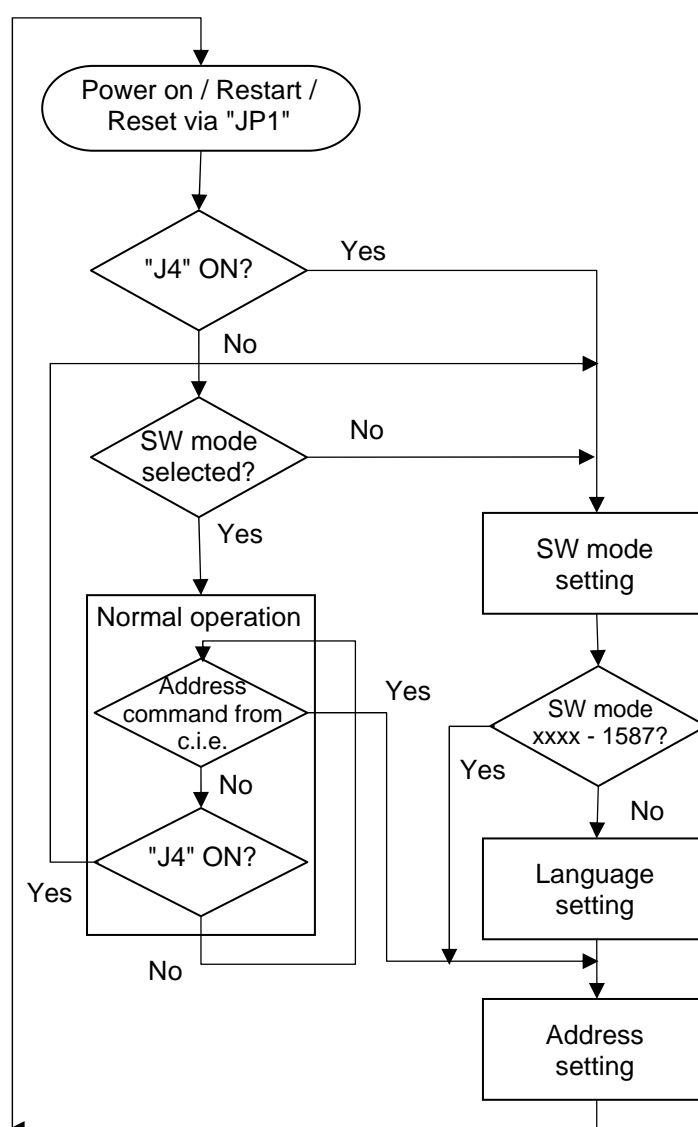
6.2.1 Address setting mode via the c.i.e.

A specific ext. FBP or all the ext. FBPs connected to the same line (RS485) can, in normal operation, from the c.i.e. receive a command and get ready for the "Address setting" directly. This is done via menu H5/A9, see the Operating instructions for the system respectively.

6.3 Flow chart

On the following page is a flow chart, showing the SW mode setting, Language setting, Address setting, etc.

²² If the unit has no SW mode, i.e. "Not selected", it will not enter its normal operation mode after the restart but start from the beginning again, ready for the SW mode setting.



7 User definable text messages

The user definable text messages (alarm texts) are depending on which mode the unit is running in.

In SW mode 1826/28 - 1587

In the c.i.e., each alarm point (zone – address) and each zone can have an individual user definable text message²³ presented in the alphanumeric display by fire alarm, see the Planning and Operating Instructions for the system respectively.

The user definable text messages shown in the c.i.e. will also be sent out to each ext. FBP and shown in its display.

As an alternative, text messages for all or selected alarm points / zones can be stored in each ext. FBP²⁴. If so, these text messages will be shown instead of the text messages sent out from the c.i.e.

The priority order is as follows:

1. Point alarm text stored in the ext. FBP.
2. Zone alarm text stored in the ext. FBP.
3. Default alarm text stored in the ext. FBP.
4. Text sent out from the c.i.e.

When text messages shall be stored in all or in some ext. FBPs, the unique text messages are created in Win512 / Win128 and downloaded when the c.i.e. site specific data (SSD) is downloaded.

NOTE! It is also possible to select which fire alarms that shall be presented in the ext. FBP respectively, see chapter "Selective alarm presentation", page 8.

In SW mode 1826/28 - 1582

The user definable text messages²³ shown in the c.i.e. will also be sent out to each ext. FBP and shown in its display.

²³ Each text message (up to 40 alphanumeric characters) will be shown on the second row. The text messages are created and downloaded via Win512 / Win128.

²⁴ At least 617 text messages can be stored in each unit.

8 Commissioning a new unit / SSD download

The 1582 / 1587 board shall be mounted in the EBL512 c.i.e. and the fuse "F1" shall be removed. The cable (RS485 line) to the ext. FBP(s)²⁵ shall be connected.

The EBL128 c.i.e. shall be powerless and the "RS485 transceiver component 4552" shall be plugged on the main board. The cable (RS485 line) to the ext. FBP(s)²⁵ shall be connected.

The SW mode and the address have to be set in each new ext. FBP according to chapter "SW mode & Address setting", page 15. Here follows a brief summary (a recommended sequence of actions):

1. Connect the cable from the c.i.e. to the ext. FBP's terminal block.
2. When all connections are done put back the fuse "F1" on the 1582 / 1587 board in the EBL512 c.i.e. / power up the EBL128 c.i.e., i.e. the ext. FBP(s) will now be powered up.
3. A brand new ext. FBP will automatically be ready for the SW mode setting.
4. After SW mode and address setting press "P2" (yellow) and the ext. FBP will restart, see chapter "Restart", page 22.
5. Since the SSD is not downloaded in the c.i.e. there will be a fault message in the ext. FBP's display:
"No contact with Control unit".
All LED:s in the ext. FBP will be turned off.
6. Now the SSD have to be downloaded via Win512 / Win128.²⁶
Connect the PC to the c.i.e. In the "Win512 / Win128 download SSD" dialog box, verify that the "Download FBP / AAU" checkbox is marked. Start the download of SSD.
7. After download of SSD to the c.i.e. it will restart and the download of SSD to the ext. FBP(s) will take place.
During the download to the ext. FBP will in the display be shown:
"SSD download in progress....."
8. After download of SSD to an ext. FBP, will in the display be shown (very quickly):
"SSD Download Memory OK"

²⁵ One or more ext. FBPs and/or Alert Annunciation Units can be connected.

²⁶ Via Win512 is the 1582 / 1587 board programmed. Via Win512 / Win128 is each unit (e.g. an ext. FBP) programmed regarding Address, Selective alarm presentation, if the buzzer should be disabled etc. When required, also "User definable text messages" (alarm texts).

(or **"SSD Download Memory Fault"**)

After that it will restart, see chapter "Restart", page 22.

9. The unit will then start working in normal operation mode.

9 Restart

The ext. FBP will **restart**:

- After it is powered up
- If the jumper "JP1" is activated momentarily
- After address setting (i.e. "P2" is pressed).
- If the contact with the Control unit is OK again after "No contact with Control unit".

During the restart will in the display be shown (no back-light):

"Checking program memory..."

and after that (very quickly)

"Program memory OK."

and

"SSD memory OK."

All LED:s will be turned on during the restart.

If there is a program memory fault, there will be a fault message in the display:

"Memory fault in program area (n)" (n=1 or 2).

The ext. FBP will not work.

There will also be a fault message in the c.i.e.:

In the EBL512 c.i.e.:

"FAULT: Comm, FBP xx, 1587 board x, CU xx".

In the EBL128 c.i.e.:

"FAULT: No reply FBP x.

If there is an SSD (Site Specific Data) memory fault or no SSD downloaded, there will be a fault message in the display:

"SSD memory fault"

The ext. FBP will work since the user definable text messages will be sent out from the c.i.e.

There will also be a fault message in the c.i.e.:

In the EBL512 c.i.e.:

"FAULT: SSD, FBP xx, 1587 board x, CU xx".

In the EBL128 c.i.e.:

"FAULT: Site specific data (SSD), FBP x.

10 Fault messages

Here follows a list of the fault messages that might be displayed in the ext. FBP and in the c.i.e. respectively.

10.1 Fault messages in the ext. FBP

"No contact with control unit" The contact with the c.i.e. is interrupted for ≥ 45 sec. In a brand new ext. FBP this message will be in English. After commissioning of the ext. FBP (i.e. after SSD download) the message will be in the same language as in the c.i.e. Check the cable, all connections, the 1582 / 1587 board in the EBL512 c.i.e. and the RS485 transceiver component 4552 in the EBL128 c.i.e. Is a correct / complete SSD download (via Win512 / Win128) performed? Check the address setting (1582 / 1587 board in EBL512 / the ext. FBP), SW mode setting, etc.

"SSD memory fault" See chapter "Restart", page 22.

"SSD Download Memory Fault" in conjunction with SSD download, see chapter "Commissioning a new unit / SSD download", 20.

"Memory fault in program area (n)" See chapter "Restart", page 22.

10.2 Fault messages in the c.i.e.

10.2.1 EBL512 c.i.e.

"FAULT: 1587 board x, CU xx"

Fault on / no communication to the 1587 board No. x in control unit No. xx. Check address setting and connections on the board. Check programming (Win512).

"FAULT: Comm, FBP xx, 1587 board x, CU xx"

The contact with the ext. FBP is interrupted. Check the cable, all connections and the 1582 / 1587 board. Is a correct / complete SSD download (via Win512) performed? Check the address setting (1582 / 1587 board / the ext. FBP), SW mode setting, etc. See also chapter "Restart", page 22.

"FAULT: FBP xx, 1587 board x, CU xx"

The ext. FBP is programmed (via Win512) as another type of unit or there is a fault in the ext. FBP.

"FAULT: Fuse, 1587 board x, CU xx"

Check for blown fuse(s) on the 1587 board.

"FAULT: SSD, FBP xx, 1587 board x, CU xx"

See chapter "Restart", page 22.

10.2.2

EBL128 c.i.e.

"FAULT: No reply FBP x.

The contact with the ext. FBP is interrupted. Check the cable and all connections. Is a correct / complete SSD download (via Win128) performed? Check the address setting, SW mode setting, etc. See also chapter "Restart", page 22.

"FAULT: FBP x "

The ext. FBP is programmed (via Win128) as another type of unit or there is a fault in the ext. FBP.

"FAULT: Site specific data (SSD), FBP x.

See chapter "Restart", page 22.

11 Software (SW)

The software is stored in a flash memory in each ext. FBP. This software can be replaced / updated (i.e. downloaded via Win512 / Win128). All units connected to the same RS485 line have to have the same SW version and it is highly recommended to have the same SW version in all the display units in the system.

11.1 SW version

The SW version can be presented as follows:

- 1 Do the same as by SW mode and address setting, see chapter "SW mode setting", page 15.
- 2 When the following is displayed:

MODE SETTING!	Change = Black
Type: XXXXXXXXXXXX	Store = Yellow

....press push button "P2" (yellow) and the following will be displayed:

ADDRESS SETTING	Change = Black
Address: XX	Store = Yellow

....press push buttons "P1" (black) and "P2" (yellow) simultaneously and the following will be displayed:

Latest restart type: nn	Addr: aaaaaaaa
Program version: V.vvvv	

nn = restart type (code) and **aaaaaaaa** = memory address before restart.

- nn=00: Power On Reset. (Power supply connected)
- nn=01: Watchdog Reset.
- nn=02: Accidental jump to reset vector.
- nn=03: External reset caused by external watchdog / user (e.g. after SSD download) or jumper "JP1" (RESET) has been used.
- nn=4-19: Unexpected interrupt.

If nn=01, 02 or 04-19 appear often, call for service personnel / engineer.

V.vvvv = SW version (e.g. 1.0).

- 3 Press push buttons "P1" (black) and "P2" (yellow) simultaneously and the following will be displayed:

ADDRESS SETTING	Change = Black
Address: XX	Store = Yellow

- 4 Press push button "P2" (yellow).
- 5 The ext. FBP will restart, i.e. the buzzer will sound for approx. two seconds and the unit will return to normal operation.


11.2

SW download

Each ext. FBP is equipped with an RS232 interface ("J2"), which makes it possible to connect a PC and carry out the downloading directly in the ext. FBP respectively.

1. Prepare the PC and start Win512 / Win128. In Win512 Select the ext. FBP icon and click the right mouse button. Select "Download program". In win128, in menu "Tools" select "Download FBP/ EPU / AAU Software". Select the SW file to be downloaded, i.e. DU_version.BIN (where "version" is the valid program version, e.g. 11=program version 1.1). Check / set the COM port and baud rate. See also the Win512 / Win128 help.
2. Connect the PC to the ext. FBP ("J2").
3. Put the jumpers "JP3" and "JP4" in position "A".
4. Put the jumper "JP2" (BOOT) in position.
5. Put the ext. FBP in "bootstrap" mode, i.e. put the jumper "JP1" (RESET) in position **momentarily**. The buzzer will sound.
6. Start the downloading. (The buzzer will be silenced.)
7. When the download is ready remove the jumper "JP2" (BOOT).
8. Put the jumpers "JP3" and "JP4" in position "B".
9. Do a restart, i.e. put the jumper "JP1" (RESET) in position **momentarily**. The buzzer will sound for approx. two seconds and the unit will return to normal operation.
10. Regarding fault messages, see chapter "Restart", page 22.

12 Operation

In normal operation (quiescent cond.) the LED "Operation" (L6) is turned on, the alphanumeric display is blank (back-light off) and the buttons are not possible to use except  (P5)¹⁴.

NOTE! In ext FBP 1826, the door has to be opened with the key and in FBP 1828, the key has to be activated, to get access to the push buttons.

Pre-warnings, co-incidence⁴, fire alarms and heavy smoke / heat alarms will be presented and printed (when a printer is available)¹⁴ like in the c.i.e. the ext. FBP is connected to (including a user programmable text message, if programmed).

See also chapter "Selective alarm presentation, page 8.

NOTE! The printing will be done only if and when the door is being opened. If the door is not opened until after all the alarms are reset, there will be no printing.

Fire alarm reset can be done in any ext. FBP and in any c.i.e.²⁷

When all fire alarms are reset, all ext. FBPs will return to normal operation (quiescent cond.).

The following page / figure shows an operation summary for the ext. FBP 1826 (and 1828).

See also chapter "SW mode & Address setting, page 15.

NOTE! The ext. FBP in the figure is only schematic, i.e. the positions of the different LEDs, push buttons, etc. are not according to Figure 3, on page 10.

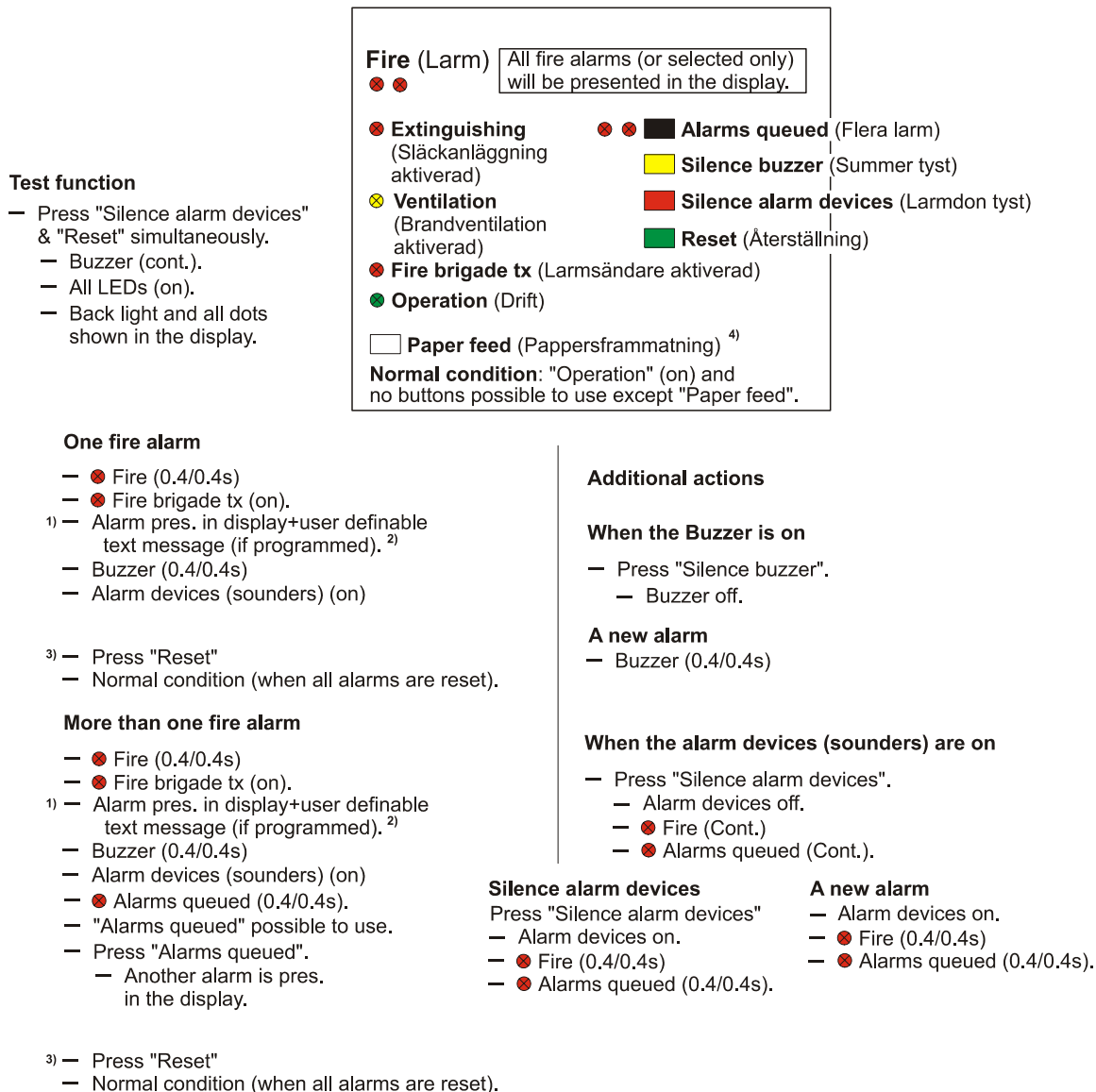
²⁷ **Single reset / Multiple reset / Single encapsulated reset** (like in the c.i.e.): Press "P4". Independent of the c.i.e., the following is valid in 1826/28 – 1587 mode:

Multiple reset: Press "P4" and "P5" simultaneously.

Single encapsulated reset: Press "P4" and "P1" simultaneously.

For more information regarding the reset alternatives, see the Operating instructions for the system respectively.

Ext. FBP 1826 & 1828

**Explanations**

¹⁾ Zone or point alarm presentation, i.e. the same way as in the c.i.e. Also a print-out when printer is available.

²⁾ User programmable text message sent out from the c.i.e. or stored in the ext. FBP.

³⁾ Fire alarm reset (Multiple, Single or Single encapsulated reset, i.e. the same way as in the c.i.e. Reset can be done in the ext. FBP or in the c.i.e.

⁴⁾ Not in 1828.

NOTE!

Not only fire alarms will be presented in the display, pre-warnings, co-incidence and heavy smoke / heat alarms will be presented as well (the same way as in the c.i.e.).

Figure 5. Operation summary for the Ext. FBP 1826 (and 1828). (Co-incidence alarm = 2-zone / address dependence.)

NOTE! When 1826 has a printer mounted, there will be a test print-out in conjunction with the test function.

13 Connections

The ext. FBP 1826 / 1828 main board is equipped with a plug-in terminal block (J1:1-8) for the cable connections. Up to 1.5 mm² conductor area can be used.

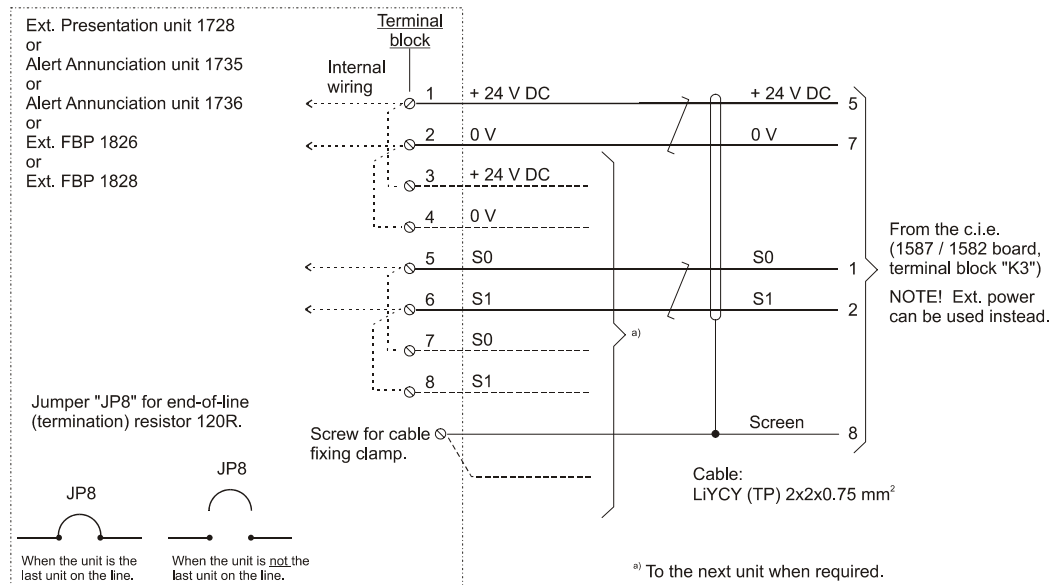


Figure 6. The ext. FBPs 1828 & 1826 connections to the terminal block "J1". The jumper "JP8" only has to be on place (shunted) in the last unit on the line. **NOTE!** In EBL128: +24 V / 0V / S0 / S1 to terminal block J1: 13 / 14 / 15 / 16.

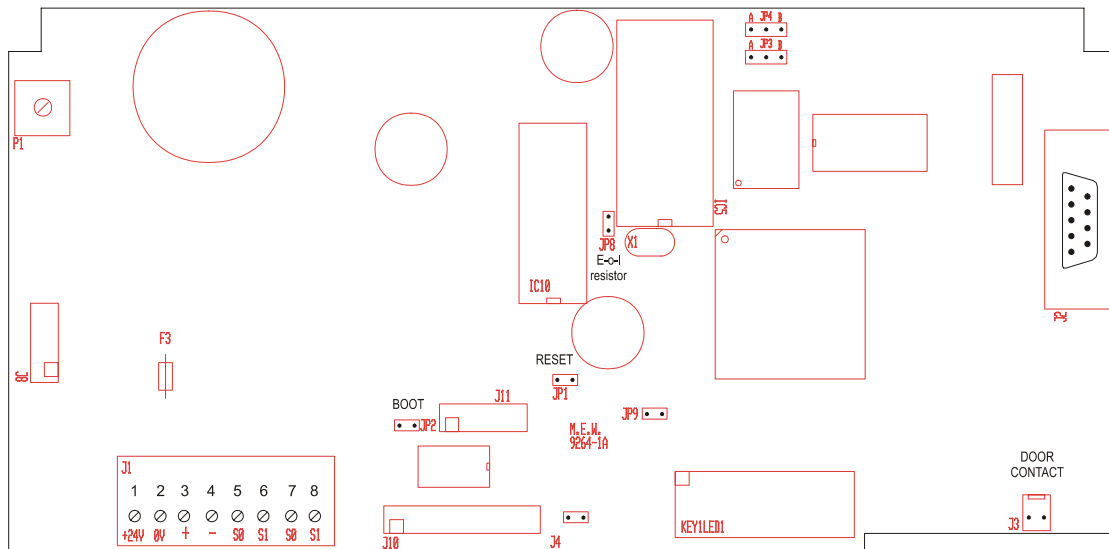


Figure 7. The ext. FBPs 1826 & 1828 main board p.c.b. Position of the terminal block "J1", the jumper "JP8", etc.

Comments to the components:

F3	1.5 A fuse (not replaceable; the whole p.c.b. should be replaced).
J1	Terminal block for the ext. FBP's connections.
J2	"D" connector (9 ways, male), RS232 interface for SW download. (Note, jumpers "JP3" and "JP4" have to be in pos. "A".)
J3	Connector for door contact (1826) / key switch (1828).
J4	Used when SW mode and address setting shall be done.
J8	Not used in 1826 & 1828.
J10	Connector for printer (1835) board in 1826.
J11	Connector for printer (1835) board in 1826.
JP1	Reset. (Restart of the ext. FBP.)
JP2	Boot. (The ext. FBP has to be in "bootstrap" mode before SW download.)
JP3	Pos. "A": PC, for SW download, connected via "J2". Pos. "B": The ext. FBP is connected to the c.i.e. (default).
JP4	Pos. "A": PC, for SW download, connected via "J2". Pos. "B": The ext. FBP is connected to the c.i.e. (default).
JP8	Used when the ext. FBP is the last unit on the line, i.e. to connect the built-in end-of- line resistor (120R).
JP9	Paper feed. (Normally not used.)
KEY1LED1	Connector for the front panel.
P1	Potentiometer for LCD contrast.

14 Technical data

14.1 Power supply

Nominal voltage for the ext. FBPs 1826 & 1828 is 24 V DC.²⁸

The number of ext. FBPs²⁹ that can be power supplied from the c.i.e. is depending on if each ext. FBP 1826 has a printer or not, as well as all other units connected to the same RS485 line (i.e. the current consumption).

As an alternative, the units can be power supplied from an external power supply.

14.2 RS485

The ext. FBPs communicate with the c.i.e. via RS485, i.e. in EBL512 via the "Ext. FBP / DU interface board" 1587 (data rate 9600 baud) or the "Ext. FBP interface board" 1582 (1200 baud), mounted in the c.i.e. and in EBL128 via the "RS485 transceiver component 4552" plugged on the mother board in the c.i.e.

In the last unit on the line, a termination resistor (120R) has to be connected. In the ext. FBPs 1826 & 1828 this is done via jumper "JP8". ("JP8" mounted = the termination resistor is connected.)

14.2.1 Cable

The cable to be used should be LiYCY (Twisted Pairs) 2 x 2 x 0.75 mm² (screened - tinned copper braid) or equivalent. Cable length up to 1200 m (theoretically). Note! The cable length is also depending on the current consumption, i.e. the type and number of units connected.

NOTE! In system EBL128 the screen is not used / connected.
2 x ELQYB 2 x 1 mm (0.75 mm²) can be used.

14.3 RS232

The ext. FBPs are equipped with an RS232 interface (J2), which makes it possible to download new SW directly to the ext. FBP respectively.

14.4 Connection

The ext. FBPs are equipped with a plug-in terminal block (J1) for the cable connections. Up to 1.5 mm² conductor area can be used.

14.5 Current consumption

The current consumption is depending on the type of unit and the actual voltage on the line.

²⁸ Allowed voltage is 12 – 30 V DC.

²⁹ On each 1582 board are up to eight addresses available. On each 1587 board are up to sixteen addresses available.

The following table shows the current consumption for the different units in relation to the actual line voltage (min. and normal respectively):

Unit	Current consumption			
	Quiescent (mA)		Active (mA)	
	12 V DC	24 V DC	12 V DC	24 V DC
Ext. FBP 1826 / 1828	48	26	88	49
Printer 1835 ³⁰	7	4	345	161

³⁰ Printer 1835 can only be mounted in ext. FBP 1826.

15 Revision history

Revision 1

Figure 3 (page 10) replaced to the 1826 front (instead of the 1828 front).

Revision 2

In the whole document are elucidations and small corrections made, EBL128 info added and EBL512 info specified.

New chapters 8, 9 and 10 are added, i.e. the old chapter 8 is now chapter 11, the old chapter 9 is now chapter 12 and so on.

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