Matsushita Electric Works
Fire & Security Technology AB

Operating Instructions

MEW00442

Revision -

Fire Alarm System EBL512
V1.44.x

Author: Jan Pettersson	Date: 2003-09-09	Rev. date:
Checked by: Mikael Östergren	S-class: Public	Rev. by:
Approved by: Rutger Pålsson		Number of pages: 111

This page has deliberately been left blank.

Table of contents

1 Introduction

EBL512 Operating Instructions, is a document intended to be used by the end user and the fire brigade personnel as well as service / commissioning engineer.

Due to continual development and improvement, different SW versions are to be found. This document is valid for **SW version 1.44.x**.

Since the EBL512 control unit (c.i.e.) is produced for many countries the look, the texts, the functions, etc. may vary.

Products

Consists of one or more parts (HW) according to a **Product Parts List**. A product has:

- a **type number** (e.g. **1548**)
- an **article number**, often = the type no. and sometimes is a country code added (e.g. **1548SE**)
- a **product name** (e.g. **EBL512 control unit, 128 addresses, without printer**)

HW

A HW (e.g. a **p**rinted **c**ircuit **b**oard) has:

- a **type number** (e.g. **1556**)
- an **article number**, often = the type no. and sometimes is a country code added (e.g. **1556SE**)
- a **product name** (e.g. **Main Board 128 addr.**)
- a **p.c.b. number** (e.g. **9261-3A**) and could have a configuration (e.g. **CFG: 1**), a revision (e.g. **REV: 2**)
- sometimes a **SW**

SW

A SW has:

- a **version number** (e.g. **V1.44.1**)
- sometimes additional information, such as **Convention** (different functions / facilities), **Language**, **Number of addresses**, etc.

2 Definitions / Explanations

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

2.1 MFSTech

Matsushita Electric Works **F**ire & **S**ecurity **Tech**nology AB

2.2 Alarm points

Units, which can generate fire alarm (in the control unit), i.e. a sensor, a conventional detector, a manual call point, etc.

2.2.1 Smoke detector

Two types of analog and conventional smoke detectors are available: photo electric (optical) and ionization.

2.2.2 Sensor

Sensor = Analog detector

2.2.3 Analog detector

Contains an A/D-converter. The **C**ontrol **U**nit pick up the digital values ("sensor values") for each detector individually. All evaluations and "decisions" are then made in the C.U. Analog detectors are addressable – an address setting tool is used for detector types **3**xxx and a DIL-switch in the **ASB** (see below)for detectors **2**xxx. An analog detector has to be plugged in an ASB.

2.2.4 (Analog) Sensor Base (ASB)

A sensor is plugged in an ASB, which is connected to a COM loop (see below). Sensor Base types **2**xxx have a DIL-switch for COM loop address setting.

2.2.5 Conventional detector

Detector with two states, normal or fire alarm. The detector contains a closing contact and a series alarm resistor. Some types are plugged in an **ADB** (see below) or a **CDB** (see below). Some types are also available as addressable, to be connected to a COM loop (see below).

(Normally plugged in a **CDB** (see below), connected to a conventional zone line with end-of-line resistor.)

2.2.6 Conventional Detector Base (CDB)

A conventional detector is plugged in a CDB, connected to an external line, an addressable zone interface, conventional zone line, etc.

2.2.7 Addressable Detector Base (ADB)

A conventional detector is plugged in an ADB, connected to a COM loop (see below).

2.2.8 Addressable

A unit with a built-in address device, i.e. each unit is individually identified, handled and indicated in the control unit.

(The unit can consequently be an addressable zone interface, to which one or more conventional "alarm points" can be connected.).

2.2.9 Old detector

Conventional detector with a closing contact (short circuit; no alarm resistor), or detector with two breaking contacts.

2.2.10 External line / Conventional zone line

Input (to an ADB / an addressable zone interface or expansion board), intended for one or more conventional alarm points. End-of-line resistor in the last alarm point.

2.2.11 ADB input / Addressable zone interface

Unit with an input (ext. line / conventional zone line) intended for one or more conventional alarm points. End-of-line resistor in the last alarm point.

2.3 Output unit

Addressable unit with programmable control outputs. To be connected to a COM loop (see below).

2.4 Output / Control output

Defined or programmable function. Relay or (supervised / monitored) voltage output, in the C.U. or an output unit.

2.5 Short circuit isolator

Addressable unit for automatic disconnection of a part of a COM loop (see below) in case of a short circuit on the loop.

2.6 Display unit

Addressable unit for fire alarm presentation (incl. user definable text messages, if programmed). Connected to a COM loop (see below).

2.7 COM loop

Loop = a cable, with two wires, to which all the addressable MFSTech units can be connected. It starts in the C.U. and it returns back to the C.U.

2.8 BS4 loop

Loop = a cable, with two wires, to which all the addressable Autronica (BS100) units can be connected. It starts in the C.U. (EBL512) and it returns back to the C.U.

2.9 Control Unit (C.U.) / C.I.E.

Control **U**nit = **C.U.** = **C**ontrol and **I**ndicating **E**quipment = Unit to which the alarm points are connected, e.g. EBL512. Indicates fire alarm, fault condition, etc. Fire Brigade Panel & Control Panel (see below) included or not included. Printer included or not included.

2.10 Fire Brigade Panel (FBP)

Unit intended for fire alarm presentation, etc. for the fire brigade personnel. Can be a part of the control unit (front adhesive) or a separate unit; an **external FBP**.

In the ext. FBP. a printer can be included or not included.

2.11 Control panel (CP)

A part of the control unit (front adhesive), intended for the building occupier, service personnel, etc., to "communicate" with the control unit / system.

2.12 System

Several control units connected via a TLON network (co-operating control units).

2.13 Network / TLON® / LonWorks® / Echelon / Node / TLON Conn. board / Gateway / Channel / Router / Repeater

Brief explanations to the words/expressions to be found in connection with a "network". See also separate TLON Technical description.

TLON® = TeleLarm Local Operating Network = a LonWorks®- based network[1] for communication between several control units (nodes). The protocol is LonTalk and the transmission works with doubly-terminated bus topology (Echelon FTT-10). To connect a control unit to the network, a TLON connection board is plugged in the control unit. (Some old types of control units, not prepared for network connection, have to be connected via a serial interface and a Gateway).

A network can be one channel (FTT-10) or several channels, connected via routers or repeaters.

Repeaters are used to increase the maximum cable length, C.U. to C.U. in a network.

[1] LonWorks® = A "summing-up-name" for the market of Echelon Corporation Inc. technology.

Router or Repeater is the same type of unit (different configuration). All network programming (configuration) are made with the PC program "TLON Manager".

2.14 LED

LED (**L**ight **E**mitting **D**iode) = Yellow, green or red optical indicator ("lamp").

2.15 External Indicator (LED)

A unit with an LED. Connected to an ASB, ADB, CDB or a detector with a built-in LED. Lit when the built-in LED is lit.

2.16 Display / LCD

LCD (**L**iquid **C**rystal **D**isplay) = Display for presentation of fire alarms, fault messages, etc. Normally alphanumeric characters and backlight.

2.17 Door open / Key switch

In most EBL512 configurations there is a door switch which is activated when the control unit door is opened. In some configurations does a key switch replace this door switch.

The LED "Key switch" is indicating "door open" / key switch in position "access".

2.18 SSD / Site Specific Data

This data is unique for each installation. All alarm points, presentation numbers, user definable text messages, programmable outputs, etc. are programmed (configured) in the PC program **Win512** and has to be downloaded in EBL512.

2.19 SW / Software / System program

The SW makes the control unit (the microprocessor) work. It is factory downloaded but a new version can be downloaded in EBL512 on site.

3 Overview

3.1 The EBL512 system

EBL512 is a microprocessor controlled intelligent fire alarm system, intended for analog addressable smoke detectors, as well as conventional detectors and manual call points. Programmable control outputs and output units are available. Up to 512 addresses can be connected to each control unit (c.i.e.).
Regarding alarm points, outputs, display units, etc. see chapter "Definitions / Explanations", page 6.

EBL512 is available in several types, versions and configurations. It can be connected to a TLON network, a "system", with up to 30 independent control units. Each control unit has total access to all information.

EBL512 is designed according to the European standards EN 54, part 2 and 4.

3.1.1 Expansion boards

In the control unit (c.i.e.) it is possible to mount up to six expansion boards. The following types are available:

1580 8 zones expansion board

1581 8 relays expansion board

1582 External FBP interface board[2]

1583 German FBP interface board[3]

1584 Autronica interface board (four BS4 loops)[4]

Regarding the expansion boards, see the EBL512 Planning Instructions.

3.1.2 Printer

In control unit 1548 it is possible to mount a 1558 Printer.

3.2 SW versions

Due to continual development and improvement, different SW versions could be found. When installing a new control unit in a system with "older" control units, you may have to update the SW in the old control units.

---

[2] Max. two 1582 boards per C.U.

[3] Max. one 1583 board per C.U. 1583 board is **not** possible to use in Swedish convention.

[4] Max. four 1584 boards per C.U.

3.3 Documents

The following documents are available:

- Planning instructions (incl. drawings)
- Operating instructions

Normally information that is found in one document is not to be found in another document, i.e. the documents complements each other.

3.4 Applications

The EBL512 system is intended for small, medium and large installations. The intelligent control units offer the system designer and end user a technically sophisticated range of facilities and functions. Programming (PC SW Win512) and commissioning of the control unit / system is very easy. Start with one control unit and then, when required, add more units. The TLON network makes it possible to install the control units in one building or in many buildings.

3.5 PC SW

Win512 is used for programming and commissioning of one or more control units:

- download / backup of site specific data
- download of SW / settings / configurations / C.U. & system data
- create and download the user definable text messages shown in the alphanumeric display in the C.U. / ext. FBP and in the Display units.

TLON Manager is used for programming of network data / addresses / etc.

NEWTEXT (DOS based "older" program) could be used to create / download the user definable text messages shown in the Display units connected to the COM loops.

4 Control Unit

Figure 1. EBL512 Control Unit (1548 / 1549). The look may vary according to configuration, country, etc.

The control unit (c.i.e.) is housed in a grey metal cabinet. The door has a Plexiglas ahead of the FBP part, see Figure 1. When the door is open, you fully see the front adhesive (the **F**ire **B**rigade **P**anel, **FBP**, and **C**ontrol **P**anel, **CP**), see Figure 2.

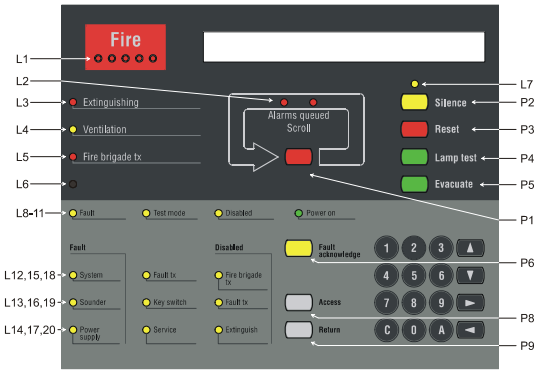


Figure 2. Front adhesive; FBP (upper black part) and CP (lower grey part) in EBL512. The look may vary according to configuration. (English config. in figure).

The fire brigade personnel use the FBP to see which alarm point(s) having generated fire alarm. In the display (LCD, 2x40 alphanumeric characters), is on the first row displayed the zone number and the

address within the zone. On the second row is shown a user definable text message, if programmed.

Required fire brigade personnel manoeuvres can be performed from the FBP.

The CP is used to "communicate" with the system, e.g. for commissioning, monthly tests or maintenance. The CP has several system status LEDs. A keypad is used to get access to the system (a menu tree with main and sub menus) and for different manoeuvres.

Access codes for different access levels are required.

5 LED indicators and push buttons

LEDs and push buttons vary according to type and configuration (convention / country / language).

LED indicators on the Fire Brigade Panel (FBP)		
LED indicator		**Indicating**
L1	Fire (5 red)	Fire alarm generated.
L2	Alarms queued (2 red)	More than one alarm point/zone have generated fire alarm.
L3	Extinguishing (red)	Output(s) for extinguishing equipment activated.
L4	Ventilation (yellow)	Output(s) for fire/smoke ventilation equipment activated.
L5	Fire brigade tx (red)	Output(s) for fire brigade tx (routing equipment) activated
L6	(Zone/Detector not reset) [5]	(An alarm point has been reset while still in alarm status, i.e. it is non-reset ("isolated") and has to be re-enabled.)
L7	Silence (yellow)	The sounders (alarm devices) are silenced by the push button "Silence".

L3-L5 can be individually programmed to indicate when it's normal trigger condition is met or when a programmable input is activated (e.g. L5 will be turned on when an input is activated by a TX output.

Push buttons on the Fire Brigade Panel (FBP)		
Push button		**Operation/function**
P1	Scroll (red)	Used, when LEDs "Alarms queued" are lit, to scroll/browse through the queued alarms.
P2	Silence (yellow) [6]	Used to silence the sounders (i.e. to "reset" resp. outputs). LED "Silence" indicates silenced sounders.
P3	Reset (red)	Resets the fire alarm displayed in the LCD. When more than one fire alarm is generated (LEDs "Alarms queued" are lit). Each fire alarm has to be individually reset.
P4	Lamp test (green) [7]	To test all the LEDs on the FBP and the CP.
P5	Evacuate (green) [8]	Manual activation of sounders (alt. Paper feed).

[5] Normally only used in Swedish configuration / convention.

[6] Has a special function in some configurations / conventions.

[7] Not used in all configurations / conventions. If not used, it's black and has no function.

[8] Normally only used in Brittish Standard convention. In B.S. (Marine application) convention it has the function "Paper feed". Otherwise it's black and has no function (or the function "Paper feed").

LED indicators on the Control Panel (CP)		
LED indicator		**Indicating**
L8	Fault (yellow)	Acknowledged fault(s) and/or acknowledged but not corrected fault(s).
L9	Test mode (yellow)	One or more zones are in "test mode".
L10	Disabled (yellow)	Something in the system is disabled.
L11	Power on (green)	Power on, i.e. the power supply (rectifier and/or battery are connected and working properly.
L12	**Fault** System (yellow)	System program (SW) is not running correct (e.g. CPU/memory fault).
L13	**Fault** Sounder (yellow)	One or more supervised outputs (type 3=alarm device) have generated fault.
L14	**Fault** Power supply (yellow)	Power supply fault(s), described in chapter "Fault messages", page 35.
L15	Fault tx (yellow)	1. One or more faults (not acknowledged) are generated in the system. 2. Output(s) for fault tx (routing equipment) is(are) activated.
L16	Key switch [9] (yellow) (see chapter "Door open (Key switch)", see page 25.	The control unit door is open. When a TLON network is used, one or more doors in the system are open.[10]
L17	Service (yellow)	One or more sensors have reached the service level.
L18	**Disabled** Fire brigade tx (yellow)	Output(s) for fire brigade tx (routing equipment) is(are) disabled via menu (H8/S1) or open door.[11]
L19	**Disabled** Fault tx (yellow)	Output(s) for fault tx (routing equipment) is(are) disabled via menu (H8/S1) or open door.[11]
L20	**Disabled** Extinguish	Output(s) for extinguishing equipment is(are) disabled via time channel or menu (H2/B3 or B8).

[9] In Brittish Standard (Marine application) convention: "Door open".

[10] It is programmable if also the ext. FBP open door(s) should be indicated and if it should indicate for each control unit individually or the whole system.

[11] It is programmable if open door should disable the output(s).

Keypad/push buttons on the Control Panel (CP)		
Key/push button		**Operation/function**
	0 - 9	Numeric keys for the figures 0-9.
	← → ↑ ↓	Left / right keys to move the cursor in a menu. Up / down keys to scroll between the menus.
	C	Clear /deletes just written data.
	A	Accept a menu and accept input of data.
P6	Fault acknowledge	Fault acknowledge (menu H6).
P7	-	-
P8	Access	To get access to the menu tree (via access code).
P9	Return	To leave a menu ("one step up") and to stop input of data.

6 Access levels

The control unit has five access levels which are adapted to different kind of users.

Access level 1	Open door (key is needed)	Fire brigade personnel	Fire alarm handling
Access level 2	Access code for level 2 (or 3 or 4) is required	Building occupier	Installation handling, monthly tests, etc.
Access level 3	Access code for level 3 (or 4) is required	Service personnel	Service, maintenance
Access level 4	Access code for level 4 is required	Service / commissioning engineer	Service, commissioning the system, etc.
Access level 5	Access code for level 5 is required	Service / commissioning engineer	Code to connect a PC, i.e. for Win512.

The access codes can be changed. To change a code you have to know the valid code or use a code for a higher access level.

6.1 Access level 1

After the door has been opened (LED "Key switch" is lit), the user / fire brigade personnel will be able to use the push buttons / keypad to:

Scroll / browse through the queued alarms.
Silence the sounders (alarm devices).
Reset fire alarm(s).
Perform lamp (LED) test.[12]
Start the sounders.[13]
Get access (after login) to certain menus / functions in the system.[14]

[12] Not in all configurations / conventions.

[13] Normally only used in English configuration / convention.

[14] Normally, the fire brigade personnel have no access code.

6.2 Access level 2

From access level 1, the user can login to access level 2, which gives access to the following menus:

H1 Perform monthly test.
H2 Disable or re-enable.
B1 Disable zone
B2 Disable zone / address
B3 Disable control output
B4 Re-enable zone
B5 Re-enable zone / address
B6 Re-enable control output
B7 Re-enable non-reset zone / address[15]
B8 Control on / Control off
B9 Alarm device on / Alarm device off
H3 Set calendar and clock.
H4 Present system status on display and printer.
U1 Disablement
U2 Disablement by time channel.
U3 Show open doors.[16]
U4 Activated 2-zone / address dependent zone / address.
U5 Show sensors week average values.
U6 Show sensors momentary values.
U7 Sensors activating service signal
U8 Show event log
U9 Show configuration
H6 Acknowledge faults.
H7 Perform zone test (Test mode).
H9 Change access code for daily duties (access level 2).

[15] Normally only in Swedish configuration / convention.

[16] When a TLON network is used, one or more doors in the system could be open. It is programmable if also ext. FBP open door(s) should be indicated and if it should indicate for each control unit individually or the whole system. See also chapter *Door open (Key switch)*, page 25.

6.3 Access level 3

From access level 2[17], the user can login to access level 3, which gives access to the following menus, normally used by service personnel:

Same menus as in access level 2 plus the following:
H8 Maintenance
S1 Disable or re-enable outputs for routing equipment (Fire brigade tx & Fault tx)
S2 Disconnect COM loop.
S3 Re-connect Loop.
S4 Acknowledge service signal.
S5 Safe shut down of control unit.
S6 Activate address in alarm mode.
S7 Synchronize the control units.
S8 Change access code for maintenance (access level 3).

[17] If code for access level 3 or 4 has been used to login to access level 2, new login to access level 3 is not required.

6.4 Access level 4

From access level 2[18], the user can login to access level 4, which gives access to the following menus, normally used by a Service / Commissioning Engineer:

Same menus as in access level 2 and 3 plus the following:
H5 Programming
A1 Calibration of monitored outputs
A2 Sensitive fault detection mode
A3 Direction for communication on COM loop (and BS4 loop)
A4 Show information about site specific data.
A5 Display current consumption in unit
A6 Display current consumption on COM-/BS4-loop
A7 Display statistics for COM-loop
A8 Select unit on COM-loop (and BS4 loop) to use for triggering
A9 Change access code for PC-communication (access level 5).
A10 Change access code for programming (access level 4).

6.5 Access level 5

Used by Service / Commissioning Engineer when a PC is to be connected to the control unit, i.e. when Win512 is to be used for backup, downloading site specific data, downloading SW / settings / configurations / C.U. and system data, on-line status checking, etc.

[18] If code for access level 4 has been used to login to access level 2, new login to access level 4 is not required.

7 Normal operation

When the control unit / system is in normal operation, i.e. no fire alarm, no fault, no disablement, no service signal, not in test mode and no open doors, etc., only the LED "Power on" (L11) is to be lit.

8 Push button "Silence"

In the control unit (on the FBP) there is a push button (P2) "Silence" and an LED (L7) "Silence". In some configurations / conventions, this button could have special function(s).

8.1 Silence before a fire alarm

[19] If the push button "Silence" is pushed **before** a fire alarm / fault, the following will happen:

- LEDs "Silence" and "Disabled" (L10) will light up (steady ON)
- the buzzer in the control unit will be disabled
- outputs programmed for sounders (type 3 = alarm devices) will be disabled

If case of a fire alarm, the buzzer and the sounders will **remain** turned OFF (not sound).
In case of a fault, the buzzer will **remain** turned OFF (not sound).

To reset this function, push "Silence" once more. The LEDs will be turned OFF, indicating a normal state.

8.2 Silence during a fire alarm

If the push button "Silence" is pushed **during** a fire alarm, the following will happen:

- LEDs "Fire" and "Alarms queued" [20] (L2) changes from blinking to steady ON
- the buzzer in the control unit will be turned OFF
- activated outputs, programmed for sounders (type 3 = alarm devices), will be turned OFF

In case of a new fire alarm, or if the push button "Silence" is pushed again, the buzzer and the sounders (i.e. the outputs), will automatically be turned ON and LEDs "Fire" and "Alarms queued" starts blinking.

If the push button "Silence" is pushed **during** a fault condition, the following will happen:

- the buzzer in the control unit will be turned OFF

It will be turned OFF until the push button "Silence" is pushed again (or a fire alarm is activated).

---

[19] In some configurations / conventions, e.g. Swedish (RUS), Brittish Standard and B.S. (Marine application) is this function **not valid**.

[20] When more than one fire alarm is activated.

9 Alarm device on / Alarm device off

Via menu H2/B9, all outputs, programmed for sounders (type 3 = alarm devices), can be turned OFF (disabled).

In case of a fire, the sounders will **remain** turned OFF (not sound). They will be turned OFF (disabled) until they are turned ON (re-enabled) again, via menu H2/B9.

Alarm device OFF is indicated by LED "Disabled" (L10).

10 Controls ON / Controls OFF

Via menu H2/B8, all control output types:

0 = control (general)

1 = fire ventilation

2 = extinguishing system[21]

can be collective turned OFF (disabled).

They will be turned OFF (disabled) until they are turned ON (re-enabled) again, via menu H2/B8.

Controls OFF is indicated by LED "Disabled" (L10).

[21] Also the "Extinguish equipment output" on the German FBP interface board 1583.

11 Door open (Key switch)

A key is used to open the control unit door to get access to the system, see chapter "Access levels", page 17.

Door open is indicated by LED "Key switch" (L16), see below.

Door open can disable output(s) for fire alarm and fault routing equipment respectively. LEDs "Fire brigade tx Disabled" and "Fault tx Disabled" indicate this respectively. See below.

11.1 LED "Key switch"

In *Win512*, the following can be programmed:

Door in any control unit in the system

LED "Key switch" is indicating door open in one or more control units in the system.

or

Door in control unit

LED "Key switch" is indicating door open in the same control unit as the LED is situated.

Indication open door external FBP

In both cases above could be chosen, if an open door in one or more external FBPs should be indicated by the LED "Key switch", or not.

11.2 Disable outputs for routing equipment (Fire brigade tx and Fault tx)

In *Win512*, the following can be programmed:

No disabling

Output(s) for routing equipment (Fire brigade tx and Fault tx), are **not** disabled by an open door.
or

Disable if any door in the system is open

Output(s) for routing equipment (Fire brigade tx and Fault tx), are disabled when a door in a control unit is open[22].

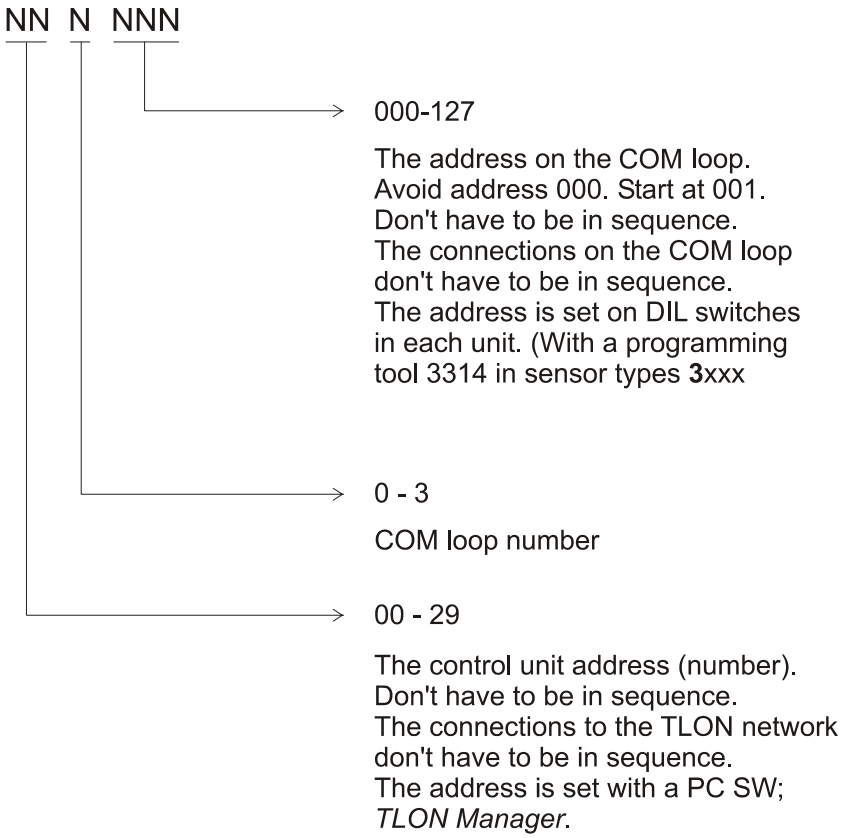
Disabled outputs for routing equipment are indicated by the LED "Disabled", "Fire brigade tx **Disabled**" (L18) and "Fault tx **Disabled**" (L19).

[22] No choice between *control unit* and *any control unit in the system*. Only valid for control unit doors, **not** ext. FBP doors.

12 Technical number / Presentation number

12.1 Technical number for COM loop units

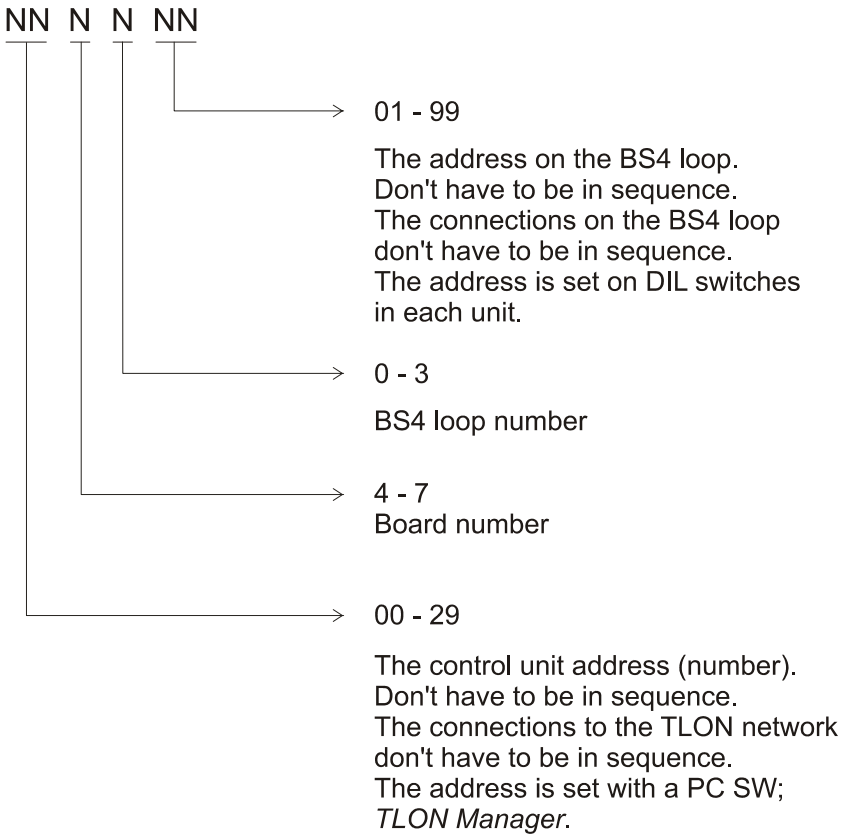
The technical number, NNNNNN, is used when programming all units connected to the COM loops.
Technical number is also used to identify which unit has generated a fault.



Regarding DIL-switch address setting, see dwg 512-71.

12.2 Technical number for BS4 loop units

Autronica interface board 1584 (four BS4 loops) is required in the control unit.
The technical number, NNNNNN, is used when programming all units connected to the BS4 loops.
Technical number is also used to identify which unit has generated a fault.

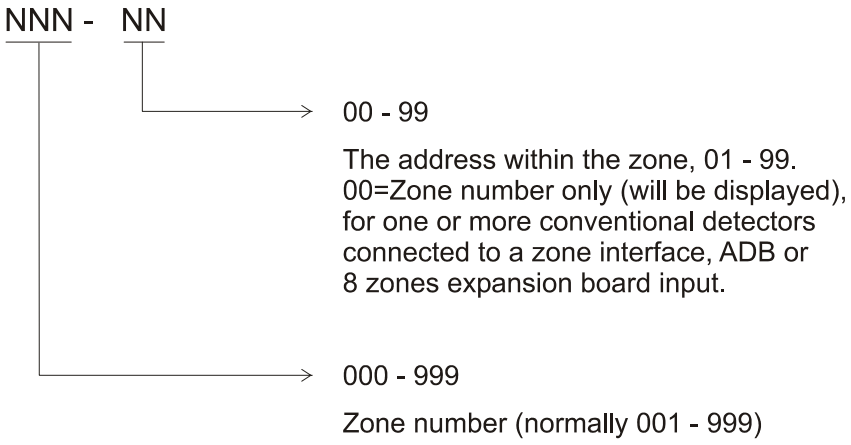


NOTE! In the technical number for unit connected to a BS4 loop, the board number 4 = Autronica interface board 0, the board number 5 = Autronica interface board 1, the board number 6 = Autronica interface board 2 and the board number 7 = Autronica interface board 3 in the control unit.

In fault messages for Autronica interface boards, the following information is shown: Control unit (00-29), BS4 board (0-3) and if required BS4 loop (0-3)

12.3 Presentation number

For each fire alarm point / input, a presentation number, NNN-NN, has to be programmed. This number is shown in the FBP display(s)[23], to identify the point / zone generating fire alarm. It is also used to disable / re-enable fire alarm points / zones and in control conditions (expressions) to activate the programmable outputs.



Together with the zone number and the address, a user definable, 40 character, text message can be displayed (if programmed).

[23] Presentation number is also shown in the display units connected to the COM loops.

13 Alarm types

In case of a fire, sensors, conventional smoke and/or heat detectors, manual call points or programmable inputs can generate fire alarm. When somebody break into a key cabinet, it will also generate a fire alarm.

The sensors can generate three types of "fire alarm"; Pre-alarm, Fire alarm and Heavy smoke alarm, see below.

The control unit can handle up to 130 pre-alarms and fire alarms. No more "alarms" will be generated until one or more of the 130 alarms is (are) reset.

13.1 Pre-alarm

Pre-alarm is a programmable option (*Win512*) and will not be activated if not programmed. A sensor generates pre-alarm for a lower offset (level)[24] than the offset (level) for fire alarm.

Pre-alarm could be used when early alarm / actions are required but no activation of alarm devices, routing equipment, etc. (e.g. computer "soft" power off).

In case of a pre-alarm, the following will happen:

- The buzzer in the control unit sounds 0.8 sec. each 4th sec. (0.8/4sec.).
- Output(s)[25] programmed for pre-alarm is(are) activated.
- LEDs "Fire" (L1) are blinking.
- On the first row in the control unit(s) display, the presentation number is shown (for the first pre-alarm).

Example; pre-alarm zone 123 address 45:

```
Pre-alarm 123/45
```

- If more than one pre-alarm are generated, the LEDs "Alarms queued" (L2) are blinking and the pre-alarms will be automatically scrolled (each five seconds).

Pre-alarm is automatically reset see chapter "Alarm reset", page 33.

[24] Pre-alarm offset ≤ fire alarm offset and is programmable in Win512 and is valid for the whole system. Regarding the BS4 exp. board 1584 for Autronica devices (BS4 loops), pre-alarm can also be generated by detector(s) connected to address units.

[25] And output(s) programmed for this specific pre-alarm.

13.2 Fire alarm

A sensor generates fire alarm for an offset (level) that can normally **not** be changed[26].

In case of a fire alarm, the following will happen:

- The buzzer in the control unit sounds 0.8 sec. each 0.8th sec. (0.8/0.8sec.).
- Output(s) for routing equipment (Fire brigade tx) is (are) activated.
- Output(s) for sounders (type 3 = alarm devices) is(are) activated.
- Output(s)[27] for fire alarm is(are) activated.
- LEDs "Fire" (L1) are blinking.
- On the first row in the FBP display(s), the presentation number is shown (for the first fire alarm). On the second row, is a user definable text message shown (if programmed).

Example; fire alarm zone 123 address 45:

```
Alarm No.001:123-45
User definable text message. . . . . .
```

- If more than one fire alarm are generated[28], the LEDs "Alarms queued" (L2) are blinking. To scroll through the alarms, use push button "Scroll" (P1).

Example; more than one fire alarm:

```
Alarm No.001:123-45   Last No.011:555
User definable text message (for 123-45)
```

- The alarms are stored in a circular buffer and when scrolling from the last to the first alarm, the LEDs "Alarms queued" will be turned off for three seconds.
- Each fire alarm is printed[29]; zone-address, user definable text message (if programmed) and time.

Each fire alarm has to be individually reset, see chapter "Alarm reset", page 33.

---

[26] Via Win512 it is possible to change the fire alarm offset (level). A special access code is required.

[27] And output(s) programmed for this specific fire alarm.

[28] Only the ten latest fire alarms will be displayed in the ext. FBPs.

[29] When printer is available (e.g. control unit 1549).

NOTE! Up to 120 fire alarms can be stored. In case of more alarms they will not be registered until one or more of the 120 alarms are reset.

13.2.1 Alert annunciation

Indications, print-outs, actions etc. as for a normal fire alarm **except output(s) for routing equipment (fire brigade tx), which will not be activated.** The fire alarm has to be acknowledged and reset within an acknowledge time and an investigation time respectively, otherwise the output(s) for routing equipment (fire brigade tx) will be activated. See *EBL512 Planning instructions* for more information.
Acknowledgement and reset of the fire alarm is normally done on a 2235 display unit[30] or an alert annunciation controller 2232.

13.2.2 2-zone / address dependence

LEDs "Fire" (L1) are blinking but there is no fire alarm shown in the FBP display(s). To see which zone / alarm point is in alarm status, see chapter "Activated 2-zone/address dependent (H4/U4)", page 74.

13.3 Heavy smoke alarm

A sensor generates heavy smoke alarm for a higher offset (level)[31] than the offset (level) for fire alarm.

Heavy smoke alarm could be used for automatic activation of smoke ventilation, etc.

In case of a heavy smoke alarm,[32] the following will happen:

- Output(s)[33] for heavy smoke alarm is(are) activated.
- Each heavy smoke alarm is printed[34]; *** Heavy smoke ***, the same information as for the fire alarm generated by the same sensor and time.

Heavy smoke alarm is reset when the fire alarm is reset, see chapter "Alarm reset", page 33.

---

[30] LED "Acknowledge" is indicating that the push button "Acknowledge" has been activated. A busy system can cause a time delay (up to 10 seconds) before the fire alarm is acknowledged.

[31] Heavy smoke alarm offset $\geq$ fire alarm offset and is programmable in Win512 and is valid for the whole system.

[32] Normal Fire alarm is always generated before a heavy smoke alarm can be generated, for the same sensor.

[33] And output(s) programmed for this specific heavy smoke alarm.

[34] When printer is available (e.g. control unit 1549).

14 Key cabinet

One of the programmable inputs I0-I3[35] in the control unit can be used to connect a key cabinet.

The fire brigade uses a key cabinet to store a key for the building locks.

14.1 Key cabinet alarm

If the key cabinet is opened before a fire alarm (e.g. if somebody break into a key cabinet), a "fire alarm" will be generated, see chapter "Alarm reset", page 30.

Example; Key cabinet alarm (xx = control unit number):

```
Alarm No.001:KEY xx
Alarm from keybox
```

This alarm will also generate a fault message, indicated by LED "Fault" (L8) ("Fault tx" output(s) will not be activated).

14.2 Key cabinet opened in conjunction with a fire alarm

The fire brigade personnel can open the key cabinet in case of a fire alarm. **No** alarm or fault will be generated when the key cabinet is opened (i.e. no key cabinet alarm).

14.2.1 Restoring the key after a fire alarm

When **all** fire alarms (in the system) are reset (see chapter "Alarm reset", page 33), the key has to be restored in the key cabinet **within 5 minutes**. If not, a fault will be generated.

[35] Inputs I0-I3 have a 1.5 seconds delay of activation.

15 Alarm reset

15.1 Pre-alarm reset

Pre-alarm is automatically reset (i.e. when the sensor value + offset for pre-alarm, is below the pre-alarm level).

15.2 Fire alarm reset

- The fire alarm, shown in the FBP display(s), on the first row to the left, will be reset when the push button "Reset" (P3) is pushed
  NOTE! The push button has to be in reset position for a minimum of 0.5 sec.
- Output(s), programmed for this fire alarm, is(are) reset.

If more than one fire alarm is activated (i.e. LEDs "Alarms queued" (L2) are lit) the next fire alarm in the queue is now shown in the display, on the first row to the left. It has to be reset the same way as the first one.

NOTE!
If the sounders have been silenced, LED "Silence" (L7) is lit. Push "Silence" (P2) to return to normal state (LED "Silence" will be turned OFF).

When all fire alarms are reset, LEDs "Alarms queued" are turned OFF and the display is empty[36].
All outputs (for fire alarm) have been reset.
The key has to be put back into the key cabinet **within 5 minutes**. If not, a fault will be generated and a fault message will be shown in the FBP display(s) as follows:

```
FAULT: Key box, control unit: No.
Date: MM-DD Time: HH:MM
```

Indications and activations are the same as for any other fault, see chapter "Fault", page 35.

15.3 Heavy smoke alarm reset

If a heavy smoke alarm has been activated, it will be reset at the same time as the corresponding fire alarm is reset and resp. output(s) will be reset.

[36] If there is a fault condition (e.g. caused by the fire), a fault message will now be shown in the display.

15.4 Key cabinet alarm reset

Key cabinet alarm is reset the same way as a fire alarm, see above. To inform the user that the key cabinet has been opened, a fault message is shown in the display as follows:

```
FAULT: Key box, control unit: No.
Date: MM-DD Time: HH:MM
```

This key cabinet fault message is to be acknowledged the same way as a "normal" fault, see chapter "Fault acknowledge", page 47.

When the key cabinet fault is acknowledged, the LED "Fault" (L8) will be turned OFF (if the key cabinet is closed and if there are no other faults in the system).

15.5 Zone/Detector not reset

Normally used only in Swedish config. / convention.

LED "Zone/Detector not reset" is lit, indicating that one or more alarm points have been reset while still in alarm status, i.e. it is non-reset ("isolated") and has to be re-enabled via menu H2/B7.

NOTE! Zone/Detector not reset = Encapsulated.

16 Fault

In case of a fault condition, the following has happened / will happen in the control unit:

- The buzzer in the control unit sounds (steady ON).
- Output(s) for routing equipment (Fault tx) is(are) activated.
- Output(s) for fault is(are) activated.
- LED "Fault tx" (L19) is lit.
- LED "Fault" (L8) is lit.
- LEDs **Fault** "System" (L12), "Sounder" (L13) and/or "Power supply" (L14) may be lit as well.
- A fault message incl. date and time is shown in the display.

Example; fault message:

```
FAULT: No reply unit 001067
Date: MM-DD Time: HH:MM
```

- If more than one fault is activated, the text: **`More faults`** is added after the time.
- If a fault has been corrected before it has been acknowledged, the text: **`Serviced`** is added after the time.[37]

Faults (and disablements) are indicated by a 2-sec. beep when an open control unit door is being closed.

If a fault can not be corrected, it is important to contact service personnel / engineer immediately.

16.1 Fault messages

Below follows a list of all fault messages, in alphabetical order:

`CU xx have no contact with CU xx`
• Check the TLON network cable / connections. • Faulty TLON connection board. 1590. • No power supply to the control unit.

`Double addresses on techn. no.: xxxxxx`

[37] In Win512, fault latching or not fault latching can be selected.
Fault latching = the faults always have to be acknowledged.
Not fault latching = corrected faults will automatically be removed from the fault list (menu H6)

Two (or more) units, connected to a BS4 loop (1584 board), have been given the same address. Check the units.

FAULT: 1581 Relay board x, CU xx

(=1581, 8 relays expansion board)

Fault on / no communication to 1581 board No. x in control unit No. xx. Check address setting and connections on the board. Check programming (Win512).

FAULT: 1582 printer board x, CU xx

(=1582, External FBP interface board)

- Fault on / no communication to 1582 board No. x in control unit No. xx. Check address setting and connections on the board. Check programming (Win512).
- Fault on connected unit(s).

FAULT: 1583 Extinguishing system, CU xx

(=1583, German FBP interface board)

- Fault in the extinguishing system / equipment connected to the 1583 board in control unit No. xx.

FAULT: 1583 GFBP interface board, CU xx

(=1583, German FBP interface board)

- Fault on / no communication to 1583 board in control unit No. xx. Check address setting and connections on the board. Check programming (Win512).
- Check the fuses F1 and F2 on the 1583 board.

FAULT:ASF COM-loop x, control unit xx

(ASF=2370, Addressable short circuit isolator)

This message is only shown when the control unit works in Sensitive fault detection mode (menu H5/A2).

A short circuit, shorter / faster than the time delay for an ordinary fault, has occurred on the COM loop. Could be used for commissioning / maintenance purposes.

FAULT: Battery not connected CU xx
Also indicated by LED "**Fault** Power supply"**.** • Batteries (2 x 12 V) are missing or not correctly connected. • Fuse(es) F2, F3 on the charger board 1557 is(are) blown. • Other battery fuse is blown (e.g. when the batteries are placed outside the control unit).

FAULT: Battery output unit xxxxxx
Also indicated by LED "**Fault** Power supply"**.** Check the output unit battery / connections / fuse F3 (on the power supply board) in the output unit.

FAULT: BS4-Board x, CU xx
(=1584, Autronica interface board) Fault on the 1584 board.

FAULT: Charging, control unit xx
Also indicated by LED "**Fault** Power supply". • Loss of mains, i.e. no 230 V AC (the fault is activated after five hours - the time could vary depending on convention). • Blown fuse (230 V AC).

FAULT: Charging output unit xxxxxx
Also indicated by LED "**Fault** Power supply". Loss of mains, i.e. no 230 V AC (the fault is activated after five hours - the time could vary depending on convention). Check 230 V AC fuses and fuses F1 / F5 on the output unit rectifier p.c.b.

FAULT: Configuration on control unit xx
Fault in the **SSI** = EBL512 settings downloaded from Win512.

FAULT: CU xx did not get an ACK
The communication between control units isn't correct. Make sure that all control units are programmed (Win512) and programmed in the

TLON network (TLON Manager). NOTE! Programmed control units have to be connected / running.

`FAULT: CU xx has wrong information`
Control units have data stored, which is not the same in all control units. The control units have to be synchronised via menu H8/S7. NOTE! Programmed control units have to be connected / running.

`FAULT: CU xx too high current consumption`
The control unit current consumption is over 2.5A, and because of this, the battery charging is turned off. Normally this fault only appears when starting up / expanding a system.

`FAULT: Cut-off COM-loop x, CU xx`
This is indicating a single break on the loop. Communication has to be performed in both directions, to find all units. May also be shown after a short circuit on the loop when short circuit isolators are used (= communication in both directions). (A double break will give the message: FAULT: No reply …..). NOTE! Communication in both directions lasts for about ten minutes, when a new attempt to communicate in one direction is performed. If the break remains, a new ten minutes period starts, and so on. If the fault is acknowledged and the break is corrected during a ten minutes period, it will not disappear from the list until the end of the ten minutes period.

`FAULT:Cut-off loop x,CU xx, CU<->ASF0`
`FAULT:Cut-off loop x, CU xx,ASF 0<->ASF 1`
`FAULT:Cut-off loop x, CU xx,ASF 1<->ASF 2`
`FAULT:Cut-off loop x, CU xx,ASF 2<->ASF 3`
`FAULT:Cut-off loop x, CU xx,ASF 3<->CU`
`FAULT:Cut-off loop x, CU xx,ASF 2<->CU`
`FAULT:Cut-off loop x, CU xx,ASF 1<->CU`
`FAULT:Cut-off loop x, CU xx,ASF 0<->CU`

This is indicating a single break on the COM loop "x" **when one, two, three or four short circuit isolators 2370, ASF, are connected on the loop**. Communication has to be performed in both directions, to find all units. The break is to be found in the specified segment (e.g.

ASF 3<->CU = between short circuit isolator number 3 and the control unit). Each 10 minutes an attempt is made to comm. in one direction again.

FAULT:Cut-off loop x, DET8-board x,CU xx
(DET8=1580, 8 zones expansion board) This is indicating a break or missing end of line resistor on input x (zone line) on the 1580 board. A detector may have been removed (stolen) from its base.

FAULT: DET8-board x, CU xx
(DET8=1580, 8 zones expansion board) Fault on the 1580 board.

FAULT: Earth fault (plus), CU xx
FAULT: Earth fault (minus), CU xx
Earth fault is detected. Check all cables (for damage, etc.). The function of the control unit can not be guaranteed. Call for service personnel/engineer.

FAULT: Earth fault output unit xxxxxx
Check all cables connected to the output unit.

FAULT: external FBP x, board x, CU xx
The control unit can not communicate with the ext. FBP (or data converter). • Check the connections. • Check the cable (break?). • Check address DIL-switch in the ext. FBP. Is correct address set? • Several ext. FBPs have the same address. • Faulty ext. FBP.

FAULT: External fuses control unit xx

Also indicated by LED "**Fault** Power supply". The fault is to be found in the external power supply (blown fuses, etc.).

FAULT: fuse BS4-Board x, CU xx
(BS4=1584, Autronica interface board) Check for blown fuse on the 1584 board. (The fuse is not replaceable. The board has to be replaced.

FAULT: Fuse COM-loop x, CU xx
The fuse is not replaceable. The main board 1556 has to be replaced.

FAULT: Fuse DET8-board x, CU xx
(DET8=1580, 8 zones expansion board) Check for blown fuse on the 1580 board.

FAULT: fuse for board 1582, no. x, CU xx
(=1582, External FBP interface board) Check for blown fuses on the 1582 board.

FAULT: Fuse output unit t. no. xxxxxx
Also indicated by LED "**Fault** Power supply". Fuse F9 (on the output unit p.c.b.) is blown.

FAULT: ID presentation unit xxxxxx
The presentation (display) unit is not the same type as programmed. Change the programming **or** the presentation unit.

FAULT: input no. 0, tech no xxxxxx
Detector mounted in an ADB 2330 (faulty / removed detector) or Ext. line (input) to an ADB 2330 (break on a wire or wrong / no end of line resistor) or Zone interface 2335 / 2226 (break on a wire or wrong / no end of line resistor).

or Zone interface 2226: No ext. power supply.

FAULT: Key box, control unit: xx
The key cabinet has been opened without a prior fire alarm (i.e. a break into the cabinet). or The key cabinet has not been closed within 5 minutes after reset of all fire alarms in the system.

FAULT: L-C mixed loop x, CU xx
The two wires (L resp. C) have been mixed (alternated). Check so that the wire connections are correct according to drawing 512-41.

FAULT: LON-board 1590, control unit xx
(=1590, TLON connection board) No communication / connection with the TLON network.

FAULT: Low batt. cap., control unit xx
Also indicated by LED "**Fault** Power supply". Battery voltage < 21.9 V (load resistor connected). The battery is presumably too old.

FAULT: Low main PWS, control unit xx
Also indicated by LED "**Fault** Power supply". Mains voltage below 187 V AC. • Blown fuse (230 V AC) or no voltage. Rectifier voltage below 21 V DC. • Fuse F1 on the charger board 1557 is blown.

FAULT: monitored output x, CU xx
If the output is programmed for sounders (alarm devices), it is also indicated by LED "Fault Sounder". **x=0** (S0): Short circuit/break on the connected cable/ equipment and/or blown fuse F5 or F6, on the connection board. **x=1** (S1): Short circuit/break on the connected cable/ equipment and/or blown fuse F7 or F8, on the connection board.

x=2 (S2): Short circuit/break on the connected cable/ equipment
x=3 (S3): Short circuit/break on the connected cable/ equipment

- Connected equipment may be "stolen".
- Resistor(s) missing or not correct value (see dwg. 512-42).

FAULT: No reply techn.no. xxxxxx
In spite of the control unit is communicating in both directions, one or more units can not be found. • Check the unit's address. (DIL-switch in the unit or with programming tool 3314 for sensors 3304 / 3308). • Faulty unit (not sensor). • Double break on the COM / BS4 loop. (Single break gives the fault message: FAULT: Cut-off …….). • When short circuit isolator **2370 is used**: Check the loop and the units connected on the isolated loop segment.

FAULT: Output x. techn. no. xxxxxx
If the output is programmed for sounders (alarm devices), it is also indicated by LED "Fault Sounder". • Check fuses F1–F8 on the output unit p.c.b. • Short circuit / break on the connected wires. • Wrong / no end of line resistor. • One or more connected units have been removed (stolen).

FAULT: Output unit techn. no. xxxxxx
• Fault in the output unit RAM • Fault in the output unit EPROM • Fault in the output unit EEPROM ("site specific data") Replace the output unit / output unit p.c.b.

FAULT: Presentation unit xxxxxx
Display unit out of work. Fault in the display unit EEPROM ("site specific data"). Download the data again or change the EEPROM and download the data again.

FAULT: Restart CU nn code xx yyyyyyyyyy
Control unit restart (reset) has occurred. nn: Control unit number (00-29) xx=00: Power On Reset. (Power supply connected) xx=01: Watchdog Reset. xx=02: Accidental jump to reset vector. xx=03: External reset caused by external watchdog/user (e.g. after SSD download) or RESET jumper JP4 on the main board 1556, has been used. xx=4-16: Unexpected interrupt. If xx=01,02 or 04-16 appear often, call for service personnel/ engineer. yy – y = memory address (before restart)

FAULT: ROM memory control unit xx
A fault in control unit xx SW. This is very serious. Call for service personnel/engineer immediately.

FAULT: RS232-comm in gateway, CU xx
Gateway GW512 is/are installed in the system. No/not correct communication on the RS232 line between GW512 and the EBL1000/2000 Main Control Unit number. xx=sub control unit number for the GW512.

FAULT: Sensor techn. no. xxxxxx
• The sensor is removed from its sensor base. • Faulty sensor.

FAULT:Sh-circ loop x, CU xx, CU <->ASF0 FAULT:Sh-circ loop x, CU xx,ASF0<->ASF1 FAULT:Sh-circ loop x, CU xx,ASF1<->ASF2 FAULT:Sh-circ loop x, CU xx,ASF2<->ASF3 FAULT:Sh-circ. loop x, CU xx, ASF3<->CU FAULT:Sh-circ. loop x, CU xx, ASF2<->CU FAULT:Sh-circ. loop x, CU xx, ASF1<->CU FAULT:Sh-circ. loop x, CU xx, ASF0<->CU
Short circuit on the COM loop "x" (**one, two, three or four short**

circuit isolators 2370, ASF, are connected on the loop). Check the specified and isolated segment on the loop (e.g. `CU <->ASF0` = between the control unit and short circuit isolator number 0)
Each 10 minutes an attempt is made to re-enable the isolated segment again.

`FAULT: Short-circuit loop x, CU xx`

Short circuit on COM loop "x" (**short circuit isolator is not connected on the loop**). Check the loop
NOTE! As long as there is a short circuit, the COM loop is disabled. Each 10 minutes an attempt is made to re-enable the loop again.

`FAULT:Short-circuit x,DET8-Board x,CU xx`

(DET8=1580, 8 zones expansion board)

This is indicating a short-circuit on input x (zone line) on the 1580 board. The wires (cable) may have been damaged.
NOTE! As long as there is a short circuit, the zone is disabled. Each 10 minutes an attempt is made to re-enable the zone again.

`FAULT: Site specific data no. x, CU xx`

Some external influence has caused a fault in the Site Specific Data. Can also be shown after downloading Site Specific Data. This is very serious. Call for service personnel/engineer immediately.

- No. 1 = SSD (downloaded data; from *PLAN512/Win512*)
- No. 2 = SSW (data which is changed during operation; sensor values, access codes, etc.)

`FAULT: Subsystem, control unit xx`

Gateway GW512 is/are installed in the system. One or more faults in the EBL1000/2000 system. The fault(s) is(are) individually presented in the EBL1000/2000 system. xx=sub control unit number for the GW512.

`FAULT: Supply external equipment, CU xx`

Also indicated by LED "**Fault** Power supply". The fault is to be found in the external power supply connected to input in control unit xx.

FAULT: Supply for external FBP CU xx
Also indicated by LED "**Fault** Power supply". Check the fuses F2 and F4 on the connection board 1555. (Monitored output S2 is also supplied via F2 and F4).

FAULT: Supply for routing equipm. CU xx
Also indicated by LED "**Fault** Power supply". Check the fuses F1 and F3 on the connection board 1555. (Monitored output S3 is also supplied via F1 and F3).

FAULT: Systemcomm in gateway, CU xx
Gateway GW512 is/are installed in the system. No/not correct communication on the system loop between GW512 and the EBL1000/2000 Main Control Unit due to: • cable/connection fault • no/not correct programming of the GW512 ("Sub Control Unit") in the EBL1000/2000 system. xx=EBL512 control unit number.

FAULT: To low voltage, control unit xx
Also indicated by LED "**Fault** Power supply". System voltage < 21 V DC.

FAULT: Wire to exting. system, CU xx
(=1583, German FBP interface board) Short circuit / cut-off on the wires from the extinguishing system / equipment connected to the 1583 board in control unit No. xx.

FAULT: Wrong type of input unit xxxxxx
The input unit is not the same type as programmed. Change the programming **or** the input unit.

FAULT: Wrong type of sensor xxxxxx
The sensor, mounted in the sensor base, is not the same type as programmed. Change the programming **or** the sensor.

FAULT: Wrong type of unit no. xxxxxx
The output unit is not the same type as programmed. Change the programming **or** the output unit.

High Current loop x, BS4-board x, CU xx
(BS4=1584, Autronica interface board) The current consumption is >60 mA on the BS4 loop.

High Voltage on BS4-Board x, CU xx
(BS4=1584, Autronica interface board) The BS4 loop voltage is >16V (normally it is 14V ±0.1V).

No connection loop x, BS4-Board x, CU xx
(BS4=1584, Autronica interface board) Cut-off (break) on the BS4 loop. This is indicating a single break on the loop. Communication has to be performed in both directions, to find all units. Each 10 minutes an attempt is made to comm. in one direction again.

Short circuit loop x, BS4-Board x, CU xx
(BS4=1584, Autronica interface board) Short circuit, or current consumption >167mA, on the BS4 loop (**short circuit isolator is not connected on the loop**). Check the loop NOTE! As long as there is a short circuit, the BS4 loop is disabled. Each 10 minutes an attempt is made to re-enable the loop again.

(User programmable text; External fault)
Programmable input is used for an external fault; see fault message.

16.2 Fault acknowledge

The LEDs "Fault tx" and "Fault" are lit.

A fault message, date and time are shown in the FBP display(s).

After the time may be shown **`More faults`** = more than one fault is generated in the system..

If **Fault latching** is selected in Win512, after the time may be shown **`Serviced`** = the fault is already corrected.

- Login, according to chapter "Access", page 57.
- Use menu H6 (access level 2) for fault acknowledge, see chapter "Acknowledge FAULTS (H6)", page 92.
- All faults have to be individually acknowledged. Use ↑ or ↓ keys to scroll.
- If a fault has been corrected before it has been acknowledged, the text **`Serviced`** is added after the time. It still has to be acknowledged.
- When a fault is corrected and acknowledged, it will disappear from the list (H6).
- When **all** faults have been acknowledged, the LED "Fault tx" will be turned off and output(s) for routing equipment (Fault tx) is(are) reset.
- As long as there are faults (not acknowledged faults and/or acknowledged but not corrected faults) the LED "Fault" will be lit and corresponding output(s) activated.

The list in menu H6, shows a maximum of 120 faults (not acknowledged faults and/or acknowledged but not corrected faults). When a fault is acknowledged and corrected it will be removed from the list and a new fault can be shown. Corrected faults are shown in the event log (menu H4/U8).

17 Commissioning an installation

Before you connect the power supply to a control unit, all other cable connections should be made. Check once more that they are correct.

17.1 Single Control Unit

1. Take away the rectifier fuse (F1) and a battery fuse (F2 or F3) on the charger board 1557.
2. Connect the batteries to the charger board 1557.
3. Connect the rectifier to the mains (230 V AC).
4. Replace the rectifier fuse (F1) and the battery fuse (F2 or F3) on the charger board 1557.
5. LED "Power on", on the control panel, indicate that the 24 V DC power supply (rectifier and/or battery) is okay.
6. An automatic reset/restart will now take place (see chapter "Reset / Restart", page 55.
7. The site specific data (SSD) can now be downloaded, see chapter "Programming (SSD download)", page 50.

17.2 Control Units in a TLON network

In a TLON network there are two or more control units connected. A **TLON connection board 1590** is required in each control unit. When the 1590 board is on place and the cables connected[38], **for each control unit**, do as follows:

1. Take away the rectifier fuse (F1) and a battery fuse (F2 or F3) on the charger board 1557.
2. Connect the batteries to the charger board 1557.
3. Connect the rectifier to the mains (230 V AC).
4. Replace the rectifier fuse (F1) and the battery fuse (F2 or F3) on the charger board 1557.
5. LED "Power on", on the control panel, indicate that the 24 V DC power supply (rectifier and/or battery) is okay.
6. An automatic reset/restart will now take place (see chapter "Reset / Restart", page 55.

When all control units are running (power supplied), the TLON network programming (configuration) has to be done **before** the site

[38] The TLON connection board is to be mounted on the main board 1556. Cable connections are to be made on the connection board 1555 (T.B. P1).

specific data (SSD) can be downloaded, see chapter "Programming (SSD download)", page 50.

17.2.1 TLON network programming (configuration)

A PC is connected to the modular connector J2 in the control unit (main board 1556). The PC program **TLON Manager** is used, see separate TLON network documentation.

18 Programming (SSD download)

The PC program **Win512** is used for programming (download) of the site specific data (SSD).

When the control units is running (power supplied) and when required, the TLON network programming (configuration) is done, the SSD download can start.

The PC has to be connected to the "D" connector J1 in the control unit (main board 1556). Start Win512. Now you have to be authorised, i.e. you have to log on[39] to the control unit.

18.1 Single Control Unit

Start the downloading from Win512.

After the downloading, an automatic reset/restart will take place (see chapter "Reset / Restart", page 55.

18.2 Control Units in a TLON network

The PC should be connected to one control unit, from which the SSD for all control units can be downloaded. In Win512, you select the control unit(s) to which the SSD should be downloaded. [40]

Start the downloading from Win512.

After the downloading in the selected control unit, an automatic reset/restart will take place in that control unit (see chapter "Reset / Restart", page 55.

If you select two or more control units, the PC has to be connected to a control unit that shall have no SSD downloaded or to the control unit that has the highest number (address), because after the downloading to a control unit, an automatic reset/restart will take place in that control unit and the downloading will start in the next selected control unit.[41] Regarding the automatic reset/restart, see chapter "Reset / Restart", page 55.

---

[39] Access code for level 5 should be entered via the PC (Win512).

[40] It is recommended to select only one control unit at a time but of course, it is depending of the SSD quantity (number of COM loop units, texts, outputs, etc.) and up to three control units are normally okay. NOTE! After the automatic reset/restart of a control unit, a number of faults could be generated. This will cause "heavy traffic" on the network, which could affect the SSD downloading to other control units.

[41] Downloading is performed in a consecutive order, i.e. 0-1-2-3-4-……-29 (amongst the selected control units).

18.3 User definable text messages download

When a fire alarm (an addressable alarm point) is activated, the presentation number (Zone & Address) will be shown on the first row in the control unit's and the ext. FBP's alphanumeric display. On the second row will be shown a user definable text message if programmed.
The user definable text message will also be printed out when a printer is available.

See also chapter "Fire alarm", page 30.

User definable text messages can also be shown in Display units connected on the COM loops.

The texts, up to 40 alphanumeric characters, are created and downloaded via **Win512**. See Planning Instructions, chapter "User definable text messages".
(An "older" DOS based PC program NEWTEXT could also be used, see Planning Instructions, chapter "Display units (addressable)".

See also Win512 help.

18.3.1 Download in Control unit

The user definable text messages, which are to be displayed in the control unit's / ext. FBP's alphanumeric display, could be downloaded in one control unit (for the whole the system).[42]

A specific addressable alarm point will have the same user definable text message in all control units / ext FBPs.
If a specific addressable alarm point has no individual text, a "default" alarm text could be displayed. This default text could be different in the different control units.

18.3.2 Download in Display unit

The user definable text messages, which are to be displayed in the Display units connected on the COM loops, are to be downloaded in each Display unit.

A specific addressable alarm point can have different user definable text message in the different Display units.
If a specific addressable alarm point has no individual text, a "default" alarm text could be displayed. This default text could be different in the different Display units.

[42] Ext. FBPs are connected to a control unit and they will display the same texts that will be displayed in the control unit they are connected to.

19 New system program (SW) version download

SW download is normally factory made before delivery. Latest SW version is then downloaded.

Due to continual development and improvement, different SW versions could be found.

If you wish to download a new software (system program) version, a PC and **Win512** is used. Before download, the PC has to be connected to the "D" connector J1 in the control unit (main board 1556) in question.[43]

1. Start Win512.
2. Set jumper "JP1 (BOOT)" in position on the main board 1556.
3. Do a reset/restart by setting jumper "JP4 (RESET)" momentarily in position (approx. 1 second).
4. The buzzer will now sound intermittent and LED "LD101" starts blinking, indicating that the control unit is in "Bootstrap mode".
5. Start the downloading. The buzzer will now be silenced.
6. When the download is ready, in the Win512 log view it will be shown: "Download ready".
7. Reset jumper "JP1 (BOOT)" (position OFF) and do a reset/restart, see paragraph 2 above. Regarding the reset/restart, see chapter "Reset / Restart", page 55.

Follow the same procedure in each control unit.

19.1 Control Units in a TLON network

All control units connected to a TLON network **should** have the same SW version.

For download of new SW in each control unit, follow the procedure above.

[43] In old control units, a separate CPU board (1526) could be found. Regarding connections, jumpers and LEDs, see documentation valid for that HW.

20 EBL512 settings download

EBL512 settings are normally factory made before delivery. On site, it is possible to download the following:

- The number of addresses (max. loop units)[44]
- Convention (different functions / facilities, country depending)
- Language

If you wish to download new EBL512 settings, a PC and **Win512** is used. Before download, the PC has to be connected to the "D" connector J1 in the control unit (main board 1556) in question.[45]

1. Start Win512.
2. Set jumper "JP1 (BOOT)" in position on the main board 1556.
3. Do a reset/restart by setting jumper "JP4 (RESET)" momentarily in position (approx. 1 second).
4. The buzzer will now sound intermittent and LED "LD101" starts blinking, indicating that the control unit is in "Bootstrap mode".
5. The "Win512 settings" dialog box shows default settings in the different fields. Click the "Read" button to see the actual settings. Then write the new settings in the fields respectively.
6. Start the downloading. The buzzer will now be silenced.
7. When the download is ready, in the Win512 log view it will be shown: "Download ready".
8. Click the "Read" button to verify the new settings.
9. Reset jumper "JP1 (BOOT)" (position OFF) and do a reset/restart, see paragraph 2 above. Regarding the reset/restart, see chapter "Reset / Restart", page 55.

Follow the same procedure in each control unit.

---

[44] To change the "Max. loop units", a separate download password is required. This password is in conjunction with a "Key" (eight digits) and is available from the producer if you are authorized. The Key is shown in Win512 and the procedure is described in the Win512 help.

[45] In old control units, a separate CPU board (1526) could be found. Regarding connections, jumpers and LEDs, see documentation valid for that HW.

20.1 Control Units in a TLON network

All control units connected to a TLON network **should** have the same convention. The number of addresses could vary and the language if required.

For download of new EBL512 settings in each control unit, follow the procedure above.

21 Reset / Restart

Reset/restart[46] will reset/delete all activated fire alarms, faults and disablements (FFD). When required, make notes of the disablements before reset/restart, so that they can be disabled again after the reset/restart. Remaining fire alarms and faults will be activated again.

Reset/restart can be performed as follows:

Action	**Data, etc. which will be deleted**	**Data, etc. which <u>not</u> will be deleted**
Control unit **power OFF** [47] and then **power ON** again.	SSW[48] FFD	SSD, SSI, SW
RESET jumper JP4 on the main board 1556.	FFD	SSD, SSI, SW, SSW
Reset command from Win512 or TLON Manager	FFD	SSD, SSI, SW, SSW
Automatically due to external disturbance.[49]	FFD	SSD, SSI, SW, SSW
Automatically after download of site specific data (SSD) via a PC & Win512.	FFD	SSD, SSI, SW, SSW

Safe shut down
"Safe shut down of control unit" (menu H8/S5) will save the SSW data in a Flash ROM, which saves the data although the control unit has no power supply. Before the first "Safe shut down" this memory is empty. After each "Safe shut down" the latest SSW data is saved.
The control unit RAM (working memory) will then read the saved data when the power supply returns.
FFD = Fire alarms, faults and disablements.
SSW = Sensor week average values, access codes, monitored output calibration values, log buffers and in some conventions the alarm counter.
SSD = Site specific data, i.e. all the installation programming downloaded from Win512.
SSI = EBL512 settings downloaded from Win512.
SW = Software, i.e. the control unit system program.

---

[46] Reset/restart affects the control unit where it is performed and <u>that</u> control unit's data in a system (= two or more control units in a TLON network).

[47] See "Safe shut down" below.

[48] See "Safe shut down" below.

[49] If this happens often, call for service personnel / engineer.

NOTE!
By reset/restart, the Fault tx output(s) will be "activated".

The "restart" will last for up to 2 minutes. During this 2 min. period no fire alarm can be activated.

A **fault** is generated in the system and the following message will be shown in the display:

```
FAULT: Restart CU nn code xx  yyyyyyyyyy
Date: MM-DD Time: HH:MM
```

Regarding code xx and yy - y, see page 43. This fault is also indicated by LEDs "Fault tx" (L19) and "Fault" (L8). (Also LED "**Fault** System" (L12) can be lit).

After fault acknowledge (menu H6), the LEDs will be turned OFF if there are no other faults.
NOTE! After reset, required disablements have to be done.

22 Access

To be able to use the key pad in the control unit (to get access to the menu tree), it is necessary to login with an access code for level 2 ,3 or 4.

See also chapter "Access levels", page 17.

Open the door in the control unit (= level 1), push the "Access" button (P8) and continue as follows:

Action	Text in display	Comments
"Access"	`Access code: _`	
Enter the code (4 digits)	`Access code: ****`	The digits are replaced (****) in the display.
	`NO ACCESS!`	The access code was not correct. Try again.
	`Perform monthly test` `ACCEPT? H1`	The access code was correct. This is menu H1. Push "A" to accept (to perform monthly test) **or** scroll to the following menus (H2-H9).

Explanations:

Action (in the table) = use push button / key (e.g. signed "Access"). **Text in display** (in the table) = what is shown in the display in the control unit..

Use "↑" and "↓" to scroll between the main menus H1-H9. Use "A" to accept.

Some main menus have sub menus. Use "↑" and "↓" to scroll between the sub menus (e.g. B1-B9). Use "A" to accept.

If, instead of a menu identification (e.g. B1), the letter L is shown, it means that it is a List. Use "↑" and "↓" to scroll in the list.

Use "←" and "→" to move the cursor in a menu.

Use "Return" to return from a sub menu to the main menu (H1-H9).

Use "Return" to logout from a main menu (H1-H9).

There will be an automatic logout 10 minutes after the last action (i.e. if the key pad / a push button is not being used for 10 min.).

23 Perform monthly test (H1)

The control unit and the installation should be tested on a regular basis. If one twelfth of the alarm points are tested each month, the whole installation will be tested after one year.
In test mode, only the alarm points are tested, i.e. no outputs (no sounders) will be activated during the test. If a real fire alarm is generated by **an alarm point not in test mode**, the normal fire alarm functions will be activated, i.e. outputs (sounders), routing equipment (fire brigade tx) etc. will be activated.
NOTE! If the control unit door is left open, the output(s) for routing equipment (fire brigade tx) may be disabled (if programmed so in Win512). There will be an automatic test mode exit one hour after the latest tested alarm point.
See also chapter "Perform ZONE TEST (test mode) (H7)″, page 93.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
	Perform monthly test ACCEPT? H1	
"A"	Check that all LEDs light up! ACCEPT	
"A"	▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒ ▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒	The buzzer (in the C.U.) sounds and all dots in the display are shown for 3 seconds. When printer is available, it will print out: ABCDE.....Z abcde.....z
	Zone to be set in TEST MODE: ??? ??? ??? ??? Start test: ACCEPT	
Write zone numbers (e.g. 001, 002, 003, 004)	Zone to be set in TEST MODE: 001 002 003 004 Start test: ACCEPT	Push "A" to start the test mode.
"A"	Zones are set in test mode wait....	LED "Test mode" (L9) will light up.
	Zone in TEST MODE: 001 002 003 004 End test: ACCEPT	Perform the tests. When ready push "A".

to be continued

Perform the tests as quickly as possible, since the output for routing equipment (fire brigade tx) is disabled (also the parts of the zones in test mode, not visible for the test personnel, are disabled).

In the tested alarm point, the LED will light up, and the LEDs "Fire" (L1) in the C.U. will light up, about ten seconds, then the alarm point will be automatically reset. The printer, if available, will print out every tested alarm point (Zone: xxx Address: xx Time: HH.MM).

Push "A" to stop the test mode.

Action	Text in display	Comments
"A"	`Monthly test is completed!` `ACCEPT`	The LED "Test mode" is turned OFF.
"A"	`Perform monthly test` `ACCEPT? H1`	Scroll or push "Return" to logout.

Some regulations say that the fire alarm routing equipment (Fire alarm tx) also should be tested. If the equipment don't have this test possibility, it can only be done by generating a real fire alarm.

NOTE!
If the control unit door is left open, the output(s) for routing equipment (fire brigade tx) may be disabled (if programmed so in Win512).
A sensor in test mode will not be able to activate fault.

24 Disable or re-enable (H2)

A whole zone, one or more alarm points within a zone and/or control outputs can be disabled via menus H2/B1-B3. This possibility can be used when a temporary disablement is wanted (e.g. when the premises are being restored, etc.).

Pre-alarms and fire alarms from the disabled alarm points will be disabled. Faults will **not** be disabled.

Addressable manual call points can **not** be disabled.

Up to 100 alarm points, zones and/or outputs can be disabled.

It is not possible to exceed the limit. A warning message will be shown:

```
Max. disconnected objects reached!
Disconnection not performed. ACCEPT?
```

Don't forget to re-enable via menus H2/B4-B6 or use automatic re-enablement for zones and alarm points.
Disablements are indicated by LED "Disabled" (L10).

Disablements (and faults) are indicated by a 2-sec. beep when an open control unit door is being closed.

NOTE!
Don't re-enable a zone and then disable the same zone immediately. Re-enabling takes about 2 seconds (normally) and up to 15 seconds. (All alarm points have to, among other things, be "reset" before they can be re-enabled).

24.1 Disable zone (H2/B1)

When a whole zone is disabled, all alarm points within the zone are disabled (excl. addressable manual call points).

Disabled zones are listed in menu H4/U1. From this menu, it's also possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H2.	`Disable or re-enable` `ACCEPT? H2`	
"A"	`Disable zone` `ACCEPT? B1`	
"A"	`Disable zone: 000` `ACCEPT?`	
Write zone number (e.g. 001)	`Disable zone: 001` `ACCEPT?`	Push "A" to accept.

"A"	`Automatic re-enabling:0 (0=No,1=Yes)`
	`Time: HH:MM ACCEPT?`
	`(Default is current time + 3 hours)`
		Push "1" for aut. re-enabling and accept or change the time (max. 24 hours). Push "A" to accept. LED "Disabled" will light up.

"A"	`Disable zone: 000` `ACCEPT?`	If more disablements shall be done, continue like above. If not, push "Return" to menu B1. Scroll or push "Return" to menu H2. Scroll or push "Return" to logout.

24.2 Disable zone / address (H2/B2)

Every addressable alarm point connected to the COM loop can be individually disabled.
Disabled alarm points, zone / addresses, are listed in menu H4/U1. From this menu, it's also possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H2.	Disable or re-enable ACCEPT? H2	
"A"	Disable zone ACCEPT? B1	
Scroll to menu B2.	Disable zone / address ACCEPT? B2	
"A"	Disable zone: 000 Address: 00 ACCEPT?	
Write zone number and address (e.g. 001 / 01)	Disable zone: 001 Address: 01 ACCEPT?	Push "A" to accept.
"A"	Automatic re-enabling:0 (0=No,1=Yes) Time: HH:MM ACCEPT? (Default is current time + 3 hours)	Push "1" for aut. re-enabling and accept or change the time (max. 24 hours). Push "A" to accept. LED "Disabled" will light up.
"A"	Disable zone: 000 Address: 00 ACCEPT?	If more disablements shall be done, continue like above. If not, push "Return" to menu B2. Scroll or push "Return" to menu H2. Scroll or push "Return" to logout.

24.3 Disable control output (H2/B3)

Every control output can be individually disabled.

Disabled outputs are listed in menu H4/U1. From this menu, it's also possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H2.	Disable or re-enable ACCEPT? H2	
"A"	Disable zone ACCEPT? B1	
Scroll to menu B3.	Disable control output ACCEPT? B3	
"A"	Disable control unit: 00 Type: 0 0=RU/SU 1=S 2=R 3=RE 4=ES ACCEPT? (4=ES not shown in Swedish (RUS) convention)	Write C.U. No. and push: "0"=RU4 (2265) or SU4 (2262 / 2263), "1"=S0-S3, "2"=R0-R1 or "3"=Relay board 1581. "4"=1583 board output "Extinguishing system". Push "A" to accept.
"A" Depending on the chosen type, 0, 1, 2, 3 resp. 4, the following will be shown:	Disable 00 0000 control output 0 ACCEPT? Disable S0 ACCEPT? Disable R0 ACCEPT? Disable relay board 0 output 0 ACCEPT? Disable output for extinguishing system on 1583 board, CU 00 ACCEPT?	Write the data. Push "A" to accept.
"A"	Disable control unit: 00 Type: 0 0=RU/SU 1=S 2=R 3=RE 4=ES ACCEPT?	If more disablements shall be done, continue like above. If not, push "Return" to menu B3. Scroll or push "Return" to menu H2. Scroll or push "Return" to logout.

24.4 Re-enable zone (H2/B4)

Disabled zones are listed in menu H4/U1. From this menu, it's also possible to get a print-out.
Re-enabling via this menu, has higher priority than automatic re-enabling.
When all zones have been re-enabled, The LED "Disabled" will be turned OFF, if there are no other disablements in the system.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H2.	`Disable or re-enable` `ACCEPT? H2`	
"A"	`Disable zone` `ACCEPT? B1`	
Scroll to menu B4.	`Re-enable zone` `ACCEPT? B4`	
"A"	`Re-enable zone: 000` `ACCEPT?  L`	If there are no zones to re-enable, menu B4 will be shown again. If it's the correct zone to re-enable, push "A" to accept. If not, scroll or write the wanted zone and push "A" to accept.
"A"	`Re-enable zone` `ACCEPT? B4`	If more re-enablements shall be done, continue like above. If not, scroll or push "Return" to menu H2. Scroll or push "Return" to logout.

24.5 Re-enable zone / address (H2/B5)

Disabled alarm points, zone / addresses, are listed in menu H4/U1. From this menu, it's also possible to get a print-out.
Re-enabling via this menu, has higher priority than automatic re-enabling.
When all alarm points have been re-enabled, The LED "Disabled" will be turned OFF, if there are no other disablements in the system.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H2:	`Disable or re-enable` `ACCEPT? H2`	
"A"	`Disable zone` `ACCEPT? B1`	
Scroll to menu B5.	`Re-enable zone / address` `ACCEPT? B5`	
"A"	`Re-enable zone: 000 Address: 00` `ACCEPT? L`	If there are no zone / addresses to re-enable, menu B4 will be shown again. If it's the correct zone / address to re-enable, push "A" to accept. If not, scroll or write the wanted zone / address and push "A" to accept.
"A"	`Re-enable zone / address` `ACCEPT? B5`	If more re-enablements shall be done, continue like above. If not, scroll or push "Return" to menu H2. Scroll or push "Return" to logout.

24.6 Re-enable control output (H2/B6)

Disabled outputs are listed in menu H4/U1. From this menu, it's also possible to get a print-out.
When all control outputs have been re-enabled, The LED "Disabled" will be turned OFF, if there are no other disablements in the system.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H2.	Disable or re-enable ACCEPT? H2	
"A"	Disable zone ACCEPT? B1	
Scroll to menu B6.	Re-enable control output ACCEPT? B6	
"A"	Re-enable control output type: 0 0=RU/SU 1=S 2=R 3=RE 4=ES ACCEPT? (4=ES not shown in Swedish (RUS) convention)	Push: "0"=RU4 (2265) or SU4 (2262 / 2263), "1"=S0-S3, "2"=R0-R1 or "3"=Relay board 1581 "4"=1583 board output "Extinguishing system". Push "A" to accept.
"A" Depending on the chosen type, 0, 1, 2, 3 resp. 4, the following will be shown:	Re-enable 00 0000 output 0 ACCEPT? L Re-enable control unit 00 S0 ACCEPT? L Re-enable control unit 00 R0 ACCEPT? L Re-enable control unit 00 relay board 0 output 0 ACCEPT? L Re-enable output for extinguishing system on 1583 board, CU 00 ACCEPT? L	If there are no outputs to re-enable, menu B6 will be shown again. If it's the correct output to re-enable, push "A" to accept. If not, scroll or write the wanted output and push "A" to accept.
"A"	Re-enable control output type: 0 0=RU/SU 1=S 2=R 3=RE 4=ES ACCEPT?	If more re-enablements shall be done, continue like above. If not, push "Return" to menu B6. Scroll or push "Return" to menu H2. Scroll or push "Return" to logout.

24.7 Re-enable non-reset zone / address (H2/B7)

This function is normally only used in the Swedish configuration (Convention = RUS in Win512).

One or more alarm points have been reset when still in alarm status (e.g. smoke in a sensor or activated manual call point). To prevent an immediate new fire alarm, these alarm points have been "encapsulated", indicated by LED "Zone/Detector not reset" (L6), and have to be re-enabled before the can generate a new fire alarm.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H2:	`Disable or re-enable` `ACCEPT? H2`	
"A"	`Disable zone` `ACCEPT? B1`	
Scroll to menu B7.	`Re-enable non-reset zone / address` `ACCEPT? B7`	
"A"	`Zone/address 000/00 non-reset` `Re-enable: push ACCEPT? L`	If there are no zone / addresses to re-enable, menu B7 will be shown again. If it's the correct zone / address to re-enable, push "A" to accept. If not, scroll or write the wanted zone / address and push "A" to accept.
"A"	`Re-enable non-reset zone / address` `ACCEPT? B7`	If more re-enablements shall be done, continue like above. If not, scroll or push "Return" to menu H2. Scroll or push "Return" to logout.

24.8 Control on / Control off (H2/B8)

Outputs programmed as type 0 = control (general), type 1 = fire ventilation and/or type 2 = extinguishing system [50] can be disabled all at the same time. **Control off** means that even if the control condition (expression) for resp. output is fulfilled, the outputs will not be activated.
Control off is indicated by LED "Disabled" and is shown in menu H4/U1.

Don't forget to re-enable the outputs again, i.e. **Control on** via menu H2/B8.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H2.	`Disable or re-enable` `ACCEPT? H2`	
"A"	`Disable zone` `ACCEPT? B1`	
Scroll to menu B8.	`Control on / Control off` `ACCEPT? B8`	
"A"	`Control off (=0) or control on (=1)? 1` `ACCEPT?`	Push "1" or "0" and push "A" to accept.
"A"	`Control on / Control off` `ACCEPT? B8`	Scroll or push "Return" to menu H2. Scroll or push "Return" to logout.

[50] Also the "Extinguish equipment output" on the German FBP interface board 1583.

24.9 Alarm device on / Alarm device off (H2/B9)

Outputs programmed as type 3 = alarm device (sounder) can be disabled all at the same time. **Alarm device off** means that even if the control condition (expression) for resp. output is fulfilled, the outputs will not be activated.
Alarm device off is indicated by LED "Disabled" and is shown in menu H4/U1.
Don't forget to re-enable the outputs again, i.e. **Alarm device on** via menu H2/B9.

NOTE! This function is **not** the same as for push button "Silence". (See chapter "Push button "Silence"", page 22). This function has higher priority than "Silence".

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H2.	`Disable or re-enable` `ACCEPT? H2`	
"A"	`Disable zone` `ACCEPT? B1`	
Scroll to menu B9:	`Alarm device on / Alarm device off` `ACCEPT? B9`	
"A"	`Alarm device off(=0) or` `alarm device on(=1)? 1 ACCEPT?`	Push "1" or "0" and push "A" to accept.
"A"	`Alarm device on / Alarm device off` `ACCEPT? B9`	Scroll or push "Return" to menu H2. Scroll or push "Return" to logout.

25 Set calendar and clock (H3)

The RTC component has a built-in battery. Normally, date, day of the week and time don't have to be set, except when the control unit is powered for the first time. The clock may have to be corrected, so that the "time stamps" for fire alarms, faults, etc. will be correct.
In this menu is also the SW (system program) version shown.
NOTE! If you only want to see the SW version, push "Return" (instead of "A") to return to menu H3, because then there will be no changes of the time.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H3.	`Set calendar and clock` `ACCEPT? H3`	
"A"	`Date: YY-MM-DD Time: hh:mm:ss` `Weekday:W (1=M, 7=S) VER:vvvvvvvvvvvvv`	Here is the SW version shown (e.g. VER: 1.41.x). The time shown, is the time when "A" was pushed (for menu H3). Push "A" to accept or change the date, time and/or weekday. The "clock" starts from the date, time, etc. shown in the display. NOTE! Push "Return" (instead of "A") when no changes are to be done.
"A" **or** "Return"	`Set calendar and clock` `ACCEPT? H3`	Scroll or push "Return" to logout.

26 Present system status on display and printer (H4)

Printer is factory mounted in control unit 1549. Printer 1558 is an option for control unit 1548.

26.1 Disablement (H4/U1)

A list of all disablements in the system. From this menu, it's also possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H4.	`Present system status on display and printer ACCEPT? H4`	
"A"	`Disablement Printout: (1=yes) U1`	Push "1" for an automatic print-out of all disablements in the system. Push "A" for presentation in the display.
"1" **or** "A"	*When "A" is pushed, the disablements will be shown in the display, e.g:* `Zone XXX address XX disabled L`	This is a list in which you can scroll. If there are no disablements, if "Return" is pushed and after the last print-out, menu U1 will be shown again.
"Return"	`Disablement Printout: (1=yes) U1`	Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.

26.2 Disablement by time channel (H4/U2)

A list of all disablements by time channel(s) in the system. From this menu, it's also possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H4.	`Present system status on display and printer ACCEPT? H4`	
"A"	`Disablement Printout: (1=yes) U1`	
Scroll to menu U2.	`Disablement by time channel Printout: (1=yes) U2`	Push "1" for an automatic print-out of all disablements in the system. Push "A" for presentation in the display.
"1" **or** "A"	*When "A" is pushed, the disablements will be shown in the display, e.g:* `Zone XXX address XX disabled (by time channel) L`	This is a list in which you can scroll. If there are no disablements, if "Return" is pushed and after the last print-out, menu U2 will be shown again.
"Return"	`Disablement by time channel Printout: (1=yes) U2`	Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.

26.3 Show open doors (H4/U3)

The LED "Key switch" (L16) is lit, to indicate that one or more doors are open. See chapter "Door open (Key switch)", page 25.
Menu H4/U3 is a list of all open doors and from this menu, it's also possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H4.	`Present system status on display and printer ACCEPT? H4`	
"A"	`Disablement Printout: (1=yes) U1`	
Scroll to menu U3.	`Show open doors Printout: (1=yes) U3`	Push "1" for an automatic print-out of all "open doors". Push "A" for presentation in the display.
"1" **or** "A"	*When "A" is pushed, "open doors" will be shown in the display, e.g:* `Door open CU 00 L`	This is a list in which you can scroll. If there are no "open doors", if "Return" is pushed and after the last print-out, menu U3 will be shown again.
"Return"	`Show open doors Printout: (1=yes) U3`	Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.

26.4 Activated 2-zone/address dependent (H4/U4)

2-zone dependency (Win512, dialog box "System"): When only one **zone** is in alarm status, the LEDs "Fire" (L1) are flashing but there is no fire alarm presentation in the FBP display(s) or display units.[51]

2-unit dependent (Win512, COM loop unit dialog box): When only one **zone / address** (alarm point / unit) is in alarm status, the LEDs "Fire" are flashing but there is no fire alarm presentation in the FBP display(s).[52]

In menu H4/U4, this **2-zone** or **2-unit dependent** (zone / address) in alarm status is shown. From this menu, it's also possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H4.	`Present system status on display and printer ACCEPT? H4`	
"A"	`Disablement Printout: (1=yes) U1`	
Scroll to menu U4.	`Activated 2-zone/address dependent zone/address Printout: (1=yes) U4`	Push "1" for an automatic print-out. Push "A" for presentation in the display.
"1" **or** "A"	*When "A" is pushed, zone & address will be shown in the display, e.g:* `ALARM zone XXX address XX (co-incidence)`	This is a list in which you can scroll. If there are no "alarms", if "Return" is pushed and after the last print-out, menu U4 will be shown again.
"Return"	`Activated 2-zone/address dependent zone/address Printout: (1=yes) U4`	Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.

[51] When two or more **zones**, dependent on each other, are in alarm status, fire alarm will be activated in the system.

[52] When two or more **units** (zone / addresses), dependent on each other, are in alarm status, fire alarm will be activated in the system.

26.5 Show sensors week average values (H4/U5)

Each sensor's week average sensor value can be listed. [53]

It is not possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H4.	`Present system status on display and printer ACCEPT? H4`	
"A"	`Disablement Printout: (1=yes) U1`	
Scroll to menu U5.	`Show sensors week average value U5`	Push "A" to accept.
"A"	`Start Sensor: 000000`	Write the sensor's techn. number and push "A" to accept.
E.g: "000001" "A"	`Sensor : 000001 Value : YYY L`	This is a list in which you can scroll. Push "Return" to return to Start Sensor:. Write a new techn. number or push "Return" to menu U5.
"Return"	`Show sensors week average value U5`	Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.

26.5.1 Reset of a sensor week average value

If a sensor is replaced without having generated a service signal, its sensor week average value has to be set to the default value (otherwise the new / clean sensor will inherit the old sensor's value). In menu H4/U5 when you see the specified sensor week average value, push "Fault acknowledged" to reset it to the default value. See also chapter "Acknowledge SERVICE signal (H8/S4)", page 99.

NOTE! Authorised service personnel only, must do the reset to default value. Used incorrectly it can cause nuisance fire alarms.

[53] The first sensor week average value is calculated 10 minutes after SSD download & restart. Until then, the default value for that specific sensor type, is shown.

26.6 Show sensors momentary values (H4/U6)

Each sensor's actual sensor value can be listed:
Via display: See Alternative "A" below.
Via a print-out: See Alternative "1" below.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H4.	`Present system status on display and printer ACCEPT? H4`	
"A"	`Disablement Printout: (1=yes) U1`	
Scroll to menu U6.	`Show sensors momentary values Printout: (1=yes) U6`	Push "A" for display presentation **or** Push "1" for print-out.
Alternative "A"	`Start Sensor: 000000`	Write the sensor's techn. number and push "A" to accept.
E.g: "000001" "A"	`Sensor : 000001 Value : YYY L`	This is a list in which you can scroll. Push "Return" to return to Start Sensor:. Write a new techn. number or push "Return" to menu U6. Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.
Alternative "1"	`Start Sensor : 000000` `End Sensor : 293127`	Write the start and end sensors' techn. numbers. Push "A" to accept / start the print-out. Automatic return to menu U6.
E.g: "000001 "003127 "A"	`Show sensors momentary value Printout: (1=yes) U6`	Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.

26.7 Sensors activating SERVICE signal (H4/U7)

A sensor's week average value is below or over the service level resp. for this type of sensor. Service signal is indicated by LED "Service" (L17).
Menu H4/U7 is a list of the sensor(s) activating service signal.
It is not possible to get a print-out.

NOTE! Service signal is only an information that the sensor has to be cleaned / replaced soon. See chapter "Acknowledge SERVICE signal (H8/S4)", page 99.

It is not possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H4.	`Present system status on display and printer ACCEPT? H4`	
"A"	`Disablement Printout: (1=yes) U1`	
Scroll to menu U7.	`Sensors activating SERVICE signal U7`	Push "A" to accept.
"A"	`Sensor : xxxxxx needs service L`	This is a list in which you can scroll. Push "Return" to menu U7. (If there are no sensors in the list, menu U7 will be shown again.).
"Return"	`Sensors activating SERVICE signal U7`	Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.

26.8 Show event log (H4/U8)

This is a list of events. Types[54], number of events in the list, etc. can be programmed. From this menu, it's also possible to get a print-out. Each event can be listed:
Via display: See Alternative "A" below.
Via a print-out: See Alternative "1" below.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H4.	`Present system status on display and printer ACCEPT? H4`	
"A"	`Disablement Printout: (1=yes) U1`	
Scroll to menu U8.	`Show event log Printout: (1=yes) U8`	Push "A" for display presentation **or** Push "1" for print-out.
Alternative "A"	*When "A" is pushed, an event will be shown in the display, e.g:* `ALARM zone 123 address 45 MM-DD HH:MM XX`	This is a list in which you can scroll. Push "Return" to menu U8. (XX in the example = control unit number. XX=99=Win512).
Alternative "1"	`How many events shall be printed ? 000 ACCEPT?`	
Write number of events to be printed, e.g. "010"	`How many events shall be printed ? 010 ACCEPT?`	Push "A" to start print-out. After the last print-out, menu U8 will be shown again.
"A"	`Show event log Printout: (1=yes) U8`	Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.

[54] See EBL512 Planning Instructions and Win512.

26.9 Show configuration (H4/U9)

In menu H4/U9, the EBL512 settings (made in Win512)are shown:
- Number of addresses that can be used (128, 256 or 512)
- Convention (i.e. different functions in different countries, etc.)
- Language for the texts presented in the display / on the print-outs

It is not possible to get a print-out.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H4.	`Present system status on display and printer ACCEPT? H4`	
"A"	`Disablement Printout: (1=yes) U1`	
Scroll to menu U9.	`Show configuration U9`	Push "A" to accept.
"A"	`Max number of allowed loop units xxx Language:nnnnnnnnn Conv.:ccccccccc`	Push "Return" to menu U9.
"Return"	`Show configuration U9`	Scroll or push "Return" to menu H4. Scroll or push "Return" to logout.

27 Programming (H5)

When commissioning an installation (power on and programming a control unit / a system), menu H5 is used to get certain information and help.

Only authorised personnel have access to level 4 menus. Access code for level 4 is required.

Via a PC[55] and Win512 (+ access code for level 5) you can:

- download / backup of site specific data
- download of SW / settings / configurations / C.U. & system data
- create and download the user definable text messages shown in the alphanumeric display in the C.U. / ext. FBP and in the Display units.

Via a PC[56] and TLON Manager you can do the TLON network programming / configuration.

TLON Manager is used for programming of network data / addresses / etc.

NEWTEXT (DOS based "older" program) could be used to create / download the user definable text messages shown in the Display units connected to the COM loops.

[55] Connected to the "D" connector J1 on the main board 1556.

[56] Connected to the modular connector J2 on the main board 1556.

27.1 Access code for programming (H5)

When commissioning an installation you have to be authorised (access code to level 4).

If login to level 2 was made with code for level 4, no code is required here.

Action	Text in display	Comments
"Access"		According to chapter "Access", page 57
	`Perform monthly test` `ACCEPT? H1`	
Scroll to menu H5	`Programming` `ACCEPT? H5`	
"A"	`Access code: _`	If login was made with code for level 4, no code is needed.
Enter code for level 4 (4 digits)	`Access code: ****`	The digits are replaced (****) in the display
	`NO ACCESS!`	The access code was not correct. Try again.
	`Calibration of monitored outputs` `ACCEPT? A1`	The access code was correct. This is menu H5/A1. Push "A" to accept, scroll or push return to menu H5.

27.2 Calibration of monitored outputs (H5/A1)

The voltage outputs (S0-S3) in each control unit are monitored (supervised), as well as the outputs (0-3) in each output unit type 2262 and 2263. A calibration has to be performed to ensure the function. When all alarm devices (sounders, etc.) have been connected, including required resistors and when the SSD download is ready, calibration has to be done as follows.

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
	`Calibration of monitored outputs` `ACCEPT? A1`	
"A"	`Calibration in process` `Please wait......`	
	`Calibration of monitored outputs` `ACCEPT? A1`	Calibration is ready. Scroll or push "Return" to H5. Scroll or push "Return" to logout.

27.3 Sensitive fault detection mode (H5/A2)

To increase the possibilities to detect faults during the commissioning, it is possible to use the "Sensitive fault detection mode. (The time delay for each fault will be reduced).

NOTE! Don't forget to turn off this mode after the commissioning.

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
Scroll to menu A2	`Sensitive fault detection mode` `ACCEPT? A2`	
"A"	`Sensitive fault detection mode: 0` `(0 = off, 1 = on)`	Push "A" or "1" and "A" to accept. ON is indicated by LED "Fault". This mode is ON until turned OFF in this menu (A2).
"A" or "1", "A"	`Sensitive fault detection mode` `ACCEPT? A2`	Scroll or push "Return" to H5. Scroll or push "Return" to logout.

27.4 Direction for communication on COM-loop (H5/A3)

To make trouble shooting easier (e.g. during the commissioning) it is possible to lock the communication on a COM or BS4 loop in one direction.

(The communication direction is automatically changed two times per 24 hours, to ensure that the wires are okay.).

NOTE! The locking only works as long as you "see the text in the menu A3", i.e. when you log out or if you are automatically logged out, the communication direction will be "reset" to the normal direction for that time.

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
Scroll to menu A3	Direction for communication on COM-/BS4-loop ACCEPT? A3	
"A"	Select type of loop: 0 (0=COM, 1=BS4) ACCEPT?	Push "A" or "1" and "A" to accept. ON is indicated by LED "Fault". This mode is ON until turned OFF in this menu (A2).
"A" or "1", "A"	Lock COM-loop: 0 (0-3) Unit: 00 (0-29) ACCEPT? --- Lock direction on BS4-loop: 0, Board: 0, CU: 00 ACCEPT?	Write loop number (board number) and control unit number. Push "A" to accept.
"A"	COM-loop is currently communicating in A-direction ACCEPT? (When you have selected a BS4 loop, the text in this menu will still be COM loop).	(May be B-direction instead.). Push "A" to change direction. Push "Return" to finish (back to menu A3).
"Return"	Direction for communication on COM-/BS4-loop ACCEPT? A3	Scroll or push "Return" to H5. Scroll or push "Return" to logout.

27.5 Show information about site specific data (H5/A4)

The site specific data (SSD) is downloaded via a PC and Win512.

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
Scroll to menu A4	`Show information about` `site specific data ACCEPT? A4`	
"A"	`Name: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx`[57] `Downloaded: YY-MM-DD hh:mm ACCEPT?`	YY=year, MM=month, DD=day. hh=hour, mm=minute
"A"	`Show information about` `site specific data ACCEPT? A4`	Scroll or push "Return" to H5. Scroll or push "Return" to logout.

[57] "Logical Name" as written in Win512 dialog box "System", tab "System Data".

27.6 Display current consumption in unit (H5/A5)

System shows the total current consumption (including the charging current on the 24V side) for the whole control unit.

Charging shows the charging current.

NOTE! System current >3.8 A is presented as >3800 mA. Charging current <100 mA can not be correctly presented.

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
Scroll to menu A5	`Display current consumption in unit` `ACCEPT? A5`	
"A"	`From which control unit shall current consumption be displayed: 00 ACCEPT?`	Write control unit number. Push "A" to accept.
"A"	`Wait......`	
	`Current consumption control unit 00` `System: xxxx mA Charging: xxxx mA`	
"A"	`Display current consumption in unit` `ACCEPT? A5`	Scroll or push "Return" to H5. Scroll or push "Return" to logout.

27.7 Display current consumption COM-/BS4-loop (H5/A6)

The current consumption (an average value) for each COM loop and BS4 loop[58] can be displayed.

NOTE! No or very small current consumption could not be presented correctly / precisely.

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
Scroll to menu A6	`Display current consumption on COM-/BS4-loop ACCEPT? A6`	
"A"	`Select type of loop: 0 (0=COM, 1=BS4) ACCEPT?`	Select type of loop. Push "A" to accept.
"A" or "1", "A"	`Display current consumption on COM-loop; 0, unit: 00` `Display current consumption on BS4-loop: 0, board: 0, unit: 00 ACCEPT?`	Write loop number, (board number; 0-3) and control unit number. Push "A" to accept.
"A"	`Wait......`	
	`Current consumption on COM-loop: 0 control unit: 00 is xxxx mA` `Current consumption on BS4-loop: 0, board: 0, unit: 00 is xxxx mA`	
"Return"	`Display current consumption on COM-/BS4-loop ACCEPT? A6`	Scroll or push "Return" to H5. Scroll or push "Return" to logout.

[58] An Autronica interface board 1584 is required in the control unit.

27.8 Display statistics for COM-loop (H5/A7)

Pollings are the number of pollings ("questions") sent out to the units on the COM-loop, by the control unit.
Parity are received parity faults, number and % (faults in relation to pollings).
Bit are received bit faults, number and % (faults in relation to pollings).
Answer are received answer faults or no answers, number and % (faults in relation to pollings).

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
Scroll to menu A7	`Display statistics for COM-loop` `ACCEPT? A7`	
"A"	`For which CU 00 and COM-loop 0 shall` `statistics be displayed? ACCEPT?`	Write control unit and loop number. Push "A" to accept.
"A"	`Wait......`	
	`Pollings 1234567 Parity 000000 00.0%` `Bit 000000 00.0% Answer 000000 00.0 %`	
"Return"	`Display statistics for COM-loop` `ACCEPT? A7`	Scroll or push "Return" to H5. Scroll or push "Return" to logout.

27.9 Select unit on COM-loop to use for triggering (H5/A8)

This function is used by service engineer and by R&D for troubleshooting.
On the pin respectively you will get a pulse to trig an oscilloscope etc.

COM loop

Main board 1556, JP2, "upper" pin: Each unit not giving a correct answer.
Main board 1556, JP2, "lower" pin: When a specific unit is being polled.

BS4 loop

Autronica interface board 1584, BY3, "left" pin: When a specific unit is being polled.
Autronica interface board 1584, BY3, "right" pin: 0 V.

(BS4 board = Autronica interface board 1584)

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
Scroll to menu A8	Select unit on COM-loop to use for trigging ACCEPT? A8	
"A"	Select type of loop: 0 (0=COM, 1=BS4) ACCEPT?	Select type of loop. Push "A" to accept.
"A" or "1", "A"	CU: 00 Loop: 0 Address: 000 ACCEPT? --- CU 00, BS4-Board 0, Loop: 0, Address: 00 ACCEPT?	Write control unit number, (board number; 0-3), loop number and address. Push "A" to accept.
"A"	Select type of loop: 0 (0=COM, 1=BS4) ACCEPT?	Select type of loop. Push "A" to accept or push "Return" to menu A8..
"Return"	Select unit on COM-loop to use for trigging ACCEPT? A8	Scroll or push "Return" to H5. Scroll or push "Return" to logout.

27.10 Change access code for PC-communication (H5/A9)

As a protection against unauthorised personnel programming the system, an access code (level 5) for PC-connection (Win512) is required. For security reasons, the default code should be changed.

NOTE! This code require eight (8) digits.

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
Scroll to menu A9	`Change access code for PC-communication` `ACCEPT? A9`	
"A"	`Access code: _` `New code: ********  Verify: ********`	The digits are replaced (********) in the display.
	`Incorrect access code, NO change`	The code was not correct. Try again.
	`Change access code for PC-communication` `ACCEPT? A9`	The code was correct and is now changed to the new code. Scroll or push "Return" to H5. Scroll or push "Return" to logout.

27.11 Change access code for programming (H5/A10)

For security reasons, the default code should be changed.

Action	Text in display	Comments
"Access"		According to chapter "Access code for programming (H5)", see page 81.
Scroll to menu A10	`Change access code for programming` `ACCEPT? A10`	
"A"	`Access code: _ New code:` `Verify:`	
Enter the old code, the new code and the new code again.	`Access code: **** New code: ****` `Verify: ****`	The digits are replaced (****) in the display.
	`Incorrect access code, NO change`	The code was not correct. Try again.
	`Change access code for programming` `ACCEPT? A10`	The code was correct and is now changed to the new code. Scroll or push "Return" to H5. Scroll or push "Return" to logout.

28 Acknowledge FAULTS (H6)

LEDs "Fault tx" (L19) and "Fault" (L8) are lit and resp. outputs are activated. There is a fault message shown in the FBP display(s). More than one fault is indicated in the display by the text:
`More faults`

If a fault is automatically corrected, before being acknowledged, it is indicated in the display by the text:
`Serviced`
NOTE! The fault still has to be acknowledged in menu H6.

In menu H6 are all faults listed (not acknowledged and acknowledged but not corrected faults).
All faults / fault status are stored in the event log and can be listed, see chapter "Show event log (H4/U8)", page 78.

When **all** faults are, the LED "Fault tx" will be turned off. Corresponding outputs will be reset.
When **all** faults are acknowledged and corrected (serviced), LED "Fault" will be turned off. Corresponding outputs will be reset.

Also see chapter "Fault", page 35.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H6.	`Acknowledge FAULTS` `ACCEPT? H6`	
"A"	`FAULT: Xxxxxxxx.....` `Date: MM-DD Time: HH:MM See comments`	This is a list in which you can scroll. If the fault is corrected, the text: `Serviced` is shown. To acknowledge the fault shown in the display, push "Fault acknowledged"
"Fault acknowledged"	`FAULT: Xxxxxxxx.....` `Date: MM-DD Time: HH:MM Acknowledged`	The fault is now acknowledged. If / when it is corrected, it's no more shown in this list. Scroll to find more faults to be acknowledged, or push "Return" to menu H6.
"Return"	`Acknowledge FAULTS` `ACCEPT? H6`	Scroll or push "Return" to logout.

29 Perform ZONE TEST (test mode) (H7)

Normally, zones are tested during the monthly test (menu H1). Via this menu it's possible to perform the zone test only.
In test mode, only the alarm points are tested, i.e. no outputs (no sounders) will be activated during the test. If a real fire alarm is generated by **an alarm point not in test mode**, the normal fire alarm functions will be activated, i.e. outputs (sounders), routing equipment (fire brigade tx) etc. will be activated.
NOTE! If the control unit door is left open, the output(s) for routing equipment (fire brigade tx) may be disabled (if programmed so in Win512).

There will be an automatic test mode exit one hour after the latest tested alarm point.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H7.	`Perform ZONE TEST` `ACCEPT? H7`	
"A"	`Zone to be set in TEST MODE:` `??? ??? ??? ???  Start test:  ACCEPT`	
Write zone numbers (e.g. 001, 002, 003, 004).	`Zone to be set in TEST MODE:` `001 002 003 004  Start test:  ACCEPT`	Push "A" to start the test mode.
"A"	`Zones are set in test mode` `wait….`	LED "Test mode" (L9) will light up.
	`Zone in TEST MODE:` `001 002 003 004  End test:  ACCEPT`	Perform the tests. When ready push "A".

Perform the test as quickly as possible, since the output for routing equipment (fire brigade tx) is disabled (also the parts of the zones in test mode, not visible for the test personnel, are disabled).

In the tested alarm point, the LED will light up, and the LED "Fire" (L1) in the C.U. will light up, about ten seconds, then the alarm point will be automatically reset. The printer, if available, will print out every tested alarm point (Zone: xxx Address: xx Time: HH.MM). Push "A" to stop the test mode.

Continues on next page.

Action	Text in display	Comments
"A"	Perform ZONE TEST ACCEPT? H7	If more zones are to be tested, continue as above. If not, scroll or push "Return" to logout.

NOTE! If the control unit door is left open, the output(s) for routing equipment (fire brigade tx) may be disabled (if programmed so in Win512).

A sensor in test mode will not be able to activate fault.

30 Maintenance (H8)

30.1 Access code for maintenance

Access code for access level 3 is required for menu H8.
NOTE! If login to level 2 was made with code for level 3 or 4, no code to access level 3 is required here.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H8.	Maintenance ACCEPT? H8	
"A"	Access code: _	When required (see above), enter the access code for level 3.
Enter the code (4 digits)	Access code: ****	The digits are replaced (****) in the display.
	NO ACCESS!	The access code was not correct. Try again.
	Disable or re-enable outputs for routing equipment ACCEPT? S1	The access code was correct. This is menu S1. Push "A" to accept **or** scroll to the following menus (S2-S8).

30.2 Disable or re-enable outputs for routing equipment (H8/S1)

Outputs for routing equipment (fire brigade tx / fault tx) can be disabled via this menu. They stay disabled, until re-enabled again via this menu. Can be useful during an installation test period, when only local alarm is required.
Disabled outputs are indicated by LEDs "Disabled" (L10) and "**Disabled** Fire brigade tx" (L18) and/or "**Disabled** Fault tx" (L19).

Action	Text in display	Comments
"Access"		According to chapter "Access code for maintenance", see page 95.
	`Disable or re-enable outputs for routing equipment ACCEPT? S1`	
"A"	`Routing equipment for FIRE:1, FAULT:1 (1=enabled, 0=disabled) ACCEPT?`	To move the cursor, push "→". Edit and/or push "A" to accept.
"A"	`Disable or re-enable outputs for routing equipment ACCEPT? S1`	Scroll or push "Return" to return to H8. Scroll or push "Return" to logout.

30.3 Disconnect COM-loop (H8/S2)

Before physical connection / disconnection of loop units, etc. to a loop or zone line, the "loop" should be disconnected (disabled), i.e. no voltage on the "loop" to avoid damage on the units and control unit. Don't forget to re-connect the loop / zone line again, via menu H8/S3.

BS4 loop require an Autronica interface board 1584 in the control unit. DET8 "loop" require an 8 zones expansion board 1580 in the control unit.

Action	Text in display	Comments
"Access"		According to chapter "Access code for maintenance", see page 95.
Scroll to menu S2.	Disconnect COM-Loop ACCEPT? S2	
"A"	Disconnect type: 0 (0=COM, 1=BS4, 2=DET8, 3=loop Unit) ACCEPT?	Push: "0"=COM loop "1"=BS4 loop "2"=Expansion board 1580 "3"=Addr. zone interface 2226 / 2335. Push "A" to accept.
"A" Depending on the chosen type, 0, 1, 2 or 3, the following will be shown:	Disconnect COM-Loop: 0, CU: 00 ACCEPT?	Write the required numbers. Push "A" to accept.
	Disconnect BS4-Loop: 0, Board: 0, CU: 00 ACCEPT?	
	Disconnect DET8-input: 0, Board: 0, CU: 00 ACCEPT?	
	Disconnect input technical no.: 000000 ACCEPT?	
"A"	Disconnect type: 0 (0=COM, 1=BS4, 2=DET8, 3=loop Unit) ACCEPT?	LED "Disabled" indicates disconnected loops, etc.. Continue to disconnect or push "Return" to menu S2.
"Return"	Disconnect COM-Loop ACCEPT? S2	Scroll or push "Return" to return to menu H8. Scroll or push "Return" to logout.

30.4 Re-connect Loop (H8/S3)

Disconnected (disabled) loops / zone lines are indicated by LED "Disabled" and listed in menu H4/U1.

BS4 loop require an Autronica interface board 1584 in the control unit. DET8 "loop" require an 8 zones expansion board 1580 in the control unit.

Action	Text in display	Comments
"Access"		According to chapter "Access code for maintenance", see page 95.
Scroll to menu S3.	Re-connect Loop ACCEPT? S3	
"A"	Re-connect type: 0 (0=COM, 1=BS4, 2=DET8, 3=Loop Unit) ACCEPT?	Push: "0"=COM loop "1"=BS4 loop "2"=Expansion board 1580 "3"=Addr. zone interface 2226 / 2335. Push "A" to accept.
"A" Depending on the chosen type, 0, 1, 2 or 3, the following will be shown:	Re-connect COM-Loop: 0, CU: 00 ACCEPT?	Write the required numbers. Push "A" to accept.
	Re-connect BS4-Loop: 0, Board: 0, CU: 00 ACCEPT?	
	Re-connect DET8-input: 0, Board: 0, CU: 00 ACCEPT?	
	Re-connect input technical no.: 000000 ACCEPT?	
"A"	Re-connect type: 0 (0=COM, 1=BS4, 2=DET8, 3=Loop Unit) ACCEPT?	Continue to re-connect or push "Return" to menu S2. LED "Disabled" will be turned off if there are no other disablements in the system.
"Return"	Re-connect Loop ACCEPT? S3	Scroll or push "Return" to return to menu H8. Scroll or push "Return" to logout.

30.5 Acknowledge SERVICE signal (H8/S4)

See chapter "Sensors activating SERVICE signal (H4/U7)", page 77. When service signal from a sensor is acknowledged, the sensor is given a default sensor value (for a new / clean sensor), i.e. **first** replace the sensor, **then** acknowledge the service signal.

NOTE! If a sensor is replaced without activating service signal, it has to be reset to the default sensor value. See chapter "Reset of a sensor week average value", page 75.

Action	Text in display	Comments
"Access"		According to chapter "Access code for maintenance", see page 95.
Scroll to menu S4.	`Acknowledge SERVICE signal` `ACCEPT? S4`	
"A"	`Sensor : xxxxxx needs service` `L`	If there are no sensors to acknowledge, menu S4 will be shown again. If it's the correct sensor to acknowledge, push "Fault acknowledge" and you will return to menu S4. If not, scroll or write the wanted sensor and push " Fault acknowledge" and you will return to menu S4 **or** push "Return" to S4.

"Fault acknowledge"	*The service signal for that sensor is now acknowledged and the next sensor will be shown in the display.*
	`Sensor : xxxxxx needs service`
	`L`
		If more service signal acknowledgements shall be done, continue like above. If not, push "Return" to menu S4.

"Return"	`Acknowledge SERVICE signal` `ACCEPT? S4`	Scroll or push "Return" to menu H8. Scroll or push "Return" to logout.

30.6 Safe shut down of control unit (H8/S5)

It's not recommended, to power off a control unit, without doing a safe shut down. This is because data can get lost. Safe shut down also put the CPU at rest.
NOTE!
By reset/restart and power off, the Fault tx output(s) will be "activated".

Before a "Safe shut down", see chapter "Reset / Restart", page 55.

Action	Text in display	Comments
"Access"		According to chapter "Access code for maintenance", see page 95.
Scroll to menu S5.	Safe shut down of control unit ACCEPT? S5	
"A"	Shut down control unit 00 ? 0 (1 = Yes, 0 = No) ACCEPT?	
Write the C.U. number, "1" (=yes) and "A"	Ready for shut down, break the power. Automatic restart within 300 seconds!	Count down from 300 seconds starts. Disconnect the power supply (mains and battery). When the power supply is connected again **or** (if powered all time) after 300 seconds, there will be an automatic reset / restart.
	FAULT: Restart CU xx code xx	After restart / power on, there will be a fault activated. This fault has to be acknowledged, see chapter "Acknowledge FAULTS (H6)", page 92.

30.7 Activate address in alarm mode (H8/S6)

One or more alarm points (addresses), can be set in alarm status. (Fictitious zone-addresses can not be used and address "00" can only be used for a conventional zone line, e.g. an exp. board 1580 input.)

NOTE! All outputs, standard and programmable, which would have been activated by a real fire alarm from the same alarm point, will be activated by this manual alarm as well. The LED in the detector / base / ext. LED will not be lit.

Action	Text in display	Comments
"Access"		According to chapter "Access code for maintenance", see page 95.
Scroll to menu S6.	Activate address in alarm mode ACCEPT? S6	
"A"	Select zone: 000 address: 00 ACCEPT?	
Write the zone and address.	Select zone: 123 address: 45 ACCEPT?	Push "A" to accept / activate the fire alarm.
"A"	Alarm No.001:123-45 Information text, if programmed	Normal fire alarm presentation in the display(s) in the whole system.
"Reset" alt. "Return"	Select zone: 000 address: 00 ACCEPT?	The fire alarm shown in the display will be reset.[59] After that another alarm point can be activated, i.e. continue as above. One more alarm point can be activated, i.e. continue as above. If not, push "Return" to menu S6.
"Return"	Activate address in alarm mode ACCEPT? S6	Scroll or push "Return" to menu H8. Scroll or push "Return" to logout.

[59] Each fire alarm has to be individually reset.

30.8 Synchronize the control units (H8/S7)

The control units have to be synchronized when:

- The following fault message is shown:
  `FAULT: CU xx has wrong information`[60]
- After "Status Checking" has been enabled in Win512.

(When using Win512, you can use the "Synchronize" toolbar button.)

Action	Text in display	Comments
"Access"		According to chapter "Access code for maintenance", see page 95.
Scroll to menu S7.	`Synchronize the control units` `ACCEPT? S7`	
"A"	`Shall control units be synchronized? 0` `(1 = Yes, 0 = No) ACCEPT?`	Push "A" to start the synchronisation.
"A"	`Synchronization will take about 30 sec` `for each CU. Hit any key to return.`	Push "Return" at once.
"Return"	`Shall control units be synchronized? 0` `(1 = Yes, 0 = No) ACCEPT?`	Before a new syncronization, wait until the syncronization is ready.[61] Push "Return" to menu S7.
"Return"	`Synchronize the control units` `ACCEPT? S7`	Scroll or push "Return" to menu H8. Scroll or push "Return" to logout.

[60] If the control unit restart in conjunction with this fault, the synchronization will happen automatically.

[61] Normally a syncronization is done in conjunction with the fault message above. When the syncronization is ready the fault will be indicated as "Serviced". If a syncronization is done via Win512 (i.e. normally no fault message) there is no syncronization ready indication. The syncronization time is depending on the amount of data (faults, disablements, etc.) stored. If a new syncronization is started before a syncronization is ready, the syncronization will start from the beginning again.

30.9 Change access code for maintenance (H8/S8)

For security reasons, the default code should be changed.

Action	Text in display	Comments
"Access"		According to chapter "Access code for maintenance", see page 95.
Scroll to menu S8.	`Change access code for maintenance` `ACCEPT? S8`	
"A"	`Access code: _ New code:` `Verify:`	
Enter the old code, the new code and the new code again.	`Access code: **** New code: ****` `Verify: ****`	The digits are replaced (****) in the display.
	`Incorrect access code, NO change`	The code was not correct. Try again.
	`Change access code for maintenance` `ACCEPT? S8`	The code was correct and is now changed to the new code. Scroll or push "Return" to menu H8. Scroll or push "Return" to logout.

31 Change access code for daily duties (H9)

For security reasons, the default code should be changed.

Action	Text in display	Comments
"Access"		According to chapter "Access", see page 57.
Scroll to menu H9.	`Change access code for daily duties` `ACCEPT? H9`	
"A"	`Access code: _ New code:` `Verify:`	
Enter the old code, the new code and the new code again.	`Access code: **** New code: ****` `Verify: ****`	The digits are replaced (****) in the display.
	`Incorrect access code, NO change`	The code was not correct. Try again.
	`Change access code for daily duties` `ACCEPT? H9`	The code was correct and is now changed to the new code. Scroll or push "Return" to logout.

32 Annual control

The building occupier is highly recommended, once a year, to do some tests, beside the monthly tests. To avoid the Fault tx output(s) to be activated, they can be disabled via menu H8/S1 (or via an open door, se chapter "Door open (Key switch)", page 25.).
Regarding the fault condition, see chapters "Fault", page 35 and "Fault messages", page 35.

NOTE! Some faults may take a few minutes before they will be activated.

Each control unit should be tested as follows:

- Perform monthly test (menu H1).
- Remove one battery fuse (F2 or F3 on the charger board 1557). The following fault message is to be shown:

  `FAULT: Battery not connected CU xx`
  NOTE! xx is depending on control unit.
- Put back the fuse and acknowledge the fault (Menu H6).
- Remove fuse F5 (**not F1 - F4**) on the connection board 1555. The following fault message is to be shown:

  `FAULT: monitored output 0, CU xx`
  NOTE! xx is depending on control unit.
- Put back the fuse and acknowledge the fault.

When output units type 2262 / 2263 are installed:

- Remove the battery fuse F3 on the rectifier p.c.b. The following fault message is to be shown:

  `FAULT: Battery output unit xxxxxx`
  NOTE! xxxxxx is depending on output unit and control unit.
- Put back the fuse and acknowledge the fault.
- Remove fuse F8 on the output p.c.b. The following fault message is to be shown:

  `FAULT: Output 3, techn. no. xxxxxx`
  NOTE! xxxxxx is depending on output unit and control unit.
- Check the manual call points (the glass). Take required measures. Use the manual call point alarm test key.
- Check some control outputs. Are they activated according to programmed control expressions?

33 Changing paper in the printer

When the paper roll is almost empty, a red line appears on one edge of the paper. Change the paper roll before it's completely empty! Always have a spare paper roll on site.

Change the paper roll as follows:

- Read all instructions before changing the paper roll.
- Open the control unit door. Unlock the (metal) inner door by removing the screw, placed on top, to the left of the inner door. Open the inner door.
- Remove the old paper roll carefully, cut the paper, so that the paper within the printer remains there.
- Take the new paper roll, tape the new paper to the old paper and place the paper roll on the printer.
- Push "Paper feed" button[62] until the new paper comes out of the printer.

Cut off the paper and lock the inner door. Close the control unit door.

[62] Paper feed button is different in different configurations / conventions. The following alternatives are to be found:
-An unsigned grey push button on the left side of the inner door.
-An unsigned "black" push button (P5) below the "Silence" (P2) and "Reset" (P3) buttons.
NOTE! In English configuration, this button (P5) is green and signed "Evacuate" and has another function. See chapter "Control Unit", page 12.

34 Battery maintenance

The batteries (2 x 12 V, 24 Ah) are normally placed in the control unit.

The control unit supervises the batteries and a fault will be activated if something goes wrong.

They are rechargeable sealed lead-acid batteries and maintenance-free but the producer's instructions are always to be followed.

The ambient temperature affects the battery capacity, self discharge and life span. It shouldn't be higher than normal room temperature. For highest safety, batteries used in fire alarm installations, should never be older than four years.

35 How to avoid unnecessary (nuisance) fire alarms

We all realise, when life, buildings, production facilities, etc. shall be saved, it is of utmost importance that an initial fire is detected as soon as possible. That's why more and more automatic fire alarm systems are installed.

In an automatic fire alarm installation, especially if smoke detectors (sensors) are used, everybody in the building needs to be informed how to avoid so called unnecessary (nuisance) fire alarms.

To avoid trouble and unnecessary expenses there are a couple of things to bear in mind. Here are some advice and tips.

Tobacco smoke

The detectors (sensors) can not sense the difference between "smoke" and "smoke". They can not separate tobacco smoke from smoke from a fire. Intensive tobacco smoking in connection with bad ventilation can cause a fire alarm.

Welding, grinding, cutting, sawing & drilling

These kind of jobs cause smoke.

Carpet welding

Welding of plastic carpets causes a smoke that can be almost invisible, but it still influences the smoke detectors (sensors).

Cooking fumes, toasting & candles

It is not only "normal smoke" that influences smoke detectors (sensors). It is all kinds of "combustion products", caused by cooking (frying/grilling), toasting, etc. Warning! Be careful when there are smoke detectors (sensors) near such activity.

Special environments

In certain premises, a special environment can exist which can influence smoke detectors (sensors) and cause alarm. It can be ions (from plastics), flour dust, oil haze, aerosols, strong perfumes, strong ventilation, insecticides, disinfecting sprays, etc. If many odd and unnecessary alarms occur, the environment must be examined and perhaps other detector types have to be chosen.

Steam / hot air

Smoke and heat detectors are influenced by steam and hot air, e.g. from an oven, dry-blower, heater, etc.

Exhausts

Exhausts from cars / trucks, lift trucks, lawn mowers, etc. influences smoke detectors (sensors). If windows and doors are open, exhausts can "slip in" that way.

Lack of maintenance

Smoke detectors (sensors) are influenced by their environment and becomes "dirty". In an analogue system (e.g. EBL512) a Service signal is given when it's time to clean or exchange the smoke detectors (sensors). The alternative, is to exchange detectors at even intervals, to be on the safe side.

Change in activities or wrong choice of detector

If the activities in the premises are altered, the detector choice might also need altering. Due to special environments, see above, an in-appropriate detector type could have been chosen from the beginning and thus cause unnecessary alarms.

Miscellaneous

Choosing another type of detector can solve certain problems. Bear also in mind, that the coverage area can be different for different types of detectors.

It is however not always the best action to change detector type. Here is a list of other actions, programmed via Win512, which can be used:

- Alarm delay for smoke detectors / sensors can be used.
- Two-zone or two-unit dependent fire alarm activation can be used.
- In an installation with addressable detectors / sensors (e.g. EBL512), the affected detectors can be individually disabled (or whole zones) when the work is in progress. Bear in mind that the smoke spreads, and consideration must be taken to adjacent detectors/zones. Disablements can be done automatically via a time channel (built-in or external) or via menu (H2/B1-B3).
- If there is a personnel alarm organisation on site, alert annunciation can be used.
- Pre-alarm from smoke sensors can be used.

36 Information regarding radioactive radiation source

The installation might contain smoke sensors / detectors of the ionization type. They contain a small radioactive radiation source, Americium 241.

When the sensor/detector gets dirty and when service signal has been activated in the system, contact your local dealer for cleaning / replacement of the sensors / detectors.

Metal objects must absolutely not be stuck into the sensor / detector. Static electricity may destroy the detector.

Defective / faulty, discarded and replaced sensors / detectors shall be taken care of as radioactive waste. They shall be packed in chock absorbing material to make a stable parcel.

PLEASE NOTE!
Damaged sensors / detectors shall also be packed in a sealed packet whose surface must not be contaminated, that is, not be soiled with loose radioactive dust.

37 Revision history

Revision -

This page has deliberately been left blank.

This page has deliberately been left blank.

NAiS Matsushita Electric Works
Fire & Security Technology AB

Citadellsvägen 23, SE-211 18 Malmö, Sweden. Tel: +46 (0)40 697 70 00 Fax: +46 (0)40 697 70 99
Home page: www.mfstech.com