



# MA1000

# MA2000

# MA8000

**Manual  
Installation**

**Fire detection system**

# Summary

- 1. LIMITATIONS OF DETECTION SYSTEMS..... 4
- 2. PRECAUTIONS..... 4
- 3. GENERAL DESCRIPTION..... 4
  - 3.1 Technical characteristics: ..... 5
  - 3.2 Dimensions and Fixing MA-1000..... 6
  - 3.3 Dimensions and Fixing MA-2000..... 7
  - 3.4 Dimensions and Fixing MA-8000..... 8
  - 3.5 Removable labels on the front panel ..... 9
- 4. ELECTRICAL CHARACTERISTICS ..... 10
  - 4.1 Earthing system ..... 10
  - 4.2 Main power supply ..... 10
  - 4.3 Battery charging section ..... 11
  - 4.4 Batteries ..... 11
    - 4.4.1 MA-1000 batteries installation ..... 12
    - 4.4.2 MA-2000 batteries installation ..... 13
    - 4.4.3 MA-8000 batteries installation ..... 14
  - 4.5 Operation Power supply and batteries..... 15
  - 4.6 Mains Power Connection ..... 16
    - 4.6.1 Power Supply Board CN1 Terminal Block ..... 16
    - 4.6.2 MA-1000 Main Connection ..... 16
    - 4.6.3 MA-2000 Main Connection ..... 17
    - 4.6.4 MA-8000 Main Connection ..... 17
- 5. MA-1000 system components ..... 18
  - 5.1 Spare Parts Codes:..... 18
  - 5.2 MA-1000 Base Unit Removal ..... 19
- 6. MA-2000 system components ..... 20
  - 6.1 Spare Parts Codes:..... 20
  - 6.2 MA-2000 Base Unit Removal ..... 21
- 7. MA-8000 system components ..... 22
  - 7.1 Spare Parts Codes:..... 22
  - 7.2 MA-8000 Base Unit Removal ..... 23
  - 7.3 LOOP card expansion ..... 24
- 8. AW80FR1 Topographic CPU board MA-1000 ..... 27
- 9. AW80FR0 Topographic CPU Board MA-2000 - MA-8000 ..... 28
  - 9.1 AW80FRx CPU board RTC battery MA-1000 - MA-2000 - MA-8000..... 29
  - 9.2 CPU board DIP SWITCH setting MA-1000 - MA-2000 - MA-8000..... 29
  - 9.3 Setting Jumper Ground Dispersion Detection MA-1000..... 30
  - 9.4 Setting Jumper Ground Dispersion Detection MA-2000 - MA-8000..... 30
- 10. AW80US1 Topographic BASIC BOARD MA-1000..... 31
  - 10.1 AW80US1 BASE board MA-1000 terminal blocks ..... 31
- 11. AW80US0 Topographic BASIC BOARD MA-2000 - MA-8000..... 33
  - 11.1 AW80US0 BASE Board MA-2000 - MA-8000 terminal blocks ..... 33
- 12. Relay outputs > connection examples ..... 36
  - 12.1 - General fault output ..... 36
  - 12.2 - Supervised Sounder Output ..... 37

12.3	- USR1 and USR2 outputs.....	37
12.4	- General alarm output.....	39
13.	Expansion board AW80L0 Topographic Cod. MA-LIB2-xx (optional for MA-8000) .....	41
14.	Summary of MA-1000 connections.....	42
15.	Summary of MA-2000 - MA-8000 connections.....	42
16.	E-SIB - Serial Communications Enabling Key (optional).....	43
17.	Communication Loop with Detectors and Modules .....	44
17.1	Technical specifications of the sensing line connection cables.....	44
17.2	Cable Section.....	44
17.3	Number of devices installed for the line.....	45
17.4	Isolator modules.....	45
17.5	Input modules .....	45
17.6	Output modules.....	45
17.7	Intelligent sensors .....	45
17.8	Screen termination.....	46
17.9	Example of a closed Loop (6 Loop style) .....	47
17.10	Test procedure for detection Loop.....	48
17.10.1	Loop insulation.....	49
17.10.2	Shielding of cable/loop insulation .....	49
17.10.3	Line earthing/insulation.....	49
17.10.4	Cable shield grounding/insulation.....	49
17.10.5	Loop voltage .....	49
18.	SYSTEM TESTING AND COMMISSIONING.....	50
19.	PERIODIC SYSTEM MAINTENANCE .....	51
20.	LABELS IN DIFFERENT LANGUAGES.....	52



## PLEASE NOTE:

Do not attempt to install the control unit and connected devices without reading this manual.

## 1. LIMITATIONS OF DETECTION SYSTEMS

---

An alarm or fire detection system can be very useful for early warning of any dangerous event, such as a fire, a robbery, or a simple theft. In some cases, it can manage events automatically (transmission of messages for the evacuation of premises, automatic fire extinguishing, interfacing with the CCTV system, blocking of access routes or doors, automatic notification of authorities, etc.).

Furthermore, any system may not function properly if it is not installed and maintained according to the manufacturer's instructions.

## 2. PRECAUTIONS

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- These instructions contain procedures to be followed to avoid damage to equipment. It is assumed that the user of this manual has undergone training and is familiar with the applicable regulations.
- The system and all its components must be installed in an environment with the following characteristics:
  - Temperature:  $-5\text{ }^{\circ}\text{C}$  ,  $+40\text{ }^{\circ}\text{C}$ .
  - Humidity: max. 95 % (without condensation).
- Peripheral devices (sensors, etc.) that are not fully compatible with the control unit can cause damage to the control unit and malfunction of the system at any time. Therefore, it is essential to use only material guaranteed by Honeywell and compatible with your control unit. If in doubt, please consult Honeywell Technical Service.



- This system, like all solid-state components, can be damaged by induced electrostatic voltages: handle the boards by holding them between the edges and avoid touching the electronic components.
- Adequate earthing guarantees, in any case, a reduction in susceptibility to disturbances.
- If installation problems cannot be solved, please contact Honeywell Technical Service.
- Any electronic system will not work if it is not powered. If the power supply from the mains fails, the system ensures battery operation, but only for a limited time.
- During the planning phase of the system, take into account the range required to adequately size the power supply and batteries.
- Specialised personnel must periodically check the condition of the batteries.
- Disconnect the mains and batteries BEFORE removing or inserting any cards.
- Disconnect ALL power sources from the control unit BEFORE carrying out any maintenance work.
- The control unit and connected devices (sensors, modules, repeaters, etc.) can be damaged if a new board is inserted or removed, or if powered cables are connected.
- The most common cause of malfunctioning is inadequate maintenance.
- Pay particular attention to these aspects from the very beginning of the system design phase; this will facilitate future maintenance and reduce costs.



EN 54-2:1997  
EN 54-2:1997/AC:1999  
EN 54-2:1997/A1 :2006  
EN 54-4:1997  
EN 54-4:1997/AC:1999  
EN 54-4:1997/A1 :2002  
EN 54-4:1997/A2 :2006  
No. 0370 - CPR - 0694

This control unit is **CE 0370** marked to certify compliance with the requirements of the European Community Directives

This product is certified according to EN 54.2 and EN 54.4

## 3. GENERAL DESCRIPTION

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The **MA-1000**, **MA-2000** and **MA-8000** are fire alarm control panels made in accordance with **EN.54.2** and **EN.54.4**.

### 3.1 Technical characteristics:

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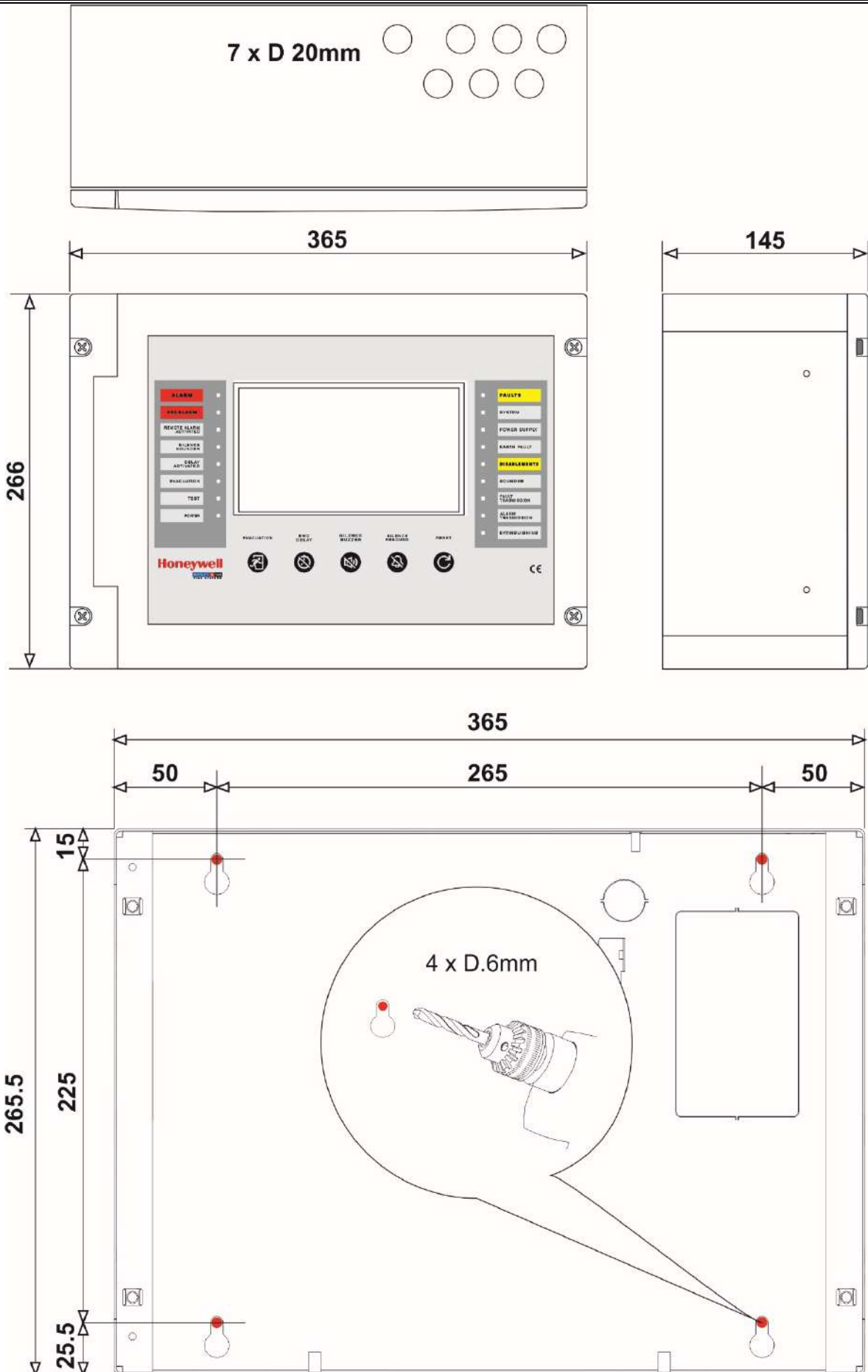
- Multi-microprocessor system with 7" TFT display (800 x 480 with backlight), 256-colour touchscreen with keyboard simulation for programming and configuring the system and the following specific functions: Reset Delay, Buzzer Mute, Sound Mute/Reset, Reset, Evacuation.
- **DETECTION LINES:**
  - Programmable closed or open analogue loops for connecting field elements.  
Each loop can drive 99 sensors + 99 input and output modules with Morley-IAS and System Sensor protocols, based on the panel version.
  - **MA-1000** > 1 Loop Default.
  - **MA-2000** > 2 Loop Default.
  - **MA-8000** > 4 loops default (2 on-board MCB + 1 MA-LIB02), Optional 2 additional MA-LIB02 (Total 8 loops Max)
- **FEEDING:**
  - MA-1000**
    - Input: 110÷230Vac ±15% 50÷60Hz
    - Voltage: 28.8Vdc - 2.3A total.
    - Battery charger: 27.5 Vdc - 0.79A (with temperature compensation).
    - User Output: Min.23.80 Max 28.85 Vdc 1A, to supply external loads such as: sirens, etc.
  - MA-2000**
    - Input: 110Vac / 230Vac (selectable by Switch) ±15% 50÷60Hz
    - Voltage: 28.8Vdc - 2.7A total.
    - Battery charger: 27.5 Vdc - 0.79A (with temperature compensation).
    - User Output: Min.23.80 Max 28.85 Vdc 1A, to supply external loads such as: sirens, etc.
  - MA-8000**
    - Input: 110÷230Vac ±15% 50÷60Hz
    - Voltage: 28.8Vdc - 4.6A total.
    - Battery charger: 27.5 Vdc - 1.67A (with temperature compensation).
    - User Output: Min.23.80 Max 28.85 Vdc 1A, to supply external loads such as: sirens, etc.
- **OUTPUTS:**
  - 1 Supervised siren output (End-of-line diode 1N4007)
  - 1 General alarm output with potential-free contacts / supervised
  - 1 General fault output with potential-free contacts
  - 1 USER1 potential-free contact / supervised output
  - 1 USER2 output with potential-free contacts / supervised
- **MECHANICS:**

The mechanics of the control unit are suitable for wall installation.  
For the dimensions of the cabinet, please refer to the drawing below "Dimensions MA-2000 and MA-8000".

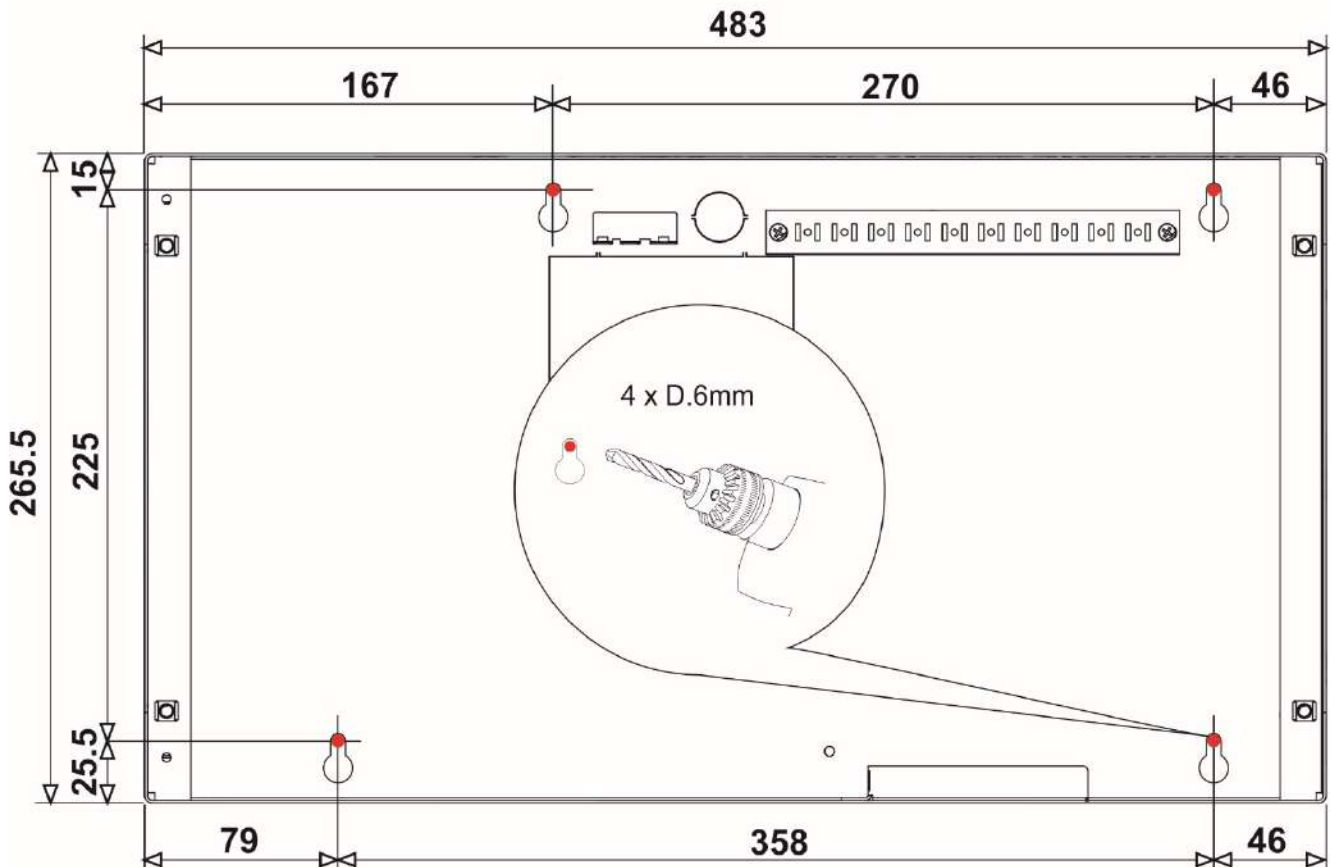
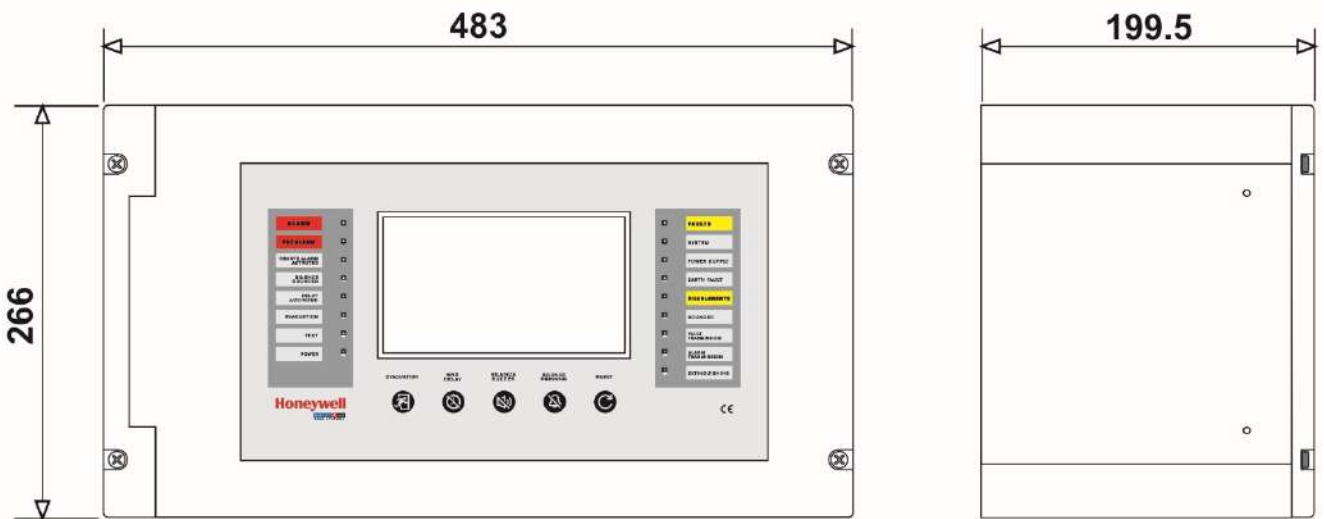
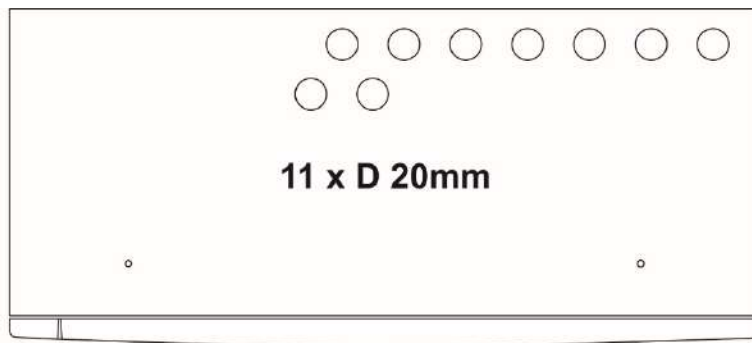
  - Degree of protection: IP 30
  - Operating temperature: - 5 °C to +40 °C
  - Storage temperature: -10 °C to +70 °C
  - Weight **MA-1000**: 6.2 kg >Excluding Batteries
  - Weight **MA-2000**: 8.2 kg >Excluding Batteries
  - Weight **MA-8000**: 9.8 kg >Excluding Batteries
- **MAIN FUNCTIONS:**
  - 3 password levels (Operator - Maintenance - Configuration)
  - 4 total access levels in accordance with EN.54.
  - Programmable text: point description up to 32 characters; zone description up to 32 characters.
  - 150 physical zones and 400 logical groups.
  - CBE (Control-by-event) control equations for activation with logical operators (AND, OR, DEL etc.).
  - Event file history with the last 10,000 events in non-volatile memory
  - Real-time clock
  - Autoprogramming of the line with automatic recognition of the type of devices connected.
  - Automatic recognition of points with the same address.
  - Decision-making algorithms for alarm and failure criteria.
  - Automatic Day/Night sensitivity changeover.
  - Signalling the need to clean the sensor.
  - Low sensor sensitivity warning.
  - Programmable alarm threshold for sensors.
  - Programming of predefined software functions for the various devices used.

- Walk-Test function for zones.

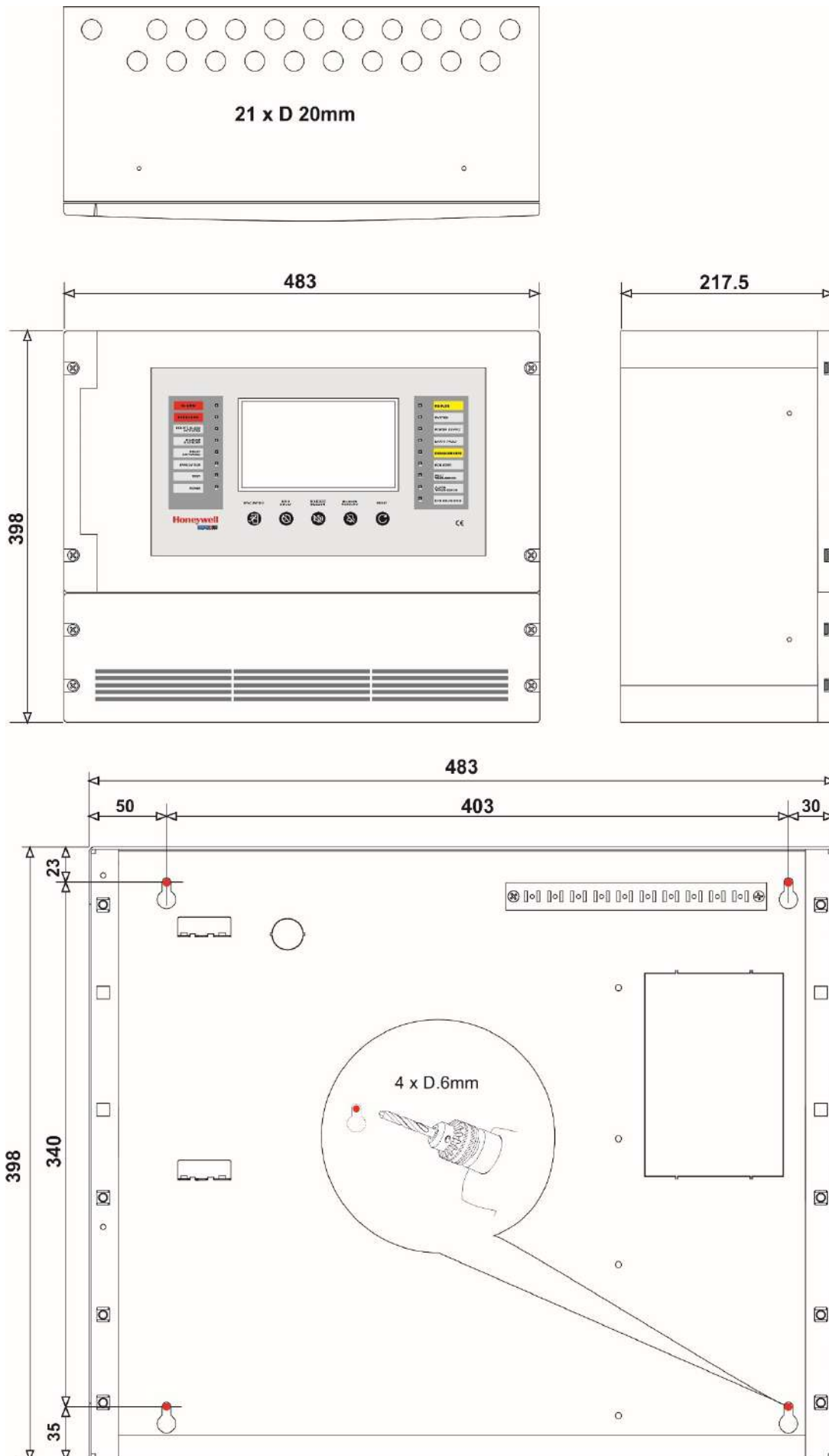
### 3.2 Dimensions and Fixing MA-1000



### 3.3 Dimensions and Fixing MA-2000



### 3.4 Dimensions and Fixing MA-8000





The control unit must be installed on a wall so that the display is clearly visible and easy for the operator to access. For example, a height of approx. 1.5 m allows an optimal view of the display.



The control unit is designed to be installed on the wall using 4 self-locking plugs (masonry walls) or self-tapping screws (prefabricated panels, etc.)

The diameter of the screws used must be 5 mm max.

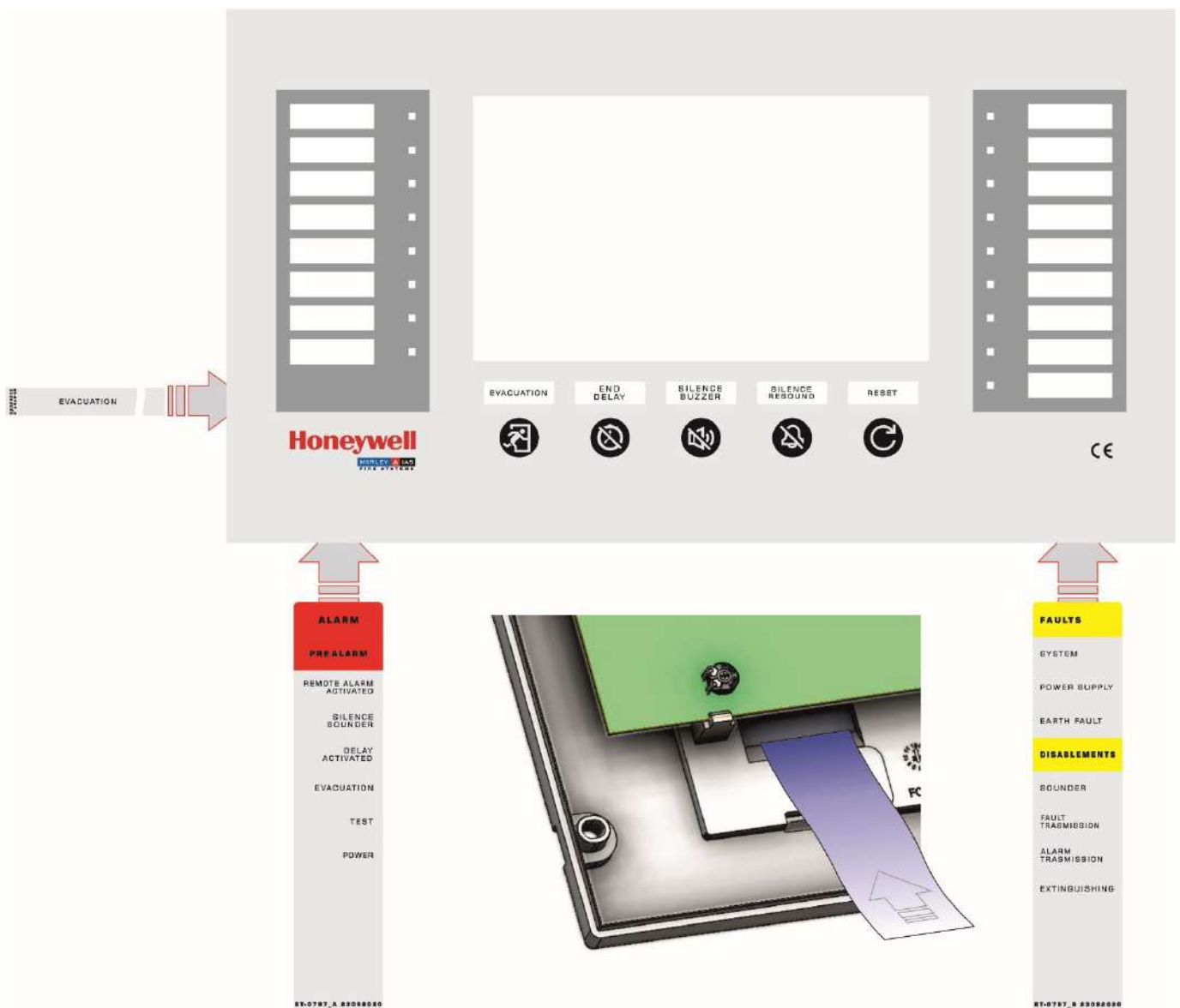
**It is recommended not to install the control unit near heat sources (radiators, radiators, etc.).**



Furthermore, if the control unit is to be installed on a wall next to a corner wall, the minimum distance from the latter must be 200 mm, so that the front panel can be opened.

### 3.5 Removable labels on the front panel

The panel is equipped with removable labels to indicate the status of LED functions and buttons.



## 4. ELECTRICAL CHARACTERISTICS

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- Operating temperature: - 5° C ÷ + 40° C
- Relative humidity: 10 % to 95 % (non-condensing)
- Storage temperature: - 10°C ÷ + 50°C

### 4.1 Earthing system

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The earthing installation must be carried out in accordance with CEI and ISPELS standards or the standards valid in the country where the panel is installed.

In any case, it must have a resistance of less than 10 Ohm (measured at the manhole with the consumers disconnected).

This is in accordance with IEC 68-12 for TN installations.

The earth connection of the control unit is mandatory and must be made on terminal block CN1 (AW80PPx power supply board)

### 4.2 Main power supply

---

The control unit is powered by the mains voltage and, in the event of a mains failure, can continue to operate normally thanks to the rechargeable batteries contained in the control unit itself.

The characteristics required for the mains supply are:

#### ▪ MA-1000

- Voltage: 110Vac / 230Vac single-phase ±15%.
- Frequency: 50 / 60Hz
- Power consumption: Max 2.3A

The power supply unit has the following outputs:

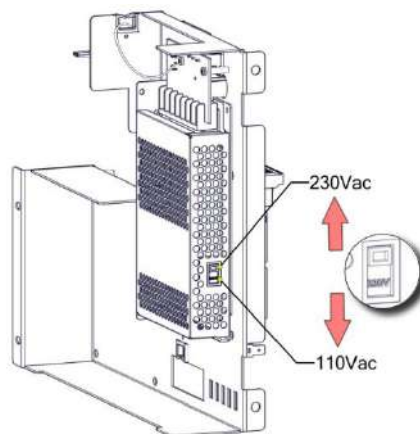
- Regulated power supply for control unit and charger: 28.6Vdc - 28.85Vdc, 2.30 A ripple max. 500mVpp
- User output: 23.8Vdc - 28.85Vdc, 1A with resettable fuse.

#### ▪ MA-2000

- Voltage: 110Vac / 230Vac (selectable by Switch) single-phase ±15%.
- Frequency: 50 / 60Hz
- Power consumption: Max 3A @110Vdc / Max 1.7A @230Vdc

The power supply unit has the following outputs:

- Regulated power supply for control unit and charger: 28.6Vdc - 28.85Vdc, 2.70 A ripple max. 500mVpp
- User output: 23.8Vdc - 28.85Vdc, 1A with resettable fuse.



#### ▪ MA-8000

- Voltage: 110Vac / 230Vac single-phase ±15%.
- Frequency: 50 / 60Hz.
- Power consumption: Max. 2.2A

The power supply unit has the following outputs:

- Regulated power supply for control unit and charger: 28.6Vdc - 28.85Vdc, 4.60 A ripple max. 500mVpp
- User output: 23.8Vdc - 28.85Vdc, 1A with resettable fuse.

1. N.B.: Particular care must be taken when installing near powerful electromagnetic sources (e.g. repeaters, radio relays, motors, etc.).

### 4.3 Battery charging section

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- Output voltage = 26.5 VDC to 28.5 VDC (temperature compensation)
- Output current **MA-1000** = 0.54A ~ 500mVpp max.
- Output current **MA-2000** = 0.79A ~ 500mVpp max.
- Output current **MA-8000** = 1.67A ~ 500mVpp max.
- Number of housed batteries **MA-1000** = 2 x 12V 7÷12Ah
- Number of housed batteries **MA-2000** = 2 x 12V 17.2÷18Ah
- Number of housed **MA-8000** batteries = 2 x 12V 17.2-18-24-27-38Ah
- The charger section has the following signaling thresholds:
  - Low battery threshold = 21.5 Vdc
  - Charging error threshold = 3.4 Vdc (voltage difference between the two batteries)
  - Battery release threshold = 19.5 Vdc
  - Internal battery resistance threshold = 0.6 ohm

### 4.4 Batteries

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The average service life stated by the manufacturer is 3-5 years at an environmental temperature of 20°C  
N.B. The service life decreases as a function of a higher operating temperature and possible discharge-recharge cycles.

Installed batteries must comply with:

- ✓ **IEC 60896-21, IEC 60896-22.**
- ✓ **Container material V2 or higher V0**

#### Recommended batteries:

##### **MA-1000**

12V 12Ah Dimensions: L151xW98xH97.5

Brand: Yuasa type NP12-12 capacity = 20 hours.

##### **MA-2000**

12V 18Ah Dimensions: W181xD77xH167

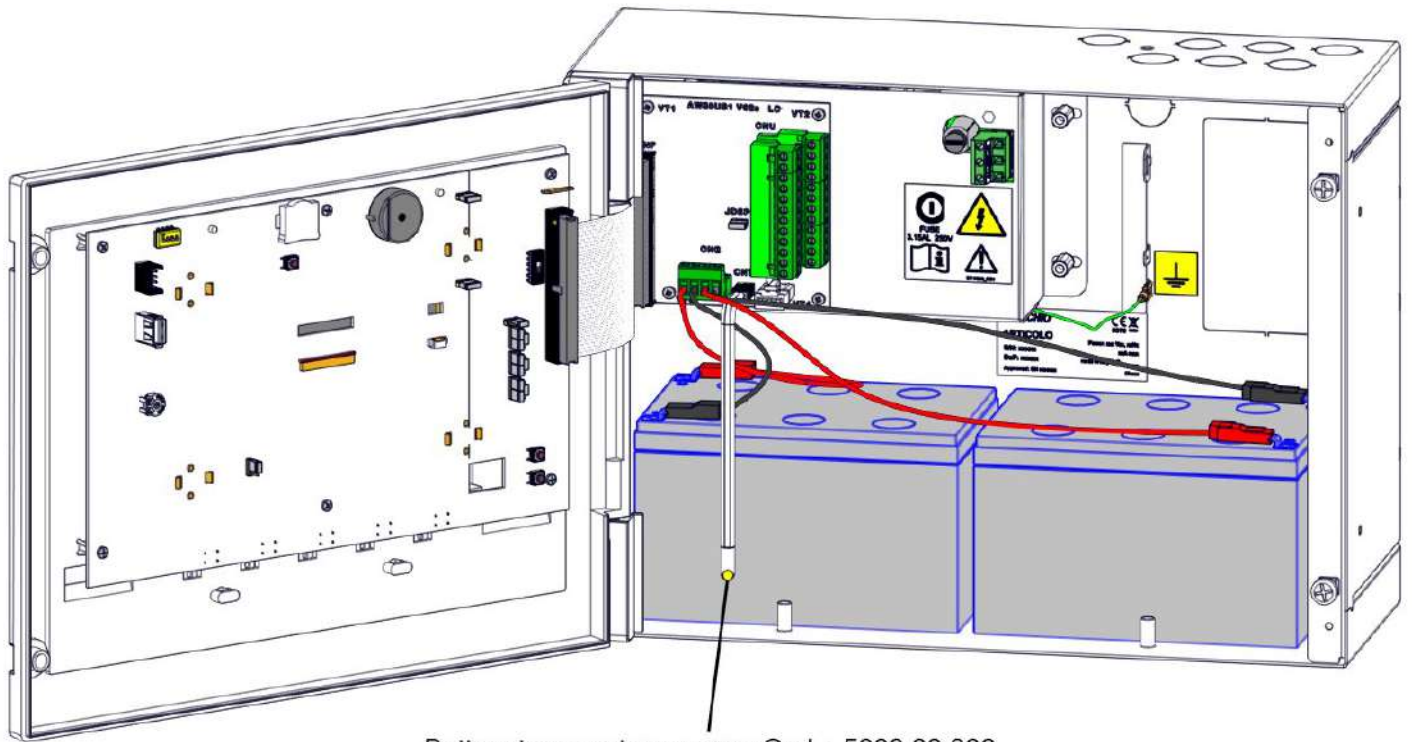
Brand: Yuasa type NP18-12B or NP18-12BFR capacity = 20 hours.

##### **MA-8000**

12V 38Ah Dimensions: W197xD165xH170

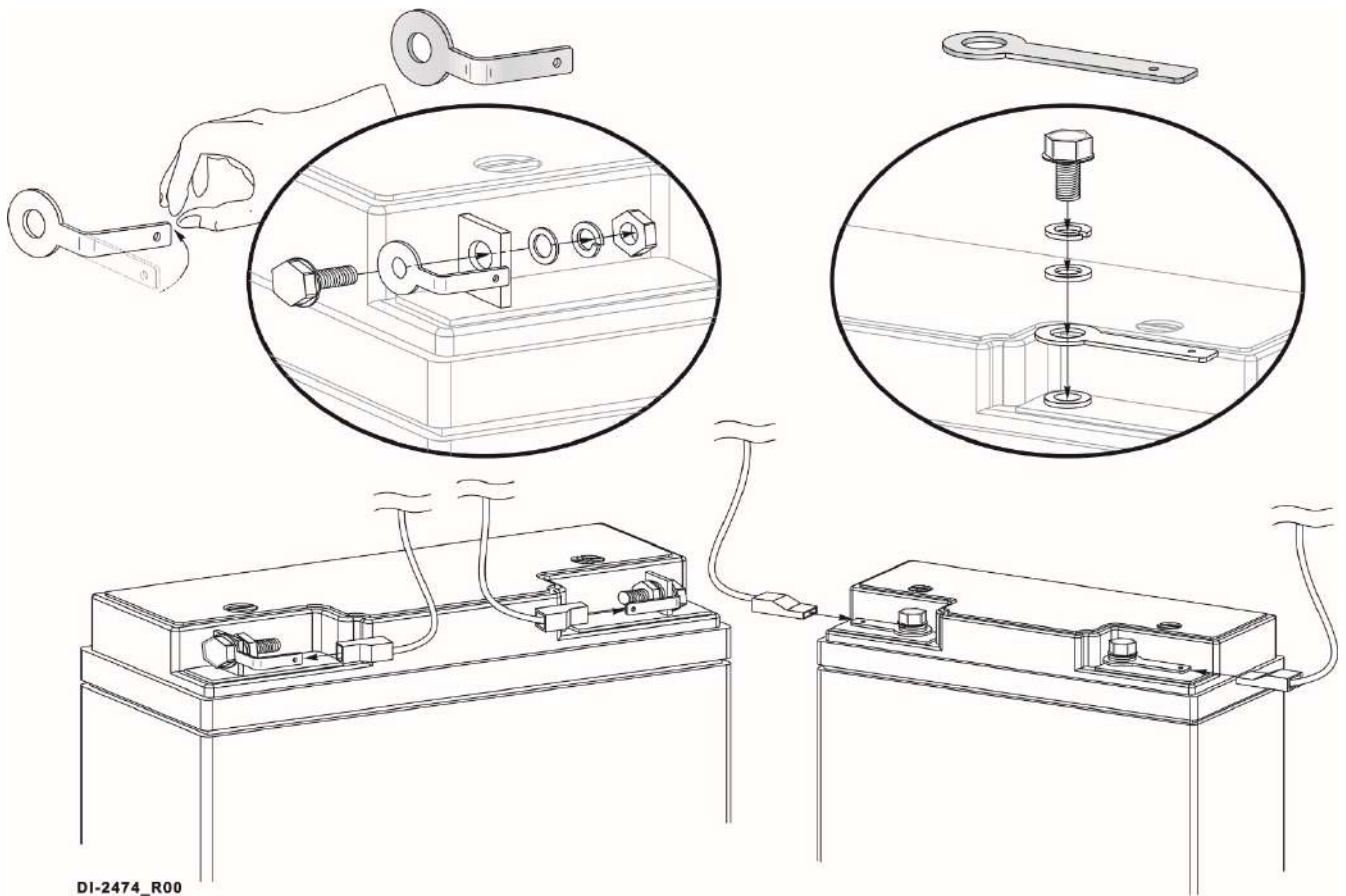
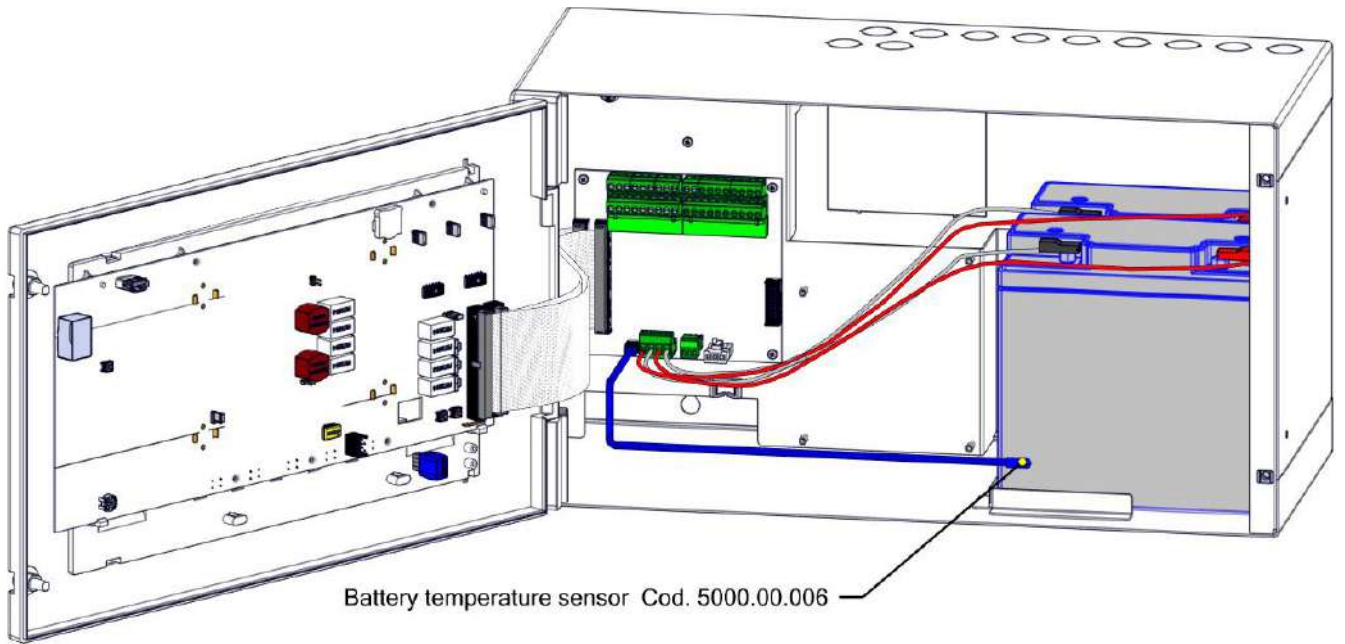
Brand: Yuasa type NP38-12 or NP38-12FR capacity = 20 hours.

#### 4.4.1 MA-1000 batteries installation



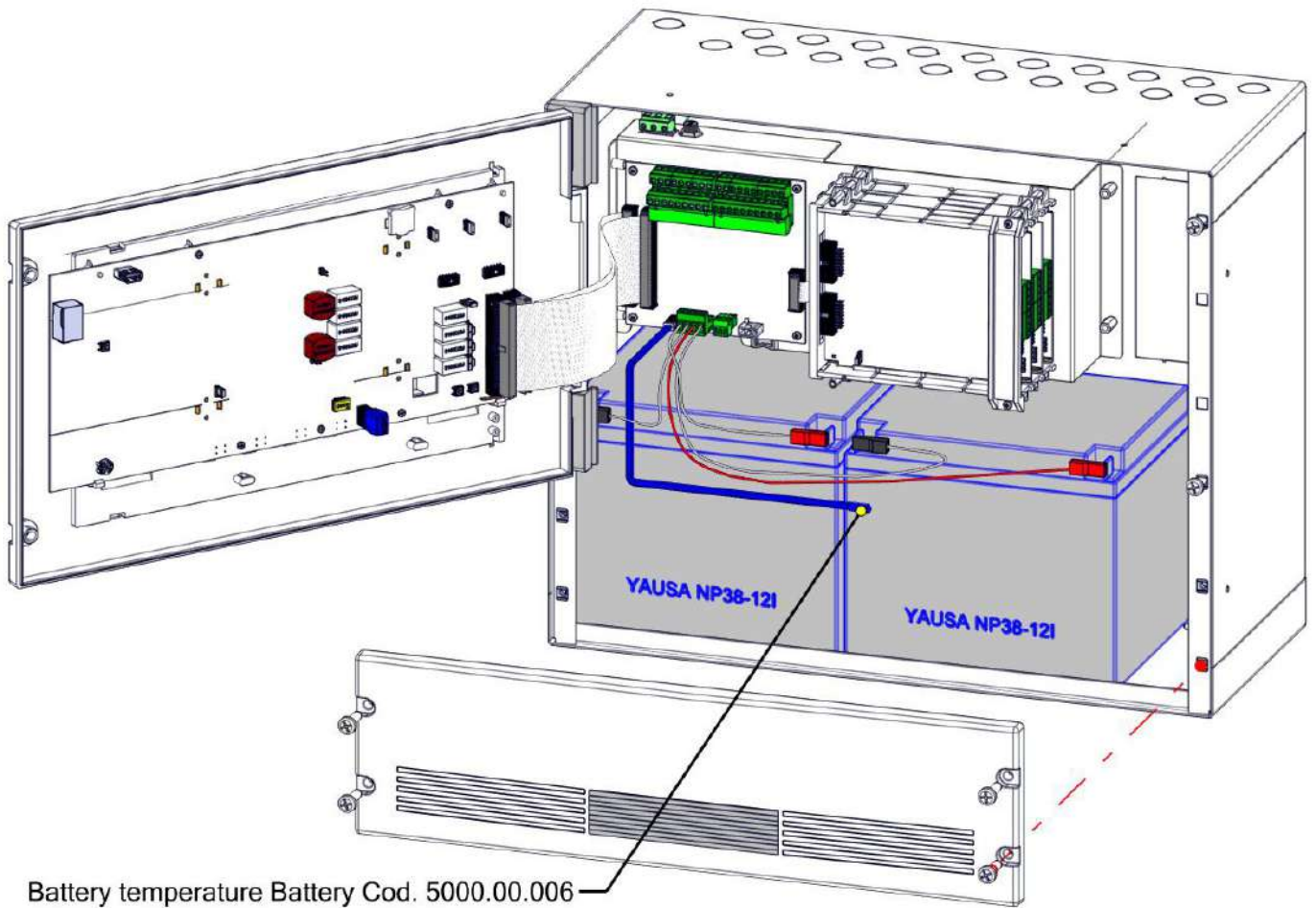
Battery temperature sensor Cod. : 5000.00.006

#### 4.4.2 MA-2000 batteries installation

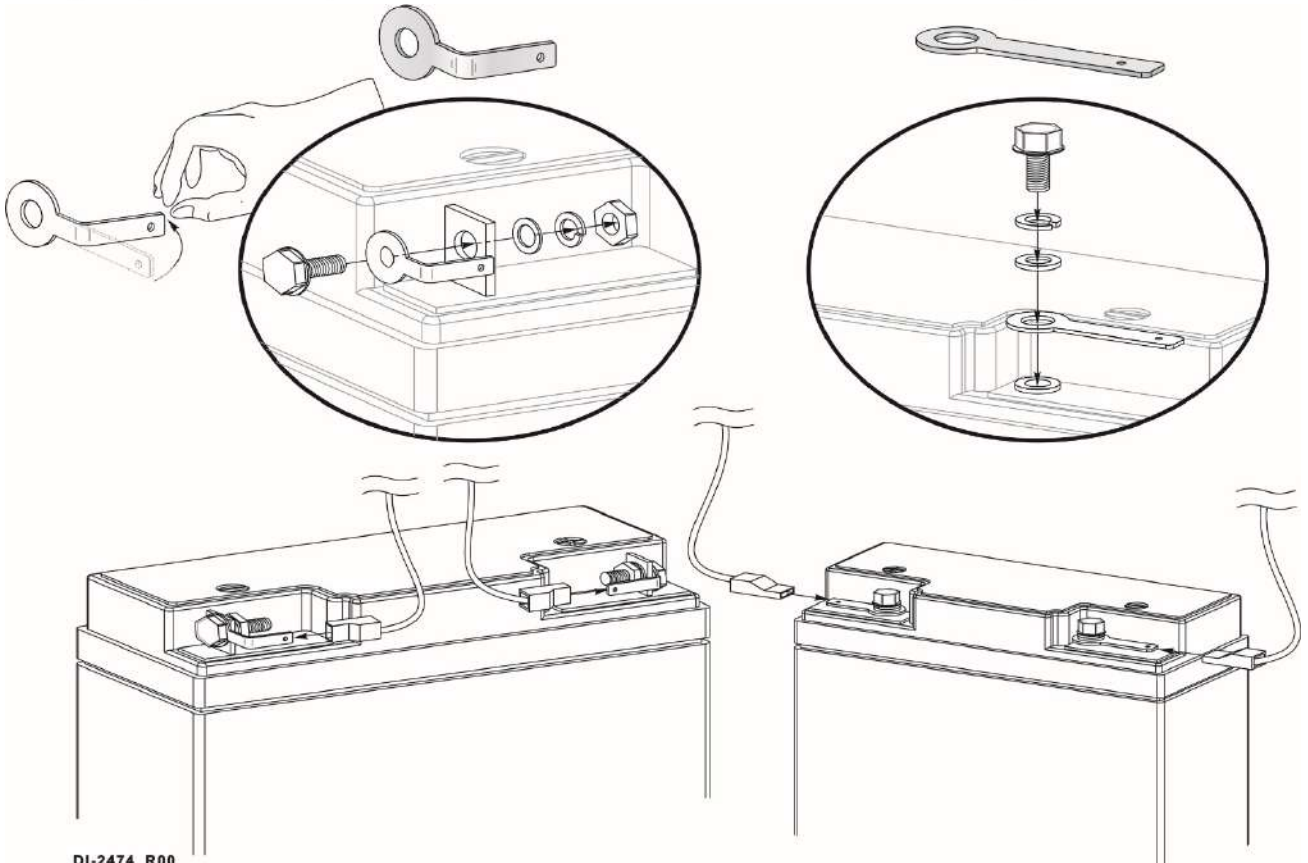


DI-2474\_R00

### 4.4.3 MA-8000 batteries installation



Battery temperature Battery Cod. 5000.00.006



DI-2474\_R00

## 4.5 Operation Power supply and batteries

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The control unit's main microprocessor periodically checks the status of the main AC power source, the batteries, and the charging circuit. The control unit automatically activates the backup battery in the event of an AC power failure.

When the control unit is operating on AC mains, the main microprocessor checks the charger output and its presence. To perform this test, the charger output is temporarily switched off and the battery voltage is read (missing battery warning <15.0V).

When the control unit operates on battery power (in the absence of mains power), the 'Low Battery' fault is reported when the battery voltage is <21.5 V and, to prevent irreversible damage, the voltage is automatically switched off, by disconnecting the batteries, when the voltage is <19.5 V.



**All wiring MUST be checked BEFORE being connected to the control unit.**

**At least the following checks are recommended:**

- ✓ Check the continuity of all cables used (including shields).
- ✓ Ensure that, in an alarm condition, any voltage drops introduced do not impair the functionality of the various devices.
- ✓ Ensure that the electrical characteristics of all cables used are within the manufacturer's specifications (refer to the various sections of this manual).
- ✓ Check the insulation between all cables and between cables, shields, and system earth. A minimum of 2MΩ insulation is required.
- ✓ Check that the shield of all signal cables is not grounded in other than the prescribed positions. Check that signal cables do not run together with power lines.

## 4.6 Mains Power Connection

The connection to the 230Vac mains supply must be made with a three-core cable (phase - neutral - earth). The earth conductor coming from the mains must be identified on the terminal block CN1 of the AW80PPx power supply board and must be fixed to the cabinet using a cable clamp so that it cannot be accidentally disconnected from the terminal block.

The 230 Vac power cable must be fixed inside the control unit using a cable fixing device.

**N.B.: The cable-holding sleeves must have a flammability class of HB.**

**Mains supply conductors must not be consolidated by soft soldering.**

A disconnection device external to the control unit must be provided for the 230 Vac power cable (contact separation: 3 mm min.) The disconnection device must be omni-polar or must disconnect the line phase.

The power supply connection must be made according to the following polarity:

### 4.6.1 Power Supply Board CN1 Terminal Block

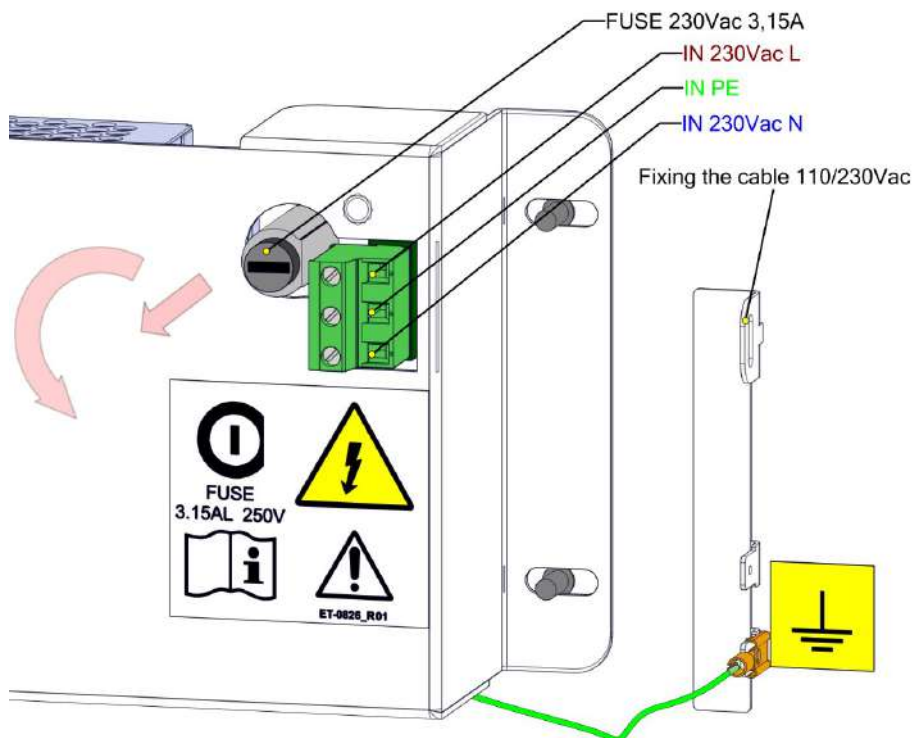
	Description	Notes
L	Phase	<b>110 / 230VAC mains input with 3.15 AL protection fuse</b>
⊕	Earth	
N	Neutral	

- 1 - Turn off the 230 Vac mains switch
- 2 - Disconnect terminal block CN1 from the control unit
- 3 - Connect the network cable
- 4 - Reconnect terminal block CN1
- 5 - Turn on the mains switch
- 6 - Install and connect the batteries as indicated in this manual

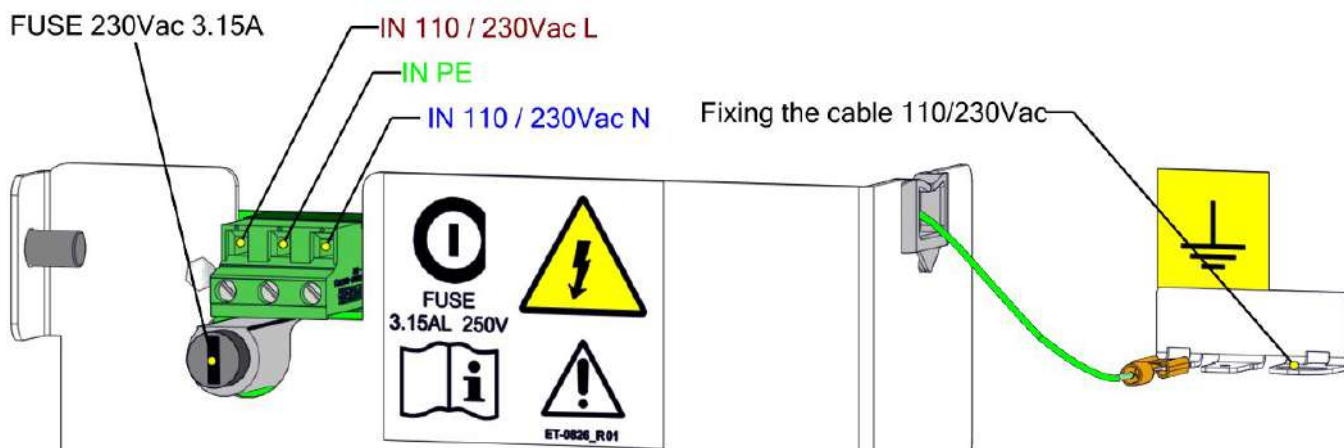
**N.B.: Once powered up, the control unit starts operating automatically. However, depending on the storage period of the batteries, it is necessary to wait a few hours before the batteries are fully recharged.**

- 7 - Check the operation of the LED indicators on the panel, as indicated in section " TEST AND START-UP OPERATION ".
- 8 - Close the central unit

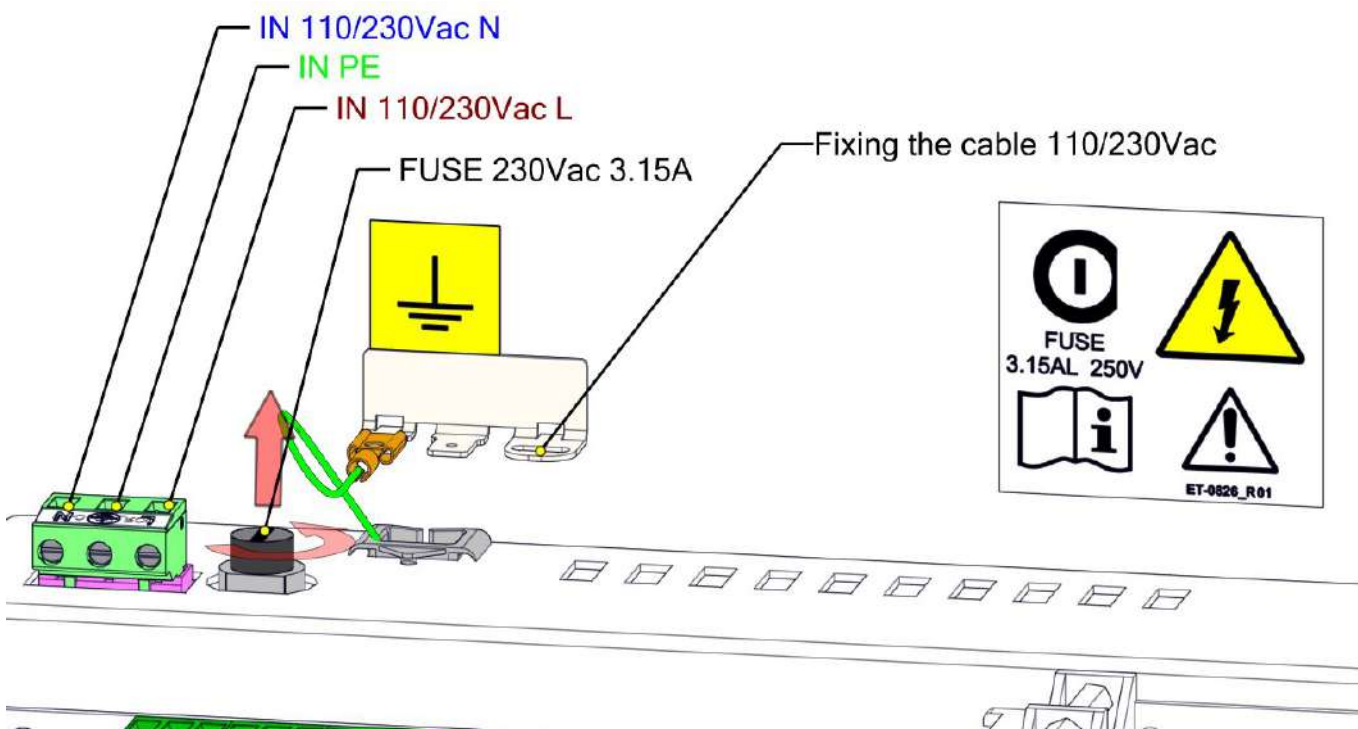
### 4.6.2 MA-1000 Main Connection



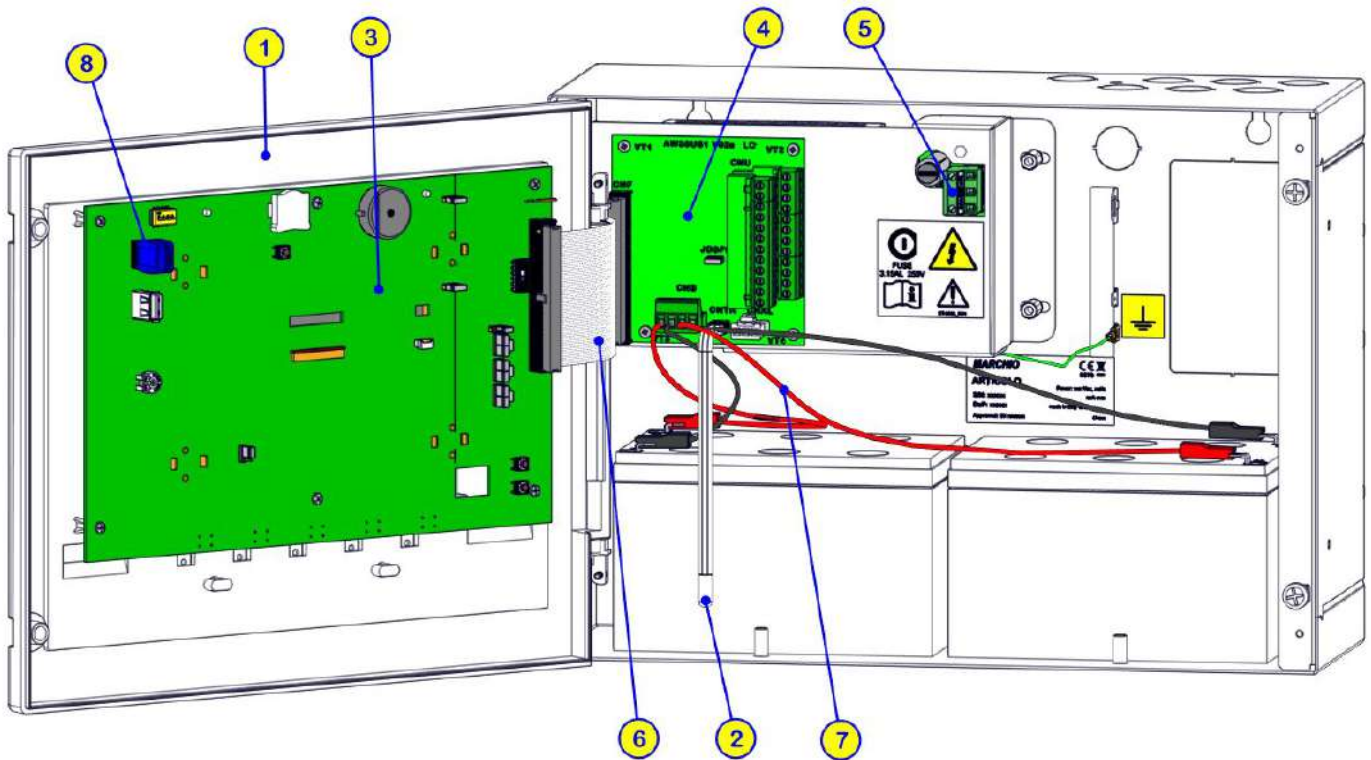
### 4.6.3 MA-2000 Main Connection



### 4.6.4 MA-8000 Main Connection



## 5. MA-1000 system components

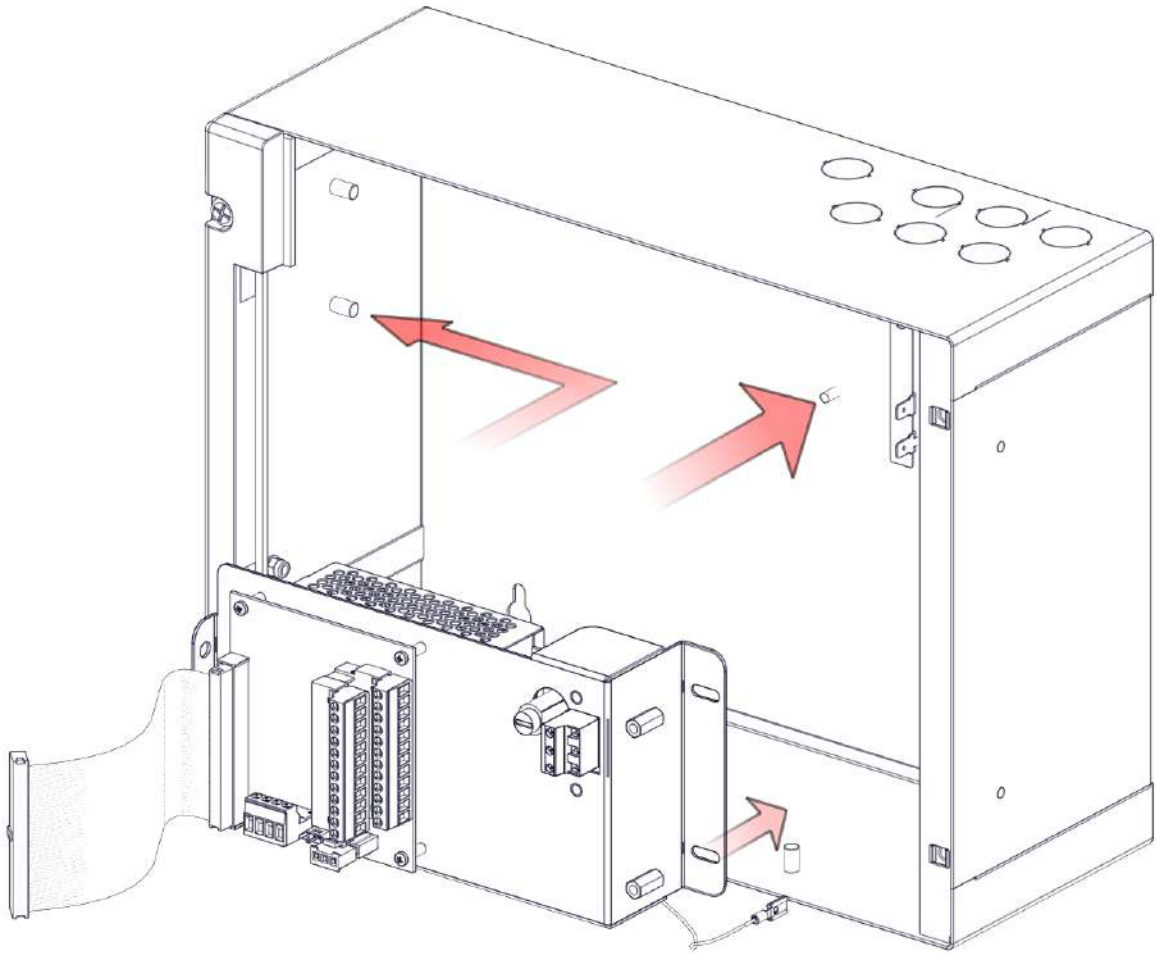


### 5.1 Spare Parts Codes:

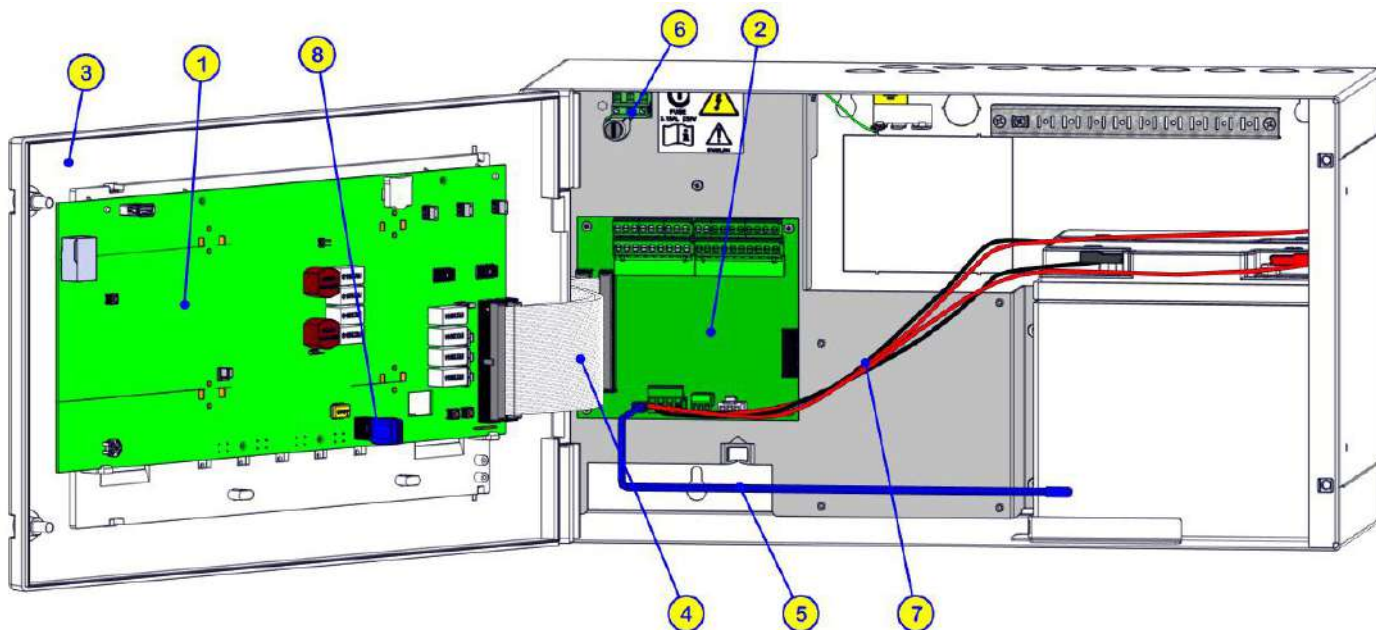
- |                |  |
|----------------|--|
| 1. 5000.00.026 | Spare part MA-1000. Front door                     |
| 2. 5000.00.006 | Spare part AM-MA, Battery Temperature Probe (L340) |
| 3. 5000.00.022 | Spare part MA-1000-01, main board + LCD (Region 1) |
| 5000.00.023    | Spare part MA-1000-02, main board + LCD (Region 2) |
| 5000.00.024    | Spare part MA-1000-03, main board + LCD (Region 3) |
| 4. 5000.00.019 | Spare part AM-MA 1000, Basic Board                 |
| 5. 5000.00.021 | Spare part AM-MA 1000, Power Supply + Board        |
| 6. 5000.00.025 | Spare part AM-MA 1000, Flat cable                  |
| 7. 5000.00.042 | Spare part AM-MA 1/6/8000, Battery Cables          |
| 8. E-SIB-X     | Communication Enable Key (optional)                |

## 5.2 MA-1000 Base Unit Removal

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## 6. MA-2000 system components

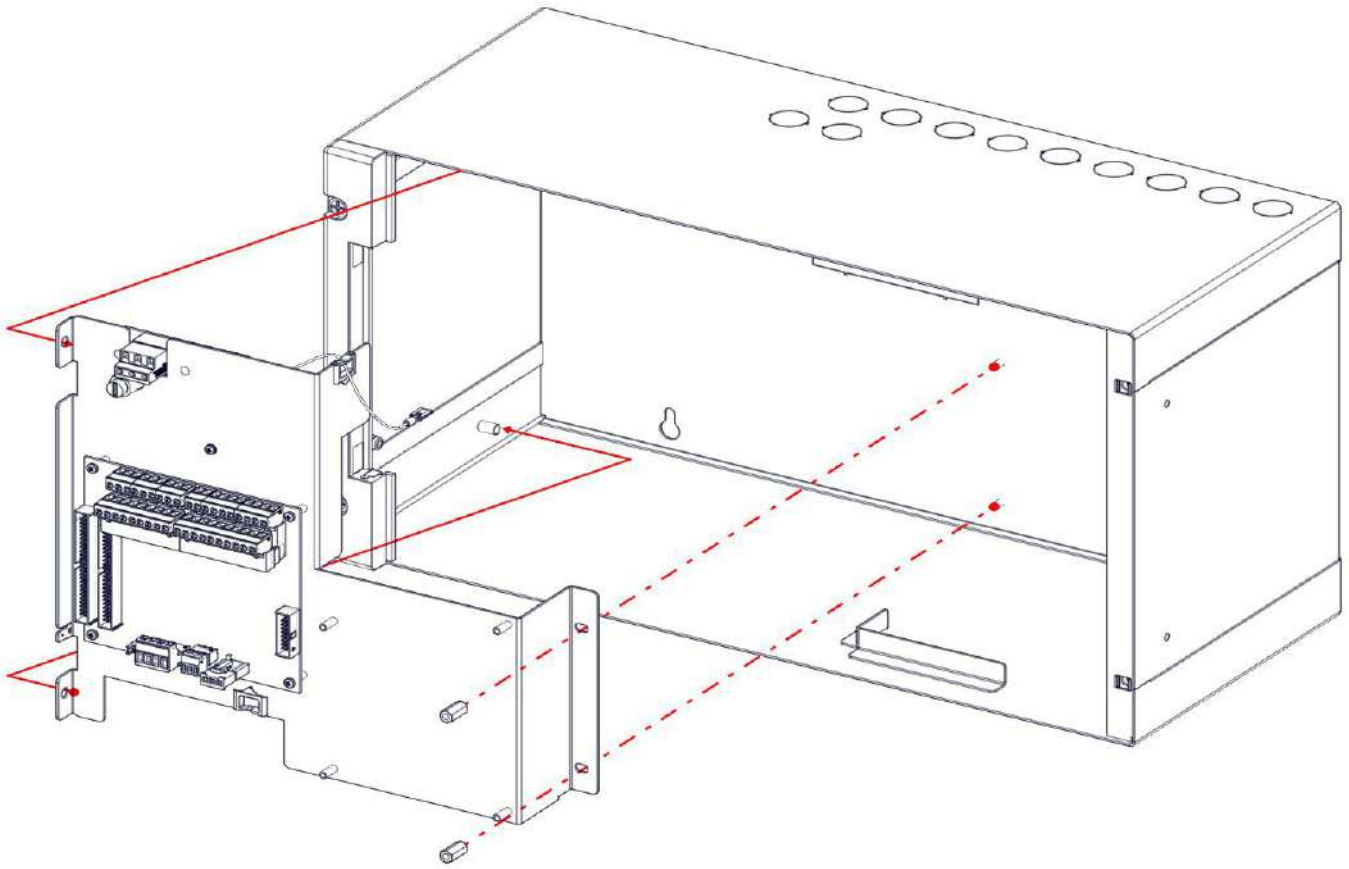


### 6.1 Spare Parts Codes:

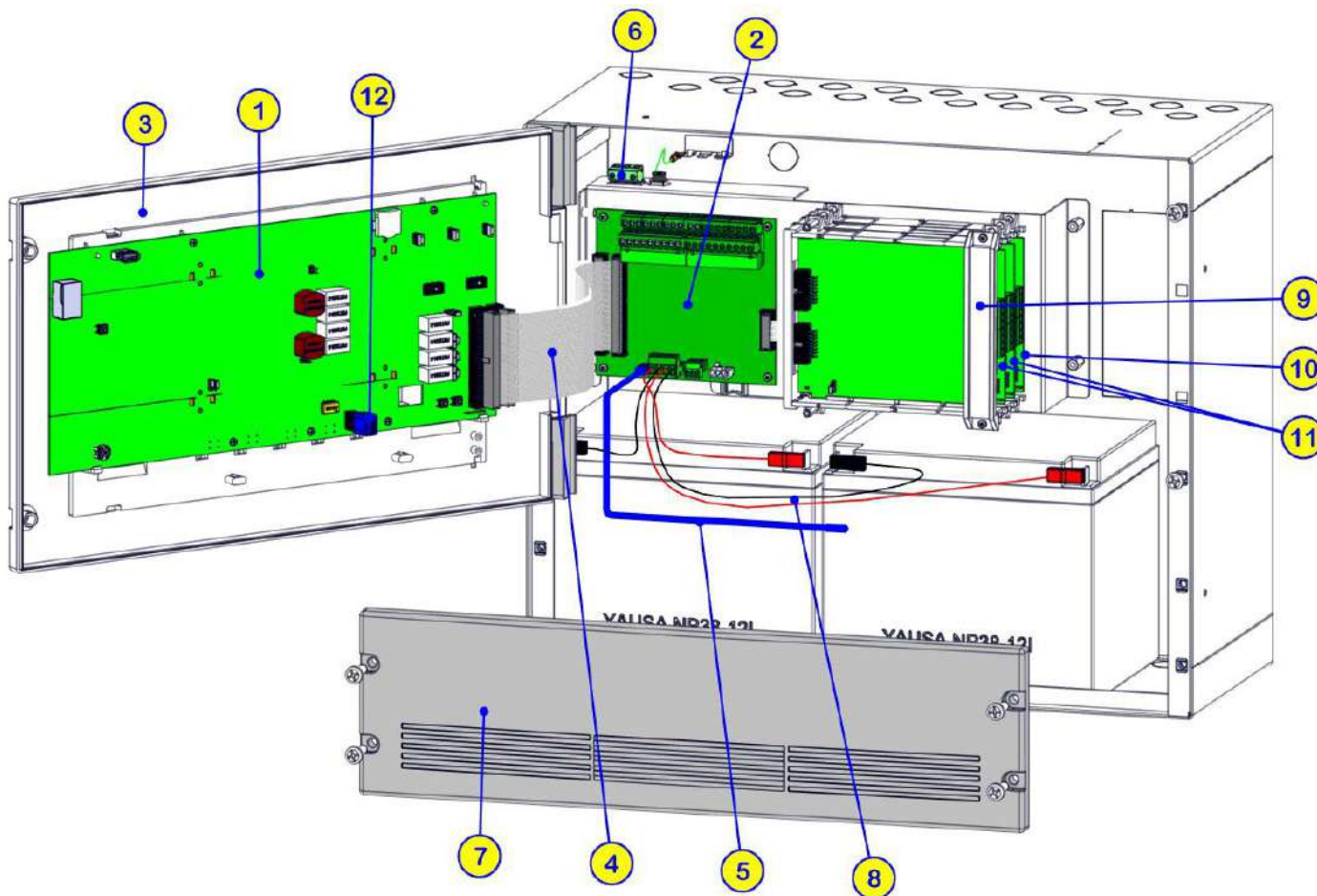
- |                       |  |
|-----------------------|--|
| <b>1. 5000.00.010</b> | Spare part MA-2000-01, main board + LCD (Region 1) |
| <b>5000.00.011</b>    | Spare part MA-2000-02, main board + LCD (Region 2) |
| <b>5000.00.012</b>    | Spare part MA-2000-03, main board + LCD (Region 3) |
| <b>2. 5000.00.003</b> | Spare part AM-MA-2000 / 6000 / 8000, Basic Board   |
| <b>3. 5000.00.017</b> | Spare part MA 2/8000. Front door                   |
| <b>4. 5000.00.005</b> | Spare part AM-MA, Flat Cables                      |
| <b>5. 5000.00.006</b> | Spare part AM-MA, Battery Temperature Probe (L340) |
| <b>6. 5000.00.007</b> | Spare part AM-MA 2000, Power Supply + Board        |
| <b>7. 5000.00.043</b> | Spare part AM-MA 2000, Battery Cables              |
| <b>8. E-SIB-X</b>     | Communication Enable Key (optional)                |

## 6.2 MA-2000 Base Unit Removal

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## 7. MA-8000 system components

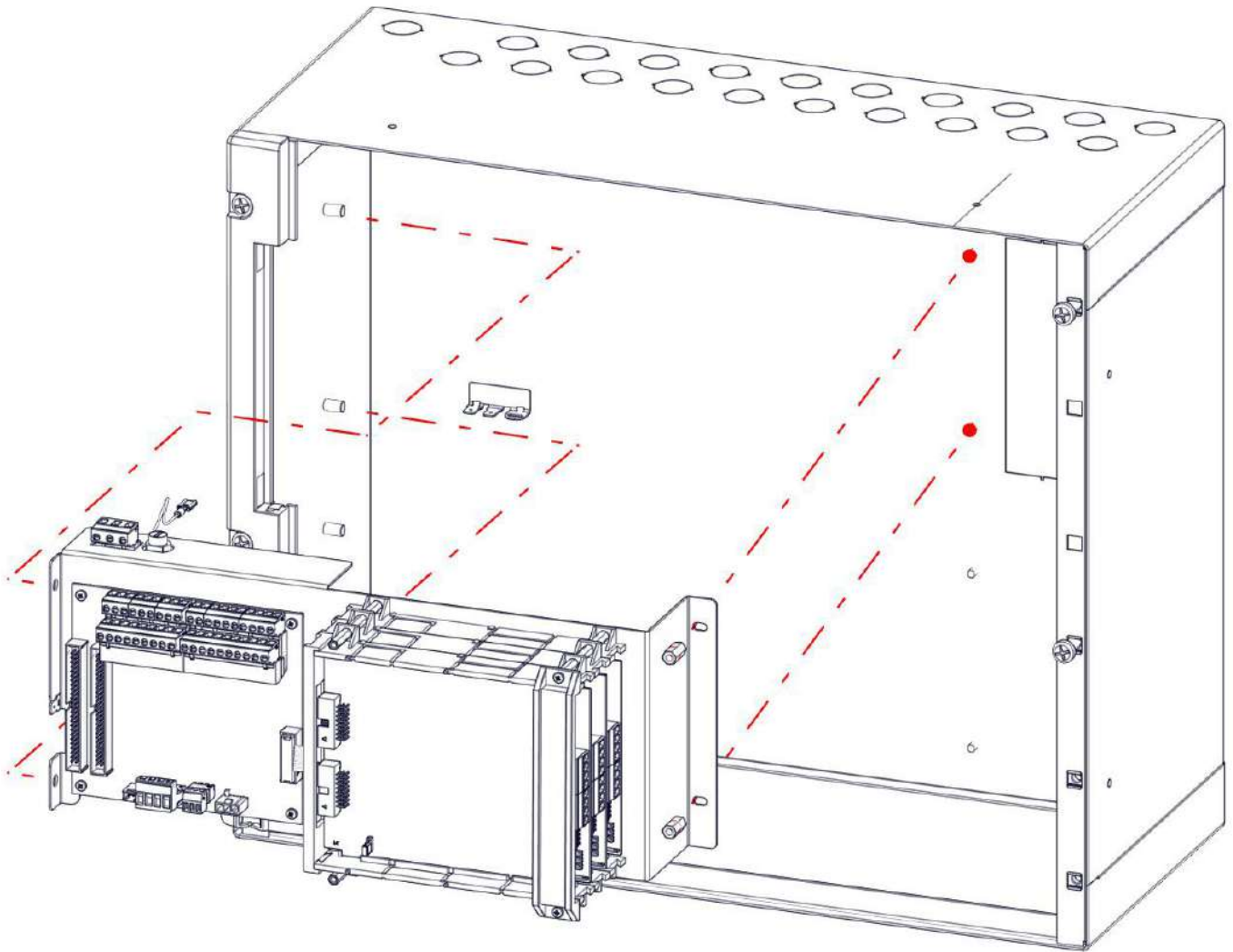


### 7.1 Spare Parts Codes:

- |                       |  |
|-----------------------|--|
| <b>1. 5000.00.013</b> | Spare part MA-8000-01, main board + LCD (Region 1)                   |
| <b>5000.00.014</b>    | Spare part MA-8000-02, main board + LCD (Region 2)                   |
| <b>5000.00.015</b>    | Spare part MA-8000-03, main board + LCD (Region 3)                   |
| <b>2. 5000.00.003</b> | Spare part AM-MA-2000 / 6000 / 8000, Basic Board                     |
| <b>3. 5000.00.017</b> | Spare part MA 2/8000, Front Door                                     |
| <b>4. 5000.00.005</b> | Spare part AM-MA, Flat Cables  |
| <b>5. 5000.00.006</b> | Spare part AM-MA, Battery Temperature Probe (L340)                   |
| <b>6. 5000.00.008</b> | Spare part AM-MA 6000, Power Supply + Board                          |
| <b>7. 5000.00.016</b> | Spare part MA-8000, 3U Blind Panel                                   |
| <b>8. 5000.00.042</b> | Spare part AM-MA 1/6/8000, Battery Cables                            |
| <b>9. AMSUP1EXP</b>   | Spare part Kit Guide Boards (note: not available in spare part list) |
| <b>10. MA-LIB2-xx</b> | 2 LOOP CARD MA-8000 (Region x) > Default                             |
| <b>11. MA-LIB2-01</b> | 2 LOOP CARD MA-8000 (Region 1) > Optional                            |
| <b>MA-LIB2-02</b>     | 2 LOOP CARD MA-8000 (Region 2) > Optional                            |
| <b>12. E-SIB-X</b>    | Communication Enable Key > optional                                  |

## 7.2 MA-8000 Base Unit Removal

---



### 7.3 LOOP card expansion

---

- INSTALLATION Guide Card:

**A** -Unscrew the two 3x6TC screws

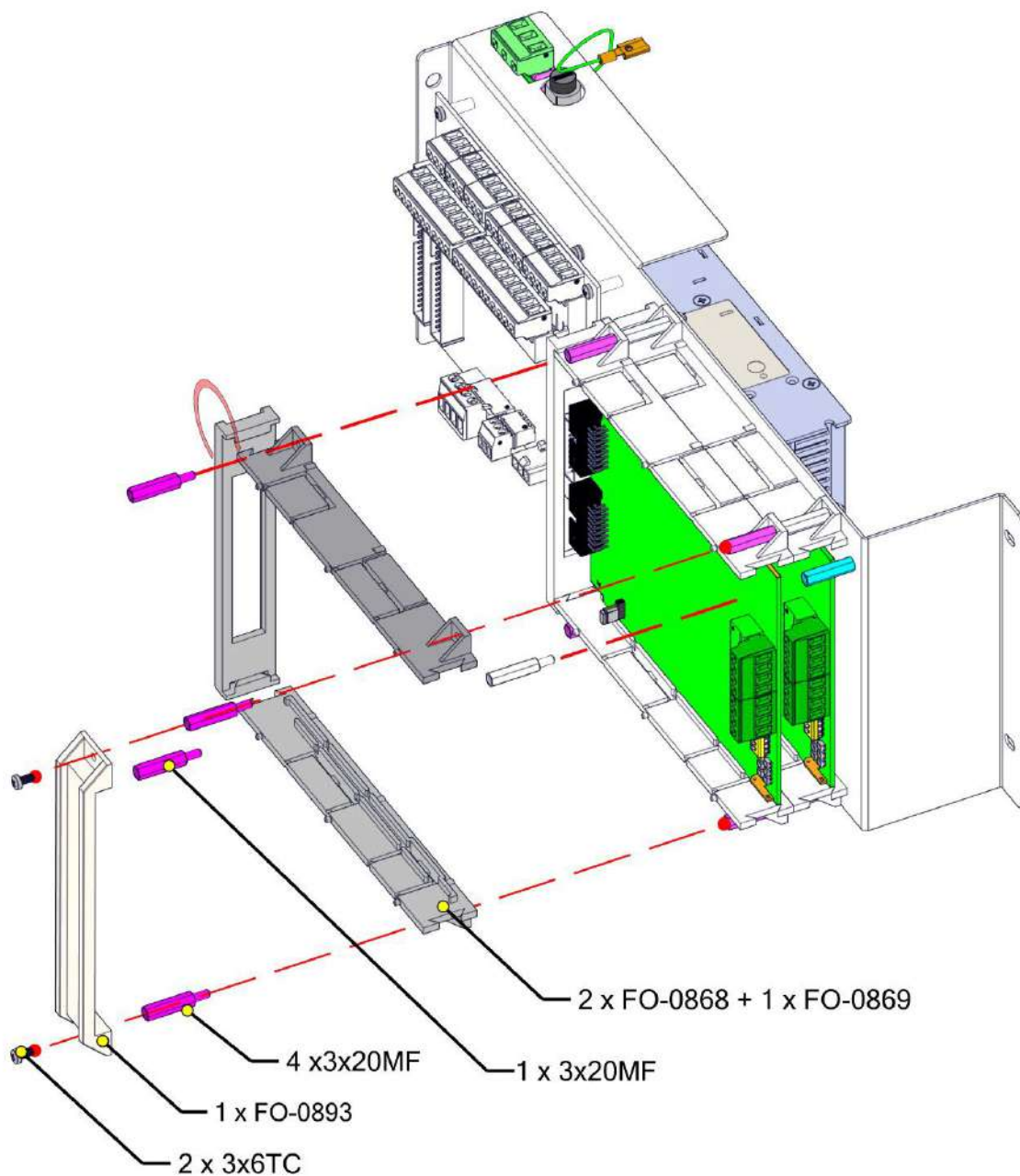
**B** -Removing the fixing bar FO-0893

**C** -Install the two side pieces FO-0868 with the back piece FO-0869

**D** -Tighten the 4 Dist. 3x20MF

**E** -Reposition of Traverse FO-0893

**F** -Tighten the two 3x6TC screws



- INSTALLATION Card:

**A** -Insert the card into the guide

**B** -Driving

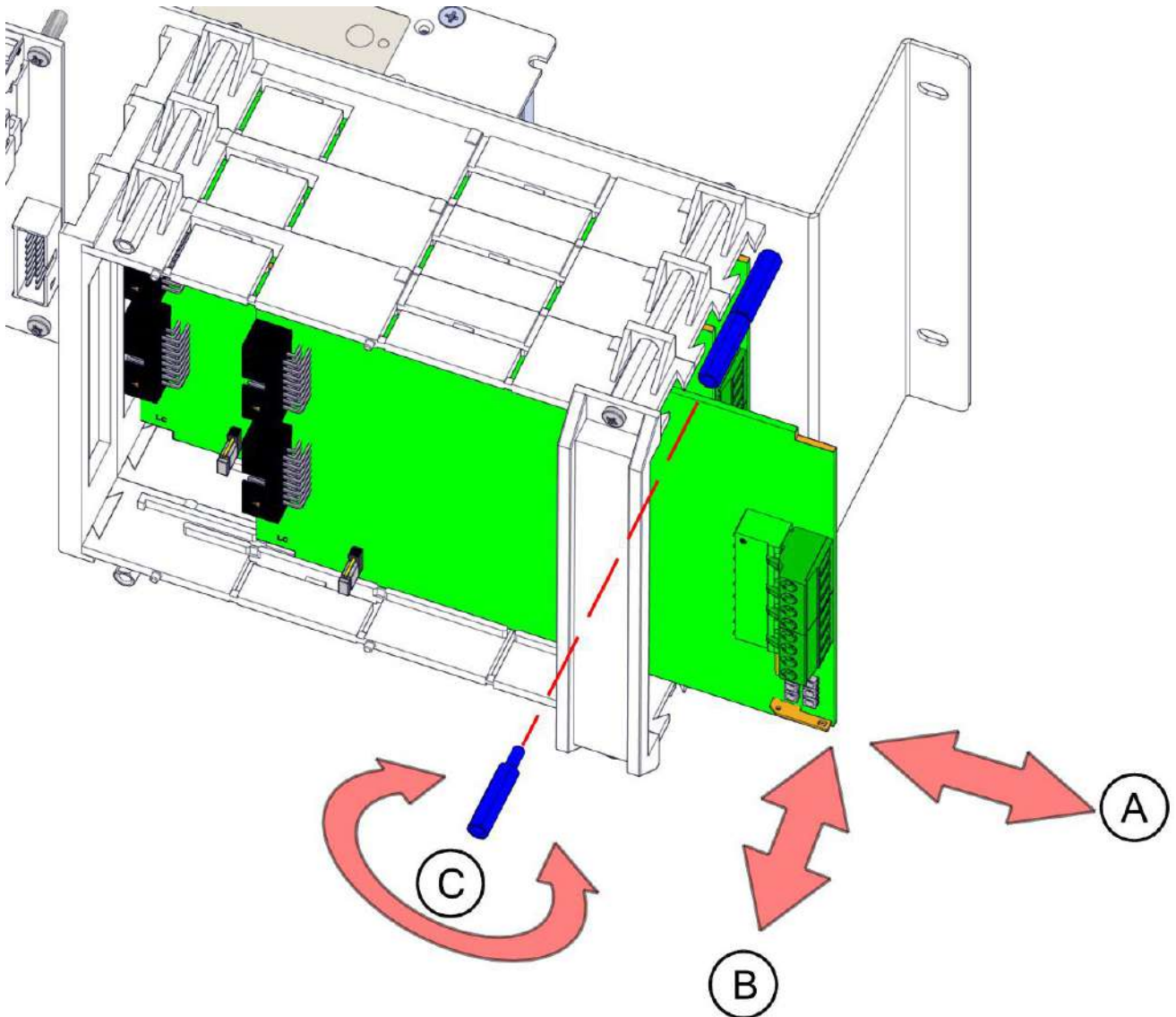
**C** -**Screw** spacer 3x20MF -Board lock

- DISINSTALLATION Card:

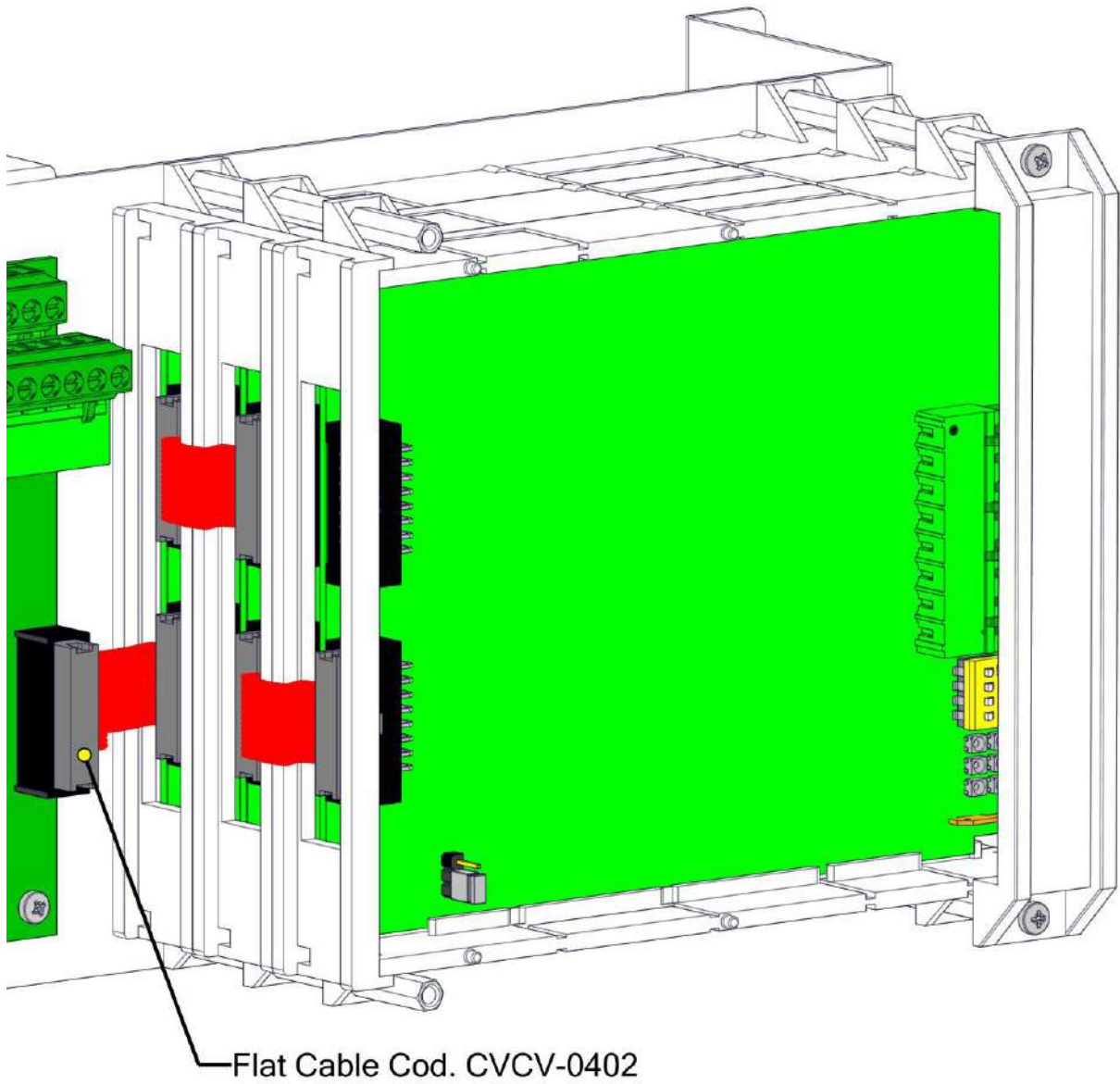
**C** -Unscrew spacer 3x20MF -Board lock

**B** -Remove the board from the guide

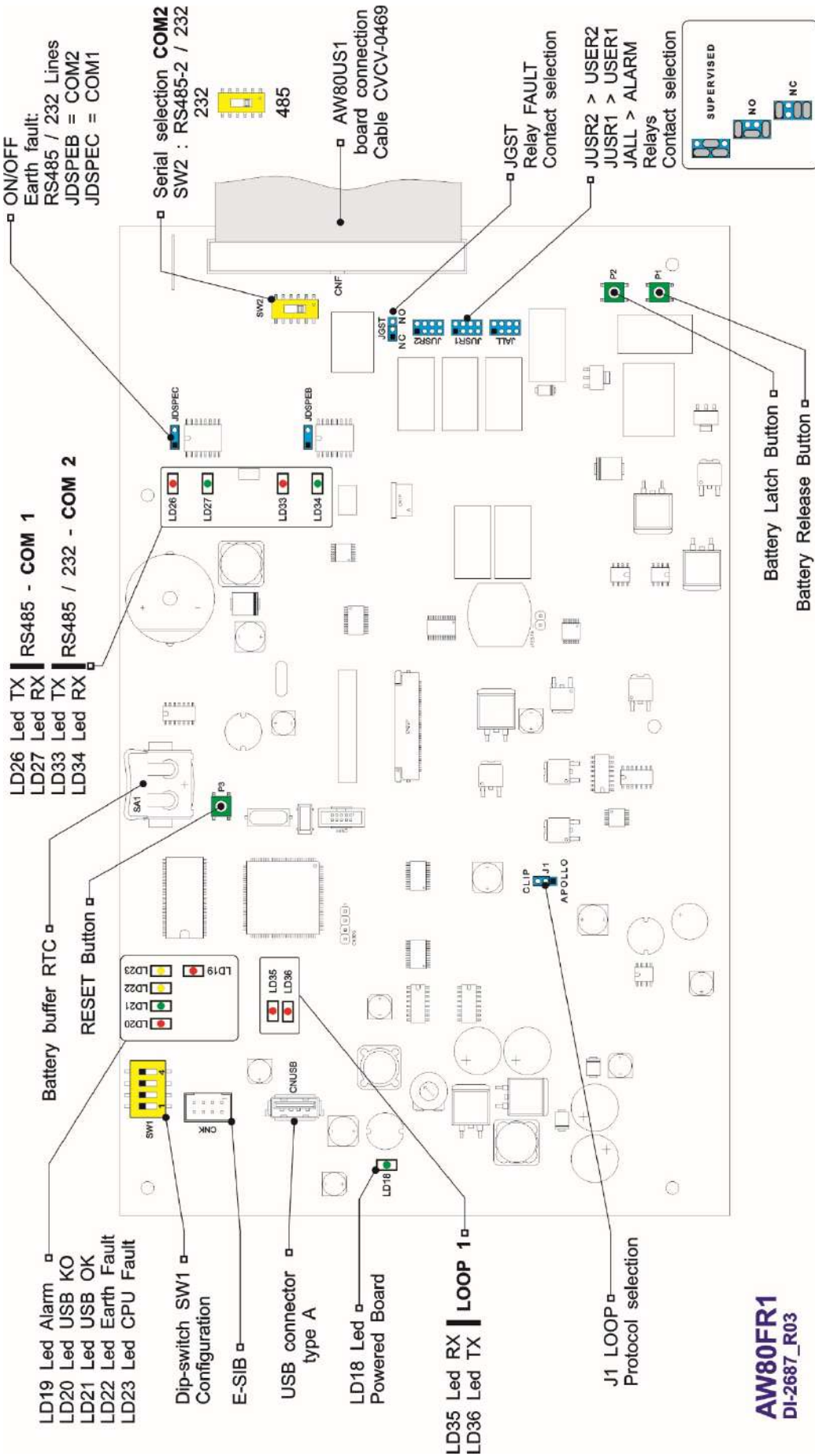
**A** -Pull the board out of the guide



- Electrical connection via Flat cables code CVCV-0402 (supplied with the board)

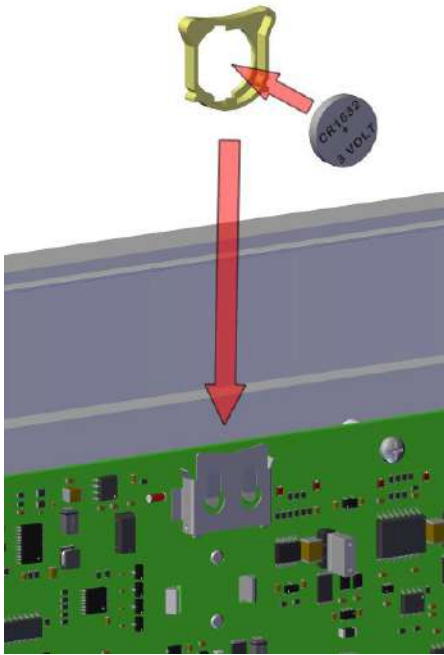


## 8. AW80FR1 Topographic CPU board MA-1000





## 9.1 AW80FRx CPU board RTC battery MA-1000 - MA-2000 - MA-8000



Place the button cell (model CR 1632 3V inside the package) on the AW80FRx board as shown.

This battery is used as a buffer battery for the RTC (real time clock) circuit. The date and time must then be programmed (see programming manual).

## 9.2 CPU board DIP SWITCH setting MA-1000 - MA-2000 - MA-8000

- AW80FR1 >**SW1** card MA-1000
- AW80FR0 >**SW3** board MA-2000 - MA-8000

1	2	3	4	FUNCTION
OFF	OFF	OFF	OFF	In normal operation
<b>ON</b>	OFF	OFF	OFF	Export the configuration in the central unit to a USB key
OFF	OFF	OFF	<b>ON</b>	Firmware Update
<b>ON</b>	OFF	OFF	<b>ON</b>	Factory configuration reset
<b>ON</b>	<b>ON</b>	<b>ON</b>	<b>ON</b>	Copy configuration from USB key to central unit (From PK SW Tool)
OFF	<b>ON</b>	OFF	OFF	Touchscreen Calibration

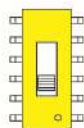
- AW80FR1 >**SW2** card MA-1000
- AW80FR0 card >SW4 - **SW5** MA-2000 - MA-8000

### MA-1000

Serial Selection

232

^



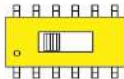
v

485

**SW2: RS485-2 / 232 COM2**

### MA-2000 MA-8000

Serial Selection

485 <  > 232

**SW4: RS485 / 232 COM3**

**SW5: RS485 / 232 COM2**

### 9.3 Setting Jumper Ground Dispersion Detection **MA-1000**

---

- **AW80FR1** CPU board

<b>JDSPEB</b>	Removing the jumper causes the control unit to ignore a ground fault <b>COM 2</b> RS485/232 (isolated)
<b>JDSPEC</b>	Removing the jumper causes the control unit to ignore a ground fault <b>COM 1</b> RS485 (isolated)

- **AW80US1** BASIC BOARD

<b>JDSPE</b>	Removing the jumper causes the control unit to ignore a ground fault <b>GENERAL</b>
--------------	---

### 9.4 Setting Jumper Ground Dispersion Detection **MA-2000 - MA-8000**

---

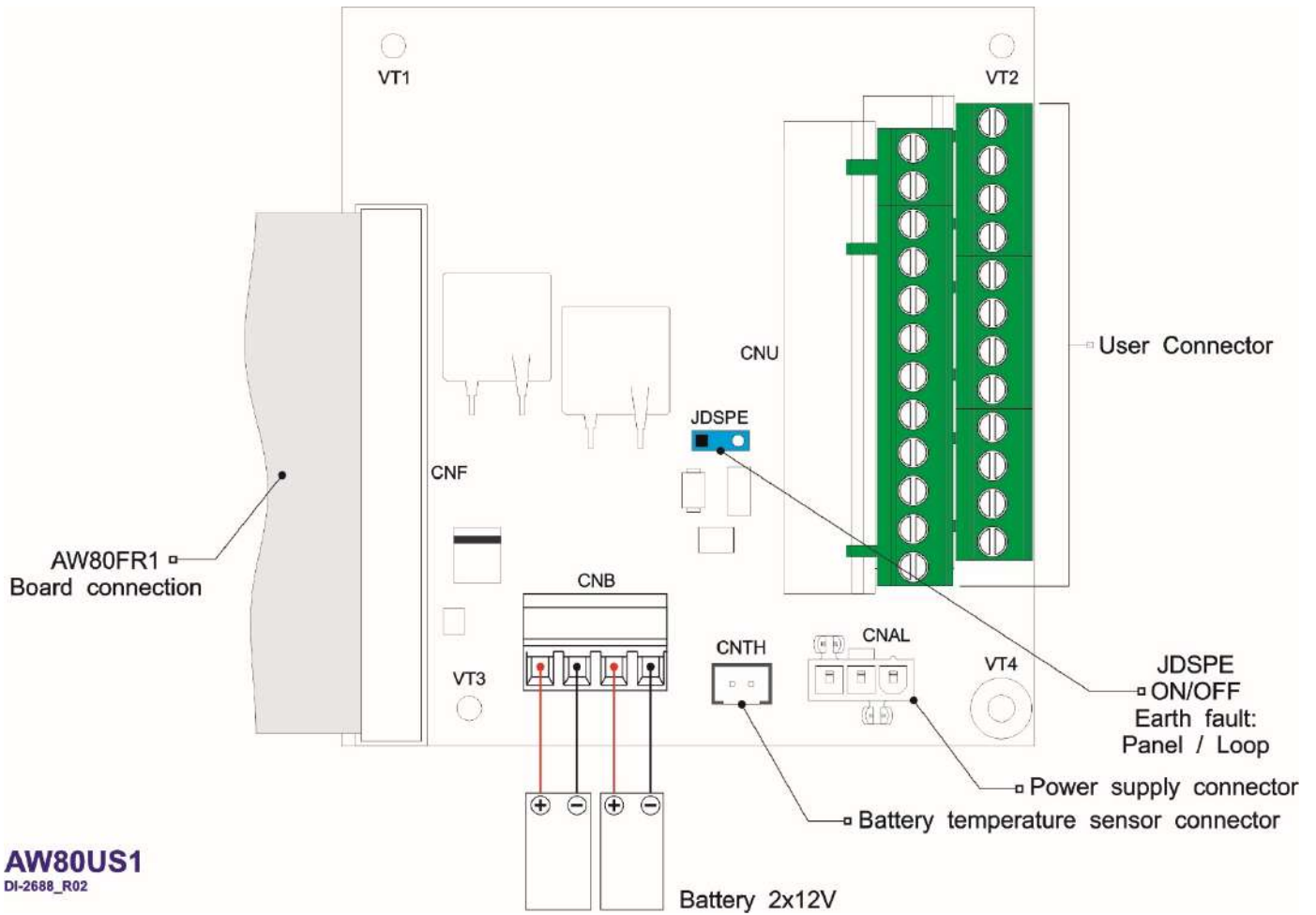
- **AW80FR0** CPU board

<b>JDSPEA</b>	Removing the jumper causes the control unit to ignore a ground fault <b>COM 1</b> RS485 (isolated)
<b>JDSPEB</b>	Removing the jumper causes the control unit to ignore a ground fault <b>COM 3</b> RS485/232 (isolated)
<b>JDSPEC</b>	Removing the jumper causes the control unit to ignore a ground fault <b>COM 2</b> RS485/232 (isolated)
<b>JDSPA</b>	Removing the jumper causes the control unit to ignore a <b>CANBUS</b> ground fault <b>A</b>
<b>JDSPB</b>	Removing the jumper causes the control unit to ignore a <b>CANBUS B</b> ground fault.

- **AW80US0** BASIC BOARD

<b>JDSPE</b>	Removing the jumper causes the control unit to ignore a ground fault <b>GENERAL</b>
--------------	---

## 10. AW80US1 Topographic BASIC BOARD MA-1000



### 10.1 AW80US1 BASE board MA-1000 terminal blocks

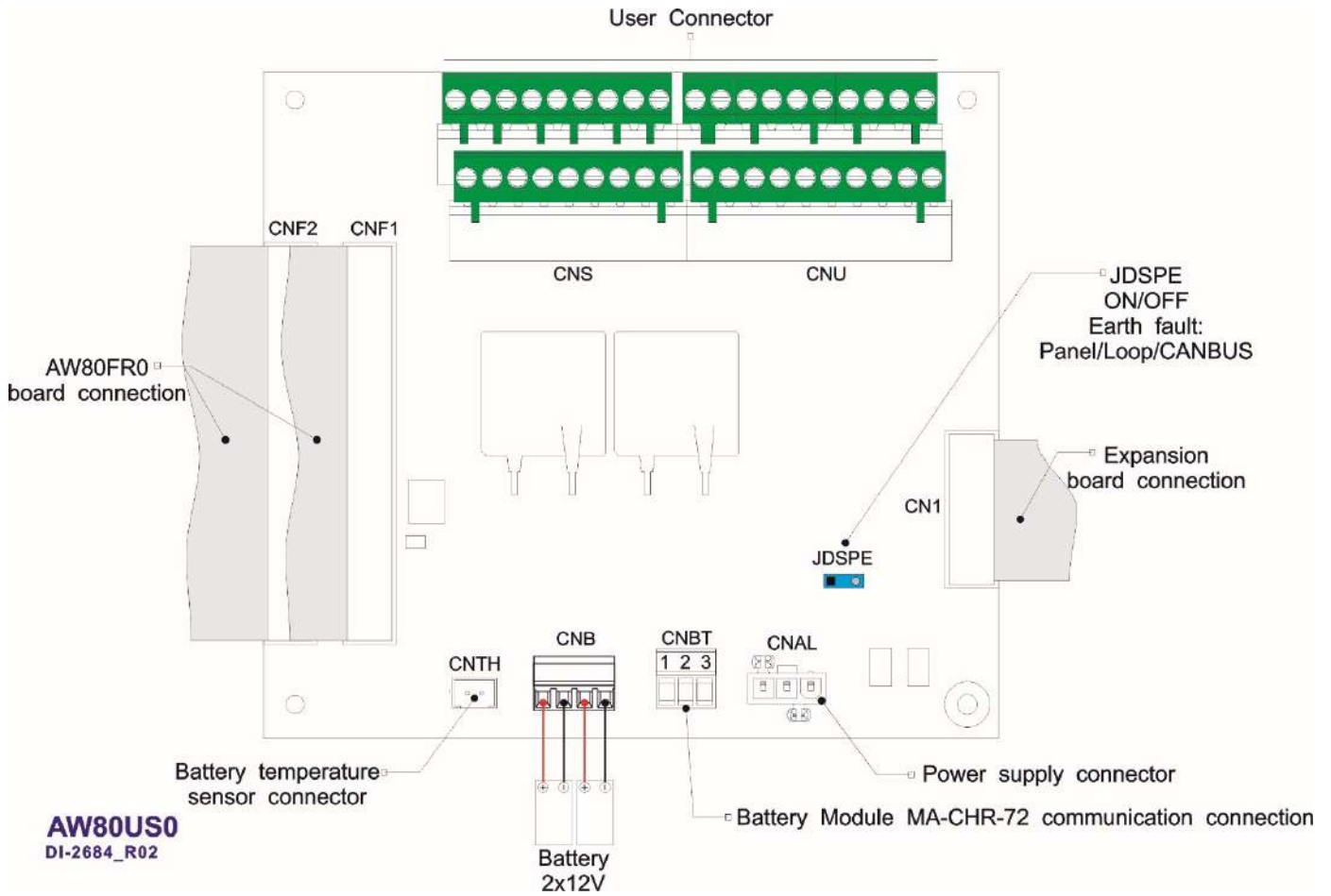
CNB Batteries		
	Name	Description
1	Battery 1 Positive	MFR700 Series Resettable Fuse Protection
2	Battery 1 Negative	
3	Battery 2 Positive	
4	Battery 2 Negative	

CNTH Temperature probe		
	Name	Description
1	NTC	Temperature probe Batteries
2	GND	

<b>CNU Utilities</b>				
	<b>Description</b>		<b>Features</b>	<b>Notes</b>
<b>24</b>	<b>- GND USER</b>		1 A	Resettable fuse
<b>23</b>	<b>+ 24V USER MAX 1A</b>			
<b>22</b>	<b>General fault</b> relay 'NO - NC'		Contact Max 30V 2A	With JGST jumper for NA-NC selection
<b>21</b>	<b>General fault</b> relay 'Common'			
<b>20</b>	<b>Siren -</b> >Negative in non-alarm		Reverse polarity output	EOL Diode = 1N4007 1 A resettable fuse
<b>19</b>	<b>Siren +</b> >Positive in non-alarm			
<b>18</b>	Relay <b>User 2</b> / NO - NC / LC +		Contact Max 30V 2A	With JUSR2 jumper for NO-NC selection or as supervised output 1A resettable fuse
<b>17</b>	Relay <b>User 2</b> / Common / LC -			
<b>16</b>	Relay <b>User 1</b> / NO - NC / LC +		Contact Max 30V 2A	With Jumper JUSR1 for NO-NC selection or as supervised output 1A resettable fuse
<b>15</b>	Relay <b>User 1</b> / Common / LC -			
<b>14</b>	<b>General alarm</b> relay / NO - NC / LC +		Contact Max 30V 2A	With JALL jumper for NO-NC selection or as supervised output 1A resettable fuse
<b>13</b>	Relay <b>General Alarm</b> / Common / LC -			

<b>CNU Sensor Lines + Serials</b>				
	<b>Description</b>		<b>Features</b>	<b>Notes</b>
<b>12</b>	LIN - 2	RS 485	RX 2	<b>COM 2</b> Selectable via <b>SW2</b>
<b>11</b>	GNDIS 2		GNDIS 2	
<b>10</b>	LIN + 2		TX 2	
<b>9</b>				
<b>8</b>	LIN - 1	RS 485		<b>COM 1</b> for MA-LCD7
<b>7</b>	GNDIS 1			
<b>6</b>	LIN + 1			
<b>5</b>				
<b>4</b>	Loop 1 B - IN	LOOP 1		
<b>3</b>	Loop 1 B + IN			
<b>2</b>	Loop 1 A - OUT			
<b>1</b>	Loop 1 A + OUT			

# 11. AW80US0 Topographic BASIC BOARD MA-2000 - MA-8000



## 11.1 AW80US0 BASE Board MA-2000 - MA-8000 terminal blocks

CNB Batteries		
	Name	Description
1	Battery 1 Positive	MFR700 Series Resettable Fuse Protection
2	Battery 1 Negative	
3	Battery 2 Positive	
4	Battery 2 Negative	

CNTH Temperature probe		
	Name	Description
1	NTC	Temperature probe Batteries
2	GND	

<b>CNU Utilities</b>				
	<b>Description</b>		<b>Features</b>	<b>Notes</b>
<b>20</b>	<b>General fault</b> relay 'NO - NC'		Contact Max 30V 2A	With JGST jumper for NA-NC selection
<b>19</b>	<b>General fault</b> relay 'Common'			
<b>18</b>	<b>Siren -</b> >Negative in non-alarm	Polarity in NO Alarm Condition	Reverse polarity output	EOL Diode = 1N4007 1 A resettable fuse
<b>17</b>	<b>Siren +</b> >Positive in non-alarm			
<b>16</b>	Relay <b>User 2</b> / NO - NC / LC +		Contact Max 30V 2A	With JUSR2 jumper for NO-NC selection or as supervised output 1A resettable fuse
<b>15</b>	Relay <b>User 2</b> / Common / LC -			
<b>14</b>	Relay <b>User 1</b> / NO - NC / LC +		Contact Max 30V 2A	With Jumper JUSR1 for NO-NC selection or as supervised output 1A resettable fuse
<b>13</b>	Relay <b>User 1</b> / Common / LC -			
<b>12</b>	Relay <b>General alarm</b> / NO - NC / LC +		Contact Max 30V 2A	With JALL jumper for NO-NC selection or as supervised output 1A resettable fuse
<b>11</b>	Relay <b>General Alarm</b> / Common / LC -			

<b>CNU Sensor Lines</b>				
	<b>Description</b>	<b>Features</b>	<b>Notes</b>	
<b>10</b>	- GND <b>USER</b>	1 A	Resettable fuse	
<b>9</b>	+ 24V <b>USER MAX 1A</b>			
<b>8</b>	Loop 2 B - IN	LOOP 2		
<b>7</b>	Loop 2 B + IN			
<b>6</b>	Loop 2 A - OUT			
<b>5</b>	Loop 2 A + OUT			
<b>4</b>	Loop 1 B - IN	LOOP 1		
<b>3</b>	Loop 1 B + IN			
<b>2</b>	Loop 1 A - OUT			
<b>1</b>	Loop 1 A + OUT			

<b>CNS Serial Lines</b>				
	<b>Description</b>	<b>Description 2</b>	<b>Notes</b>	
<b>18</b>	CDALB	Communication line <b>CAN BUS</b> (B-side)	Not enabled > see option <b>E-SIB -X</b>	
<b>17</b>	GNDISB			
<b>16</b>	CDAHB			
<b>15</b>	CDALA	Communication line <b>CAN BUS</b> (side A)	Not enabled > see option <b>E-SIB -X</b>	
<b>14</b>	GNDISA			
<b>13</b>	CDAHA			
<b>12</b>	NC			
<b>11</b>	NC			
<b>10</b>	NC			

<b>CNS Serial Lines</b>					
	<b>Description 1</b>		<b>Description 2</b>		<b>Notes</b>
<b>9</b>	LIN - 3	RS 485	RX 3	RS 232	<b>COM 3</b> Selectable via <b>SW4</b>
<b>8</b>	GNDIS 3		GNDIS 3		
<b>7</b>	LIN + 3		TX 3		
<b>6</b>	LIN - 2	RS 485	RX 2	RS 232	<b>COM 2</b> Selectable via <b>SW5</b>
<b>5</b>	GNDIS 2		GNDIS 2		
<b>4</b>	LIN + 2		TX 2		
<b>3</b>	LIN - 1	RS 485			<b>COM 1</b> for MA-LCD7
<b>2</b>	GNDIS 1				
<b>1</b>	LIN + 1				

<b>CNBT Serial Line Battery Module Extension (optional)</b>					
<b>1</b>	LIN + 1	RS 485			<b>COM 1</b> for Battery Module Extension (optional)
<b>2</b>	GNDIS 1				
<b>3</b>	LIN - 1				

## 12. Relay outputs > connection examples

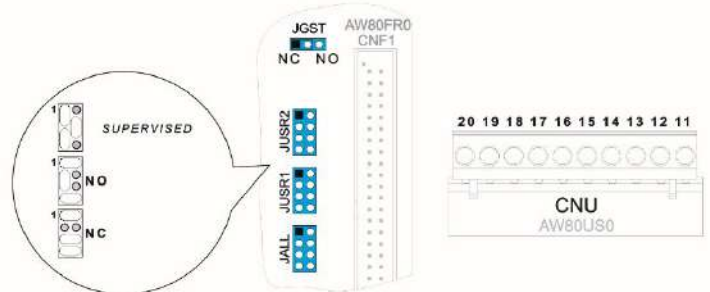
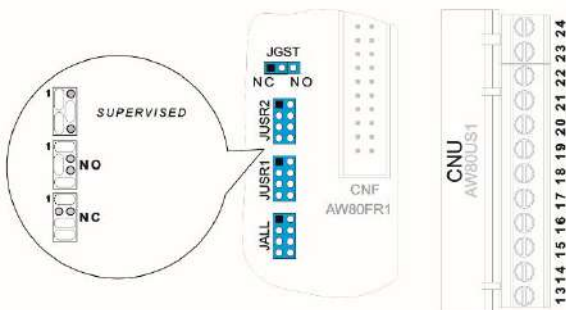
Instructions for setting relay outputs as voltage-free contacts or as supervised (LC)

NOTES:

To configure the activation of these outputs, refer to 'MA-x000 Programming Manual'.

**MA-1000**

**MA-2000 MA-8000**



### 12.1 - General fault output

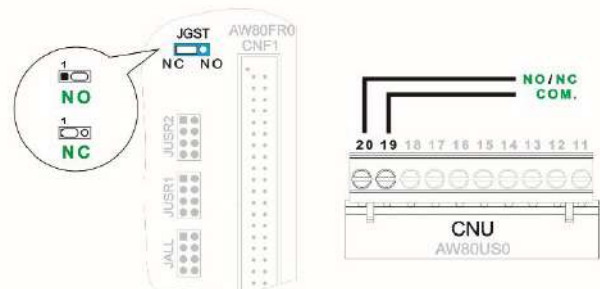
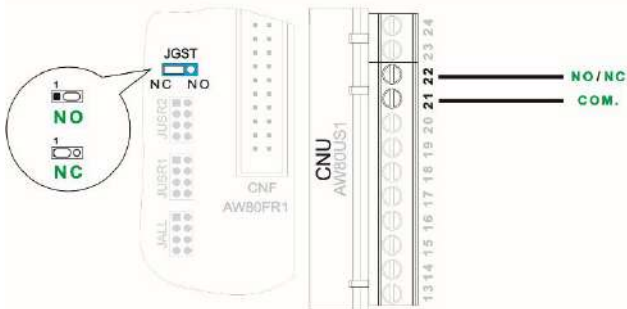
The general fault relay is normally energised. It is de-energised in a fault condition. This output is available with voltage-free contact.

Contact rating: max. 30 Vac/dc 2A, non-inductive loads.

Default: **NO**

**MA-1000**

**MA-2000 MA-8000**

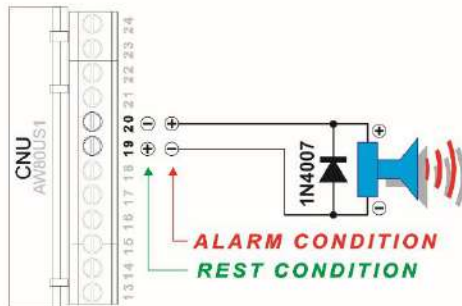


## 12.2 - Supervised Sounder Output

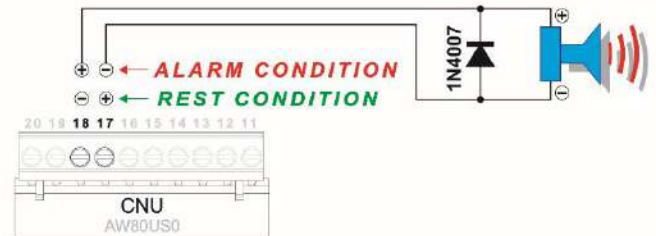
Sounder output connections.  
1A resettable fuse

- Polarized devices (electronic sirens, etc.)

### MA-1000



### MA-2000 MA-8000



**N.B.:** Connect end-of-line diode 1N4007 only to the last device in the line.

**WARNING:** The polarities shown are in **ALARM CONDITION**, at rest, they are reversed.

## 12.3 - USR1 and USR2 outputs

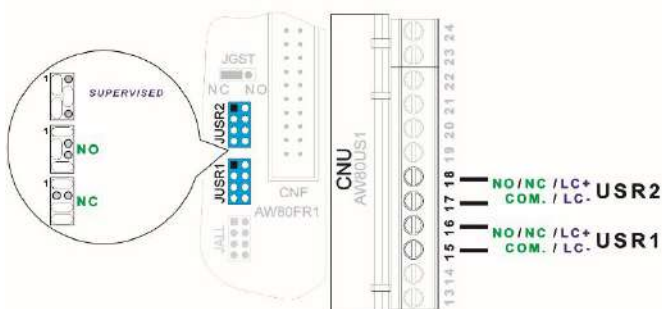
The USR1 and USR2 outputs are available with voltage-free contact or supervised output.  
Contact rating: max. 30 Vac/dc 2A, Non-inductive loads

Default: **Supervised**

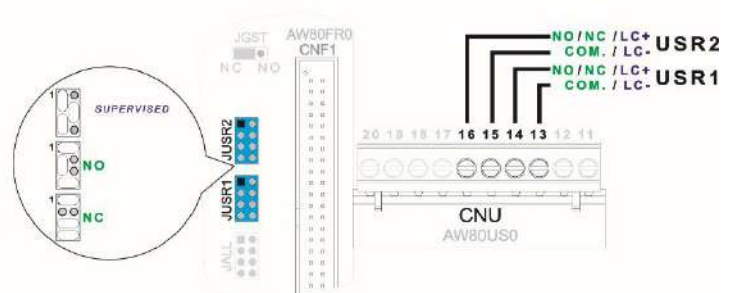
**NOTE:**

To programme the activation of these outputs, please refer to the MA-x000 Programming Manual.

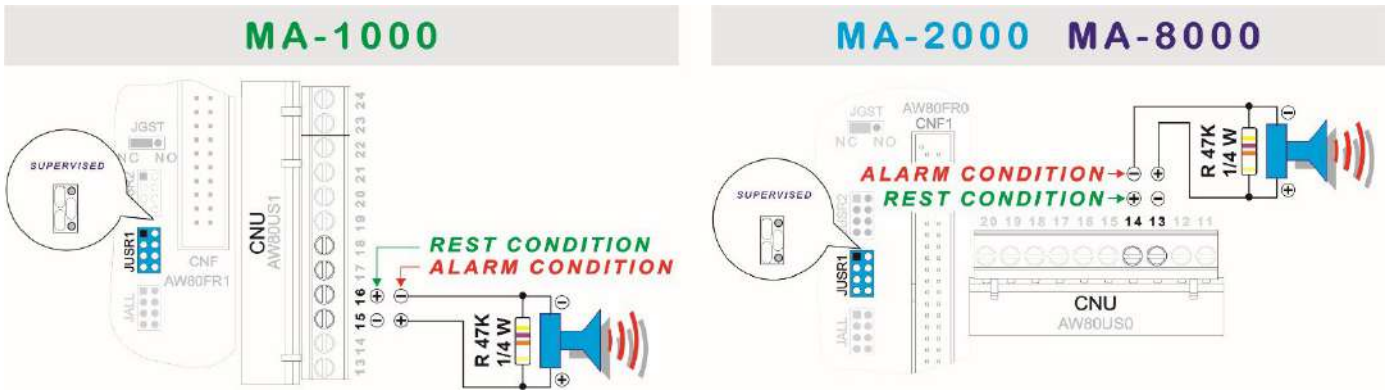
### MA-1000



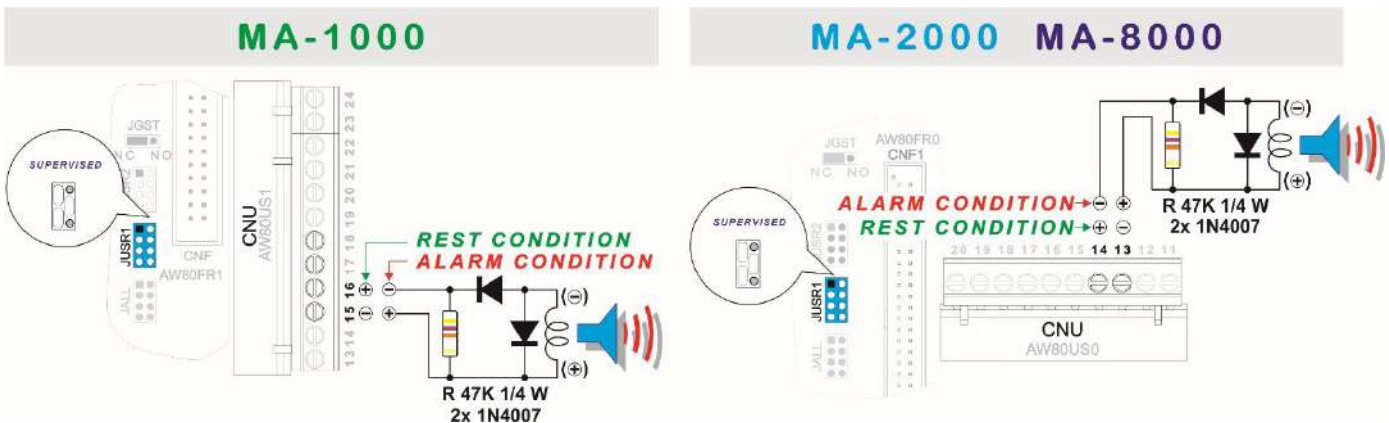
### MA-2000 MA-8000



➤ **Polarized devices (electronic sirens, etc.) > End of line: RESISTOR**



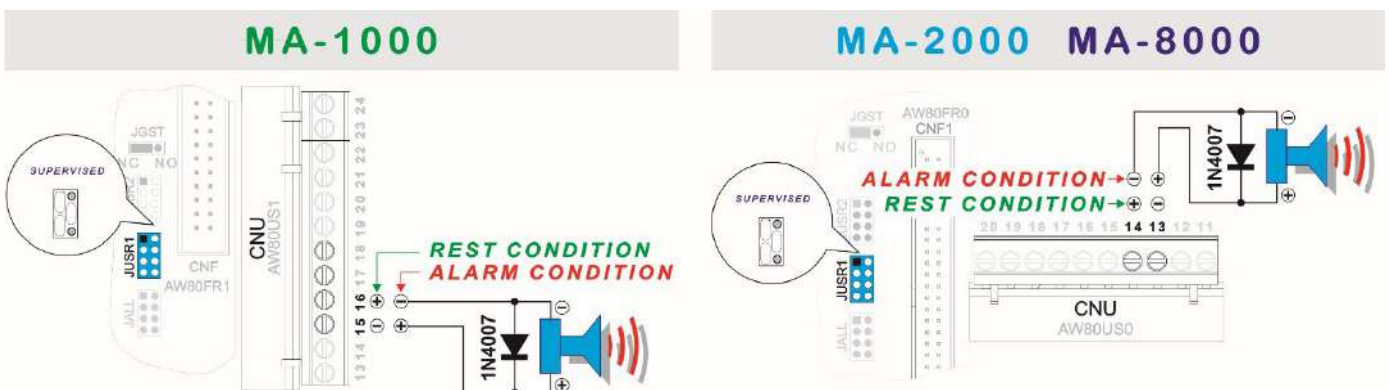
➤ **NON-polarized devices (Badenie, Relay, etc.) > End of line: RESISTOR**



**N.B.:** Connect the 47Kohm 1/4W end-of-line resistor to the last device in the line only.

**WARNING:** The polarities shown are in **ALARM CONDITION**, at rest they are reversed.

➤ **Polarised devices (electronic sirens, etc.) > End of line : DIODE**



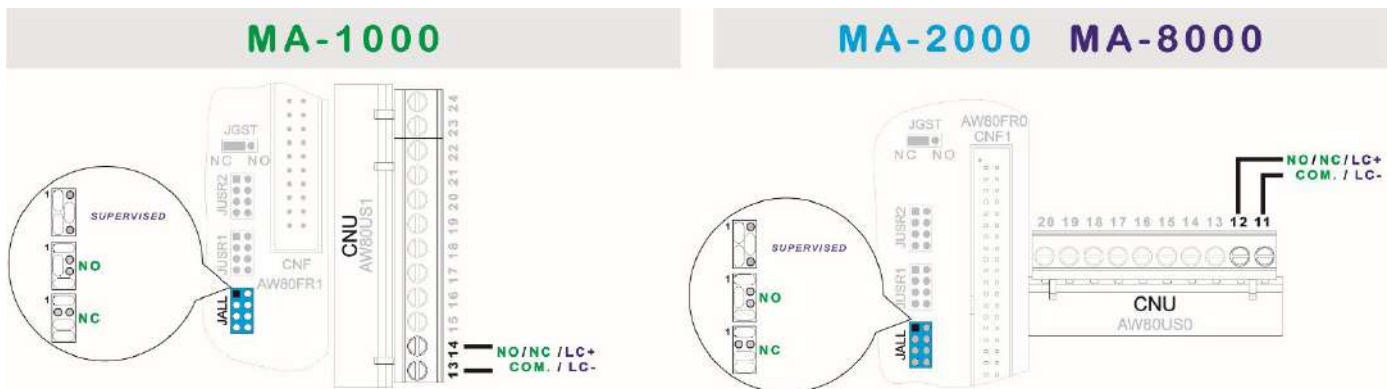
**N.B.:** Connect end-of-line diode 1N4007 only to the last device in the line.

**WARNING:** The polarities shown are in **ALARM CONDITION**, at rest they are reversed.

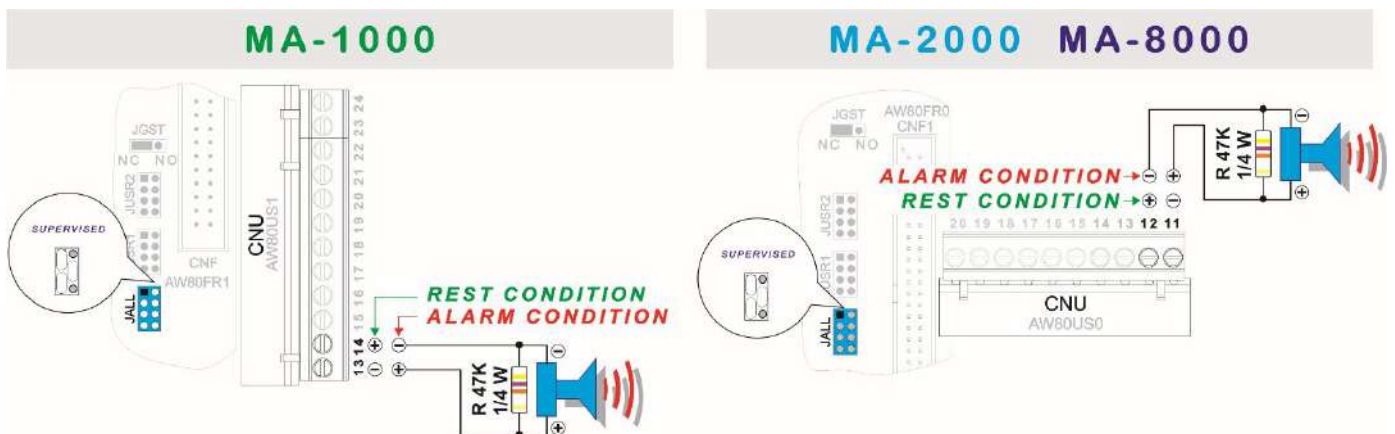
## 12.4 - General alarm output

The general alarm output is available with voltage-free contact or supervised output. Contact rating: max. 30 Vac/dc 2A, Non-inductive loads

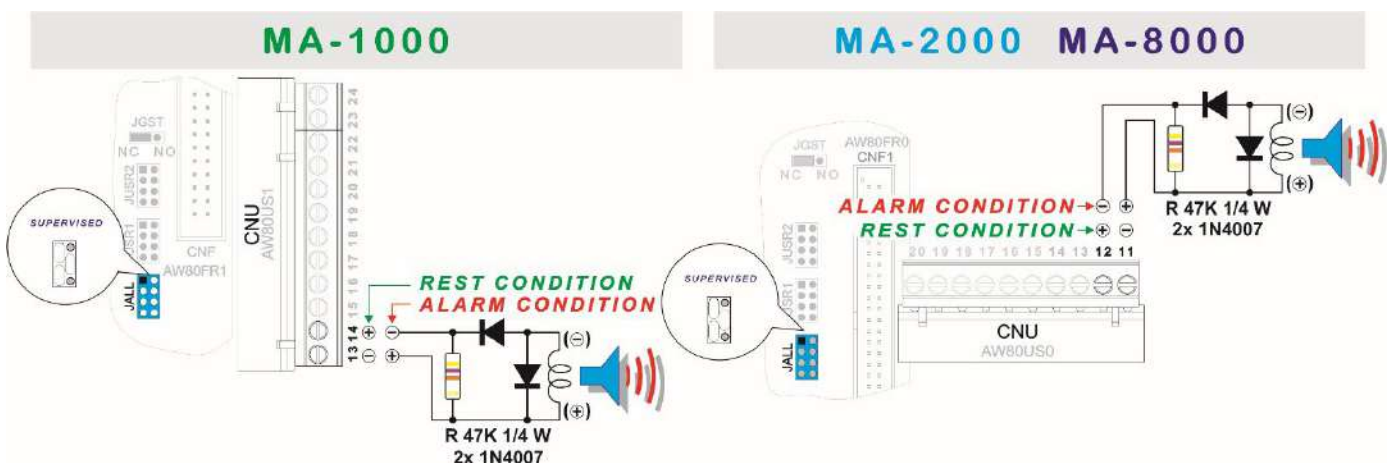
Default: **Supervised**



### ➤ Polarised devices (electronic sirens, etc.) > End of line: RESISTOR



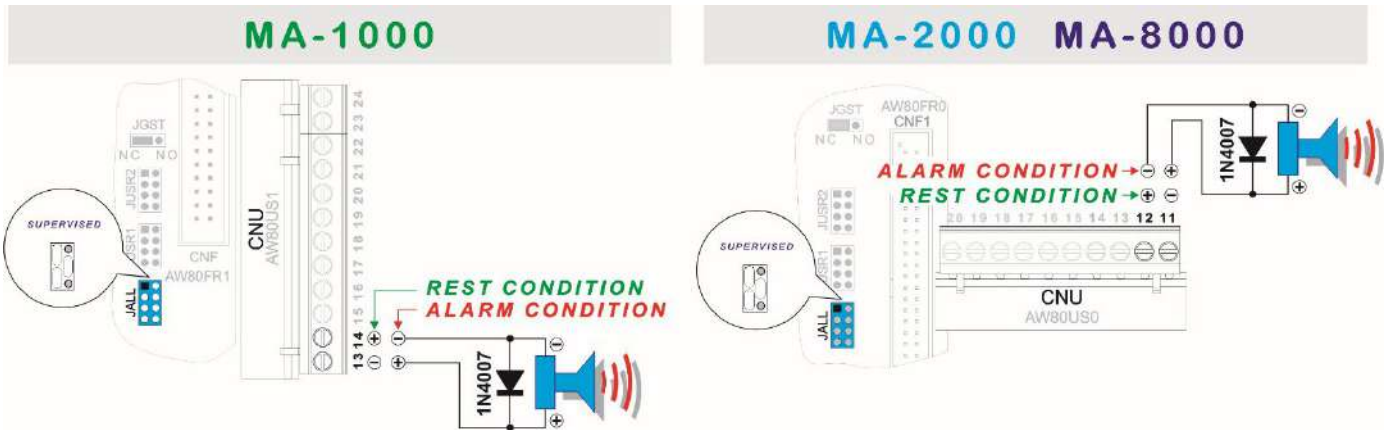
### ➤ NON-polarised devices (relay, etc.) > End of line: RESISTOR



**N.B. :** Connect the 47Kohm 1/4W end-of-line resistor to the last device in the line only.

**WARNING :** The polarities shown are in **ALARM CONDITION**, at rest they are reversed.

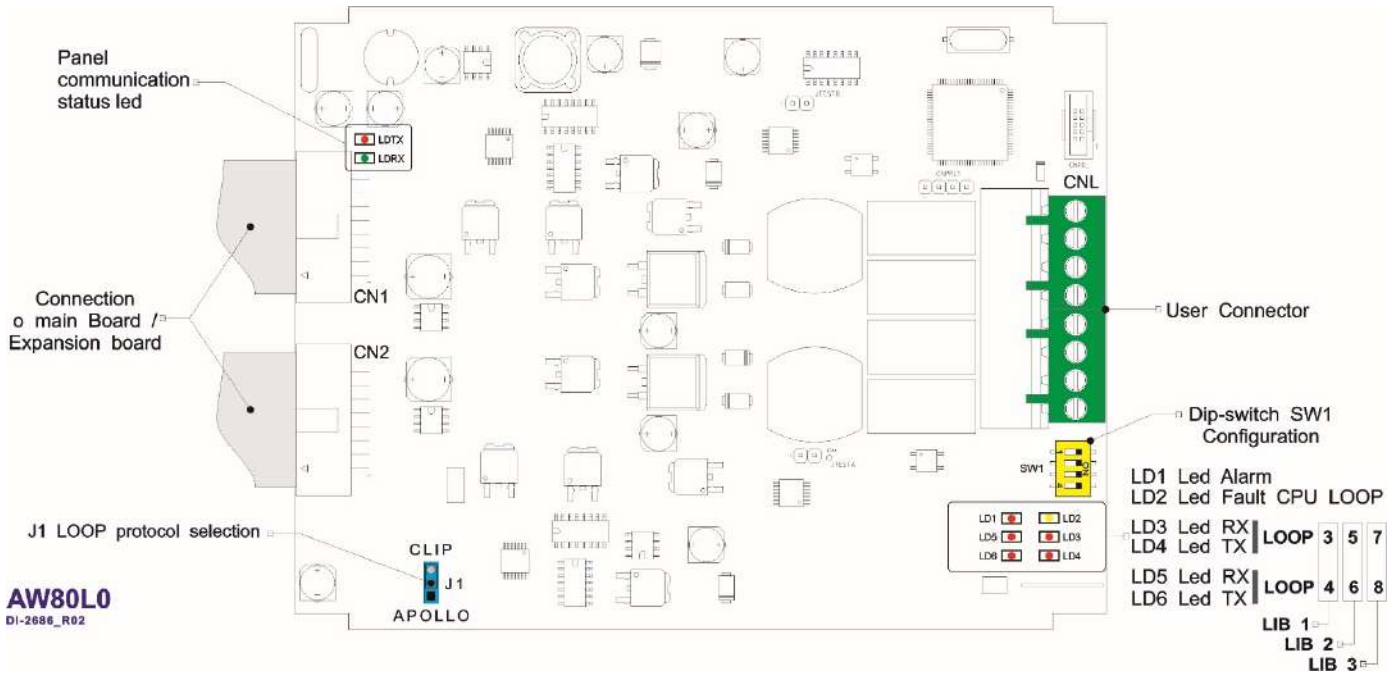
➤ **Polarised devices (electronic sirens, etc.) > End of line: DIODE**



**N.B.:** Connect end-of-line diode 1N4007 only to the last device in the line.

**WARNING:** The polarities shown are in **ALARM CONDITION**, at rest they are reversed.

### 13. Expansion board AW80L0 Topographic Cod. MA-LIB2-xx (optional for MA-8000)



CNL Sensor Lines					
1	Loop 3 A + OUT	LOOP 3			
2	Loop 3 A - OUT				
3	Loop 3 B + IN				
4	Loop 3 B - IN				
5	Loop 4 A + OUT	LOOP 4			
6	Loop 4 A - OUT				
7	Loop 4 B + IN				
8	Loop 4 B - IN				

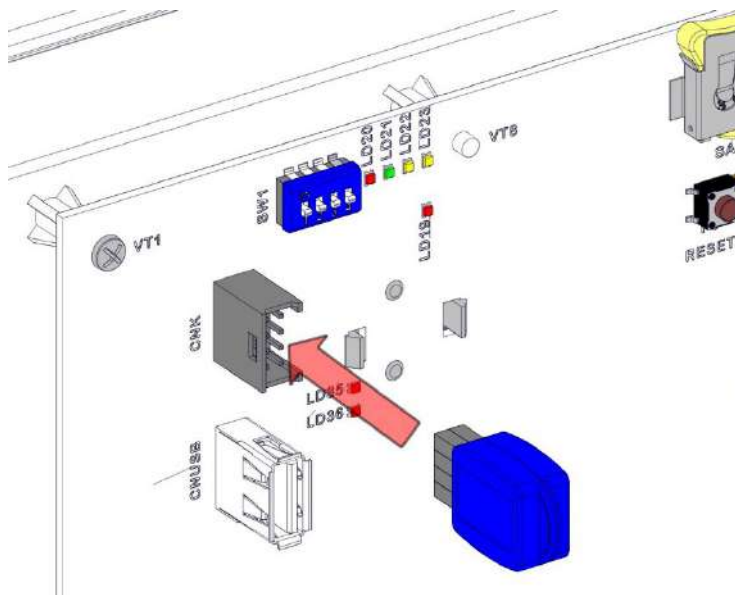
SW1 Dip switch					
1	2	3	4	FUNCTION	POSITION
OFF	ON	OFF	OFF	Address 2	LIB 1 card
ON	ON	OFF	OFF	Address 3	LIB 2 card
OFF	OFF	ON	OFF	Address 4	LIB 3 card



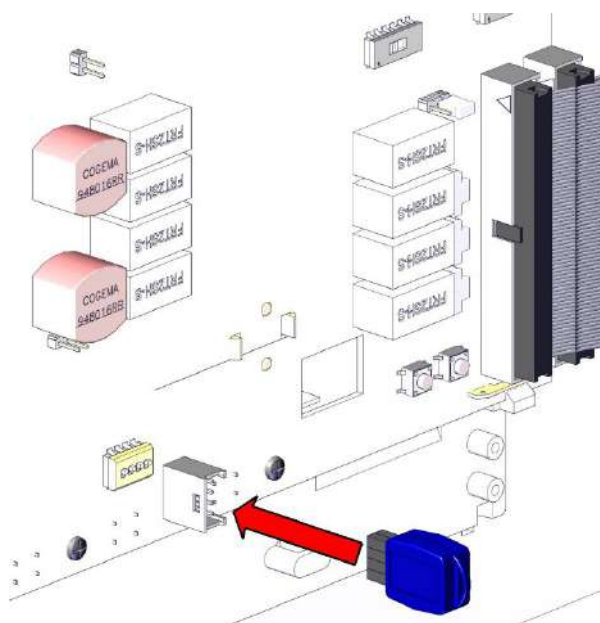
## 16. E-SIB - Serial Communications Enabling Key (optional)

Depending on the model, the **E-SIB-X** key enables different protocols and networking communication (MA-2000 and MA-8000 only).

### MA-1000



### MA-2000 - MA-8000



## 17. Communication Loop with Detectors and Modules

The control unit communicates with intelligent, addressable detection and control devices via a 2-wire line. The line can be connected in such a way as to comply with the specifications for signal circuit lines, which can be of the open and closed type (STYLE 4 open line and STYLE 6 closed line). The devices in the loop communicate and are powered by the line itself.



No more than 32 alarm points can be lost in the event of a short circuit

Please note: To comply with EN54.2 ("in the event of a short circuit from the line, no more than 32 alarm points can be lost"), it is necessary:

If the line is installed as 'Open LOOP' (Style 4), then the maximum number of connectable sensors and alarm buttons is 32 per line.

If the line is installed as 'LOOP Closed' (Style 6), an appropriate number of isolation modules must be installed along the line so that no more than 32 points (sensors or manual alarm buttons) are lost in the event of a short circuit of a section.

If a connection is made with a T-branch in a closed loop, no more than 32 devices must be installed on this branch, and the branch must be separated by an isolation module.

The detection circuit must be separated from other cables to minimize the risk of interference.

Use twisted cable as specified.

The Detection Loop circuit is supervised and current-limited.



Connection cables to detectors, auxiliary devices, and the power supply network can be routed inside the box by drilling holes, running the cables along the side walls of the box, and providing adequate length to allow for easy removal of the removable terminal blocks.

### 17.1 Technical specifications of the sensing line connection cables

Type of cable: 2 conductors (see table below for cable cross-section)

- Twisted narrow pitch (5 /10 cm)
- Screened
- Max. permissible capacity: 0.5µF

For these systems, a fire-resistant data cable is used, and in order to ensure the proper transit of the protocol, it is essential to employ:

➤ **FTE29ohm16 100/100V**

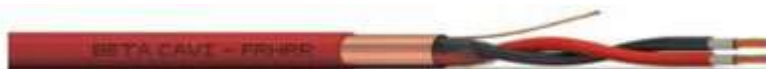
(Shielded data cable with E29cross-linked compound)

### 17.2 Cable Section

#### ADDRESSED SYSTEM / COMMUNICATION LOOP CABLE

Cable section

The sections are referred to the total length of the line (in case of "STYLE 6" loop and therefore when the loop is closed, it is considered the loop length) which, however, must not be longer than 3000 m and the total resistance of the line must be lower than 40 Ohm

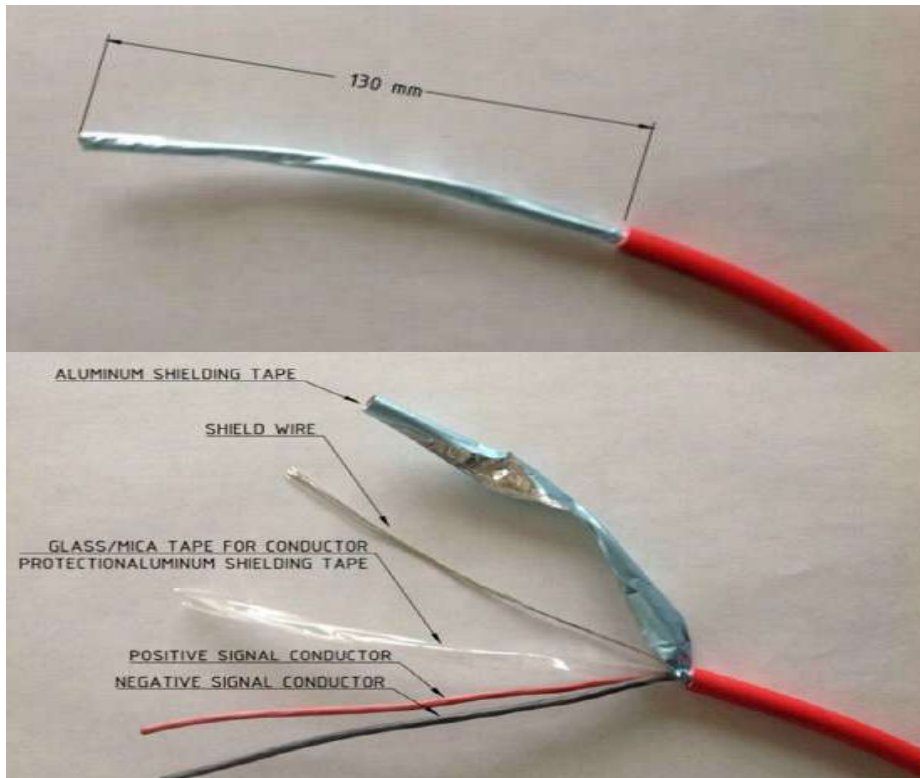


Length max	Min. section recommended	Cable code	Euroclasse
Up to 500 mt.	2x0.5 mmq	FRH RR 2050	Cca s1b d1 a1
Up to 1000 mt.	2x1 mmq	FRH RR 2100	Cca s1b d1 a1
Up to 1500 mt.	2x1.5 mmq	FRH RR 2150	Cca s1b d1 a1
Up to 3000 mt.	2x2.5 mmq	FRH RR 2250	Cca s1b d1 a1

The total length of the line max 3000m.

Total line resistance less than 40 Ohms

- It may be necessary to bypass some insulators to reduce line resistance.



---

### 17.3 Number of devices installed for the line

---

The maximum number of devices that can be installed for each of the four detection lines is as follows:

- 99 Sensors using the Clip protocol
- 99 input and/or output modules using the Clip protocol

---

### 17.4 Isolator modules

---

Isolator modules make it possible to electrically isolate a certain number of devices in the loop from the rest, allowing critical components in the loop to continue functioning even in the event of a short circuit in the communication line.

---

### 17.5 Input modules

---

Addressable input modules enable the MA-x000 to monitor contacts, manual alarm call points, conventional 4-wire sensors, and various other devices with alarm contact outputs.

---

### 17.6 Output modules

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Through the addressable output modules, MA-x000 systems can, using programmable CBE equations, activate indication circuits or output relays via voltage-free contacts or class A supervised controls.

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### 17.7 Intelligent sensors

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The MA-x000 fire alarm control panels can only communicate with devices declared as compatible.

## 17.8 Screen termination

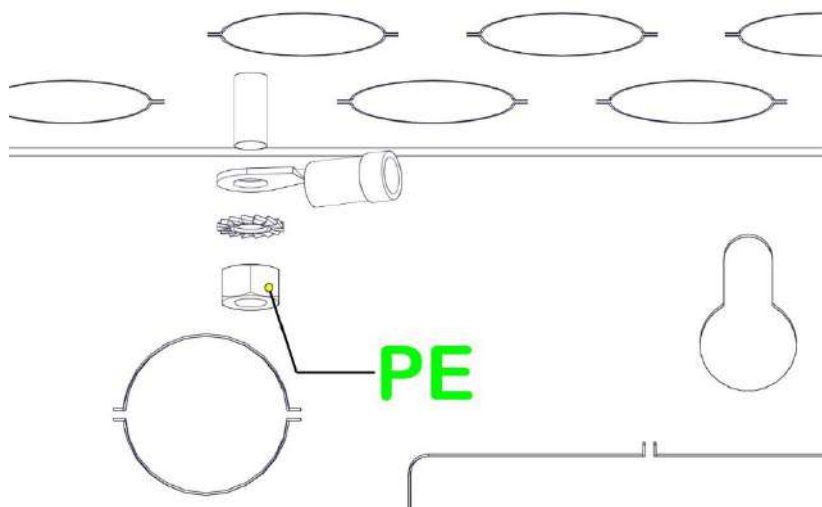
Good quality fire protection cable incorporating drain wires or screens must be used. The drain wires or screens must be earthed inside the enclosure. Cable screen or drain wire and earthing points. Ensure that drain wires or screens are properly grounded inside the enclosure; grounding points are provided on the enclosure to cover all cable entry points.

Use the earthing screw and clamp to obtain the required earth connection for the screens. Ensure that the screws are tightened and the contact is low resistance for EMC purposes.

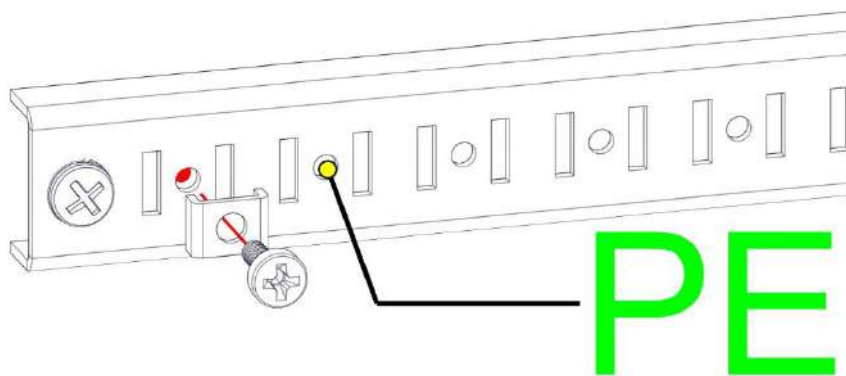
Use cable manufacturers' recommendations for proper earthing of drainage wires or shields.

A ground bar is available in the panel for screen termination, as shown below:

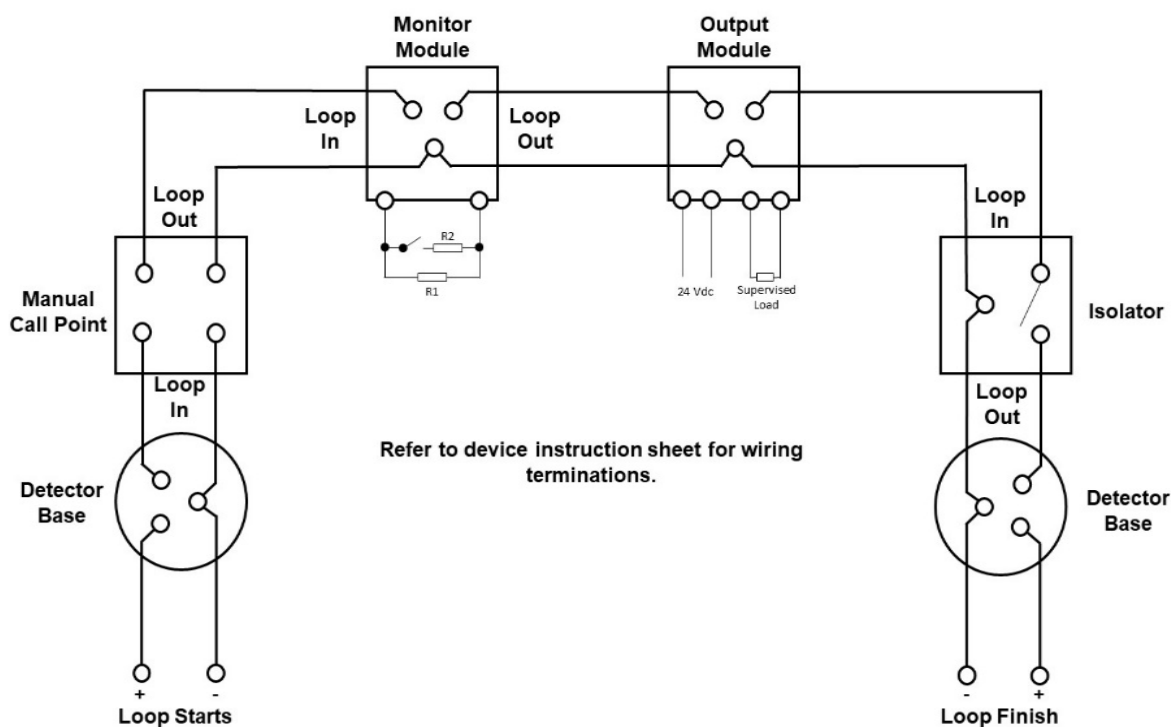
### MA-1000



### MA-2000 - MA-8000



## 17.9 Example of a closed Loop (6 Loop style)



The total length of the loop (from the output and input of the Panel Loop) must NOT exceed 3,000 metres.

**The use of the POL-200-TS\* loop test and diagnostic device is recommended to check the correct installation of lines.**



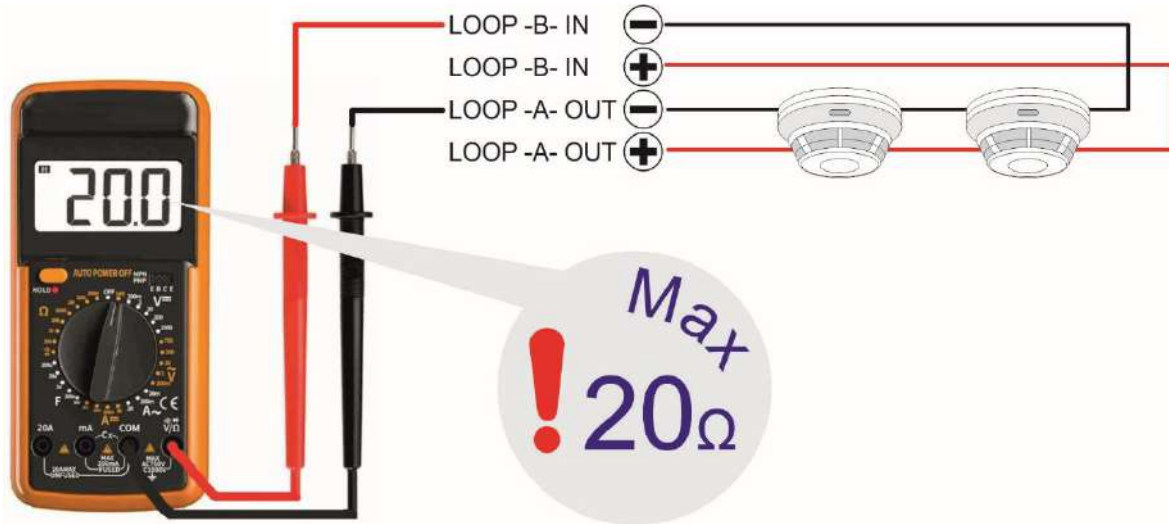
\* For further information please refer to the POL-200-TS manual

## 17.10 Test procedure for detection Loop

Before feeding the control unit lines, check the following values:

**NOTE:** A DIGITAL MULTIMETER IS REQUIRED

### Line resistance



The DC resistance of the negative loop wire **MUST NOT** exceed 20 Ohms.

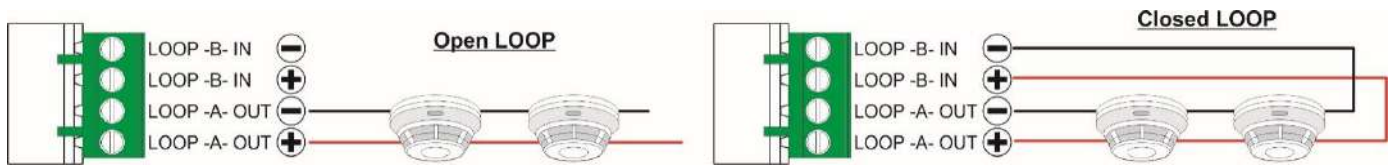
The measurement must be carried out by disconnecting channels 'A' and 'B' of the Loop Card. The multimeter test leads must be connected to the negative wire terminals.

To obtain the total resistance of the loop wire, multiply the value read on the negative side by 2 and add the resistance of the insulators.

## 17.10.1 Loop insulation

---

Place the test leads of the tester between (+) and (-) line, with sensors or modules installed, and check as follows:



### Test 1:

Connect: Tester [ + ] / Line [ + ] and Tester [ - ] / Line [ - ]

Control: Resistance: 1 - 1.3 Mohm

### Test 2:

Connect: Tester [ + ] / Line [ - ] and Tester [ - ] / Line [ + ]

Control: Resistance: 0.7 - 0.9 Mohm

## 17.10.2 Shielding of cable/loop insulation

---

Place one tip of the tester on the shield of the line cable and the other tip on the positive (+) cable of the same line. The resistance measured must be above 15-20 Mohm, preferably 'infinite'.

Perform the same operation between the line screen and the negative (-) cable. Check that the resistance is also higher than 15-20 Mohm in this case.

## 17.10.3 Line earthing/insulation

---

Place one tip of the tester on the earth of the system and the other tip on the positive (+) cable of the line; the resistance measured must be higher than 15-20 Mohm, preferably 'infinite'.

Carry out the same operation between the earth and the negative (-) cable of the line. Check that the resistance is also higher than 15-20 Mohm in this case.

## 17.10.4 Cable shield grounding/insulation

---

Place one tip of the tester on the earth of the system and the other tip on the cable braid; the resistance measured should be above 15-20 Mohm, preferably 'infinite'.

## 17.10.5 Loop voltage

---

With the detector/module line connected, the line output voltage must be 24 VDC without device interrogation (no programmed point). A voltage much lower than 14 VDC indicates a connection reversal of the detector or modules.

## 18. SYSTEM TESTING AND COMMISSIONING

---

The installation of the control unit must be carried out after carefully reading the instructions in the installation manual and programming manual.

Once the mechanical installation of the control unit is complete, perform the following steps:

- Check the correct wiring of the detection line with a multimeter (refer to chapter Test Procedure for Analogue System Lines in this manual).
- Connect the detection lines to the control unit.
- Connect the main alarm siren (equipped with a 47 KW ¼ W balancing resistor) to terminals CNU-xx and xx.
- To correctly size the batteries to be used, check the autonomy that the system must guarantee in the event of a 230 Vac mains failure.

Connect the control unit to the 230 Vac mains using a three-core cable: phase, earth, neutral (the earth cable must be longer than the phase and neutral ones) on terminal block CN1 (earth connection is compulsory) and must be fixed to the cabinet using a cable fixing device so that it cannot be accidentally torn off.

**The power supply connection must be made through the following steps:**

- Switch off the main switch of the 230 Vac mains system supplying the control unit.
- Disconnect the 'CN1 AW80-PPx' terminal block from the control unit.
- Connect the 230 Vac mains to the "CN1 AW80-PPx" terminal block.
- Connect terminal block 'CN1 AW80-PPx' to the control unit.
- Switch on the 230 Vac mains switch.
- Install and connect the batteries as indicated in this manual.

When the control unit is powered, check the following conditions on the front panel:

- **Green LED " VOLTAGE PRESENT "** = lit
- **Yellow LED " FAULTS "** = flashing
- Buzzer = continuous sound

By pressing the "**SILENCE BUZZER**" button, the acoustic signal will cease and the display will show the following fault indication "CENTRAL POWER ON".

Pressing the '**RESET**' button will prompt the display to enter the level 2 password [default = 22222].

Enter the password and check the following conditions:

- **Green "VOLTAGE PRESENT" LED** = lit
- **Yellow 'FAULTS' LED** = off
- No fault signal present on the display

To programme the control unit, refer to chapter "**RECOMMENDED SEQUENCE FOR PROGRAMMING THE CONTROL UNIT**". in the Programming Manual.

## 19. PERIODIC SYSTEM MAINTENANCE

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- Check that the **green** 'PRESENT VOLTAGE' LED is lit.
- Check that all other LEDs in the control centre are off.
- Press the 'TEST' function key and enter the level 2 password to access the menu.
- Use the arrow keys **▲ ▼** to select 'LED' (lamp test function) and press the enter key **✔** to carry out the test, check that all light indications light up for a few moments.

1. Disconnect the 230Vac power supply from the control unit and check the following conditions:

- The display shows " **NO NETWORK** ".
- **Yellow LED** " **FAULTS** " = flashing
- **Green LED** " **VOLTAGE PRESENT**" = lit
- **Yellow LED** " **POWER** " = lit
- General *FAULT* relay active.
- After at least 15 minutes, check the battery voltage.  
If the sum of the two battery voltages is less than 20.5 V, they must be replaced.

2. Connect the 230Vac mains power supply to the control unit via an external disconnection means, press the "**BUZZER**" button and check the following conditions:

- The display indication of " **NO NETWORK** " is not present.
- **Yellow** 'FAULTS' LED = off
- **Green LED** " **VOLTAGE PRESENT**" = off
- **Yellow LED** " **POWER** " = off
- General *FAULT* relay deactivated.

3. Disconnect both batteries; wait (no more than 2-3 minutes) for the control unit to signal:

- The display indication of " **NO BATTERIES** ".
- **Yellow LED** " **FAULTS** " = flashing
- **Green LED** " **VOLTAGE PRESENT**" = lit
- **Yellow LED** " **POWER** " = lit
- General *FAULT* relay active.

Reconnect the batteries and press the " **ALARM/FAIL** " button and check:

- No fault signal present on the display.
- **Yellow** 'FAULTS' LED = off
- **Green LED** " **VOLTAGE PRESENT**" = off
- **Yellow LED** " **POWER** " = off
- General *FAULT* relay not active.

4. Alarm a device in line No. 1 and check the following:

- **Red LED** " **ALARM** " = flashing
- *SIREN* output active.
- Alarm display.

Press the " **SILENCE BUZZER** " button followed by the " **SILENCE ALARMS / FAULTS** " button. The display will prompt you to enter the level 2 password [default = 22222].

Enter the password and check the following

- **Yellow** 'SILENCED SIRENS' LED = off
- **Red LED** " **ALARM** " = lit
- *SIREN* output deactivated.

Press 'RESET'; the display will show the request for password entry level 2 [default = 22222].

Enter the password and check the following conditions:

- **Yellow** 'SILENCED SIRENS' LED = off
- **Red** 'ALARM' LED = off
- *SIREN* output deactivated.
- No alarm signal present on the display.

At the end of maintenance, leave the control unit in an idle state (without alarm and fault signals) and check that the **green** 'PRESENT VOLTAGE' LED is lit.

## 20. LABELS IN DIFFERENT LANGUAGES

In this chapter labels in different languages are shown for the control panel of the MA-x000, which can be printed 1:1.

- Print the labels in their original size, pay attention to the printer settings.
- Be sure to use a color printer to print the labels with all features.
- Carefully cut the labels along their edges as shown in the example.
- Carefully slide the labels into their respective holders and check that they are positioned correctly.

ISO 639-1			
<b>ET-0840 A1-B1-C1</b>	<i>Slovenian 1</i> 	SL	29/03/2022
<b>ET-0840 A2-B2-C2</b>	<i>Serbian 2</i> 	SR	12/04/2022
<b>ET-0840 A3-B3-C3</b>	<i>Croatian 3</i> 	HR	12/04/2022
<b>ET-0840 A4-B4-C4</b>	<i>Greek 4</i> 	EL	29/03/2022
<b>ET-0840 A5-B5-C5</b>	<i>Bulgarian 5</i> 	BG	29/03/2022
<b>ET-0840 A6-B6-C6</b>	<i>Albanian 6</i> 	AL	29/03/2022
<b>ET-0840 A7-B7-C7</b>	<i>Dutch 7</i> 	NL	14/04/2022
<b>ET-0840 A8-B8-C8</b>	<i>Romanian 8</i> 	RO	14/04/2022
<b>ET-0840 A9-B9-C9</b>	<i>German 9</i> 	DE	24/10/2022
<b>ET-0840 A10-B10-C10</b>	<i>Spanish 10</i> 	ES	31/07/2023
<b>ET-0840 A11-B11-C11</b>	<i>Portuguese 11</i> 	PT	31/07/2023
<b>ET-0840 A12-B12-C12</b>	<i>Italian 12</i> 	IT	31/10/2022
<b>ET-0840 A13-B13-C13</b>	<i>Norwegian 13</i> 	NO	28/03/2023
<b>ET-0840 A14-B14-C14</b>	<i>Hebrew 14</i> 	HE	17/05/2023
<b>ET-0840 A15-B15-C15</b>	<i>French 15</i> 	FR	26/06/2023
<b>ET-0840 A16-B16-C16</b>	<i>Swedish 16</i> 	SV	17/10/2023
<b>ET-0840 A17-B17-C17</b>	<i>Danish 17</i> 	DA	24/10/2023

<b>ALARM</b>	<b>EN</b>	ET-0797_A_03112020
<b>PREALARM</b>		
REMOTE ALARM ACTIVATED		
SILENCE SOUNDER		
DELAY ACTIVATED		
EVACUATION		
TEST		
POWER		
	<b>EN</b>	
		ET-0797_C 03112020

<b>FAULTS</b>	<b>EN</b>	ET-0797_B_03112020
SYSTEM		
POWER SUPPLY		
EARTH FAULT		
<b>DISABLEMENTS</b>		
SOUNDER		
FAULT TRANSMISSION		
ALARM TRANSMISSION		
EXTINGUISHING		
	<b>EN</b>	
		ET-0797_B 03112020



English



Italian 12



> Cut  
2 x 32x146 mm  
1 x 10x190 mm

<b>ALLARME</b>	<b>IT</b>	ET-0840_A12_31102022
<b>PREALLARME</b>		
ALLARME REMOTO ATTIVO		
SIRENE TACITATE		
RITARDI ATTIVI		
EVACUAZIONE		
TEST		
TENSIONE PRESENTE		
	<b>IT</b>	
		ET-0840_A12 31102022

<b>GUASTI</b>	<b>IT</b>	ET-0840_B12_31102022
SISTEMA		
ALIMENTAZIONI		
DISPERSIONE A TERRA		
<b>ESCLUSIONI</b>		
SIRENA		
TRASMISSIONE GUASTI		
TRASMISSIONE ALLARMI		
COMANDO ANTINCENDIO		
	<b>IT</b>	
		ET-0840_B12 31102022

<b>EN</b>	EVACUATION	SILENCE BUZZER	SILENCE RESOUND	RESET
<b>IT</b>	EVACUAZIONE	AZZERA RITARDO	TACITAZIONE CICALINO	RESET
<b>ET-0797 C</b>				<b>ET-0840 C12</b>
				RESET

ET-0840\_C12  
31102022

ET-0840 A1		ET-0840 B1		ET-0840 A2		ET-0840 B2	
<b>ALARM</b>	<b>ALARM</b>	<b>NAPAKE</b>	<b>ALARM</b>	<b>ALARM</b>	<b>ALARM</b>	<b>KVAROVI</b>	<b>KVAROVI</b>
<b>PREDALARM</b>	<b>PREDALARM</b>	<b>PREDALARM</b>	<b>PREDALARM</b>	<b>PREDALARM</b>	<b>PREDALARM</b>	<b>PREDALARM</b>	<b>PREDALARM</b>
ALARMNA DALJAVO AKTIVIRAN	DALJINSKI ALARM UKLJUČEN	NAPAJANJE	DALJINSKI ALARM UKLJUČEN	UTIŠANJE ZVOKA	UTIŠANJE ZVOKA	NAPAJANJE	NAPAJANJE
UTIŠAJ ZVOČNO NAPRAVO	UTIŠAJ ZVOČNIK	NAPAKA OZEMLJITVE	UTIŠAJ ZVOČNIK	AKTIVIRANA ODGODA	AKTIVIRANA ODGODA	GREŠKA UZEMLJENJA	GREŠKA UZEMLJENJA
ZAKASNITEV AKTIVIRANA	AKTIVIRANA ODGODA	<b>ONEMOGOČITVE</b>	<b>ONEMOGOČENJA</b>	EVAKUACIJA	EVAKUACIJA	<b>ONEMOGOČENJA</b>	<b>ONEMOGOČENJA</b>
EVAKUACIJA	EVAKUACIJA	ZVOČNA NAPRAVA	ZVOČNIK	PRENOS NAPAKE	PRENOS KVARA	ZVOČNIK	ZVOČNIK
TEST	TEST	PRENOS NAPAKE	PRENOS KVARA	PRENOS ALARMA	PRENOS ALARMA	PRENOS KVARA	PRENOS KVARA
VKLOP/IZKLOP	VKLOP/IZKLOP	GAŠENJE	GAŠENJE	GAŠENJE	GAŠENJE	PRENOS ALARMA	PRENOS ALARMA
SL	SL	SL	SR	SR	SR	GAŠENJE POŽARA	GAŠENJE POŽARA
ET-0840_A1 29032022	ET-0840_A1 29032022	ET-0840_B1 29032022	ET-0840_A2 12042022	ET-0840_A2 12042022	ET-0840_B2 12042022		
ET-0840_C1	ET-0840_C1	ET-0840_C1	ET-0840_C2	ET-0840_C2	ET-0840_C2		
SL	SL	SL	SR	SR	SR		
EVAKUACIJA	EVAKUACIJA	EVAKUACIJA	EVAKUACIJA	EVAKUACIJA	EVAKUACIJA		
PREKINI ZAKASNITEV	PREKINI ZAKASNITEV	PREKINI ZAKASNITEV	PREKINI ZAKASNITEV	PREKINI ZAKASNITEV	PREKINI ZAKASNITEV		
UTIŠANJE BREŃALO	UTIŠANJE BREŃALO	UTIŠANJE BREŃALO	UTIŠANJE BREŃALO	UTIŠANJE BREŃALO	UTIŠANJE BREŃALO		
UTIŠANJE ZVOKA	UTIŠANJE ZVOKA	UTIŠANJE ZVOKA	UTIŠANJE ZVOKA	UTIŠANJE ZVOKA	UTIŠANJE ZVOKA		
PONASTAVITEV	PONASTAVITEV	PONASTAVITEV	PONASTAVITEV	PONASTAVITEV	PONASTAVITEV		
ZUJALICA TIŠINE	ZUJALICA TIŠINE	ZUJALICA TIŠINE	ZUJALICA TIŠINE	ZUJALICA TIŠINE	ZUJALICA TIŠINE		
ODGODA KRAJA	ODGODA KRAJA	ODGODA KRAJA	ODGODA KRAJA	ODGODA KRAJA	ODGODA KRAJA		
REAKTIVACIJA SIRENA	REAKTIVACIJA SIRENA	REAKTIVACIJA SIRENA	REAKTIVACIJA SIRENA	REAKTIVACIJA SIRENA	REAKTIVACIJA SIRENA		
PONIŠTI	PONIŠTI	PONIŠTI	PONIŠTI	PONIŠTI	PONIŠTI		



Slovenian 1



Serbian 2




> Cut  
2 x 32x146 mm  
1 x 10x190 mm

<b>ALARM</b>	<b>ALARM</b>	<b>HR</b>	ET-0840_A3 12042022
<b>PREDALARM</b>	DALJINSKI ALARM UKLJUČEN	<b>HR</b>	ET-0840_C3 12042022
	UTIŠAJ SIRENU		
	AKTIVIRANA ODGODA		
	EVAKUACIJA		
	TEST		
	NAPAJANJE		

<b>GREŠKE</b>	<b>GREŠKE</b>	<b>HR</b>	ET-0840_B3 12042022
	SUSTAV		
	NAPAJANJE		
	GREŠKA UZEMLJENJA		
<b>ONEMOGUĆENJA</b>	<b>ONEMOGUĆENJA</b>		
	ZVUČNIK		
	PRIJENOS GREŠKE		
	PRIJENOS ALARMA		
	GAŠENJE POŽARA		

<b>ΣΥΝΑΓΕΡΜΟΣ</b>	<b>ΣΥΝΑΓΕΡΜΟΣ</b>	<b>EL</b>	ET-0840_A4 29032022
<b>ΠΡΟΣΥΝΑΓΕΡΜΟΣ</b>	ΑΠΟΜΑΚΡΥΣΜΕΝΟΣ ΣΥΝΑΓΕΡΜΟΣ ΕΝΕΡΓΟΠΟΙΗΜΕΝΟΣ		
	ΗΧΗΤΙΚΟΣ ΤΟΝΟΣ ΣΙΓΓΑΣΗΣ		
	ΚΑΘΥΣΤΕΡΗΣΗ ΕΝΕΡΓΟΠΟΙΗΜΕΝΗ		
	ΕΚΚΕΝΩΣΗ		
	ΔΟΚΙΜΗ		
	ΙΣΧΥΣ		

<b>ΣΦΑΛΜΑΤΑ</b>	<b>ΣΦΑΛΜΑΤΑ</b>	<b>EL</b>	ET-0840_B4 29032022
	ΣΥΣΤΗΜΑ		
	ΤΡΟΦΟΔΟΣΙΑ		
	ΣΦΑΛΜΑΤΕΙΩΣΗΣ		
<b>ΑΠΕΝΕΡΓΟΠΟΙΗΣΕΙΣ</b>	<b>ΑΠΕΝΕΡΓΟΠΟΙΗΣΕΙΣ</b>		
	ΗΧΗΤΙΚΟΣ ΤΟΝΟΣ		
	ΣΦΑΛΜΑ ΜΕΤΑΔΟΣΗΣ		
	ΣΥΝΑΓΕΡΜΟΣ ΜΕΤΑΔΟΣΗΣ		
	ΚΑΤΑΣΒΕΣΗ		



Croatian 3



Greek 4



> Cut  
2 x 32x146 mm  
1 x 10x190 mm

<b>HR</b>	EVAKUACIJA	ODGODA KRAJA	REAKTIVIRANJE SIRENA	RONIŠTI
<b>EL</b>	ΕΚΚΕΝΩΣΗ	ΛΗΞΗ ΚΑΘΥΣΤΕΡΗΣΗΣ	ΜΠΑΖΕΡ ΣΙΓΓΑΣΗΣ	ΑΝΤΗΧΗΣΗ ΣΙΓΓΑΣΗΣ
<b>ET-0840 C3</b>			<b>ET-0840 C4</b>	ΕΠΑΝΑΦΟΡΑ

<b>АЛАРМА</b>	<b>АЛАРМА</b>	<b>АЛАРМА</b>
ПРЕДВ. АЛАРМА	ПРЕДВ. АЛАРМА	ПРЕДВ. АЛАРМА
АКТИВИРАНА ДИСТ. АЛАРМА	АКТИВИРАНА ДИСТ. АЛАРМА	АКТИВИРАНА ДИСТ. АЛАРМА
ЗАГЛУШЕНА СИРЕНА	ЗАГЛУШЕНА СИРЕНА	ЗАГЛУШЕНА СИРЕНА
АКТИВИРАНО ЗАКЪСНЕНИЕ	АКТИВИРАНО ЗАКЪСНЕНИЕ	АКТИВИРАНО ЗАКЪСНЕНИЕ
ЕВАКУАЦИЯ	ЕВАКУАЦИЯ	ЕВАКУАЦИЯ
ТЕСТ	ТЕСТ	ТЕСТ
ЗАХРАНВАНЕ	ЗАХРАНВАНЕ	ЗАХРАНВАНЕ
<b>BG</b>	<b>BG</b>	<b>BG</b>
ET-0840_A5 29032022	ET-0840_A5 29032022	ET-0840_A5 29032022

<b>ПОВРЕДИ</b>	<b>ПОВРЕДИ</b>	<b>ПОВРЕДИ</b>
СИСТЕМА	СИСТЕМА	СИСТЕМА
ЗАХРАНВАНЕ	ЗАХРАНВАНЕ	ЗАХРАНВАНЕ
ПОВРЕДА ЗАЗЕМЯВАНЕ	ПОВРЕДА ЗАЗЕМЯВАНЕ	ПОВРЕДА ЗАЗЕМЯВАНЕ
<b>ИЗКЛЮЧВАНИЯ</b>	<b>ИЗКЛЮЧВАНИЯ</b>	<b>ИЗКЛЮЧВАНИЯ</b>
СИРЕНА	СИРЕНА	СИРЕНА
ИЗПРАЩАНЕ ПОВРЕДА	ИЗПРАЩАНЕ ПОВРЕДА	ИЗПРАЩАНЕ ПОВРЕДА
ИЗПРАЩАНЕ АЛАРМА	ИЗПРАЩАНЕ АЛАРМА	ИЗПРАЩАНЕ АЛАРМА
ПОЖАРОГАСЕНЕ	ПОЖАРОГАСЕНЕ	ПОЖАРОГАСЕНЕ
<b>BG</b>	<b>BG</b>	<b>BG</b>
ET-0840_B5 29032022	ET-0840_B5 29032022	ET-0840_B5 29032022



Bulgarian 5



Albanian 6



> Cut  
2 x 32x146 mm  
1 x 10x190 mm

<b>АЛАРМ</b>	<b>АЛАРМ</b>	<b>АЛАРМ</b>
ПАРА АЛАРМ	ПАРА АЛАРМ	ПАРА АЛАРМ
АКТИВИЗИМОНГА ДИСТАНЦА Т АЛАРМИТ	АКТИВИЗИМОНГА ДИСТАНЦА Т АЛАРМИТ	АКТИВИЗИМОНГА ДИСТАНЦА Т АЛАРМИТ
ПУШИМ СИРЕНЕ	ПУШИМ СИРЕНЕ	ПУШИМ СИРЕНЕ
АКТИВИЗИМ МЕВОНЕСЕ	АКТИВИЗИМ МЕВОНЕСЕ	АКТИВИЗИМ МЕВОНЕСЕ
ЕВАКУИМ	ЕВАКУИМ	ЕВАКУИМ
ТЕСТ	ТЕСТ	ТЕСТ
ТЕНСИОНИ ПРЕЗЕНТ	ТЕНСИОНИ ПРЕЗЕНТ	ТЕНСИОНИ ПРЕЗЕНТ
<b>AL</b>	<b>AL</b>	<b>AL</b>
ET-0840_A6 29032022	ET-0840_A6 29032022	ET-0840_A6 29032022

<b>ДЕФЕКТЕ</b>	<b>ДЕФЕКТЕ</b>	<b>ДЕФЕКТЕ</b>
СИСТЕМИ	СИСТЕМИ	СИСТЕМИ
БЛЛОКУ И УШИГИМИТ	БЛЛОКУ И УШИГИМИТ	БЛЛОКУ И УШИГИМИТ
ДЕФЕКТОКЕЗИМИ	ДЕФЕКТОКЕЗИМИ	ДЕФЕКТОКЕЗИМИ
<b>С'АКТИВИЗИМЕ</b>	<b>С'АКТИВИЗИМЕ</b>	<b>С'АКТИВИЗИМЕ</b>
СИРЕНА	СИРЕНА	СИРЕНА
ТРАНСМЕТИМ ДЕФЕКТЕШ	ТРАНСМЕТИМ ДЕФЕКТЕШ	ТРАНСМЕТИМ ДЕФЕКТЕШ
ТРАНСМЕТИМ АЛАРМЕСИ	ТРАНСМЕТИМ АЛАРМЕСИ	ТРАНСМЕТИМ АЛАРМЕСИ
ЕХТИНГУИШИНГ	ЕХТИНГУИШИНГ	ЕХТИНГУИШИНГ
<b>AL</b>	<b>AL</b>	<b>AL</b>
ET-0840_B6 29032022	ET-0840_B6 29032022	ET-0840_B6 29032022

ET-0840\_C5 29032022

ET-0840 C5

ET-0840\_C5 29032022

**BG**

ЕВАКУАЦИЯ

КРАЙНА ЗАКЪСНЕНИЕ

ЗАГЛУШАВАНЕ ЗУМЕР

ЗАГЛУШАВАНЕ СИРЕНА

РЕСЕТ

ПУШИМ И СИРЕНЕС

ПУШИМ ИЗ И С И Р Е Н Е С

РЕСЕТ

ПУШИМ И СИРЕНЕС

РЕСЕТ

ET-0840 C6



<b>ALARM</b>	
<b>VORALARM</b>	
ABGES. ALARM AKTIV	
AKUSTIKAB	
VERZÖGERUNG LÄUFT	
EVAKUIERUNG	
TEST	
BETRIEB	
<b>DE</b>	

ET-0840\_A9 24102022

ET-0840\_C9  
24102022

<b>STÖRUNGEN</b>	
SYSTEM	
ENERGIEVERS.	
ERDSCHLUSS	
<b>ABSCHALT.</b>	
AKUSTIK	
STÖRUNGS- ÜBERTRAGUNG	
ALARM- ÜBERTRAGUNG	
LÖSCHANLAGE	
<b>DE</b>	


ET-0840\_B9 24102022

<b>ALARMA</b>	
<b>PREALARMA</b>	
ALARMA REMOTA ACTIVA	
SILENCIAR SIRENAS	
RETARDOS ACTIVOS	
EVACUACIÓN	
PRUEBA	
ALIMENTACIÓN	
<b>ES</b>	

ET-0840\_A10 31072023

<b>AVERÍAS</b>	
AVERÍA SISTEMA	
AVERÍA ALIMENTACIÓN	
AVERÍA TIERRA	
<b>ANULACIÓN</b>	
SIRENA	
TRANSMISIÓN AVERÍAS	
TRANSMISIÓN ALARMAS	
EXTINCIÓN	
<b>ES</b>	

ET-0840\_B10 31072023



German 9



Spanish 10



> Cut  
2 x 32x146 mm  
1 x 10x190 mm

<b>ALARM</b>	
<b>VORALARM</b>	
ABGES. ALARM AKTIV	
AKUSTIKAB	
VERZÖGERUNG LÄUFT	
EVAKUIERUNG	
TEST	
BETRIEB	
<b>DE</b>	

ET-0840\_A9 24102022

ET-0840\_C9  
24102022

<b>STÖRUNGEN</b>	
SYSTEM	
ENERGIEVERS.	
ERDSCHLUSS	
<b>ABSCHALT.</b>	
AKUSTIK	
STÖRUNGS- ÜBERTRAGUNG	
ALARM- ÜBERTRAGUNG	
LÖSCHANLAGE	
<b>DE</b>	

ET-0840\_B9 24102022

<b>ALARMA</b>	
<b>PREALARMA</b>	
ALARMA REMOTA ACTIVA	
SILENCIAR SIRENAS	
RETARDOS ACTIVOS	
EVACUACIÓN	
PRUEBA	
ALIMENTACIÓN	
<b>ES</b>	

ET-0840\_A10 31072023

<b>AVERÍAS</b>	
AVERÍA SISTEMA	
AVERÍA ALIMENTACIÓN	
AVERÍA TIERRA	
<b>ANULACIÓN</b>	
SIRENA	
TRANSMISIÓN AVERÍAS	
TRANSMISIÓN ALARMAS	
EXTINCIÓN	
<b>ES</b>	

ET-0840\_B10 31072023

<b>DE</b>	EVAKUIERUNG	VERZÖGERUNG BEENDET	SUMMER AUS	AKUSTIK AB/AN	RÜCKSETZTEN
<b>ES</b>	EVACUACIÓN	FIN RETARDOS	SILENCIAR ZUMBADOR	SILENC./REACT. SIRENAS	REARME

ET-0840\_C9

ET-0840\_C10

ALARME		Portuguese 11		Norwegian 13		FEIL	
<b>PRÉ-ALARME</b>		Portuguese 11		Norwegian 13		FT-0840 A13	
ALARME REMOTO ACTIVO	AVARIA SISTEMA	AVARIA ALIMENTAÇÃO	AVARIA DE TERRA	FJERNALARM AKTIVERT	ALARMKLOKKER	STRØMFORSYNING	JORDFEIL
SILENCIAR SIRENES	AVARIA DE TERRA	AVARIA DE TERRA	AVARIA DE TERRA	AVSTILL ALARMKLOKKER	AVSTILL ALARMKLOKKER	AVSTILL ALARMKLOKKER	AVSTILL ALARMKLOKKER
ATRASO ACTIVO	<b>ANULADOS</b>	<b>ANULADOS</b>	<b>ANULADOS</b>	FORSINKELSE AKTIVERT	FORSINKELSE AKTIVERT	FORSINKELSE AKTIVERT	FORSINKELSE AKTIVERT
EVACUAÇÃO	SIRENE	SIRENE	SIRENE	EVAKUERING	EVAKUERING	EVAKUERING	EVAKUERING
TESTE	TRANSMISSÃO AVARIAS	TRANSMISSÃO AVARIAS	TRANSMISSÃO AVARIAS	TEST	TEST	TEST	TEST
ALIMENTAÇÃO	TRANSMISSÃO ALARMES	TRANSMISSÃO ALARMES	TRANSMISSÃO ALARMES	DRIFT	DRIFT	DRIFT	DRIFT
PT	EXTINÇÃO	EXTINÇÃO	EXTINÇÃO	NO	NO	NO	NO
ET-0840_A11 31072023	ET-0840_B11 31072023	ET-0840_B11 31072023	ET-0840_B11 31072023	ET-0840_A13 28032023	ET-0840_A13 28032023	ET-0840_B13 28032023	ET-0840_B13 28032023
PT	EVACUAÇÃO	FIM ATRASOS	SILENCIO BESOURO	SILENC./REACT. SIRENES	REARME	ET-0840 C13	ET-0840 C13
ET-0840 C11	NO	EVAKUERING	AVSLUTT FORSINKELSE	AVSTILL PANELSUMMER	AVSTILL PÅSTILL	TILBAKESTILL	TILBAKESTILL



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2 x 32x146 mm  
1 x 10x190 mm

ET-0840 C11  
31072023

ET-0840 C11  
31072023

<b>אזעקה</b>	<b>HE</b>	ET-0840_A14 17052023
<b>קדם אזעקה</b>	<b>HE</b>	ET-0840_A14 17052023
אזעקה מרחוק מופעלת		
השתקת צופר		
השה"ה מופעלת		
פינוי		
בדיקה		
מתח		

<b>תקלות</b>	<b>FR</b>	ET-0840_B14 17052023
מערכת		
ספק כח		
תקלת הארקה		
<b>מגבלות</b>		
צופר		
תקלת שידור		
תקלת אזעקה		
כיבוי		



Hebrew 14



French 15



> Cut  
2 x 32x146 mm  
1 x 10x190 mm

<b>ALARME</b>	<b>FR</b>	ET-0840_A15 26062023
<b>PRE-ALARME</b>		
TRANSMISSION ACTIVEE		
SIRENE ARRETEES		
TEMPORISATION ACTIVE		
EVACUATION		
TEST		
SOUS TENSION		

<b>DEFAULT</b>	<b>FR</b>	ET-0840_B15 26062023
SYSTÈME		
ALIMENTATION		
DEFAULT TERRE		
<b>HORS SERVICE</b>		
SIRENES		
DEFAULT TRANSMISSION		
ALARME TRANSMISSION		
EXTINCTION		

<b>ET-0840 C14</b>	<b>FR</b>	EVACUATION	FIN DELAI	ARRET RONFLEUR	DESACT./ACT. SIRENES	<b>REARMER</b>
<b>ET-0840 C15</b>		פיוני	השתק זמזום	השתק צופר	אתחול	

LARM		LARM		FEL		URKOPPLING		URKOPPLING		FEJL	
<b>VARNING</b>		<b>ALARM</b>		<b>FORVARSEL</b>		<b>ALARM</b>		<b>FORVARSEL</b>		<b>FEJL</b>	
FJÄRRALARM AKTIVERAT		FJERNALARM AKTIVERET		SYSTEMET		FJERNALARM AKTIVERET		FJERNALARM AKTIVERET		SYSTEM	
AVBRYT LARM		AVBRYT LARM		STRÖMFÖRSÖRJNING		STRÖMFÖRSÖRJNING		AFSTIL LYDGIVER		STRÖMFÖRSYNING	
FÖRDRÖJNING AKTIVERAD		FÖRDRÖJNING AKTIVERAD		JORDFEL		JORDFEL		FORSINKELSE AKTIVERET		JORDFEJL	
EVAKUERING		EVAKUERING		<b>URKOPPLING</b>		<b>URKOPPLING</b>		EVAKUERING		<b>UDKOBLING</b>	
TESTA		TESTA		ALARMKLOCKOR		ALARMKLOCKOR		TEST		ALARMGIVER	
DRIFT		DRIFT		ÖVERFÖRINGSFEL		ÖVERFÖRINGSFEL		DRIFT		TRANSMISSIONSFEJL	
SV		SV		LARMÖVERFÖRING		LARMÖVERFÖRING		DA		ALARMÖVERFÖRING	
ET-0840_A16 17102023		ET-0840_A16 17102023		STÄNGERAV		STÄNGERAV		ET-0840_A17 24102023		SLUKNING	
ET-0840_C16 17102023		ET-0840_C16 17102023		EVAKUERING		EVAKUERING		ET-0840_B17 24102023		DA	
SV		SV		EVAKUERING		EVAKUERING		ÅTERSTÄLLA		ET-0840 C17	
ET-0840_C16 17102023		ET-0840_C16 17102023		FÖRDRÖJNING		FÖRDRÖJNING		ANNULLER PANEL BUZZER		ANNULLER/ AKTIVER	
EVAKUERING		EVAKUERING		SLUT		SLUT		ANNULLER PANEL BUZZER		NULSTIL	
EVAKUERING		EVAKUERING		FÖRDRÖJNING		FÖRDRÖJNING		AFSLUT FORSINKELSE		NULSTIL	
EVAKUERING		EVAKUERING		AVBRYT PANEL BUZZER		AVBRYT PANEL BUZZER		ANNULLER PANEL BUZZER		NULSTIL	
EVAKUERING		EVAKUERING		AVBRYT PANEL BUZZER		AVBRYT PANEL BUZZER		ANNULLER PANEL BUZZER		NULSTIL	
EVAKUERING		EVAKUERING		AVBRYT PANEL BUZZER		AVBRYT PANEL BUZZER		ANNULLER PANEL BUZZER		NULSTIL	



Danish 17



Swedish 16



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Morley international offices



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