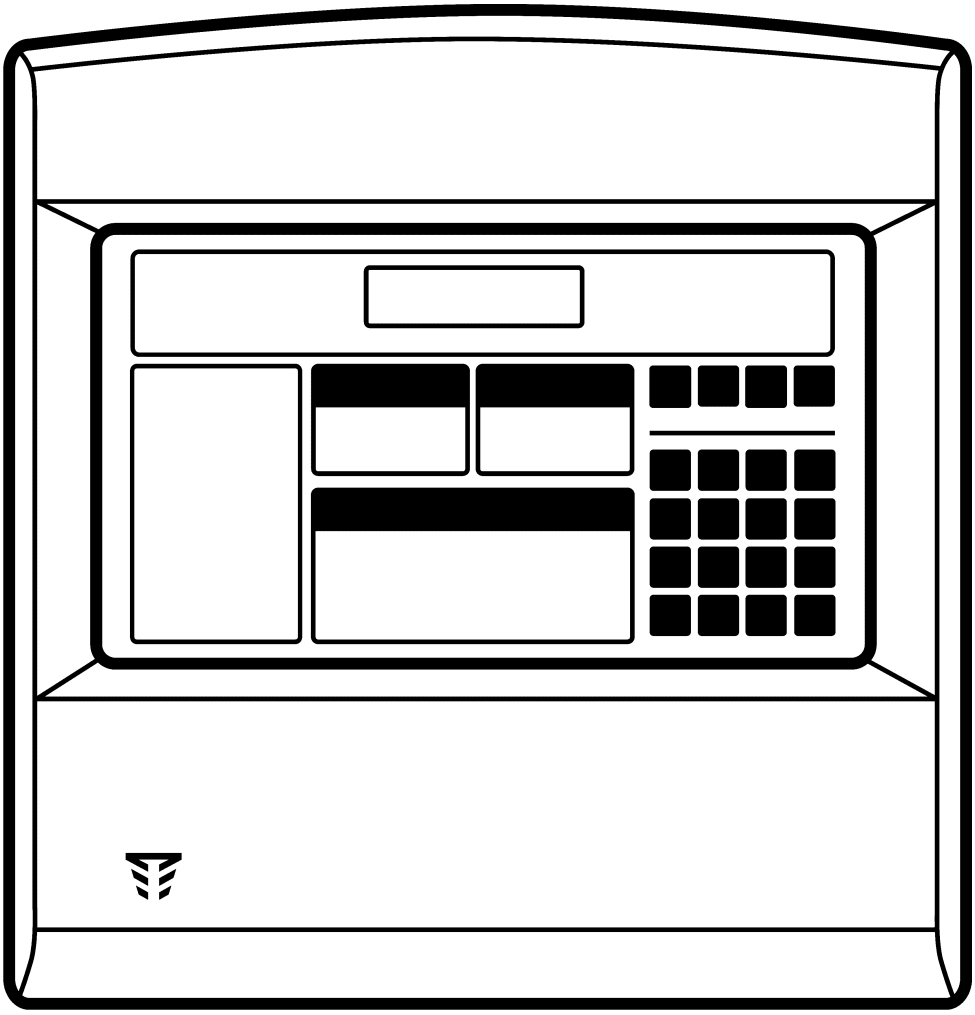
FIRE ALARM SYSTEMS

TIRAS



FACP “TIRAS PRIME 8L”

User Manual AAZCh.425521.014-02 UM

CE

EN 54

ISO 9001:2015

Serial number:

FW version: PRIME8L_1

Thank you for choosing
equipment produced by Tiras-12 Ltd.

Before using the product,
please refer to this document *
and save it to receive
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For more information
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tiras.technology

DOCUMENTS:

User manual

Installation manual

APPLICATIONS:

tLoader (Windows)

tLoader (Android)

* - this manual is intended for built-in firmware PRIME8L_1

Fire Alarm Control Panel “Tiras PRIME 8L” complies with essential requirements of the following European Union Regulations and Directives:

- Construction Products Regulation (EU) No 305/2011;
- Low Voltage Directive 2014/35/EU;
- EMC Directive 2014/30/EU;
- Directive 2011/65/EU (RoHS).

Fire Alarm Control Panel “Tiras PRIME 8L” complies with requirements of the following European Union standards:

- EN 54-2:1997+AC:1999+A1:2006;
- EN 54-4:1997+AC:1999+ A1:2002+A2:2006

The EC Certificate of Constancy of Performance No 1438-CPR-0647 was issued by the CNBOP-PIB Notified Body

CE

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1438
1438-CPR-0647

Fire Alarm Control Panel “Tiras PRIME 8L”

EN 54-2:1997+AC:1999+A1:2006;
EN 54-4:1997+AC:1999+ A1:2002+A2:2006

Main provided functions:

- Output to fire alarm devices
- Alarm transmission routing equipment
- Fault warning routing equipment
- Total loss of the power supply
- Dependencies on more than one alarm signal
- Delay to outputs

Information about additional functions, inputs and outputs specified in this manual.

The full text of the declarations of conformity to technical regulations and certificates are available on the website at the following address: tiras.technology.

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This manual contains a description, operating rules and passport data of the fire alarm control panel (further – FACP) – Tiras PRIME 8L.

FACP meets the mandatory requirements of EN54-2, as well as the following optional ones: outputs to fire alarm devices, output to alarm transmission routing equipment, output to fault warning routing equipment, delays of outputs, dependencies in zones. FACP contains a built-in power supply unit (further – PS), meeting the requirements of EN54-4.

In order to avoid possible errors in operation and damage of the equipment, it is necessary to read carefully this manual and installation manual (AAZCH.425521.014-02 IM) before using control panel.

1 Abbreviations

The following abbreviations are used in this document:

FACP	– fire alarm control panel;
FARS	– fire alarm receiving station;
PC	– personal computer;
ATS	– alarm transmission system;
SC	– short circuit;
PS	– power supply;
IM	– Installation Manual for FACP (tiras.technology)

2 Terms and definitions

Fire Alarm System (FAS) – group of components installed in the system of the definite configuration, which is capable of detecting and indicating fire and of signaling to take the appropriate measures;

Detector – FAS component containing at least one sensor that permanently or periodically monitors at least one physical and / or chemical phenomenon associated with fire at a low interval of time and produces at least one corresponding signal to FACP;

Fire Alarm Device (Siren, Sounder) – sound or light and sound device designed to alert people on the need to evacuate from areas with a fire detected;

Zone – certain part of protected premises, in which one or more components are installed and for which a general status indication is provided;

Verification (Dependence) – software function, used to confirm the triggering of detector by checking that it is re-triggered by automatic reset or expecting the triggering of two detectors in one or more detection circuits or zones;

Communicator – device, intended for transmitting messages to FARS;

Expansion Module – device, designed to increase the number of zones and (or) outputs.

3 Function and structure of the FACP

The FACP is designed to:

- Control the state of fire detectors;
- Control the sounders;
- Control the external devices;
- Control the state of external devices;

The FACP is the basis for constructing FAS to which you can add:

- Module for expansion the number of zones **M-Z(f).** *Is installed on FACP board;*
- **Relay module** for 4 relays **M-OUT4R.** *Is installed on FACP board;*

4 General information

Features of the FACP:

- **8 zones** (expanded up to 20 zones with M-Z(f) module);
- Up to **32 detectors** in each zone;
- **Verification** in one or more zones;
- 2 controlled **outputs for sounders**;
- **Fire** and **Fault** outputs;
- **2 programmable relay outputs;**
- Controlled **power supplies + 24V;**
- **LCD display** with backlit;
- **Day-Night mode** for controlling delayed activation of outputs;
- Programming **scripts** for inputs and outputs;
- **Settings** with PC or Android device (via USB);
- **Non-volatile** clock and event log for 1000 events;
- Alternative power supply – 2 batteries, with the capacity of 7 Ah;
- **Intelligent** charging device with battery capacity control;
- **Powerful pulse power supply** 24V/2A.

5 Specifications

Table 5.1 – Features of the FACP

Parameter name	Value
Main power supply: AC power voltage, V	230, +10%, -15%
Main power supply: AC power frequency, Hz	50±1
Maximum consumption current from main power supply, A	0.27
Maximum power consumption from main power supply, VA	60
Alternative power supply: two sealed lead-acid batteries with the voltage of, V (each)	12
Alternative power supply: two sealed lead-acid batteries with the capacity of, Ah (each)	7
Maximum charging current of battery, mA	500
Maximum permissible internal resistance of battery cells and their connection circuits, R_{imax}[1], Ohms	1.0
Output voltage U_{PS}, V	19 - 29
Ripple of the output voltage U_{PS}, mV, max.	400
Minimum current consumption from the U_{PS} in Quiescent condition, Imin[1], A	0.08
Minimum current consumption from U_{PS} in Fire condition, A	0.11
Maximum long-term current consumption from U_{PS} with maximum loads, Imax_a[1], A	0.91
Minimum current consumption from battery in Quiescent condition (without display backlighting, for calculation of backup power supply), A	0.075
Maximum load current of +24V outputs (each), mA	400
Dimensions (W x H x D), mm	350 x 370 x 96

Net weight (without battery), kg, max.	2.5
Average time to failure, hours, min.	40000
Average lifetime, min.	10
Enclosure protection degree (IEC 60529)	IP30
Inputs and outputs	
Number of zones (base/extension), pcs	8/20
Number of detectors in each zone, pcs, max.	32
Voltage in zone in Quiescent condition, V	18 - 21
Current in zone in Quiescent condition, mA	3.0 – 5.5
Maximum current in zone (SC), mA	43 ± 3
Resistance of leakage in zone (between each wire and ground), kOhms, not less than	50
Resistance of detection circuits (zones), Ohms, max.	250
Resistance of the terminal resistor, kOhms	6.8 ± 1% (3.9 ± 1%)[2]
Resistance of the terminal resistor of the system bus, Ohms	120
Switching current of S1+ and S2+ outputs, A, max.	3
Switching voltage of S1+ and S2+ outputs, V, max.	24
Switching current of relays REL1 and REL2, A, max.	3
Switching voltage of relay contacts REL1 and REL2, V, max. - direct current - alternating current	 24 120
Switching current of outputs FT and AL, mA, no more than	100
Fuses	
AC[3], A	3.15, fusible
Battery[3], A	1.85, resettable
Additional loads, outputs +24V, A	2 x 0.5, resettable
Fire and Fault outputs, A	0.5, resettable
Power supply of communicator, A	0.2, resettable
Time characteristics	
Zone reaction time to alarm (fault), sec, max.	10
Time to defect faults (except zones), sec, max.	100
Time to detect the capacity of battery (low capacity), min, max.	15
Time to detect the absence of battery, min, max.	2
Cross-section of wires[4] allowed for clamping in terminals, mm^2	0.22 – 1.5

[1]-according to EN54-4

[2]-using terminating resistors 3.9 kOhms, the consumption of the FACP in all conditions increase by 25 mA.

[3]- accessible only from 3rd access level.

[4]- cross-section of wires is indicated for copper multi-conductor wires.

6 Safety requirements

	**All connections must be carried out with disconnected all power supplies of FACP: main (230 V AC) and alternative (batteries).**

	**Caution!** Printed circuit boards of the FACP and modules contains static-sensitive components. To avoid damage to sensitive components before handling any boards you should discharge static electricity in your body by touching ground.
	**Caution!** Installing and removing modules should be carried out with disconnected power sources (AC and DC) to avoid damaging of main board and modules.

6.1 Installation, uninstallation, operation and maintenance of the FACP shall be carried out by qualified personals in accordance with the electrotechnical regulations and fire safety regulations.

6.2 Installation, uninstallation and maintenance of the FACP must be carried out with the power supply disconnected.

7 Structure and operation

The appearance of the FACP Tiras PRIME 8L is shown in Fig. 1. The appearance with the front cover removed is shown in Fig. 2. The appearance of the housing without the main module is shown in Fig. 3. The view of the main module is shown in Fig. 4 and Fig. 5.



Figure 1 – Appearance of the FACP

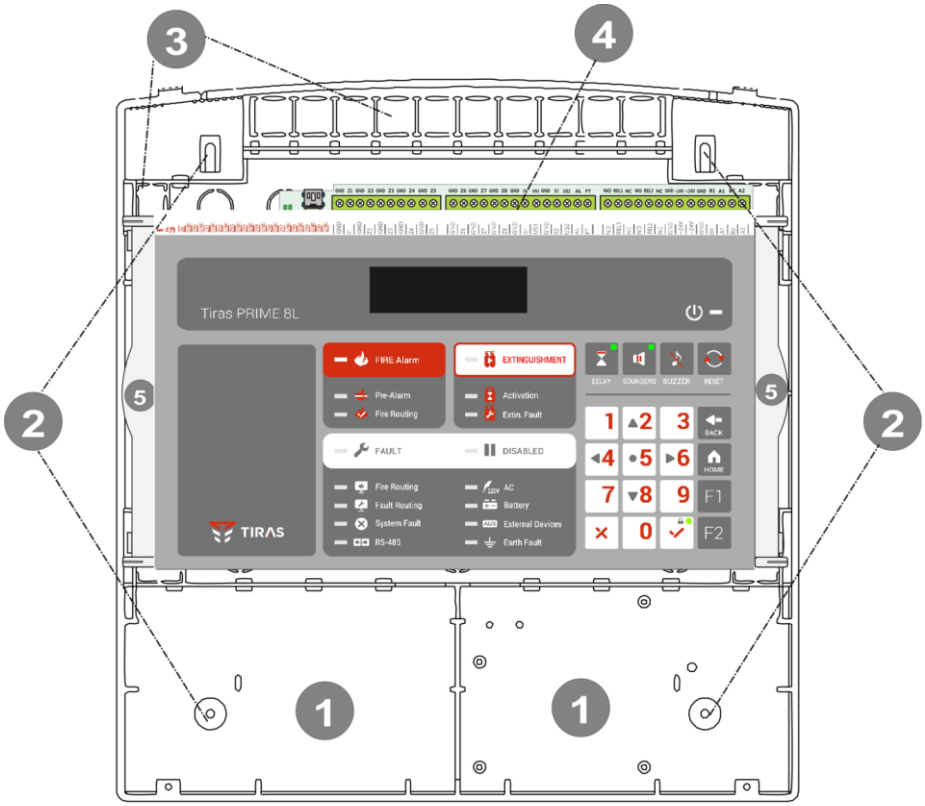


Figure 2 – Appearance of the FACP without front cover:
1. Slot for battery; 2. Holes for mounting and fixing on the wall (see IM);
3. Holes for wiring; 4. Main module (control and indication panel with connection terminals); 5. Holes for fixing main module with self-tapping screw (after installation is complete).

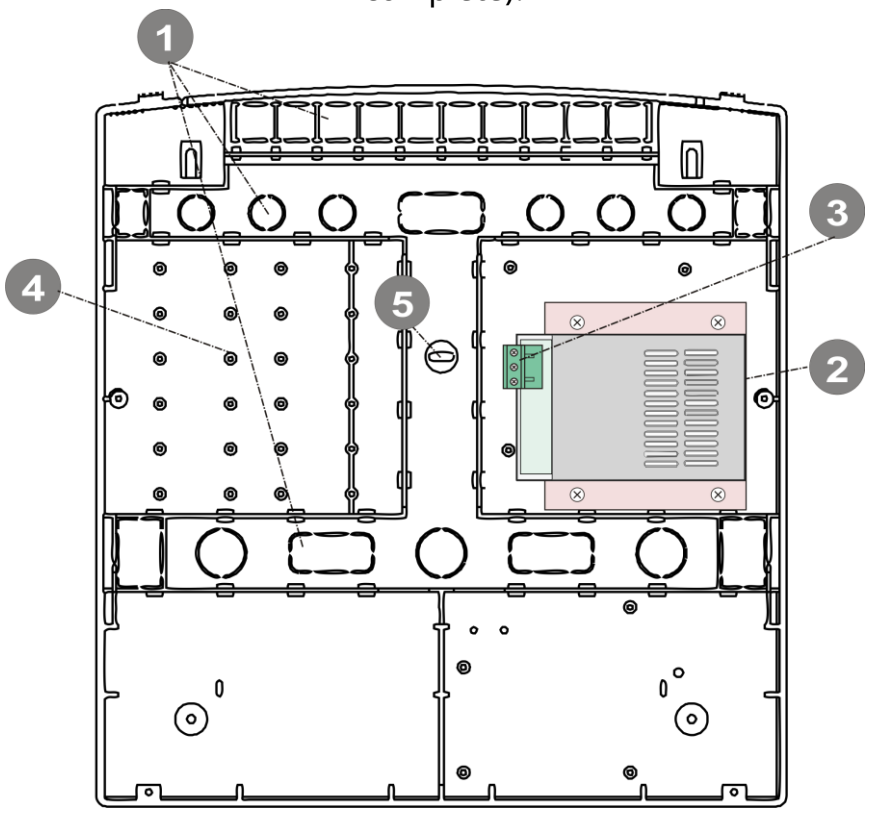


Figure 3 – Appearance of the housing without main module of the FACP:
1. Holes for wiring; 2. Main supply unit; 3. Terminals for connection to power supply 230V;
4. Slot for installation of additional modules; 5. Additional hole for fixing on the wall.

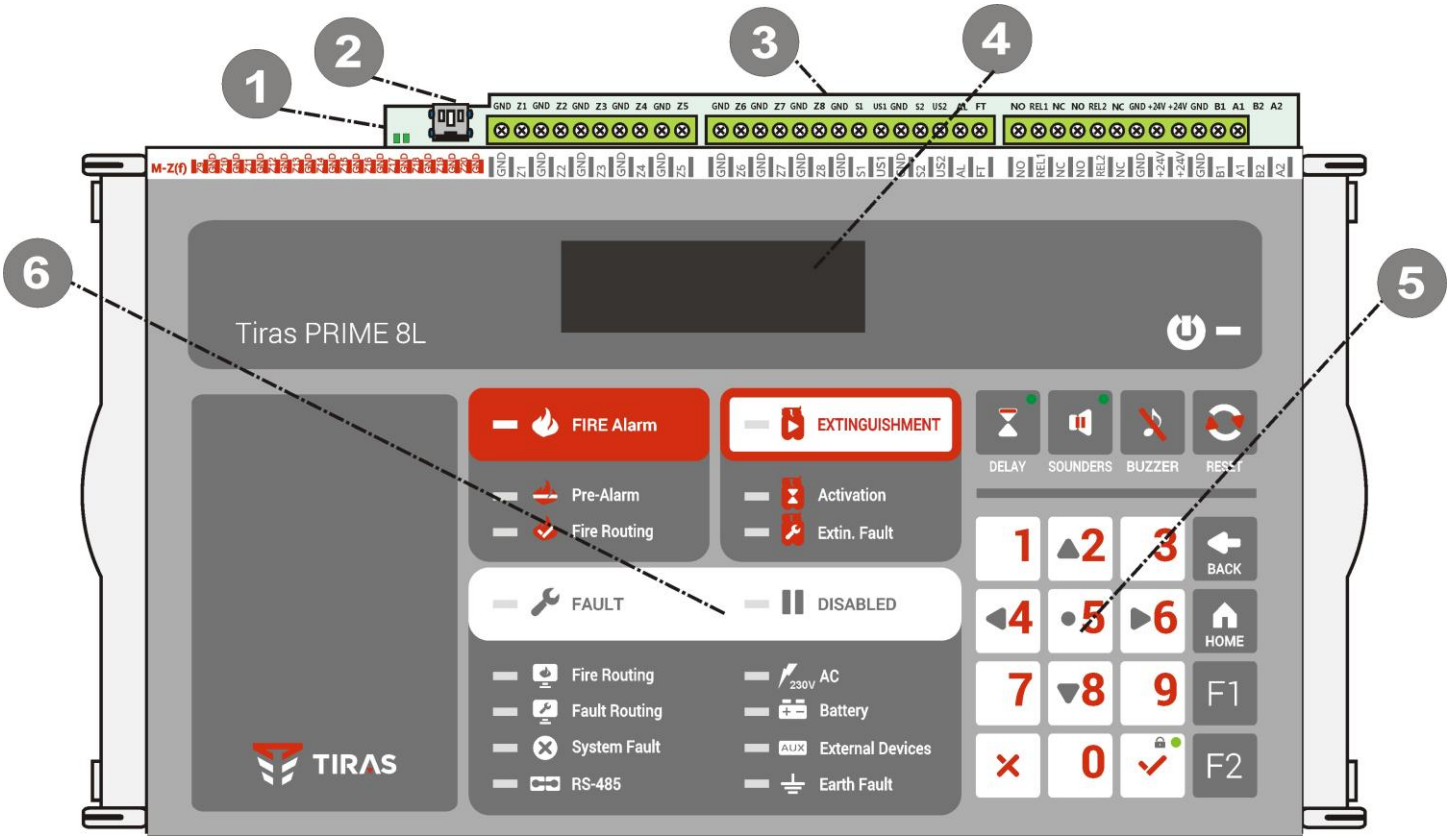


Figure 4 – Main module with control and indication panel:
1. Indicators LED1 and LED2 (see details in IM); 2. miniUSB socket; 3. Terminals for connection (description is given in table 7.1); 4. Display; 5. Keypad; 6. LED indicators.

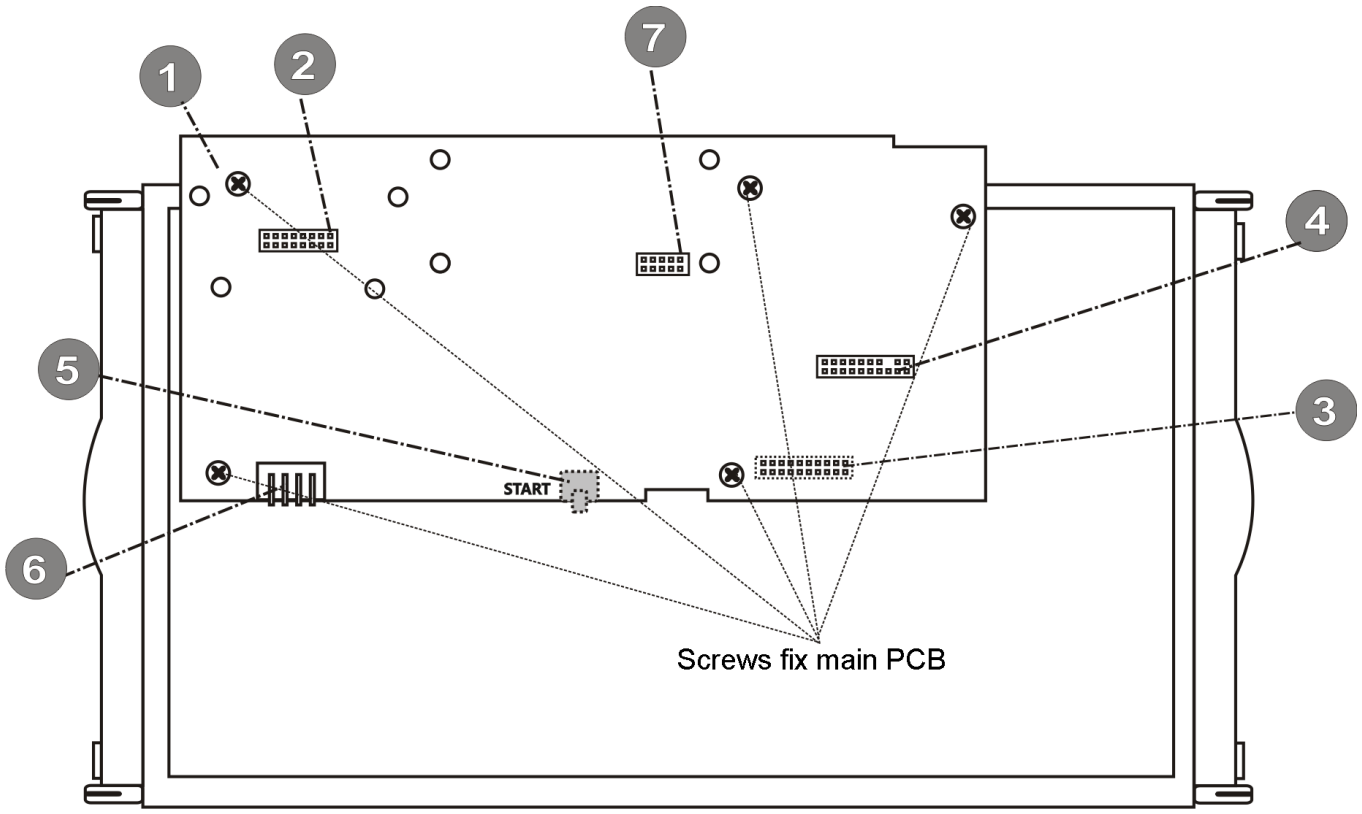


Figure 5 – Rear side of the main module:
1. Main PCB; 2. Connector for M-OUT4R; 3. Indication board connector;
4. Communicator connector; 5. “START” button; 6. PS connector;
7. M-Z(f) connector.

7.1 Terminals for connection of primary module

Table 7.1 – Description of terminals for connection

Terminal	Designation
GND	Logic ground
Z1-Z8	Connection of zones (inputs)
S1, S2	Sounders control outputs
US1, US2	Sounders power supply inputs
FT	Output to fault warning routing equipment
AL	Output to fire alarm routing equipment
REL1, REL2	Programmable relay outputs
NC	Normally closed relay contact
NO	Normally open relay contact
+24V	Power outputs 24V
A1, B1	Terminals for connection of system bus (RS-485)

Wiring scheme is given in Appendix A.

7.2 Operation

7.2.1 Indication

Table 7.2 – The FACP indication

Indicator	Colour	Name	Indication
	Green	Power supply	Lighting – the FACP is powered on
 FIRE Alarm	Red	General fire	Blinking – fire alarm in one or several zones
 Pre-Alarm	Red	Verification in zone (zones)	Blinking – verification in one or several zones
 Fire Routing	Red	Transmission of fire alarm signal/ Checking of transmission	Blinking – fire alarm signal is transmitted to FARS Lighting – received confirmation on transmission of fire signal to FARS
 FAULT	Yellow	General fault indicator	Blinking – fault in at least one of the controlled circuits or functions
 Fire Routing	Yellow	Central monitoring station “Fire” output	Blinking – fault of AL output (Fire) connection circuit or fault of communicator[1] Lighting – AL output and transmission of fire alarm to FARS is disabled
 Fault Routing	Yellow	Central monitoring station “Fault” output	Blinking – fault of FT output (fault) connection circuit or fault of communicator[1] Lighting – FT output and transmission of fire alarm to FARS is disabled
 System Fault	Yellow	System error	Blinking – system (program) error of the FACP

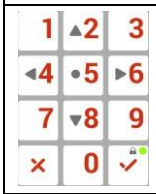
Indicator	Colour	Name	Indication
RS-485	Yellow	System bus	Blinking – fault of system bus
EXTINGUISHMENT	Red	Activation of fire extinguishment[2]	Lighting – fire extinguishment device is in “Extinguishing” mode
Activation	Red	Activation of fire extinguishment delay[2]	Blinking – fire extinguishment device is in “Activation” mode
Extin.Fault	Yellow	Fault of fire extinguishment[2]	Blinking – detected fault in fire extinguishment device
DISABLED	Yellow	General disablement indicator	Lighting – at least one disabling is detected in the system
230V AC	Yellow	Main power supply	Blinking – fault of main power supply – 230V
Battery	Yellow	Backup power supply	Blinking – fault of backup power supply
AUX External Devices	Yellow	Outputs +24V/External devices	Blinking – fault of one of outputs +24V / fault of connection line to zones-inputs
Earth Fault	Yellow	Grounding control	Blinking – fault (missing) protective grounding
	Yellow	Delay	Lighting – delay function is off (or NIGHT mode is activated) Blinking – delay activation
	Yellow	Sounders	Lighting – sounders outputs are off Blinking – fault of at least one of the sounders outputs
	Green	Access	Lighting – access to the 2nd level is completed

[1] – blinking of both indicators "FARS fire" and "FARS fault" indicates a fault of the communicator.
[2] - active with a fire extinguishing device connected.

7.2.2 Controls

Table 7.3 – Controls of the FACP

Button	Function	Required access level (see 7.2.4)
	Disable current delay	1
	Enable / disable delay function	2a
	Enable / disable sounders outputs	2a/2b
	Disable internal buzzer (Silencing)	1

Button	Function	Required access level (see 7.2.4)
	Reset the FACP	2b
	Back (to menu) Select active field on display: (fire - fault - disable)	1
	Main (Go to main menu)	2a/2b
	Function 1 (menu of the 3rd access level)	3
	Function 2 (menu of the 2nd access level)	2a/2b
	Keypad	1
	Deleting	2a/2b/3
	Access	2a/2b/3

7.2.3 The FACP operation modes (conditions)

The FACP can be in one of the following operating modes:

- **Quiescent** – no other conditions, only green indicator lighting, display shows the information on device name and current time
- **Fire** – indicator blinking, zones with fire are showed on display, buzzer is activated;
- **Verification** – indicator blinking, zones with verification are showed on display in **Fire** field. Activation of buzzer. This condition may change to **Fire** only upon confirmation of fire according to special algorithm, which is assigned during programming from the 3rd level of access. If during the programmed time fire is not confirmed, **Verification** condition of the FACP is changed to **Quiescent** condition.
- **Fault** – indicator and indicator of fault zone or circuit blinking, fault function is showed on display, buzzer is activated;
- **Disabled** – indicator lighting, showing disabled circuit. Displays the disabled circuit or zone on display;

- **2nd access level** – indicator on the button lighting. Shows the 2nd access level menu on the display.
- **3rd access level** – no indication, no information on display, used for configuration of the FACP. See the details in the guidance on installation (see IM).

The FACP can be in Fire, Verification, Fault, and Disabled conditions at the same time. The display of the FACP consists of 3 fields – Fire, Fault and Disabled. In case of a fire, the display automatically goes to the Fire field on display. With a large number of fire messages, the messages on fire alarm are always the first in the upper field of the display.

7.2.4 Access levels

The FACP has four access levels: View (the 1st level), Control (the 2nd level), Configuration (the 3rd level), Service (the 4th level).

The following audible indication is possible when working with keypad:

- 1 short beep - character input / button pressing;
- 2 short beeps - confirmation of section input / function selection;
- 3 short beeps - Enter/Exit from the 2nd access level, the FACP start;
- 1 long signal - wrong code or symbol entered / performed reset to factory defaults;

7.2.5 Level 1 (View)

Allows getting the information without any operations and perform the following functions:

- Turn off buzzer (if active) – button .
- Disable delay - button (if Verification condition is active for zone of C-type);
- Switch active display fields (Fig. 2) – button BACK;
- View main menu (information on the FACP) – button HOME



Figure 6 – Example of active display fields (Fire, Fault, Disable).

7.2.6 Level 2 (Control)

Level 2 (**Control**) has 2 sublevels with different permissions:

- Level 2a (**User**)
- Level 2b (**Administrator**)

Access to level 2a and 2b is protected with password.

Factory passwords:

level 2a – **[1];**

level 2b – **[1111].**

On **2a level (User)** one may do the following:

- Enable/disable delay;
- Turn on/off the alert.

On **2b level (Administrator)** one may do the following:

- Enable/disable delay;
- Reset **Fire** condition;
- Enable/Disable sounders outputs.
- View event log;
- Enable/Disable **Fire** and **Fault** outputs and communicator (if both outputs are disabled);
- Enable/disable signaling system for fire extinguishment system (if configured);
- Enable/Disable zones of the FACP and M-Z(f) (if installed);
- Change the names of zones;
- View information about the FACP (version and revision of software, serial number)
- Select interface language;
- Test indication on the FACP;
- Change access codes of level 2 (for existing users)
- Set time and date;
- Export event log to the disk of the FACP;
- Fast restart of the FACP (to go to the access level 3), see detailed information in IM.

7.2.6.1 Operation on the 2nd access level

In order to enter the menu of the access level 2b, press the button 

, enter the access code requested and confirm it, by pressing the button  - LED on the button  is lighted up.

Functions of buttons in different submenus of access level 2b may vary, in such case the current condition of buttons is indicated at the bottom of the display string.

User automatically exits access level in 20 seconds after last pressing of any button.

Reset Fire or Verification condition:

- Press the button , to mute buzzer (if necessary)
- Press the button ;
- Enter access code of the 2nd access level.

The FACP switches to **Quiescent** condition in 10 seconds.

	**You can reset Fire condition only when Fire field is active on display, see sec. 5.1.**

	**You can reset Fault condition the same way as Fire condition. In case of the loss of the main power supply, 230V, fault indication turns off automatically after power is restored.**

Table 7.4 – Menu structure of access level 2b

1: Event log • **Time***: Event* • …
2: Disable outputs • *Output name* **(state)** • …
3: Disable zone • *Zone No.1* **(state)** • …
4: Zones names • **Z1***: Name* • …
5: Day/Night
6: Device info
7: Menu language • **Українська** • **Русский** • **English**
8: Indication test
9: Change password • **No.1 Name** • …
10: Time and date
11: Export event log
12: Restart

1: Event log (Fig. 7):

- Enter menu of access level 2b;
- Select menu “1: Event log” and press •5;
- Use keypad arrows ▼8 and ▲2 to select the message needed, for details, press •5



Figure 7 – Example of indication on the display in the "Event Log" menu and event detailing

2: Disable outputs:

<u>Disable/enable sounders:</u>

- Enter menu of access level 2b;
- Select menu “2: Disable outputs”;
- Using arrows ▼8 and ▲2 on keypad and go to Sounder1 and/or Sounder2 and press to select the state – Dis./En.

When disabled – LED indicator ⏸ lighting as well as that on the button , display shows “Disable sounders” in the **Disable** field.

You can also disable sounders outputs without entering the menu of access level 2b – by pressing button  and entering access code level 2. This disables both Alert outputs of the FACP simultaneously.

Disable/Enable Delay function:

- Enter menu of access level 2b;
- Select menu "2: Disable outputs";
- Using arrows ▼8 and ▲2 on keypad and go to **Delay** and press •5 to select the state – Dis./En.

When the power is switched off, the indicator  lighting, and the display shows a message on delay shutting down the in the Disable field.

When this function is disabled all configured delays for a zone with verification of type C are cancelled (see section 5.3.1).

The delay can also be deactivated without entering the menu by pressing the button  and entering the access code (level 2a or 2b).

Disable/Enable Fire Alarm and Fault outputs or communicator (function of messages sending to monitoring station):

- Enter the menu of access level 2b;
- Select menu "2: Disable outputs";
- Using arrows on keypad ▼8 and ▲2 go to Output AL and Output FT, then press •5 and select state - Dis./En.
- When both outputs are disabled, the function of messages sending to monitoring station (device) is off.

When disabled  and indicators  and/or  light, the display shows the appropriate disabling in **Disable** field.

Disable/Enable signals to fire extinguishment devices:

- Enter menu in access level 2b;
- Select menu "2: Disable outputs";
- Using arrows ▼8 and ▲2 on keypad go to "Ext.REL (x)" (where "x" is an output of the FACP, set to a fire extinguishment mode. In other modes it is not used) and press •5 to select the state – Dis./En.

When disabled – indicator  lighting, the display shows the message in the "Disabling" field.

3: Disable/enable zones:

- Enter menu of access level 2b;
- Select menu "3: Disable zones";
- Using arrows on keypad ▼8 and ▲2 go to zone(s) needed, then press •5 and select the state of zone – Dis./En.

When zone is disabled – indicator ▮▮ lighting, the display shows the current quantity of zones and their numbers.

4: Zone names:

- Select menu “4: Zone name”;
- Using arrows ▼8 and ▲2 on keypad and go to the zone needed and press button •5;
- Using instructions on the display, enter zone name with the help of buttons-arrows on the keypad ▼8, ▲2, ◄4 and •5.

5: <u>Day/Night:</u>

- Enter the access level menu 2b;
- Select menu “5: Day/Night”;
- Using the FACP keypad, select the state – Off/On. Enter the start time – Day and the start time – Night in the format of HH:MM, (where HH are hours, and MM are minutes);
- Press the buttons ✓ and BACK.

6: Info (Fig. 8):

- Enter the access level menu 2b;
- Select menu “5: Information” using button •5.

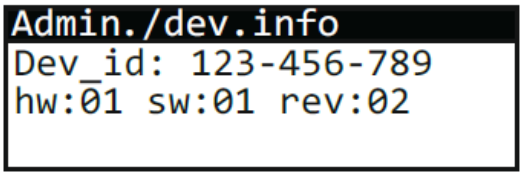


Figure 8 – Example of Indication on display in the FACP info viewing mode

7: Menu language

- Enter menu of access level 2b;
- Select menu “7: Menu language”;
- Select the language you want using buttons ▼8 and ▲2 on the keypad and press •5, the available languages are Ukrainian, Russian and English;
- Confirm, by pressing button •5.

8: <u>Indication test:</u>

- Enter menu of the access level 2;
- Select menu “8: Indication test”;

All the indicators of the FACP and all the fields must light up for up to 3 seconds and all the display fields are filled with black.

9: <u>Change password:</u>

- Enter menu of access level 2b;
- Select menu “9: Change password”;

- Using buttons-arrows on the keypad 8 and 2, select the user, then press button 5;
- Enter new password and press buttons ✓ and BACK.

The maximum length of code is 10 symbols.

10: Time and date:

- Enter menu of access level 2b;
- Select menu "10: Time and date";
- Enter date and time in the following format "*HH:MM DD/MM/YY*", (where *HH* are hours, *MM* are minutes, *DD* are days, *MM* are months, *YY* are years);
- Press buttons ✓ and BACK.

11: Export event log:

- Enter menu of access level 2b;
- Select menu "11: Export event log";
- Confirm export – press button ✓.

After this operation, EXP_LOG.TXT is created on the disk of the FACP, it contains the information similar to that available in "1: Event Log" menu. Access to file is provided at the 3rd access level.

12: Restart:

- Enter menu of access level 2b;
- Select menu "12: Restart";
- Confirm restart – press the button ✓.

This function is used for quick restart of the FACP and/or switching to the 3rd access level (for details – see 5.3).

7.2.7 Level 3 (Configuration)

Configuration is limited with the use of a tool – a screwdriver. Enables to install or replace additional modules and to configure the FACP. The description is given in the installation manual.

7.2.8 Level 4 (Service)

Repair of the FACP and replacement of software and hardware. Access to the 4th level is available with a special instrument and is performed by the manufacturer.

8 Maintenance

8.1 General

1. Using a dry cloth, remove any dust that may have gathered on the FACP enclosure.



Caution! Do not use cleaning agents or solvents!

2. Check the integrity of all wires and connections.

3. Ensure that there are no foreign objects, insects or animals inside the FACP.

8.2 Replacing battery of real time clock

Real-time non-volatile clock is powered by Li-Ion battery (CR2032), its service life is up to 5 years, after that it is recommended to replace the battery:

- Disconnect main and backup power supply of the FACP;
- Disconnect the PS connector (Fig. 5, item 6);
- Disconnect the communicator and M-OUT4R module (if installed);
- Remove the screws for fixing the main board on the main module (Fig. 5);
- Remove the main board from the connector of the display board (Fig. 5, item 3);
- Replace the battery with a new one (XS2 connector, Fig. 9);
- Carry out a reverse procedure for assembling the FACP.

The location of the battery is shown in Fig. 9.

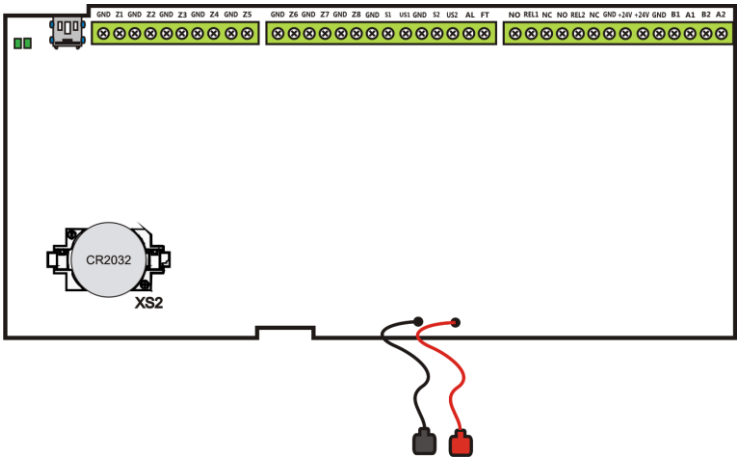


Figure 9 – Location of battery on the main PCB of the FACP

8.3 Battery fuse

The battery connection is protected by a self-recovering fuse, the rated current is 1.85A. This fuse does not require maintenance.

8.4 Main power source fuse

A slow action fusible fuse is installed in the main power supply (Fig. 3), which cannot be independently replaced and not serviced. The access to it is available from the 4th access level. Its fault signals on the need for repair or replace the PS.

9 Package contents

After you unpack the FACP, please check its appearance and make sure there are no mechanical damages, check the completeness, the list of package is presented in Table 9.1.

Table 9.1 – Package contents of the FACP

Name	Marking	Number	Note
FACP	Tiras PRIME 8L	1	
User manual	AAZCH.425521.014-02 UM	1	
Resistor 6.8 kOhm, 1%, 0,5 W		12	
Jumper for batteries		1	
Screws (fixing the module of main PCB)	2.9 x 9.5	2	
Plug		1	
Battery	7 Ah, 12 V	2*	* optional request

M-Z(f)		1*	

10 Manufacturer declarations

Construction of the FACP is designed in accordance with the quality management system that contains a set of design rules for all elements. All the components of the FACP were selected for the purpose and conditions of their use meet the conditions outside the body according to IEC 60721-3-3 Class 3k5.

11 Certificate of acceptance

The FACP meets the technical specifications and requirements of acceptance and is approved as suitable for exploitation.

The serial number and date of production are indicated in the upper right corner of the front of the cover of this manual. The acceptance date is on the title page of this manual.

12 Operation and storage conditions

The FACP is designed for 24h operation in premises with regulated climatic conditions without the direct influence of climatic factors of the environment. The operating temperature range is -5 ...+40ºC, the relative humidity of air has to be not more than 93%.

The storage temperature in warehouses must be within the range -50 ...+40ºC, the relative humidity has to be not more than 98% at the temperature of 25ºC. The air in the premise where the FACP is stored, must not contain aggressive impurities causing corrosion.

Packed the FACPs are transported at the temperature of -50°C ...+50°C, relative humidity of air has to be up to 98% at the temperature of +25°C for any distance by road, rail (in covered vehicles) or by water transport (in ship holds). Transportation must be carried out in accordance with the rules applicable for each type of transport.

Placement and fastening of boxes with packaged products during transportation must ensure their stable position; exclude the possibility of their impacts between each other and the walls of vehicles.

13 Warranty obligations

The FACP repair is carried out by the manufacturer. The FACP is subject to free repair, in case the warranty is not expired, and the device was operated and installed in accordance with this manual and Installer manual. The FACP is sent for repair with a letter, which should include: the nature of the fault, the location of the FACP, and the contact number of repair specialist.

14 Limitation of liability

The manufacturer reserves the right to refuse warranty service of the device in controversial circumstances. The manufacturer also has the right to make a final decision on whether the device is to be serviced under the warranty.

Actions and damages that result in loss of warranty service:

• damage caused by natural phenomena (fire, flood, wind, earthquake, lightning, etc.);

• damage caused by a violation of the installation rules or the provision of improper conditions for the operation of the device, including:

- faulty grounding;
- over-voltage of the power supply;
- high humidity and vibration;

• damage caused by foreign objects entering the device, liquids, insects and others;

• mechanical damage to components of the device;

• damage resulting from unauthorized repair;

• damage caused by violation of the rules of transportation, storage and operation;

• changing, removing, rubbing or damaging the serial number of the device (or labels with serial numbers on the device).

15 Repair

The FACP is repaired by the manufacturer or its authorised representative.

This FACP is repaired for free, in case the warranty period is not expired, it was operation in accordance with this passport.

The FACP is sent for repair, together with a letter, which should include: the description of the malfunction, the place of operation and the contact phone of the person in charge of repair.

16 Disposal

After the expiry of the service life of the FACP and the batteries used for it, their utilization is carried out in accordance with the current legislation, separate from household waste.

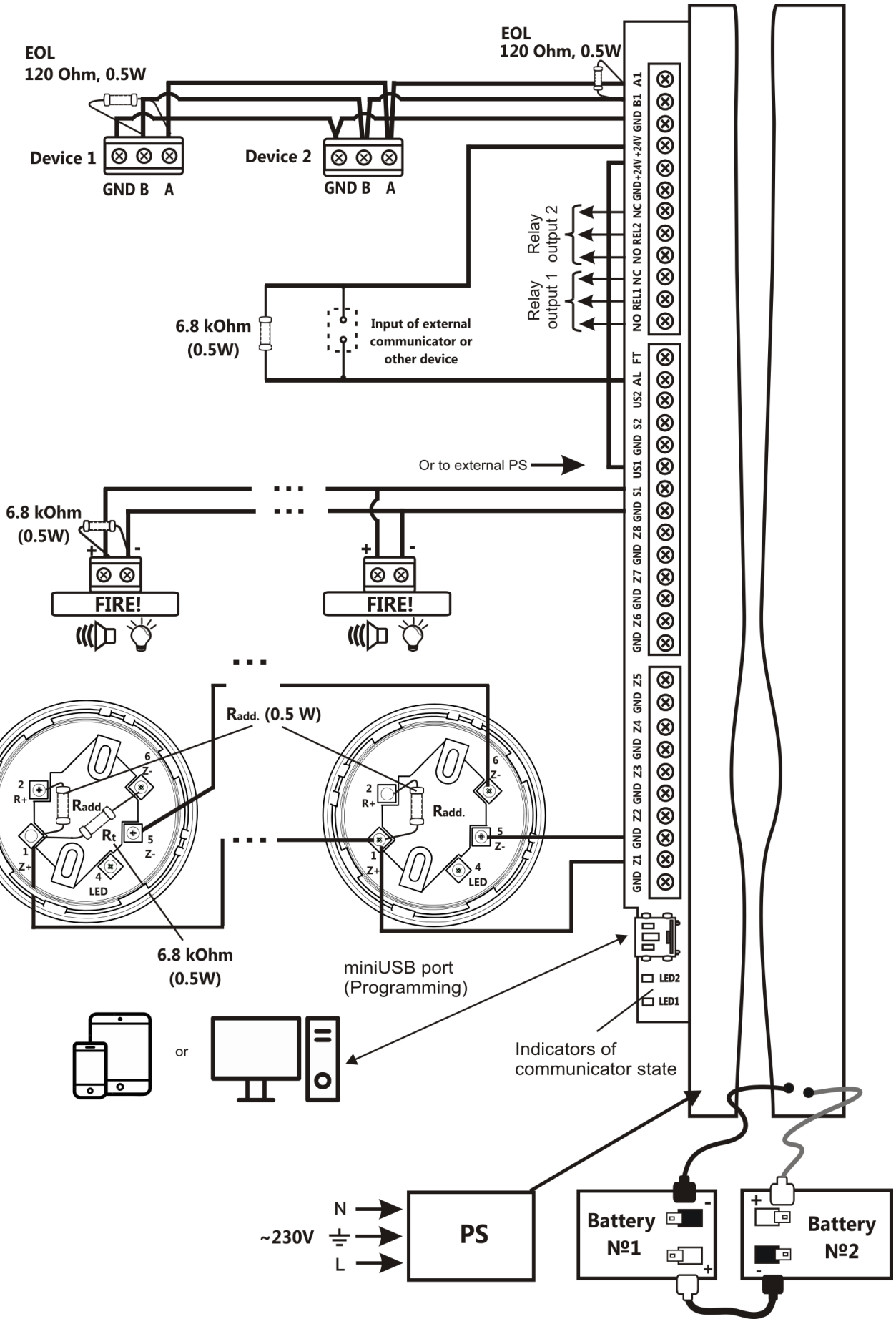


In accordance with the EU Directive 2012/19/EU on waste electrical and electronic equipment, the disposal of FACP should be done separately from household waste. To dispose of the equipment it must be delivered to a sale point or a local processing point



According to the EU Directive 2006/66/EC, the disposal of lithium batteries (contains in the FACP) and batteries used with FACP should be carried out separately from household waste.

Appendix A. Wiring diagram



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TIRAS technologies

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Manufacturer:
Tiras-12 LTD
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