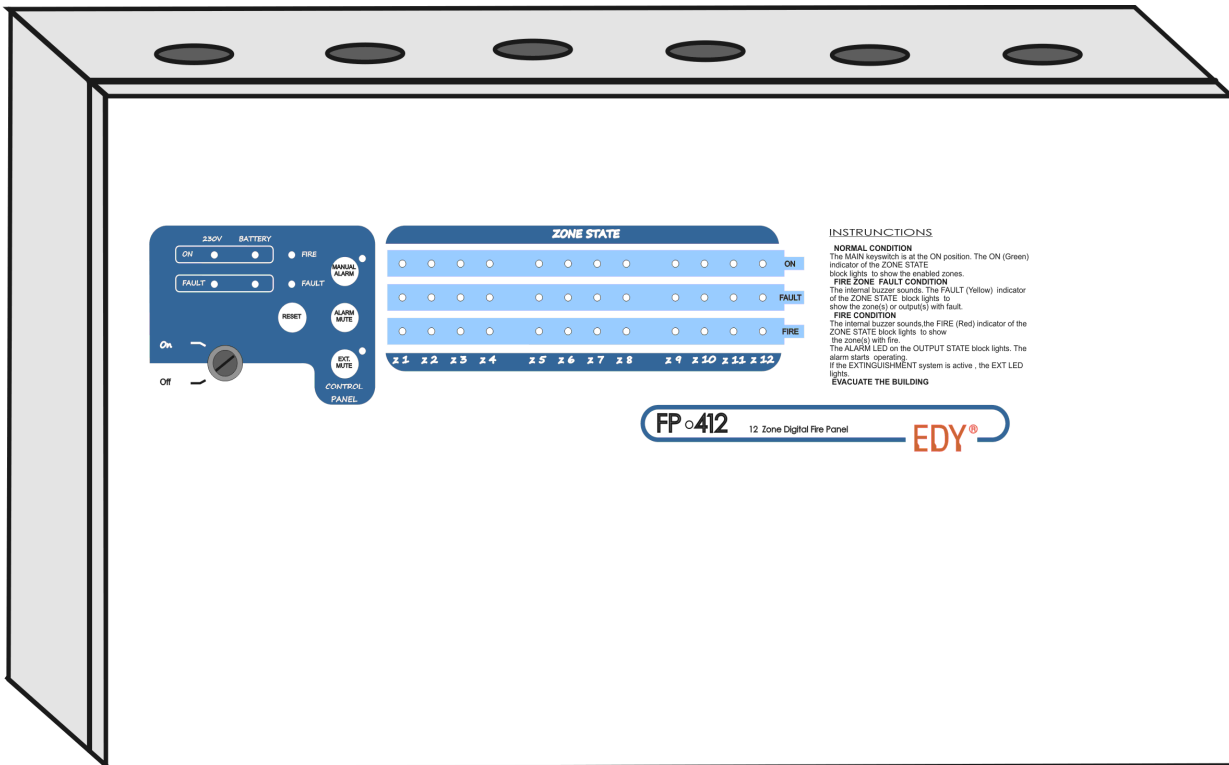


FP 412 / 424

Fire Detection Panel



Installation / Operating Instructions

The family of fire detection panels is consisted of 3 types, FP-404 4 zone, FP-412 4-12 zone, FP-424 16-24 zone. The FP-4xx is a digital fire detection panel manufactured according to European Norms EN 54-2, EN 54-4.

It has:

- Central board with 4 zones.
- Can be expanded with FPZ-404 boards of 4 zones.
- 2 batteries 12V 7Ah, provided with charge and protection circuit.
- Alarm output with open circuit and adjustable delay time (ALARM) control.
- Automatic extinguisher output with open circuit and adjustable delay time (EXT.) control.
- Alert output, in case that evacuation is needed (PRE EXT.).

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INSTALLATION

For mounting the Fire Panel to the wall, the panel provides mounting holes. Remove the screw on the side of the panel door and open it, gaining access to the interior.

WIRING

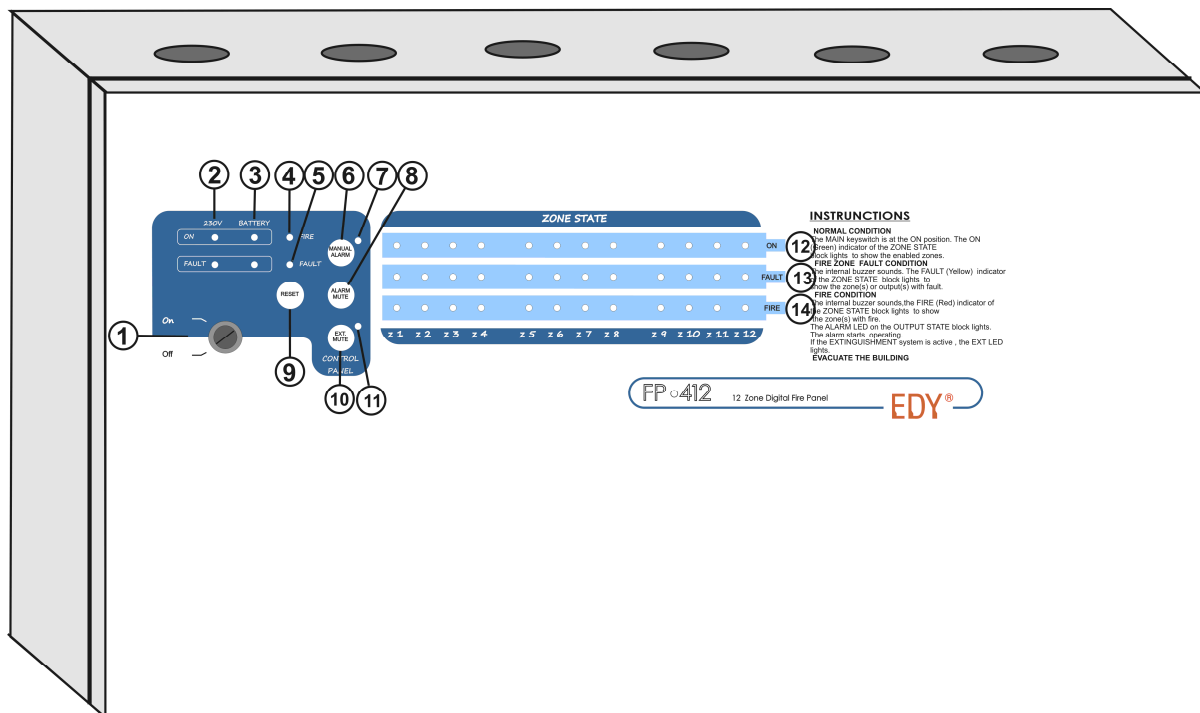
Connect the Mains Power Supply 230V A.C. after having finished all the other connections. On the upper side of the panel there are holes for the wiring to pass through.

The cables used in the connections must have a minimum conductor diameter size 1mm².

There are resistors 4K7 / 0.5W installed on the zone connection terminals (ZONE1, ZONE2, ZONE3,... ..) and outputs connection terminals (ALARM, EXT.OUT). This terminal resistor must be removed and installed on the last device (siren, detector e.t.c.) of each circuit.

The main supply power cable must include an earth conductor.

Control keyboard and indication Leds



1. MAIN ON/OFF - Key switch

It is the master switch of the Fire Panel.

ON state: the "ON" green led, of the zones that are enabled, lights and the Fire Panel is in normal operation.

OFF state: the zones are disabled and the control keyboard does not work, but the battery control / charge function remains active.

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2. SUPPLY 230V

ON: The **green led** lights, indicating mains supply functioning.

FAULT: The **yellow led** lights, indicating mains supply failure and the buzzer sounds..

3. BATTERY - Battery charge indicator.

ON: The **green led** flashes, indicating the function of the battery charging circuit.

FAULT: The **yellow led** lights, indicating that the battery voltage drops below 20% of the rated value, or the fuse is blown. At the same time the buzzer sounds.

4. LED FIRE

The **red led** lights to indicate fire alarm condition.

5. LED FAULT

The **yellow led** lights to indicate fault condition.

6. BUTTON: MANUAL ALARM

The pressing of this button activates the alarm output (ALARM) of the panel and the ALARM led (7) blinks.

7.LED MANUAL ALARM

This indicator lights when any zone is in ALARM condition.

In case that the alarm output circuit is open, the led Alarm flashes and the buzzer sounds.

8. BUTTON: ALARM MUTE

The pressing of this button disables the alarm output (ALARM) of the panel.

CAUTION: the automatic extinguishing function is NOT CANCELED. The ALARM led (7) blinks to indicate this function.

9. BUTTON: RESET

The pressing of this button shuts down the power of the zones for 1 second, the buzzer sounds and all the indicators light up. After this the Fire Panel enters normal operation.

10. BUTTON: EXT. MUTE

The pressing of this button deactivates the extinguishing output (EXT.) The EXT. led (11) blinks to indicate this function.

11.LED EXT. MUTE

This indicator lights when the extinguisher system is about to be activated.

In case that the extinguishing output circuit (EXT. OUT) is open, the led blinks and the buzzer sounds.

12. ON

The **green led** lights, when the zone is enabled.

13. FAULT

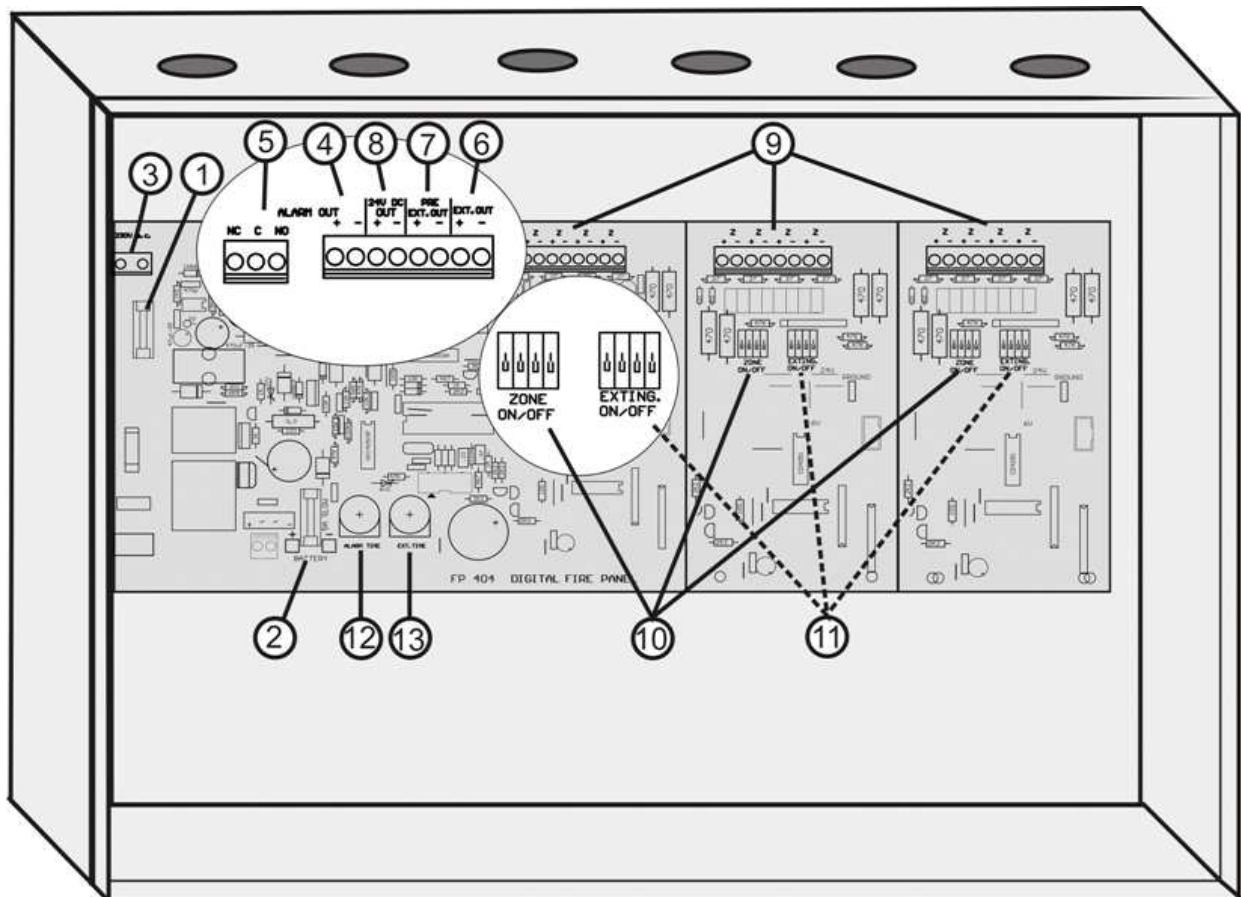
The **yellow led** lights, in case of an open or short circuit condition in the zone.

14. FIRE

The **red led** lights, when the zone is in ALARM condition.

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Schematic diagram of the Fire Panel FP-412



1. FUSE - T1A/250V

Internal slow-blow glass fuse 5x20mm 1A.

2. FUSE - T5A/250V

Internal slow-blow glass fuse 5x20mm 5A.

It protects the low voltage circuit board (battery) from short circuit, overload and incorrect battery polarity.

3. 230V - Terminal block

Mains voltage connection terminal block (230V AC).

4. ALARM - General alarm output (contact relay)

This terminal provides 24V DC for connecting sirens, when there is an ALARM condition. Maximum current 5A.

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In case that the alarm output circuit is opened, the led MANUAL ALARM flashes and the buzzer sounds.

By default it has a pre-installed terminal resistor (4K7). This resistor must be removed and installed on the last siren of the line.

5. AUX. - Auxiliary alarm output (contact relay)

It is an additional voltage free relay contact.

Maximum current 5A.

6. EXT. OUT - Auto extinguishing output (contact relay)

This terminal provides 24V DC for connecting actuators or electro valves, when there is an extinguishing condition. Maximum current 5A.

In case that the extinguishing output circuit is opened, the led EXT. MUTE flashes and the buzzer sounds. By default it has a pre-installed terminal resistor (4K7). This resistor must be removed and installed on the last device of the line.

7. PRE EXT. OUT – Warning output for imminent extinguishing (contact relay)

This terminal provides 24V DC for connecting devices, when the extinguisher system is about to be activated. Maximum current 5A.

8. BAT. OUT - Battery voltage auxiliary.

This terminal provides 24V DC, when the MAIN switch is ON. It is interrupted in case of a panel reset. It is used for powering gas detectors or other devices that need an interrupted power supply, when the panel is resetting.

9. ZONE 1, ZONE 2, ZONE 3, - Fire Alarm Connection Terminals

To each zone are connected the detectors and the call points of the installation. By default it has a pre-installed terminal resistor (4K7). This resistor must be removed and installed on the last device of the line. If a zone is no used, disabled it and let the terminal resistor be connected on the zone.

10. ZONE ON / OFF - (Dip switches)

These dip switches enable / disable the zones.

11. EXTING. SYSTEM ON / OFF – (Dip switches)

They are used to activate the automatic extinguishing system. When all dip switches are set on “OFF” position (down), the extinguishing system is out of order. When there is a fire alarm condition for all the zones that are specified by the dip switches, the extinguishing system is activated. For example, if the switches 2 and 4 are set on the “ON” position, the extinguishing system will be activated when there is a fire alarm condition in zones 2 and 4 **both**.

12. ALARM DELAY - Trimmer alarm delay setting

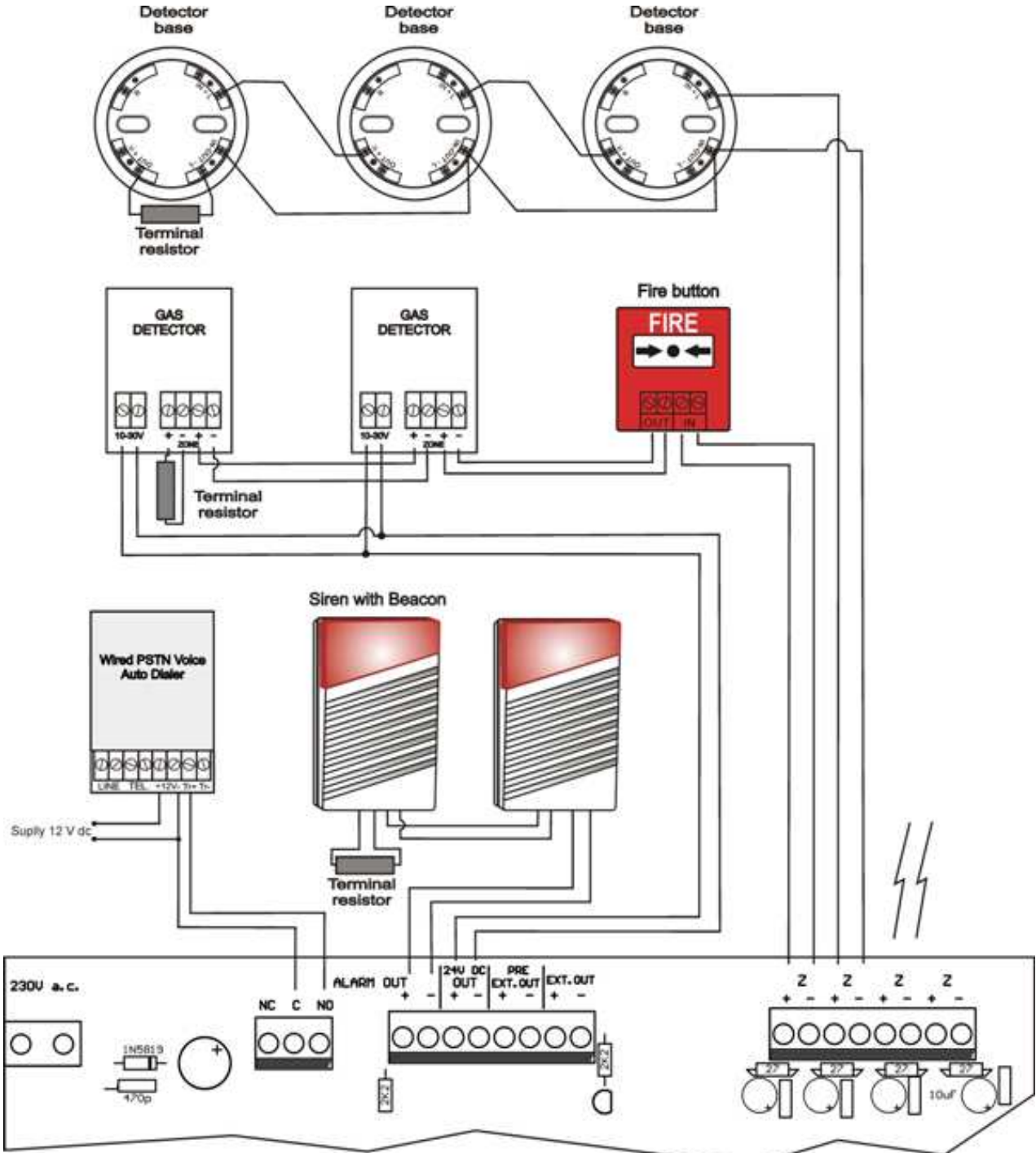
We can adjust the Delay Alarm, between the alarm activation of a zone and the activation of the ALARM output (sirens), by using this trimmer.

13. EXTINGUISHMENT DELAY - Trimmer Extinguishing delay setting

It adjusts the time elapsed between the activation of the ALARM output (sirens) and the extinguishing system activation.

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Connections to zones



FP 404 DIGITAL FIRE PANEL

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TECHNICAL CHARACTERISTICS

INDICATORS	<p>"230V~ ON" - mains supply functioning indicator</p> <p>"230V~ FAULT" - mains supply failure indicator *</p> <p>"BATTERY - ON" - Battery charge indicator</p> <p>"BATTERY - FAULT" - low battery indicator *</p> <p>"LED MANUAL ALARM" - constant light: imminent siren activation *</p> <p>blinking light: the alarm output circuit is open *</p> <p>"LED EXT.MUTE" - constant light: imminent extinguishing activation *</p> <p>blinking light: the extinguishing output circuit is open *</p> <p>"ZONE STATE - ON" - enabled zone indicator</p> <p>"ZONE STATE - FAULT" - open or short circuit condition in the zone indicator *</p> <p>"ZONE STATE - FIRE" - zone in ALARM condition indicator *</p> <p>* is accompanied by an audible signal (buzzer)</p>
OPERATIONS	<p>"MAIN - ON/OFF" - key switch: function control</p> <p>"CONTROL - MANUAL ALARM" - pushbutton: start the manual alarm</p> <p>"CONTROL - ALARM MUTE" - pushbutton: silence the alarm</p> <p>"CONTROL - EXT.MUTE" - pushbutton: deactivate the extinguishing</p> <p>"CONTROL - RESET" - pushbutton: reset the Fire Panel</p>
INTERIOR SETTINGS	<p>"ALARM TIME" - trimmer: 0'1" - 5'10" alarm delay setting</p> <p>"EXTINGUISHMENT TIME" - trimmer: 0'1" - 5'10" extinguishing delay setting</p> <p>"EXTING. SYSTEM" - dip switches: extinguishing ON / OFF</p> <p>"ZONE ON/OFF" - dip switches: enable / disable the zones</p>
ZONE NUMBER	FP-412: 4-12 with 2 modules of 4, FP-424: 16-24 with 2 modules of 4)
ZONE VOLTAGE	23V
ALARM ZONE minimum current	8 mA
ALARM ZONE maximum current	50 mA
SHORT CIRCUIT ZONE current	>40 mA
OPEN CIRCUIT ZONE current	<4 mA
TERMINAL RESISTOR ZONE / OUTPUT	4K7 / 0.5W
MAXIMUM NUMBER OF DETECTORS PER ZONE	30 pieces
OUTPUTS	<p>"ALARM" - alarm output: relay contact 24V DC max. 5A</p> <p>"AUX. OUT" - alarm output: voltage free relay contact max. 5A</p> <p>"EXT. OUT" - extinguishing output: relay contact 24V DC max. 5A</p> <p>"PRE. EXT. OUT" - extinguishing warning output: relay contact 24V DC max. 5A</p> <p>"BAT. OUT" - auxiliary voltage output: relay contact 24V DC max. 5A</p>
BATTERY	Lead acid sealed battery 2x12 V, 7Ah
CHARGING	400mA, 16 h
PROTECTIONS	<p>230V: slow blow glass fuse 5x20mm 1A / 250V</p> <p>Battery: slow blow glass fuse 5x20mm 5A / 250V.</p> <p>Battery protection from: short circuit, faulty connection, overcharging, full discharge .</p>
AUTONOMY	72h stand by
OPERATION VOLTAGE	230Va.c.
POWER SUPPLY	FP-412: 27,6V / 1,8A max FP-424: 27,6V / 2,5A max
DIMENSIONS	FP-412: 290mm x 430mm x 850mm FP-424: 290mm x 690mm x 85mm
CONSTRUCTION MATERIAL	Metallic box with electrosttic paint

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