



POLON 6000 FIRE ALARM CONTROL PANEL

Purpose

Fire alarm control panel is dedicated for signaling of fire danger after receiving information from connected detectors or manual call points. The control panel coordinate operation of all devices in the system and makes decisions regarding fire alarm, control of alarm and fire protective devices and transmitting the fire information to the monitoring center or supervising system.

The control panel POLON 6000 is recommended for protection against fire in middle-size, big and very big buildings, in particular buildings with complex structure or multilocalized like hotels, offices, warehouses, historical objects, factories, "intelligent" buildings with a big number of cooperating security and fire automatics devices. The system can be easily integrated with a number of present on the market BMS systems. Control panels fulfill the requirements of the following standards: PR-EN 54-2 and PR-EN 54-4.

Design and functionality

The fire alarm control panel POLON 6000 has been designed as a modular device with distributed structure. It consists of many unified modules with different features which singly or as a sets (nodes) can be located in different locations in the entire building even far away one from another. All modules in one node and nodes between themselves are connected with a common, doubled digital data bus.

The control panel is a scalable device – it can be loosely created with modules and nodes with numbers related to the individual building requirements. It can be easily expanded with another nodes if necessary. Such a design enables to optimize necessary equipment of the control panel, which is installed only in the location where it is required and lower the cost of installation offering high reliability of the system operation. It is guaranteed by the double microprocessor controllers, data bus and cable connection between nodes.

Fire alarm control panel POLON 6000 consists of main operator panel PSO-60 with 10" touchscreen and following functional modules: two loops module MLD-61 and MLD-62, input/output module MKS-60, relays' module MPK-60, sounders' module MWS-60, high voltage relays' module MPW-61, inputs' module MWK-60, power supply module MZP-60, printer module MD-60 and transmission modules MTI-61, MTI-62 and MTI-63.

Main panels and functional modules are installed in unified housings with standard dimensions, which can be joined together as a multi-housing panel. Such connected housings with functional modules can be a node. The control panel needs to have at least one node where the main operator panel PSO-60 with number 1 is installed. This is the main node and as such can be only one in the whole system. All other nodes with functional modules need to be connected to the main node using double cable connection or double fiber optic connection using RS-485 protocol. Every single node should be equipped with power supply module and functional modules according to the demand. Other nodes can be also equipped with operator panel PSO-60 which is then remote operator panel.



Control panel POLON 6000 detection lines

Technical specifications

Power supply:

Main	230 V AC +10% -15%/50 Hz
Battery	2 pcs 12 V DC 17-134 Ah

Current consumption from battery in quiescent mode (total current consumption depending from the control panel configuration):

PSO-60	370 mA
MLD-61	170 mA
MLD-62	150 mA
MZP-60	45 mA
MKS-60, MPK-60, MWS-60, MWK-60, MPW-61	15 mA
MD-60, MTI-62	45 mA

Limitation of the distributed control panel:

Max number of modules	900
Max number of certain type modules	99
Max number of detection line modules	198
Max number of detection lines	396
Max number of elements in the detection loop	250 (line type 6000) 127 (line type 4000)
Max number of addressable line elements in the system	99000
Max number of all possible control outputs	64000

Max number of potential-free relay outputs in one loop	256 (line type 6000) 160 (line type 4000)
Max number of potential-free relay outputs using control panel's functional modules	1000
Max number of potential outputs using control panel's functional modules	600
Max number of all possible monitoring inputs	64000
Max number of monitoring inputs in one loop	256 (line type 6000) 160 (line type 4000)
Max number of monitoring inputs using control panel's functional modules	1200

Addressable line elements installed in the detection loops:

Type 6000:

- analogue detectors range 6046 and 4046,
- manual call points ROP-6001M(H),
- conventional line interface ADC-4001M,
- wireless interface ACR-4001,
- acoustic sounders SAW-6006, SAW-6001, SAL-4001,
- inputs/outputs elements EKS-6000 range,
- universal control panel UCS-6000

Type 4000:

- analogue detectors and 4046,
- manual call points ROP-6001M(H),
- conventional line interface ADC-4001M,
- wireless interface ACR-4001,
- acoustic sounders SAL-4001,
- inputs/output elements EKS-4001,
- multi-output element EWS-4001,
- multi-input element EWK-4001,
- universal control panel UCS-4000.

Permissible current consumption from the detection loop by line elements:

By the loop resistance 2 x 100 Ω	20 mA
By the loop resistance 2 x 75 Ω	22 mA
By the loop resistance 2 x 45 Ω	50 mA
Detection lines isolation resistance	100 kΩ
Permissible capacity of detection line wires	300 nF

Current consumption from the detection loop by 6000 range elements:

DUT-6046 detector	150 μA
DTC-6046 detector	150 μA
TUN-6046 detector	150 μA
DOP-6001 detector	300 μA
EKS-6040 line module	210 μA
EKS-6022 line module	240 μA
EKS-6004 and EKS-6044 line modules	240 μA
EKS-6202 line module	250 μA
EKS-6400 line module	230 μA
SAW-6001 and SAW-6006 sounders	150 μA
UCS 6000 control panel	600 μA

Current consumption from the detection loop by 4000 range elements:

DOR-4046 detector	150 μA
DOT-4046 detector	150 μA
TUN-4046 detector	150 μA
DPR-4046 detector	170 μA
DUR-4046 detector	150 μA
ROP-6001M(H) manual call points	135 μA
SAL-4001 sounder	150 μA
EKS-4001 line module	165 μA

EWS-4001 line module	150 μA
EWK-4001 line module	150 μA
ADC-4001M side line element (depending from chosen mode of operation)	from 0.5 mA to 16 mA
ACR-4001 adapter for wireless detectors	max 600 μA

Types of detection lines:

- loop	
- open line	
Max number of detection zones	99000
Number of predefined alarming variants	12

Time programming:

Time for acknowledgement of 1st stage alarm	0 ÷ 10 min
Time for verification of fire	0 ÷ 10 min
Alarm devices output's delay	0 ÷ 10 min
Fire protective devices output's delay	0 ÷ 10 min

Operating temperature range	from -5 °C to +40 °C
Case tightness	IP 30

Dimensions (W/H/D)

Standard case OM-61, OM-62	445 x 450 x 160 mm
Remote panel case OS-61	350 x 336 x 84 mm
Battery container OA-61 and OA-62	445 x 600 x 190 mm

Attention

Batteries are not a part of the control panel and need to be ordered separately. Detailed information for installers and maintenance services are in the manual an user handbook.