AUTOMATIC FIRE EXTINGUISHING SYSTEM CONTROL PANEL IGNIS 2500

Purpose

The IGNIS 2500 automatic fire extinguishing control panel is designed to detect a fire and control the regular fire extinguishing equipment containing gaseous, liquid or aerosol extinguishing agents as well as to monitor the self-activating extinguishing process.

The IGNIS 2500 control panel works with the 40 and 30 model range conventional fire detectors and the specialized PU-61 and PW-61 push buttons, allowing for manual activation and disengagement of the fire extinguishing process. It also works with the SE-1, SW-1 acoustic and optical warning devices.

The controller is offered in two extinguishing variants - single-zone and two-zone. The IGNIS 2500 control panel can work in a multi-zone set, consisting of several panels and a common fire extinguishing agent store.

Functionality

After detecting a fire, the IGNIS 2500 control panel can carry out the following:
- control the warning signal system with the option of programming of the evacuation period duration,
- programming of the delay time for air-tightening of premises after the release of the fire extinguishing agent,
- technological equipment control,
- fire automation equipment control (separators, doors, windows),
- control the fire extinguishing systems using outputs (with programmed operating time of electric impulses), intended for the activation of the electromagnetic valve and directional valve pertaining to gaseous extinguishing agent in a gaseous form or the water valve for water extinguishing equipment,
- transmission of alarm signals to the fire monitoring system or to the cooperating fire alarm control panel in the facility.

An automatic fire extinguishing process is initiated by:
- simultaneous activation of detectors in 2 detecting lines operating in coincidence, with the possibility of pre-programmed reset of detectors,
- pressing the PU-61 push button (START OF FIRE EXTINGUISHING),
- another fire detection system using its dry contact output connected to IGNIS 2500 control panel input.

An activation of fire detectors in only one detecting line will be signalled by a control panel as a fire alarm without activation of the fire extinguishing system.

An automatic fire extinguishing process takes place in two phases:
- a WARNING phase – for evacuation people from the fire extinguishing zone. The audible and optical signalisation will be switched on for a programmed period of time. During this time it is possible to abort the extinguishing process by pressing the BLOCKADE EXTINGUISHING button on the control panel or by switching on the PW-61 button (STOP EXTINGUISHING) connected to the control panel,
- an EXTINGUISHING phase – for the fire extinguishing resulting from transmitting control signals from the panel to the device which initiates the flow of gas or other extinguishing agent.

Input and output circuits

The basic version of IGNIS 2500 control panel is equipped with the following input and output circuits (for each extinguishing zone). They are located on the MSG-25 module.
- 6 potential-free relay outputs with load capacity 1 A/30 V with the monitoring of the line continuity,
- 6 monitoring lines inputs for monitoring of devices connected to the control panel (by monitoring lines analysis),
- 2 potential outputs 2 A/24 V each for controlling of electromagnetic valve with the option of programming output working mode to monitoring lines input mode,
- 2 potential outputs 0,7 A/24 V each for monitoring devices (electromagnetic valves, fire dampers, signalling devices, ventilators, with the option of programming output working mode to monitoring lines input mode),
- 6 conventional detector lines with the option of programming to relay outputs 0,7 A/24 V or monitoring lines inputs.

Two-zone control panel is equipped with 2 MSG-25 modules. The control panel can be equipped additionally with 1 or 2 control modules (after mounting MGR-64 mounting rail):
- MKS-60 – 2 potential lines, 0,5 A/24 V each, 2 control lines, 2 potential-free relay outputs 1 A/24 V,
- MWS-60 – 4 potential relay outputs 0,5 A/24 V each,
- MPK-60 – potential-free relay outputs 1 A/24 V.

IGNIS 2500 control panel can be additionally equipped with transmission module MKA-25. The module enables direct operation of the extinguishing control panel in the detection line of the POLON 6000 fire alarm control panel (as an addressable element). This allows the automatic fire extinguishing system to be integrated with the general fire detection system in the facility.

Control panel configuration and event memory readout is done via USB port. The panel remembers 1000 latest occurrences, the signal of which is emitted and actions related to its operation.

Cooperating devices

In addition to fire detectors the following equipment can cooperate with IGNIS 2500 control panel:
- the PU-61 button (START EXTINGUISHING), which enables manual activation of the fire extinguishing process by breaking the glass pane and pressing the alarm button; the buttons have yellow colour cases;
- the PW-61 pushbutton (STOP EXTINGUISHING) – designated to abort the automatic extinguishing program; the buttons have blue colour cases;
- the SW-1 and SE-1 acoustic and the optical warning devices, which warn any person/s in a given closed premises about an impending automatic activation of the fire extinguishing systems and the necessity to evacuate the premises; they are installed either inside or outside the closed premises;
- SAW-6101/6106 type audible warning signalling devices, or others, warning any person/s in a closed premises about an impending automatic activation of the fire extinguishing systems, can be installed inside or outside of the extinguishing zone;

The above system set is supplemented with the following instruction signs:
- WARNING sign – placed inside and outside the extinguishing zone;
- START EXTINGUISHING push button instructions – placed next to the PU-61 button;
- STOP push button instructions – placed next to the PW-61 button.

If necessary, additional buttons can be used: PD-61 (ADDITION) AND PB-61 (BLOCKADE).

Design

The control panel is designed to be mounted on a wall. The front of the control panel is a door with signalling and regulating devices, LCD display and a lock with a key to open control panel's door. At the back of the cabinet, there are cable conduits for installation wire routing.

Technical data

Supply voltage:	
- main	230 V + 10% - 15%/50 Hz
- supply voltage of backup battery 2 szt. 12 V	7 - 18 Ah
Backup battery current consumption in quiescent mode (basic version):	
- one-zone control panel	80 mA
- two-zone control panel	130 mA
Operation time with standby power supply from backup batter	72 h
Output current of the power supply	3 to 4,2 A/24 V
Max number of inputs/outputs for on-zone panel:	
- max number of detection lines	6
- max number of monitoring lines	16
- max number of potential outputs	10
- number of relay outputs	6
Resistance of detection lines	2 x 120 Ω
End-of-line (EOL) resistor	5,6 kΩ
Admissible total quiescent current for fire detectors in detector line	max 2 mA
Electrical impulse to control the release	2 A/24 V
operation temperature range	from -5°C up +40°C
Panel base ingress protection	IP30
Weight (without batteries)	< 8 kg
Dimensions	400 x 403 x 184 mm
Compatibility with standards:	PN-EN 12094-1, PN-EN 54-02, PN-EN 54-04

Note

Reserve batteries are not included in the IGNIS 2500 control panel system set and need to be order separately.
The CNBOP-PIB, Notified Body No. 1438 has been issued for the product the national certificate of constancy of performance confirming the possession of technical features/parameters required by PN-EN 12094-1:2006, PN-EN54-2:2002, PN-EN 54-4:2001 + A1:2002 + A2:2007 as well as the certificate of approval.
For the product the manufacturer has issued a declaration of performance.