

Operational And Maintenance Manual



CSUP

Fire Control Panel



Version 1.2 z 08.2020

SMAY Sp. z o. o. reserves the right to make changes in the document.

Table of contents

1. Introduction.....	3
2. General principles of safety use	4
3. Legal regulations	5
3.1. Launching on market.....	5
4. Product description	6
4.1. CSUP intended use	6
4.2. Systems and devices compatible with CSUP	6
5. Component modules of CSUP “Łoś”	7
5.1. Control Panel	7
5.1. 12	
5.2. Digital Input / Output Card.....	12
5.3. Analog Inputs / Outputs Card	16
5.4. Analog Input Card	19
5.5. Analog Output Card.....	22
5.6. Smoke Detectors and Manual Control Points Card	25
5.7. RS card	31
6. Komunikacja	34
7. Instruction of installation and commissioning of the CSUP	35
8. CSUP configuration manual.....	36
9. Testing instruction	36
9.1. Checking the signaling of the operating status of modules	36
9.2. Checking the correctness of the power supply	36
9.3. Checking the correct operation and configuration	36
10. Packing, transport and storage	37
10.1. Packing	37
10.2. Transport	37
10.3. Storage.....	37
11. Operation and maintenance	38
12. Product impact on the natural environment.....	38
13. Sample applications	39
14. Terms of warranty	40
14.1.....	42

1. Introduction

Thorough reading of this technical and operational documentation of Control Panel including the descriptions contained therein and compliance with all safety conditions is the basis for the correct and safe operation of the device.

It is assumed that transport works, final works with the device as well as repairs are carried out by qualified personnel or supervised by authorized persons.

Qualified personnel is understood as persons who, due to their training, professional experience in the field of electromechanical devices and knowledge of relevant standards, documentation and regulations regarding safety and working conditions, have been authorized to carry out the necessary maintenance on the basis of a training protocol and are able to diagnose and eliminate potential threats.

The following technical and operational documentation contains information on the application, construction, assembly, commissioning, use and maintenance of Control Panels for fire devices. If Control Panels are operated as intended, this documentation and other documents attached to devices contain instructions necessary for qualified personnel.

2. General principles of safety use

Control Panels for fire devices have been designed and built in accordance with the following standard:

- **prEN - 12101-9:2011**

Smoke and heat control systems – Part 9: Control panels

Control Panels were created by using the latest technology that guarantees the highest level of safety.

The SMAY company conducts constant supervision of production, which directly translates into a high level of quality of the offered products, including air handling units, their usability and exceptional service life. Nevertheless, the devices can be dangerous if they are used improperly by unqualified personnel or if they are used contrary to their intended use.

ATTENTION:

Installation of the device, connection of related systems, start-up, operation and maintenance must be performed in accordance with the directives and regulations in force in the country where the device is installed.

CSUP should be used in accordance with the instructions for use and within the technical parameters specified in this Operation Manual.

It is recommended to use the assistance of SMAY Authorized Service during assembly, installation, commissioning as well as repair and maintenance.

The documentation should always be close to the device and be easily accessible to authorized service personnel.

3. Legal regulations

3.1. Launching on market

Control Panel was launched on the market on the basis of the following documents issued by the Scientific and Research Center for Fire Protection - State Research Institute in Józefów:

1. National technical assessment no. CNBOP-PIB-KOT-2017/0012-1009
2. National certificate of constancy of performance no. 063-UWB-0047
3. Certificate of admittance no. 2977/2017

Fire Control Panel has been marked by the manufacturer with the "B" construction mark. Its compliance with the National Technical Assessment has been confirmed by the National Declaration of Performance no. 008-B-2017

Fire Control Panel has been labeled by the manufacturer with the sign of the admitting authority for the Scientific and Research Center for Fire Protection - National Research Institute in Józefów (CNBOP-PIB).

4. Product description

4.1. CSUP intended use

Fire Control Panel type “Łoś” is designed to control, supervise and cooperate with systems and devices that directly perform fire safety functions as well as systems and devices indirectly related to the fire safety function, which perform the tasks of management, supervision, control, monitoring and access control , general ventilation and others. The control panel can control:

- Public utilities
- Residential
- Production hall
- Warehouses

CSUP allows you to connect detection lines with smoke detectors for automatic smoke (smoke and heat) detection, and detection lines with manual smoke control buttons to start the appropriate controlling procedure and controlling fire devices manually by a person who notices a fire.

4.2. Systems and devices compatible with CSUP

The fire control panel can receive initiating signals from the Fire Signaling Systems and other fire safety systems or perform control and monitoring functions based on its own fire hazard detection through smoke detectors (smoke and heat) and manual control points located on CSUP detection lines.

CSUP is used to control and control fire protection devices and systems, such as:

- fans: supply, exhaust, smoke exhaust, air supply;
- fire dampers, smoke control dampers
- actuators: linear, rotary, door, window;
- electric door and fire gate holders, electric strikes;
- fire gates;
- smoke curtains;
- pressure differential kits;
- sets of products for smoke removal.

The systems and devices that can work with the Control Panel, which the Control Panel connects to through communication ports and digital inputs and outputs, and which the Control Panel receive control signals from or acts as an integrator, we can include:

- fire signaling systems,
- tool systems handling smoke and heat (including anti-smoke systems, smoke extraction systems, fire cut-off and partition systems),
- access systems,
- evacuation support systems,
- burglary and assault signaling systems,
- media control systems,
- general ventilation systems:
 - jet and duct ventilation of garages (temporary ventilation function),
 - detection of CO / LPG / NOX gases (ventilation function related to the increased concentration of CO / LPG / NOX gases),
- passenger lifts for rescue teams,
- escalators,

- other systems for which the communication ports and I / O are compatible with CP.
CSUP allows you to combine the above-mentioned systems into a system to adopt a uniform control matrix to integrate the building system.

5. Component modules of CSUP “Łoś”

Fire Control Panel has a modular, distributed structure. The individual CSUP modules are connected to each other via a bi-directional ring data bus. Up to 64 modules (Central Unit + 63 Cards) can be connected to the communication loop.

Each module is equipped with three signaling LEDs, used to indicate the status of a given module (the exception is the RS module, it has only one green LED), such as:

POWER	- green LED shows whether the control panel has power supply and works properly,
FAILURE	- yellow LED, signals that a FAILURE has been detected in the CP,
FIRE	- red LED, signals that fire was detected, fire procedure is executed

There are two signaling LEDs in each module at each input and output:

Green	- input/output active
Yellow	- input/output damaged

Each module can be installed both indoors and outdoors. When installed outdoors, the module must be protected against direct weather conditions.

Each of the digital and analog outputs can be delayed. The delay time should be appropriate to the fire device it controls.

The total time of actuation and transition of the fire protection device to a position since fire was detected is 120 seconds.

Each module of CSUP has the same environmental parameters:

IP Degree of Protection	54
Environmental Class Rating	Class III
Ambient temperature	-25°C up to +75°C
Ambient humidity	10% up to 90%

5.1. Control Panel

GENERAL INFORMATION

The Central Unit – Control Panel is the main module of the CSUP “Łoś”, which is responsible for the execution of the control algorithm. It can be used as a stand-alone controller (to control simple systems in the facility) or work with other CSUP modules. There is always one Control Panel on a single communication loop. It also performs the function of monitoring the continuity of the communication loop (Chapter 6 communication). All inputs have break / short circuit control (configurable - possible to disable control), optionally the outputs can control break in the circuit.

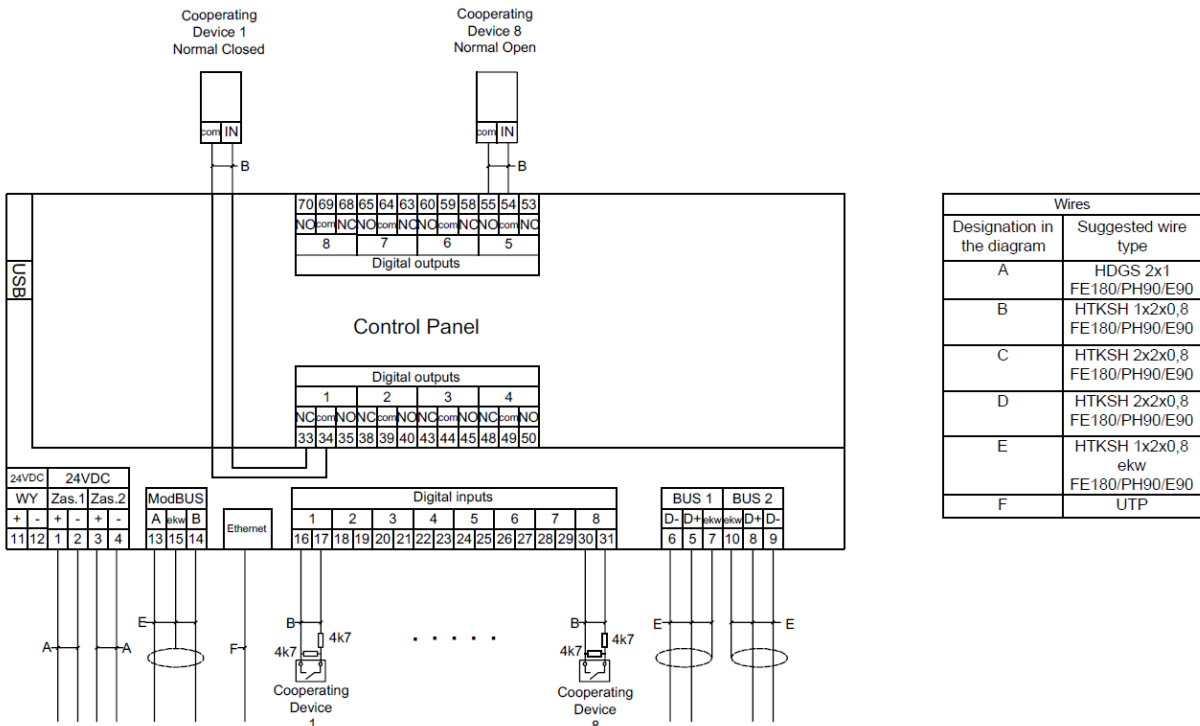
The Control Panel is equipped with:

- 2 power supply inputs 24 VDC, primary and backup (missing one is reported as a failure)
- 1 power supply output 24 VDC, with fuse
- Ethernet port and ModBUS for communication with the BMS system
- USB port for computer connection for configuration and maintenance
- 8 digital inputs with line break / short circuit monitoring (can be disabled in the configurator)
- 8 potential-free digital outputs with line break control option (hardware option)
- 1 digital NO potential-free output dedicated to the "fire" signal, active during the control panel operation in the fire mode (without line control)
- 3 signaling LEDs on the housing and on the control panel board (power supply / supervision, damage, fire)
- 2 LEDs indicating the current status for each control panel input and output (yellow fault LED, green I / O LED active)

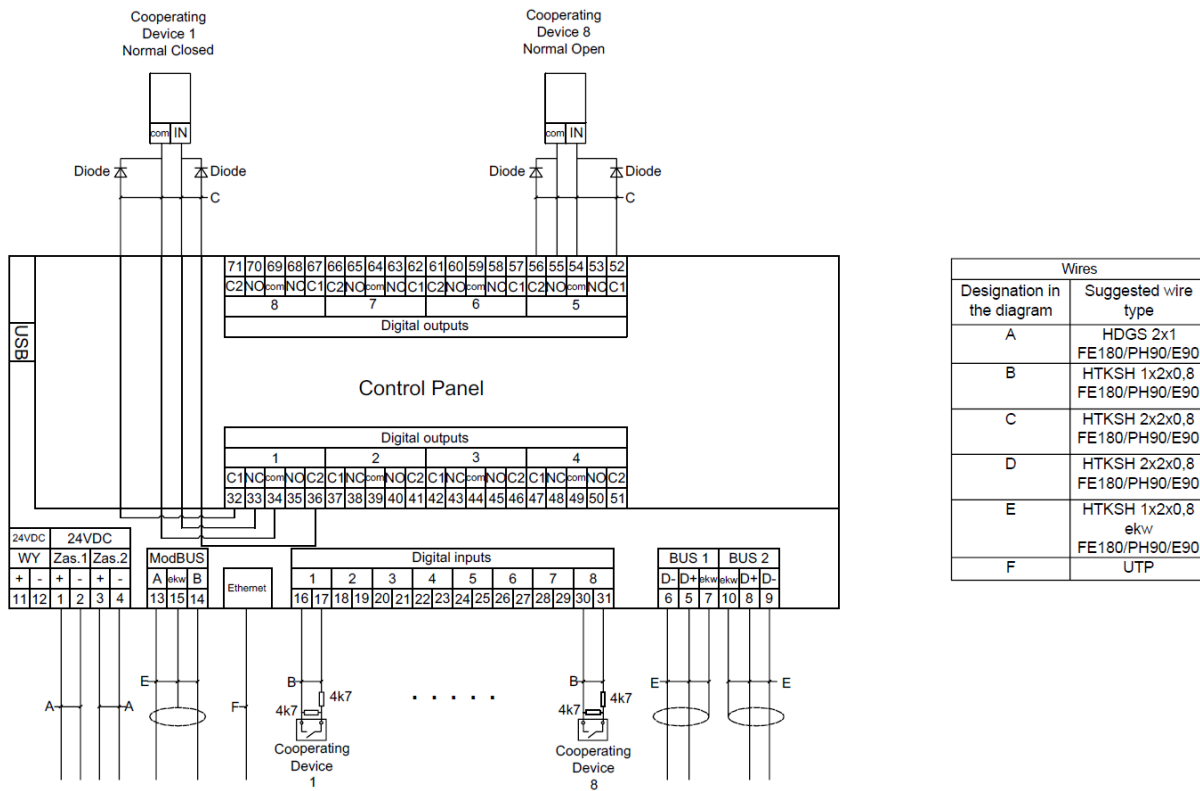
Technical data:

Power supply input 1 voltage	24 VDC +20%, -20%
Power supply input 2 voltage	24 VDC +20%, -20%
Power consumption	63W – total power consumption
	10 W – power consumption of the central unit
	5 W – power consumption for modular communication
	48 W – power consumption of the supply output
Power output voltage	24 VDC +20%, -20%
Maximum power of supply output	48 W
Digital inputs	<ul style="list-style-type: none"> - 8 digital inputs - configurable wire break / short monitoring with resistors:4,7 kΩ - sampling voltage:18 VDC
Digital outputs	<ul style="list-style-type: none"> - 8 potential-free digital outputs - maximum switching voltage:250 VAC - maximum switching current:3 A - wire break control possible (optional) - sampling voltage 5 VDC - diodes on the interrupt control circuits: 1N4007
	- 1 potential-free digital output NO, without line control, dedicated to the fire signal
IP maximum length of loop bus	1200 m
ModBus maximum length of loop bus	1200 m
BUS1, BUS2 maximum length of loop bus	<ul style="list-style-type: none"> - 2500 m total bus length - 250 m between individual modules
USB	<ul style="list-style-type: none"> - plug type A - standard 2.0 - maximum wire length 2 m

WIRING DIAGRAMS



Picture 5.1. Diagram of electrical connections without line break control at the outputs



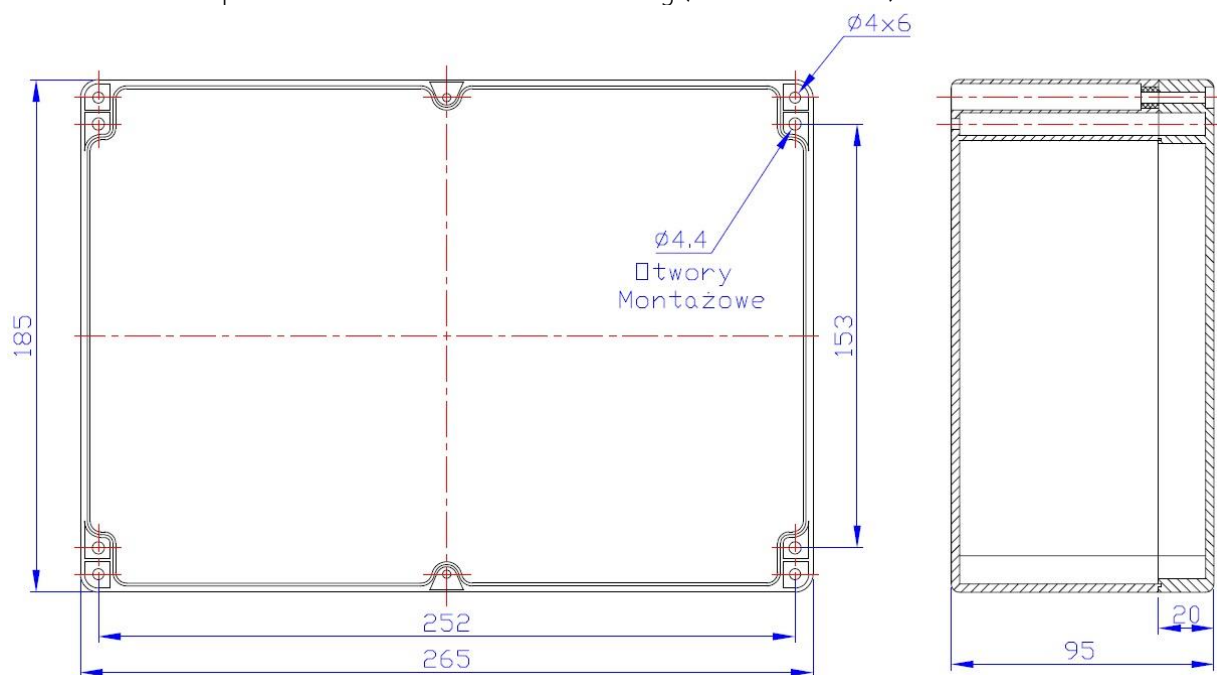
Picture 5.2. Diagram of electrical connections with line break / short monitoring on inputs and outputs

MAIN UNIT DIMENSIONS AND MOUNTING



Picture 5.3. Front view of the Control Panel

As standard, for installation inside Power Supply for Fire Equipment or control cabinets The Control Panel is placed in a Gainta or Kradex casing (ZJ or TH series) with dimensions:



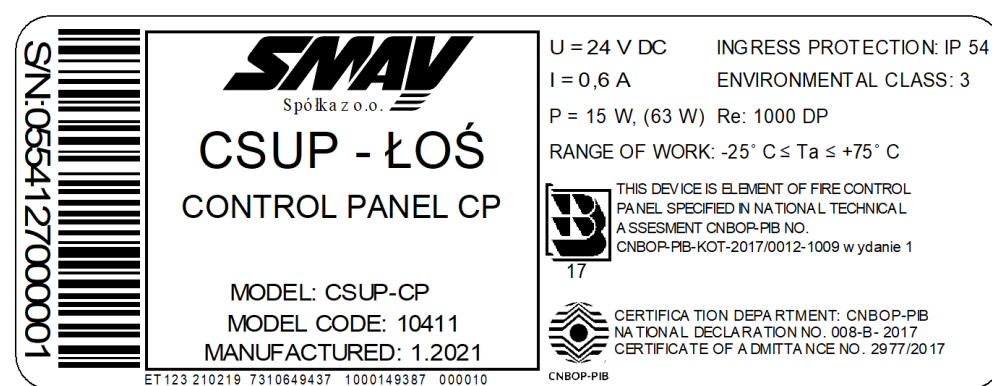
Picture 5.4. Dimensions of the Central Unit

The Control Panel is adapted to be mounted on any surface using four bolts or screws. In case of installation of the Central Unit on site (outside control cabinets), the FAEG housing is recommended.

It is possible to deliver the Central Unit in other casings listed below after prior agreement with the ordering party:

- Pawbol S-BOX series
- Abtech ZPS series
- Faeg FG series

DEVICE IDENTIFICATION



Picture 5.5. Nameplate of the Central Unit with control of outputs

5.2. Digital Input / Output Card

GENERAL INFORMATION

The digital input/ output card is a CSUP module that enlarges the Łoś control panels by another 8 digital inputs and 8 digital outputs.

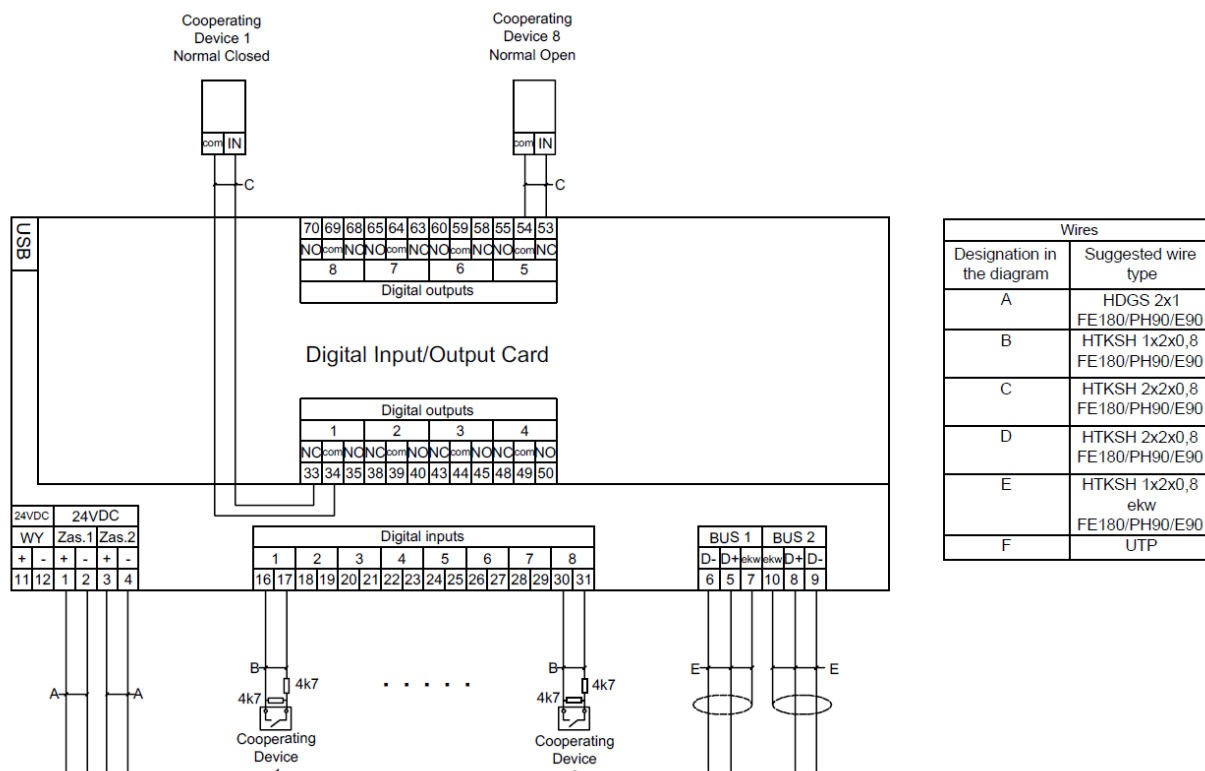
The digital input / output card is equipped with:

- 2 power supply inputs 24 VDC, primary and backup (missing one is reported as a failure)
- 1 power supply output 24 VDC with fuse
- 8 digital inputs with line break / short monitoring (can be disabled in the configurator)
- 8 potential-free digital outputs with line break control option (hardware option)
- 3 signaling LEDs on the card board (power / supervision, fault, fire)
- 2 LEDs indicating the current status for each card input and output (yellow fault LED, green I / O LED active)

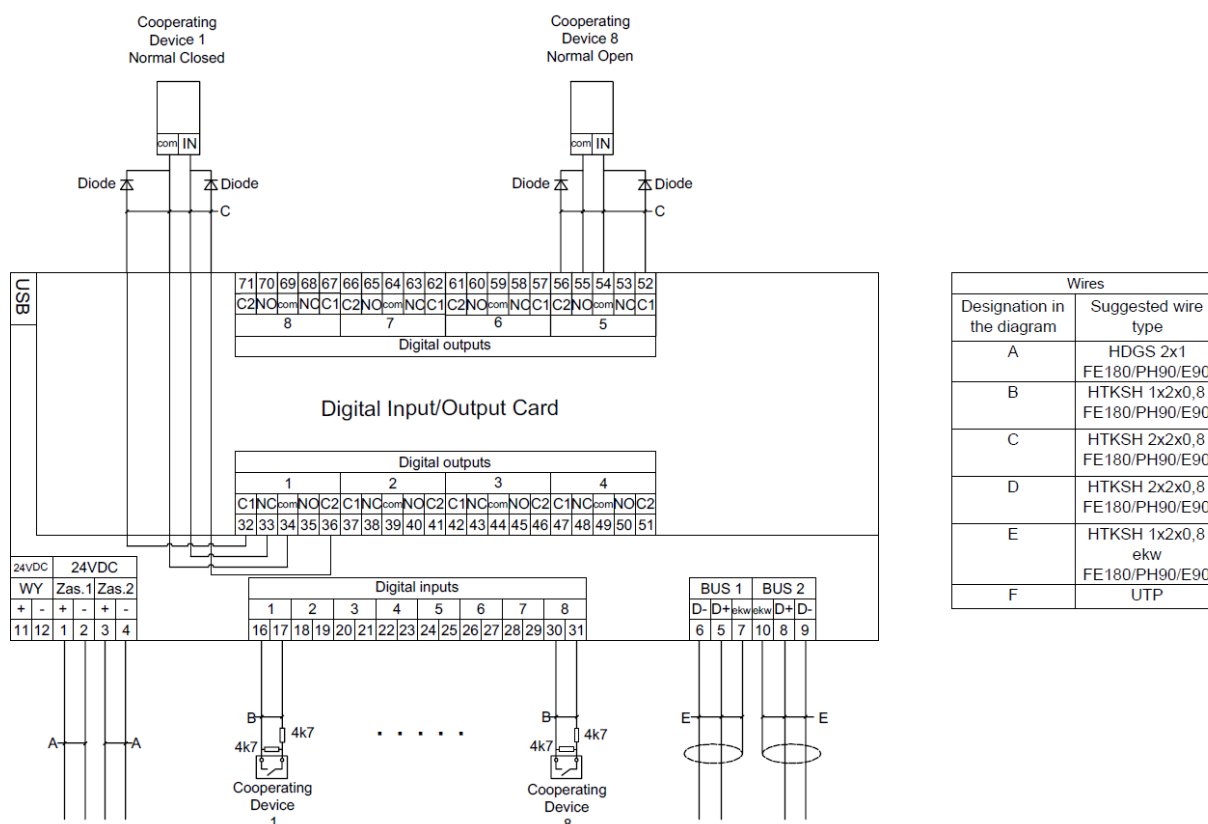
Technical data:

Power supply input 1 voltage	24 VDC +20%, -20%
Power supply input 2 voltage	24 VDC +20%, -20%
Power consumption	58W – total power consumption
	10 W – power consumption I/O module reply
	48 W – power consumption of the supply output
Power output voltage	24 VDC +20%, -20%
Maximum power of supply output	48 W
Digital inputs	<ul style="list-style-type: none"> - 8 digital inputs - configurable wire break / short control with resistors:4,7 kΩ - sampling voltage:18 VDC
Digital outputs	<ul style="list-style-type: none"> - 8 potential-free digital outputs - maximum switching voltage:250 VAC - maximum switching current:3 A - wire break monitoring possible (optional) - sampling voltage 5 VDC - diodes on the interrupt control circuits: 1N4007
BUS1, BUS2 maximum length of loop bus	<ul style="list-style-type: none"> - 2500 m total bus length - 250 m between individual modules

WIRING DIAGRAMS



Picture 5.6. Diagram of electrical connections without line break monitoring at the outputs



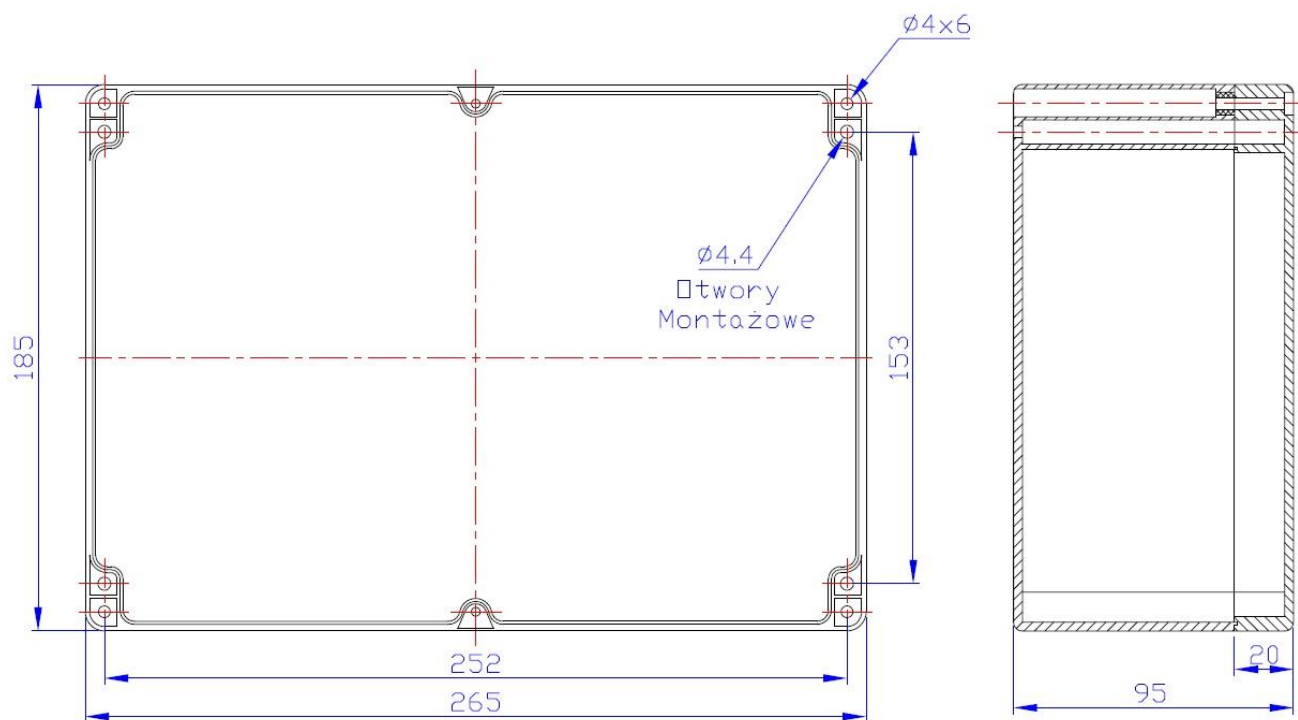
Picture 5.7. Diagram of electrical connections with line break / short monitoring on inputs and outputs

DIMENSIONS AND MOUNTING OF THE DIGITAL INPUT/OUTPUT CARD



Picture 5.8. Front view of the Digital I / O card

As standard, for installation inside Power Supplies for Fire Equipment or control cabinets the **digital input/output card** is placed in a Gainta or Kradex casing (ZJ or TH series) with dimensions:



Picture 5.9. Dimensions of Digital I / O card

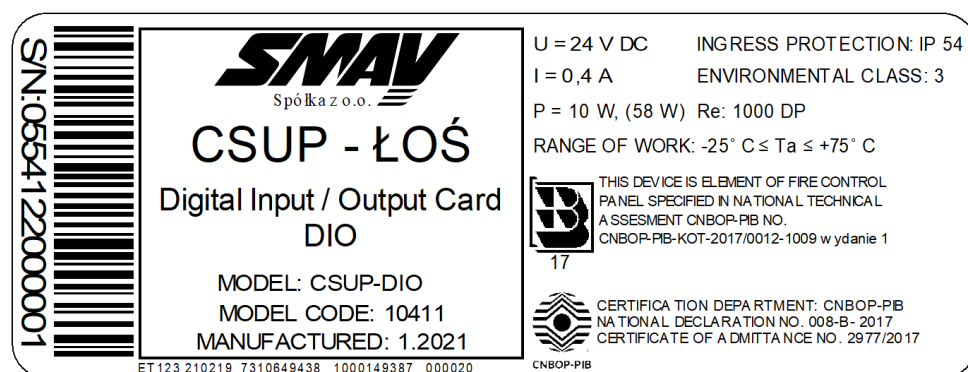
The digital input / output card is designed to be mounted on any surface using four screws or bolts.

If the digital input / output card is to be installed in the field (outside the control cabinets), the FAEG housing is recommended.

It is possible to deliver the digital input / output card in other casing listed below after prior agreement with the customer:

- Pawbol seria S-BOX
- Abtech seria ZPS
- Faeg seria FG

DEVICE IDENTIFICATION



Picture 5.10. Nameplate for digital input/output card with output control

5.3. Analog Inputs / Outputs Card

GENERAL INFORMATION

The analog input / output Card is a CSUP module that enlarges Fire Control Panel by another 2 analog inputs and 2 analog outputs. The card is adapted to operate with analogue current signals in the range 4-20 mA, providing line break control.

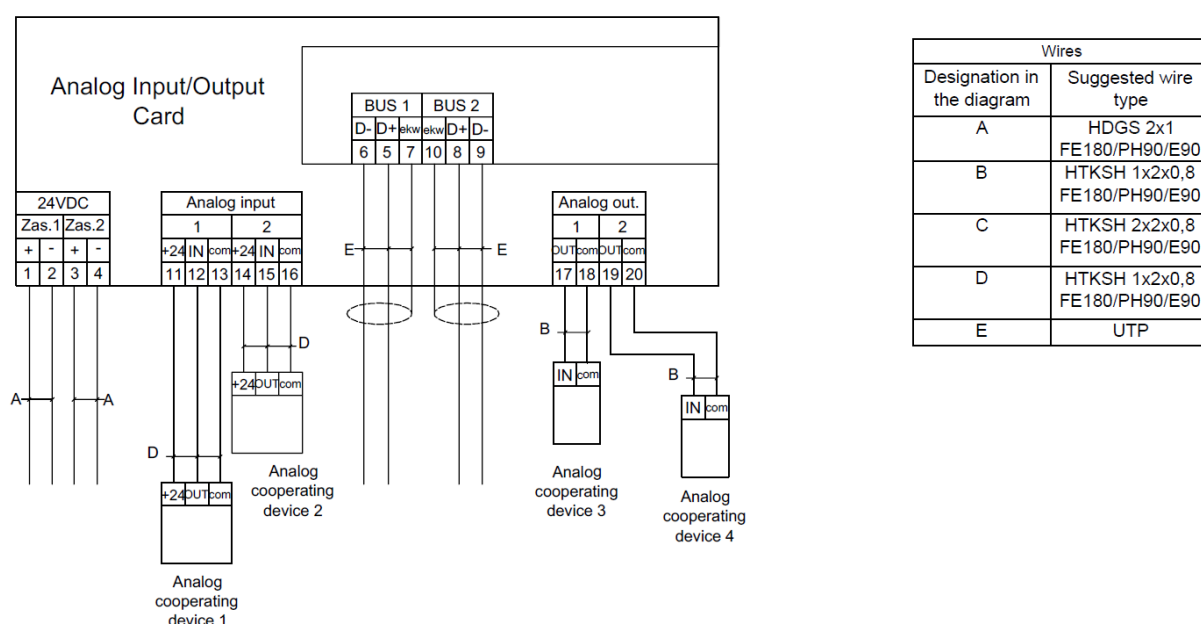
The analog input / output Card is equipped with:

- 2 power supply inputs 24 VDC, primary and backup (missing one is reported as a failure)
- 2 analog inputs (0)4-20mA
- 2 analog outputs (0)4-20mA
- 3 signaling LEDs on the card board (power / supervision, fault, fire)
- 2 LEDs indicating the current status for each card input and output (yellow fault LED, green I / O LED active)

Technical data:

Power supply input 1 voltage	24 VDC +20%, -20%
Power supply input 2 voltage	24 VDC +20%, -20%
Power consumption	4 W
Analog inputs	<ul style="list-style-type: none"> - 2 current inputs - input signal range: (0) 4-20 mA - input voltage: 15 VDC - maximum input current: 25 mA
Analog outputs	<ul style="list-style-type: none"> - 2 current outputs - output signal range: (0) 4-20 mA - output voltage: 15 VDC
BUS1, BUS2 maximum length of loop bus	<ul style="list-style-type: none"> - 2500 m total bus length - 250 m between individual modules

WIRING DIAGRAMS



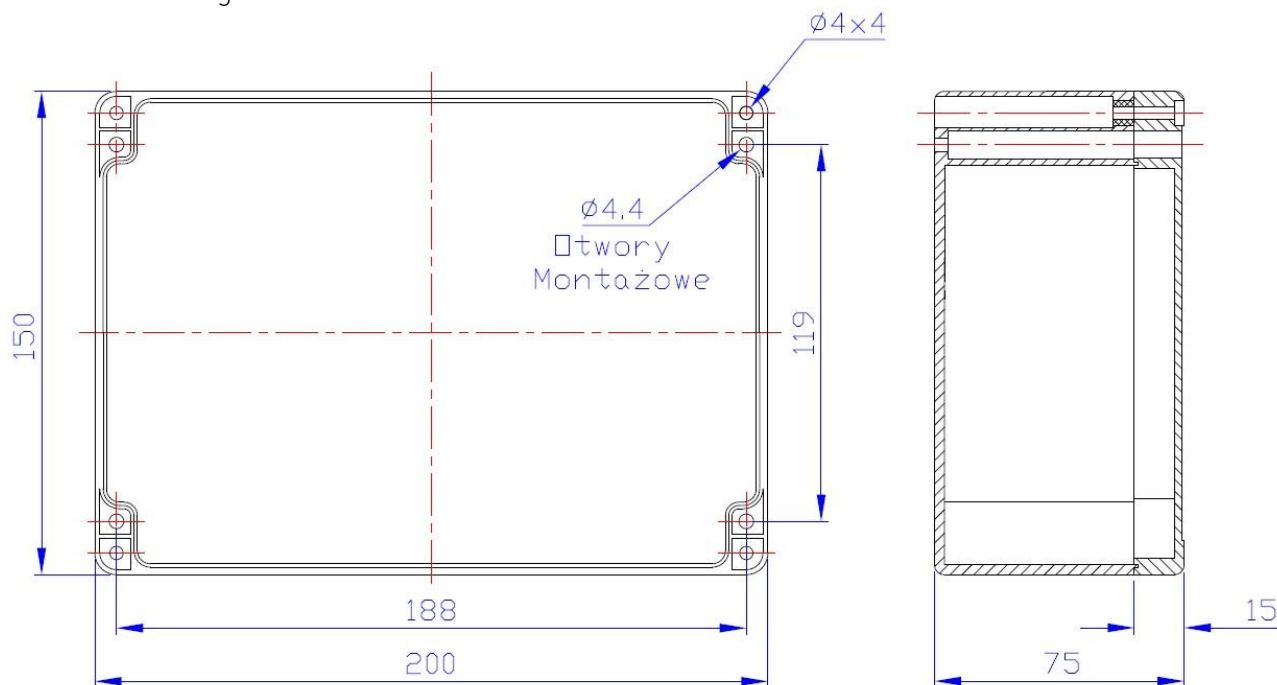
Picture 5.11. Electrical connection diagram Analog I / O card

DIMENSIONS AND INSTALLATION OF ANALOG INPUT / OUTPUT CARD



Picture 5.12. Front view of the Analog I / O card

As standard, the analog I / O card is mounted in a Gainta or Kradex housing (ZJ or TH series) with the following dimensions:



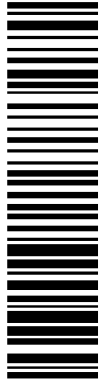



Picture 5.13. Dimensions of the analog input / output card

The analog I / O card is designed to be mounted on any surface using four bolts or screws. It is possible to deliver the analog input / output card in other casing listed below after prior agreement with the customer:

- Pawbol S-BOX series

- Abtech ZPS series
- Faeg FG series

DEVICE IDENTIFICATION

S/N: 0657101000001 	 Spółka z o.o. CSUP - ŁOŚ Analog Input /Output Card AIO MODEL: CSUP-AIO MODEL CODE: 10411 MANUFACTURED: 1.2021	U = 24 V DC INGRESS PROTECTION: IP 54 I = 0,14 A ENVIRONMENTAL CLASS: 3 P = 4 W Re: 1000 DP RANGE OF WORK: -25° C ≤ Ta ≤ +75° C
	 17  CNBOP-PIB	THIS DEVICE IS ELEMENT OF FIRE CONTROL PANEL SPECIFIED IN NATIONAL TECHNICAL ASSESSMENT CNBOP-PIB NO. CNBOP-PIB-KOT-2017/0012-1009 w wydanie 1 CERTIFICATION DEPARTMENT: CNBOP-PIB NATIONAL DECLARATION NO. 008-B-2017 CERTIFICATE OF ADMITTANCE NO. 2977/2017

ET 123 210219 7310649439 1000149387 000030

Rys. 5.14. Tabliczka Znamionowa Karty wejść/wyjść analogowych

5.4. Analog Input Card

GENERAL INFORMATION

The analog input card is a CSUP module that enlarges Fire Control Panel by another 4 analog inputs. The card is adapted to operate with analogue current signals in the range 4-20 mA, providing line break control.

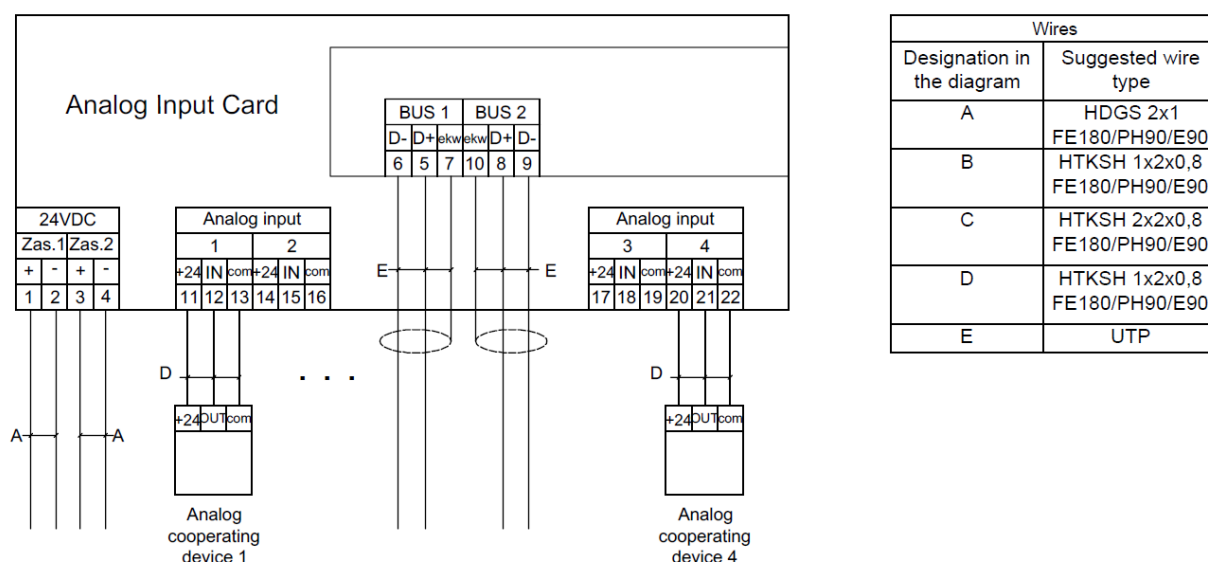
The analog input card is equipped with:

- 2 power supply inputs 24 VDC, primary and backup (missing one is reported as a failure)
- 4 analog inputs (0) 4-20mA
- 3 signaling LEDs on the card board (power / supervision, fault, fire)
- 2 LEDs indicating the current status for each input (yellow fault LED, green input LED active)

Technical data:

Power supply input 1 voltage	24 VDC +20%, -20%
Power supply input 2 voltage	24 VDC +20%, -20%
Power consumption	4 W
Analog inputs	<ul style="list-style-type: none"> - 4 current inputs - input signal range: (0) 4-20 mA - input voltage: 15 VDC - maximum input current: 25 mA
BUS1, BUS2 maximum length of loop bus	<ul style="list-style-type: none"> - 2500 m total bus length - 250 m between individual modules

WIRING DIAGRAMS



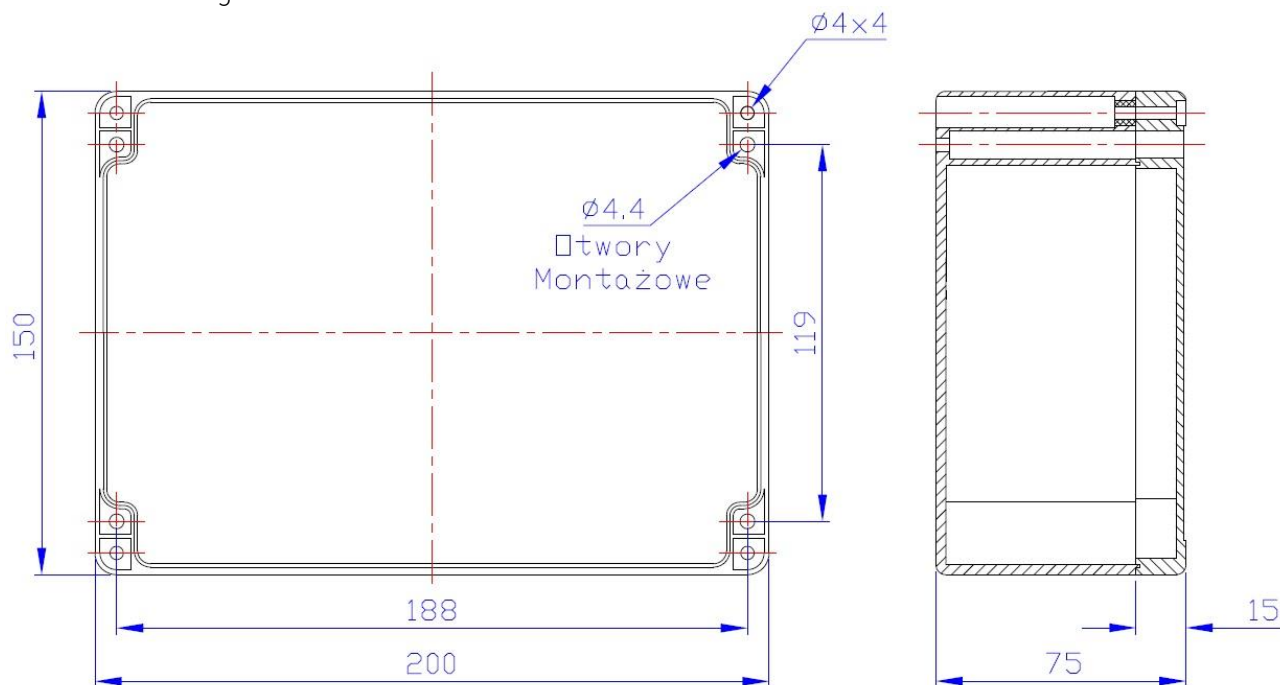
Picture 5.15. Diagram of electrical connections Analog input card

DIMENSIONS AND INSTALLATION OF ANALOG INPUT CARD



Picture 5.16. Front view of the Analog Input card

As standard, the analog input card is mounted in a Gainta or Kradex housing (ZJ or TH series) with the following dimensions:







Picture 5.17. Dimensions of the analog input card

The analog input card is designed to be mounted on any surface using four bolts or screws. It is possible to deliver the analog input card in other casing listed below after prior agreement with the customer:

- Pawbol S-BOX series
- Abtech ZPS series
- Faeg FG series

DEVICE IDENTIFICATION

 SN: 0557103000001	 Spółka z o.o.	U = 24 V DC INGRESS PROTECTION: IP 54 I = 0,14 A ENVIRONMENTAL CLASS: 3 P = 4 W Re: 1000 DP RANGE OF WORK: -25° C ≤ Ta ≤ +75° C
	CSUP - ŁOŚ Analog Input Card AI MODEL: CSUP-AI MODEL CODE: 10411 MANUFACTURED: 1.2021	 17 THIS DEVICE IS ELEMENT OF FIRE CONTROL PANEL SPECIFIED IN NATIONAL TECHNICAL ASSESSMENT CNBOP-PIB NO. CNBOP-PIB-KOT-2017/0012-1009 w wydanie 1
ET 123 210219 7310649440 1000149387 000040		 CERTIFICATION DEPARTMENT: CNBOP-PB NATIONAL DECLARATION NO. 008-B- 2017 CERTIFICATE OF ADMITTANCE NO. 2977/2017

Rys. 5.18. Tabliczka Znamionowa Karty wejść analogowych

5.5. Analog Output Card

GENERAL INFORMATION

The analog output card is a CP module that enlarges Fire Control Panel by another 4 analog outputs. The card is adapted to operate with analogue current signals in the range 4-20 mA, providing line break control.

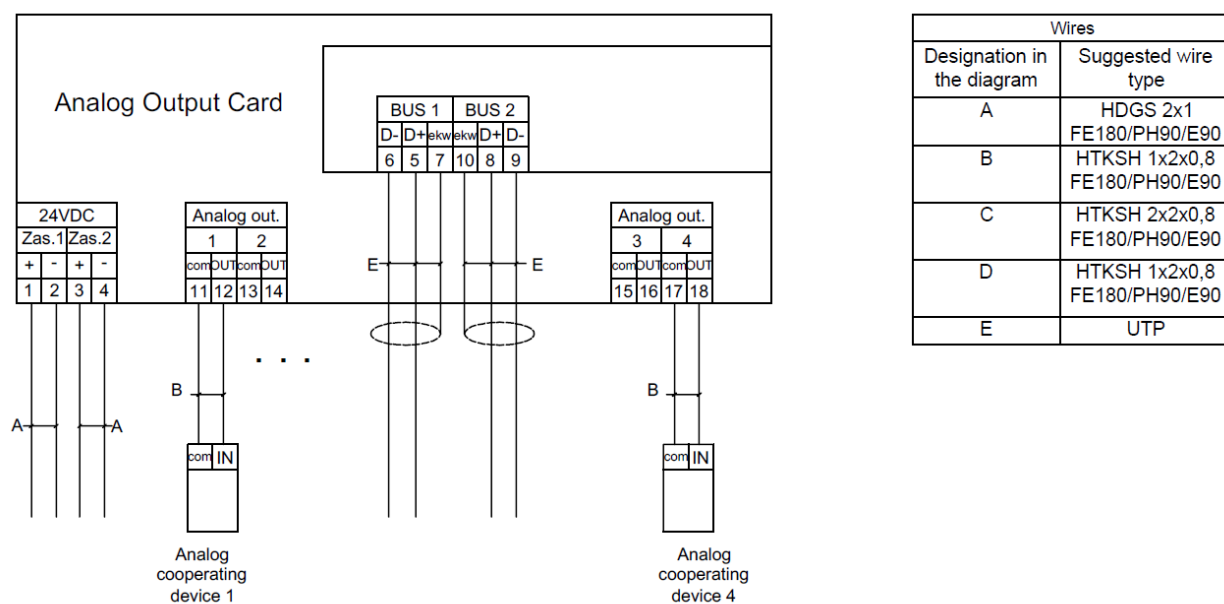
The analog output card is equipped with:

- 2 power supply inputs 24 VDC, primary and backup (missing one is reported as a failure)
- 4 analog outputs (0) 4-20mA
- 3 signaling LEDs on the card board (power / supervision, fault, fire)
- 2 LEDs indicating the current status for each input (yellow fault LED, green input LED active)

Technical data:

Power supply input 1 voltage	24 VDC +20%, -20%
Power supply input 2 voltage	24 VDC +20%, -20%
Power consumption	4 W
Analog outputs	<ul style="list-style-type: none"> - 4 current outputs - output signal range: (0) 4-20 mA - output voltage: 15 VDC
BUS1, BUS2 maximum length of loop bus	<ul style="list-style-type: none"> - 2500 m total bus length - 250 m between individual modules

WIRING DIAGRAMS



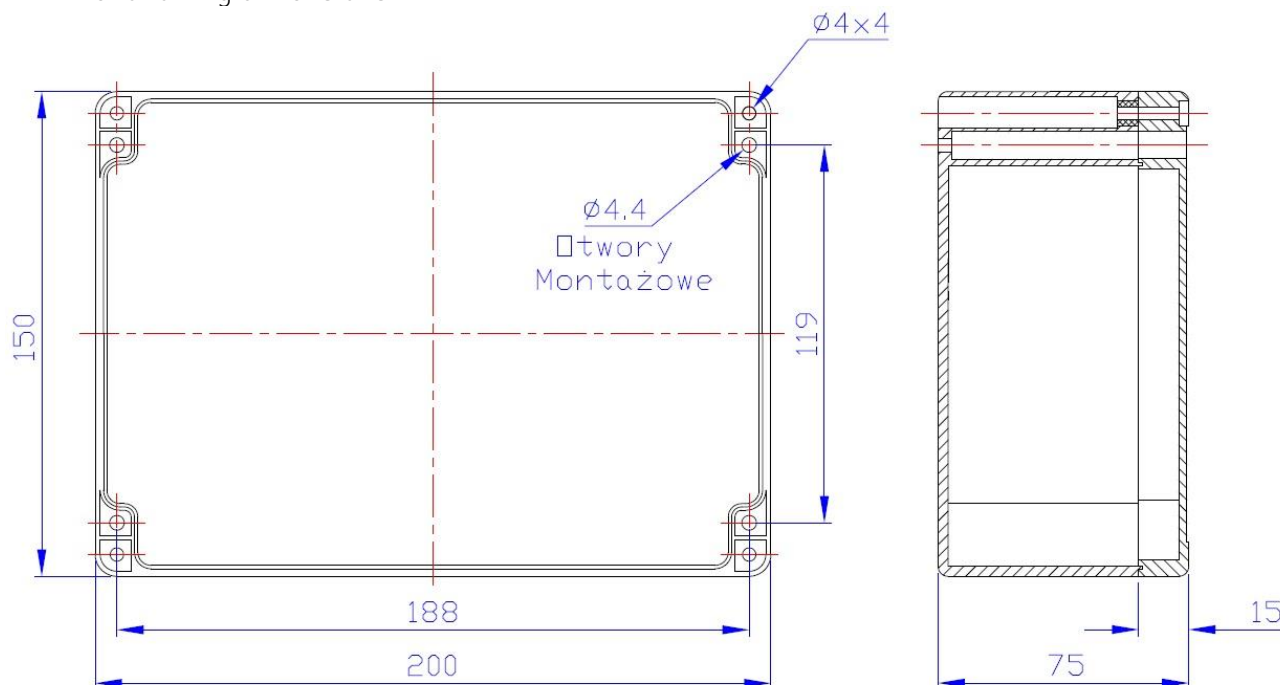
Picture 5.19. Diagram of electrical connections Analog output card

DIMENSIONS AND INSTALLATION OF ANALOG OUTPUT CARD



Picture 5.20. Front view of the Analog output card

As standard, the analog output card is mounted in a Gainta or Kradex housing (ZJ or TH series) with the following dimensions:



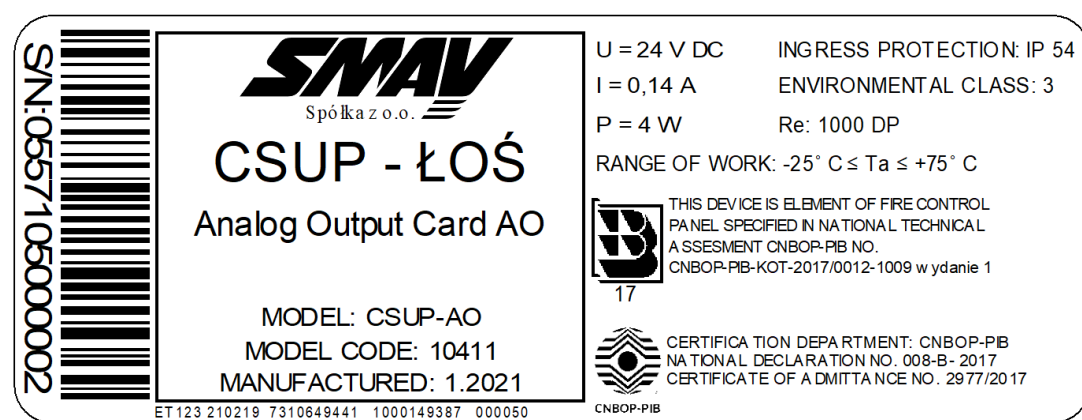
Rys. 5.21. Dimensions of the analog output card

The analog output card is designed to be mounted on any surface using four bolts or screws. It is possible to deliver the analog output card in other casing listed below after prior agreement with the customer:

- Pawbol S-BOX series

- Abtech ZPS series
- Faeg FG series

DEVICE IDENTIFICATION



Picture 5.22. Nameplate of the analog output card

5.6. Smoke Detectors and Manual Control Points Card

GENERAL INFORMATION

Smoke Detectors and Manual Control Points Card (SD/MCP) is a CSUP module designed to work with smoke detectors (smoke and heat), manual smoke exhaust buttons and ventilation buttons.

The card includes 4 inputs for 4 lines of detectors. Each line can have up to 32 smoke detectors. A total of 128 smoke detectors can be connected to one card. All 4 inputs for smoke detectors allow to monitor the line for short circuit / break (parameterized with 4.7 kΩ resistors).

The 4 digital outputs with 24 VDC power supply and 4 digital inputs included in the module enable to connect 4 lines of manual control points (MCP) or 4 lines of ventilation buttons (PP). Each line can have up to 10 manual control points (including ventilation controls) / ventilation buttons. A total of up to 40 MCP or up to 40 PP can be connected to one card. All 4 MCP inputs allow to monitor the line for short circuit / break (parameterized with 1.1 kΩ, 4.7 kΩ and 5.6 kΩ resistors).

The Smoke Detectors and Manual Control Points Card is equipped with:

- 2 power supply inputs 24 VDC
- 4 inputs for smoke detector detection lines
- 4 potential-free digital inputs for manual control points
- 4 digital outputs with 24 VDC supply for manual smoke exhaust buttons
- 3 LEDs on the card board (additionally 2 LEDs - fault and operation - for each control panel input and output)

Technical data:

Power supply input 1 voltage	24 VDC +20%, -20%
Power supply input 2 voltage	24 VDC +20%, -20%
Power consumption	10 W – total power consumption
	4 W – power consumption of the SD/MPC card 6 W – power consumption of digital outputs with 24 VDC supply
Smoke detector inputs / detection lines	- 4 zones of detection lines - sampling voltage: 24 VDC - wire break / short control resistors: 4.7 kΩ - voltage in the control circuit: 24 VDC
Powered digital outputs	- 4 digital outputs with power supply: 24 VDC - maximum power of a single output: 2.4 W - maximum current of a single output: 0.1 A
Digital inputs of manual smoke control buttons	- 4 potential-free digital inputs - interrupt / short circuit control resistors: 5.6 - 10 kΩ and 1.1 kΩ - sampling voltage: 24 VDC
BUS1, BUS2 maximum length of loop bus	- 2500 m total bus length - 250 m between individual modules

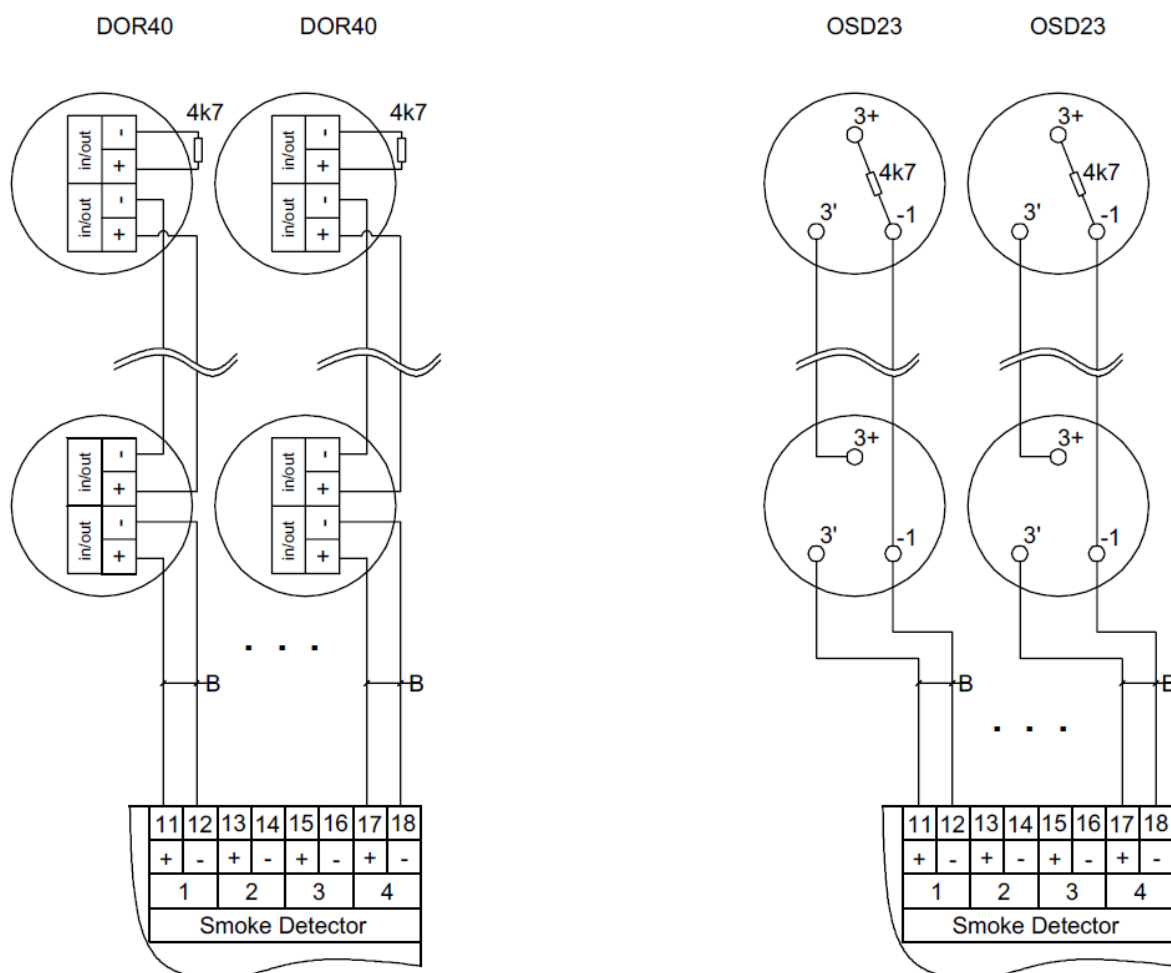
The SD/MCP card is adapted to work with smoke detectors:

- - DOR40 connected to socket G40
- - OSD23 connected to the GN18 socket
- - OSD63
- - others, compatible in terms of technical parameters

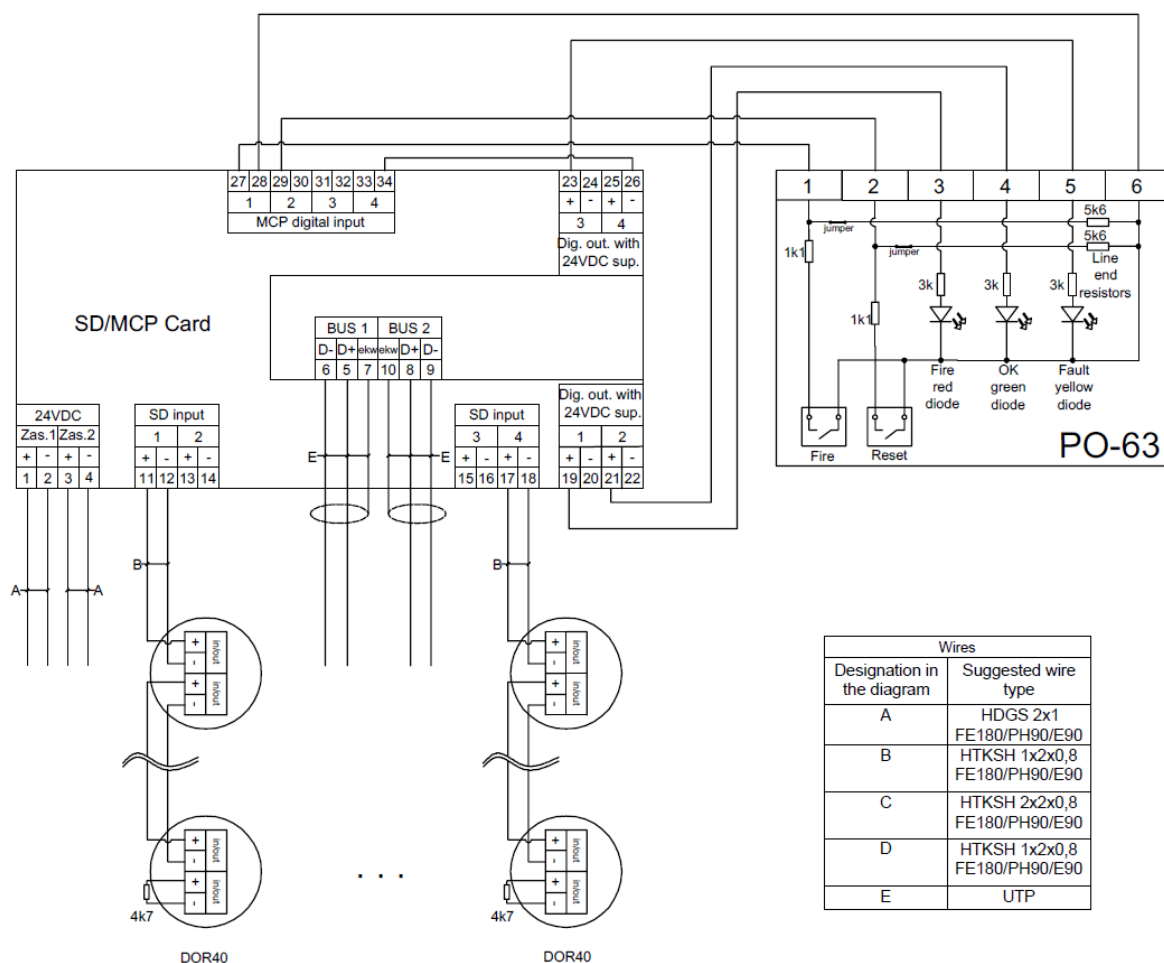
The SD/MCP card is adapted to work with the manual control points and ventilation buttons:

- PO-61
- PO-62
- PO-63
- RT45
- RT45 + LT
- LT-AP (ventilation button)
- others, compatible in terms of technical parameters

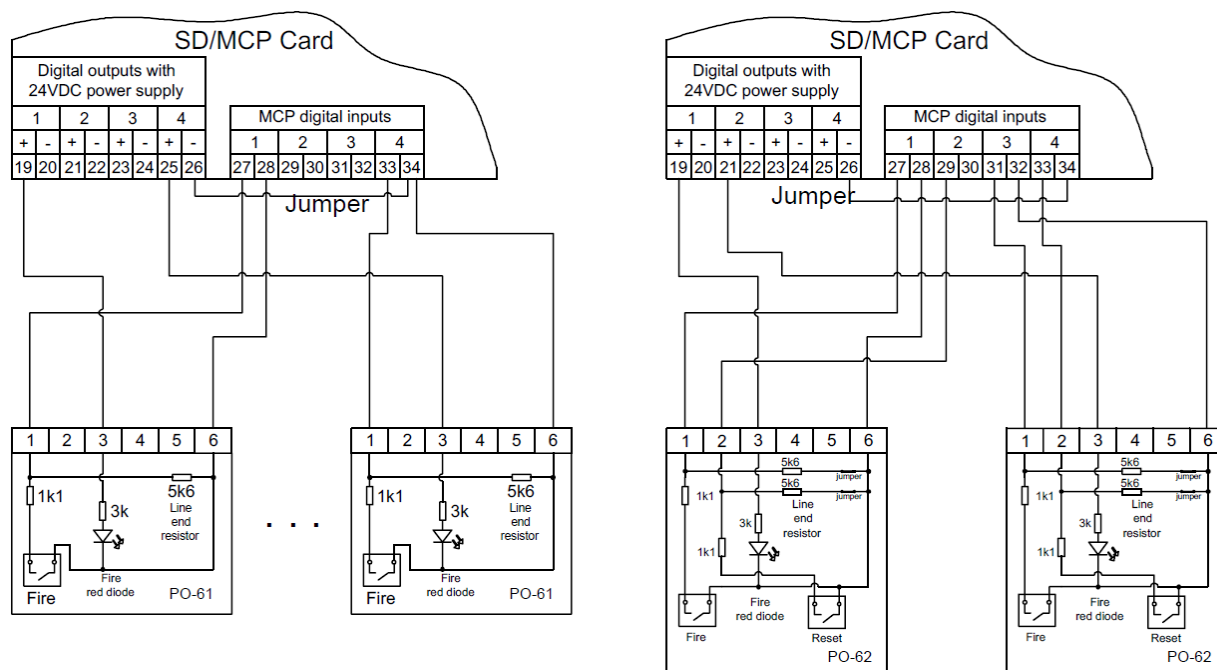
WIRING DIAGRAMS



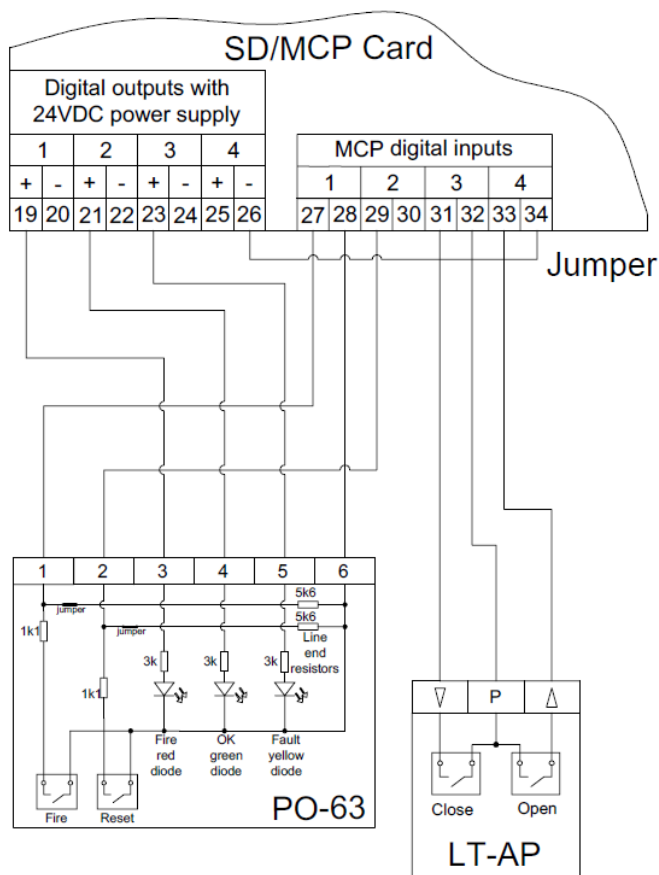
Picture 5.23. Diagram of connecting the DOR40 and OSD23 smoke detectors to the SD/MCP Card



Picture 5.24. Diagram of electrical connections SD/MCP cards for 4 lines of DOR40 smoke detectors and with a manual control point PO-63.

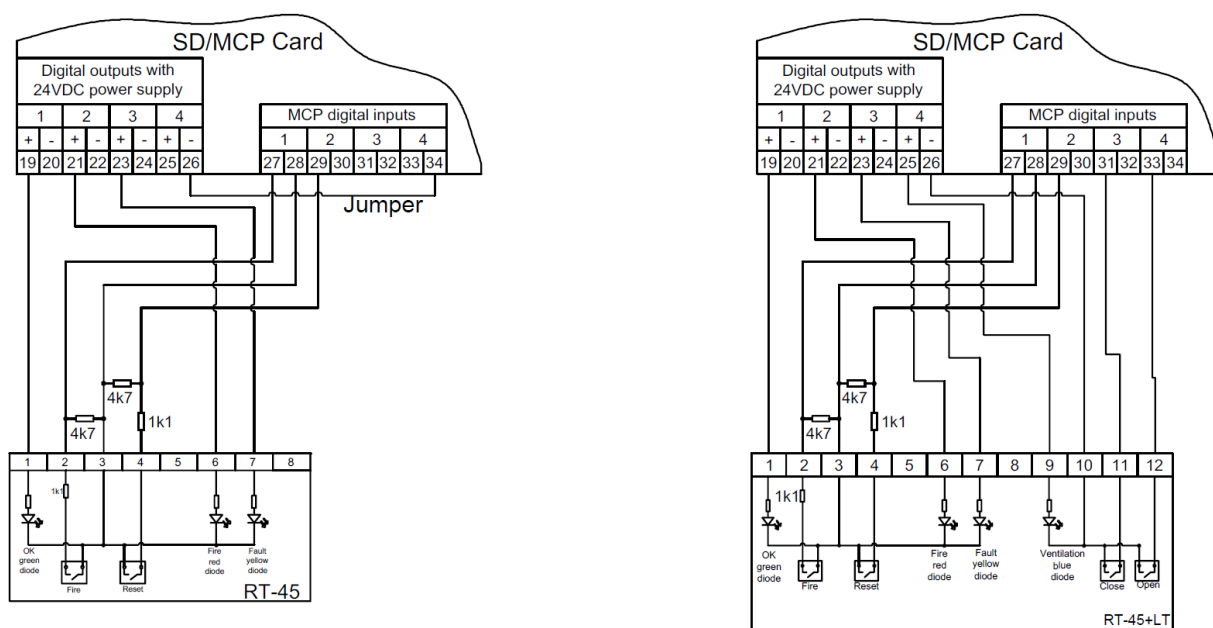


Picture 5.25. Diagram of connecting manual control points PO-61 and PO-62 to the SD/MCP card.



Picture 5.26. Diagram of connections for manual control points PO-63 and ventilation buttons LT-AP to the SC/MCP card.

The line termination resistors (Pict. 5.25, 5.26) should be left only in the last button in the line. Disconnect the resistors from the remaining buttons by cutting the jumper (Dsm wire). These loop-shaped wires extend vertically at both edges of the circuit board. Detailed information is included in the technical and operational documentation of the individual manual smoke exhaust buttons.



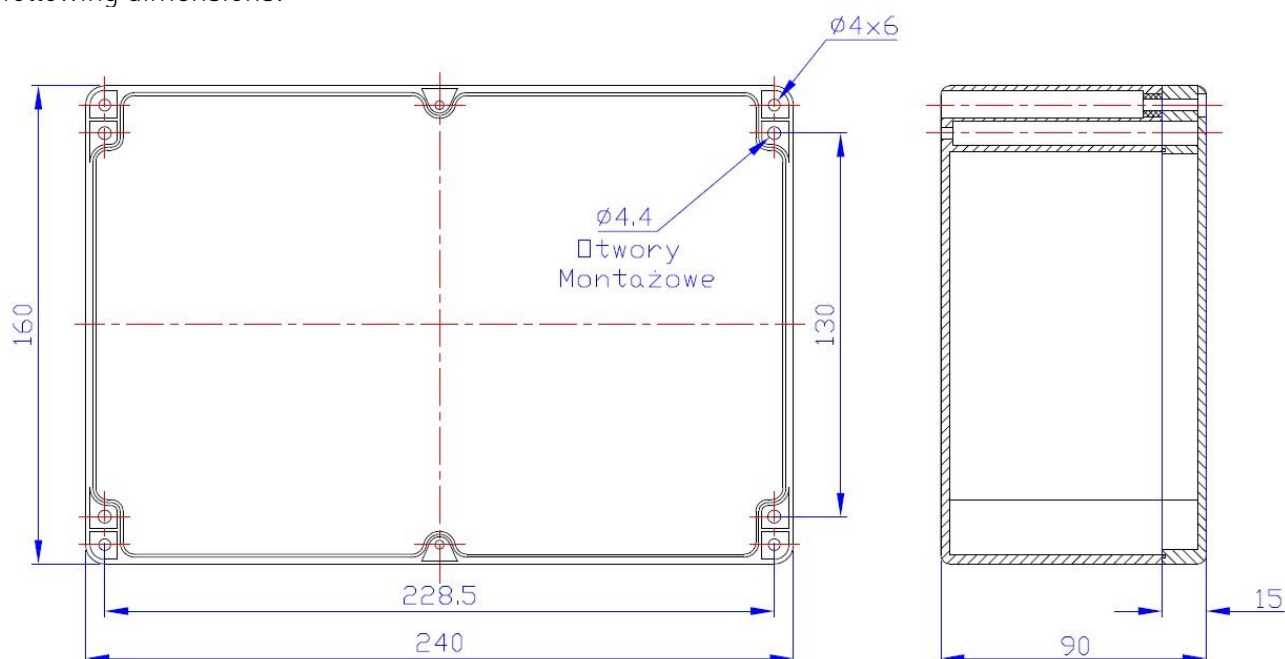
Picture 5.27. Diagram of connection of manual control points RT45 and RT45 + LT to the SD/MCP Card

DIMENSIONS AND INSTALLATION OF SD/MCP CARD



Picture 5.28. Front view of the SD/MCP cards

As standard, the SD/MCP card is mounted in a Gain or Kradex casing (ZJ or TH series) with the following dimensions:

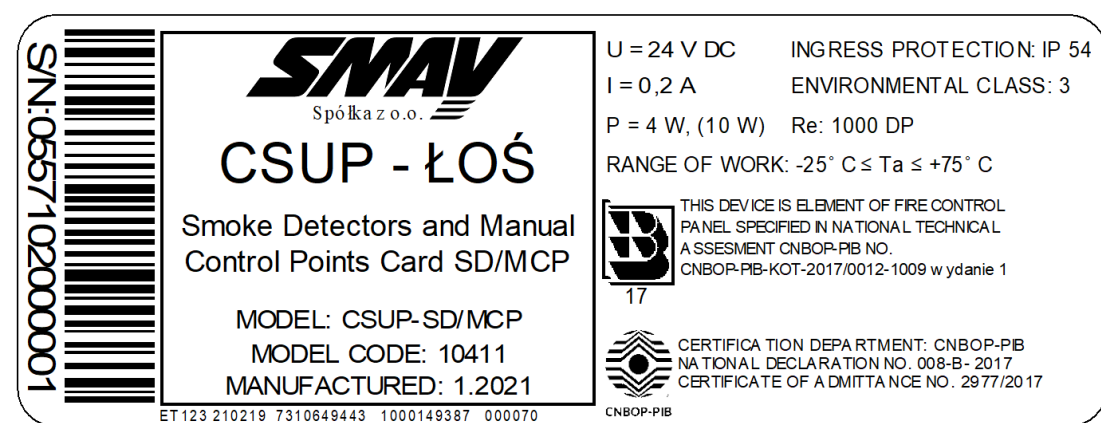


Rys. 5.29. Dimensions of the SD/MCP card

The SC/MCP card is designed to be mounted on any surface using four bolts or screws. It is possible to deliver the SC/MCP card in other casing listed below after prior agreement with the customer:

- Pawbol S-BOX series
- Abtech ZPS series
- Faeg FG series

DEVICE IDENTIFICATION



Picture 5.30. Nameplate of the SD/MCP card

5.7. RS card

GENERAL INFORMATION

The RS card is a CSUP module designed to work with the CO / LPG / NOX gas detection system. Communication with CO / LPG / NOX gas detectors takes place using the RS 485 input on the card and the Modbus RTU communication protocol. 32 CO / LPG / NOX gas detectors can be connected to one card.

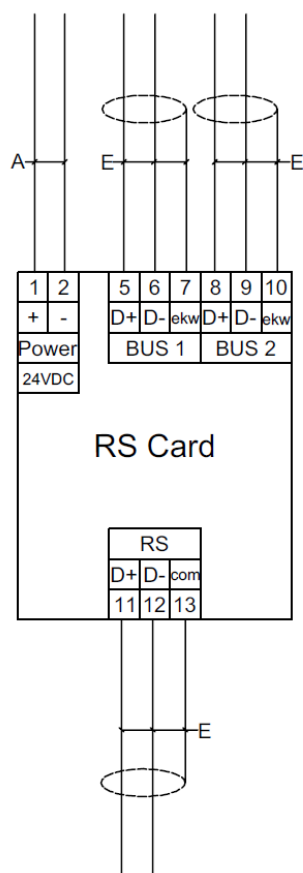
The RS card is equipped with:

- 1 power supply input 24 VDC
- 1 RS 485 communication link
- 1 LED (green)

Technical data:

Power supply input 1 voltage	24 VDC +20%, -20%
Power consumption	2 W
RS maximum length of loop bus	1200 m
Maximum number of detectors	32
BUS1, BUS2 maximum length of loop bus	- 2500 m total bus length - 250 m between individual modules

WIRING DIAGRAMS



Wires	
Designation in the diagram	Suggested wire type
A	HDGS 2x1 FE180/PH90/E90
B	HTKSH 1x2x0,8 FE180/PH90/E90
C	HTKSH 2x2x0,8 FE180/PH90/E90
D	HTKSH 2x2x0,8 FE180/PH90/E90
E	HTKSH 1x2x0,8 ekw FE180/PH90/E90
F	UTP

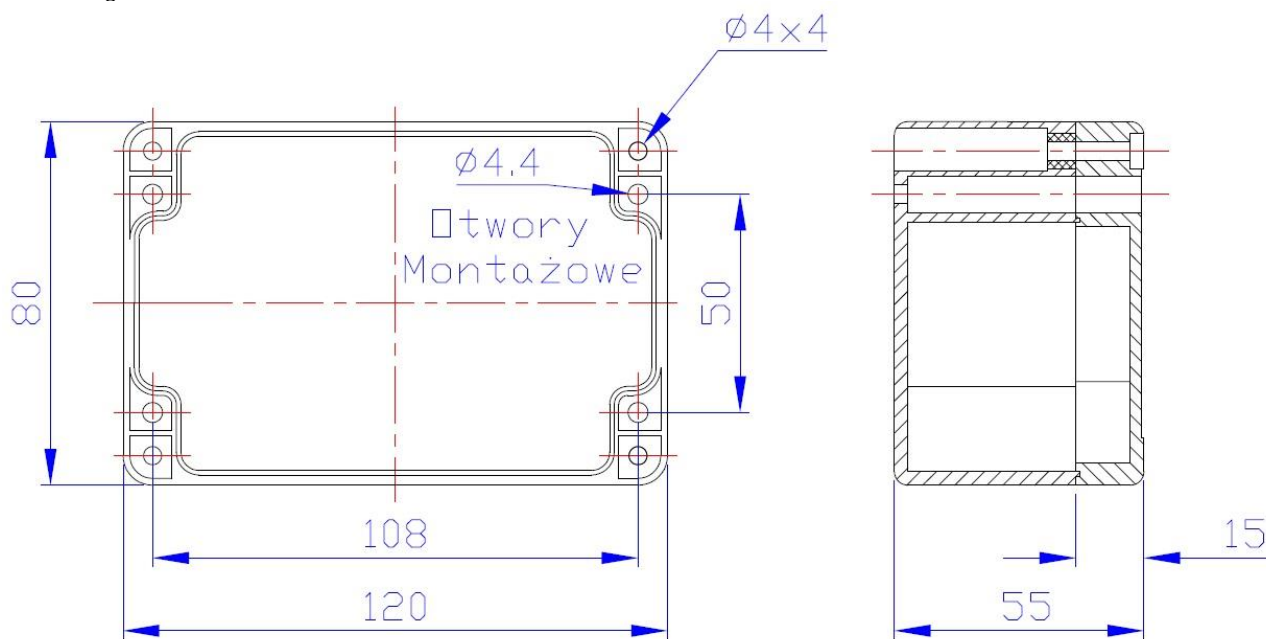
Picture 5.31. Diagram of electrical connections of the RS card

DIMENSIONS AND INSTALLATION OF THE RS CARD



Pic. 5.32. Front view of the RS card

As standard, the RS card is mounted in a Gain or Kradex casing (ZJ or TH series) with the following dimensions



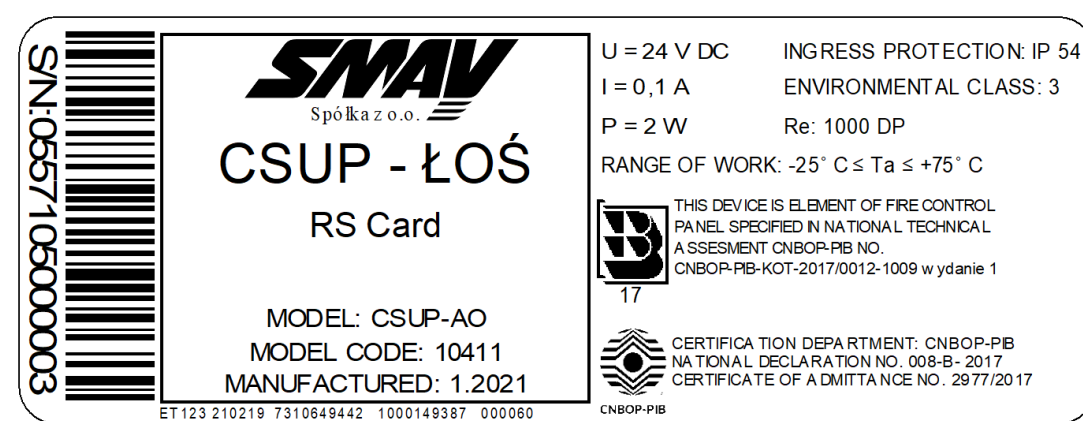
Picture 5.33. Dimensions of the RS card

The RS card is designed to be mounted on any surface using four bolts or screws.

It is possible to deliver the RS card in other casing listed below after prior agreement with the customer:

- Pawbol S-BOX series
- Abtech ZPS series
- Faeg FG series

DEVICE IDENTIFICATION



Picture 5.34. Nameplate of the RS card

6. Komunikacja

The individual modules included in the CSUP are connected with each other by means of a bi-directional ring LogicBUS data bus. A differential voltage-current signal is used to send information between devices. The transmission speed is 1500 [bps].

The control and monitoring loop ensures the bus resistance to a single loop failure. Breaking the bus in one section will not result in loss of communication between individual modules.

Up to 64 modules (Central Unit + 63 Cards) can be connected to the bus loop. The individual modules divide the main loop into sections. Each module on the bus is both the end and the beginning of a section. The length of sections between individual modules should not exceed 250 m. The total length of a single bus should not exceed 2500 m.

For a bus loop with a length of up to 1000 m, it is recommended to use the HTKSH ekw 1x2x0.8 FE180 / PH90 / E90 cable (or replacement). For loops with a length of 1000-1400 m, it is recommended to use HTKSH ekw 1x2x1 FE180 / PH90 / E90 cable (or replacement). If the loop exceeds 1400 m, it is recommended to use the HTKSH ekw 1x2x1.4 FE180 / PH90 / E90 cable (or replacement).

For proper communication work, connect the D + and D- signal lines and the screen on the BUS1 and BUS2 channels.

Technical data:

Transmission speed	1500 bps
Number of modules on a single loop	64 modules (Central Unit + 63 Cards)
Maximum distance between modules	250 m
Maximum length of the loop bus	2500
Communication cables	- loop bus up to 1000 m:: HTKSH 1x2x0,8 ekw FE180/PH90/E90 - loop bus above 1000 m up to 1400 m: HTKSH 1x2x1 ekw FE180/PH90/E90 - loop bus over 1400 m: HTKSH 1x2x1,4 ekw FE180/PH90/E90

7. Instruction of installation and commissioning of the CSUP

1) Purpose

The purpose of this manual is to discuss the correct installation and commissioning of the Control Panel. The described principles have direct impact on the safety of use as well as the correctness and failure-free operation..

2) Subject of the manual

The subject of the manual is to define the procedure to be followed during intallation and commissioning the device on site: **Fire Control Panel**.

3) Basic principles and information

The device is supplied with technical documentation, which is the part of the wiring diagram.

It is absolutely necessary to comply with the provisions of the technical and operational documentation during installation and commissioning.

Installation works may only be performed when the device is not power supplied. Before performing the assembly activities, it is necessary to inspect the device in terms of mechanical damage.

4) Casing

The modules included in the CP are placed in sealed IP54 casing. Access to the interior of the Central Unit is possible thanks to a key-operated inspection door. The remaining CP modules are closed with four screws. The front of the casing of all modules allows visual inspection of the signaling diodes.

5) Installation

Installation of the device on the site should be carried out in the place specified in the installation design, in accordance with the Operation and Maintenance Manual of the Fire Control Panel. Installation should be carried out by qualified personnel with professional experience in the field of electromechanical devices.

6) Connection and commissioning

All cables connected to the CSUP device should go through glands, in accordance with the provided technical documentation, in order to maintain the declared IP protection level. Pay attention to the purpose of the cable and go it through the gland closest to the terminals to which it is to be connected.

The electrical commissioning should be carried out in accordance with the technical documentation of the device, the industry design of the installation and the scenario of the development of events of a fire hazard.

The Fire Control Panel requires programming based on technical parameters of connected receivers and in accordance with the scenario of the development of events of a fire hazard. CSUP configurations are made using the CSUP Manager software.

The configuration manual in CSUP Manager is a separate document and is delivered with the device.

8. CSUP configuration manual

All inputs and outputs of the Fire Control Panel “Łoś” are configured according to the needs of a given building structure. The CSUP Manager program is used to configure the Fire Control Panel. The user manual for the configuration program is a separate document.

9. Testing instruction

After the correct installation, commissioning and configuration of the CSUP, in accordance with this technical and operational documentation, points 8 and 9, the CSUP tests and tests procedure should be performed.

9.1. Checking the signaling of the operating status of modules

Check that the POWER LED is on - on each of the modules - it means the power supply is present and the module is working properly.

9.2. Checking the correctness of the power supply

Measurement of correct power supply to all modules. For this purpose, a universal electric multimeter with a valid calibration certificate is used, and operated in accordance with the device's instruction manual. Measurements should be made on the connection blocks between the terminals of the primary and backup power supply input (except for the RS card - no backup power supply) "+" and "-". Additionally, in the same way, check the power supply output of the Control Panel. Voltage measurement results should be within the tolerance of 24 VDC + 20%, -20%.

9.3. Checking the correct operation and configuration

The correct operation and configuration of CSUP “Łoś” should be checked through the implementation of all scenarios of the development of events of a fire hazard provided for a given facility and operated by CSUP “Łoś”. The device operation algorithms should be checked due to the receipt of input signals, activation of outputs, interlocks and deletion of specific signals.

In case of improper operation, proceed to repair activities in accordance with the technical documentation of the device.

10. Packing, transport and storage

Any damage resulting from improper method of transport, unloading and storage is not covered by the warranty and claims in this respect will not be considered by SMAY Sp. z o.o.

10.1. Packing

Elements of the control panel for fire protection devices CSUP “Łoś” should be packed into cardboard boxes, and the empty spaces should be filled in to limit the possibility of free movement and protect against damage during reloading and transportation.

The following information should be provided on the transport packaging:

- manufacturer's name and mark,
- name, type of control panel.

10.2. Transport

Transport of CSUP “Łoś” packed in accordance with point 10.1, may be carried out by any means of transport protected against the possibility of mechanical damage and the effects of temperatures lower than -20 ° C and higher than + 80 ° C and relative humidity higher than 93 % at + 40 ° C, in accordance with the requirements of the applicable transport regulations..

!!! ATTENTION !!!

Do not drop or throw CSUP modules! The packaging the device is transported in does not prevent it from being damaged due to improper transport.

10.3. Storage

The control panel (all modules) should be stored in closed rooms at the temperature from 0 ° C to + 40 ° C and relative humidity up to 80% at the temperature of + 35 ° C, free from volatile sulfur compounds as well as acid and alkali vapors. The control panel should not be exposed to direct sunlight or ultraviolet rays and heating devices.

11. Operation and maintenance

- I. Read this documentation before commencing any operation and maintenance work. In particular, this is the duty of qualified personnel who are responsible for operating the device / system as part of operation and service. In the absence of qualified personnel with specific technical skills, an ongoing inspection of the devices should be performed by SMAY Service or an Authorized SMAY Service.
- II. Any damage to the CSUP device resulting from non-compliance with the guidelines contained in the documentation will not be subject to warranty repairs.
- III. It is recommended to test the CSUP device at least once a year. During the annual test must be performed:
 - checking the correctness of operation of individual component modules of the Fire Control Panel,
 - carrying out all possible CSUP controls according to the list of device functions adopted by the designer of the controlled system (pay special attention to the fire scenario)

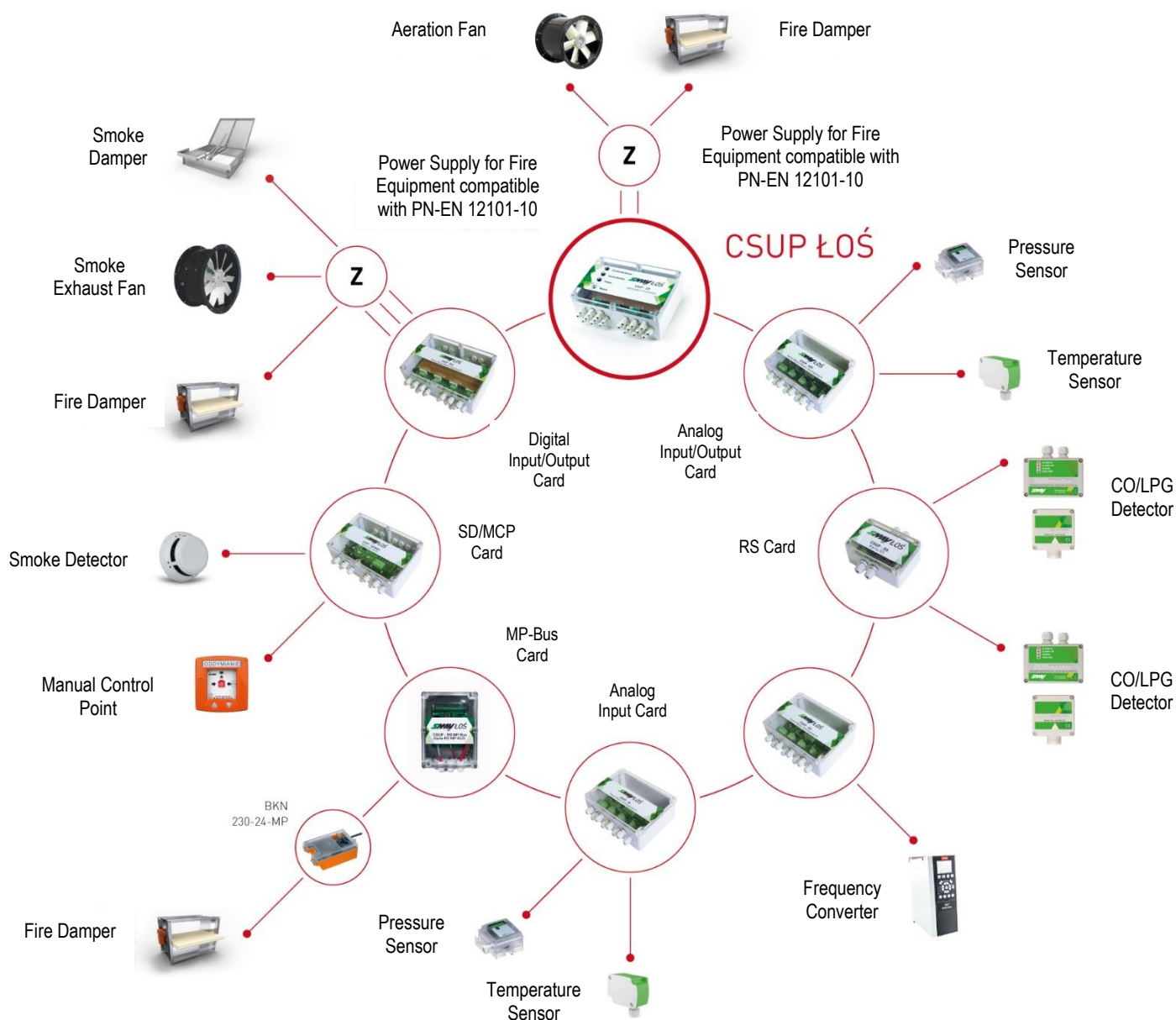
12. Product impact on the natural environment



The used product constitutes hazardous waste, which, after disassembly, should be transferred for disposal to a local recipient of waste electrical and electronic equipment.

Proper handling of used electrical and electronic equipment will contribute to avoiding effects harmful to human health and the environment resulting from improper storage and processing of such equipment.

13. Sample applications



14. Terms of warranty

Control Panel

The GUARANTOR provides a guarantee for the purchased product / system under the following conditions:

§1

The GUARANTOR guarantees the efficient operation of the purchased product / fire safety system and undertakes to remove defects free of charge if they occur within the granted warranty period. A fire safety product / system should be understood as:

- *Control Panel*

§2

The warranty for the system / product specified in these Warranty Conditions is valid in the territory of the Republic of Poland and is valid for a period of 24 months from the date of sale or another period agreed in the contract. The GUARANTOR provides a guarantee under the condition precedent, which is full payment of the applicable purchase price of the system / product. In the event of non-payment for the system / product, it remains the property of the GUARANTOR, and the warranty rights specified below do not arise and do not bind the GUARANTOR.

§3

It is possible to extend the warranty, provided that a separate Maintenance and Service Agreement is signed between the GUARANTOR and the owner / manager of the facility. Annual reviews are an integral part of this agreement. They are payable and include the replacement of consumable parts and the specification of the facility during the extended warranty period.

§4

The basis for considering the complaint is the submission of a complaint within the warranty period within 7 days from the date of detection of the defect, making the system / product available in the condition in which the defect was revealed, along with a detailed description of the technical problem and documents confirming the performance of any inspections provided by the GUARANTOR periodic checks / maintenance. Complaints are submitted by sending a completed "Complaint Notification Form" form available at www.smay.pl to the address of the WARRANT'S registered office. It is allowed to send the application form by e-mail to info@smay.pl or by fax. Further operation of the damaged system is absolutely forbidden / the product.

§5

The GUARANTOR commits to remove the defect within 2 working days from the date of receipt of the notification. The GUARANTOR undertakes to remove the defect within 21 working days from the date of receipt of the notification along with a complete set of documents (defect description - completed "Complaint Notification Form", copy of inspection records, periodic

inspections), and if it is necessary to bring materials or parts that are difficult to access, the repair will be carried out in the shortest, technically justified period. The warranty period is extended by the duration of the repair. The person entitled under the Guarantee is obliged to enable the GUARANTOR to perform all necessary actions related to the determination of the causes of the fault and its removal. The person entitled under the Guarantee bears the costs of repair and loses the guarantee granted to him. During the guarantee period, the GUARANTOR undertakes to remove faults and physical defects free of charge or to deliver a defect-free item, if the defect relates to an element included in the composition of the system and the subject of exchange, reported by the Employer.

§6

The warranty is valid if:

- system components / products that have been factory-sealed (if applicable) have intact, original seals or those installed by the WARRANTOR or a service authorized by the WARRANTY;
- system components / products are fully identifiable (in particular they have intact, legible nameplates - if any);
- all periodic, maintenance and service inspections and inspections required by the WARRANT and / or applicable law, in particular those specified in the Technical and Operational Documentation (if any), applicable standards, including PN-EN12101-6 (if applicable), required by the construction law (Act of 7 July 1994, Construction Law, uniform text Journal of Laws of 2013, item 1409, as amended), required by the Act of 24 August 1991 on fire protection (Journal of Laws of 2002, No. 147, item 1229, as amended), properly documented in the Inspection and Conservation Book and / or the facility book.
- system components / products were properly installed, used, operated and maintained in accordance with the GUARANTOR'S technical documentation, including the Operation and Maintenance Documentation (if any).

§7

The warranty does not cover:

- required by the GUARANTOR and / or applicable law, periodic, maintenance and service inspections and inspections, in particular those specified in the Technical and Operational Documentation (if any), applicable standards, including PN-EN12101-6 (if applicable), required construction law (Act of July 7, 1994, Construction Law, consolidated text, Journal of Laws of 2013, item 1409, as amended), required by the Act of August 24, 1991 on fire protection (Journal of Laws of 2002, No. 147, item 1229, as amended), the performance of which is required by the entitled under the Guarantee on his own and at his own expense;
- claims regarding technical parameters of products / system components, as long as they comply with those specified in the current documentation;
- normal wear and tear of the devices or their parts;
- wear of products / system components defined as operational, the service life of which depends on the intensity of use (eg circuit breakers, switches, tapes, fuses, batteries, accumulators, etc.);

- loss of data stored in the memory of relevant system components;
- loss of the control application settings due to the lack of primary power supply for a period longer than the guaranteed duration of the emergency power supply, after completing the commissioning process;
- malfunctions of third party software used to work with the purchased system.

§8

The warranty does not cover damage caused by reasons attributable to the person entitled under the warranty or third parties, both intentional and unintentional, in particular:

- resulting from connection of incorrect supply voltage or incorrect electrical installation, improper installation of the product / system, storage of its components or its operation in conditions and on terms not specified by the GUARANTOR in the Service Manual, Technical and Operation Documentation;
- neglect of the timely and qualitative performance of the appropriate inspections, periodic checks and maintenance, referred to in paragraph 6 above;
- resulting from the use of consumables (eg batteries, fuses, etc.), inconsistent with the GUARANTOR'S recommendations in the Technical and Operational Documentation;
- mechanical and electrical damage and defects caused by them;
- chemical and electrochemical damage resulting from the use of substances inconsistent with the station's material cards or the use of a device made of inappropriate material and the resulting defects;
- when repairs and interventions in the system were performed by unauthorized persons and not authorized by the GUARANTOR

§9

The warranty does not cover damage caused directly or indirectly by force majeure events, such as, in particular: flood, fire, lightning, etc.

§10

In case of unjustified claims, the entitlement to the guarantee, the GUARANTOR charges a diagnostic fee (performance tests) and a logistics fee (transport cost) according to the "Service Work Tariff", available at www.smay.pl

§11

The decisions of the GUARANTOR regarding the reported defects are final.

§12

In all matters not regulated above, the provisions of the Civil Code shall apply.