CSUP LOS
CONTROL PANEL FOR FIRE PROTECTION DEVICES

Product characteristics:
CSUP is designed to control and monitor the operation of devices used to ensure passive and active fire safety in buildings.

Intended use

CSUP Control Panel is designed to control and monitor the operation of devices used to ensure passive and active fire safety in buildings.

The CSUP can accept the initiating signals from the Fire Alarm System FAS and other fire safety systems or perform the control and monitor function on the basis of its own fire risk detection through smoke detectors and manual smoke exhaust buttons located on CSUP control lines.

The CSUP can be used in:

- public buildings,
- residential buildings,
- production sites,
- storage facilities.

Technical data

Table 1. Technical data

Supply voltage	2 power supply rails 24 VDC +20% -20%
Maximum length of the bus loop	2500 m
Maximum distance between modules	250 m
Amount of modules on a single bus loop	64 (central unit + 63 Cards)
Communication with BMS	Modbus, IP
Protection class IP	54
Place of installation	inside of the ZUP power supply unit or separately
Environmental class	III class
Operating temperature	from -25°C to +75°C
Permitted humidity level	from 10% to 90%
Structure	modular, dispersed
Functionality:	control and monitoring using digital and analog signals
	control via MP-bus protocol
	optical indication of operating states
	implementation of simple and complex control algorithms
Additional information:	meets the requirements of prEN 12101 part 9 „Control panels"
	basis for placing the device on the market: • National Technical Assessment; • National Certificate of Constancy of Performance; • Certificate of approval.

Operating Principle

CSUP enables the execution of implemented control algorithms, which are responsible for the execution of the fire scenario in the protected building. CSUP is used to control and monitor fire protection equipment and systems, such as:

- fans: supply, exhaust, smoke extraction, ventilation;
- fire dampers, smoke control dampers, smoke vents;
- actuators: linear, rotary, doors, windows;
- electro-holders for fire doors and gates;
- fire doors;
- smoke curtains;
- sets of products for pressure differentiation;
- smoke extraction kits.

The CSUP can control and monitor daily ventilation systems and equipment, such as:

- jet and duct ventilation of garages (temporary ventilation function);
- ventilation of warehouses and industrial halls;
- CO/LPG/NOX gas detection (ventilation function related to increased concentration of CO/LPG/NOX gases).
- CSUP can cooperate with other systems and devices with compatible communication inputs and outputs.

CSUP Modules

CSUP has a modular, dispersed structure. Depending on individual demand and the level of advancement of the fire protection system in the facility, the types of modules and its number are selected accordingly.

Each module is equipped with three signalling diodes to indicate the status of a given module. These are:

- POWER SUPPLY - green LED shows whether the control panel has power supply,
- FAILURE - yellow LED, indicates the detection of a failure in CSUP,
- FIRE - red LED, indicates receiving a fire alarm by CSUP, in this mode the control panel executes the preset fire scenario.

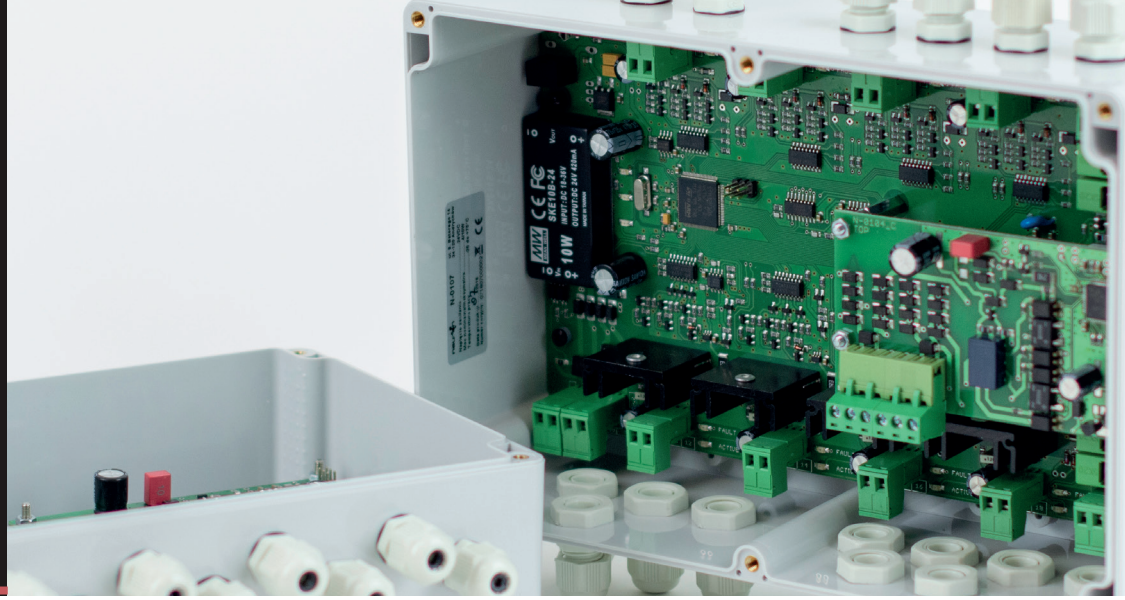

Table 2. CSUP modules

Lp	Module	Main data	Details
1.	Central Unit Symbol: CP	- 2 power inputs 24VDC - 1 power output 24VDC (max. 48W) - 8 digital inputs - 8 potential-free digital outputs (max. 250 VAC, 3A) - ModBUS RTU and TCP/IP - USB (B) ports – service function	The main module responsible for executing of the control algorithm. It can be used as a stand-alone controller for simple systems. Separate independent inputs for main power supply and reserve. All inputs have interruption/short-circuit monitoring, potential-free outputs are monitored. Each of the inputs and outputs has dedicated 2 signalling diodes for status indication (active, failure).
2.	Digital Input/Output Card Symbol: DIO	- 2 power inputs 24VDC - 1 power output 24VDC (max. 48W) - 8 digital inputs - 8 potential-free digital outputs (max. 250 VAC, 3A)	Extension module with additional 8 digital inputs and outputs Separate independent inputs for main power supply and reserve. All inputs have interruption/short-circuit monitoring, potential-free outputs are monitored. Each of the inputs and outputs has dedicated 2 signalling diodes for status indication (active, failure). As an option DIO card is available with up to four outputs with wire break and short-circuit detection dedicated for open-close actuators.
3.	Analog Inputs/Outputs Card Symbol: AIO	- 2 power inputs 24VDC - 2 analog signal inputs (0)4-20mA - 2 analog signal outputs (0)4-20mA	Extension module dedicated for analog devices. Separate independent inputs for main power supply and reserve. The module is designed to operate with current signals in the range of 4-20 mA, thus providing circuit breakage monitoring. Each of the inputs and outputs has dedicated 2 signalling diodes for status indication (active, failure).
4.	Analog Inputs Card Symbol: AI	- 2 power inputs 24VDC - 4 analog signal inputs (0)4-20mA	
5.	Analog Outputs Card Symbol: AO	- 2 power inputs 24VDC - 4 analog signal outputs (0)4-20mA	
6.	RS Card Symbol: RS	- 1 power input 24VDC - 1 communication link RS485	The module is designed to work with CO/LPG/NOX detection system. 32 CO/LPG/NOX gas detectors can be connected to one card.
7.	Smoke Detectors and Manual Control Point Card Symbol: SD/MCP	- 2 power inputs 24VDC - 4 inputs of surveillance lines SD - 4 digital inputs for MCP - 4 digital outputs with 24VDC power supply for MCP	Up to 128 smoke detectors and up to 40 manual smoke alarms can be connected to one card. All inputs have interruption/short-circuit monitoring. Separate independent inputs for main power supply and reserve.
8.	Universal Input/Output Card Symbol: UIO	2 power inputs 24VDC 1 power output 24VDC (max. 48W) 8 digital inputs 8 24VDC outputs or potential-free digital outputs	Card predominantly dedicated for control and monitoring of open-close actuators of type BLE24, BEE24 or BE24 (three wired) used for example in fire dampers. 24VDC outputs provide both power supply and monitoring of actuator wires.

Example solution

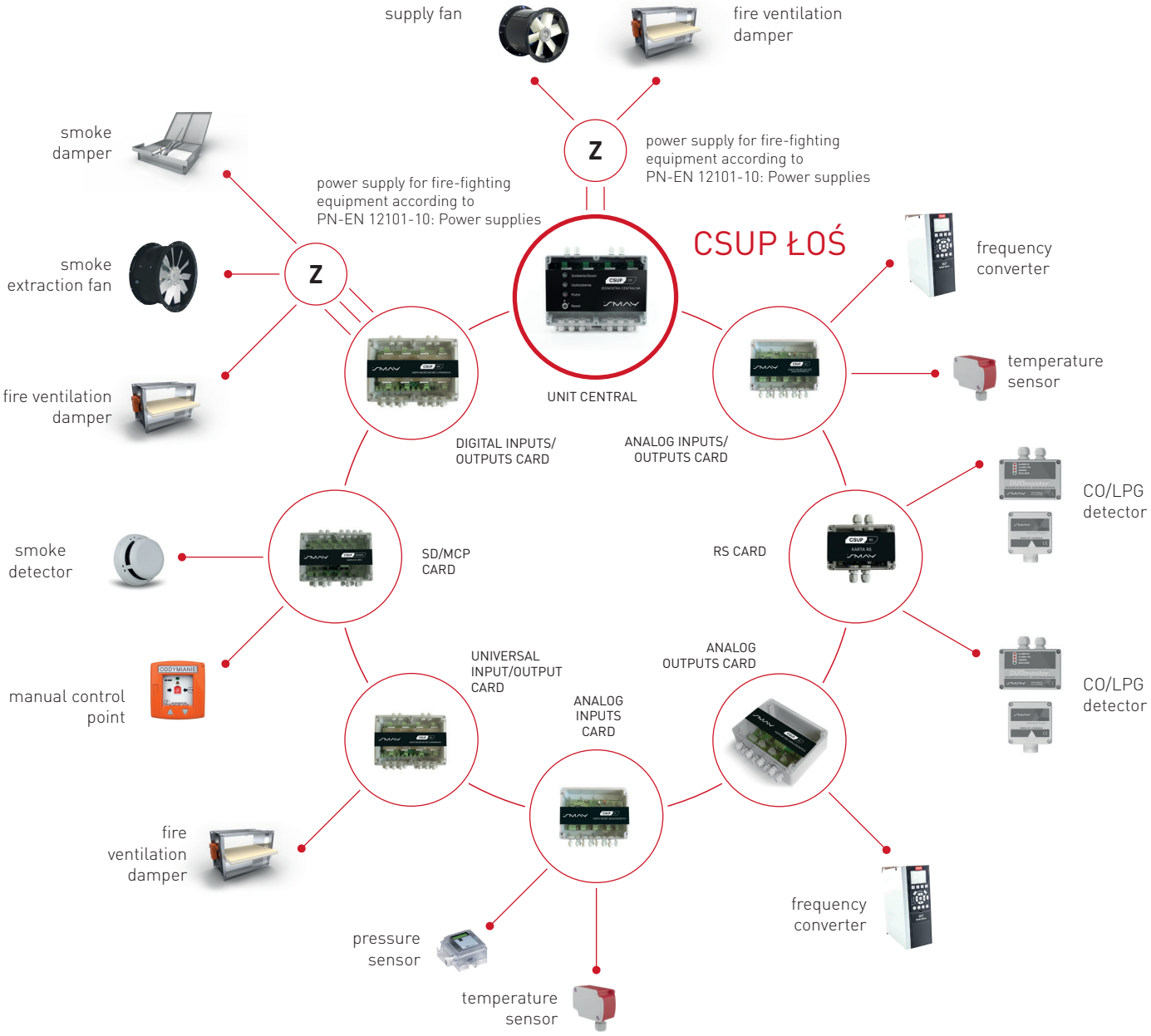

Diagram 1. Example solution

CSUP - Control panel for fire protection devices

When ordering the CSUP Control Panel, please provide information as follows:

CSUP-<W>

Where:

CSUP	general name: Control Panel for Fire Protection Devices
W	CSUP module, version
CP	– central unit, outputs with no line breakage monitoring
CP-C	– central unit, outputs with line breakage monitoring
DIO	– digital inputs/outputs card, outputs with no line breakage monitoring
DIO-C	– digital inputs/outputs card, outputs with line breakage monitoring
DIO-K1	– digital input/output card, one output with actuator control
DIO-K2	– digital input/output card, two outputs with actuator control
DIO-K3	– digital input/output card, three output with actuator control
DIO-K4	– digital input/output card, four output with actuator control
AIO	– analog inputs/outputs card
AI	– analog inputs card
AO	– analog outputs card
RS	– RS card for detection system
SD/MCP	– smoke detectors and manual push buttons card
UIO	– universal input/output card

Example: **CSUP-CP, CSUP-DIO**

! The CSUP requires a CP Central Unit to operate properly.

! It is possible to order the cards themselves, without CP central unit.