SR-300

Smoke Extraction
Control Panel

Operation and Maintenance Manual

SMAY™

https: // www.smay.eu

Version 1.5 as of 12/2023

SMAY reserves the right to modify this document.

1 Table of Contents

1. Introduction

Detailed familiarisation with these operating instructions for the SR-300 RYS smoke control panel in accordance with the descriptions given therein and observance of all safety conditions form the basis for correct and safe operation of the unit.

It is assumed that work relating to transport, connection of plant associated with the appliance as well as maintenance and repair is carried out by qualified personnel or is supervised by authorised persons.

Qualified personnel are understood to be persons who, in view of their training, professional experience of electronic equipment and knowledge of the relevant standards, documentation and regulations relating to safety and working conditions, have been authorised to carry out the necessary maintenance work on the basis of training protocols and are able to diagnose and eliminate potential hazards.

The following operating instructions provide information on the application, construction, assembly, use and maintenance of the SR-300 RYS smoke control panel. If the units are operated as intended, this manual and other documents included with the unit contain the instructions necessary for qualified personnel.

NOTE:

The manufacturer reserves the right to make changes to this instruction manual.

2. General Rules of Safe Use

The SR-300 RYS smoke control unit was designed and built to comply with the standard:

- **prEN – 12101-9:2011** Smoke and heat control systems – Part 9: Control panels

In designing and building the SR-300 RYS smoke control panel, SMAY used the latest technology to guarantees the highest level of safety.

SMAY carries out continuous production supervision, which directly translates into a high level of quality of the products offered, including the panels, their usability and their exceptional service life. Despite this, **devices can be dangerous if not properly used by unqualified personnel or used in a manner inconsistent with its intended use.**

NOTE:

Installation of the unit, connecting the associated systems, launching, operation and maintenance shall be performed in accordance with directives and legal regulations in force in the country where the unit is being installed.

The SR-300 RYS smoke extraction control panel should be used in compliance with the instructions for use and within the technical parameters given herein.

SMAY authorised service points should be contacted for help as needed during assembly, installation, commissioning, repairs and maintenance.

The documentation shall always be kept near the device to be easily accessible for the service personnel.

3. Legal Regulations

3.1. Marketing authorisation

The SR-300 RYS smoke extraction control panels were admitted to the market under documents issued by the Scientific and Research Centre for Fire Protection – National Research Institute in Józefów:

1. National Technical Assessment No: CNBOP-PIB-KOT-2019/0115-1009
2. National Certificate of Constancy of Performance: 063-UWB-0192
3. Certificate of Constancy of Performance: 1438-CPR-0667
4. Approval Certificate: 3779/2019

The SR-300 RYS smoke extraction control panel was awarded the "B" construction mark by the manufacturer. Its compliance with the National Technical Assessment has been confirmed by the National Declaration of Constancy of Performance No: 017-B-2019

The SR-300 RYS smoke extraction control panel was assigned by the manufacturer with the mark of the approval body of the Scientific and Research Centre for Fire Protection – National Research Institute in Józefów (CNBOP-PIB).

4. Concept of the SR-300 RYS Smoke Extraction Control Panel

4.1. Intended use of the SR-300 RYS smoke extraction control panel

The SR-300 RYS smoke extraction control panel is designed for the control, supply and monitoring of devices in smoke ventilation systems for buildings. It also provides the ventilation function using a weather station.

The control unit can transmit fire alarm signals to devices or systems that are responsible for fire safety on the premises. It is possible to use the control panel in the following structures:

- Residential buildings
- Public buildings
- Factories
- Warehouses

The RYS control panel makes it possible to connect and monitor lines, with the following items connected: smoke sensors for automatic smoke (smoke and heat) detection, as well as manual call points for the activation of an appropriate control and monitoring procedure for firefighting devices by a person who detects fire.

4.2. SR-300 RYS smoke extraction control panel technical data

The control unit can receive the initiating signals from the Fire AlarmSystem and other fire safety systems or can carry out its control and monitoring functions based on its own detection of the fire hazard by means of smoke (smoke and heat) sensors and manual call points placed on the SR-300 RYS Smoke control panel monitoring lines.

When a fire hazard is detected, the exhaust element located in the roof/upper part of the stairwell and the air compensation opening (door, air intake) are opened. Optionally, the acoustic/optical fire alarm may be activated. Optionally, if the building is fitted with electric door holders leading from the individual storeys to the stairwell, the doors are released and closed.

The control unit is able to perform the following functions:

- Detection of fire hazards via smoke and/or heat sensors
- Manual activation by means of manual call points
- Opening of the exhaust component
- Optical and acoustic sounder in the event of a fire hazard
- Ventilation of the stairwell when occupied
- Release of the door opener and door opening
- Communication with the fire alarm system, the system integrating fire protection equipment (SIUP), the BMS and the access control system (control signals, faults and operating acknowledgements)

4.3. Basic information

The SR-300 RYS smoke exhaust control panel is used to receive and process fire alarm signals from the fire alarm system, automatic smoke and heat sensors, manual call points, as well as to control and power executive elements of the staircase smoke exhaust system such as door actuators, exhaust element actuators, air intake actuators and devices cooperating with the SR-300 RYS smoke exhaust control panel, such as acoustic, optical and acoustic-optical sounders or electric strikers. The SR-300 RYS smoke exhaust control panel can cooperate with ventilation buttons and control ventilation with a weather station (optional feature).

The control panel is manufactured in accordance with and meets the design requirements of prEN 12101-9.

The integrated electrical supply for the control panel is made and certified in accordance with EN 12101-10.

Selectable group configurations: up to four smoke extraction groups and up to four ventilation groups.

The SR-300 smoke exhaust control panel is produced in 12 types, which differ in terms of the number of available inputs/outputs and power. For a description of each type, see subsection 4.4 of this manual. **Each of the 12 types of control unit can be extended with optional additional cards, which are described in section 6 of this manual.**

The maximum version of the control unit (SR-300 4.48 version without additional cards) has the following inputs/outputs:

- Power output – intended for use with 24 V DC-powered devices (48 W maximum)
- Actuator outputs – four outputs designed to work with 24 V DC electric actuators with variable polarity
- Electric door strike outputs – two voltage outputs intended to cooperate with door strikers
- Digital outputs – five potential-free outputs designed for:
  - fault signalling
  - four configurable outputs
- Supervised digital inputs – four inputs designed to receive digital signals, all inputs are configurable
- Unsupervised digital inputs – five inputs designed to receive the following digital signals:
  - signal from the weather station
  - power supply fault indication
  - 230 V AC mains fault indication
  - two configurable inputs

- MCP (manual call points) inputs – three lines (configurable fire/reset function for each input) supervised, intended for use with manual call points; up to 10 manual call points can be connected to a single line; all lines allow for monitoring of line short circuit/break status (parametrisation with 5.6 ÷ 10 kΩ resistors)
- MCP (manual call points) outputs – five outputs intended for signalling the status of the MCP: standby, fault, ventilation and fire (two outputs)
- SD smoke detector inputs – two conventional surveillance lines for use with smoke detectors; each line can accommodate up to 32 smoke detectors or smoke and heat detectors; all lines allow monitoring of line short-circuit/break conditions on the line (parametrisation with 4.7 kΩ resistors)

The SR-300 RYS smoke extraction control panel requires programming based on the technical parameters of the connected receivers and in accordance with the fire emergency scenario. The configuration of the SR-300 RYS smoke extraction control panel is done using a dedicated configurator.

The configuration instructions in the configurator are a separate document and are supplied with the unit. **The configurator can be downloaded from the SMAY website.**

4.4. SR-300 RYS extraction control panel series types

The SR-300 RYS smoke extraction control panel series consists of 12 types. The different types differ in the number of inputs, outputs and the maximum available current to supply the devices connected to the control panel. A description of the individual inputs and outputs of the control panel, together with their configuration options can be found in section 7 of this manual.

Table 4.1 considers the differences between the different types of SR-300, while technical data can be found in section 5.2 of this manual.

In Table 4.1, the inputs/outputs are separate from the inputs/outputs of the manual call points. There is one full input/output under MCP on each SR-300, while a simple MCP input/output is available on selected unit types.

The full MCP input/output includes:

- two supervised configurable inputs (fire and reset)

- two non-supervised configurable inputs (ventilation start and ventilation stop)

- four configurable outputs 24 V DC to MCP diodes (standby, fault, fire and ventilation)

A simple MCP input/output includes:

- one supervised configurable input (fire, reset)

- one 24 V DC output for fire indicator on the MCP

Table 4.1. SR-300 RYS extraction control panel series types

TYPE SR-300	1.4	1.8	1.8P	1.20P	2.8	2.20	2.29P	4.8	4.20	4.29	4.39	4.48
NUMBER OF FIRE ZONES	1	1	1	1	2	2	2	4	4	4	4	4
NUMBER OF VENTILATION ZONES	1	1	2	2	2	2	2	4	4	4	4	4
NUMBER OF ACTUATOR OUTPUTS	1	1	2	2	2	2	3	4	4	4	4	4
TOTAL OUTPUT CURRENT	5.5 [A]	10 [A]	10 [A]	22 [A]	10 [A]	22 [A]	31 [A]	10 [A]	23.4 [A]	31 [A]	41.3 [A]	46 [A]
POWER SUPPLY OUTPUT	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
POTENTIAL-FREE OUTPUTS	4	4	4	5	5	5	5	4	5	5	5	5
SUPERVISED INPUTS	2	2	2	2	3	3	3	4	4	4	4	4
UNSUPERVISED INPUTS	2	2	2	3	3	3	3	3	3	3	3	3
FULL MCP INPUT/OUTPUT	1	1	1	1	1	1	1	1	1	1	1	1
SIMPLE MCP INPUT/OUTPUT	0	0	0	0	1	1	1	1	1	1	1	1
SMOKE DETECTORS INPUTS	1	1	1	1	2	2	2	2	2	2	2	2
ELECTRIC DOOR STRIKE OUTPUTS	1	1	1	1	2	2	2	2	2	2	2	2
SLOT FOR SIGNALLING DEVICE BOARD	1	1	1	1	1	1	1	1	1	1	1	1
CONTROL PANEL FUNCTIONALITY WITH SIGNALLING DEVICE BOARD	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out	+2 sound out. +2 vis. out
WEATHER STATION BOARD SLOT	1	1	1	1	1	1	1	1	1	1	1	1
CONTROL PANEL FUNCTIONALITY WITH WEATHER STATION BOARD	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor	+1 Wind & rain sensor
SLOT FOR THE DIGITAL I/O BOARD	1	1	1	1	1	1	1	1	1	1	1	1
CONTROL PANEL FUNCTIONALITY WITH DIGITAL I/O BOARD	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.	+2 Sup. in. +2 No-pot. out.
SLOT FOR MCP BOARD	0	0	0	0	1	1	1	1	1	1	1	1
CONTROL PANEL FUNCTIONALITY WITH MCP BOARD	.....	.....	.....	.....	+1 Full MCP in. + 1 sim. MCP in.	+1 Full MCP in. + 1 sim. MCP in.	+1 full MCP in. + 1 sim. MCP in.	+1 Full MCP in. + 1 sim. MCP in.	+1 Full MCP in. + 1 sim. MCP in.	+1 Full MCP in. + 1 sim. MCP in.	+1 Full MCP in. + 1 sim. MCP in.	+1 Full MCP in. + 1 sim. MCP in.
SLOT FOR SMOKE DETECTOR BOARD	0	0	0	0	1	1	1	1	1	1	1	1
CONTROL PANEL FUNCTIONALITY WITH SMOKE DETECTOR BOARD	.....	.....	.....	.....	+2 Smoke detector lines	+2 Smoke detector lines	+2 Smoke detector lines	+2 Smoke detector lines	+2 Smoke detector lines	+2 Smoke detector lines	+2 Smoke detector lines	+2 Smoke detector lines

NOTE:

The following abbreviations are used in the table:

- **sound out. – acoustic sounder outputs**
- **vis. out. – visual signalling output**
- **Wind and rain sensor – wind and rain sensor**
- **Sup. in. – supervised input**
- **No-pot. out. – potential-free output**
- **Full MCP in. – full input manual call points**
- **Sim. MCP in. – simple input manual call points**

4.5. Inputs/outputs used depend on the type of the SR-300 RYS

	Description	I/O no	PIN no	Type	1.4	1.8	1.8P	1.20P	2.8	2.20	2.29P	4.8	4.20	4.29	4.39	4.48
SR-300 RYS smoke extraction control panel	Actuator outputs	X1	9		+	+	+	+	+	+	+	+	+	+	+	+
			10													
		X2	7		-	-	+	+	+	+	+	+	+	+	+	+
			8													
		X3	32		-	-	-	-	-	-	+	+	+	+	+	+
			33													
		X4	34		-	-	-	-	-	-	-	+	+	+	+	+
			35													
	Electric door strike outputs	X5	11		+	+	+	+	+	+	+	+	+	+	+	+
			12													
			13													
		X6	14		-	-	-	-	+	+	+	+	+	+	+	+
			15													
			16													
	Digital outputs	Out 1	17		+	+	+	+	+	+	+	+	+	+	+	+
			18													
			19													
		Out 2	20		+	+	+	+	+	+	+	+	+	+	+	+
			21													
			22													
		Out 3	23		+	+	+	+	+	+	+	+	+	+	+	+
			24													
			25													

			Out 4	26	+	+	+	+	+	+	+	+	+	+	+	+
				27												
				28												
			Out 5	29	-	-	-	+	+	+	+	-	+	+	+	+
				30												
				31												
	Digital inputs	Unsupervised inputs	In. 1	64	+	+	+	+	+	+	+	+	+	+	+	+
				65												
			In. 2	66	+	+	+	+	+	+	+	+	+	+	+	+
				67												
			In. 3	68	-	-	-	+	-	+	+	+	+	+	+	+
				69												
		Supervised inputs	In. 4	36	+	+	+	+	+	+	+	+	+	+	+	+
				37												
			In. 5	38	+	+	+	+	+	+	+	+	+	+	+	+
				39												
			In. 6	40	-	-	-	-	+	+	+	+	+	+	+	+
				41												
			In. 7	42	-	-	-	-	-	-	-	+	+	+	+	+
				43												
	Panelinputs of smoke detectors		Detector 1	70	+	+	+	+	+	+	+	+	+	+	+	+
				71												
			Detector 2	72	-	-	-	-	+	+	+	+	+	+	+	+
				73												
	MCP (manual call point) inputs	Simple MCP	In. 1	60	-	-	-	-	+	+	+	+	+	+	+	+
				61												
		Full MCP	In. 2	44	+	+	+	+	+	+	+	+	+	+	+	+
				45												
			In. 3	46	+	+	+	+	+	+	+	+	+	+	+	+
				47												
			In. 8	48	+	+	+	+	+	+	+	+	+	+	+	+
				49												
			In. 9	50	+	+	+	+	+	+	+	+	+	+	+	+
				51												

Additional card 1	Digital inputs	In. 8	1.1	+	+	+	+	+	+	+	+	+	+	+	+
			1.2												
		In. 9	1.3	+	+	+	+	+	+	+	+	+	+	+	+
			1.4												
	Digital outputs	Out. 6	1.5	+	+	+	+	+	+	+	+	+	+	+	+
			1.6												
			1.7												
		Out. 7	1.8	+	+	+	+	+	+	+	+	+	+	+	+
			1.9												
			1.10												
Additional card 2	MCP (manual call point) inputs	In. 4	2.1	-	-	-	-	+	+	+	+	+	+	+	+
			2.2												
		In. 5	2.3	-	-	-	-	+	+	+	+	+	+	+	+
			2.4												
		In. 6	2.5	-	-	-	-	+	+	+	+	+	+	+	+
			2.6												
		In. 12	2.7	-	-	-	-	+	+	+	+	+	+	+	+
			2.8												
		In. 13	2.9	-	-	-	-	+	+	+	+	+	+	+	+
			2.10												
Additional card 3	Panel inputs of smoke detectors	Detector 3	3.1	-	-	-	-	+	+	+	+	+	+	+	+
			3.2												
		Detector 4	3.3	-	-	-	-	+	+	+	+	+	+	+	+
			3.4												
Additional card 4	Acoustic sounder outputs	Sounder 1	4.1	+	+	+	+	+	+	+	+	+	+	+	+
			4.2												
		Sounder 2	4.3	+	+	+	+	+	+	+	+	+	+	+	+
			4.4												
	Visual signalling output	Vis. out. 1	4.5	+	+	+	+	+	+	+	+	+	+	+	+
			4.6												
		Vis. out. 2	4.7	+	+	+	+	+	+	+	+	+	+	+	+
			4.8												

5. Technical Data

5.1. Motherboard view

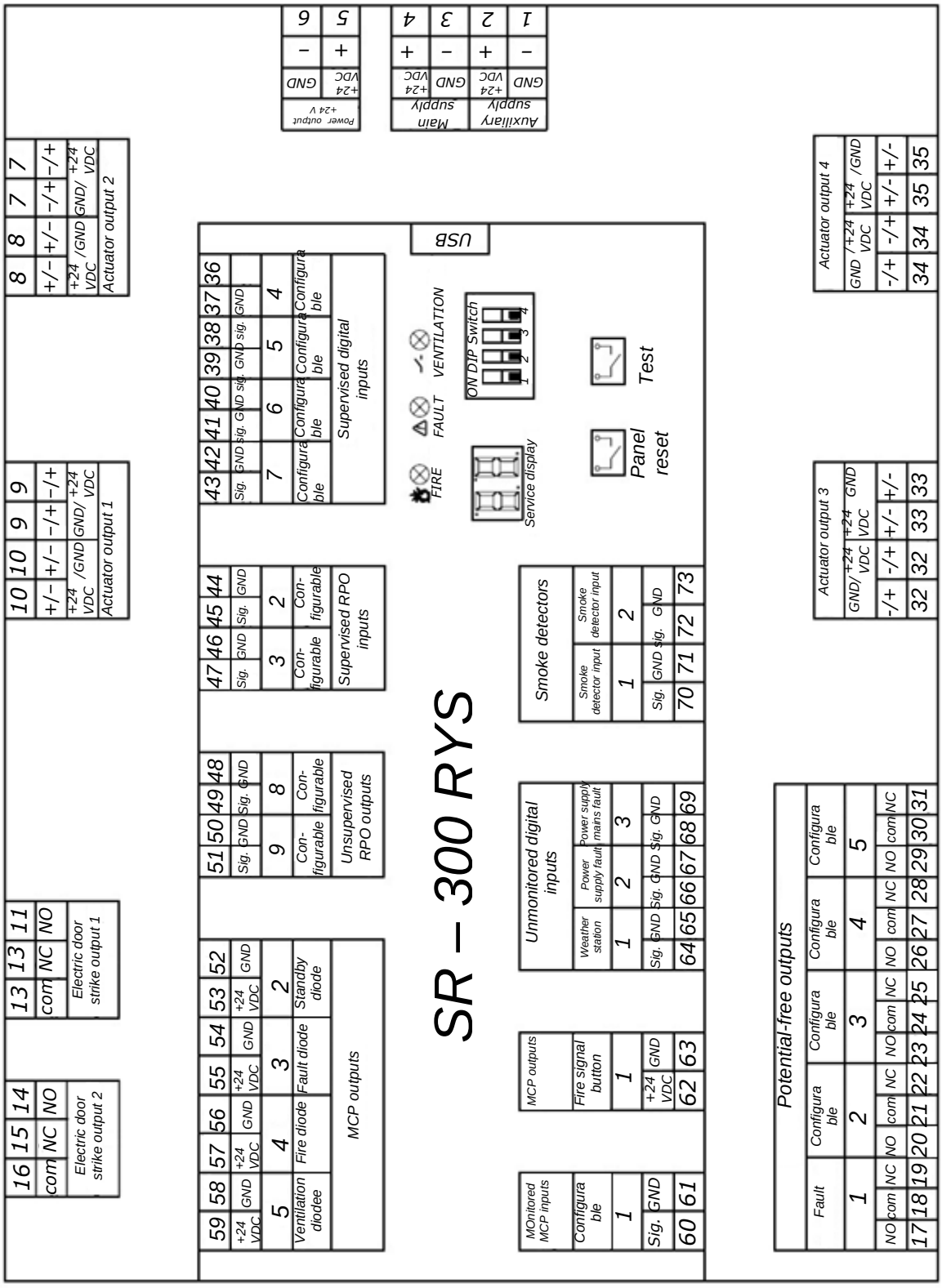


Figure 5.1. Overview diagram of the SR-300 panel motherboard

5.2. Motherboard description

The Motherboard is equipped with:

- Fire alarm LED – illuminates when there is an active fire alarm in any fire zone, flashing of the fire LED indicates activation of one of the smoke detectors in the line with active coincidence
- Fault LED – illuminates when the control unit detects a fault, in which case, please check the fault code displayed on the main board
- OK LED – illuminates when the board is receiving power
- Ventilation indication LED – illuminates when ventilation mode is active
- RESET button – when held down, resets the fire alarm(s)
- BUTTON button – when held down, performs a motherboard test
- DIP switch – this deactivates the corresponding smoke detector lines

Switch no	ON	OFF
1	Smoke detector CD1 line inactive	Smoke detector CD1 line active
2	Smoke detector CD2 line inactive	Smoke detector CD2 line active
3	Smoke detector CD3 line inactive	Smoke detector CD3 line active
4	Smoke detector CD4 line inactive	Smoke detector CD4 line active

When the RESET and BUTTON buttons are pressed simultaneously, the control unit enters the service/roof hatch mode by opening the actuators set as active in the service/roof hatch mode in the configurator.

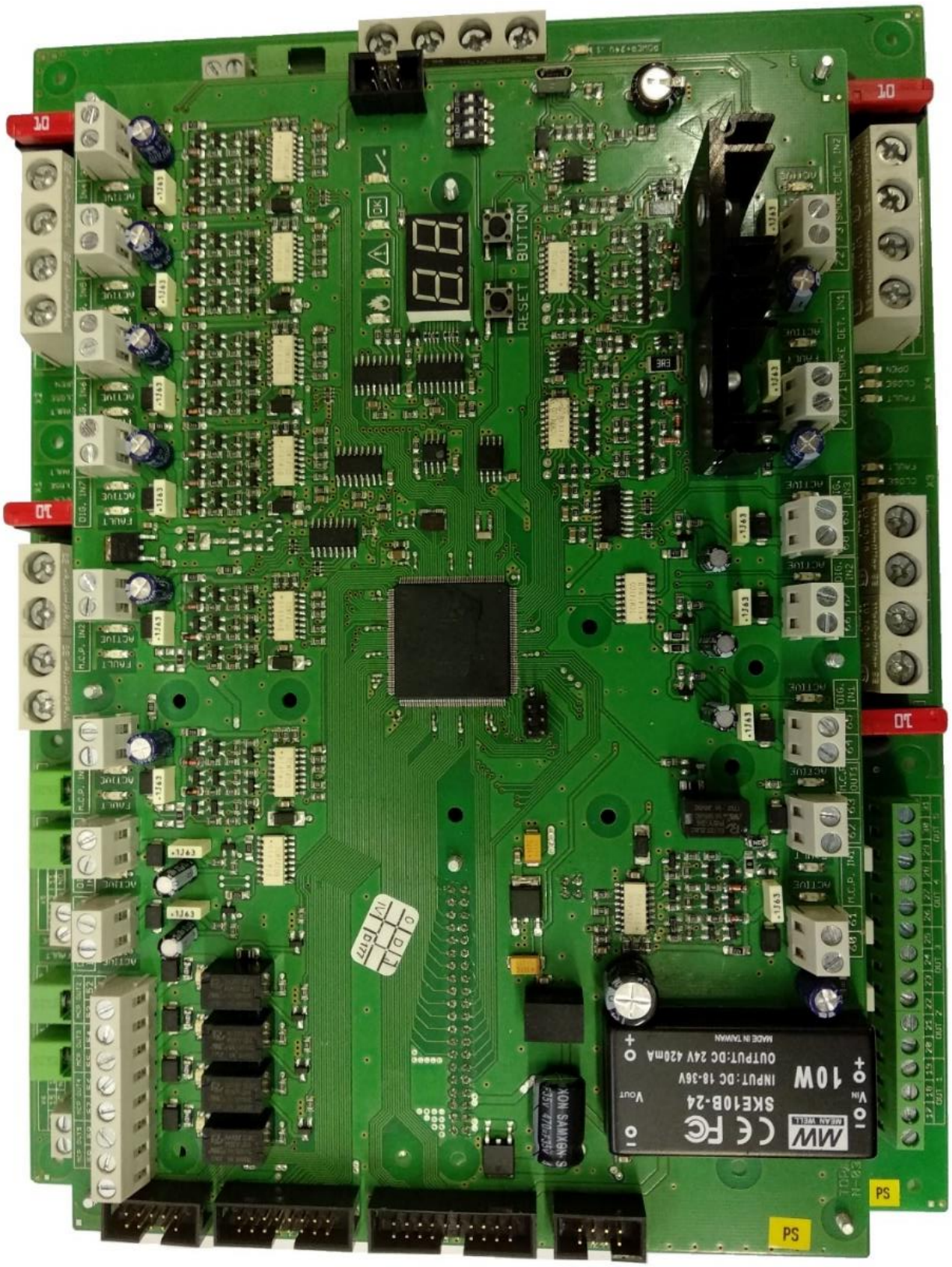


Figure 5.2. View of the SR-300 RYS motherboard.

5.3. Technical parameters

<table>
<tr><td>Input supply voltage</td><td colspan="3">230 V AC +15% -20%</td></tr>
<tr><td rowspan="8">Maximum mains current consumption [A]</td><td>SR-300 1.4</td><td>SR-300 1.8</td><td>SR-300 1.8P</td></tr>
<tr><td>1.7</td><td>2.2</td><td>2.2</td></tr>
<tr><td>SR-300 1.20P</td><td>SR-300 2.8</td><td>SR-300 2.20</td></tr>
<tr><td>4.0</td><td>2.2</td><td>4</td></tr>
<tr><td>SR-300 2.29P</td><td>SR-300 4.8</td><td>SR-300 4.20</td></tr>
<tr><td>4.9</td><td>2.2</td><td>4.2</td></tr>
<tr><td>SR-300 4.29</td><td>SR-300 4.39</td><td>SR-300 4.48</td></tr>
<tr><td>4.9</td><td>6.1</td><td>8.0</td></tr>
<tr><td>Motherboard power supply output voltage</td><td colspan="3">24 V DC +20% -10%</td></tr>
<tr><td>Maximum power supply output (24 V DC) on the motherboard</td><td colspan="3">48 W</td></tr>
<tr><td rowspan="8">Permissible output current(24 V DC)</td><td>SR-300 1.4</td><td>SR-300 1.8</td><td>SR-300 1.8P</td></tr>
<tr><td>5.5 A</td><td>10 A</td><td>10 A</td></tr>
<tr><td>SR-300 1.20P</td><td>SR-300 2.8</td><td>SR-300 2.20</td></tr>
<tr><td>22 A</td><td>10 A</td><td>22 A</td></tr>
<tr><td>SR-300 2.29P</td><td>SR-300 4.8</td><td>SR-300 4.20</td></tr>
<tr><td>31 A</td><td>10 A</td><td>23.4 A</td></tr>
<tr><td>SR-300 4.29</td><td>SR-300 4.39</td><td>SR-300 4.48</td></tr>
<tr><td>31 A</td><td>41.3 A</td><td>46 A</td></tr>
<tr><td>Protection rating</td><td colspan="3">Each control unit can be manufactured to IP 40 or IP 54 standards upon request.
Below is the standard version.
IP 40:
SR-300 1.20P, SR-300 2.20, SR-300 2.29P, SR-300 4.20, SR-300 4.29, SR-300 4.39, SR-300 4.48
IP 30:
SR-300 1.4, SR-300 1.8, SR-300 1.8P, SR-300 2.8, SR-300 4.8</td></tr>
<tr><td>Operating temperature</td><td colspan="3">From -5 °C to +40 °C</td></tr>
<tr><td>Internal operating voltage</td><td colspan="3">24 V DC/72 h for supply fault</td></tr>
<tr><td>Maximum battery capacity</td><td colspan="3">45 Ah</td></tr>
<tr><td>Group configuration</td><td colspan="3">- Up to four smoke extraction groups</td></tr>
</table>

	- Up to fourventilation groups
Actuator outputs	- Up to 4 x 24 V DC actuator outputs - Load capacity of a single output up to 12 A (outputs X2-X4), **output X1 of the actuator (pins 9 and 10) up to a maximum of 8 A**
Monitoring lines/smoke detector inputs	- Conventional parametric (open) - Up to four smoke sensor lines (incl. two optional on an additional card) - Up to 32 detectors on a single monitoring line - Wire break/short-circuit control with resistors: 4.7 kΩ - Control circuit voltage: 24 VDC
Lines of manual call points	- Up to six manual call points (incl. three optional on an additional card) - Up to 10 manual call pointsin a single line - Parametrisation with resistors: 5.6–10kΩ and 1.1kΩ - Sampling voltage 24 V DC
Voltage outputs for MCP diodes	- 24 V DC - Maximum power of a single output 12 W - Maximum current of a single output 0.5 A
Electric door strike outputs	- Two outputs - For standard and reversible electric door strikes - 24 V DC - Maximum current of a single output 2 A
Digital inputs	- Six monitored digital inputs (incl. two optional on an additional card) - Seven unmonitored digital inputs (incl. two optional on an additional card) - Wire break/short-circuit resistor-parametrised control: 4.7 kΩ - Sampling voltage: 18 VDC
Digital outputs	- Seven potential-free digital outputs (incl. two optional on an additional card) - Maximum voltage applied to the output: 250 V AC

	- Maximum current 3 A
Sounders	- Optional (see section 6.4 of the manual)
Weather station	- Optional (see section 6.5 of the manual)
USB	Micro-USB socket

6. SR-300 RYS Smoke Extraction Control Panel – Additional Cards

It is possible to expand the SR-300 RYS Smoke Extraction Control Panel with additional optional cards. They increase the capabilities of the control panel and allow for new functionalities, such as support for optical and acoustic signaling devices and a weather station.

Depending on the type of smoke ventilation control panel (see subsection 4.4), up to five additional cards can be connected to it, with the description found in this section of the manual. The additional cards are independent of each other, with each card having its input assigned to the main board.

Additional cards:

- No 1 – Digital input/output
- No 2 – Manual call points
- No 3 – Smoke detectors
- No 4 – Beacon/Sounder
- No 5 – Weather station

6.1. Input/output card – Additional card 1

This board provides additional supervised digital inputs and potential-free outputs. It can be connected to an aspirating detector.

The card has the following inputs/outputs:

- Digital inputs – Two monitored inputs designed to receive digital signals. If an aspirating detector is connected, it turns into:
  - One monitored input for a detector alarm
  - One monitored input for a detector fault
- Two digital outputs that are potential-free

NOTE:
Do not disconnect the ribbon cables connecting the motherboard to the card while the motherboard is powered. Disconnecting the ribbon cables may result in damage to the motherboard.

Technical data:

Digital inputs	Two monitored digital inputs - Wire break/short-circuit resistor-parametrised control: 4.7 kΩ - Sampling voltage: 18 VDC
Digital outputs	- Two potential-free digital outputs - Maximum voltage applied to the output: 250 V AC - Maximum current: 3 A

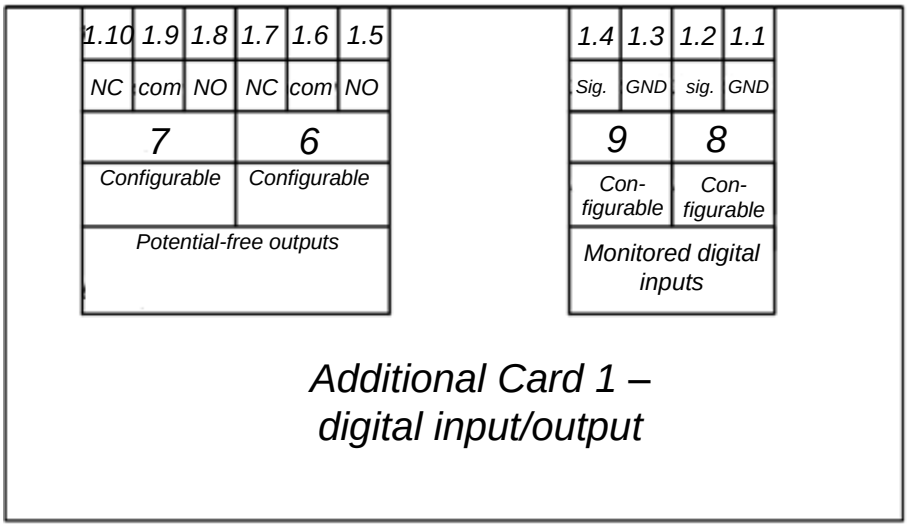


Figure 6.1. Schematic diagram of additional card 1.

Figure 6.2. Actual view of additional card 1.

6.2. Manual call point card – Additional card 2

This card allows connection of an additional full line of MCP manual call points and one MCP simple line. The card has the following inputs/outputs:

- Digital inputs – two unmonitored inputs designed to receive digital start/stop ventilation signals
- Digital inputs – three monitored inputs designed to receive digital fire alarm/fire system reset signals
- Diode outputs – five configurable outputs to signal the MCP status

NOTE:
Do not disconnect the ribbon cables connecting the motherboard to the card while the motherboard is powered. Disconnecting the ribbon cables may result in damage to the motherboard.

Technical data:

Digital inputs	- Two unmonitored digital inputs designed to receive digital start/stop ventilation signals - Three monitored inputs (e.g. fire alarm/fire system reset signals) - Parametrisation with resistors: 5.6–10 kΩ,1.1 kΩ - Sampling voltage: 24 VDC
RPO outputs	- Five outputs with power supply: 24 VDC - Maximum power of a single output: 12 W - Maximum current of a single output: 0.5 A

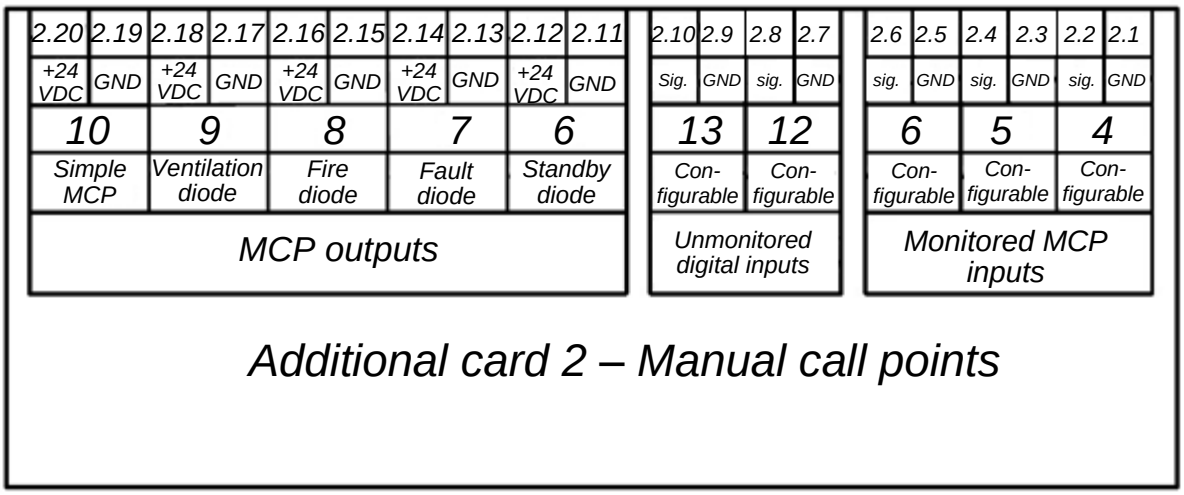


Figure 6.3. Schematic diagram of additional card 2.

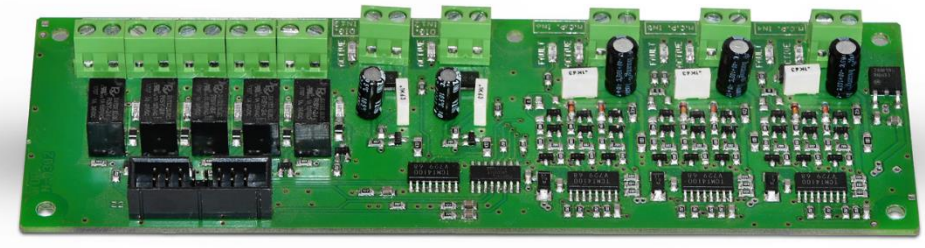


Figure 6.4. Actual view of additional card 2.

6.3. Smoke detector card – Additional card 3

This card allows the SR-300 RYS smoke extraction control panel to be extended with two more lines of smoke detectors. The card has the following inputs/outputs:

- SD smoke detector inputs – two conventional surveillance lines for use with smoke detectors; each line can accommodate up to 32 smoke detectors or smoke and heat detectors; all lines allow monitoring of short-circuit/wire break conditions on the line (parametrisation with 4.7 kΩ resistors).

NOTE:
Do not disconnect the ribbon cables connecting the motherboard to the card while the motherboard is powered. Disconnecting the ribbon cables may result in damage to the motherboard.

Technical data:

Smoke detector inputs/monitoring lines	- Two monitored line inputs - Control circuit voltage: 24 VDC - Wire break/short-circuit control, (parametrisation with 4.7 kΩ resistor) - Voltage in the control circuit: 24 VDC

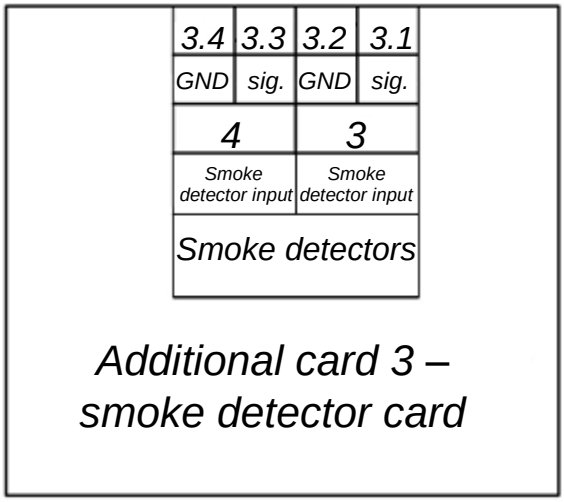


Figure 6.5. Schematic diagram of additional card 3.

Figure 6.6. Actual view of additional card 3.

6.4. Beacon/sounder card – Additional card 4

This card allows the connection of alarm devices to the SR-300 RYS smoke extraction control panel. The card has the following inputs/outputs:

- Two outputs for acoustic or acoustic-optic sounders
- Two optical signal outputs

Maximum total load of all outputs 1 A.

The card has a black button with the pictogram, which, when pressed, turns off the acoustic sounder during a fire alarm (it cuts off the voltage of the sounder outputs but the optical ones remain powered).

NOTE:

Do not disconnect the ribbon cables connecting the motherboard to the card while the motherboard is powered. Disconnecting the ribbon cables may result in damage to the motherboard.

Technical data:

Acoustic sounder outputs	- Two outputs with power supply: 24 VDC - Maximum current of a single output: 0.5 A
Optical signal outputs:	- Two outputs with power supply: 24 VDC - Maximum current of a single output: 0.5 A
Maximum board load:	1 A – Summary of all outputs

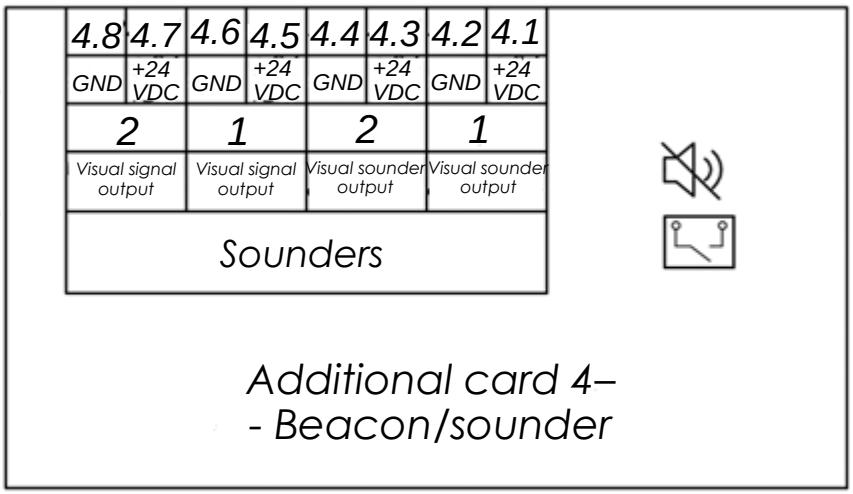


Figure 6.7. Schematic diagram of additional card 4.

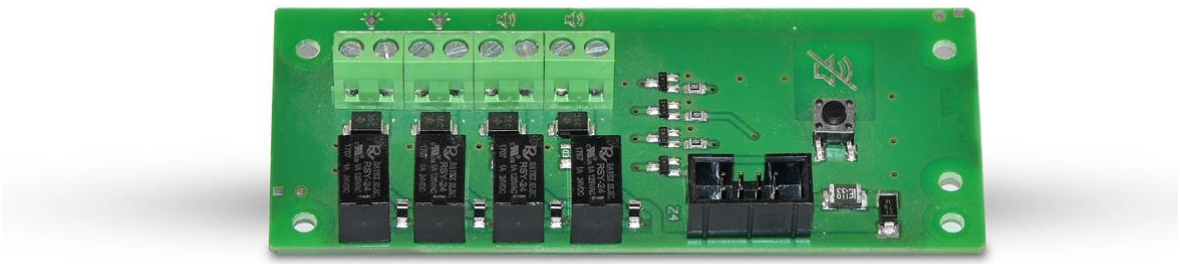


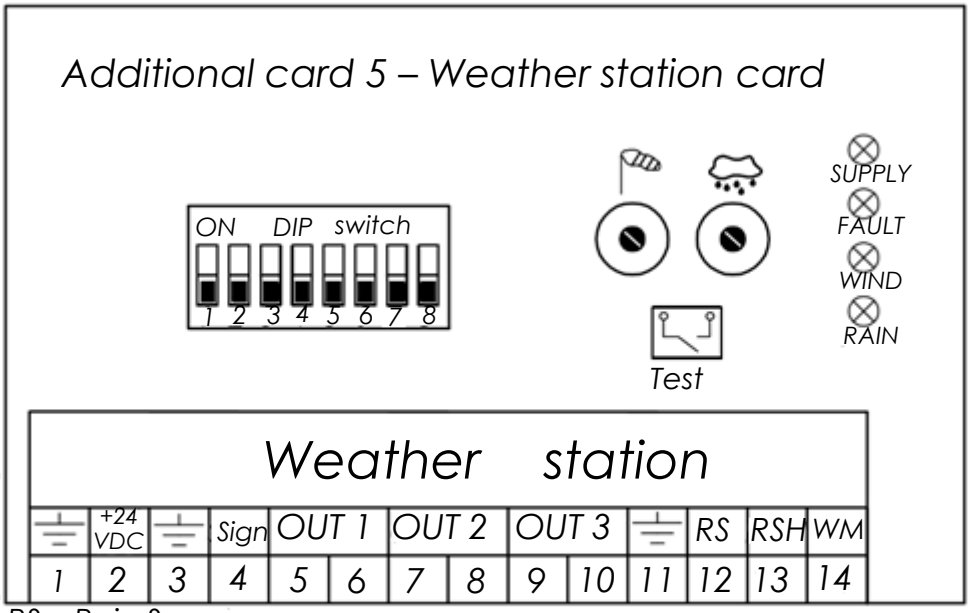
Figure 6.8. Actual view of additional card 4.

6.5. Weather station card – Additional card 5

This card allows connection of a wind and rain sensor to the smoke ventilation control unit. The card has the following inputs/outputs:

- Wind sensor input
- Rain sensor input
- Rain sensor heating
- Fault input/output (for example, fault output and mains fault input).

NOTE:
Do not disconnect the ribbon cables connecting the motherboard to the card while the motherboard is powered. Disconnecting the ribbon cables may result in damage to the motherboard.



RS – Rain Sensor
RSH – Rain sensor heating
WM – Wind Sensor input

Figure 6.9. Schematic diagram of additional card 5.

Figure 6.10. Actual view of additional card 5.

The card has potentiometers that are used to change the sensitivity of the rain and wind sensors. A sensitivity set to the maximum value means that a small change in the signal from the rain or wind sensor is already transmitted.

Heating of the rain sensor can be done by applying current pulses (pulse heating), gently heating the sensor to eliminate false alarms in the event of increased humidity or activating heating when the rain sensor signal exceeds a certain level.

The board is equipped with a DIP switch (eight switches). The DIP switch can be used to configure the weather station according to Table 6.1.

Table 6.1 Switch functions on the weather station card.

Switch nr.	**ON**	**OFF**
1	Outputs active for three minutes	Outputs active for six minutes
2	Active impulse heating	Inactive impulse heating
3	Station not sensitive to wind gusts	Station sensitive to wind gusts
4	Extension of time to check wind input	Extension of time to check wind input
5	Deactivation of all outputs	Normal output performance
6	OUT2 – rain/wind OUT3 – rain/wind	OUT2 – wind OUT3 – rain
7	Activation of outputs during station failure	Normal output performance
TEST	Activation of all outputs	Normal output performance

The board has four LED signalling diodes and Table 6.2 below describes their states.

Table 6.2 LED signals of the weather station card.

LED	**Status**	**Description**
Fault	ON	Active fault, OUT 3 output is ON
	OFF	Inactive fault, OUT 3 output is OFF
Supply	ON	Station up and running, working correctly
	OFF	No power supply or defective processor
Wind	ON	Controlled wind output
	Blinks 50% ON/50% OFF	Single gusts of wind detected, output is OFF
	OFF	Output OFF
Rain	ON	Output ON
	Blinks 5% ON/95% OFF	Activated impulse heating
	Blinks 50% ON/50% OFF	Impulse heating on, inactive output
	OFF	Output OFF

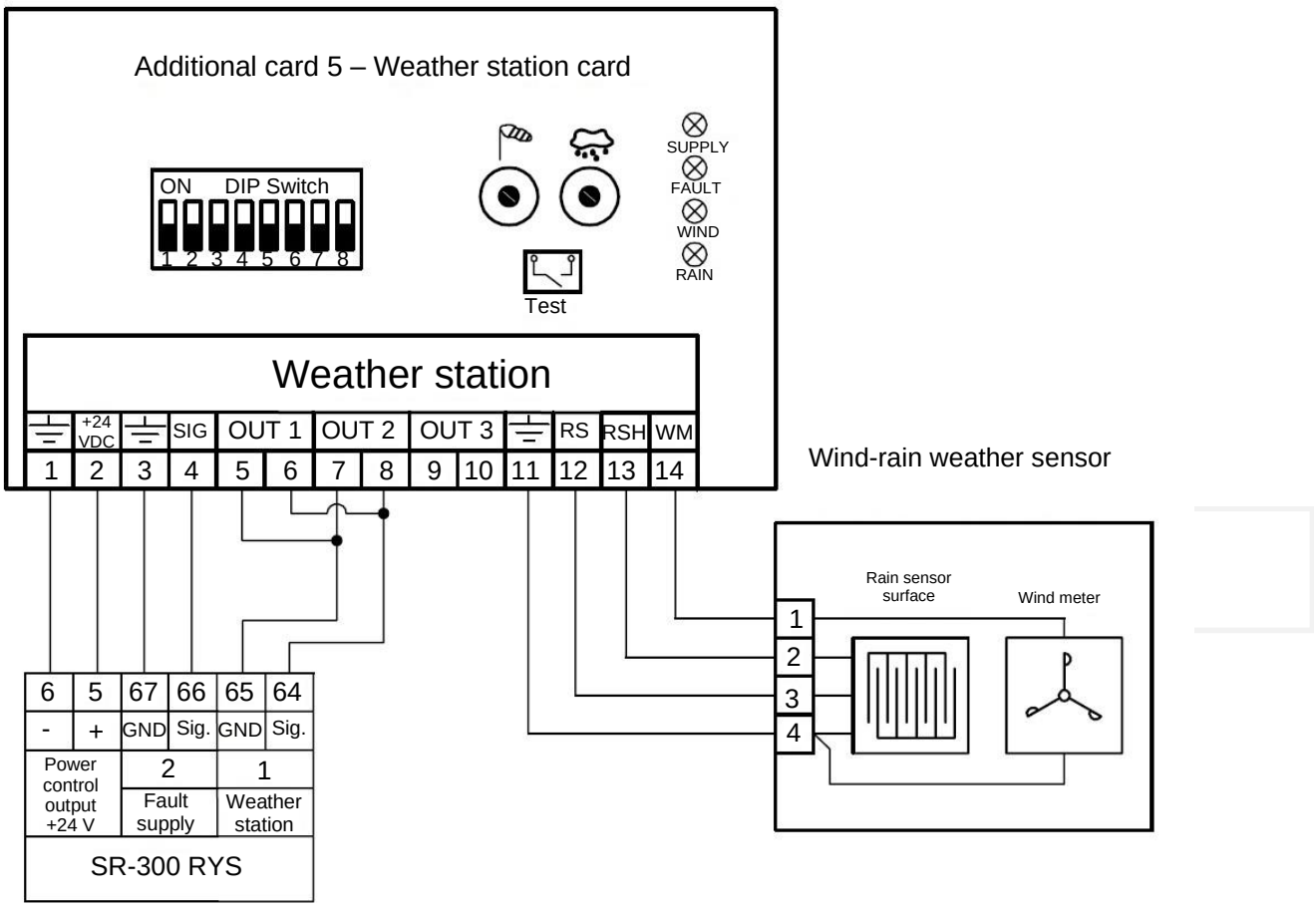


Figure 6.11. Wiring diagram for additional card 5.

By bridging the outputs OUT 1 and OUT 2, the control unit can block ventilation if the weather station board fails. It is recommended setting OUT 2 to rain/wind (DIP switch 6 ON).

When connecting the RS 3-WM 1 wind sensor from K+G, jumper J1 must be cut in accordance with the manufacturer's documentation.

7. SR-300 RYS Smoke Extraction Control Panel Configuration

The panel has both fixed and configurable inputs/outputs. While fixed inputs/outputs have permanently assigned functions or devices, configurable inputs/outputs have the ability to be adapted to specific requirements.

NOTE:

Configuration of the control panel is carried out by using the software dedicated to the SR-300 RYS. A detailed description of the configuration process can be found in the separate Configuration Manual supplied with the control unit.

The SR-300 RYS smoke extraction control panel is manufactured in 12 types (Chapter 4.4 of this Manual). The maximum configuration of the SR-300 RYS smoke ventilation control unit is shown below in tabular form.

NOTE:

The following notations are used in the table:

- **Yellow: non-configurable inputs/outputs**
- **Green: configurable inputs/outputs**
- **Grey: devices (actuators, electric strikes, detectors, signalling devices) to be declared in the corresponding fire or residential zone**

Table 7.1. List of the SR-300 RYS inputs/outputs

SR-300 RYS smoke extraction control panel	Actuator outputs	GND/ +24VDC	9	X1	Can be assigned to the fire/residential zone: 1, 2, 3 or 4					
		24VDC/ GND	10							
		GND/ +24VDC	7	X2	Can be assigned to the fire/residential zone: 1, 2, 3 or 4					
		24VDC/ GND	8							
		GND/ +24VDC	32	X3	Can be assigned to the fire/residential zone: 1, 2, 3 or 4					
		24VDC/ GND	33							
		GND/ +24VDC	34	X4	Can be assigned to the fire/residential zone: 1, 2, 3 or 4					
		24VDC/ GND	35							
	Electric door strike outputs	NO	11	X5	Can be assigned to the fire zone: 1, 2, 3 or 4					
		NC	12							
		COM	13							
		NO	14	X6	Can be assigned to the fire zone: 1, 2, 3 or 4					
		NC	15							
		COM	16							
	Digital outputs	NO	17	O. 1	Damage to SSP					
		COM	18							
		NC	19							
		NO	20	O. 2	Fire to FAS	Performance confirmation	Fire zone performance confirmation 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	Ventilation	
		COM	21							
		NC	22							
		NO	23	O. 3	Fire to FAS	Performance confirmation	Fire zone performance confirmation 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	Ventilation	
		COM	24							
		NC	25							
		NO	26	O. 4	Fire to FAS	Performance confirmation	Fire zone performance confirmation 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	Ventilation	
		COM	27							
		NC	28							

		NO	29	O. 5	Fire to FAS	Performance confirmation	Fire Zone performance confirmation 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	Ventilation
		COM	30						
		NC	31						
	Unit inputs of smoke detectors	Sig.	70	Smoke detector 1	Can be assigned to the fire zone: 1, 2, 3 or 4				
		GND	71						
		Sig.	72	Smoke detector 2	Can be assigned to the fire zone: 1, 2, 3 or 4				
		GND	73						
	Digital inputs	Sig.	64	I. 1	Weather station				
		GND	65						
		Sig.	66	I. 2	Power supply fault				
		GND	67						
		Sig.	68	I. 3	Power supply mains fault				
		GND	69						
		GND	36	I. 4	FAS fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up	Ventilation start – residential zone: 1/2/3/4
		Sig.	37						
		GND	38	I. 5	FAS fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up	Ventilation stop – residential zone: 1/2/3/4
		Sig.	39						
		GND	40	I. 6	FAS fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up	Ventilation start – residential zone: 1/2/3/4
		Sig.	41						
		GND	42	I. 7	FAS fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up	Ventilation stop – residential zone: 1/2/3/4
		Sig.	43						
	MCP (manual call points) inputs	Sig.	60	I. 1	MCP fire: 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up
		GND	61						
		GND	44	I. 2	MCP fire: 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up
		Sig.	45						
		GND	46	I. 3	MCP fire: 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up
		Sig.	47						

Additional card 1		GND	48	I. 8	Ventilation start – residential zone: 1, 2, 3 or 4	Confirmation of start-up	Fire zone – edge 1, 2, 3 or 4	----------	
		Sig.	49						
		GND	50	I. 9	Ventilation stop – residential zone: 1, 2, 3 or 4	Confirmation of start-up	Fire zone – edge 1, 2, 3 or 4		
		Sig.	51						
	Digital outputs	NO	1.5	O. 6	Fire to FAS	Performance confirmation	Fire zone performance confirmation 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	Ventilation
		COM	1.6						
		NC	1.7						
		NO	1.8	O. 7	Fire to FAS	Performance confirmation	Fire zone performance confirmation 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	Ventilation
		COM	1.9						
		NC	1.10						
	Digital inputs	GND	1.1	I. 8	FAS fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up	Ventilation start – residential zone: 1, 2, 3 or 4
		Sig.	1.2						
		GND	1.3	I. 9	FAS fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up	Ventilation stop – residential zone: 1, 2, 3 or 4
		Sig.	1.4						
Additional card 2	MCP (manual call point) inputs	GND	2.1	I. 4	MCP fire: 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up
		Sig.	2.2						
		GND	2.3	I. 5	MCP fire: 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up
		Sig.	2.4						
		GND	2.5	I. 6	MCP fire: 1, 2, 3 or 4	Fire in the fire zone: 1, 2, 3 or 4	General reset	Fire zone – edge 1, 2, 3 or 4	Confirmation of start-up
		Sig.	2.6						
		GND	2.7	I. 12	Ventilation start – residential zone: 1, 2, 3 or 4	Confirmation of start-up	Fire zone – edge 1, 2, 3 or 4	----------	
		Sig.	2.8						
		GND	2.9	I. 13	Ventilation stop – residential zone: 1, 2, 3 or 4	Confirmation of start-up	Fire zone – edge 1, 2, 3 or 4		
		Sig.	2.10						
Additional card3	Unit inputs of smoke detectors	Sig.	3.1	Smoke detector 3	Can be assigned to the fire zone: 1, 2, 3 or 4				
		GND	3.2						
		Sig.	3.3	Smoke detector 4	Can be assigned to the fire zone: 1, 2, 3 or 4				

		GND	3.4		
Additional card 4	Acoustic sounder outputs	+24VDC	4.1	Sounder 1	Can be assigned to the fire zone: 1, 2, 3 or 4
		GND	4.2		
		+24VDC	4.3	Sounder 2	Can be assigned to the fire zone: 1, 2, 3 or 4
		GND	4.4		
	Visual signalling output	+24VDC	4.5	Vis. out. 1	Can be assigned to the fire zone: 1, 2, 3 or 4
		GND	4.6		
		+24VDC	4.7	Vis. out. 2	Can be assigned to the fire zone: 1, 2, 3 or 4
		GND	4.8		

The SR-300 RYS smoke extraction control panel requires programming based on the technical parameters of the connected devices and in accordance with the fire risk scenario. The control unit is configured with dedicated software.

8. Devices Working with the SR-300 RYS Smoke Extraction Control Panel

NOTE:

Before connecting the various components and devices compatible with the SR-300 RYS unit, refer to the connection diagram and technical data presented in this section. It is imperative to check that the devices to be connected are compatible with the RYS panel.

The connection diagrams are for illustration purposes only, the exact connection of compatible devices depends on the setting of the unit inputs and outputs in the configurator.

8.1. Smoke detectors

The SR-300 RYS smoke extraction control panel and the panel's additional cards allow for it to work with smoke detectors (smoke and heat). Up to 32 smoke detectors can be connected to each line. All inputs for smoke detectors allow monitoring of the line shorting/wire break status (parametrisation with 4.7 kΩ resistors).

The smoke extraction control panel is designed to cooperate with the following smoke detectors:

- DOR40
- OSD23
- OSD63
- Others that are compatible in terms of technical parameters

8.1.1. OSD23 smoke detector

The OSD23 optical smoke detector is designed to detect the presence of smoke in the air, in the initial phase of a fire. The sensor is designed to operate in enclosed spaces where there is no smoke, dust or condensation of water vapour under normal conditions.

NOTE:

The respective smoke sensor zone can be deactivated by means of DIP SWITCH 1 to 4 (see 5.1.2). When a smoke sensor zone is deactivated, the control unit displays the failure of the respective zone (yellow LED is ON).

Figure 8.1. OSD23 Spot smoke sensor.

Wiring diagram

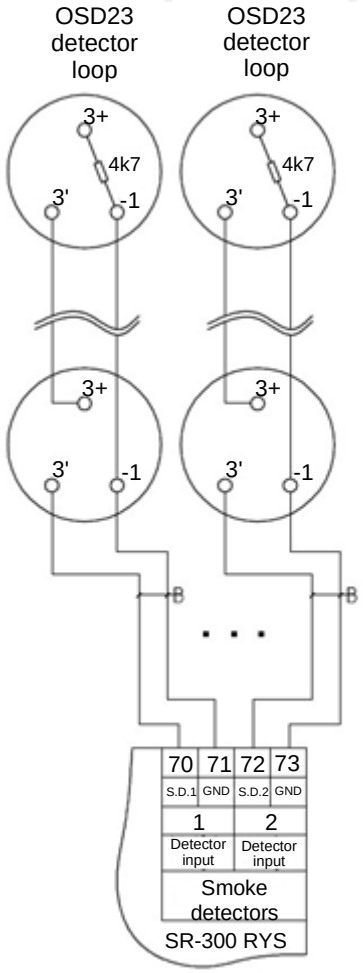


Figure 8.2. OSD23 detector wiring diagram where the inputs are assigned functions: 1– FIRE, 2 – FIRE.

NOTE:

For the smoke sensors to function correctly, the FIRE function must be assigned in the configurator to the input to which the sensor line is connected.

Technical data

Table 8.1. OSD23 Smoke detector technical data.

Monitoring voltage	18 V (12–28 V)
Monitoring current (average)	35 µA
Monitoring current (max. value at start-up)	110 µA
Alarm current	18 mA (at 18 V)
Operating temperature	-22 °C to +55 °C
Relative humidity	95% at 40 °C
Sensor weight	150 g

Installation

NOTE: The number, type and positioning of the sensors are determined in each case by an authorised designer in accordance with the applicable legal provisions!

Install the OSD23 smoke sensor socket using two Ø4 screws fitted with wall plugs. The holes should be drilled at a spacing of 90 mm. Incorrect hole spacing may cause deformation of the socket when the fixing screws are tightened firmly.

8.1.2. OSD63 smoke detector

The OSD63 smoke and heat detector is designed to detect the presence of smoke and heat in the air, in the initial phase of a fire. The sensor is designed to operate in enclosed spaces where there is no smoke, dust or condensation of water vapour under normal conditions.

NOTE:

The respective smoke sensor zone can be deactivated by means of DIP SWITCH 1 to 4 (see 5.1.2). When a smoke sensor zone is deactivated, the control unit displays the failure of the respective zone (yellow LED is ON).

Figure 8.3. OSD63 spot smoke and heat detector.

Wiring diagram

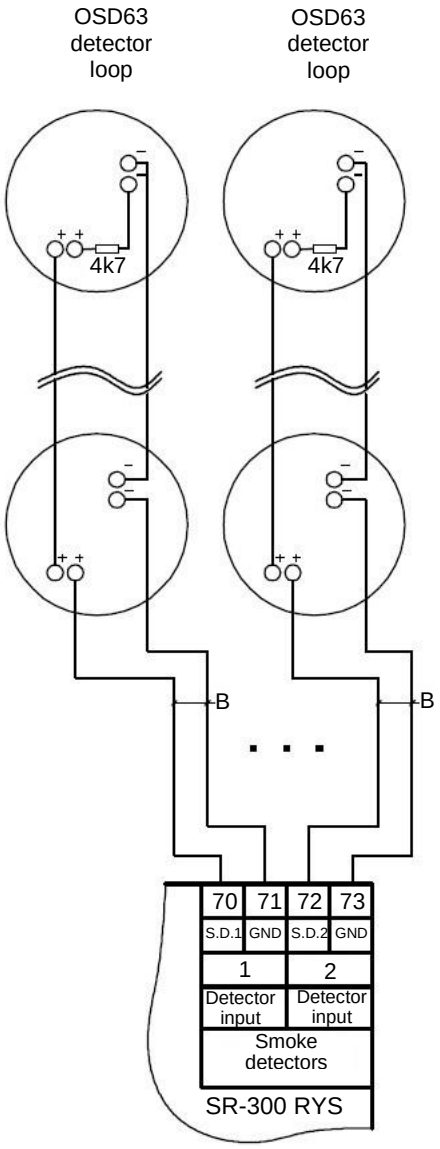


Figure 8.4. OSD63 sensor wiring diagram where the inputs are assigned functions: 1– FIRE, 2 – FIRE.

NOTE:

For the smoke detectors to function correctly, the FIRE function must be assigned in the configurator to the input to which the detector line is connected.

Technical data

Table 8.2. OSD63 smoke detector technical data.

Heat sensor class	A1R
Monitoring voltage	10 V to 30 V
Monitoring current (average)	35 µA
Alarm current	20 mA
Operating temperature	-25 °C to +50 °C
Relative humidity	95% at 40 °C
Sensor and socket weight	0.12 kg
Dimensions	Height 50 mm Diameter 110 mm

Installation

NOTE: The number, type and positioning of the sensors are determined in each case by an authorised designer in accordance with the applicable legal provisions!

Install the OSD63 smoke sensor socket using two Ø4 screws fitted with wall plugs. The holes should be drilled at a spacing of 62.5–77.5 mm. Incorrect hole spacing may cause deformation of the socket when the fixing screws are tightened firmly.

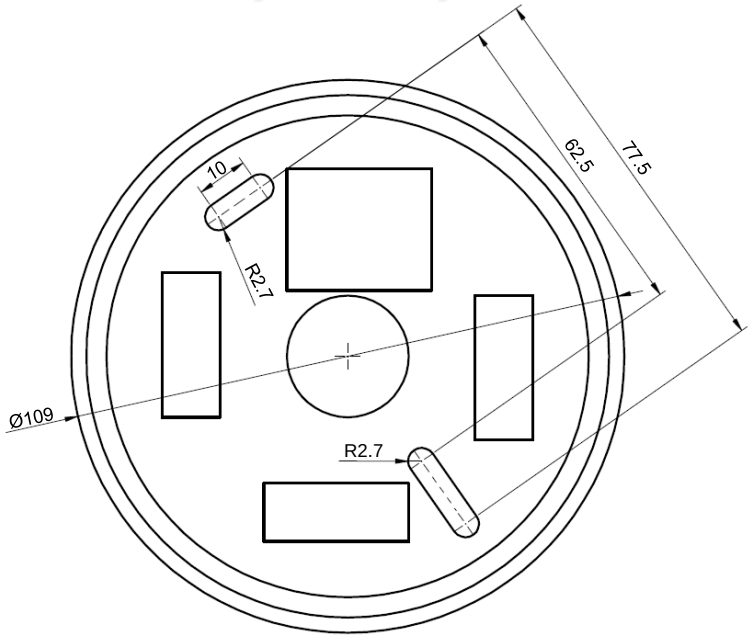


Figure 8.5. Dimensions and placement of OSD63 installation sockets.

8.1.3. DOR40 smoke detector

The DOR-40 optical smoke detector is designed to detect the presence of smoke in the air, in the initial phase of a fire. The detector is designed to operate in enclosed spaces where there is no smoke, dust or condensation of water vapour under normal conditions.

NOTE:

The respective smoke detector zone can be deactivated by means of DIP SWITCH 1 to 4 (see 5.1.2). When a smoke detector zone is deactivated, the control panel displays the failure of the respective zone (yellow LED is ON).

Figure 8.6. DOR-40 spot smoke detector.

Wiring diagram

DOR40 detector loop

DOR40 detector loop

4k7

4k7

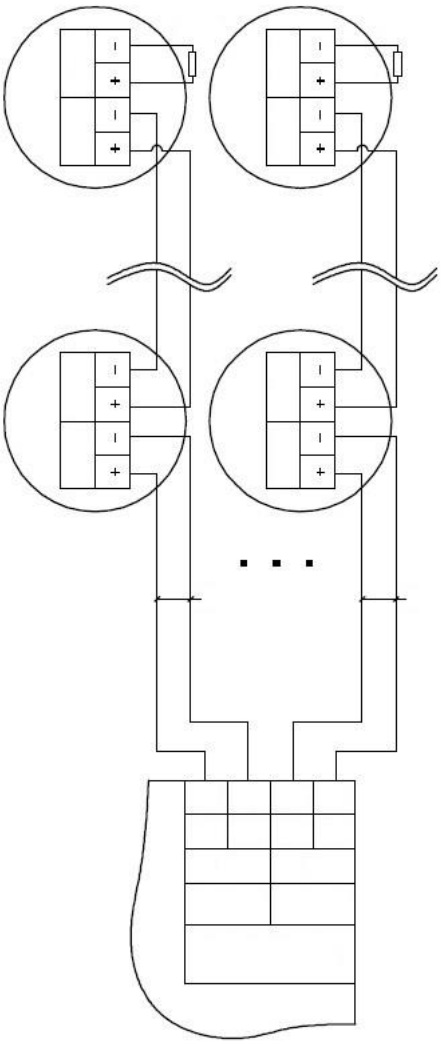


Figure 8.7. DOR-40 detector wiring diagram where the inputs are assigned functions: 1– FIRE, 2 – FIRE.

NOTE:

For the smoke detectors to function correctly, the FIRE function must be assigned in the configurator to the entrance to which the detector line is connected.

Technical data

Table 8.3. DOR-40 smoke detector technical data

Operating voltage	12–28 V
Maximum current consumption	≤ 60 μA
Alarm current	20 mA
Maximum installation height *)	12 m *)
Maximum surveillance area *)	60–80 m^2 *)
Operating temperature	From -25 °C to +55 °C
Permissible relative humidity	Up to 95% at 40 °C
Dimensions (without sockets)	Ø 115 x 43 mm

Weight (without sockets)	0.15 kg
Sensor colour	White
*) See applicable design guidelines	

Installation

NOTE: The number, type and positioning of the detectors are determined in each case by an authorised designer in accordance with the applicable legal provisions!

Install the DOR-40 smoke detector socket using two screws with wall plugs (recommended plugs Ø6). The holes should be drilled at a spacing of 63 mm. Incorrect hole spacing may cause deformation of the socket when the fixing screws are tightened firmly.

8.2. MCP Manual call points

The SR-300 RYS smoke extraction control panel and the controller's additional card allow for cooperation with manual call points and ventilation buttons. Digital outputs with a 24 V DC power supply and digital inputs enable connection of manual call point lines (MCP) or ventilation button lines. Each line can accommodate up to 10 manual call points (including ventilation control)/ventilation buttons. All MCP inputs allow monitoring of the short-circuit/wire break status of the line (parametrisation with 10 kΩ resistors).

The smoke extraction control panel is adjusted for use with manual call points and ventilation buttons:

- PO-61
- PO-62
- PO-63
- RT45
- RT45+LT
- LT-AP (ventilation button)
- RT45-ST
- Others that are compatible in terms of technical parameters

8.2.1. RPO PO-61, PO-62 and PO-63 manual call points.

PO manual call points are available in three types:

- PO-61 MCP with FIRE signal (flap activated)
- PO-62 MCP with FIRE signal and reset switch
- PO-63 MCP with FIRE, OK (standby) and FAULT signals and with reset switch

The buttons are designed for surface or plug-in mounting inside buildings.

Figure 8.8. PO-61 Manual call point.

Figure 8.9. PO-62 manual call point.

Figure 8.10. PO-63 manual call point.

The manual call point is activated by hitting or strongly pressing the glass – the cover, which after being tilted will allow access to the initiating switch button. Pressing this button sends information to the SR-300 smoke extraction control panel, which in return activates the FIRE signalling – turns off the green light and turns on the red light. At the same time, as the switch button is pressed, the horizontal arrows pointing to the button change colour from black to yellow. When pressed, the initiating button remains in the pressed position (alarm signal on). To deactivate it, use the dedicated key, which is also used to lock the glass/shield.

Buttons PO-62 and PO-63 have a reset switch to return the system to standby. This switch can be accessed by tilting (also using a dedicated key) the button housing as during installation. The buttons are tested by activating them in the same way as in a fire, namely, by striking or pressing firmly on the glass. To avoid damaging the glass during testing, it can be opened using the dedicated key. If the glass is damaged, it should be replaced with a new one.

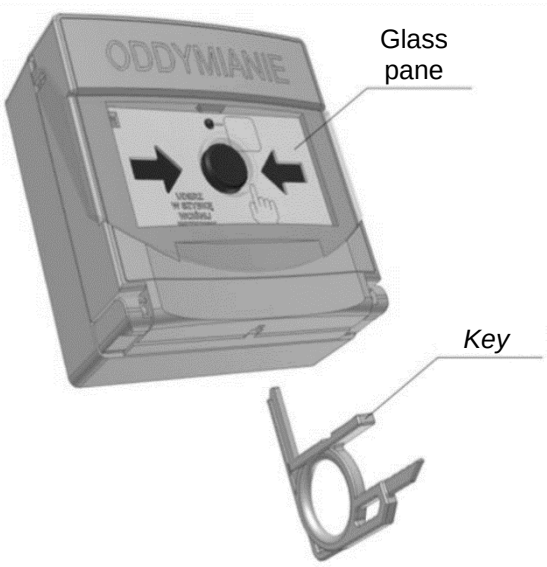


Figure 8.11. Clearing the start-up status and releasing the glass lock.

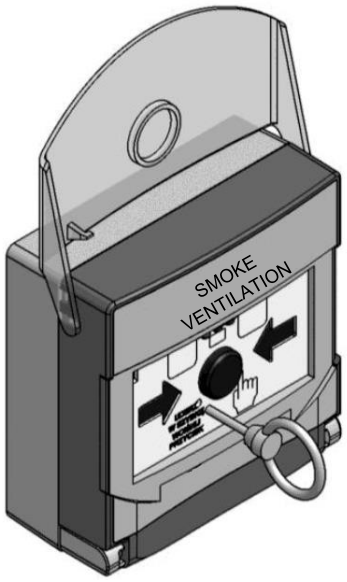


Figure 8.12. Returning the system to the ready state.

Manual call points PO-61, PO-62, PO-63 have a housing made of orange plastic. The transparent glass pane (the cover is made of high-impact plastic) protects against accidental activation of the initiating switch.

Technical data

Table 8.4. Technical data of the manual call points PO-61, PO-62, PO-63.

Diameter of system wires	0.8–1.2 mm
Housing tightness	IP 30
Plug-in mounting hole	80 x 22 mm (minimum)
Spare cable to be attached	15 cm
Operating temperature range	From -25 °C to +55 °C

Dimensions	102 x 98 x 46 mm.
Weight	< 220 g
Housing colour	Orange

Wiring diagram

NOTE:

Leave the line termination resistors only in the last button on the line. From the other buttons, the resistors should be disconnected by cutting a jumper (DSM wire). These loop-shaped wires are located vertically at both edges of the board.

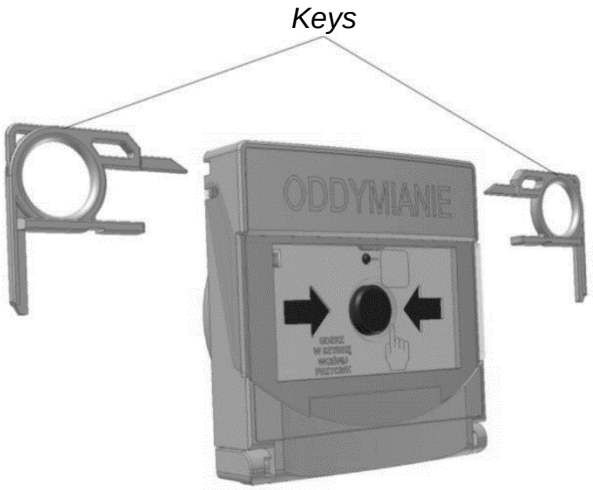


Figure 8.13. Opening the button.

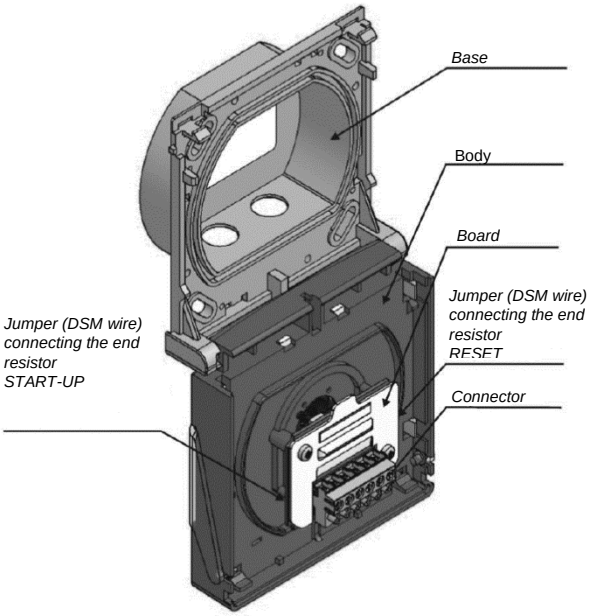


Figure 8.14. Button after opening.

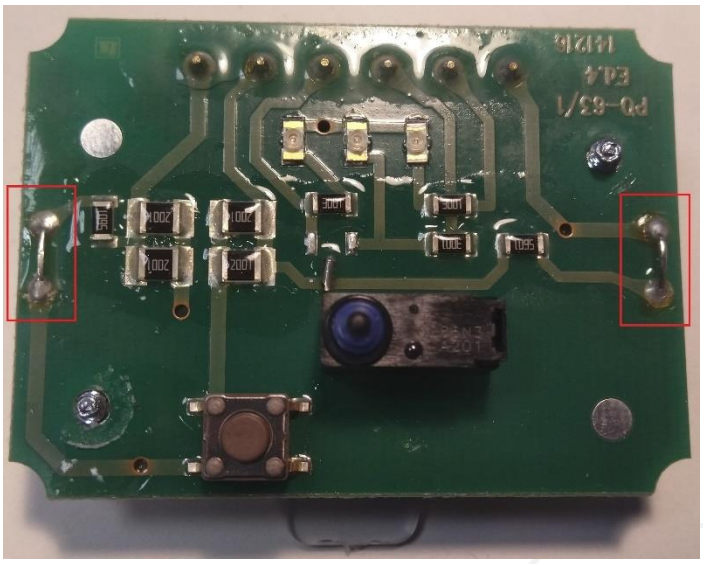


Figure 8.15. Jumpers of the end resistor of the line (DSM wire).

WIRING DIAGRAMS

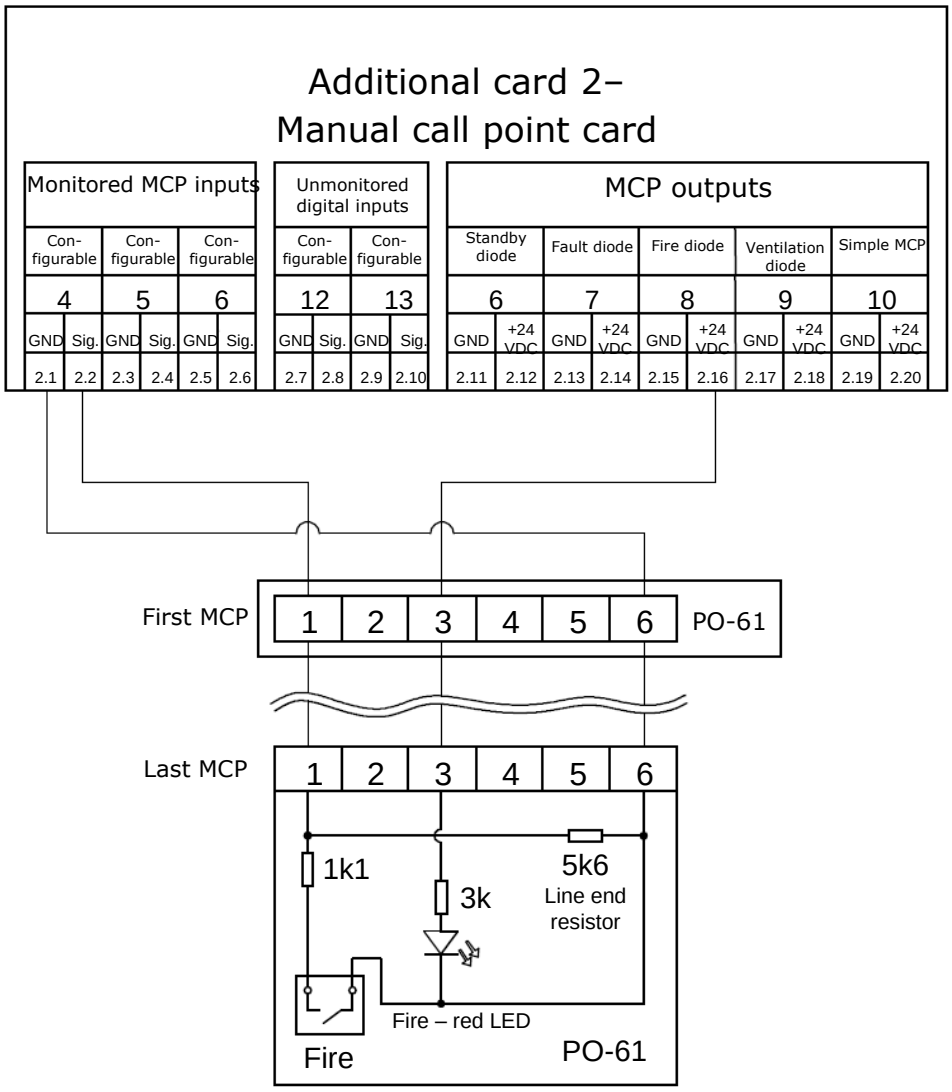


Figure 8.16. PO-61 MCP diagram where the inputs are assigned functions: 4 – FIRE.

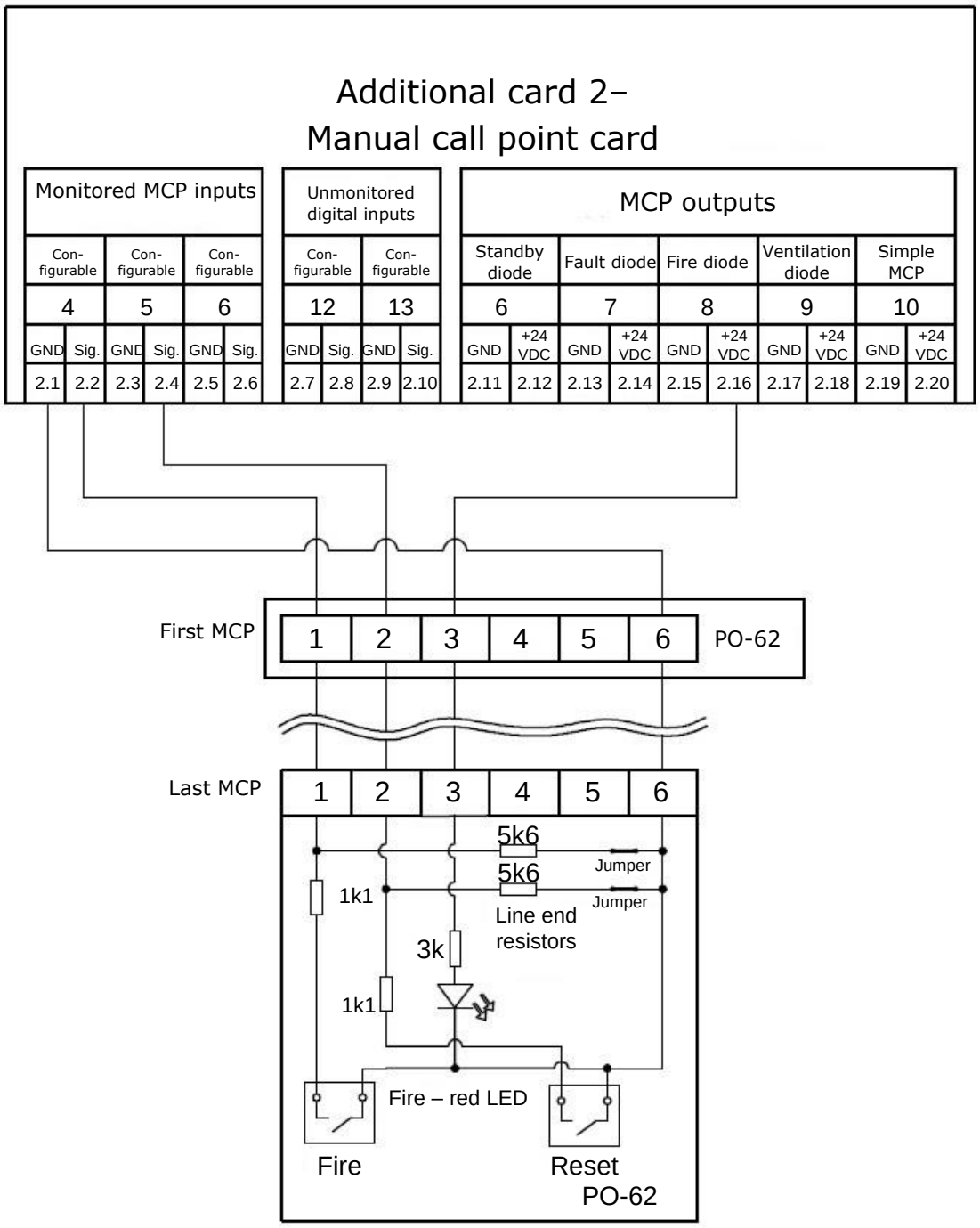


Figure 8.17. PO-62 MCP diagram where the inputs are assigned functions: 4 – FIRE, 5 – RESET.

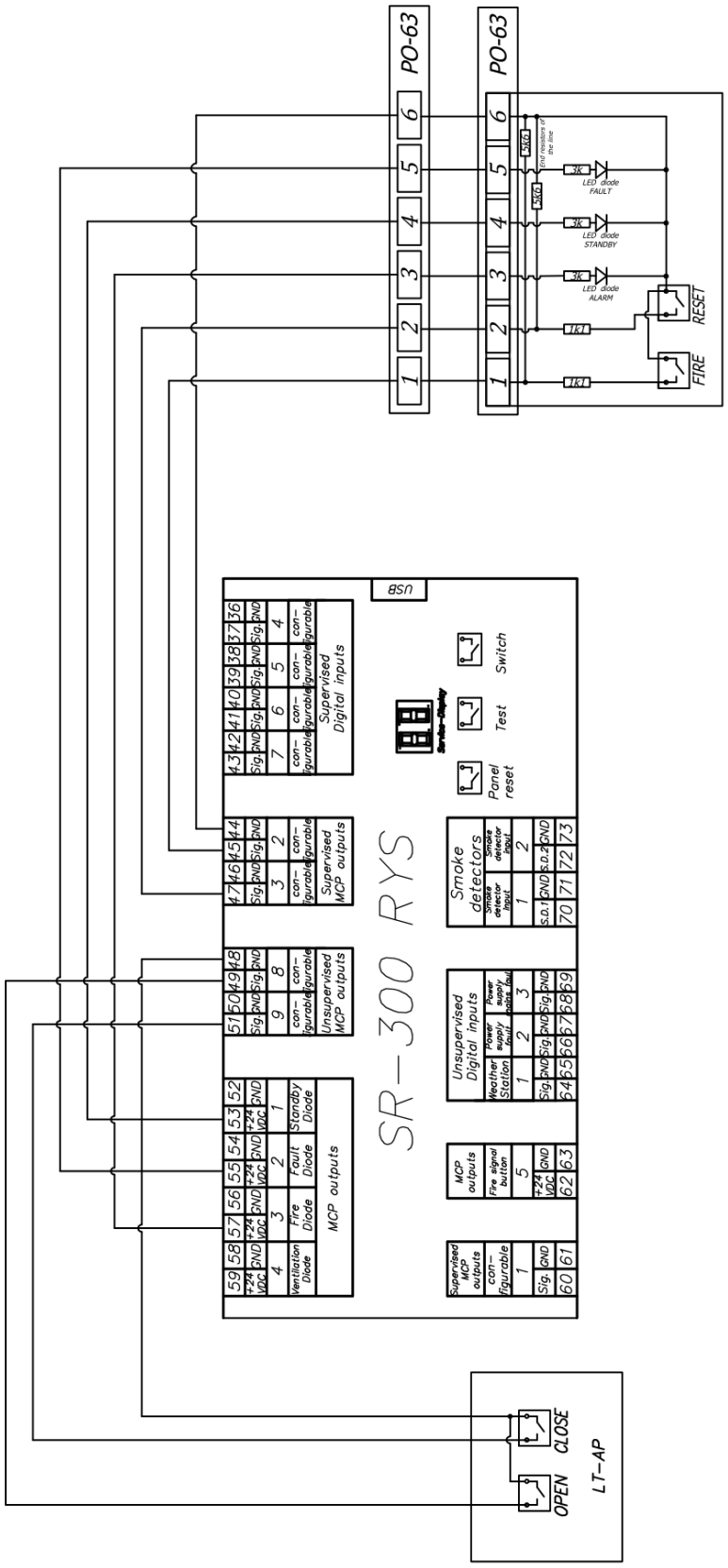


Figure 8.18.1 PO-63 MCP diagram – for motherboard, where the inputs are assigned functions: 2- FIRE, 3- RESET. Additionally connected LT-AP ventilation button, where the inputs are assigned functions: 8- START VENTILATION, 9- STOP VENTILATION.

The above diagram is the same for PO-61 except for terminals 2, 4 and 5, which remain unconnected. For PO-62 terminals 4 and 5 should remain unconnected.

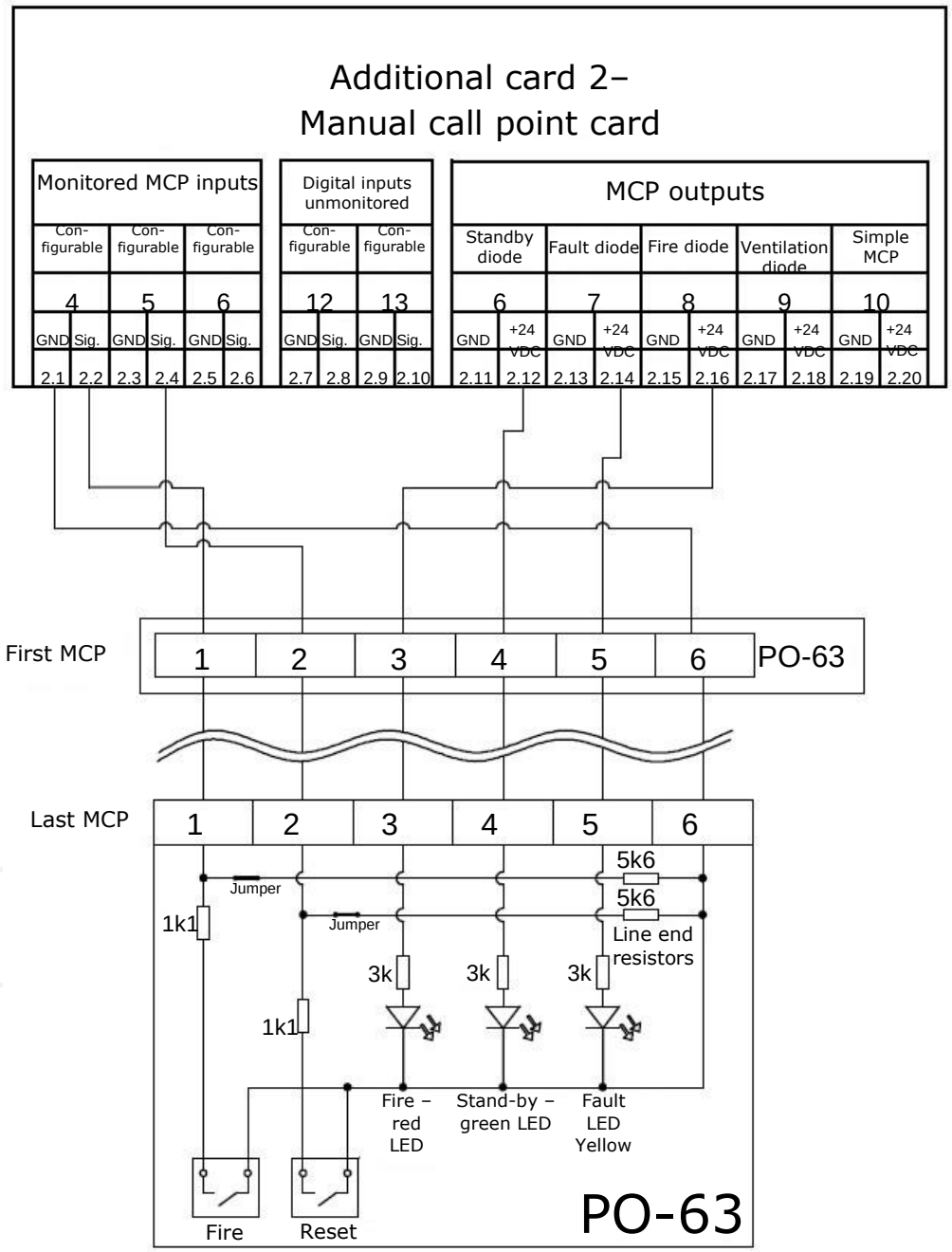


Figure 8.18.2 PO-63 MCP diagram where the inputs are assigned functions: 4 – FIRE, 5 – RESET.

NOTE:

To ensure that the MCPs function correctly, the relevant MCP inputs must be configured using the configurator.

For PO-61, PO-62 and PO-63

MCP input	Function in the configurator
1	FIRE
2	RESET
3	Fire diode (no configuration necessary)
4	Standby diode (no configuration necessary)

5	Fault diode (no configuration necessary)
6	GND (no configuration necessary)

8.2.2. MCP RT45, RT45-LT and RT45-ST manual call points.

The manual call points RT45, RT45-LT, RT45-ST are used for manual triggering of the smoke extraction process in the stairwell using the SR-300 control panel and for signalling the operating states of the smoke extraction system.

- The RT45 MCP has LEDs indicating the operating status of the smoke extraction system (stand-by status, alarm status and fault status).
- The RT45-LT MCP has LEDs indicating the operating status of the smoke extraction system (stand-by status, alarm status and fault status) and integrated ventilation buttons and is also used to control the ventilation of the stairwell
- The RT45-ST MCP has LEDs indicating the operating status of the smoke ventilation system (stand-by status, alarm status and fault status) and additional acoustic signalling of operation and fault

In the stand-by state, the green LED is on, when a fault is detected the yellow LED light is switched on and in the alarm state the green LED is off and the red one is on.

During testing, the glass must be opened using a dedicated key. If the glass is damaged, it should be replaced with a new one.

Figure 8.19. RT45 manual call point.

Figure 8.20. RT45-LT manual call point.

Figure 8.21. RT45-ST manual call point.

Technical data

Table 8.5. Technical data for the manual call points RT45, RT45-LT and RT45-ST.

Variation	RT45, RT45-LT and RT45-ST
Type	I – used as a button to signal supervision, fault and trip status
Supply voltage – nominal value	24 V DC
Supply voltage – lower value	18 V DC
Supply voltage – upper value	28 V DC
Monitoring current	8 mA
Alarm current	8 mA (20 mA for RT45-ST)
Design	Internal
Housing protection rating	IP 40
Operating temperature range	-10 ˚C to +55 ˚C
Permissible relative humidity	50–70%
Dimensions	129 x 138 x 39 mm
Start-up type	B, indirectly

Wiring diagram

Wiring diagram providing short-circuit control on the reset line:

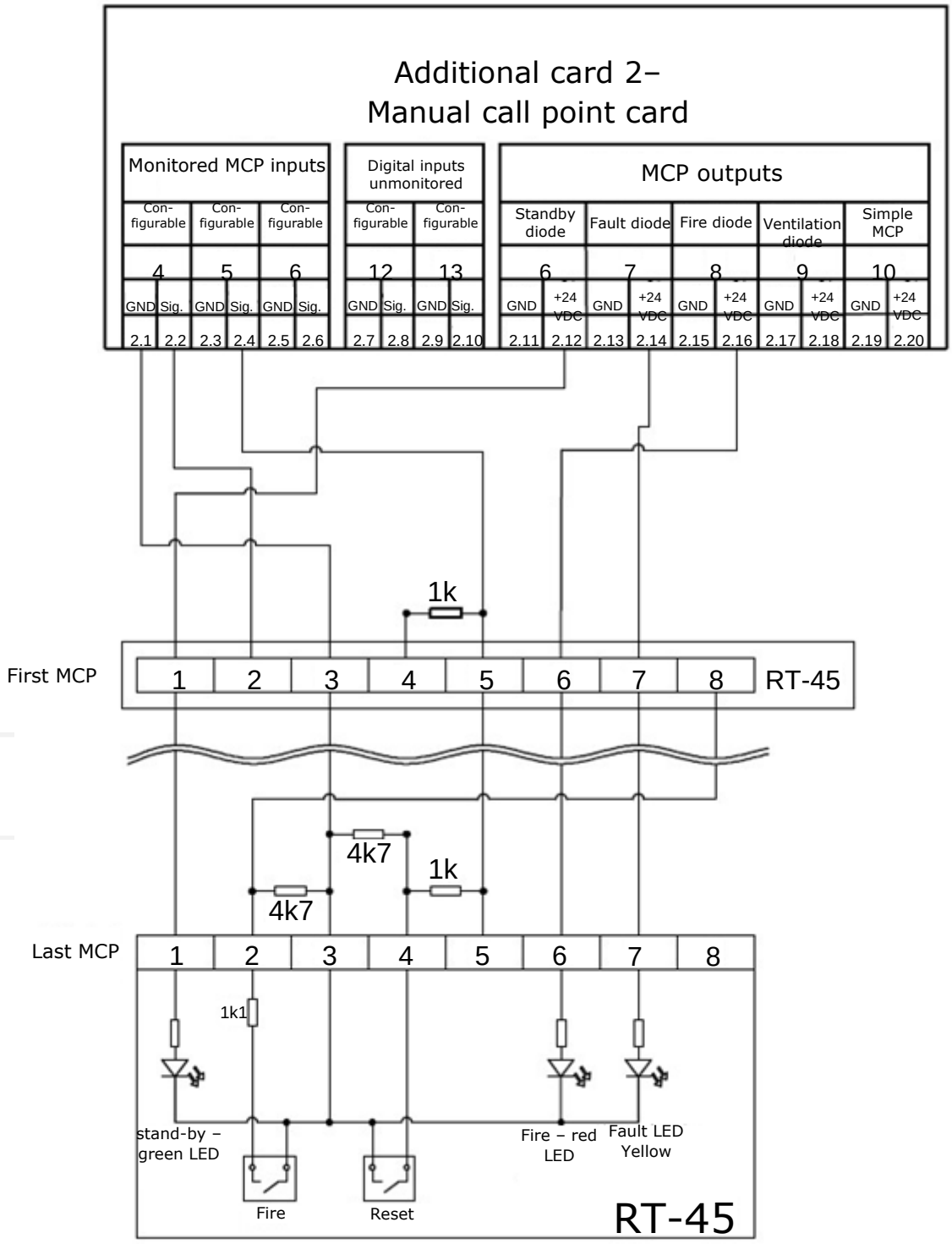


Figure 8.22.1. RT45 MCP diagram where the inputs are assigned functions: 4 – FIRE, 5 – RESET.

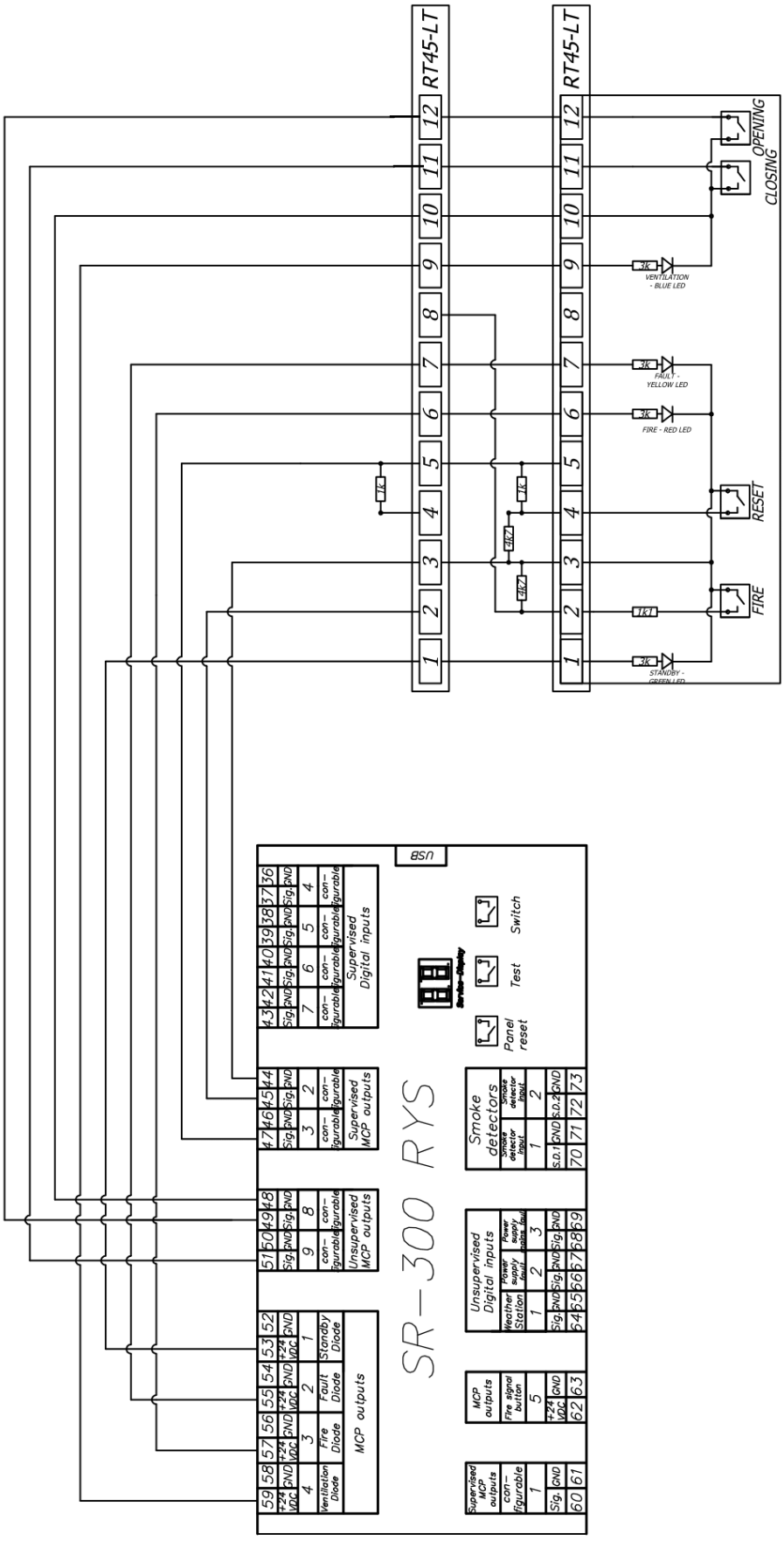


Figure 8.22.2. RT45-LT MCP diagram for motherboard, where the inputs are assigned functions: 2 – FIRE, 3 – RESET, 8 – START VENTILATION and 9 – STOP VENTILATION.

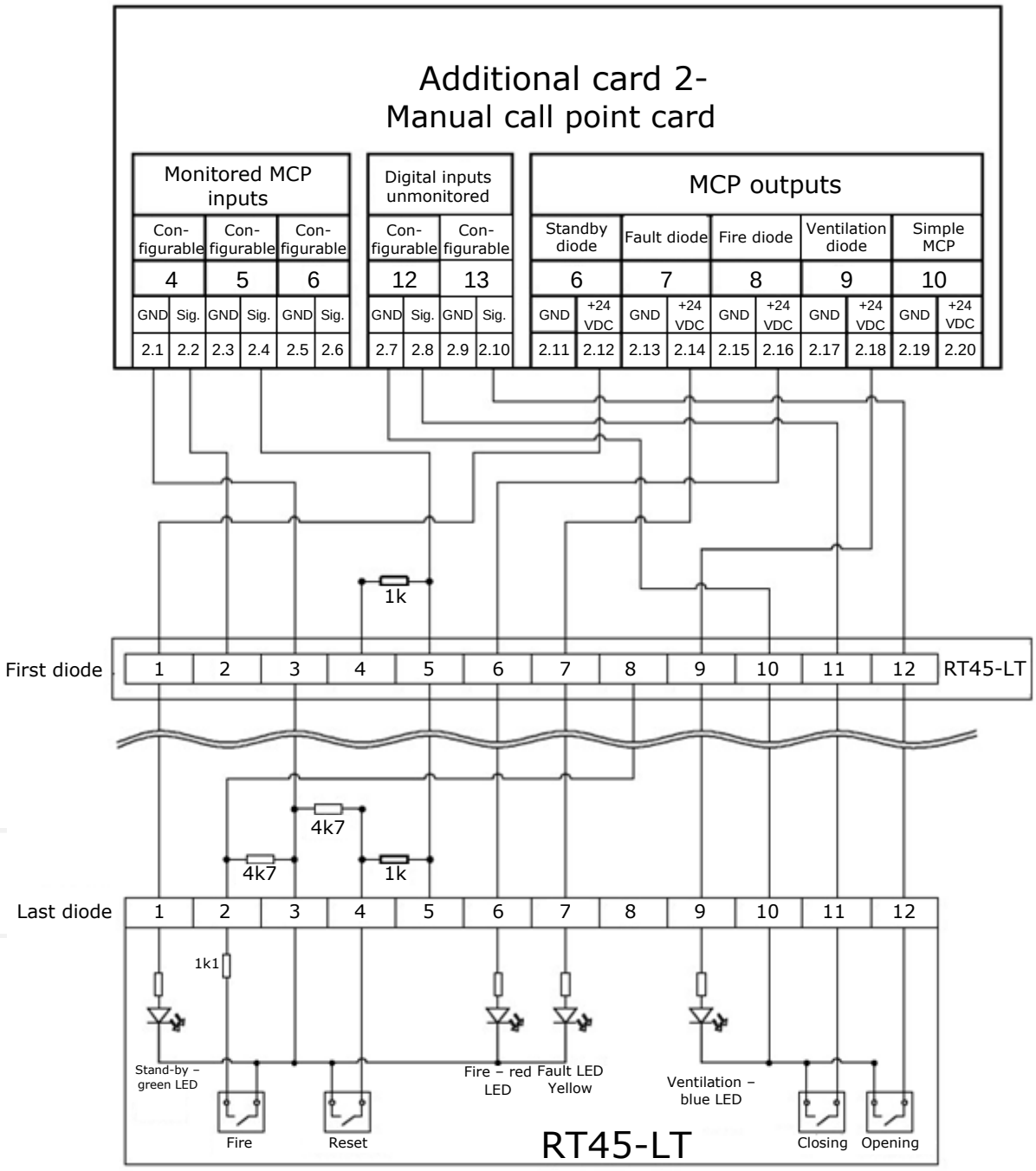


Figure 8.23. RT45-LT MCP diagram where the inputs are assigned functions: 4 – FIRE, 5 – RESET, 12 – STOP VENTILATION and 13 – START VENTILATION.

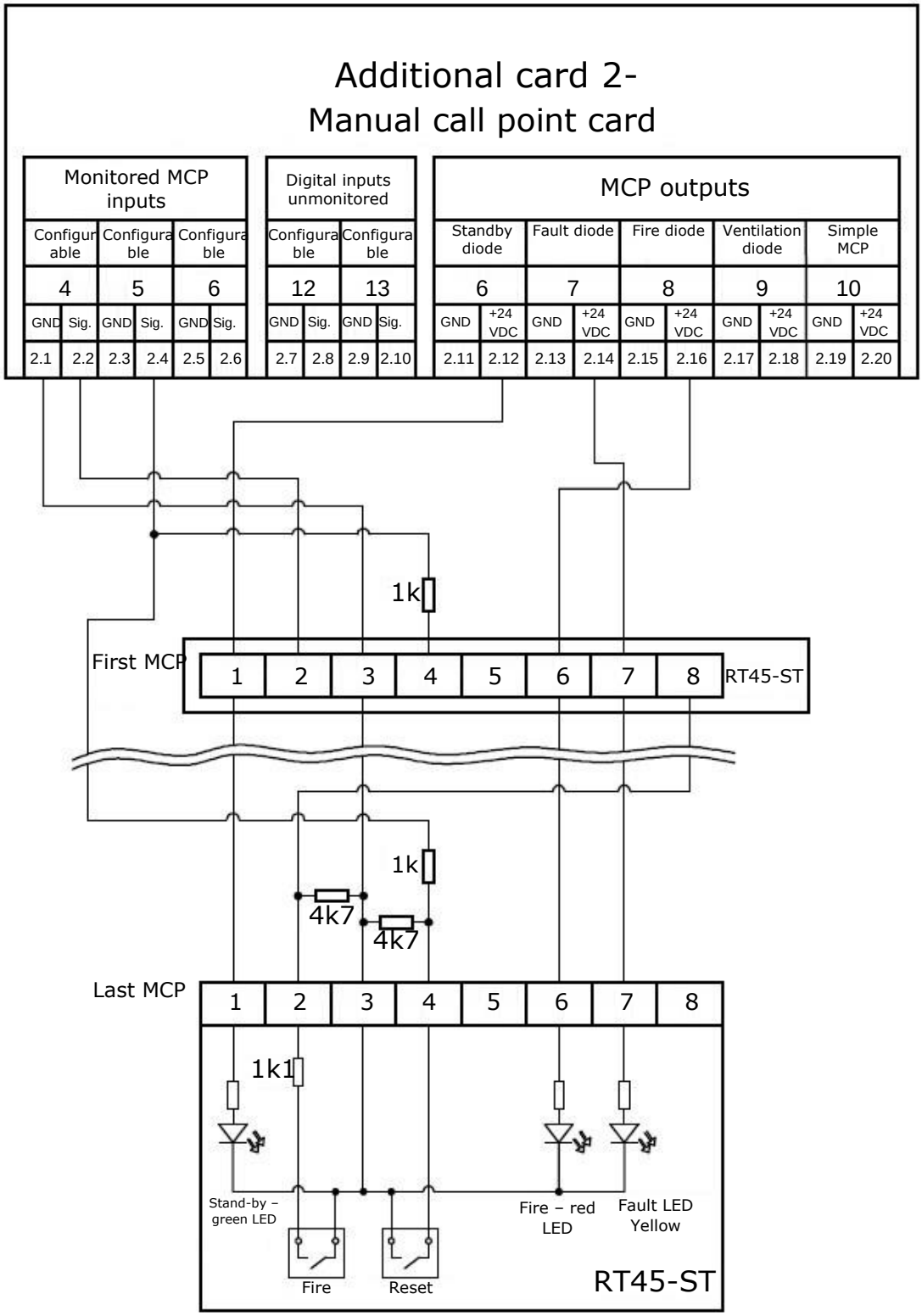


Figure 8.24. RT45-ST MCP diagram where the inputs are assigned functions: 4 – FIRE, 5 – RESET.

Diagram of the simplest connection, which does not provide short-circuit control on the reset line, recommended for a single button. With this connection, in the event of a short circuit on the reset line, no fault is displayed on the control unit and in the event of an alarm the unit will not enter fire mode:

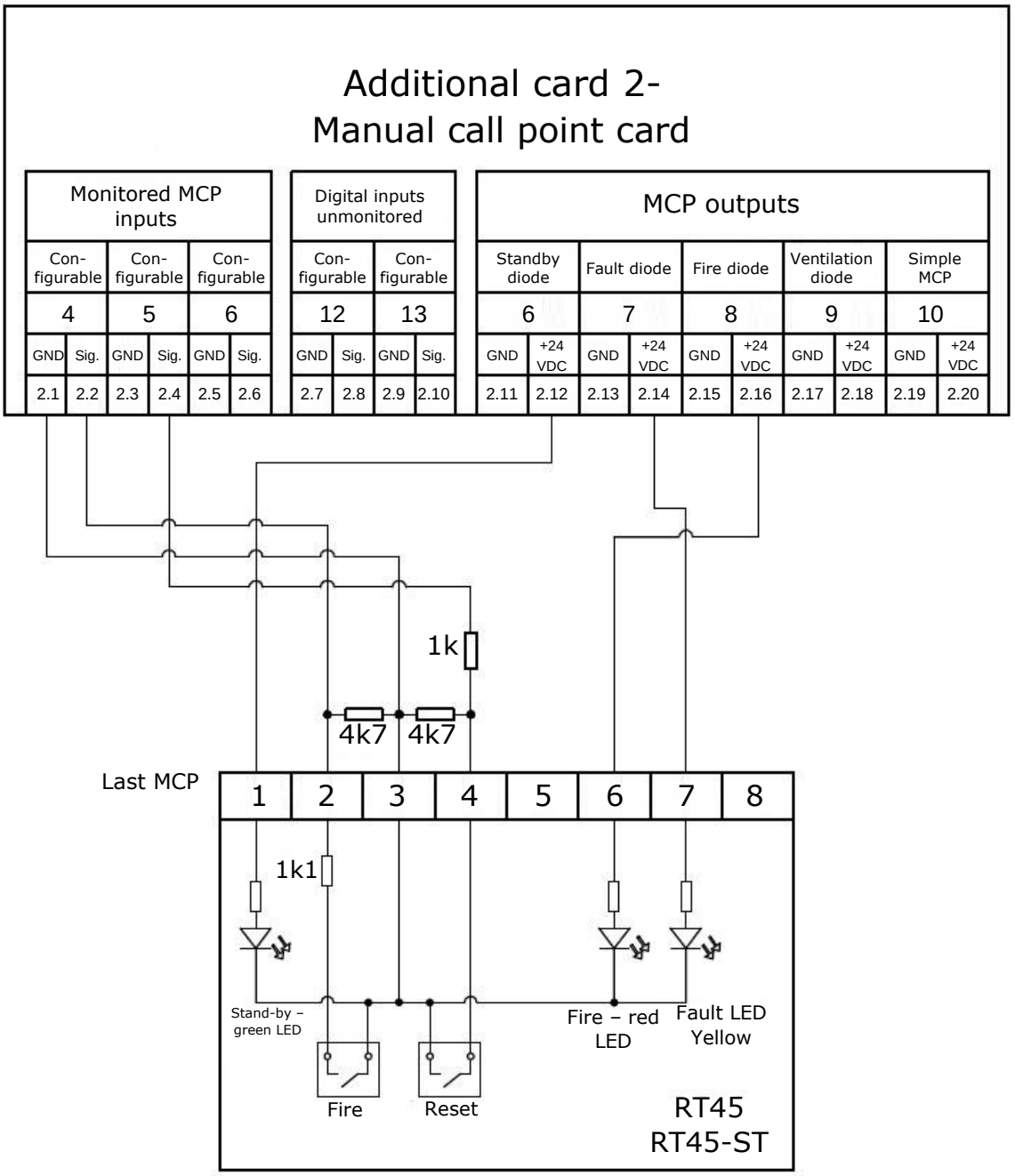


Figure 8.25. RT45, RT45-ST MCP connection diagram where the inputs are assigned functions: 4 – FIRE, 5 – RESET.

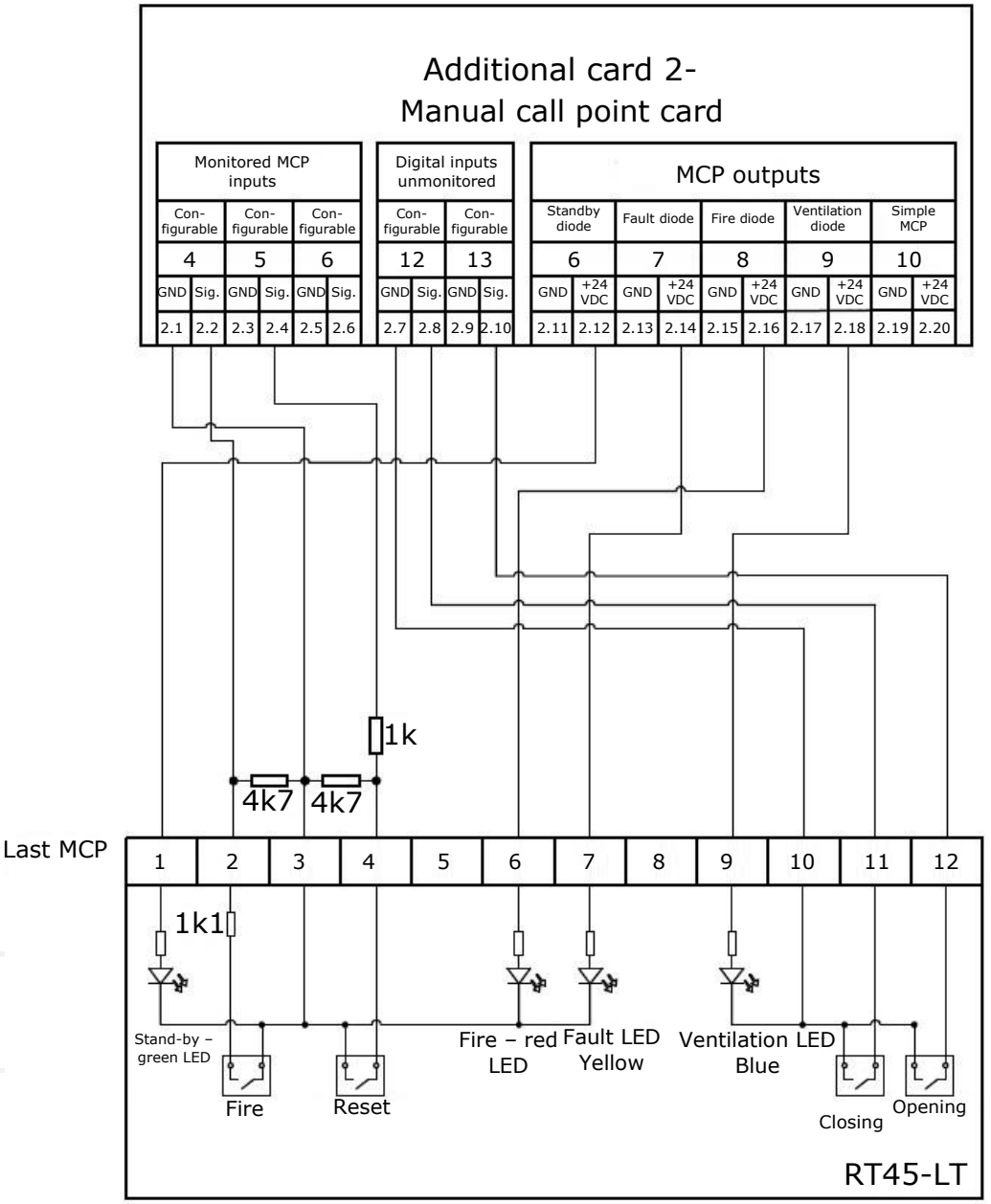


Figure 8.26. RT45-LT MCP diagram where the inputs are assigned functions: 4 – FIRE, 5 – RESET, 12 – STOP VENTILATION and 13 – START VENTILATION.

NOTE:

To ensure that the MCPs function correctly, the relevant MCP inputs must be configured using the configurator.

In RT45 and RT45-ST:

MCP terminal	Function in the configurator
1	Standby diode (no configuration necessary)
2	FIRE
3	GND (no configuration necessary)
4	RESET
5	No control
6	Fire diode (no configuration necessary)
7	Fault diode (no configuration necessary)

In RT45-LT:

MCP terminal	Function in the configurator
1	Standby diode (no configuration necessary)
2	FIRE
3	GND (no configuration necessary)
4	RESET
5	No control
6	Fire diode (no configuration necessary)
7	Fault diode (no configuration necessary)
8	To line 2 of the next MCP in line
9	Ventilation diode (no configuration necessary)
10	GND (no configuration necessary)
11	VENTILATION STOP
12	VENTILATION START

8.3. LT-AP ventilation button

The LT-AP ventilation button is designed to ventilate the stairwell in occupancy mode. When the button is pressed or held *open* or *closed*, the actuators will extend to the end position or to the set ventilation position. Pressing the same button again will stop the actuators. Pressing the button assigned to the opposite direction will reverse the movement of the actuators after a brief stop.

Figure 8.27. LT-AP ventilation button.

Technical data

Table 8.6. Technical data for the LT-AP ventilation button.

Button type	Unipolar, monostable
Contact load capacity	10 A/250 V AC
Housing protection rating	IP44

Wiring diagram

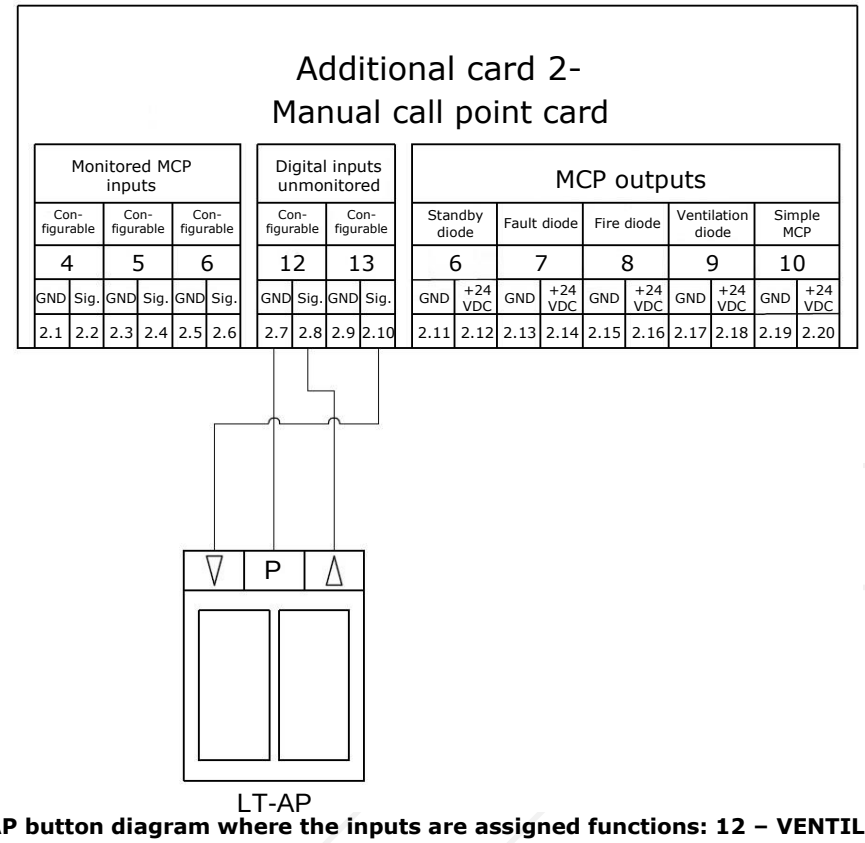


Figure 8.28. LT-AP button diagram where the inputs are assigned functions: 12 – VENTILATION START and 13 – VENTILATION STOP.

NOTE:

To ensure that the buttons function correctly, the relevant inputs must be configured using the configurator.

Installation

The button is designed for surface mounting. The hole spacing and dimensions of the button are shown in the drawing below.

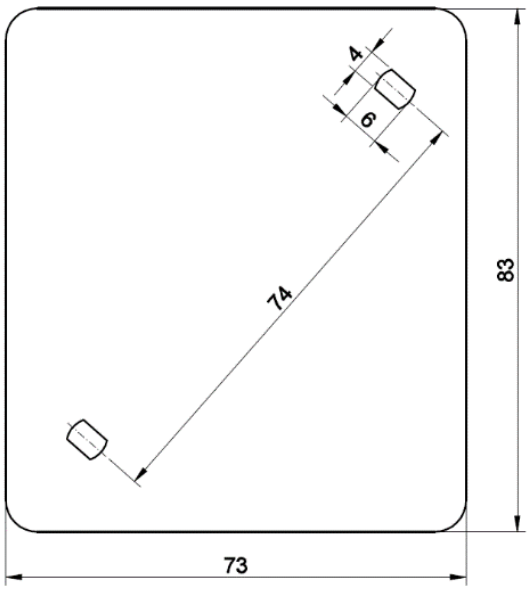


Figure 8.29. Dimensions and placement of installation holes of the ventilation button.

8.4. Smoke vent and door actuators

The actuator is designed to open and close doors in smoke extraction and natural ventilation systems. It guarantees the necessary supply of fresh air (aeration) and the opening of the escape route (door opening to 90°). The control unit works with actuators with reversable polarity. When the control panel is on standby (no fire alarm and no ventilation is on), the voltage is cut off from the actuator. Smoke vent and door actuators are connected in the same way as shown in Figure 8.30. The actuators connected to the subsequent outputs of the "RYS" control panel should be connected in the same way as shown in Figure 8.30.

NOTE:

Correct operation of the control panel has been confirmed with Grasl SG, D+H DDS and ESSCO BS actuators. SMAY SCD-1 smoke vents are recommended as the extraction element.

Connecting the actuators

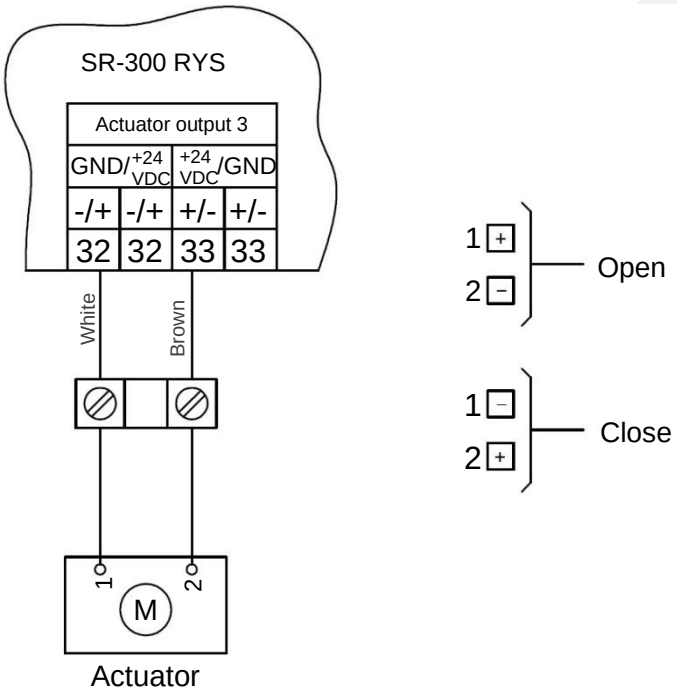


Figure 8.30. Diagram of connection of the SMAY SCD-1 smoke vent actuator and the door actuator to the SR-300 RYS smoke extraction control panel (for the door actuator, the colours of the wires may be different).

NOTE: If the direction of the actuator movement is not correct, reverse the polarity of the connected wires (swap the places of the two wires connected).

Switch off the power supply to the SR-300 RYS control panel before reversing the polarity. Connecting cables to the 24 V DC actuator output while the control panel is powered on may result in damage to the control panel!

NOTE:

To ensure proper operation of the actuator, it must be assigned to the correct fire zone (and ventilation zone if used for ventilation) in the configurator.

Table 8.7. Actuator technical data.

Power supply	24 VDC +10% -15%
Maximum load of a single actuator output	Up to 12 A

NOTE:

It is possible to connect an actuator with a maximum current of 4 [A] or 8 [A] to the first actuator output, depending on the type of the SR-300 RYS smoke extraction control panel used.

The SR-300 RYS control panel types are equipped with different AC/DC power supplies, differing in maximum output current.

Example:

The SR-300 1.4 control panel type is equipped with a power supply unit with a maximum output current of 5.5 [A] and a maximum of one actuator with a rated current of 4 [A] or two actuators with a rated current of 2 [A] can be connected to this control panel, with the condition to leave enough current for the current consumption of the control unit motherboard and the other devices used in the control unit (electro-stops, detectors, manual call points, weather station and others).

NOTE:

Exceeding the total maximum output current of the control panel is prohibited and risks damaging or destroying the device.

In the case of SR-300 RYS smoke ventilation control panels equipped with two power supplies (**all types with a total output current of more than 10 A**, see Table 4.1), it is possible to connect actuators with a rated current of 12 [A] but only to **the second, third or fourth actuator output!** (see section 5.1 – Motherboard view).

Example:

The SR-300 4.29 control panel has a total output current of 31 [A] and is equipped with two power supplies, 10 and 21 [A]. In this case, it is possible to connect an actuator with a maximum rated current of 8 [A] to the first actuator output and to connect an actuator of 12 [A] to the second, third or fourth actuator outputs.

8.5. Sounders/Beacons

Optical, acoustic and acoustic-optical signals can be connected to the SR-300 RYS smoke extraction control panel. These devices are connected to additional card 4 (see section 6.4).

Acoustic alarm sounders are connected to the additional card under the acoustic signal output, optical alarm signals under the visual signal output and acoustic-optic alarm sounders also under the visual signal output, according to the diagrams in Figures 8.5 and 8.6.

Signals are powered with the 24 VDC direct current power supply.

Signalling devices can be connected to form a network of signalling devices working synchronously – it is possible to connect signalling devices in an array.

NOTE:

When connecting signalling devices in an array, it is important not to exceed the maximum card load of 1 [A].

Technical parameters of the signal card

Acoustic sounder outputs	- Two outputs with power supply: 24 VDC - Maximum current of a single output: 0.5 A
Optical signal outputs	- Two outputs with power supply: 24 VDC - Maximum current of a single output: 0.5 A
Maximum card load:	1 A – summary of all outputs

Signal device connections

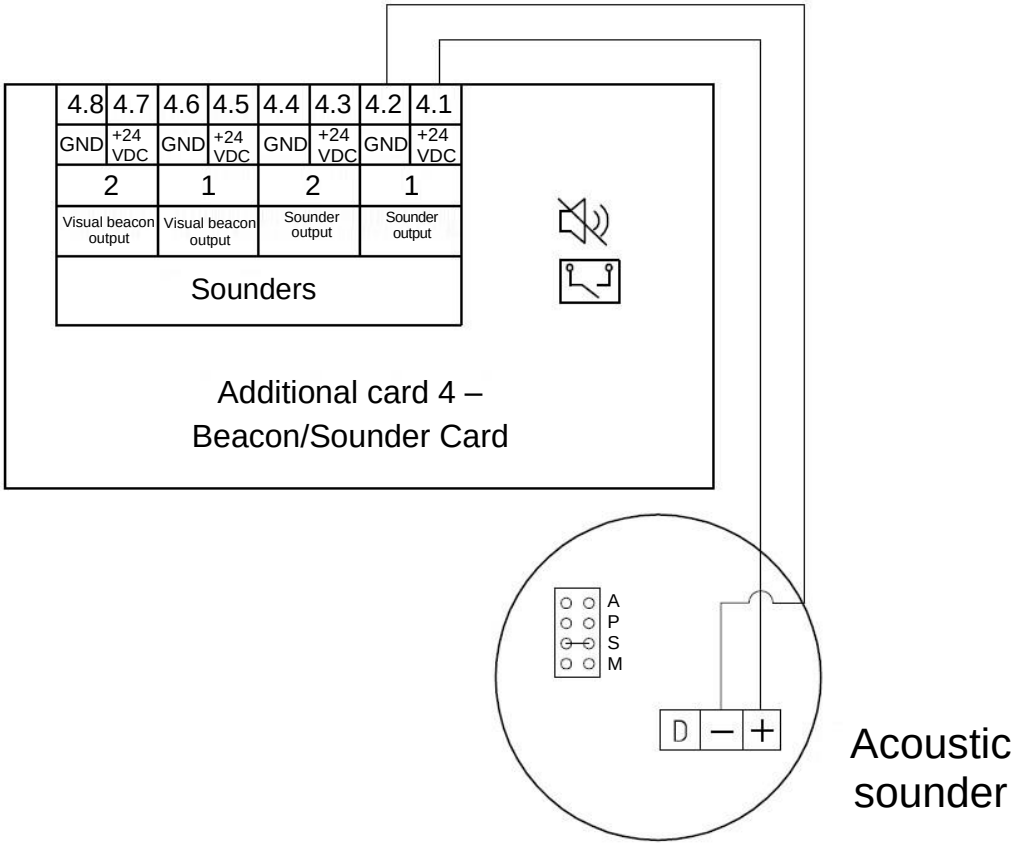


Figure 8.31. Diagram of an example connection of an acoustic sounder to the SR-300 RYS smoke extraction control panel.

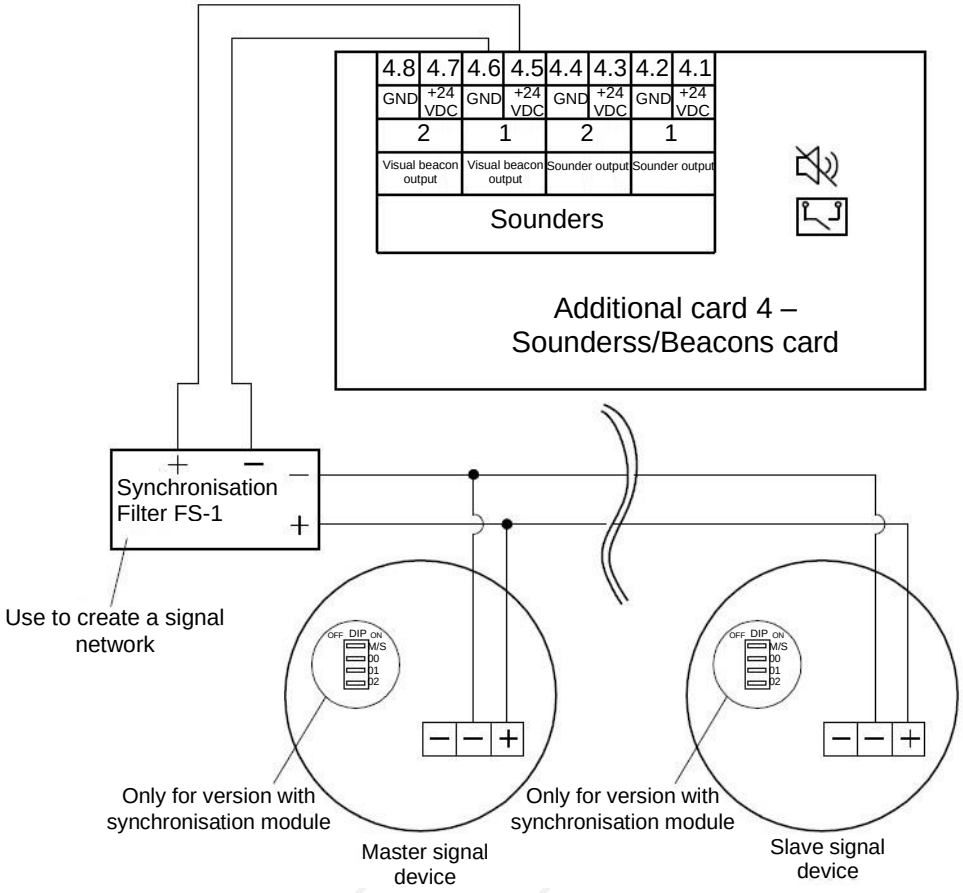


Figure 8.32. Diagram of an example connection of an optical signal to the SR-300 RYS smoke extraction control panel.

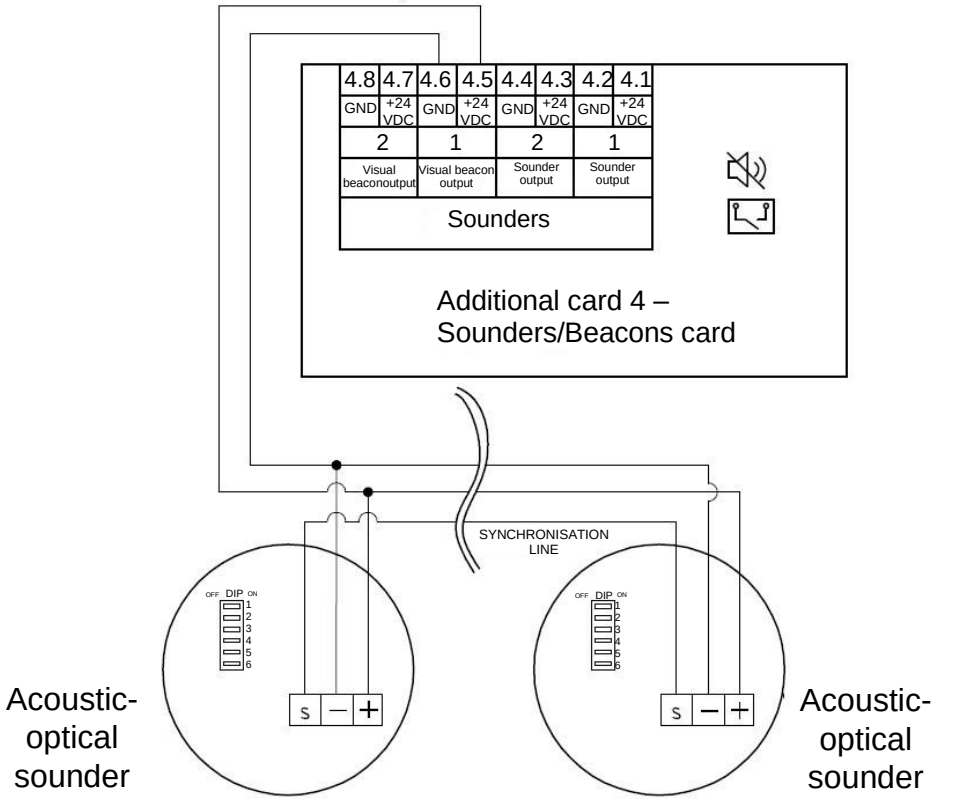


Figure 8.33. Diagram of an example connection of an acoustic-optical sounder to the SR-300 RYS smoke extraction control panel.

NOTE:

In order to ensure the correct operation of the alarm devices, the appropriate fire zones must be assigned to them in the configurator.

8.6. Electric door strike

The electric door strike is designed to block the entrance secured by it and to release it when a condition is met, which varies depending on the type of electric door strike:

- Standard – normally locked (no power supply) and unlocked when supply voltage is applied
- Reversible – normally unlocked (no power supply) and the locked state continues as long as the supply voltage is applied

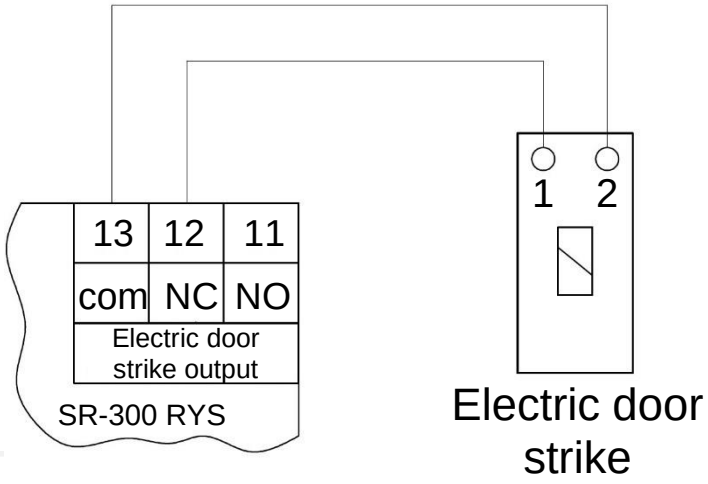


Figure 8.34 Diagram of connection of the electric door strike to the SR-300 RYS smoke extraction control panel.

Technical data

Table 8.8. Electric door strike technical data.

Supply voltage	24 VDC
Maximum load of a single output	2 A

NOTE:

In order to ensure the correct operation of the electric door strikes, they must have assigned the corresponding fire zones in the configurator.

In the event of a 230 V power outage, voltage is removed from the reversible door strike to save battery power reserves.

9. Devices Supporting the SR-300 RYS Smoke Extraction Control Panel

9.1. A-SO rotary actuator adapter

The rotary actuator adapter (relay module) is designed to supply and control rotary actuators with separate direction inputs. The input signal of the adapter is 24 V DC with reversable polarity from the RYS control panel. At the output, the 24 V DC voltage is supplied to one of the two outputs. Depending on the polarity, voltage is applied to one of the two outputs.

Technical data

Rated voltage	24 VDC
Operating conditions	-25°C ≤ Ambient temperature ≤ +75°C
Housing protection rating	IP65

Connecting the adapter

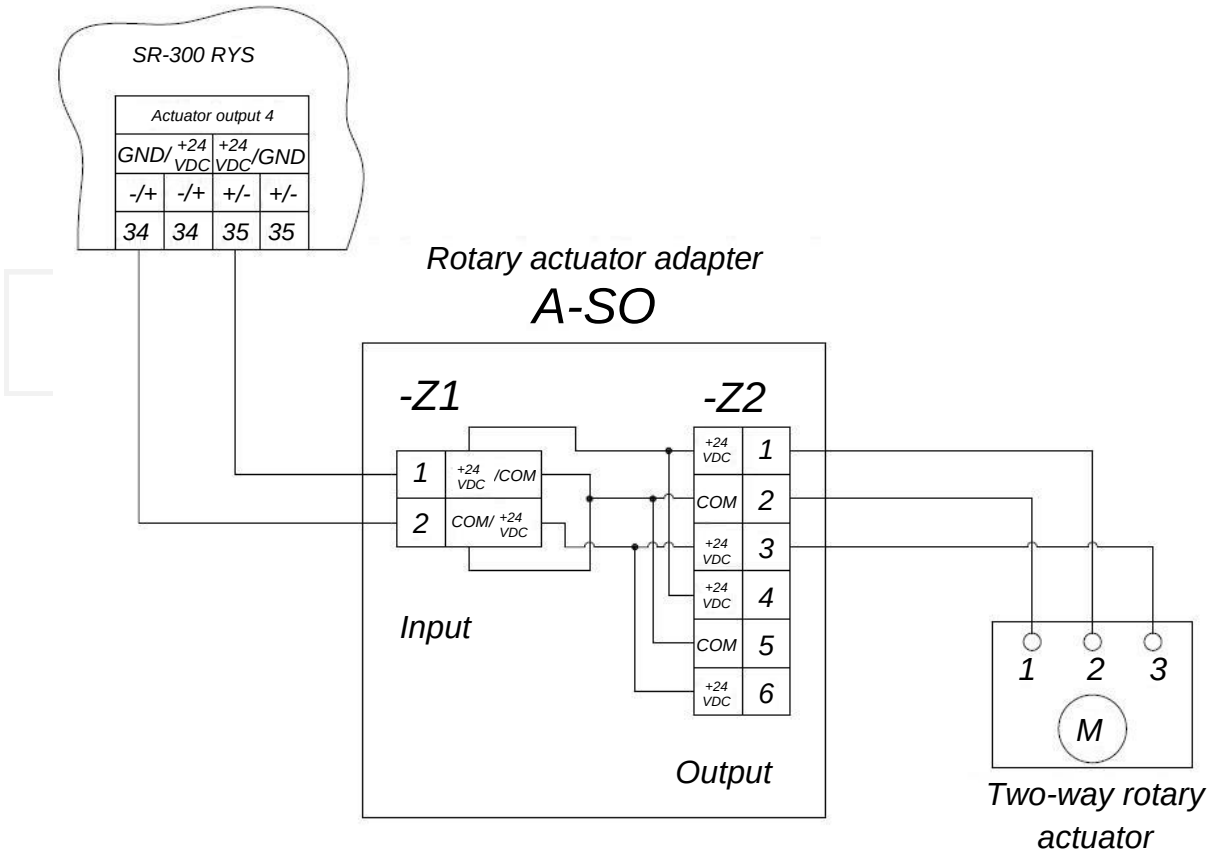


Figure 8.35. Connection diagram for the A-SO rotary actuator adapter to the SR-300 RYS smoke extraction control panel and a dual-position rotary actuator.

Figure 8.36. Actual view of the A-SO adapter.

9.2. A-ED electric door strike adapter

The electric door strike adapter (relay module) is designed to power and open standard and reversible electric door strikes (see section 8.5) by means of the smoke extraction control panel and the access control system. The A-ED adapter is used to enable the door to be opened by a system (e.g. access control or intercom) other than just the RYS smoke extraction control panel.

The input signal of the adapter is the 24 V DC generated by the smoke extraction control panel in the event of a fire or by the access control system. The two signals from the control panel and access control are separated from each other. Depending on the electric door strike used, the voltage is applied when the electric door strike is opened (standard electric door strike) or the voltage is removed from the electric door strike (reverse electric door strike).

Technical data

Rated voltage	24 VDC
Operating conditions	-25°C ≤ Ambient temperature ≤ +75°C
Housing protection rating	IP65

Connecting the adapter

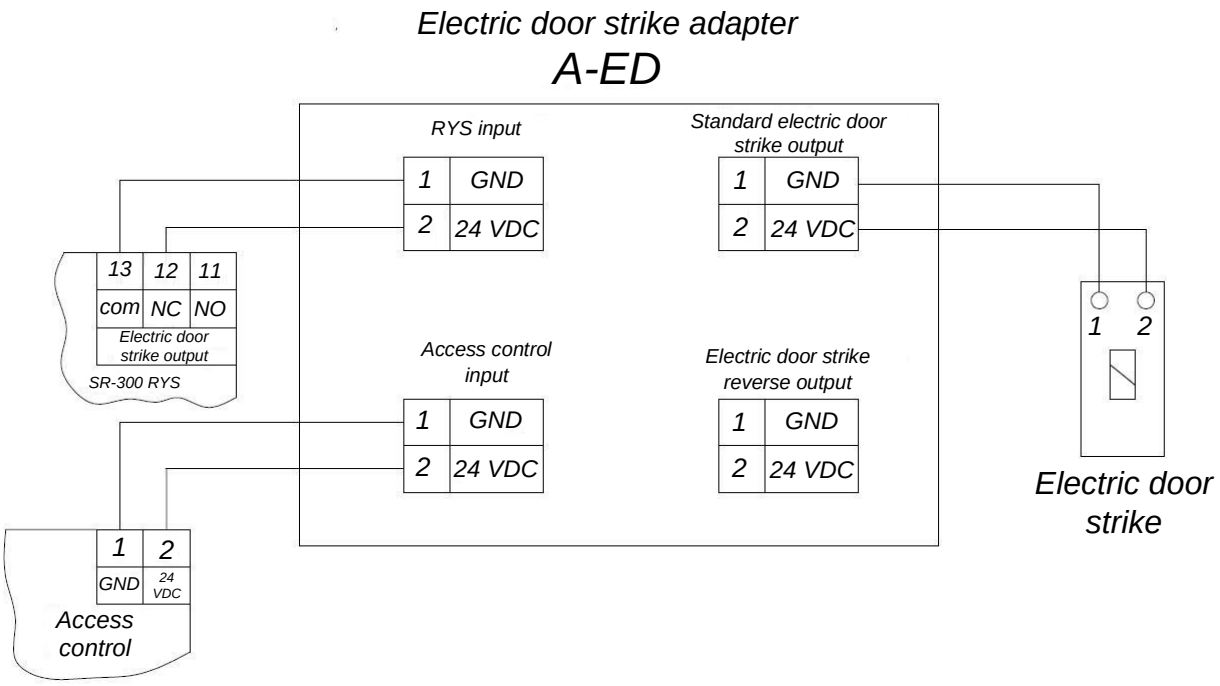


Figure 8.37. Diagram of the connection of the A-ED Door strike adapter to the RYS smoke extraction control panel and access control system, as well as the connection of a standard door strike to the A-ED adapter.

Figure 8.38. Actual view of the A-ED adapter.

9.3. A-SP weather station adapter

The weather station adapter is an additional card 5 (see section 6.5), extended with a larger number of outputs and placed not in the RYS control panel but in separate housing. The separate housing of the A-SP weather station adapter allows it to be placed anywhere on the site and the larger number of outputs of the adapter allows control signals to be sent to several smoke extraction control panels. The functionality of the A-SP adapter is identical to that of additional card 5 (weather station card) – see section 6.5.

Technical data

Rated voltage	24 VDC
Current consumption	0.22 A
Operating conditions	-25°C ≤ Ambient temperature ≤ +75°C
Housing protection rating	IP65

Adapter diagram

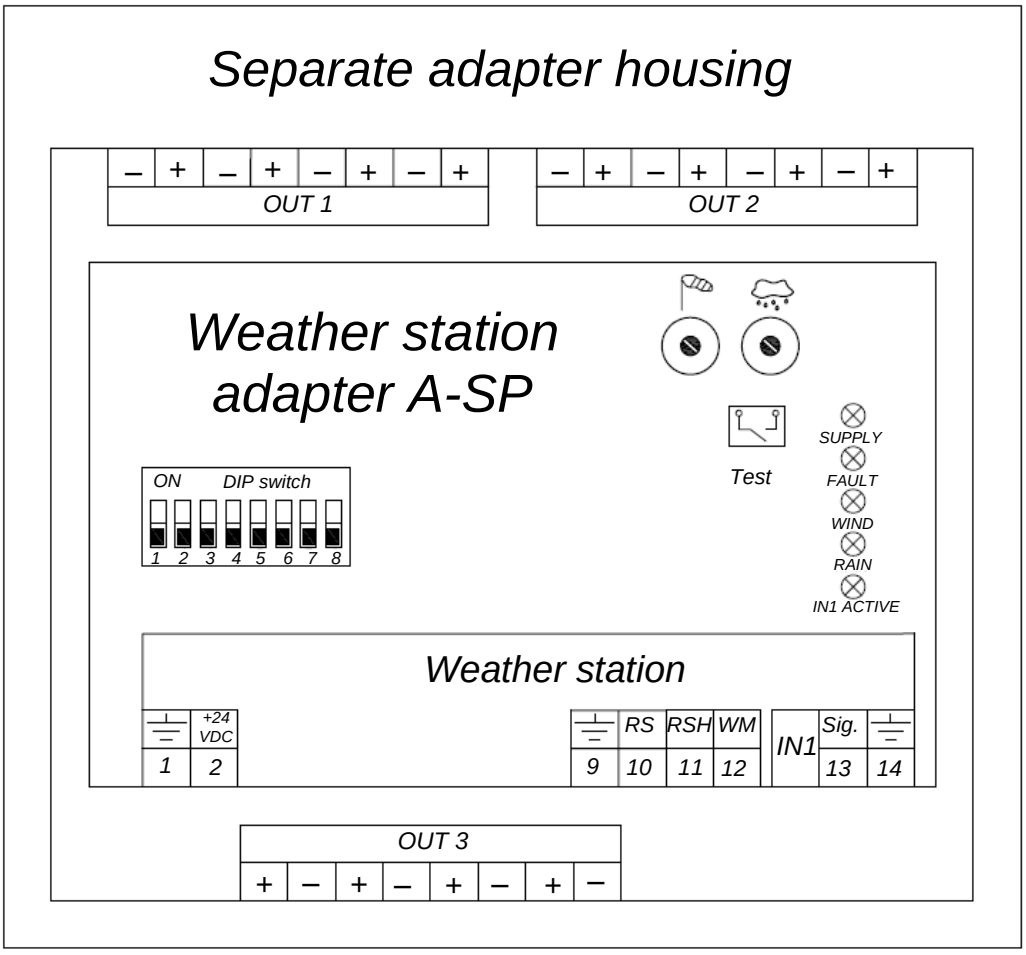


Figure 8.39. Diagram of the weather station adapter A-SP.

Figure 8.40. Actual view of the A-SP adapter.

9.4. Resistors simulating devices cooperating with the SR-300 RYS smoke extraction control panel.

Input/output type	**Standby**	**Activation**
Monitored digital input	9.4 kΩ	4.7 kΩ
MCP input	10 kΩ	1 kΩ
Smoke detector input	4.7 kΩ	1kΩ or 560 Ω depending on coincidence
Actuator output	9.4 kΩ or less	
Electric door strike output	4.7 kΩ or less	

If an input or output is not used and no function has been assigned to it in the configurator, there is no need to parametrise the relevant input or output with resistors.

10. SR-300 RYS Smoke Extraction Control Panel Housing

10.1. SR-300 RYS smoke extraction control panel housing signalling

Upon request from the customer, it is possible to manufacture a control panel housing without signalling diodes on the front of the housing. This is possible for the following SR-300 RYS smoke vextraction control panel types: SR-300 1.4, SR-300 1.8, SR-300 1.8P, SR-300 2.8 and SR-300 4.8.

NOTE:

For control panels without signalling on the front of the housing, the MCP Manual call point with signalling informing about the operating status of the SR-300 RYS smoke extraction control panel must be connected to the control panel. If no MCP is to be used on site, the control panel must be equipped with an optical signalling option.

Each type of the SR-300 RYS smoke extraction control panel, irrespective of the number and types of additional cards used, is installed in one type of housing, differing in overall size. The view of the housing for the maximum type of the SR-300 RYS smoke extraction control panel is shown in Figure 9.1.

10.2. IP protection and overall dimensions of various control panel housing

Each of the SR-300 RYS smoke extraction control panels can be installed in different housing with different IP protection degrees and overall dimensions. Table 9.1 shows the standard IP degrees of protection, the standard and for IP54 overall dimensions and the closing of the enclosures depending on the type of control panel.

NOTE:

In addition, each smoke extraction control panel can be manufactured upon the request of the customer with IP54 housing.

Table 9.1. Technical data for the SR-300 RYS smoke extraction control panel enclosures.

SR-300 RYS control panel type	IP Protection rating	Overall dimensions [mm]	IP54 dimensions [mm]	Closing
SR-300 1.4	IP30	410 × 400 × 140	415 × 400 × 170	Screws
SR-300 1.8	IP30	480 x 480 x 160	480 x 480 x 180	Screws
SR-300 1.8P	IP30	480 x 480 x 160	480 x 480 x 180	Bolts
SR-300 1.20P	IP40	550 × 480 × 200	550 × 480 × 220	Key
SR-300 2.8	IP30	480 x 480 x 160	480 x 480 x 180	Screws
SR-300 2.20	IP40	550 × 480 × 200	550 × 480 × 220	Key
SR-300 2.29P	IP40	550 × 480 × 200	550 × 480 × 220	Key
SR-300 4.8	IP30	480 x 480 x 160	480 x 480 x 180	Screws
SR-300 4.20	IP40	550 × 480 × 200	550 × 480 × 220	Key
SR-300 4.29	IP40	550 × 480 × 200	550 × 480 × 220	Key
SR-300 4.39	IP40	550 × 480 × 200	550 × 480 × 220	Key
SR-300 4.48	IP40	550 × 480 × 200	550 × 480 × 220	Key

The view of the housing for the maximum type of the SR-300 RYS smoke extraction control panel is shown in Figure 9.1.

Fig. 10.1 Housing 410 x 400 x 140 [mm]; 480 x 480 x 160 [mm] (left) and housing 550 x 480 x 200 (right).

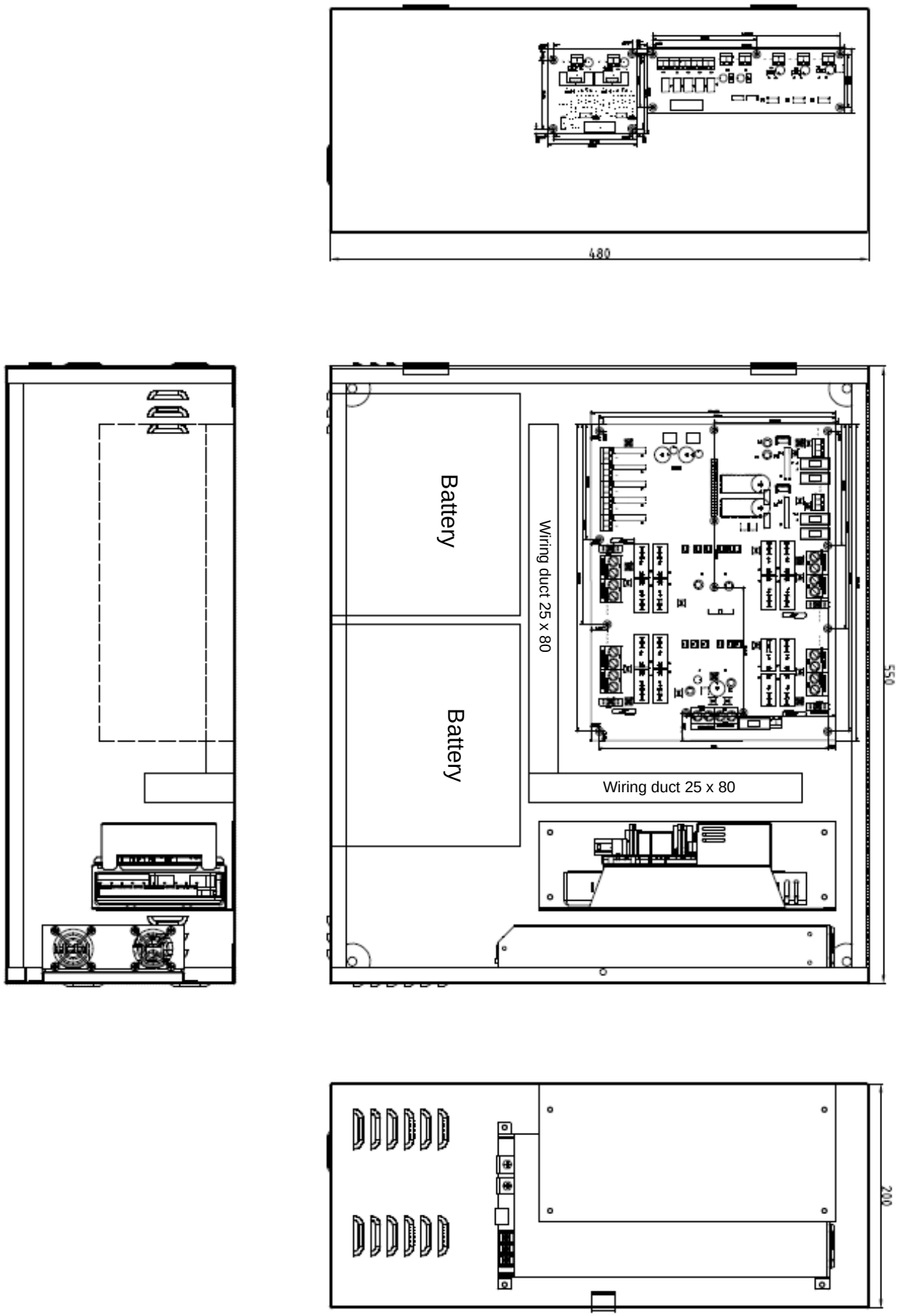


Figure 9.1. SR-300 RYŚ IP40 smoke extraction control panel housing with dimensions.

Upon request from the customer, it is possible to manufacture control panel housing without signalling on the front of the housing. This is possible for the following SR-300 RYS smoke ventilation control unit types: SR-300 1.4, SR-300 1.8, SR-300 1.8P, SR-300 2.8 and SR-300 4.8.

NOTE:

For control panels without signalling on the front of the housing, the MCP Manual call point with signalling informing about the operating status of the SR-300 RYS smoke extraction control panel must be connected to the control panel. If no MCP is to be used on site, the control panel must be equipped with an optical signalling option.

10.3. Batteries

The SR-300 RYS control panel is equipped as standard with batteries that are suitable for the type of panel. If necessary, the control panel can be equipped with larger batteries and a larger housing. The housings are only available in the versions described in section 9. The control panel can also be ordered without batteries.

Table 9.2. Batteries suitable for specific types of the SR-300 RYS smoke extraction control panel

SR-300 RYS control panel type	Standard battery	Maximum battery size*
SR-300 1.4	2 x 7.2 Ah	2 x 7.2 Ah
SR-300 1.8	2 x 18 Ah	2 x 18 Ah
SR-300 1.8P	2 x 18 Ah	2 x 18 Ah
SR-300 1.20P	2 x 18 Ah	2 x 45 Ah
SR-300 2.8	2 x 18 Ah	2 x 18 Ah
SR-300 2.20	2 x 18 Ah	2 x 45 Ah
SR-300 2.29P	2 x 18 Ah	2 x 45 Ah
SR-300 4.8	2 x 18 Ah	2 x 18 Ah
SR-300 4.20	2 x 26 Ah	2 x 45 Ah
SR-300 4.29	2 x 26 Ah	2 x 45 Ah
SR-300 4.39	2 x 26 Ah	2 x 45 Ah
SR-300 4.48	2 x 26 Ah	2 x 45 Ah

*For batteries smaller than 45Ah, the maximum battery size is the size of the largest battery for which the housing does not need to be enlarged.

10.4. Mounting of the control panel

The smoke extraction control panel can be mounted on any surface using four screws or bolts, according to the diagrams shown in the figures below. For housings with increased IP, the mounting hole spacing remains the same as for the basic IP version. Each type of smoke extraction control panel is characterised by different mounting hole spacing.

The placing of the power supply lines should be made from the top of the control unit.

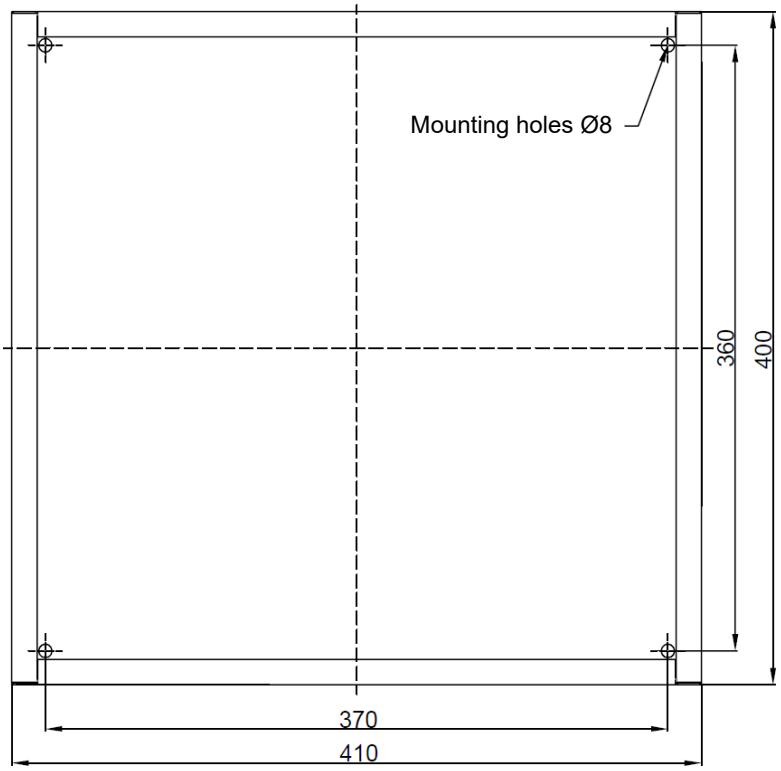


Figure 9.2. Mounting hole spacing for the 410 x 400 x 140 housing.

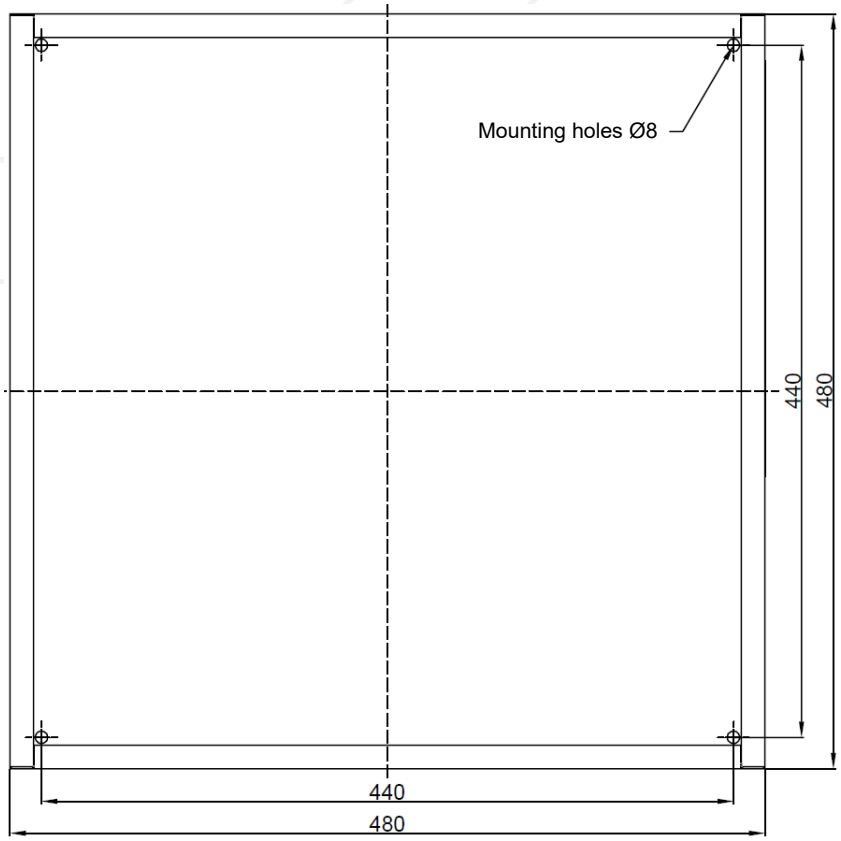


Figure 9.3. Mounting hole spacing for the 480 x 480 x 160 housing.

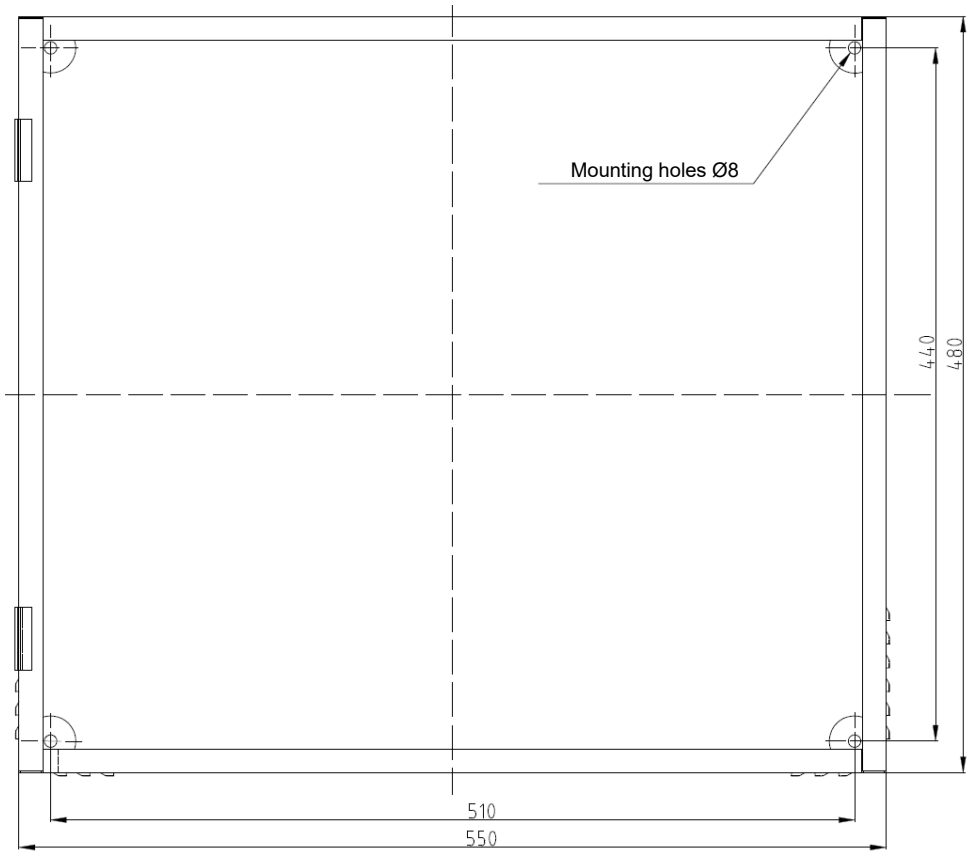


Figure 9.4. Mounting hole spacing for the 550 x 480 x 200 housing.

11. Troubleshooting

The SR-300 RYS smoke extraction control panel is equipped with a two-segment digital display. Depending on the operating status, the control panel indicates it by displaying the appropriate code. All failures, faults and alarms are communicated to the user so that it is possible to monitor and possibly diagnose panel faults. Table 10.1 below shows the operating states of the SR-300 RYS smoke extraction control panel and the corresponding codes.

Table 10.1. SR-300 RYS smoke extraction control panel operating states.

Code	Description	Code	Description
PE	EEPROM failure	Cb	SMOKE DET IN4 short circuit input
PF	Flash memory failure	CC	SMOKE DET IN4 deactivated input
	Configuration incorrectly read or missing	SA	Actuator service mode active
q	External quartz failure	d0	MCP IN 1 interrupted
R	Active reset	d1	MCP IN 1 short circuit
E0	Supply fault (battery operation)	d2	MCP IN 2 interrupted
E1	Failure – no confirmation of operation fire zone 1	d3	MCP IN 2 short circuit
E2	Failure – no confirmation of operation fire zone 2	d4	MCP IN 3 interrupted
E3	Failure – no confirmation of operation fire zone 3	d5	MCP IN 3 short circuit
E4	Failure – no confirmation of operation fire zone 4	d6	MCP IN 4 interrupted
A0	X1 actuator line interruption	d7	MCP IN 4 short circuit
A1	X1 actuator line interruption	d8	MCP IN 5 interrupted
A2	X2 actuator line interruption	d9	MCP IN 5 short circuit
A3	X2 actuator line interruption	dA	MCP IN 6 interrupted
A4	X3 actuator line interruption	dB	MCP IN 6 short circuit

A5	X3 actuator line interruption	n0	DIG IN 4 interrupted
A6	X4 actuator line interruption	n1	DIG IN 4 input short circuit
A7	X4 actuator line interruption	n2	DIG IN 5 input interrupted
F1	FX1 fuse blown	n3	DIG IN 5 short circuit
F2	FX2 fuse blown	n4	DIG IN 6 interrupted
F3	FX3 fuse blown	n5	DIG IN 6 input short circuit
F4	FX4 fuse blown	n6	DIG IN 7 input interrupted
F5	FX5_1 fuse blown	n7	DIG IN 7 input short circuit
F6	FX5_2 fuse blown	n8	DIG IN 10 input interrupted
	X5 output interrupted	n9	DIG IN 10 input short circuit
F7	FX6_1 fuse blown	NA	DIG IN 11 input interrupted
F8	FX6_2 fuse blown	nb	DIG IN 11 input short circuit
	X6 output interrupted	P1	Fire zone 1 alarm
C1	SMOKE DET IN1 input interrupted	P2	Fire zone 2 alarm
C2	SMOKE DET IN1 short circuit input	P3	Fire zone 3 alarm
C3	SMOKE DET IN1 deactivated input	P4	Fire zone 4 alarm
C4	SMOKE DET IN2 input interrupted	o1	Zone 1 ventilation
C5	SMOKE DET IN2 short circuit input	o2	Zone 2 ventilation
C6	SMOKE DET IN2 deactivated input	o3	Zone 3 ventilation
C7	SMOKE DET IN3 input interrupted	o4	Zone 4 ventilation
C8	SMOKE DET IN3 short circuit input	ob	Ventilation blocked
C9	SMOKE DET IN3 deactivated input		Weather station active
CA	SMOKE DET IN4 input interrupted		

The ZSP10A power supply features fault indication via three LEDs:

LED	Status	LED	Status	Legend	Description
MAINS (G)	OFF	×	×	1	No-voltage status
	ON			2	Mains supply present, power supply working
	Pulsating			3	No mains or power supply fault
FAULT (Y)	OFF	BAT (Y)	OFF	1	No-voltage status
	OFF		OFF	4	No faults
	ON		OFF	5	Blown fuse for battery direct output (B101)
	ON		OFF	6	Temperature probe damaged
	ON		ON	7	Battery resistance too high
	ON		ON	8	No battery or fuse blown (B100)
	ON		ON	9	Battery voltage too low (RGR not connected)
	ON		OFF	10	No additional power supply despite the selected configuration

Key:

1. No mains supply and no battery.
2. The output voltage of the power supply >15V (measured via the PRF line).
3. The output voltage of the power supply< 15V (measured via the PRF line).
4. ---
5. PB line < 15V
   No clear indication of the threshold level.
6. Measured temperature outside the permissible range.
7. Measured resistance above 100 mΩ levels but at the same time the measuring range not exceeded.
8. Measured resistance range exceeded.
9. Battery voltage below RGR threshold, RGR disconnected.
10. PZ line < 15V
    No clear indication of the threshold level.

12. Installation and Commissioning Instructions for the SR-300 RYS Smoke Extraction Control Panel

1) Objective

This manual aims to discuss the correct installation and commissioning of the SR-300 RYS smoke extraction control panel. The measures and methods described will have a direct impact on the safety of use, correct and fault-free operation.

2) Subject of the Manual

The subject of this manual is the course of action during installation and on-site commissioning of the following device: **the SR-300 RYS Smoke Extraction Control Panel.**

3) Basic Principles and Information

Technical documentation is delivered together with the unit. It includes external wiring connection diagrams. During installation and commissioning, the provisions of the installation and operating instructions must be strictly adhered to.

Assembly and installation may only be carried out when the power supply is OFF. Prior to installation, it is necessary to visually check the unit for mechanical damage.

4) Housing

The SR-300 RYS smoke extraction control panel with its additional cards is housed in an enclosed housing. Access to the inside of the unit is via a door with the option of a screw or key lock. The housing's facade features optical indicators indicating the status of correct power supply, panel fault, fire alarm and ventilation activated.

5) Installation

On-site installation of the unit should be carried out at a place specified in the installation design and according to the SR-300 RYS smoke extraction control panel installation and operating instructions. Installation should be carried out by qualified personnel with professional experience in electromechanical equipment.

The smoke extraction control panel can be assembled on any surface using four screws or bolts, according to the diagrams shown in section 9.4. Each type of smoke extraction control panel is characterised by different mounting hole spacing.

6) Connections and Commissioning

All cables connected to the SR-300 RYS smoke extraction control panel must be inserted through the rubber grommets, in accordance with the technical documentation provided, to maintain the declared IP degree of protection. Pay attention to the intended use of

the cable and insert it through the conduit closest to the terminals to which it is to be connected.

The electrical commisioning shall be carried out in accordance with the panel technical documentation, professional installation design and fire hazard scenario.

The SR-300 RYS smoke extraction control panel requires configuration based on the technical parameters of the connected receivers and in accordance with the fire emergency scenario. The configuration of the SR-300 RYS smoke extraction control panel is done using a dedicated configurator.

The configuration instructions in the configurator are a separate document and are supplied with the unit.

12.1. Power supply connection

The SR-300 RYS control panel is powered by direct connection to the 24 V DC power supply. The placing of the power supply cables should be made from the top of the panel through a suitable cable gland.

Depending on the type of control panel, power supplies ZSPM-150-10 for type 1.4 and ZSP10A are used, together with possible booster power supplies for all other versions.

In both cases, the power supply is connected to the L, N and GND terminals.

NOTE:

The unit types 1.20P, 2.20, 2.29P, 4.20, 4.29, 4.39, 4.48 have two power supplies (Fig. 11.2). Do not connect power to the booster power supply. It is already connected to the main power supply at the factory.

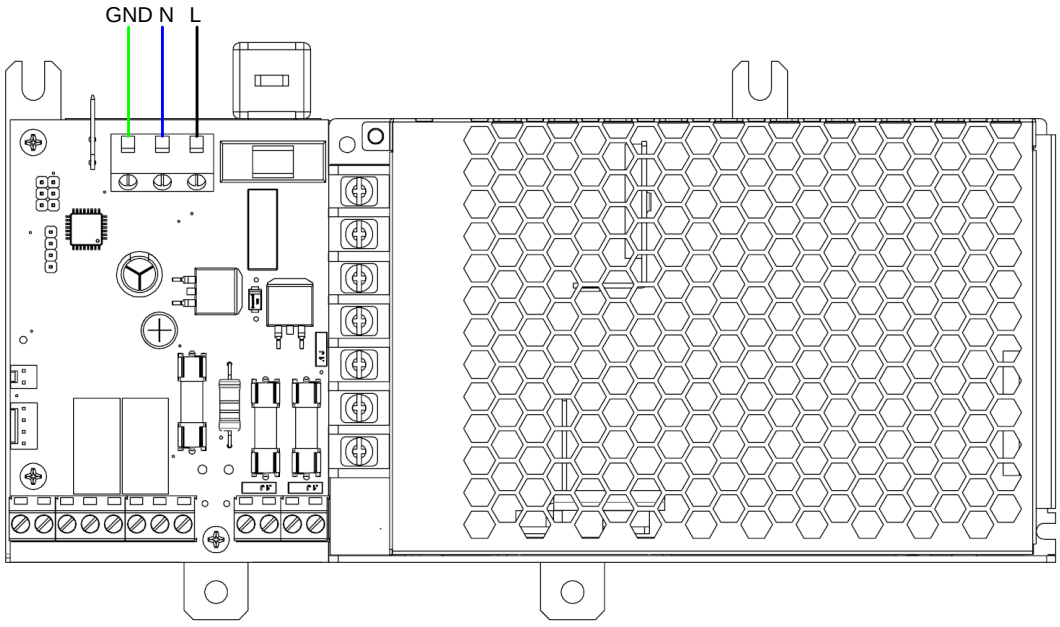


Figure 11.1. Power supply connection for ZSPM-150-10 (RYS Type 1.4).

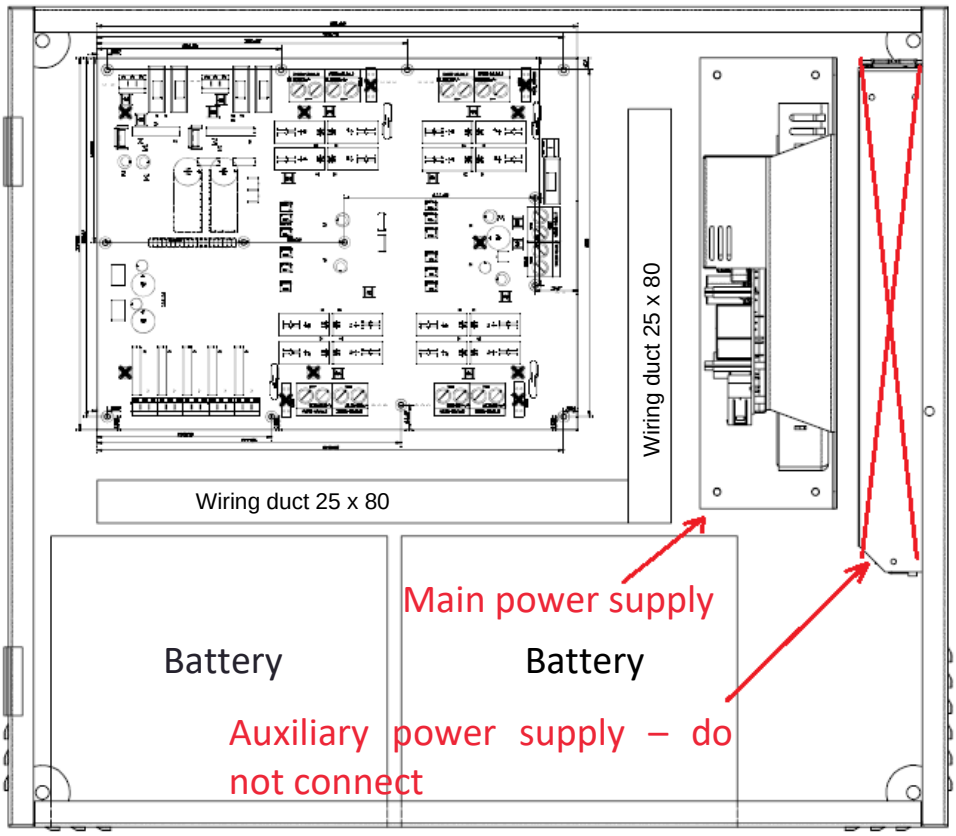


Figure 11.2. View of the control unit with two power supplies – main and auxiliary. (RYS type 1.20P, 2.20, 2.29P, 4.20, 4.29, 4.39 and 4.48).

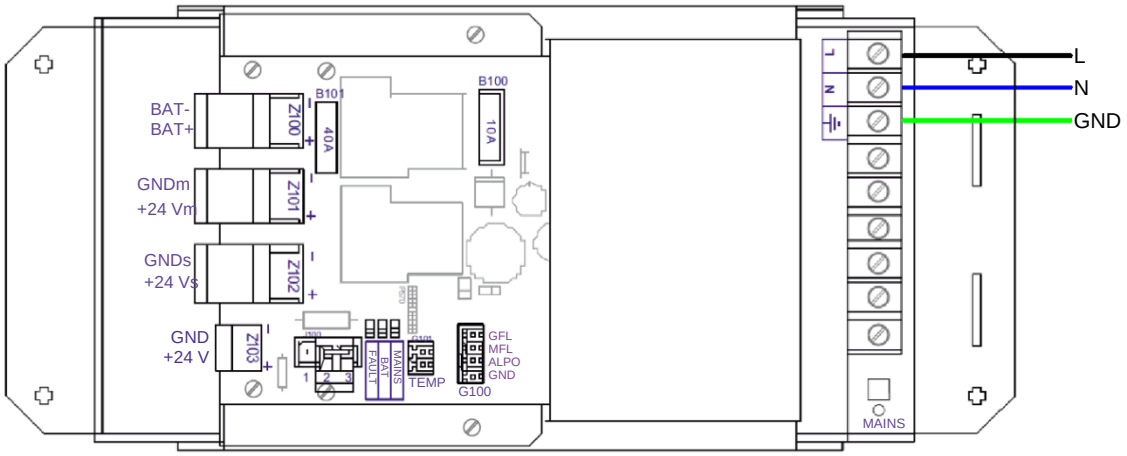


Figure 11.3. Power supply connection for the ZSP10A (RYS Type 1.8– 4.48).

13. Instructions for On-Site Post-Assembly and Installation Testing

Testing of the SR-300 RYS smoke extraction control panel must be carried out following the proper installation, commissioning and configuration of the control panel on site, in compliance with these installation and operating instructions.

13.1. Checking the operating status signals

Check that the POWER LED is ON – on the control panel and on the weather station – this indicates the electrical power is ON and the correct operation of the module.

13.2. Power supply check

The power supply to the controller must be measured for efficiency. To this end, a universal electrical multimeter with a current calibration certificate is to be used, it should be operated in accordance with the operating instructions of the device. The measurement should be carried out on the terminal blocks, between the "+" and "-" terminals of the primary and backup power input. Also, the power supply output should be checked in the same way. The results of the voltage measurements should be within the tolerances according to technical data in section 5.2 of this manual.

13.3. Function and configuration check

The correctness of the operation and configuration of the SR-300 RYS smoke extraction control panel is to be checked by implementing all the scenarios for the development of events in the event of a fire emergency provided for the building and operated by the SR-300 RYS smoke extraction control panel. The operating algorithms of the panel are to be checked for the reception of input signals, output monitoring, interlocking and reset of specific signals.

In the event of a malfunction, proceed with the corrective action in accordance with the technical documentation of the unit.

14. Packing, Transport and Storage

No damage resulting from incorrect transport, unloading and storage is covered by the warranty and no related claims shall be handled by SMAY Sp. z o.o.

14.1. Packaging

The SR-300 RYS smoke extraction control panel and additional cards are to be packed in cardboard boxes and the empty spaces filled to restrict free movement and protect them during handling and transport.

The following data should be placed on the transport packaging:

- Manufacturer's name and logo
- Device name

14.2. Transport

The units packed in accordance with section 13.1 may be transported by any means of transport protected from mechanical damage and the effects of temperatures below -5 °C and above +40 °C and relative humidity above 93% at +40 °C, in accordance with the requirements of the applicable transport regulations.

NOTE:

Do not drop or throw the panel! The packaging in which the unit is transported does not prevent damage resulting from improper transport handling.

14.3. Storage

The SR-300 RYS smoke extraction control panel (and all additional cards) should be stored indoors at temperatures from -5 °C to +40 °C and relative humidity up to 80% at +35 °C, free from volatile sulphur compounds, as well as any acidic and alkaline vapours. The panel should not be exposed to direct sunlight, ultraviolet rays or heating devices.

15. Operation and Maintenance

I. Read this documentation before any operation or maintenance work. In particular, qualified personnel who are responsible for operating the equipment/system as part of operation and service are obliged to do so.
In the absence of qualified personnel with specific technical skills, current inspection of the equipment should be carried out by SMAY Service or SMAY Authorised Service.

II. No damage to the SR-300 RYS smoke extraction control panel resulting from failure to observe the guidelines given in the documentation shall be subject to warranty repairs.

III. The SR-300 RYS smoke extraction control panel must be tested at least once a year. During the annual inspection, the following shall be performed:

- Checking the correct operation of the control unit and additional cards
- Carrying out all possible checks on the SR-300 RYS smoke extraction control panel according to the list of device functions adopted by the designer of the controller system (paying particular attention to the fire scenario).

16. Impact on the Environment

A worn-out product is hazardous waste which shall be handed over to a local, authorised electric and electronic waste management facility for disposal.

Proper handling of worn out electric and electronic equipment will help to avoid harmful impact on people's health and natural environment resulting from inappropriate storage and processing of such equipment.

17. General Warranty Terms and Conditions

SR-300 RYS Smoke Extraction Control Panel

The GUARANTOR provides the warranty for the purchased product/system under the terms and conditions specified below:

Article 1

The GUARANTOR warrants proper functioning of the purchased fire safety product/system and commits to remove defects free of charge if they occur during the granted warranty period. The following shall be considered as a fire safety product/system:
SR-300 RYS Smoke Extraction Control Panel

Article 2

The warranty for the system/product specified in this general warranty terms and conditions is effective within the territory of the Republic of Poland and remains valid for 24 months from the date of sale or for any other time duration specified in the contract. The GUARANTOR shall provide the warranty under a condition precedent, namely, full payment of the required purchase price for the system/product. In the event of a lack of payment for the

system/product, the system/product shall remain the property of the GUARANTOR and the warranty rights specified below shall not arise and shall not be binding upon the GUARANTOR.

Article 3

It is possible to extend the warranty period on the condition that a separate maintenance and service agreement between the GUARANTOR and the owner/manager of the facility is concluded. Yearly inspections are an integral part of such an agreement. Yearly inspections are chargeable and include replacement of consumable parts and the specification of the facility during the extended warranty period.

Article 4

The basis for consideration of the reported claim during the warranty period is submitting the claim within seven days from the date of detection of the defect; making the product/system available in the same state as when the defect occurred, along with the detailed description of the technical problem and documents confirming the conducting of all inspections and periodic checks/maintenance anticipated by the GUARANTOR. The claim shall be submitted by sending a completed "Claim Application Card" form (available from www.smay.pl) to the GUARANTOR's address. It is acceptable to send the application form to the email address info@smay.pl or via fax. Further use of the defective system/product is absolutely unacceptable.

Article 5

The GUARANTOR shall undertake to begin repairing the defect within two working days from the date of the receipt of the claim. The GUARANTOR shall undertake to repair the defect within twenty-one working days from the date of the receipt of the claim with full documentation (description of the defect – completed "Claim Application Card" form and copies of the inspection and periodic test reports). If it is necessary to acquire some materials or parts that are difficult to obtain, the repair will be carried out within the shortest possible period of time that is reasonable from a technical point of view. The warranty period shall be extended by the repair time. The warranty holder is obliged to make it possible for the GUARANTOR to carry out all indispensable actions associated with identification of the reasons for the failure and with the rectification of the failure. In the event of concealment or misinformation on the warranty holder's side, the warranty holder shall bear the costs of the repair and lose the granted warranty. The GUARANTOR shall undertake to rectify malfunctions and physical defects or to provide new, defect-free items, free of charge, during the warranty period, if the defect concerns any element included in the system and subject to replacement, reported by the ordering party.

Article 6

The warranty is valid in case if and when:

- The elements of the system/product, which have been factory sealed (if applicable), have intact, original seals, or seals placed thereupon by the GUARANTOR or a service point authorised by the GUARANTOR.
- The elements of the system/product are fully identifiable (in particular, they have intact, legible identification plates – if applicable).
- All inspections, periodic maintenance and service checks required by the GUARANTOR and/or legal regulations in force have been carried out, in particular, those specified in the operation and maintenance manual (if applicable) and those contained within valid standards, including PN-EN 12101-6 (if applicable), those required by the Building Law (Act of 7 July 1994, "Building Law", consolidated text, Journal of Laws 2013, item 1409 as amended), those required by the Act of 24 August 1991 on fire protection (Journal of Laws 2002, No. 147,

item 1229 as amended) and those appropriately recorded in the inspection and maintenance book and/or the facility book.
- The parts of the system/product have been correctly installed, used, operated and maintained, according to the GUARANTOR's technical documentation, including the Operation and Maintenance Manual (if applicable).

Article 7

The warranty does not cover the following:
- Inspections and periodic, maintenance and service checks required by the GUARANTOR and/or legal regulations in force, in particular, those specified in the Operation and Maintenance Manual (if applicable), within valid standards, including PN-EN 12101-6 (if applicable), those required by the Building Law (Act of 7 July 1994, "Building Law", consolidated text, Journal of Laws 2013, item 1409 as amended), those required by the Act of 24 August 1991 concerning fire protection (Journal of Laws 2002, No. 147, item 1229 as amended) and which the warranty holder is required to carry out on its own and at its own expense.
- Claims concerning technical parameters of the products/elements of the system, provided that they are consistent with the data given in the valid documentation.
- Normal wear and tear on the devices and device parts.
- Wear and tear of the products/elements of the system are defined as consumables, which durability depends on the intensity of use (e.g. buttons, switches, belts, fuses and batteries etc.).
- The loss of data stored in the memory of suitable elements of the system.
- The loss of settings in the control application resulting from the lack of the mains power supply for the time duration longer than the guaranteed operation time of the backup power supply, once the commissioning process has been completed.
- Faulty operation of the third-party software used for working with the purchased system.

Article 8

The warranty does not cover any damage resulting from reasons directly attributable to the warranty holder or Third Party, whether intentional or accidental, in particular:
- Damage resulting from applying incorrect supply voltage or connecting to an incorrect electric installation, incorrect assembly of the product/system and storage of its elements or use under the terms and conditions incompatible with those specified by the GUARANTOR in the Instruction Manual and Operation and Maintenance Manual.
- Negligence in respect of prompt and quality performance of appropriate inspections, periodic checks and maintenance mentioned in Article 6 above.
- Being the result of using consumables (e.g. batteries, fuses, etc.) incompatible with the GUARANTOR's recommendations specified in the Operation and Maintenance Manual.
- Mechanical and electrical damage and consequential defects.
- Chemical and electrochemical damage resulting from using substances incompatible with the technical specifications of the station or using equipment made of improper materials and consequential defects.
- When the repairs and interference with the system have been carried out by the persons without the GUARANTOR's authorisation.

Article 9

The warranty does not cover any damage, directly or indirectly resulting from force majeure, such as, in particular, flood, fire, lighting, etc.

Article 10

In the event of the warranty holder's unjustified claims, the GUARANTOR shall charge for diagnostics (device check tests) and logistics (transport costs), in accordance with the "Service Work Charges" available from www.smay.pl.

Article 11

The GUARANTOR's decisions concerning any reported defects shall be definitive.

Article 12

With regard to all matters that are not regulated above, the provisions of the Polish Civil Code shall apply.