



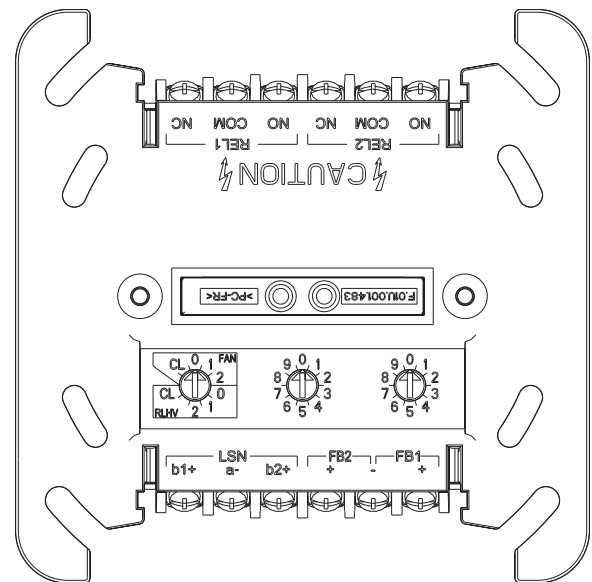
# FLM-420-RHV Relay High Voltage Interface Modules



- ▶ Relay function or fan control function selectable
- ▶ Rotary switches for automatic or manual address setting
- ▶ LED display for operating state (can be deactivated with LSN)
- ▶ Power supply via LSN
- ▶ Maintains LSN loop functions in the event of wire interruption or short-circuit thanks to two integrated isolators
- ▶ Available with surface-mounted housing or DIN rail adapter

The FLM-420-RHV Relay High Voltage Interface Modules are used to control the activation of external elements, e. g. smoke dampers or fans (FAN function), via the Local SecurityNetwork LSN.

## System Overview



Description	Connector
NO / C / NC	Relay 1
NO / C / NC	Relay 2
b1+ / a- / b2+	LSN
FB2+	Relay 2, feedback +

Description	Connector
FB1/FB2-	Relay 1 and 2, feedback -
FB1+	Relay 1, feedback +

Integrated isolators ensure that function is maintained in the event of a short circuit or line interruption in the LSN loop. A fault indication is sent to the fire panel.

The power is provided via the LSN loop.

### Functions

#### Interface module variants

Two different versions of the interface module are available:

- FLM-420-RHV-S for surface-mounting with housing
- FLM-420-RHV-D for installation on a DIN rail with adapter.

#### Relay and FAN function

The interface modules have two change-over contact relays (Form C) for the controlled activation of external elements.

The relay contacts are protected with 10 A fuses which are built into the module.

The maximum relay contact loads are (values apply to resistive load):

- 10 A at 120 V AC / 230 V AC / 24 V DC
- 6 A at 30 V DC.

#### Rotary switches

The rotary switches can be used to select either the relay function (RLHV) or the fan control function (FAN) as well as to define the address of the interface module.

The following settings are possible:

#### Function selection (rotary switch 1)

RLHV	Relay function used to control external elements
FAN	Fan control function

#### Address setting (rotary switches 1-3)

0 0 0	Loop/stub in LSN mode improved version with automatic addressing (T-tap system not possible)
0 0 1 - 254	Loop/stub/T-tap system in LSN mode improved version with manual addressing
CL 0 0	Loop/stub in classic LSN mode

#### Features of LSN improved version

The interface modules in the 420 series offer all the features of improved LSN technology:

- Flexible network structures including T-tapping without additional elements
- Up to 254 LSN improved elements per loop or stub line
- Unshielded cable can be used
- Downwards compatible with existing LSN systems and control panels.

#### Further performance characteristics

The status of the two relays is shown via a red and a green LED.

### Certifications and Approvals

Complies with

- EN54-17:2005
- EN54-18:2005

Region	Certification	
Germany	VdS	G 207053 FLM-420-RHV-S; FLM-420-RHV-D
Europe	CE	FLM-420-RHV/-S/-D
	CPD	0786-CPD-20376 FLM-420-RHV
	MOE	UA1.016-0070267-11 FLM-420-RHV-S_FLM-420-RHV-D

### Installation/Configuration Notes

- Can be connected to the fire panels FPA-5000 and FPA-1200 and the classic LSN fire panels BZ 500 LSN, UEZ 2000 LSN and UGM 2020.
- National standards and guidelines must be taken into account during the planning stage.
- It is not permitted
  - to operate the relays with different voltages (high voltage and low voltage)
  - to place two different AC line voltage phases on the relay contacts.
- The monitoring function is deactivated at the time of delivery, and can be activated via the panel software.
- The surface-mounted housing has two cable ducts on opposite sides:
  - 2 x 2 pre-punched cable ducts for diameter up to 21 mm/to 34 mm (for conduits)
  - 2 x 4 rubber bushes for inserting cables with diameters of up to 8 mm.
- In addition, there are cable ducts on the base of the surface-mounted housing:
  - 1 x pre-punched cable ducts for diameter up to 21 mm (for conduit)
  - 2 x 4 rubber bushes for inserting cables with diameters of up to 8 mm.
- For a fire system operation according to EN 54-2, the interface modules used for the activation of fire protection equipment and whose outputs are not monitored, must be installed directly next to or within the device which shall be activated.

## Parts Included

Type	Qty.	Components
FLM-420-RHV-S	1	Relay High Voltage Interface Module with surface-mounted housing
FLM-420-RHV-D	1	Relay High Voltage Interface Module for installation on a DIN rail with adapter

## Technical Specifications

### Electrical

Input voltage	15 V DC to 33 V DC (min...max)
Max. current consumption	17.15 mA (normal operation and activated)
Max. contact load	10 A at 120 V AC 10 A at 230 V AC 10 A at 24 V DC 6 A at 30 V DC
Max. bounce period of NC contact	9 ms
Feedback current	1 mA (EOL resistance R=3.9 kΩ)
Feedback voltage	Max. 30 V DC
Fuses (F1, F2)	10 A / 250 V

### Mechanics

Operating/display elements	2 LEDs (1 x red, 1 x green)
Function selection and address setting	3 rotary switches for <ul style="list-style-type: none"> <li>• FAN/RLHV function</li> <li>• Mode LSN "classic" or LSN „improved version“</li> <li>• Automatic or manual addressing</li> </ul>
Connections	12 threaded clamps
Housing material	<ul style="list-style-type: none"> <li>• Interface module PPO (Noryl)</li> <li>• Surface-mount housing ABS/PC-Blend</li> </ul>
Housing color	<ul style="list-style-type: none"> <li>• Interface module Off-white, similar to RAL 9002</li> <li>• Surface-mount housing Signal white, RAL 9003</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>• FLM-420-RHV-S Approx. 126 x 126 x 71 mm (4.96 x 4.96 x 2.8 in.)</li> <li>• FLM-420-RHV-D (with DIN rail adapter) Approx. 110 x 110 x 48 mm (4.33 x 4.33 x 1.89 in.)</li> </ul>
Weight	<ul style="list-style-type: none"> <li>• FLM-420-RHV-S Approx. 390 g (13.8 ounces)</li> <li>• FLM-420-RHV-D Approx. 150 g (5.3 ounces)</li> </ul>

### Environmental conditions

Permitted operating temperature	-20 °C to 50 °C (-4 °F to 122 °F)
Permitted storage temperature	-25 °C to 85 °C (-13 °F to 176 °F)
Permitted relative humidity	< 96%
Classes of equipment as per IEC 60950	Class II equipment
Protection class as per IEC 60529	<ul style="list-style-type: none"> <li>• FLM-420-RHV-S IP 54</li> <li>• FLM-420-RHV-D IP 30</li> </ul>

## Ordering Information

<b>FLM-420-RHV-S Relay High Voltage Interface Module</b> with 2 relay outputs (230 V), with surface-mounted housing	<b>FLM-420-RHV-S</b>
<b>FLM-420-RHV-D Relay High Voltage Interface Module</b> with 2 relay outputs (230 V), for installation on a DIN rail with adapter	<b>FLM-420-RHV-D</b>
<b>FLM-IFB126-S Surface-mounted Housing</b> as retainer for the interface modules series 420 type DIN rail (-D) or spare housing for type surface-mount (-S)	<b>FLM-IFB126-S</b>

### Accessories

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