BOSCH

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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**

▸ **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
- extinguishing systems
- fans (FAN function)

via the Local SecurityNetwork LSN.

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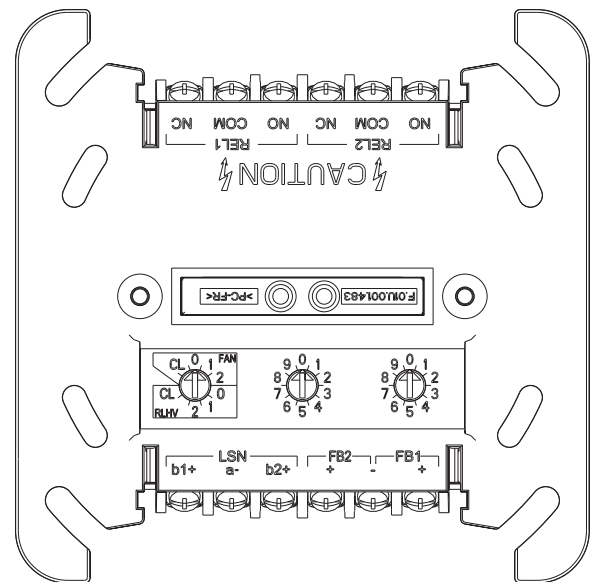
Description	Connector
NO / C / NC	Relay 1
NO / C / NC	Relay 2
b1+ / a- / b2+	LSN
FB2+	Relay 2, feedback +

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

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 smoke dampers, extinguishing systems, etc.
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 improved LSN

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.

The power is provided via the LSN loop.

Certifications and Approvals

Region	Certification	
Germany	VdS	G 207053 FLM-420-RHV-S; FLM-420-RHV-D
Europe	CE	FLM-420-RHV/-S/-D
Russia	GOST	POCC DE.C313B06300

Installation/Configuration Notes

- 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.
- Connectable to the FPA-5000 Modular Fire Panel with LSN technology improved version.

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 ... 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
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
	• FAN/RLHV function
	• Mode LSN "classic" or LSN „improved version"
	• Automatic or manual addressing
Connections	12 threaded clamps
Housing material	
• Interface module	PPO (Noryl)
• Surface-mount housing	ABS/PC-Blend
Housing color	
• Interface module	Off-white, similar to RAL 9002
• Surface-mount housing	Signal white, RAL 9003
Dimensions	
• FLM-420-RHV-S	Approx. 126 x 126 x 71 mm (4.96 x 4.96 x 2.8 in.)
• FLM-420-RHV-D (with DIN rail adapter)	Approx. 110 x 110 x 48 mm (4.33 x 4.33 x 1.89 in.)
Weight	
• FLM-420-RHV-S	Approx. 390 g (13.8 ounces)
• FLM-420-RHV-D	Approx. 150 g (5.3 ounces)

Environmental conditions

Permitted operating temperature	-20 °C ... 50 °C (-4 °F ... 122 °F)
Permitted storage temperature	-25 °C ... 85 °C (-13 °F ... 176 °F)
Permitted relative humidity	< 96%
Classes of equipment as per IEC 60950	Class II equipment
Protection class as per IEC 60529	
• FLM-420-RHV-S	IP 54
• FLM-420-RHV-D	IP 30

Ordering Information

FLM-420-RHV-S Relay High Voltage Interface Module with surface-mounted housing	**FLM-420-RHV-S**
FLM-420-RHV-D Relay High Voltage Interface Module for installation on a DIN rail with adapter	**FLM-420-RHV-D**

Accessories

FLM-IFB126-S Surface-mounted Housing as retainer for the interface modules series 420 type DIN rail (-D) or spare housing for type surface-mount (-S)	**FLM-IFB126-S**