BOSCH

FLM-420-I8R1-S Octo-input interface module with relay

V d S
LSN

▶ Individually selectable monitoring functions (EOL or contact) for the eight inputs each

▶ Maximum switching capacity 2 A / 30 V DC or 0.5 A / 42.4 V AC

▶ Maintains LSN loop functions in the event of wire interruption or short-circuit thanks to two integrated isolators

▶ Easy wiring thanks to pluggable terminal blocks

The FLM-420-I8R1-S Octo-input Interface Module with Relay allows the monitoring of up to eight inputs. Additionally, it features a change-over contact relay for providing a potential-free output contact.
It is a 2-wire LSN element. When connected to the fire panels FPA-5000 and FPA-1200, the interface module offers the enhanced functionality of LSN improved technology.

R_Σ	Overall line resistance with $R_\Sigma = R_{L/2} + R_{L/2} + R_{EOL}$
$R_{L/2}$	Line resistance

The following line conditions will be reliably detected if the overall line resistance is within the specified range:

Line condition	Overall line resistance R_Σ
Standby	1500 Ω to 5500 Ω
Short circuit	< 800 Ω
Interruption	> 85000 Ω

Functions
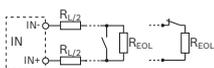
Monitoring functions of the inputs
The FLM-420-I8R1-S Octo-input Interface Module provides two monitoring functions:

1. Monitoring of a line by an EOL resistor

2. Monitoring of a potential-free contact
The monitoring functions of the eight inputs can be selected individually by setting the corresponding addresses.

Line monitoring with EOL resistor
The monitoring with EOL resistor can be activated individually for each of the inputs. The EOL resistor has a standard resistance of 3.9 kΩ.
The interface module detects
• Standby
• Triggering in the event of a short circuit
• Triggering in the event of line interruption.
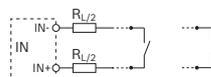

Position   Description

Contact monitoring

The interface module evaluates the operating conditions "open" or "closed". The normal operating condition can be programmed for each input. Contact monitoring has a pulse intensity of 8 mA.

Change-over contact relay
The maximum contact load (resistive load) is 2 A / 30 V DC or 0.5 A / 42.4 V AC.

Address switches
The addresses of the interface modules are set by rotary switches.
In case of a connection to the fire panels FPA-5000 and FPA-1200 (improved version LSN mode), the operator can select automatic or manual addressing

with or without auto-detection. In LSN mode classic, connection to the fire panels BZ 500 LSN, UEZ 2000 LSN and UGM 2020 is possible.

Address (A)	Operating mode
0 0 0	Loop/stub in LSN improved version mode with automatic addressing (T-taps not possible)
0 0 1 - 2 5 4	Loop/stub/T-taps in LSN improved version mode with manual addressing
CL 0 0	Loop/stub in LSN classic mode

LSN features
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.
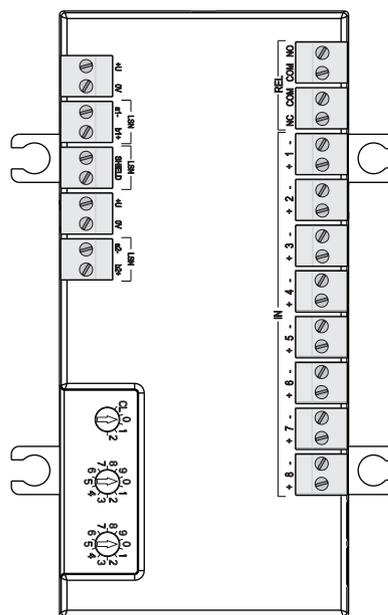
Features of LSN improved version
The product have the following features of the improved LSN technology:
- Flexible network structures including T-tapping without additional elements
- Up to 254 LSN improved elements per loop or stub line
- Downwards compatible with existing LSN systems and control panels.

Regulatory information

Region	Regulatory compliance/quality marks	
Morocco	CMIM	FLM-420-I8R1-S
Germany	VdS	G 208184 FLM-420-I8R1-S
Europe	CE	FLM-420-I8R1-S
	CPD	0786-CPD-20560 FLM-420-I8R1-S
Ukraine	MOE	UA1.016.0070265-11 FLM-420-I8R1-S

Installation/configuration notes

Description		Connection
	+U	0V	Auxiliary power supply (support points to loop through)
LSN	a1-	b1+	LSN incoming
LSN	SHIELD	Cable shielding
	+U	0V	Auxiliary power supply (support points to loop through)
LSN	a2-	b2+	LSN outgoing
IN	1 ... 8: +	-	Input 1 to input 8
REL	NC	COM	COM	NO	Change-over relay (NC contact / COM, COM / NO contact)

- Can be connected to the fire panels FPA-5000 and FPA-1200 and the classic LSN control panels BZ 500 LSN, UEZ 2000 LSN and UGM 2020.
- Programming is done with the programming software of the fire panel.
- The LSN connection is established by the two wires of the LSN line.
- The activation of the inputs IN 1...8 has to be carried out electrically isolated from LSN (e. g. with relay contact, pushbutton, etc.).
- The inputs must have a minimum activation time of 3.2 s.
- The maximum cable length of all inputs connected to the loop or stub is 500 m in total. Additionally, all outputs which are not electrically isolated from LSN must be included in the total line length calculation (e.g. peripherals connected via C points). With

UEZ 2000 LSN and UGM 2020, the limitation to 500 m applies to each Network Processing Converter (NVU).
- The interface module has terminals blocks to allow a second pair of wires to be looped through to an auxiliary power supply.
- The cables are fed through rubber bushings or PG cable glands.
- The pluggable terminal blocks allow for an easy wiring even if he interface module is built in.
- Use included spacers when mounting on uneven surface.
- 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

Quantity	Component
1	Octo-input Interface Module with Relay, in housing for surface mounting

Technical specifications

Electrical

LSN input voltage (V DC)	15 ... 33
Max. current consumption from LSN (mA)	5.5
Inputs, independent	8
Line monitoring: EOL resistor, nominal (kΩ) Detected line conditions (Ω) with overall line resistance $R_\Sigma = R_{L/1} + R_{L/2} + R_{EOL}$	3.9 Standby: 1500 ... 5500 Interruption: > 85000 Short circuit: < 800
Contact monitoring: Max. current consumption (mA)	8
Min. activation time of the inputs IN 1...8 (s)	3.2
Change-over relay, low voltage	NC / COM, COM / NO
Contact load: Max. switching capacity (A / V DC; A / V AC) Min. switching capacity (mA / mV DC; mA / mV AC) Max. frequency (Hz)	2 / 30; 0.5 / 42.4 0.01 / 10; 0.01 / 10 100

Mechanical

Connections	Screw terminals
Rotary switches, number	3
Weight, without/with packing (g)	480 / 800

Dimensions W x H x D (mm)	140 x 200 x 48
Wire gauge (mm^2)	0.6...3.3
Housing material, housing color (RAL)	ABS+PC-FR, RAL 9003

Environmental

Operating temperature (℃)	-20 ...+65
Storage temperature (℃)	-25 ...+80
Rel. humidity (%), non-condensing	< 96 %
Class of equipment (IEC 60950)	III
Degree of protection (IEC 60529)	IP 54

System limits

Max. cable length, not electrically isolated from LSN in total (m)	500

Ordering information

FLM-420-I8R1-S Octo-input interface module with relay
2-wire LSN element, allows the monitoring of up to eight inputs, with a change-over contact relay for providing a potential-free output contact, in housing for surface mounting
Order number **FLM-420-I8R1-S | F.01U.033.251**

Services
EWE-FPDVC-IW 12 mths wrty ext Fire Peripheral Device
12 months warranty extension
Order number **EWE-FPDVC-IW | F.01U.360.729**