

# Output-input Interface Module

FLM-420-0111-E



## Installation Guide

deutsch

türkçe

english

español

français

italiano

nederlands

polski

português

română

русский



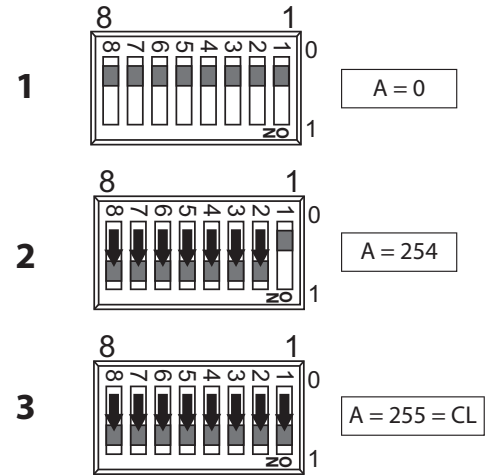
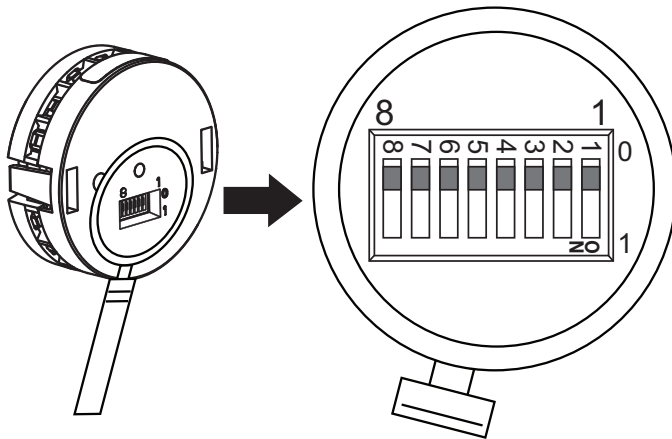
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# Graphics


1




|          | <b>A</b>  | <b>LSN improved</b> | <b>BZ 500 LSN<br/>UEZ 2000 LSN<br/>UGM 2020</b> |
|----------|---|---------------------|---|
| <b>1</b> | 0<br>Automatic addressing<br>Automat. Adressierung    | ✓                   | —   |
| <b>2</b> | 1 - 254<br>Manual addressing<br>Manuelle Adressierung | ✓                   | —   |
| <b>3</b> | 255 = CL  | ✓                   | —   |


|  |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| A   | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255=CL  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4   | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 5   | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 6   | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
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| 16  | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 17  | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 18  | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 19  | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 20  | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 21  | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 22  | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 23  | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 24  | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 25  | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 26  | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 27  | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| 28  | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 29  | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| 30  | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| 31  | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 32  | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 33  | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 34  | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 35  | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 36  | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 37  | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 38  | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 39  | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 40  | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 41  | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |


|  |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| A   | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 42  | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 43  | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| 44  | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 45  | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |
| 46  | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 47  | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 48  | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 49  | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 50  | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 51  | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| 52  | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 53  | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
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| 55  | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
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| 59  | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
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| 61  | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |
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| 65  | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 66  | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 67  | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 68  | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 69  | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 70  | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 71  | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 72  | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 73  | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 74  | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 75  | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 76  | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 77  | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| 78  | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 79  | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 80  | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 81  | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
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| 83  | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 84  | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |


|  |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|
| A  | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
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| 86   | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| 87   | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 |
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| 89   | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 |
| 90   | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |
| 91   | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| 92   | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 93   | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 |
| 94   | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 95   | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 96   | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 97   | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 98   | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 99   | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 100  | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 101  | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| 102  | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
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| 105  | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
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| 107  | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
| 108  | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
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| 116  | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 117  | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
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| 119  | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| 120  | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 121  | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| 122  | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 123  | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| 124  | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 125  | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| 126  | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 127  | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |



| A   | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|-----|---|---|---|---|---|---|---|---|
| 128 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 130 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 131 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 132 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
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| 140 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
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| 143 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 144 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 145 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
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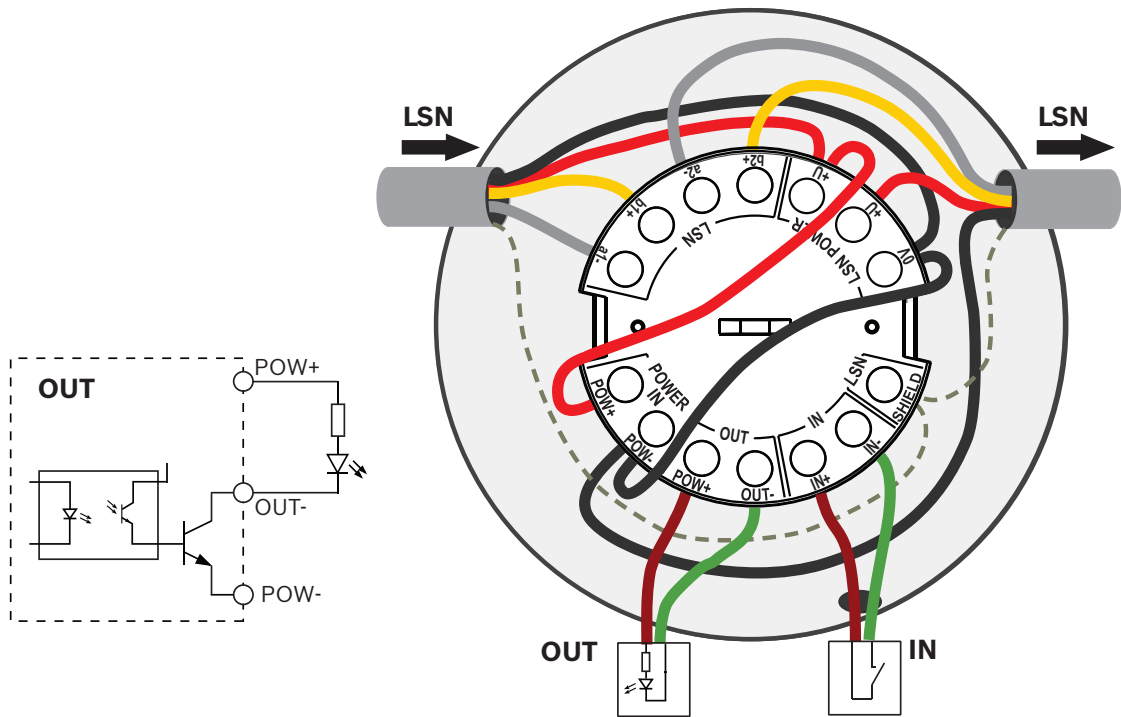


| A   | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|-----|---|---|---|---|---|---|---|---|
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| 173 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |
| 174 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 175 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 176 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
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| 179 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| 180 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 181 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 182 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| 183 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| 184 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 185 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 186 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| 187 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| 188 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| 189 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |
| 190 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 191 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 192 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 194 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 195 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 196 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 197 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 198 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 199 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 200 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 201 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 202 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 203 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 204 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
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| 208 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
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| 210 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
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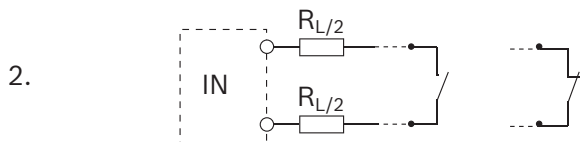
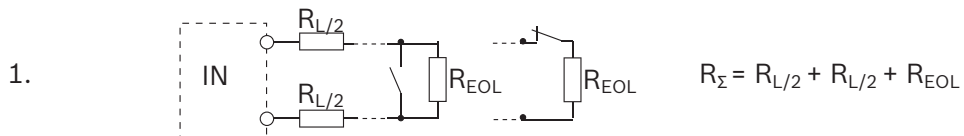
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|-----|---|---|---|---|---|---|---|---|
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| 216 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
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| 228 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
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| 230 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| 231 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |
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| 235 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
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| 239 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 240 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 241 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| 242 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| 243 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 244 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 245 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
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| 250 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 251 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| 252 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
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2

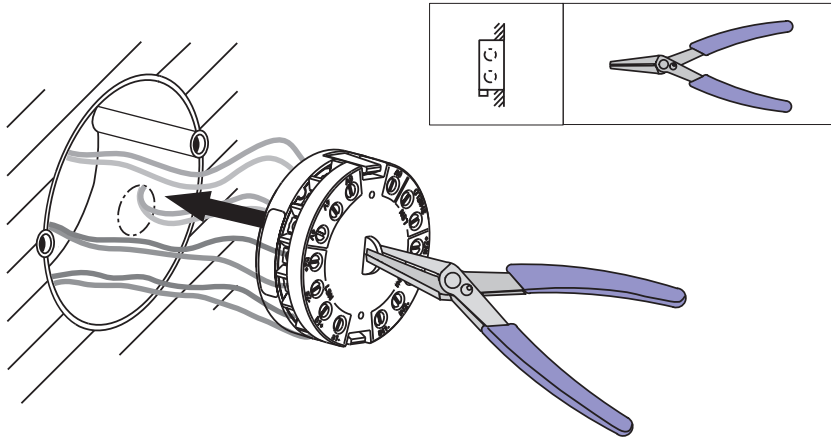


**Notice!**

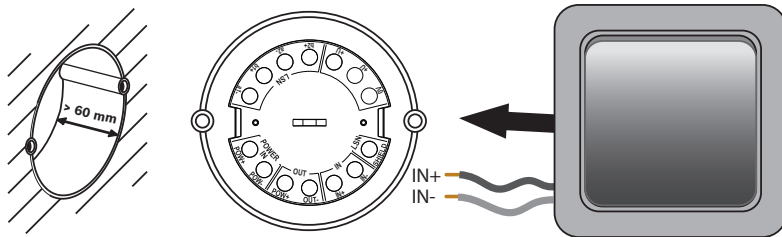
FLM-420-O111-E must be mounted flush with the connected device.  
 FLM-420-O111-E muss Backe an Backe mit dem Gerät montiert werden.



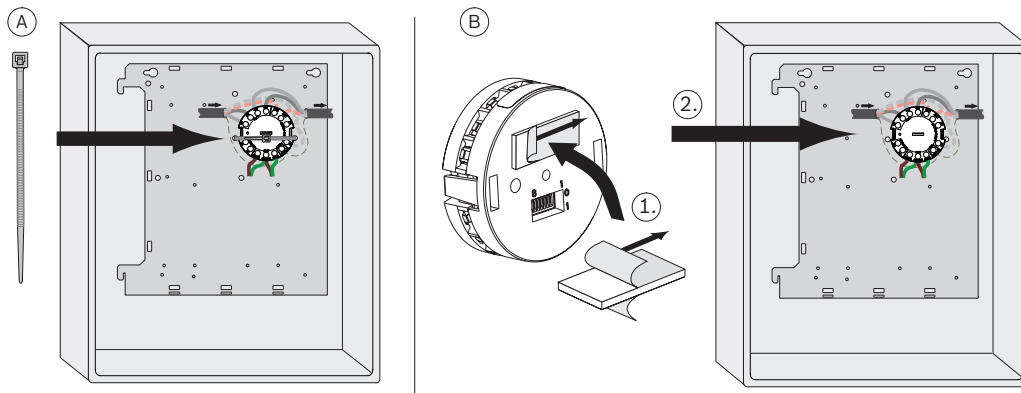
3



a



b





# 1 Sicherheitshinweise



**Hinweis!**

Die Installation darf nur von autorisiertem Fachpersonal durchgeführt werden.



**Hinweis!**

Elektrostatische Entladung (ESD)! Elektronische Bauteile könnten beschädigt werden. Legen Sie ein Erdungsarmband an oder ergreifen Sie andere geeignete Maßnahmen.

# 2 Funktionsbeschreibung

Der FLM-420-O1I1-E kann unter Putz in Standardgerätedosen nach EN 60670 eingebaut werden, z. B. in Standardschaltern. Alternativ kann er in den Geräten eingebaut werden (siehe Abbildungen).

Der Koppler hat einen Halbleiterausgang für die Steuerung externer Geräte und einen überwachten Eingang.

Der Ausgang ist vom LSN-Ring galvanisch getrennt und kurzschlussfest. Angeschlossene Verbraucher können von der Zusatzspannungsversorgung der Brandmelderzentrale mit Spannung versorgt werden.

Für den Eingang können zwei Überwachungsfunktionen ausgewählt werden (siehe Abbildungen):

1. Überwachung einer Linie mit EOL-Widerstand auf Ruhe oder Auslösung (Unterbrechung/ Kurzschluss)
  2. Überwachung eines potentialfreien Kontakts auf die Zustände „offen“ oder „geschlossen“
- Die Programmierung erfolgt über die Programmiersoftware der Brandmelderzentrale.

# 3 Verdrahtung

Der Ausgang OUT/OUT- wird gegen das Minuspotential des Kopplers geschaltet (POWER IN/ POW-).

Das Pluspotential für OUT/POW+ wird von der Zusatzspannungsversorgung (AUX) der Brandmelderzentrale geliefert.

OUT/POW+ und POWER IN/POW+ sind intern verbunden.



**Hinweis!**

FLM-420-O1I1-E muss Backe an Backe mit dem angeschlossenen Gerät montiert werden.

| Beschreibung |                | Funktion   |
|--------------|----------------|--|
| IN           | IN+   IN-      | Eingang  |
| OUT          | POW+           | Bezugspotential (+)  |
|              | OUT-           | Ausgang (geschaltetes Minuspotential)                      |
| POWER IN     | POW+   POW-    | Stromversorgung Ausgang (OUT)                              |
| LSN          | b1+   a-   b2+ | LSN (kommend/gehend)                                       |
| LSN POWER    | LSN POWER      | Zusatzspannungsversorgung (Stützpunkte zum Durchschleifen) |
| LSN          | LSN            | LSN (gehend/kommend)                                       |

## 4 Technische Daten

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |

## 1 Safety Notes



### Notice!

Installation must only be carried out by authorized specialist personnel.



### Notice!

Electrostatic discharge (ESD)! Electronic components could be damaged. Ground yourself using a wrist strap or take other suitable actions.

## 2 Functional description

The FLM-420-O1I1-E can be flush mounted in standard device boxes in accordance with EN 60670, for example, in standard switches. Alternatively, it can be installed in the devices (see Graphics).

The Interface Module has one semiconductor output for controlling external devices and one monitored input.

The output is electrically isolated from the LSN loop and protected against short circuits. Connected loads can be power-supplied by the auxiliary power supply from the fire panel.

For the input, two monitoring functions can be selected (see Graphics):

1. Monitoring a line with EOL resistor for standby or triggering (interruption/short circuit)
2. Monitoring a potential free contact for open and closed states

The programming is carried out via the programming software of the fire panel.

## 3 Wiring

The output OUT/OUT- is switched against the negative potential of the interface module (POWER IN/POW-).

The positive potential for OUT/POW+ is provided by the auxiliary power supply (AUX) from the fire panel.

OUT/POW+ and POWER IN/POW+ are linked internally.



### Notice!

FLM-420-O1I1-E must be mounted flush with the connected device.

| Description |                | Function  |
|-------------|----------------|---|
| IN          | IN+   IN-      | Input   |
| OUT         | POW+           | Reference potential (+)                                 |
|             | OUT-           | Output (switched negative potential)                    |
| POWER IN    | POW+   POW-    | Power supply output (OUT)                               |
| LSN         | b1+   a-   b2+ | LSN (incoming/outgoing)                                 |
| LSN POWER   | LSN POWER      | Auxiliary power supply (support points to loop through) |
| LSN         | LSN            | LSN (outgoing/incoming)                                 |

## 4 Technical specifications

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |

## 1 Seguridad



### Aviso!

La instalación debe realizarla exclusivamente personal autorizado y especializado.



### Aviso!

Descarga electroestática (ESD). Los componentes electrónicos podrían estar dañados. Conecte su cuerpo a tierra mediante un brazalete o tome otras medidas adecuadas.

## 2 Descripción de las funciones

El FLM-420-O1I1-E se puede montar empotrado en cajas eléctricas estándar según EN 60670, por ejemplo, en conmutadores estándar. Como alternativa, se puede instalar en los dispositivos (consulte Gráficos).

El módulo interfaz cuenta con una salida semiconductora para controlar dispositivos externos y una entrada supervisada.

La salida está aislada eléctricamente del lazo LSN y protegida contra cortocircuitos. Las cargas conectadas pueden recibir tensión desde la fuente de alimentación auxiliar de la central de incendios.

Para la entrada, se pueden seleccionar dos funciones de control (consulte Gráficos):

1. Supervisión con resistencia de final de línea para reposo o activación (interrupción/cortocircuito)
2. Supervisión de un contacto libre de tensión para los estados "abierto" y "cerrado"

La programación se lleva a cabo con el software de programación conectado a la central de incendios.

## 3 Cableado

La salida OUT/OUT- se conmuta con la tensión negativa del módulo interfaz (POWER IN/POW-).

El potencial positivo para OUT/POW+ se recibe desde la fuente de alimentación auxiliar (AUX) de la central de incendios.

OUT/POW+ y POWER IN/POW+ están enlazadas internamente.



### Aviso!

FLM-420-O1I1-E se debe montar empotrado, alineado con el dispositivo conectado.

| Descripción |                | Función   |
|-------------|----------------|---|
| IN          | IN+   IN-      | Entrada   |
| OUT         | POW+           | Voltaje de referencia (+)                                   |
|             | OUT-           | Salida (tensión negativa conmutada)                         |
| POWER IN    | POW+   POW-    | Salida de alimentación (OUT)                                |
| LSN         | b1+   a-   b2+ | LSN (entrante/saliente)                                     |
| LSN POWER   | LSN POWER      | Fuente de alimentación auxiliar (línea de conexión en lazo) |
| LSN         | LSN            | LSN (saliente/entrante)                                     |

## 4 Especificaciones técnicas

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |

## 1 Sécurité



### Remarque!

L'installation doit être réalisée uniquement par un employé spécialisé et habilité.



### Remarque!

Risque de décharge électrostatique Les composants électroniques peuvent être endommagés. Reliez-vous à la terre à l'aide d'un bracelet anti-statique ou protégez-vous par tout autre moyen adéquat.

## 2 Description fonctionnelle

Le module FLM-420-O111-E peut être encastré dans des boîtiers standard conformément à la norme EN 60670, par exemple, dans des interrupteurs standard. Il peut aussi être installé sur les appareils (voir graphiques).

Le module d'interface est équipé d'une sortie semi-conducteur permettant de contrôler les périphériques externes et d'une entrée contrôlée.

La sortie est isolée électriquement de la boucle LSN et protégée contre les courts-circuits. Les charges connectées peuvent être alimentées par l'alimentation auxiliaire de la centrale incendie.

Au niveau de l'entrée, deux fonctions de surveillance peuvent être sélectionnées (voir graphiques) :

1. Surveillance d'une ligne avec résistance de fin de ligne pour mode veille ou déclenchement (interruption/court-circuit)
2. Surveillance d'un contact sans potentiel pour les états ouvert et fermé

La programmation est assurée par le logiciel de programmation de la centrale incendie.

## 3 Câblage

La sortie OUT/OUT- est commutée par rapport au potentiel négatif du module d'interface (POWER IN/POW-).

Le potentiel positif de la sortie OUT/POW+ est fourni via l'alimentation auxiliaire (AUX) de la centrale incendie.

OUT/POW+ et POWER IN/POW+ sont reliés de manière interne.



### Remarque!

FLM-420-O111-E doit être encastré avec le périphérique connecté.

| Description |                | Fonction   |
|-------------|----------------|--|
| IN          | IN+   IN-      | Entrée   |
| OUT         | POW+           | Potentiel de référence (+)   |
|             | OUT-           | Sortie (potentiel négatif commuté)                                     |
| POWER IN    | POW+   POW-    | Sortie d'alimentation (OUT)  |
| LSN         | b1+   a-   b2+ | LSN (entrant/sortant)  |
| LSN POWER   | LSN POWER      | Alimentation auxiliaire (prise en charge des points et mise en boucle) |

| Description |     | Fonction              |
|-------------|-----|-----------------------|
| LSN         | LSN | LSN (entrant/sortant) |

## 4 Caractéristiques techniques

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |



## 1 Sicurezza



### Avviso!

L'installazione deve essere eseguita solo da personale specializzato autorizzato.



### Avviso!

Scariche elettrostatiche (ESD). Rischio di danneggiamento per i componenti elettronici. Eseguire un collegamento a terra mediante un cinturino o prendere le dovute precauzioni.

## 2 Descrizione del funzionamento

FLM-420-O1I1-E può essere montato ad incasso nelle scatole per dispositivi standard in conformità alla normativa EN 60670, ad esempio in switch standard. In alternativa, può essere installato nei dispositivi (vedere le illustrazioni).

Il modulo di interfaccia è dotato di un'uscita per semiconduttori per il controllo dei dispositivi esterni e di un ingresso monitorato.

Le uscite sono dotate di un sistema di isolamento elettrico dal loop LSN e di protezione da cortocircuiti. I carichi collegati possono essere alimentati da alimentazione ausiliaria dalla centrale di rivelazione incendi.

Per l'ingresso, è possibile selezionare due funzioni di monitoraggio (vedere le illustrazioni):

1. Monitoraggio di una linea con resistenza EOL per standby o attivazione (interruzione/cortocircuito)
2. Monitoraggio di un contatto privo di potenziale per gli stati aperto e chiuso

La programmazione viene effettuata mediante il software di programmazione della centrale di rivelazione incendio.

## 3 Cablaggio

L'uscita OUT/OUT- va commutata sul potenziale negativo del modulo di interfaccia (POWER IN/POW-).

Il potenziale positivo per OUT/POW+ viene fornito dall'alimentazione ausiliaria (AUX) dalla centrale di rivelazione incendi.

OUT/POW+ e POWER IN/POW+ sono collegati internamente.



### Avviso!

FLM-420-O1I1-E deve essere montato ad incasso nel dispositivo connesso.

| Descrizione |                | Funzione   |
|-------------|----------------|--|
| IN          | IN+   IN-      | Ingresso   |
| OUT         | POW+           | Potenziale di riferimento (+)                                    |
|             | OUT-           | Uscita (potenziale negativo commutato)                           |
| POWER IN    | POW+   POW-    | Uscita alimentazione (OUT)                                       |
| LSN         | b1+   a-   b2+ | LSN (in entrata/in uscita)                                       |
| LSN POWER   | LSN POWER      | Alimentazione ausiliaria (punti di supporto per il loop-through) |
| LSN         | LSN            | LSN (in entrata/in uscita)                                       |

## 4 Specifiche tecniche

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |

## 1 Veiligheid



### Opmerking!

De installatie mag uitsluitend worden uitgevoerd door bevoegd en daartoe opgeleid gespecialiseerd personeel.



### Opmerking!

Elektrostatische ontlading (ESD)! Elektronische onderdelen kunnen beschadigd raken. Bereid uzelf goed voor en draag een polsband of neem andere passende maatregelen.

## 2 Functies

De FLM-420-O1I1-E kan worden ingebouwd in standaard inbouwdozen conform EN 60670, bijvoorbeeld in standaardswitches. In plaats hiervan kan de module tevens worden geïnstalleerd in de apparaten (zie afbeelding).

De interfacemodule heeft één halfgeleideruitgang voor besturing van externe apparatuur en één bewaakte ingang.

De uitgang is elektrisch geïsoleerd van de LSN-lus en beveiligd tegen kortsluiting. Aangesloten belastingen kunnen van spanning worden voorzien door de voeding voor randapparatuur vanaf de brandmeldcentrale.

Voor de ingang kunnen twee bewakingsfuncties worden geselecteerd (zie afbeelding):

1. Bewaking van een lijn met eindweerstand voor stand-by of activering (onderbreking/kortsluiting)
2. Bewaking van een potentiaalvrij contact voor open en gesloten standen.

De programmering wordt uitgevoerd via de programmeersoftware van de brandmeldcentrale.

## 3 Bedrading

De uitgang OUT/OUT- wordt tegen de negatieve potentiaal van de interfacemodule (POWER IN/POW-) geschakeld.

De positieve potentiaal voor OUT/POW+ wordt geleverd door de voeding voor randapparatuur (AUX) vanuit de brandmeldcentrale.

OUT/POW+ en POWER IN/POW+ worden intern aan elkaar gekoppeld.



### Opmerking!

FLM-420-O1I1-E moet op één lijn liggen met het aangesloten apparaat.

| Omschrijving |                | Functie   |
|--------------|----------------|---|
| IN           | IN+   IN-      | Ingang  |
| OUT          | POW+           | Referentiepotentiaal (+)                                  |
|              | OUT-           | Uitgang (geschakelde negatieve potentiaal)                |
| POWER IN     | POW+   POW-    | Voedingsuitgang (OUT)                                     |
| LSN          | b1+   a-   b2+ | LSN (inkomend/uitgaand)                                   |
| LSN POWER    | LSN POWER      | Voeding voor randapparatuur (steunpunten voor doorlussen) |
| LSN          | LSN            | LSN (uitgaand/inkomend)                                   |

## 4 Technische specificaties

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |

## 1 Bezpieczeństwo



### Uwaga!

Instalacja może być wykonywana wyłącznie przez wyspecjalizowany personel, posiadający stosowne upoważnienie.



### Uwaga!

Wyładowanie elektrostatyczne (ESD)! Podzespoły elektroniczne mogą ulec uszkodzeniu. Należy użyć uziemiającej opaski na nadgarstek lub podjąć inne odpowiednie działania.

## 2 Opis działania

FLM-420-O1I1-E można zamontować podtynkowo w standardowej obudowie urządzenia zgodnie z normą EN 60670, na przykład w standardowych przełącznikach. Możliwa jest również instalacja w urządzeniach (patrz Ilustracje).

Moduł interfejsu posiada jedno wyjście półprzewodnikowe do sterowania urządzeniami zewnętrznymi i jedno wejście monitorowane.

Wyjście jest odizolowane elektrycznie od pętli LSN i zabezpieczone przed zwarciami.

Podłączone obciążenia mogą być zasilane przez dodatkowy zasilacz z centrali sygnalizacji pożaru.

Dla wejścia można wybrać dwie funkcje monitorowania (patrz Ilustracje):

1. Monitorowanie linii z rezystorem EOL (tryb czuwania lub wyzwalania alarmu (przerwanie/zwarcie))
2. Monitorowanie styku beznapięciowego (stan otwarty albo zamknięty)

Programowanie wykonywane jest z poziomu oprogramowania centrali sygnalizacji pożaru.

## 3 Okablowanie

Wyjście OUT/OUT- jest przełączane względem ujemnego potencjału modułu interfejsu (POWER IN/POW-).

Potencjał dodatni wyjścia OUT/POW+ jest dostarczany przez zasilacz dodatkowy (AUX) z centrali sygnalizacji pożaru.

OUT/POW+ oraz POWER IN/POW+ są połączone wewnętrznie.



### Uwaga!

FLM-420-O1I1-E musi być montowany na tej samej płaszczyźnie co podłączone urządzenie.

| Opis      |                | Funkcja  |
|-----------|----------------|--|
| IN        | IN+   IN-      | Wejście  |
| OUT       | POW+           | Potencjał referencyjny (+)                           |
|           | OUT-           | Wyjście (potencjał ujemny – przełącznik)             |
| POWER IN  | POW+   POW-    | Wyjście zasilacza (OUT)                              |
| LSN       | b1+   a-   b2+ | LSN (połączenie wejściowe / połączenie wyjściowe)    |
| LSN POWER | LSN POWER      | Dodatkowy zasilacz (otwory do połączeń przelotowych) |
| LSN       | LSN            | LSN (połączenie wejściowe / połączenie wyjściowe)    |

## 4 Parametry techniczne

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |

## 1 Segurança



### Informação!

A instalação só pode ser executada por pessoal autorizado e especializado.



### Informação!

Descargas eletrostáticas (ESD)! Os componentes eletrônicos poderão ficar danificados. Use uma pulseira antiestática ou tome outras medidas adequadas.

## 2 Descrição funcional

O FLM-420-O1I1-E pode ser montado embutido em caixas de dispositivos standard, de acordo com a norma EN 60670; por exemplo, switches standard. Alternativamente, pode ser instalado nos dispositivos (veja os Gráficos).

O Módulo interface possui uma saída transistorizada para controlo de dispositivos externos e uma entrada monitorizada.

A saída, com separação galvânica do loop LSN, está protegida contra curto-circuitos. As cargas ligadas podem receber alimentação pela fonte de alimentação auxiliar a partir do painel de incêndio.

Para a entrada, é possível selecionar duas funções de monitorização (ver os Gráficos):

1. Monitorização de linha convencional com resistência de fim-de-linha (EOL) para repouso ou acionamento (interrupção/curto-circuito)
2. Monitorização de um contacto livre de potencial para estados "aberto" e "fechado"

A programação é realizada através do software de programação do painel de incêndio.

## 3 Ligação

A saída OUT/OUT- é comutada com o potencial negativo do módulo interface (POWER IN/ POW-).

O potencial positivo para OUT/POW+ é fornecido pela fonte de alimentação auxiliar (AUX) do painel de incêndio.

OUT/POW+ e POWER IN/POW+ estão ligados internamente.



### Informação!

FLM-420-O1I1-E deve estar montado de forma embutida com o dispositivo ligado.

| Descrição |                | Função   |
|-----------|----------------|--|
| IN        | IN+   IN-      | Entrada  |
| OUT       | POW+           | Potencial de referência (+)  |
|           | OUT-           | Saída (potencial negativo comutado)                                  |
| POWER IN  | POW+   POW-    | Saída da fonte de alimentação (OUT)                                  |
| LSN       | b1+   a-   b2+ | LSN (entrada/saída)  |
| LSN POWER | LSN POWER      | Fonte de alimentação auxiliar (pontos de suporte para ligar em loop) |
| LSN       | LSN            | LSN (saída/entrada)  |

## 4 Dados técnicos

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |



## 1 Siguranță



### Notificare!

Instalarea trebuie realizată numai de către personal autorizat de specialitate.



### Notificare!

Electrostatic discharge (ESD)! Electronic components could be damaged. Ground yourself using a wrist strap or take other suitable actions.

## 2 Descriere funcțională

FLM-420-O1I1-E poate fi montat aliniat, în cutii standard pentru dispozitive, în conformitate cu EN 60670, de exemplu, în comutatoari standard. Alternativ, poate fi instalat în dispozitive (consultați graficul).

Modulul de interfață are o ieșire semiconductor pentru controlul dispozitivelor externe și o intrare monitorizată.

Ieșirea este izolată electric din bucla LSN și protejată împotriva scurtcircuitelor. Sarcinile conectate pot fi alimentate prin alimentarea auxiliară, din panoul de detecție incendiu.

Pentru intrare, pot fi selectate două funcții de monitorizare (consultați Graficele):

1. Monitorizarea unei linii cu rezistor EOL pentru standby sau schimbarea stării (întrerupere/scurtcircuit)
2. Monitorizarea unui contact liber de potențial pentru stările deschis și închis

Programarea este efectuată prin intermediul software-ului de programare al panoului de detecție incendiu.

## 3 Cablarea

Ieșirea OUT/OUT- este comutată împotriva potențialului negativ al modulului de interfață (POWER IN/POW-).

Potențialul pozitiv al OUT/POW+ este furnizat de alimentarea auxiliară (AUX), din panoul de detecție incendiu.

OUT/POW+ și POWER IN/POW+ sunt legate intern.



### Notificare!

FLM-420-O1I1-E trebuie montat aliniat cu panoul dispozitivul conectat.

| Descriere |                | Funcție   |
|-----------|----------------|---|
| IN        | IN+   IN-      | Intrare   |
| OUT       | POW+           | Potențial de referință (+)                                |
|           | OUT-           | Ieșire (potențial negativ comutat)                        |
| POWER IN  | POW+   POW-    | Ieșire alimentare (OUT)                                   |
| LSN       | b1+   a-   b2+ | LSN (intrare/ieșire)                                      |
| LSN POWER | LSN POWER      | Sursă de alimentare auxiliară (acceptă puncte de ciclare) |
| LSN       | LSN            | LSN (ieșire/intrare)                                      |

## 4 Specificații tehnice

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |

## 1 Безопасность



### Замечание!

Установка должна выполняться только квалифицированными специалистами.



### Замечание!

Electrostatic discharge (ESD)! Electronic components could be damaged. Ground yourself using a wrist strap or take other suitable actions.

## 2 Описание принципа работы

FLM-420-O1I1-E может монтироваться в коммутационные коробки стандарта EN 60670, например, в стандартных коммутаторах. Или же модель может устанавливаться в устройства (см. рис.).

Интерфейсный модуль оснащен одним полупроводниковым выходом для управления внешними устройствами и одним контролируемым входом.

Выход электрически изолирован от кольцевого шлейфа LSN и защищен от короткого замыкания. Подключенная нагрузка может быть обеспечена питанием от вспомогательного источника питания на пожарной панели.

Для входа могут быть выбраны две функции контроля (см. рис.):

1. контроль линии с оконечным сопротивлением для режима покоя или срабатывания (обрыв/короткое замыкание);
2. контроль сухого контакта для состояний "разомкнуто" и "замкнуто".

Настройка осуществляется с помощью ПО конфигурирования пожарной панели.

## 3 Подключение

Выход OUT/OUT- коммутируется относительно отрицательного потенциала интерфейсного модуля (POWER IN/POW-).

Положительный потенциал для OUT/POW+ обеспечивается вспомогательным источником питания (AUX) на пожарной панели.

OUT/POW+ и POWER IN/POW+ соединены внутри.



### Замечание!

Устройство FLM-420-O1I1-E должно быть установлено вплотную к подключенному устройству.

| Описание  |                | Назначение  |
|-----------|----------------|---|
| IN        | IN+   IN-      | Вход  |
| OUT       | POW+           | Опорный потенциал (+)                                   |
|           | OUT-           | Выход (коммутируемый отрицательный потенциал)           |
| POWER IN  | POW+   POW-    | Выход питания (OUT)                                     |
| LSN       | b1+   a-   b2+ | LSN (входящая/исходящая)                                |
| LSN POWER | LSN POWER      | Дополнительное питание (контакты сквозного подключения) |
| LSN       | LSN            | LSN (исходящая/входящая)                                |

## 4 Технические характеристики

|   |   |
|---|---|
| LSN input voltage   | 15 to 33 V DC                                 |
| Max. current consumption from LSN   | 1.9 mA  |
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |

## 1 Güvenlik



### Uyarı!

Montaj yalnızca yetkili uzman personel tarafından gerçekleştirilmelidir.



### Uyarı!

Elektrostatik deşarj (ESD)! Elektronik bileşenler hasar görmüş olabilir. Kendinizi bilek bandıyla topraklayın veya başka uygun önlemler alın.

## 2 İşlev açıklaması

FLM-420-O1I1-E, örneğin standart anahtarlarda EN 60670 uyarınca standart cihaz kutularında gömme montajlı olabilir. Alternatif olarak, cihazların içine de monte edilebilir (bkz. Grafikler). Arayüz Modülü, harici cihazları kontrol etmek için yarı iletken bir çıkışa ve izlenen bir girişe sahiptir.

Çıkış, LSN loop'undan elektriksel olarak yalıtılmıştır ve kısa devrelere karşı korunur. Bağlanan yüklerle FACP'den yardımcı güç kaynağıyla güç beslenebilir.

Giriş için iki izleme işlevi seçilebilir (bkz. Grafikler):

1. Bekleme veya tetikleme (kesinti/kısa devre) için EOL direnciyle bir hattın izlenmesi
2. Açık ve kapalı durumları için potansiyelsiz bir kontağın izlenmesi

Programlama, FACP üzerindeki programlama yazılımı aracılığıyla gerçekleştirilir.

## 3 Kablo Bağlantısı

OUT/OUT- çıkışı, arayüz modülünün negatif potansiyeline karşı anahtarlanır (POWER IN/POW-). OUT/POW+ pozitif potansiyeli FACP'den yardımcı güç kaynağı (AUX) ile sağlanır. OUT/POW+ ve POWER IN/POW+ dahili olarak bağlıdır.



### Uyarı!

FLM-420-O1I1-E bağlı cihaza gömme olarak monte edilmelidir.

| Açıklama  |                | İşlev  |
|-----------|----------------|--|
| IN        | IN+   IN-      | Giriş  |
| OUT       | POW+           | Referans potansiyel (+)  |
|           | OUT-           | Çıkış (anahtarlanan negatif potansiyel)                          |
| POWER IN  | POW+   POW-    | Güç kaynağı çıkışı (OUT)   |
| LSN       | b1+   a-   b2+ | LSN (gelen/giden)  |
| LSN POWER | LSN POWER      | Yardımcı güç kaynağı (destek noktaları ile loop geçişi arasında) |
| LSN       | LSN            | LSN (giden/gelen)  |

## 4 Teknik özellikler

|                                   |               |
|-----------------------------------|---------------|
| LSN input voltage                 | 15 to 33 V DC |
| Max. current consumption from LSN | 1.9 mA        |

|   |   |
|---|---|
| Current consumption when output activated   | ≤ 2.5 mA                                      |
| Output  |   |
| – Max. switched voltage of outputs  | 30 V DC                                       |
| – Max. output current rating  | 700 mA per output (depending on power supply) |
| – External power supply   | 5 to 30 V DC                                  |
| Input   |   |
| Line monitoring with EOL  |   |
| – EOL resistor  | Nominal 3.9 kΩ                                |
| – Overall line resistance $R_{\Sigma}$ ( $R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$ ) | – In standby: 1500 to 5500 Ω                  |
|   | – Short-circuit: < 800 Ω                      |
|   | – Interruption: > 85000 Ω                     |
| Contact monitoring  |   |
| – Max. current strength (current pulse)   | 8 mA  |
| Minimum activation time of the input  | 3.2 s   |
| Permissible wire diameter   | 0.6 to 2.0 mm <sup>2</sup>                    |
| Permissible operating temperature   | -20 to +65 °C                                 |
| Permissible storage temperature   | -25 to +80 °C                                 |
| Permissible rel. humidity   | < 96 %, non-condensing                        |
| Protection class as per IEC 60529   | IP 30   |
| Classes of equipment as per IEC 60950   | Class III equipment                           |
| Housing material and color  | ABS/PC blend, signal white (RAL 9003)         |
| Dimensions  | Approx. 50 x 22 mm (Ø x H)                    |
| Weight  | Approx. 35 g                                  |



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