

Output-input Interface Module

FLM-420-01I1-D



Installation Guide

deutsch

türkçe

english

español

français

italiano

nederlands

polski

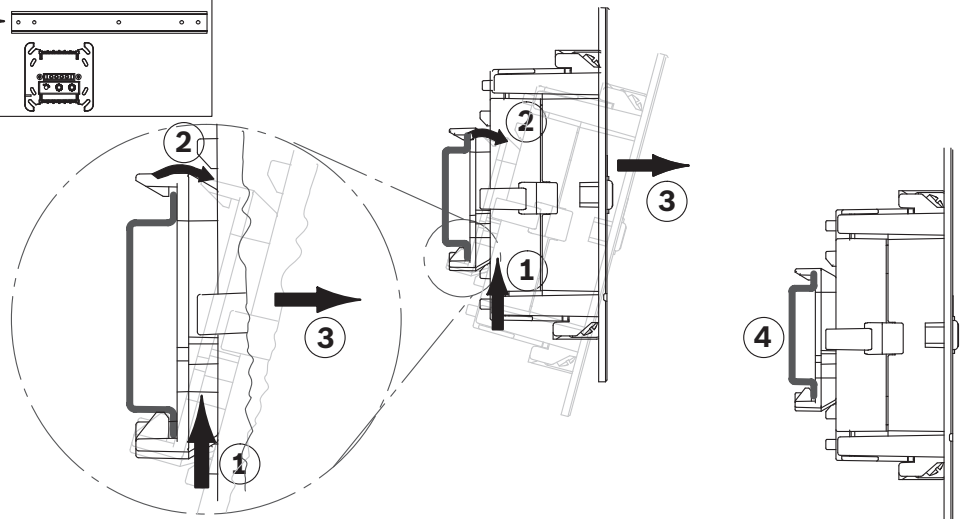
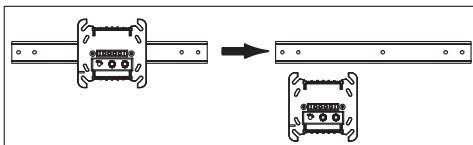
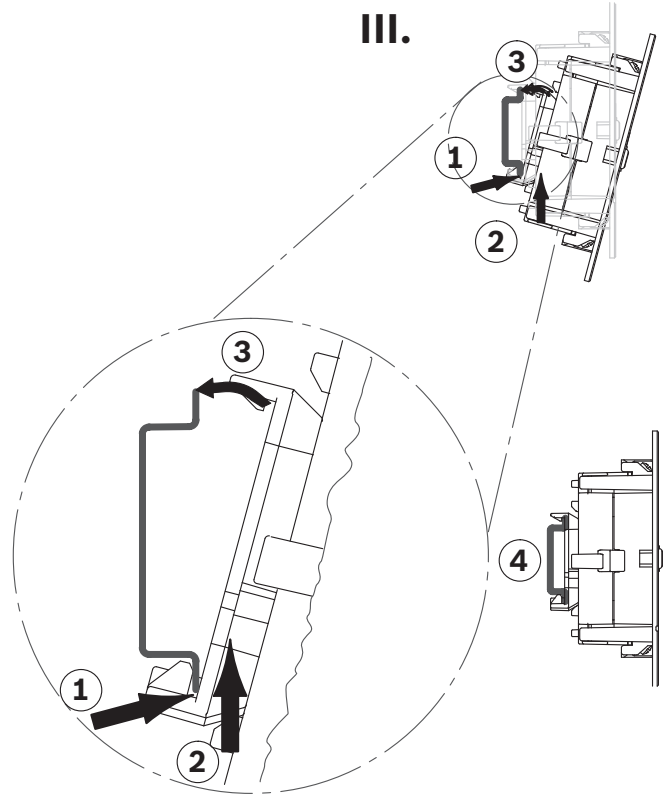
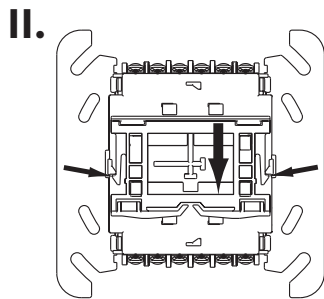
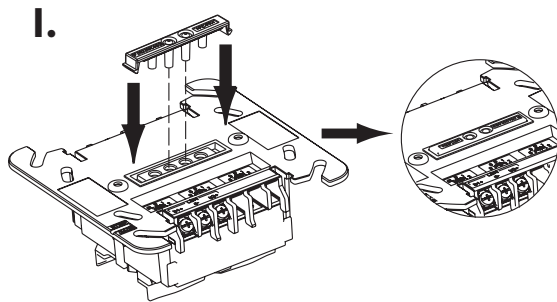
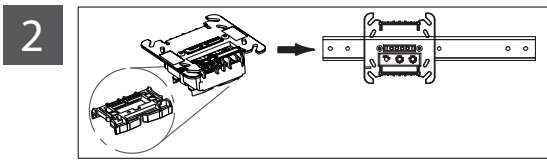
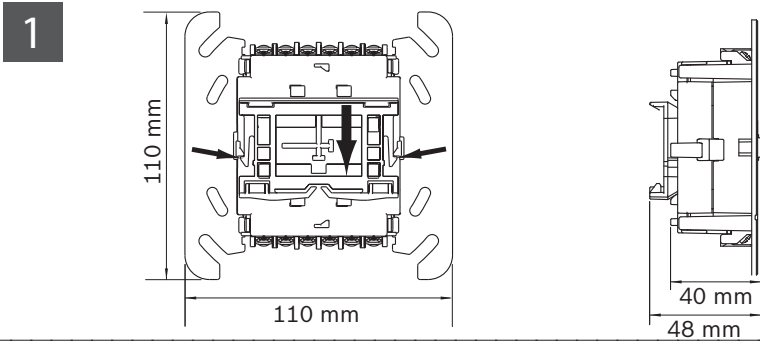
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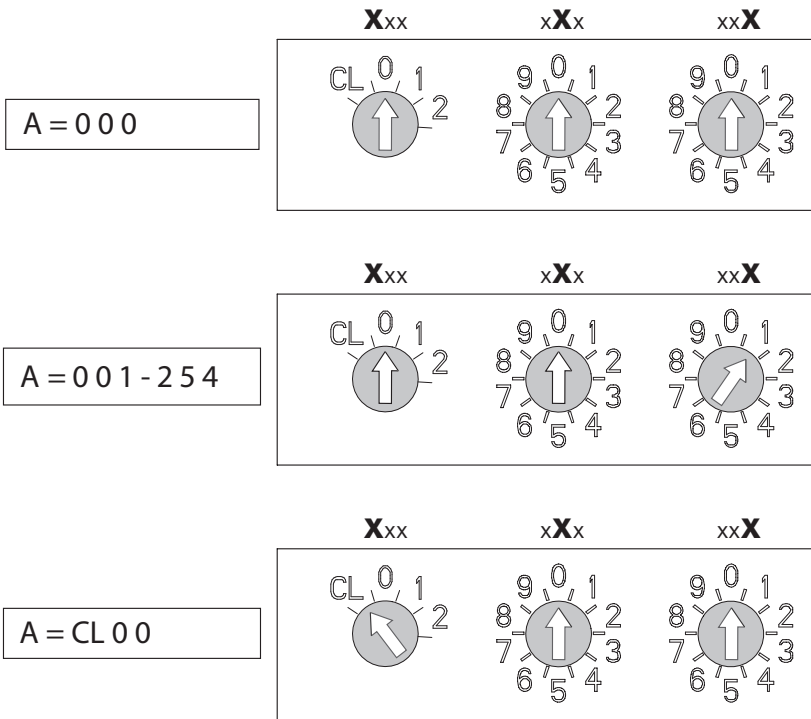
русский

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Graphics

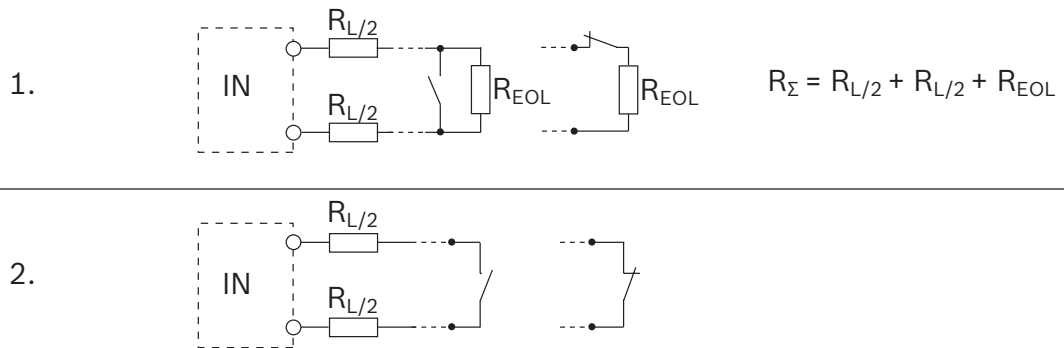


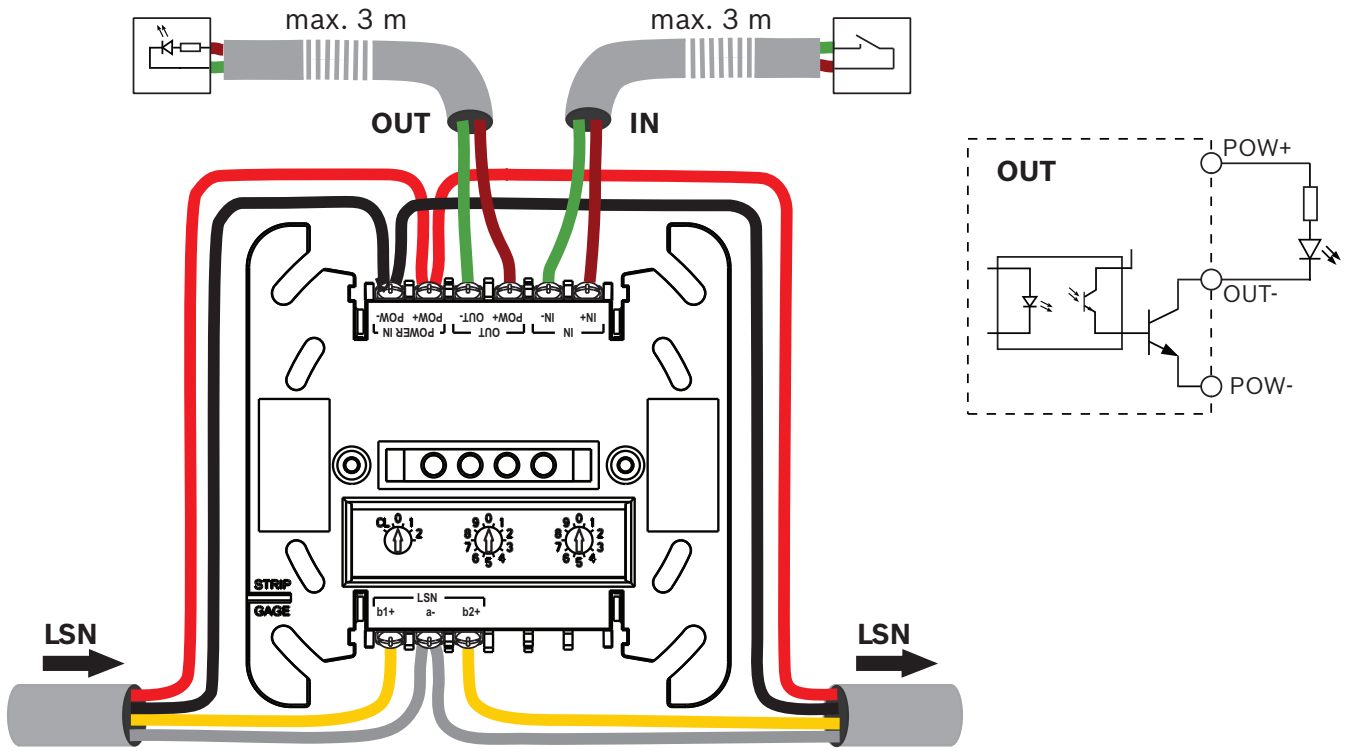
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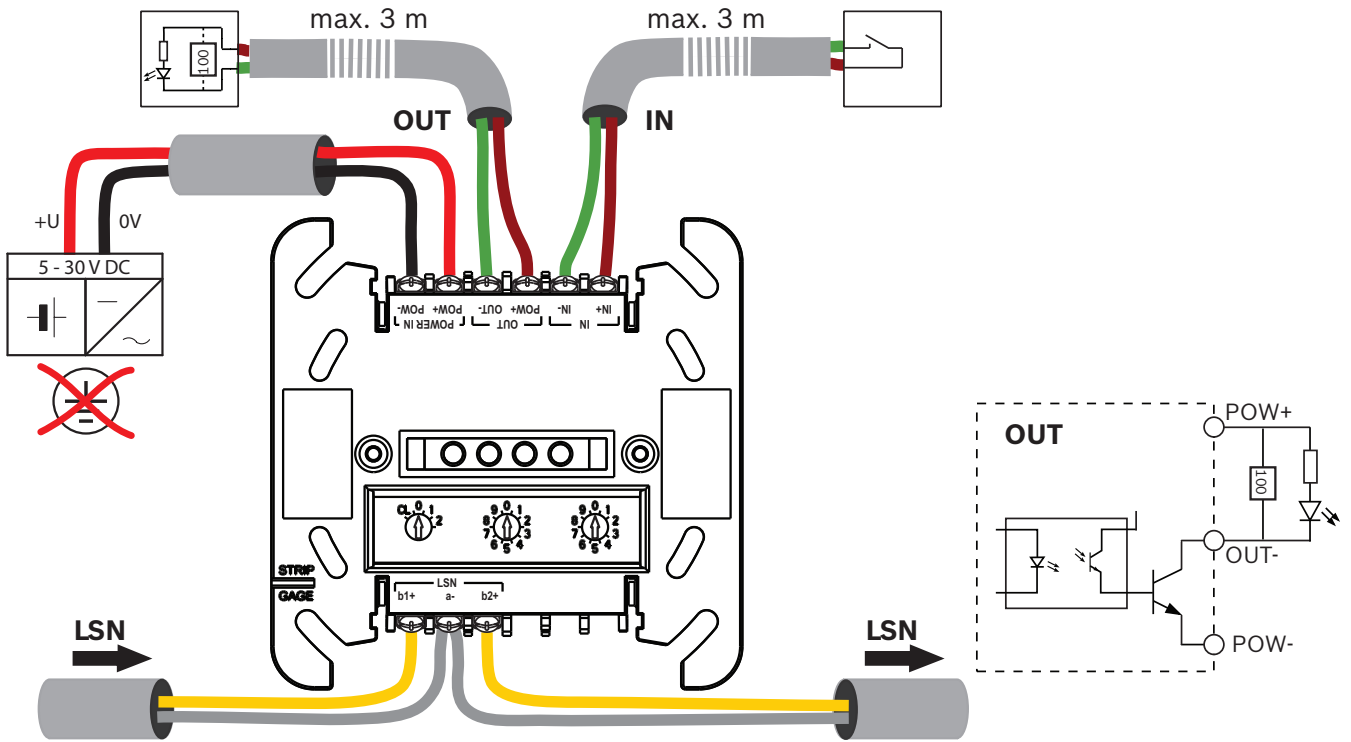


A	Xxx	xXx	xxX	LSN improved	BZ 500 LSN UEZ 2000 LSN UGM 2020
0 0 0 Automatic addressing Automat. Adressierung	0	0	0	✓	—
0 0 1 - 2 5 4 Manual addressing Manuelle Adressierung	0 / 1 / 2	0 - 9	0 - 9	✓	—
CL 0 0	CL	0	0	✓	—

4







Notice!

When using an external power supply you have to add a 100 Ω resistor between POW+ and OUT-.



Hinweis!

Bei Gebrauch einer externen Stromversorgung müssen Sie einen 100 Ω Widerstand zwischen POW+ und OUT- einfügen.

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 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.

Informationen zum Installieren und Entfernen des FLM-420-O1I1-D auf bzw. von einer DIN-Schiene nach EN 60715 mit beiliegendem Adapter finden Sie auf Abbildung 2. Alternativ kann der Koppler in das Aufputzgehäuse FLM-IFB126-S eingebaut werden.

3 Anschaltung

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.

Alternativ kann das Pluspotential für OUT/POW+ von einem externen Netzteil geliefert werden (siehe Abbildung 4). Das externe Netzteil muss erdpotentialfrei sein.

Hinweis!

Die maximale Leitungslänge pro Eingang und Ausgang beträgt 3 m.

Die maximale Leitungslänge aller im Ring oder Stich angeschlossenen Eingänge beträgt insgesamt 500 m.

Dabei müssen auch die Ausgänge berücksichtigt werden, die vom LSN nicht galvanisch getrennt sind, z. B. an C-Punkte angeschlossene Peripheriegeräte.

Die Ansteuerung des Eingangs IN muss vom LSN galvanisch getrennt erfolgen (z. B. über Relaiskontakte, Druckknopf etc.).

Für den Eingang gilt eine Mindestansteuerzeit von 3,2 s.



Beschreibung		Funktion
IN	IN+ IN-	Eingang
OUT	POW+	Bezugspotential (+)

Beschreibung		Funktion
	OUT-	Ausgang (geschaltetes Minuspotential)
POWER IN	POW+ POW-	Spannungsversorgung Ausgang (OUT)
LSN	b1+ a- b2+	LSN (kommend/gehend)

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_{Σ} ($R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$)	– 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
Max. cable length input/output	3 m
Maximum cable length of all inputs and outputs which are connected to the loop or stub and not electrically isolated from LSN	500 m in total
Permissible wire diameter	0.6 to 3.3 mm ²
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 54
Classes of equipment as per IEC 60950	Class III equipment
Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm
Weight	Approx. 95 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 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.

For installing and removal of the FLM-420-O111-D on a DIN rail in accordance with EN 60715 with enclosed adapter see figure 2. Optionally, the interface module may be built into the surface mounted housing FLM-IFB126-S.

3 Connection

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.

Alternatively, the positive potential for OUT/POW+ may be provided by an external power supply unit (see figure 4). The external power supply unit must be free-of-ground.



Notice!

A maximum cable length of 3 m is permitted per input and output.

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).

The activation of the input IN has to be carried out electrically isolated from LSN (e.g. with relay contacts, pushbutton, etc.).

The input must have a minimum activation time of 3.2 s.

Description		Function
IN	IN+ IN-	Input
OUT	POW+	Reference potential (+)
	OUT-	Output (switched negative potential)
POWER IN	POW+ POW-	Power supply output (OUT)

Description		Function
LSN	b1+ a- b2+	LSN (incoming/outgoing)

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_{Σ} ($R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$)	– 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
Max. cable length input/output	3 m
Maximum cable length of all inputs and outputs which are connected to the loop or stub and not electrically isolated from LSN	500 m in total
Permissible wire diameter	0.6 to 3.3 mm ²
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 54
Classes of equipment as per IEC 60950	Class III equipment
Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm
Weight	Approx. 95 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 módulo interfaz cuenta con una salida semiconductor 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.

Para instalar y retirar el FLM-420-O1I1-D en un raíl DIN de acuerdo con EN 60715, con adaptador incluido, consulte la figura 2. De forma opcional, el módulo interfaz se puede integrar en la carcasa para montaje en superficie FLM-IFB126-S.

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.

Como alternativa, el potencial positivo para OUT/POW+ se puede recibir desde una fuente de alimentación externa (consulte la figura 4). La fuente de alimentación externa no debe tener toma de tierra.

**Aviso!**

Se permite una longitud de cable máxima de 3 m por entrada y salida.

La longitud de cable máxima de todas las entradas conectadas al lazo o ramal es de 500 m en total.

Además, todas las salidas que no estén aisladas eléctricamente de LSN deben incluirse en el cálculo de longitud total de la línea (por ejemplo, los periféricos conectados mediante los puntos C).

La activación de la entrada IN debe llevarse a cabo con aislamiento eléctrico de LSN (como contactos relé, pulsador, etc.).

La entrada debe tener un tiempo de activación mínimo de 3,2 segundos.

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)

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 k Ω
– Overall line resistance R_{Σ} ($R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$)	– 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
Max. cable length input/output	3 m
Maximum cable length of all inputs and outputs which are connected to the loop or stub and not electrically isolated from LSN	500 m in total
Permissible wire diameter	0.6 to 3.3 mm ²
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 54
Classes of equipment as per IEC 60950	Class III equipment
Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)

Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm
Weight	Approx. 95 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 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.

Pour installer et retirer FLM-420-O1I1-D sur un rail DIN conformément à la norme EN 60715 avec l'adaptateur fourni (voir la figure 2). En option, le module d'interface peut être intégré au boîtier pour montage en surface FLM-IFB126-S.

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.

Le potentiel positif de la sortie OUT/POW+ peut être fourni via un bloc d'alimentation externe (voir la figure 4). Le bloc d'alimentation externe ne doit pas être relié à la terre.



Remarque!

La longueur de câble de chaque entrée et sortie ne peut excéder 3 mètres.

La longueur de câble de l'ensemble des entrées connectées en boucle ou en tronçon ne doit pas dépasser 500 mètres.

De plus, les sorties qui ne sont pas isolées du LSN doivent être intégrées dans le calcul de la longueur de ligne maximale (par ex., les périphériques connectés via les points C).

L'activation de l'entrée IN doit être effectuée lorsqu'elle est électriquement isolée du LSN (par exemple, avec des contacts de relais, un bouton-poussoir, etc.).

L'entrée doit avoir un temps d'activation minimal de 3,2 s.

Description		Fonction
IN	IN+ IN-	Entrée

Description		Fonction
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)

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_{Σ} ($R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$)	– 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
Max. cable length input/output	3 m
Maximum cable length of all inputs and outputs which are connected to the loop or stub and not electrically isolated from LSN	500 m in total
Permissible wire diameter	0.6 to 3.3 mm ²
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 54
Classes of equipment as per IEC 60950	Class III equipment
Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm

Weight	Approx. 95 g
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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

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.

Per l'installazione e la rimozione di FLM-420-O111-D installato su un binario DIN in conformità alla normativa EN 60715 con adattatore in dotazione, vedere la figura 2. Inoltre, il modulo di interfaccia può essere incorporato nell'alloggiamento per montaggio su superficie FLM-IFB126-S.

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.

In alternativa, il potenziale positivo per OUT/POW+ può essere fornito da un alimentatore esterno (vedere la figura 4). L'alimentatore esterno deve essere privo di massa.

Avviso!

È consentita una lunghezza massima del cavo di 3 m per ogni ingresso ed uscita.

La lunghezza massima del cavo per tutti gli ingressi collegati al loop o alla linea aperta è di 500 m complessivamente.

Inoltre, nel calcolo complessivo della lunghezza di linea, è necessario includere tutte le uscite non isolate elettricamente dalla rete LSN (ad es. periferiche collegate tramite punti C).

L'attivazione dell'ingresso IN deve essere eseguita in condizioni di isolamento elettrico dalla LSN (ad esempio con contatti relè, pulsanti e così via).

L'ingresso deve disporre di un tempo di attivazione minimo di 3,2 s.



Descrizione		Funzione
IN	IN+ IN-	Ingresso

Descrizione		Funzione
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)

4 Caratteristiche tecniche

LSN input voltage	15 to 33 V DC
Max. current consumption from LSN	1.9 mA
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– EOL resistor	Nominal 3.9 kΩ
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Contact monitoring	
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Maximum cable length of all inputs and outputs which are connected to the loop or stub and not electrically isolated from LSN	500 m in total
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Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm

Weight	Approx. 95 g
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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 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. Voor het installeren en verwijderen van de FLM-420-O1I1-D in een DIN rail volgens EN 60715 met bijgevoegde adapter, zie afbeelding 2. Naar keuze kan de interfacemodule in de opbouwbehuizing FLM-IFB126-S worden ingebouwd.

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.

De positieve potentiaal voor OUT/POW+ kan ook worden geleverd door een externe voeding (zie afbeelding 4). De externe voedingseenheid moet aardvrij zijn.

Opmerking!

Er is een maximale kabellengte van 3 m per ingang en uitgang toegestaan.

De maximale kabellengte van alle ingangen die zijn aangesloten op de lus of steeklijn bedraagt 500 m in totaal.

Bovendien moeten alle uitgangen die niet elektrisch geïsoleerd zijn van LSN worden opgeteld bij de totale kabellengte (bijv. randapparatuur aangesloten via C-punten).

De activering van ingang IN dient ten opzichte van de LSN elektrisch geïsoleerd plaats te vinden (bijvoorbeeld met relaiscontacten, drukknoppen, etc.).

De activeringstijd van de ingang moet ten minste 3,2 sec. bedragen.



Omschrijving		Functie
IN	IN+ IN-	Ingang
OUT	POW+	Referentiepotaiaal (+)

Omschrijving		Functie
	OUT-	Uitgang (geschakelde negatieve potentiaal)
POWER IN	POW+ POW-	Voedingsuitgang (OUT)
LSN	b1+ a- b2+	LSN (inkomend/uitgaand)

4 Technische specificatie

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_{Σ} ($R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$)	– 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
Max. cable length input/output	3 m
Maximum cable length of all inputs and outputs which are connected to the loop or stub and not electrically isolated from LSN	500 m in total
Permissible wire diameter	0.6 to 3.3 mm ²
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 54
Classes of equipment as per IEC 60950	Class III equipment
Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm
Weight	Approx. 95 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

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 wyzwania alarmu (przerwanie/zwarcie))
2. Monitorowanie styku beznapięciowego (stan otwarty albo zamknięty)

Programowanie wykonywane jest z poziomu oprogramowania centrali sygnalizacji pożaru.

W celu instalacji i demontażu produktu FLM-420-O111-D na szynie DIN zgodnie z normą EN 60715 wraz z dołączonym adapterem, patrz rysunek 2. Opcjonalnie, moduł interfejsu może zostać zamontowany w obudowie do montażu natynkowego FLM-IFB126-S.

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.

Opcjonalnie, potencjał dodatni wyjścia OUT/POW+ może być dostarczany przez zewnętrzny zasilacz (patrz rysunek 4). Zewnętrzny zasilacz nie może być uziemiony.

Uwaga!

Maksymalna długość kabla dla każdego z wejść i wyjść wynosi 3 m.

Maksymalna długość kabla dla wszystkich wejść podpiętych do pętli lub odgałęzienia wynosi łącznie 500 m.

Dodatkowo wszystkie wyjścia, które nie są odizolowane od pętli LSN, muszą zostać wliczone do całkowitej obliczonej długości linii (np. urządzenia peryferyjne połączone przez punkty C). Podczas aktywacji wejścia IN musi zostać zapewniona izolacja elektryczna od linii LSN (np. za pomocą styków przekaźnika, przycisku itp.).

Wejście musi mieć minimalny czas włączenia 3,2 s.



Opis		Funkcja
IN	IN+ IN-	Wejście
OUT	POW+	Potencjał referencyjny (+)

Opis		Funkcja
	OUT-	Wyjście (potencjał ujemny – przełącznik)
POWER IN	POW+ POW-	Wyjście zasilacza (OUT)
LSN	b1+ a- b2+	LSN (połączenie wejściowe / połączenie wyjściowe)

4 Dane 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_{Σ} ($R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$)	– 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
Max. cable length input/output	3 m
Maximum cable length of all inputs and outputs which are connected to the loop or stub and not electrically isolated from LSN	500 m in total
Permissible wire diameter	0.6 to 3.3 mm ²
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 54
Classes of equipment as per IEC 60950	Class III equipment
Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm
Weight	Approx. 95 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 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.

Para instalação e remoção FLM-420-O111-D numa calha DIN em conformidade com EN 60715 com adaptador incluído, veja a figura 2. Como opção, o módulo interface pode ser incorporado na caixa para montagem saliente FLM-IFB126-S.

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.

Alternativamente, o potencial positivo de OUT/POW+ pode ser fornecido por uma fonte de alimentação externa (veja a figura 4). A fonte de alimentação externa não deve ter ligação à terra.



Informação!

O comprimento máximo do cabo permitido por saída e entrada é de 3 m.

O comprimento máximo do cabo de todas as entradas ligadas ao loop ou ramal é de 500 m no total.

Além disso, todas as saídas sem separação galvânica do LSN devem ser incluídas no cálculo do comprimento total de linha (p. ex. periféricos ligados através dos pontos C).

A ativação da entrada IN tem de ser realizada com separação galvânica de LSN (p. ex. com contactos de relé, botão de pressão, etc.).

As entradas têm de ter um tempo mínimo de ativação de 3,2 s.

Descrição		Função
IN	IN+ IN-	Entrada
OUT	POW+	Potencial de referência (+)

Descrição		Função
	OUT-	Saída (potencial negativo comutado)
POWER IN	POW+ POW-	Saída da fonte de alimentação (OUT)
LSN	b1+ a- b2+	LSN (entrada/saída)

4 Especificações 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_{Σ} ($R_{\Sigma} = R_{L/2} + R_{L/2} + R_{EOL}$)	– In standby: 1500 to 5500 Ω
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Contact monitoring	
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Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm
Weight	Approx. 95 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

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.

Pentru instalarea și demontarea FLM-420-O111-D, pe o șină DIN, conform EN 60715, cu adaptor inclus, consultați imaginea 2. Opțional, modulul de interfață poate fi instalat în carcasa montată la suprafață FLM-IFB126-S.

3 Cablaje

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.

Alternativ, potențialul pozitiv al OUT/POW+ poate fi furnizat de o unitate de alimentare externă (consultați imaginea 4). Unitatea de alimentare externă trebuie să fie fără conectare la împământare.



Notificare!

O lungime maximă a cablului de 3 m este permisă pentru fiecare intrare și ieșire.

Lungimea maximă a cablului tuturor intrărilor conectate la buclă sau linie este de 500 m în total.

Suplimentar, toate ieșirile care nu sunt izolate electric de la LSN trebuie incluse în calculul lungimii totale a liniei (de ex. perifericele conectate prin punctele C).

Activarea intrării IN trebuie să se realizeze electronic izolat față de LSN (de ex. cu contacte releu, buton etc.).

Intrarea trebuie să aibă o durată minimă de activare de 3,2 s.

Descriere		Funcție
IN	IN+ IN-	Intrare
OUT	POW+	Potențial de referință (+)

Descriere		Funcție
	OUT-	Ieșire (potențial negativ comutat)
POWER IN	POW+ POW-	Ieșire alimentare (OUT)
LSN	b1+ a- b2+	LSN (intrare/ieșire)

4 Specificații tehnice

LSN input voltage	15 to 33 V DC
Max. current consumption from LSN	1.9 mA
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	– Interruption: > 85000 Ω
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Max. cable length input/output	3 m
Maximum cable length of all inputs and outputs which are connected to the loop or stub and not electrically isolated from LSN	500 m in total
Permissible wire diameter	0.6 to 3.3 mm ²
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Permissible storage temperature	-25 to +80 °C
Permissible rel. humidity	< 96 %, non-condensing
Protection class as per IEC 60529	IP 54
Classes of equipment as per IEC 60950	Class III equipment
Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm
Weight	Approx. 95 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

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.

Установка и снятие FLM-420-O1I1-D на DIN-рейку в соответствии со стандартом EN 60715 с помощью прилагаемого адаптера показаны на рис. 2. Кроме того, интерфейсный модуль может быть установлен в корпус для поверхностного монтажа FLM-IFB126-S.

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.

Или же положительный потенциал для OUT/POW+ может обеспечиваться внешним блоком питания (см. рис. 4). Внешний источник питания не должен быть заземлен.

Замечание!

Для каждого входа и выхода максимальная длина кабеля составляет 3 м.

Максимальная длина кабеля для всех входов, подключенных к кольцевому или радиальному адресному шлейфу, составляет 500 м.

Кроме того, все электрически неизолированные от шлейфа LSN выходы также должны быть учтены при расчете общей длины кабеля (например, периферийные устройства, подключенные через точки C).

Активация входа IN должна выполняться изолированно от LSN (напр. контакт реле, кнопка включения и т.д.).

Минимальное время активации входа составляет 3,2 сек.



Описание		Назначение
IN	IN+ IN-	Вход
OUT	POW+	Опорный потенциал (+)

Описание		Назначение
	OUT-	Выход (коммутируемый отрицательный потенциал)
POWER IN	POW+ POW-	Выход питания (OUT)
LSN	b1+ a- b2+	LSN (входящая/исходящая)

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
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	– 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
Max. cable length input/output	3 m
Maximum cable length of all inputs and outputs which are connected to the loop or stub and not electrically isolated from LSN	500 m in total
Permissible wire diameter	0.6 to 3.3 mm ²
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 54
Classes of equipment as per IEC 60950	Class III equipment
Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm
Weight	Approx. 95 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

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 yüklere 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 kontakın izlenmesi

Programlama, FACP üzerindeki programlama yazılımı aracılığıyla gerçekleştirilir.

Bir DIN rayındaki FLM-420-O111-D ögesinin muhafazalı adaptöre sahip EN 60715 ile takılması ve çıkarılması için, bkz. şekil 2. İsteğe bağlı olarak, arayüz modülü yüzeye monte muhafaza FLM-IFB126-S içine takılmış olabilir.

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.

Alternatif olarak, OUT/POW+ pozitif potansiyeli bir yardımcı güç kaynağı ünitesi (4) ile sağlanabilir. Harici güç kaynağı ünitesi topraklamasız olmalıdır.



Uyarı!

Her giriş ve çıkış için maksimum 3 m kablo uzunluğuna izin verilmektedir.

Loop'a veya stub'a bağlı tüm girişlerin maksimum kablo uzunluğu toplam 500 m'dir.

Ayrıca, elektriksel olarak LSN'den yalıtılmamış tüm çıkışlar, toplam kablo uzunluğu hesaplamasına dahil edilmelidir (ör. C noktaları yoluyla bağlanmış çevre birimler).

IN girişinin etkinleştirilmesi, elektriksel olarak LSN'den yalıtılmış şekilde gerçekleştirilmelidir (ör. röle kontakları, düğme vb. ile).

Girişin minimum 3,2 sn. etkinleştirme süresi olmalıdır.

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)

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)
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Input	
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Contact monitoring	
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Permissible wire diameter	0.6 to 3.3 mm ²
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 54
Classes of equipment as per IEC 60950	Class III equipment
Housing material and color	PPO (Noryl), gray white (similar to RAL 9002)
Dimensions with adapter (W x H x D)	Approx. 110 x 110 x 48 mm
Weight	Approx. 95 g

Bosch Sicherheitssysteme GmbH

Robert-Bosch-Ring 5

85630 Grasbrunn

Germany

www.boschsecurity.com

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