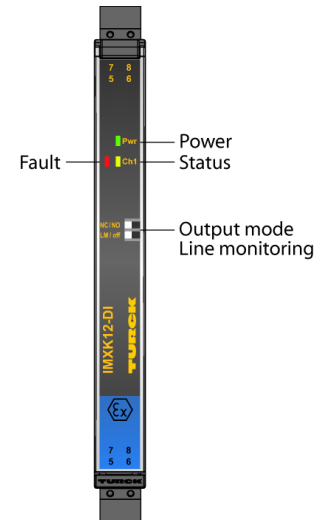
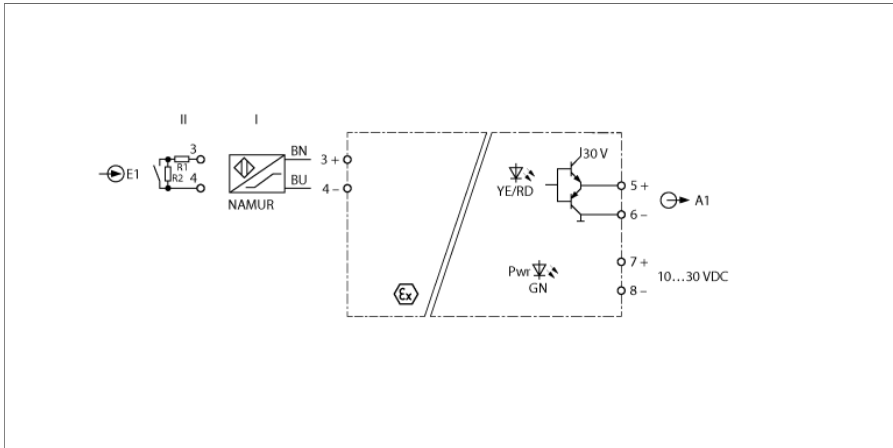


# Isolating switching amplifier 1-channel IMXK12-DI01-1S-1PP-0/24VDC/CC



Sensors according to EN 60947-5-6 (NAMUR) or potential-free contacts can be connected to the IMXK12-DI01-1S-1PP-0/24VDC/CC 1-channel isolating switching amplifier. The device is equipped with an intrinsically safe input circuit and can be installed in zone 2. The output circuit is equipped with a push/pull output with a high cut-off frequency (15 kHz). The device complies with the requirements of NE21.

The devices feature DIP switches on the front. These allow input circuit monitoring and the direction of action to be selected. When using mechanical contacts, either line monitoring must be switched off or the contact must be wired with resistors (see wiring diagram).

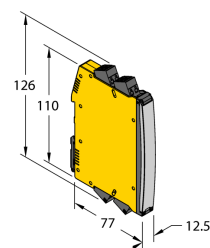
The green LED indicates operational readiness. An error in the input circuit causes the red LED to flash according to NE44. The output level then drops to below 1 V.

The device can be used in safety circuits up to SIL2 (high and low demand according to IEC 61508).

The device is equipped with removable spring type terminals.

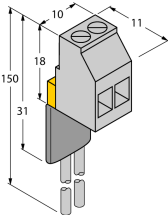
- Transistor output (push-pull)
- Output mode adjustable (open-circuit/closed current mode)
- Input circuits monitored for wire break/short circuit (ON/OFF switchable)
- Complete galvanic isolation
- Input reverse-polarity protected
- Removable cage clamp terminals
- ATEX, IECEx, cUL
- Installation in zone 2
- SIL 2

|                                            |                                                                                                                                                                                               |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                                       | IMXK12-DI01-1S-1PP-0/24VDC/CC                                                                                                                                                                 |
| ID                                         | 100000684                                                                                                                                                                                     |
| Nominal voltage                            | 24 VDC                                                                                                                                                                                        |
| Operating voltage $U_o$                    | 10...30 VDC                                                                                                                                                                                   |
| Power consumption                          | $\leq 1.3 \text{ W}$                                                                                                                                                                          |
| Power dissipation, typical                 | $\leq 1.04 \text{ W}$                                                                                                                                                                         |
| <b>NAMUR input</b>                         |                                                                                                                                                                                               |
| NAMUR                                      | EN 60947-5-6                                                                                                                                                                                  |
| Input circuit monitoring                   | on/off switchable                                                                                                                                                                             |
| No-load voltage                            | 8.2 VDC                                                                                                                                                                                       |
| Short-circuit current                      | 8.2 mA                                                                                                                                                                                        |
| Input resistance                           | 1 k $\Omega$                                                                                                                                                                                  |
| Cable resistance                           | $\leq 50 \Omega$                                                                                                                                                                              |
| Switch-on threshold                        | 1.75 mA                                                                                                                                                                                       |
| Switch-off threshold                       | 1.55 mA                                                                                                                                                                                       |
| Wire breakage threshold                    | $\leq 0.06 \text{ mA}$                                                                                                                                                                        |
| Short-circuit threshold                    | $\geq 6.4 \text{ mA}$                                                                                                                                                                         |
| <b>Output circuits</b>                     |                                                                                                                                                                                               |
| Push Pull                                  | High 28,5V...30V, Low < 1V, f = 15kHz                                                                                                                                                         |
| <b>Galvanic isolation</b>                  |                                                                                                                                                                                               |
| Test voltage                               | 2.5 kV RMS                                                                                                                                                                                    |
| Input 1 to output 1                        | 375 V peak value acc. to EN 60079-11                                                                                                                                                          |
| Input 1 to supply                          | 375 V peak value acc. to EN 60079-11                                                                                                                                                          |
| <b>Important note</b>                      |                                                                                                                                                                                               |
|                                            | For Ex-applications the values specified in the corresponding Ex certificates (ATEX, IECEx, UL, etc.) apply.                                                                                  |
| Ex approval acc. to conformity certificate | TÜV 14 ATEX 147004 X                                                                                                                                                                          |
| Application area                           | II (1) G, II (1) D                                                                                                                                                                            |
| Ignition protection category               | [Ex ia Ga] IIC; [Ex ia Da] IIIC                                                                                                                                                               |
| Application area                           | II 3 (1) G                                                                                                                                                                                    |
| Ignition protection type                   | Ex nA [ia Ga] IIC T4 Gc                                                                                                                                                                       |
| Important note                             | If the device is used in applications to achieve functional safety according to IEC 61508, the safety manual must be used. Information in the data sheet are not valid for functional safety. |
| Use in SIL safety circuits                 | SIL 2 acc. to IEC 61508                                                                                                                                                                       |
| <b>Displays/Operating elements</b>         |                                                                                                                                                                                               |
| Operational readiness                      | Green                                                                                                                                                                                         |
| Switching state                            | Yellow                                                                                                                                                                                        |
| Error indication                           | red                                                                                                                                                                                           |



|                                  |                                        |                              |
|----------------------------------|----------------------------------------|------------------------------|
| Mechanical data                  |                                        |                              |
| Protection class                 | IP20                                   |                              |
| Flammability class acc. to UL 94 | V-0                                    |                              |
| Ambient temperature              | -25...+70 °C                           |                              |
| Storage temperature              | -40...+80 °C                           |                              |
| Dimensions                       | 80 x 12.5 x 128 mm                     |                              |
| Weight                           | 1 g                                    |                              |
| Mounting instructions            | DIN rail (NS35)                        |                              |
| Housing material                 | Plastic, Polycarbonate/ABS             |                              |
| Electrical connection            | Removable spring-type terminals, 2-pin |                              |
| Terminal cross-section           | 0.2...2.5 mm² (AWG: 24...14)           |                              |
| Environmental conditions         | Operating height                       | Up to 2000 m above sea level |
|                                  | Pollution degree                       | II                           |
|                                  | Surge/Overvoltage category             | II (EN 61010-1)              |
|                                  | Standards used                         |                              |
|                                  | Voltage resistance and insulation      |                              |
|                                  |                                        | EN 50178                     |
|                                  |                                        | EN 61010-1                   |
|                                  |                                        | EN 50155                     |
|                                  |                                        | GL VI-7-2                    |
|                                  | Shock                                  |                              |
|                                  |                                        | EN 61373 class B             |
|                                  |                                        | EN 50155                     |
|                                  |                                        | GL VI-7-2                    |
|                                  |                                        | EN 60068-2-6                 |
|                                  |                                        | EN 60068-2-27                |
|                                  | Temperature                            |                              |
|                                  |                                        | EN 60068-2-1 Ad              |
|                                  |                                        | EN 50155                     |
|                                  |                                        | GL VI-7-2                    |
|                                  |                                        | EN 60068-2-2 Bd              |
|                                  |                                        | EN 60068-2-1                 |
|                                  | Air humidity                           |                              |
|                                  |                                        | EN 60068-2-38                |
|                                  | EMC                                    |                              |
|                                  |                                        | EN 50155                     |
|                                  |                                        | GL VI-7-2                    |
|                                  |                                        | NE21                         |
|                                  |                                        | EN 61326-1                   |
|                                  |                                        | EN 61326-3-1                 |
|                                  |                                        | EN 61000-4-2                 |
|                                  |                                        | EN 61000-4-3                 |
|                                  |                                        | EN 61000-4-4                 |
|                                  |                                        | EN 61000-4-5                 |
|                                  |                                        | EN 61000-4-6                 |
|                                  |                                        | EN 61000-4-11                |
|                                  |                                        | EN 61000-4-29                |
|                                  |                                        | EN 55011                     |
|                                  |                                        | EN 55016                     |
|                                  |                                        | EN 50121-3-2                 |
|                                  |                                        | EN 61000-6-2                 |

Accessories

| Type code             | Ident no. |                                                                                                                                                                                                                                                                                                   | Dimension drawing                                                                   |
|-----------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| IMX12-CC-2X-4BK       | 7580942   | Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. black terminals, 2-pin                                                                                                                                                                                                         |  |
| IMX12-CC-2X-4BU       | 7580943   | Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. blue terminals, 2-pin                                                                                                                                                                                                          |                                                                                     |
| IMX12-SC-2X-4BK       | 7580940   | Screw terminals for IM(X)12 modules; included in delivery: 4 pcs. of 2-pin black terminals                                                                                                                                                                                                        |                                                                                     |
| IMX12-SC-2X-4BU       | 7580941   | Screw terminals for IM(X) 12 modules; included in delivery: 4 pcs. of 2-pin blue terminals                                                                                                                                                                                                        |                                                                                     |
| WM1 WIDER-STANDSMODUL | 0912101   | The resistor module WM1 meets the requirements for line monitoring between a mechanical contact and a TURCK signal processor. The input circuit of the signal processor is designed for sensors acc. to EN60947-5-6 (NAMUR) and equipped with a wire-break and short-circuit monitoring function. |                                                                                     |