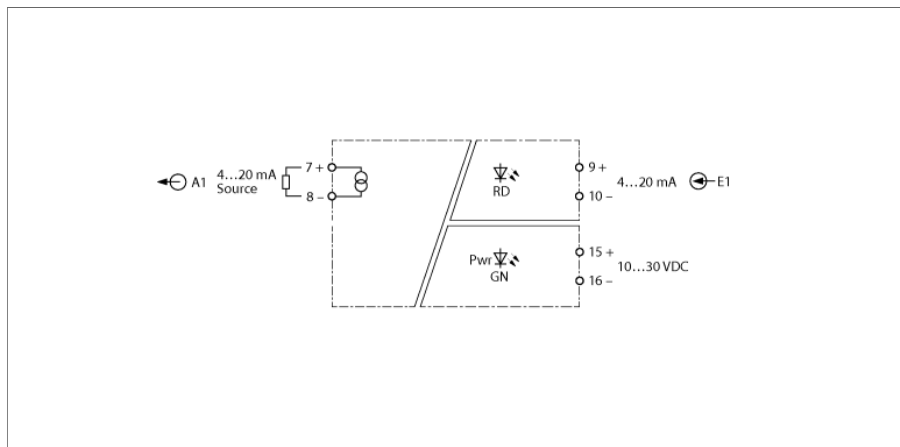


# Analog Signal Isolator

## 1-channel

### IM12-AO01-1I-1I-H0/24VDC/CC



The 1-channel IM12-AO01-1I-1I-H0/24VDC/CC signal isolator is designed to transmit the normalized current signal galvanically isolated 1:1. In addition to the analog signal, digital HART® communication signals can also be transmitted bidirectionally. Typical applications are for example the control of I/P converters or indicators.

The green LED indicates operational readiness. The device can detect a wire break or short circuit on the field side, the input then switches to a high impedance state. An error in the input circuit causes the red LED to flash according to NE44.

The device can be used in safety circuits up to SIL2 (high and low demand according to IEC 61508) and meets the requirements of NE21. It is equipped with removable spring type terminals.

The device is equipped with removable spring-type terminals.

- Input circuit monitored for wire break and short circuit
- Complete galvanic isolation
- HART transparent
- Removable spring type terminals
- ATEX use in Zone 2, cUL
- SIL 2



## Dimensions

|                                                                        |                                                                                                                                                                                               |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                                                                   | IM12-AO01-1I-1I-H0/24VDC/CC                                                                                                                                                                   |
| ID                                                                     | 7580423                                                                                                                                                                                       |
| Operating voltage $U_s$                                                | 10...30 VDC                                                                                                                                                                                   |
| Power dissipation, typical                                             | $\leq 1.31$ W                                                                                                                                                                                 |
| Input current                                                          | 4...20 mA                                                                                                                                                                                     |
| Reference temperature                                                  | 23 °C                                                                                                                                                                                         |
| Output circuits                                                        |                                                                                                                                                                                               |
| Output current                                                         | 4...20 mA                                                                                                                                                                                     |
| Load resistance current output                                         | $\leq 0.8$ k $\Omega$                                                                                                                                                                         |
| Minimum load                                                           | $\geq 50$ $\Omega$                                                                                                                                                                            |
| Short-circuit                                                          | At a load resistance of $< 30$ $\Omega$ , the input current is $< 500$ $\mu$ A                                                                                                                |
| Wire break                                                             | at a load resistance of $> 30$ k $\Omega$ the input current is $< 500$ $\mu$ A                                                                                                                |
| Response characteristic                                                |                                                                                                                                                                                               |
| Rise time (10...90 %)                                                  | $\leq 10$ ms                                                                                                                                                                                  |
| Fall time (90...10 %)                                                  | $\leq 10$ ms                                                                                                                                                                                  |
| Measuring accuracy (including linearity, hysteresis and repeatability) | $\leq 0.05$ % of full scale                                                                                                                                                                   |
| Temperature drift                                                      | $\leq 0.002$ % of full scale/K                                                                                                                                                                |
| Galvanic isolation                                                     |                                                                                                                                                                                               |
| 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                                                                                                                                                          |
| A1A supply voltage                                                     | 300 V RMS acc. to EN 50178 and EN 61010-1                                                                                                                                                     |
| Important note                                                         | For Ex-applications the values specified in the corresponding Ex certificates (ATEX, IECEx, UL, etc.) apply.                                                                                  |
| 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                                                                                                                                                                       |



|                                  |                                        |                              |
|----------------------------------|----------------------------------------|------------------------------|
| Mechanical data                  |                                        |                              |
| Protection class                 | IP20                                   |                              |
| Flammability class acc. to UL 94 | V-0                                    |                              |
| Dimensions                       | 120 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-SC-2X-4BK | 7580940   | Screw terminals for IM(X)12 modules; included in delivery: 4 pcs. of 2-pin black terminals |                   |
| IMX12-CC-2X-4BK | 7580942   | Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. black terminals, 2-pin  |                   |