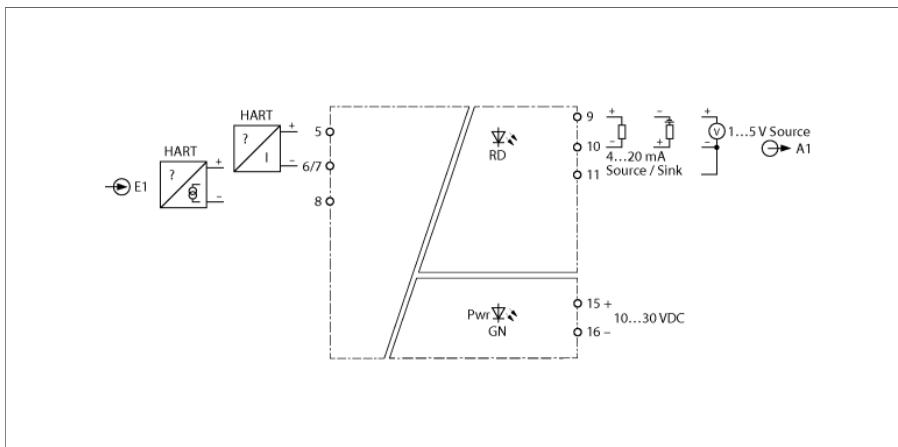


# Isolating transducer 1-channel IM12-AI01-1I-1IU-H0/24VDC/CC



The isolating transducers IM12-AI01-1I-1IU-H0/24VDC/CC transmit analog measured signals galvanically isolated. The devices are suitable for operation in zone 2.

The 1-channel device has one input for the operation of HART® 2-wire transducers as well as active and passive HART® 2-wire transmitters. Connection is via removable spring type terminals.

The device is equipped with a 4...20 mA input circuit and 4...20 mA output circuit (either as source or sink) or 1...5 V (source). The input signals are transmitted 1:1 without interference within a range of 3.8...20.5 mA. In addition, digital signals can also be transmitted bidirectionally in accordance with the HART® protocol. Wire break (< 3.5 mA) and short circuit (> 22 mA) in the transducer circuit are output as current < 3.5 mA/voltage < 0.875 V.

The devices have a green power LED (Pwr). For each input circuit there is a red status LED. 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.

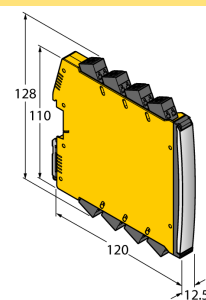
The device is equipped with removable spring-type terminals.

- Input circuits 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-AI01-1I-1IU-H0/24VDC/CC                                                                                                                                                                  |
| ID                                                                     | 7580335                                                                                                                                                                                       |
|                                                                        |                                                                                                                                                                                               |
| Nominal voltage                                                        | 24 VDC                                                                                                                                                                                        |
| Operating voltage $U_s$                                                | 10...30 VDC                                                                                                                                                                                   |
| Power consumption                                                      | $\leq 3.8 \text{ W}$                                                                                                                                                                          |
| Power dissipation, typical                                             | $\leq 1.4 \text{ W}$                                                                                                                                                                          |
|                                                                        |                                                                                                                                                                                               |
| Transmitter connection                                                 |                                                                                                                                                                                               |
| Supply voltage                                                         | 17 V/20 mA typ.                                                                                                                                                                               |
| Input current                                                          | 4...20 mA                                                                                                                                                                                     |
|                                                                        |                                                                                                                                                                                               |
| Output circuits                                                        |                                                                                                                                                                                               |
| Output current                                                         | Source/sink 4...20 mA (sink: 15...28 V)                                                                                                                                                       |
| Output voltage                                                         | 1...5 V                                                                                                                                                                                       |
| Load resistance current output                                         | $\leq 0.8 \text{ k}\Omega$                                                                                                                                                                    |
| Short-circuit                                                          | Output $< 3.5 \text{ mA}$ , if in the input circuit a current $> 22 \text{ mA}$ flows                                                                                                         |
| Wire break                                                             | Output $< 3.5 \text{ mA}$ , if in the input circuit a current $< 3.5 \text{ mA}$ flows                                                                                                        |
|                                                                        |                                                                                                                                                                                               |
| Response characteristic                                                |                                                                                                                                                                                               |
| Rise time (10...90 %)                                                  | $\leq 5 \text{ ms}$                                                                                                                                                                           |
| Fall time (90...10 %)                                                  | $\leq 5 \text{ ms}$                                                                                                                                                                           |
| Measuring accuracy (including linearity, hysteresis and repeatability) | $\leq 0.05 \text{ %}$ of full scale                                                                                                                                                           |
| Temperature drift                                                      | $\leq 0.002 \text{ %}$ of full scale/K                                                                                                                                                        |
|                                                                        |                                                                                                                                                                                               |
| Galvanic isolation                                                     |                                                                                                                                                                                               |
| 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                                                                                                                                                          |
| Output 1 to supply                                                     | 50 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                                                                                                                                                                       |
|                                                                        |                                                                                                                                                                                               |
| Displays/Operating elements                                            |                                                                                                                                                                                               |
| Operational readiness                                                  | Green                                                                                                                                                                                         |
| 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                       | 120 x 12.5 x 128 mm                      |                              |
| Weight                           | 158 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 mm <sup>2</sup> (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                     |
|                                  |                                          | 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  |                   |