

Isolated converter / splitter

3109

- Isolation and conversion of standard DC signals
- Slimline housing of 6 mm
- Power supply and signal isolator for 2-wire transmitter
- Splitter function: 1 in - 2 out
- DIP-switch configured



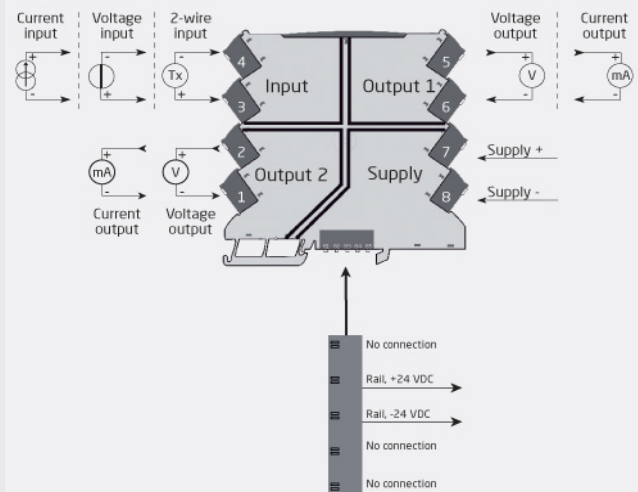
Application

- Isolation and conversion of standard DC signals.
- Galvanic separation of analog current and voltage signals.
- Elimination of ground loops and measurement of floating signals.
- A competitive choice in terms of both price and technology for galvanic isolation of current and voltage signals to SCADA systems or PLC equipment.
- Installation in ATEX Ex zone 2 / IECEx zone 2 / FM division 2.
- Suitable for environments with high vibration stress, e.g. ships.

Technical characteristics

- Easy configuration via DIP-switches.
- The input is protected against overvoltage and polarity error.
- Factory-calibrated measurement ranges.
- Inputs and outputs are floating and galvanically separated.

Applications



Safe Area or
Zone 2 & Cl. 1, Div. 2, gr. A-D

Order

| Type | Version |
|------|-------------------------------|
| 3109 | With power rail connector : - |
| | Supplied via terminals : -N |

Example : 3109-N

Environmental Conditions

| | |
|------------------------------|--|
| Operating temperature..... | -25°C to +70°C |
| Storage temperature..... | -40°C to +85°C |
| Calibration temperature..... | 20...28°C |
| Relative humidity..... | < 95% RH (non-cond.) |
| Protection degree..... | IP20 |
| Installation in..... | Pollution degree 2 & measurement / overvoltage cat. II |

Mechanical specifications

| | |
|----------------------------|--|
| Dimensions (HxWxD)..... | 113 x 6.1 x 115 mm |
| Weight approx..... | 70 g |
| DIN rail type..... | DIN EN 60715/35 mm |
| Wire size..... | 0.13 x 2.5 mm ² / AWG 26...12 stranded wire |
| Screw terminal torque..... | 0.5 Nm |
| Vibration..... | IEC 60068-2-6 |
| 2...25 Hz..... | ±1.6 mm |
| 25...100 Hz..... | ±4 g |

Common specifications

Supply

| | |
|-----------------------------|-----------------|
| Supply voltage..... | 16.8...31.2 VDC |
| Max. required power..... | 1.20 W |
| Max. power dissipation..... | 0.60 W |

Isolation voltage

| | |
|--|---------------------------------|
| Isolation voltage, test / working..... | 2.5 kVAC / 300 VAC (reinforced) |
| Zone 2 / Div. 2..... | 250 VAC |

Response time

| | |
|--|-------------------------------------|
| Response time (0...90%, 100...10%)..... | < 7 ms |
| Programming..... | DIP-switches |
| Signal / noise ratio..... | > 60 dB |
| Cut-off frequency (3 dB)..... | > 100 Hz |
| Signal dynamics, input..... | Analog signal chain |
| Signal dynamics, output..... | Analog signal chain |
| Accuracy..... | Better than 0.05% of selected range |
| Temperature coefficient..... | < ±0.01% of span / °C |
| EMC immunity influence..... | < ±0.5% of span |
| Extended EMC immunity: NAMUR NE21, A criterion, burst..... | < ±1% of span |

Input specifications

Current input

| | |
|--------------------------------------|----------------------|
| Measurement range..... | 0...23 mA |
| Programmable measurement ranges..... | 0...20 and 4...20 mA |
| Input voltage drop..... | < 1.5 VDC |

Voltage input

| | |
|--------------------------------------|-------------------------|
| Measurement range..... | 0...10.25 V |
| Programmable measurement ranges..... | 0/1...5 and 0/2...10 V |
| Measurement range..... | 0...11.5 V / 0...5.75 V |
| Input resistance..... | ≥ 500 kΩ |
| 2-wire transmitter supply..... | > 17 V / 20 mA |

Output specifications

Current output

| | |
|---------------------------------|--------------------------|
| Signal range..... | 0...23 mA |
| Programmable signal ranges..... | 0 / 4...20 mA |
| Load (@ current output)..... | ≤ 300 Ω |
| Load stability..... | ≤ 0.002% of span / 100 Ω |
| Current limit..... | ≤ 28 mA |

Voltage output

| | |
|---------------------------------|---|
| Signal range..... | 0...10 VDC |
| Programmable signal ranges..... | 0/1...5 and 0/2...10 V |
| Load (@ voltage output)..... | ≥ 10 kΩ |
| of span..... | = of the DIP-switch selected output range |

I.S. / Ex marking

| | |
|------------|--|
| ATEX..... | II 3 G Ex nA IIC T4 Gc |
| IECEx..... | Ex nA IIC T4 Gc |
| FMus..... | Cl. I, Div. 2, Gp. A, B, C, D T4 or Cl. I, Zone 2, AEx nA IIC T4 |
| FMca..... | Cl. I, Div. 2, Gp. A, B, C, D T4 or Cl. I, Zone 2, Ex nA IIC T4 |

Observed authority requirements

| | |
|-----------|----------------|
| EMC..... | 2014/30/EU |
| LVD..... | 2014/35/EU |
| RoHS..... | 2011/65/EU |
| EAC..... | TR-CU 020/2011 |

Approvals

| | |
|----------------------------|-----------------------------|
| ATEX 2014/34/EU..... | KEMA 10ATEX0147 X |
| IECEx..... | KEM 10.0068X |
| FM..... | FM17US0004X / FM17CA0003X |
| DNV-GL Marine..... | Stand. f. Certific. No. 2.4 |
| UL..... | UL 61010-1 |
| EAC Ex TR-CU 012/2011..... | RU C-DK.GB08.V.00410 |
| CCOE..... | P337347/1 |