

HART® transparent repeater

5106A

- 3- / 5-port 3.75 kVAC galvanic isolation
- Low response time
- 2-wire supply > 17 V
- 1- or 2-channel version
- Universal supply by AC or DC



Application

- Power supply and signal isolator with 2-way HART® communication for 2-wire transmitters installed in the hazardous area.
- Signal isolator with 2-way HART® communication for supplied current transmitters installed in the hazardous area.
- Signal isolator with low response time on analog current signals.

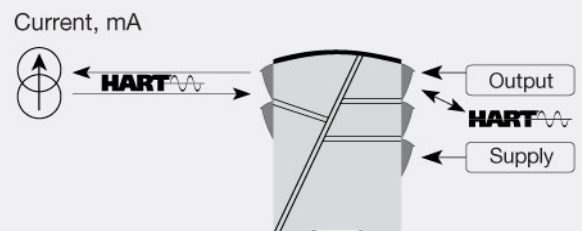
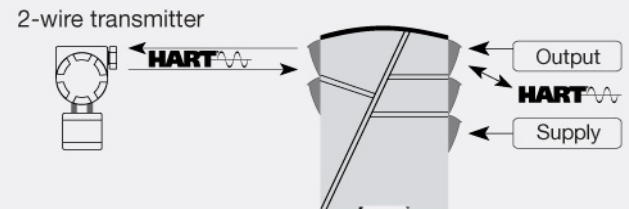
Technical characteristics

- PR5106A primarily processes current signals of 4...20 mA.
- PR5106A is based on microprocessor technology for gain and offset. The analog signal is transmitted at a response time of less than 25 ms.
- Inputs, outputs, and supply are floating and galvanically separated.
- The output can be connected either as an active current transmitter or as a 2-wire transmitter.

Mounting / installation

- Mounted vertically or horizontally on a DIN rail. As the devices can be mounted without distance between neighboring units, up to 84 channels can be mounted per meter.

Connections



Order:

| Type | Input | Output | Channels |
|-------|---------------|---------------|------------|
| 5106A | 4...20 mA : B | 4...20 mA : 2 | Single : A |
| | | 20...4 mA : 9 | Double : B |

Environmental Conditions

| | |
|------------------------------|----------------------|
| Specifications range..... | -20°C to +60°C |
| Calibration temperature..... | 20...28°C |
| Relative humidity..... | < 95% RH (non-cond.) |
| Protection degree..... | IP20 |

Mechanical specifications

| | |
|----------------------------|---------------------------------------|
| Dimensions (HxWxD)..... | 109 x 23.5 x 130 mm |
| Weight approx..... | 65 g |
| Weight approx..... | 245 g |
| DIN rail type..... | DIN 46277 |
| Wire size..... | 1 x 2.5 mm ² stranded wire |
| Screw terminal torque..... | 0.5 Nm |

Common specifications

| | |
|---|---|
| Supply voltage, universal..... | 21.6...253 VAC, 50...60 Hz or 19.2...300 VDC |
| Fuse..... | 400 mA SB / 250 VAC |
| Max. power consumption..... | ≤ 3 W (2 channels) |
| Internal consumption..... | ≤ 2 W (2 channels) |
| Isolation voltage, test / working..... | 3.75 kVAC / 250 VAC |
| Signal / noise ratio..... | Min. 60 dB (0...100 kHz) |
| Accuracy..... | Better than 0.1% of selected range |
| Response time (0...90%, 100...10%)..... | < 25 ms |
| Effect of supply voltage change..... | < ±10 µA |
| Auxiliary supply: 2-wire supply (pin 44...42 and 54...52)..... | 25...17 VDC / 0...20 mA |
| EMC immunity influence..... | < ±0.5% of span |
| Extended EMC immunity: NAMUR NE 21, A criterion, burst..... | < ±1% of span |

Input specifications

| | |
|--|-------------------------|
| Current input: Measurement range..... | 4...20 mA |
| Min. measurement range (span), current input..... | 16 mA |
| Input resistance: Supplied unit..... | Nom. 10 Ω |
| Input resistance: Non-supplied unit..... | Rshunt = ∞, Vdrop < 4 V |

Output specifications

| | |
|--|--------------------------------------|
| Current output: Signal range..... | 4...20 mA |
| 2-wire 4...20 mA output: Signal range..... | 4...20 mA |
| Min. signal range..... | 16 mA |
| Load (max.)..... | 20 mA/600 Ω/12 VDC |
| Load stability, current output..... | ≤ 0.01% of span / 100 Ω |
| Current limit..... | ≤ 28 mA |
| Effect of external 2-wire supply voltage variation..... | < 0.005% of span / V |
| Output ripple..... | < 3 mVRMS on HART communication |
| Max. external 2-wire supply..... | 29 VDC |
| *of span..... | = of the presently selected range |

Approvals

| | |
|-------------------------|---------------------------|
| EMC..... | EN 61326-1 |
| LVD 2006/95/EC..... | EN 61010-1 |
| PELV/SELV..... | IEC 364-4-41 and EN 60742 |
| UL..... | UL 508 |
| EAC TR-CU 020/2011..... | EN 61326-1 |