

HART® transparent driver

5107B

- 1- or 2-channel version
- 3- / 5-port 3.75 kVAC galvanic isolation
- < 1.3 V voltage drop on input
- 16 V driving voltage on Ex / I.S. output
- Universal supply by AC or DC



Application

- Safety barrier for current signals and 2-way HART® communication transmitted to I/P converters mounted in hazardous area.
- Safety barrier for 2-way HART® communication and analog current signals transmitted to hazardous area.
- Signal isolator with low response time on analog current signals transmitted to hazardous area.

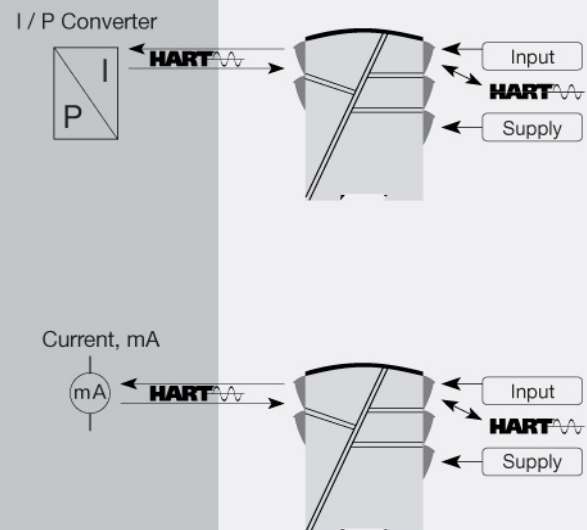
Technical characteristics

- PR's HART® transparent driver primarily processes current signals of 4...20 mA.
- PR5107B 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.

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
5107B	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..... 260 g
 DIN rail type..... DIN 46277
 Wire size..... 1 x 2.5 mm² 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..... ≤ 2 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
 Long-term stability, better than..... ±0.1% of span / Year
 Effect of supply voltage change..... < ±10 µA
 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..... 10 Ω + PTC, Vdrop < 1.3 V
 Input resistance: Non-supplied unit..... Rshunt = ∞, Vdrop < 3.5 V

Output specifications

Current output: Signal range..... 4...20 mA
 Min. signal range..... 16 mA
 Load (max.)..... 20 mA/800 Ω/16 VDC
 Load stability, current output..... ≤0.01% of span / 100 Ω
 Current limit..... ≤ 28 mA
 *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
 ATEX 2004/108/EC..... DEMKO 01ATEX127484, II (1) GD [EEx ia] IIC
 UL..... UL 913, UL 508
 EAC TR-CU 020/2011..... EN 61326-1
 EAC Ex TR-CU 012/2011..... RU C-DK.GB08.V.00410