

HART[®] TRANSPARENT DRIVER



- 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 output
- Universal supply by AC or DC



Application:

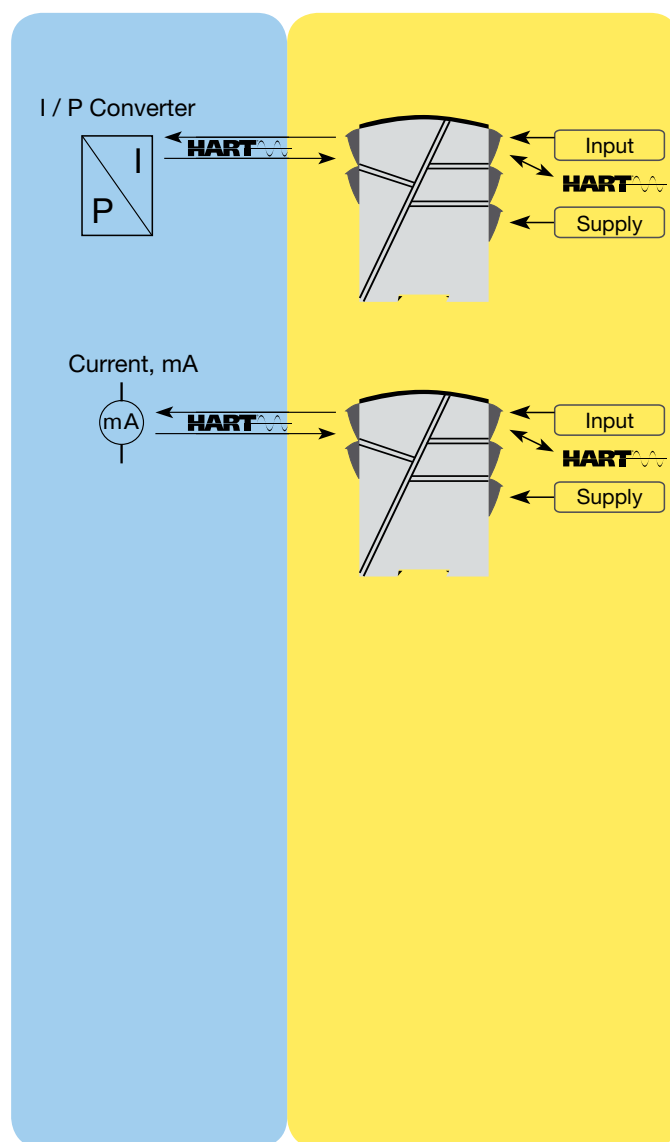
- Safety barrier for current signals and 2-way HART[®] communication transmitted to I/P converters mounted in hazardous area.
- Safety barrier for 2-way HART[®] communication and analogue current signals transmitted to hazardous area.
- Signal isolator with low response time on analogue current signals 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 analogue 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 modules can be mounted without distance between neighbouring units, up to 84 channels can be mounted per metre.

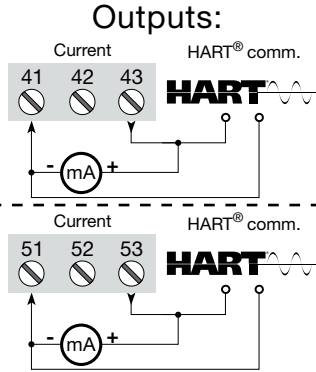
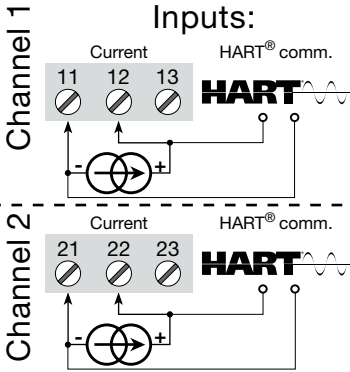
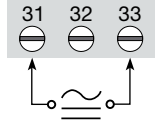


Order: 5107B

Type	Input	Output	Channels
5107B	4...20 mA : B	4...20 mA : 2 20...4 mA : 9	Single : A Double : B

Connections:

Supply:



Electrical specifications:

Specifications range:

-20°C to +60°C

Common specifications:

- Supply voltage, universal 21.6...253 VAC, 50...60 Hz or 19.2...300 VDC
- Internal consumption..... ≤ 2 W (2 channels)
- Max. consumption..... ≤ 2 W (2 channels)
- Fuse..... 400 mA SB / 250 VAC
- Isolation voltage, test / operation..... 3.75 kVAC / 250 VAC
- Long-term stability, better than ±0.1% of span / Year
- Signal / noise ratio..... Min. 60 dB (0...100 kHz)
- Response time (0...90%, 100...10%) . < 25 ms
- Calibration temperature..... 20...28°C
- Accuracy, the greater of general and basic values:

General values		
Input type	Absolute accuracy	Temperature coefficient
mA	≤ ±0.1% of span	≤ ±0.01% of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
mA	≤ ±16 µA	≤ ±1.6 µA/°C

EMC immunity influence	< ±0.5% of span
Extended EMC immunity: NAMUR NE 21, A criterion, burst.....	< ±1% of span

- Effect of supply voltage change (24...250 VAC / VDC) < ±10 µA
- Max. wire size..... 1 x 2.5 mm² stranded wire
- Screw terminal torsion..... 0.5 Nm
- Relative humidity < 95% RH (non-cond.)
- Dimensions (HxWxD)..... 109 x 23.5 x 130 mm
- DIN rail type..... DIN 46277
- Protection degree..... IP20
- Weight 260 g

Current inputs:

- Measurement range 4...20 mA
- Min. measurement range (span)..... 16 mA
- Input resistance:

 - Supplied unit..... 10 Ω + PTC, V_{DROP} < 1.3 V
 - Non-supplied unit R_{SHUNT} = ∞, V_{DROP} < 3.5 V

Current outputs:

- Signal range (span)..... 4...20 mA
- Min. signal range (span) 16 mA
- Load (max.)..... 20 mA / 800 Ω / 16 VDC
- Load stability ≤ 0.01% of span / 100 Ω
- Current limit ≤ 28 mA

EEx / I.S. approval:

- DEMKO 01ATEX127484 II (1) GD [EEx ia] IIC
- Applicable for zone..... 0, 1, 2, 20, 21 or 22

Ex / I.S. data:

- U_m..... : 250 V
- U_o..... : 28 VDC
- I_o..... : 93 mADC
- P_o..... : 0.644 W
- L_o..... : 3 mH
- C_o..... : 0.08 µF

- UL, applicable for zone IS, Cl. I, Div. 1, Gr. A, B, C, D
IS, Cl. I, zone 0, 1 Gr. IIC
IS, Cl. II, Div. 1 Gr. E, F, G
- UL Control Drawing No. 5107QU01

GOST R approval:

- VNIIFTRI, Cert No..... www.prelectronics.com

Observed authority requirements: Standard:

- EMC 2004/108/EC EN 61326-1
- LVD 2006/95/EC EN 61010-1
- PELV/SELV..... IEC 364-4-41 and EN 60742
- ATEX 94/9/EC..... EN 50014, EN 50020 and EN 50281-1-1
- UL..... UL 913, UL 508

Of span = of the presently selected range