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:

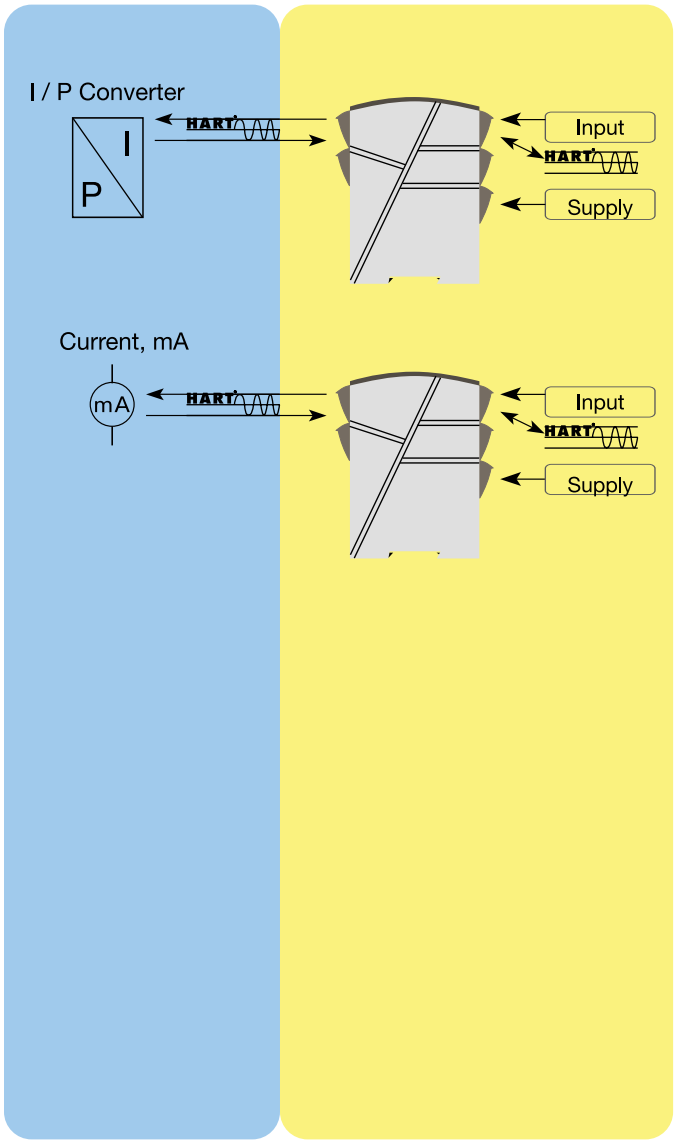
- Safety barrier for current signals and 2-way HART® communication transmitted to I/P converters mounted in hazardous area.
- Safety barrier for 2-way HART® communication and analogue current signals transmitted to hazardous area.
- Signal isolator with low response time on analogue current signals transmitted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



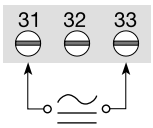
Lerbakken 10 · DK-8410 Rønde
Tlf. 8637 2677 · Fax 8637 3085
www.prelectronics.dk

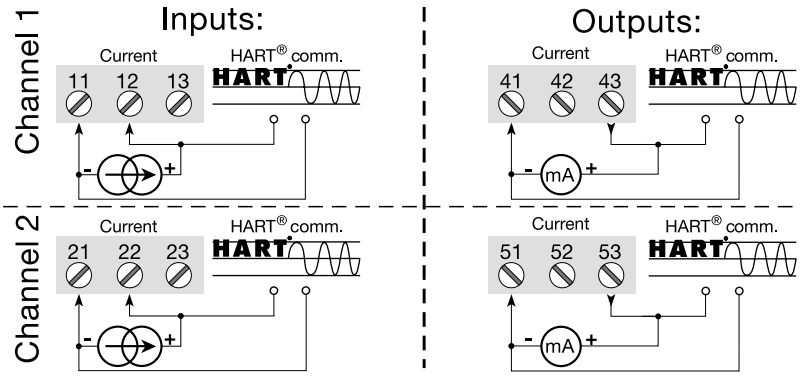
Order: 5107B

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 ..... 24...230 VAC ±10%
50...60 Hz
24...250 VDC ±20%
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 mm^2
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
Tightness (enclosure / terminals)..... IP50 / 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

Ex 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

EEx approval CENELEC:
DEMKO 01 ..... ATEX 127484
ATEX ..... 0539 ⟨Ex⟩ II (1) G
[EEx ia] IIC
Applicable for ..... Zone 0, 1, or 2

Observed authority requirements: **Standard:**
EMC 89/336/EEC, Emission..... EN 50 081-1, EN 50 081-2
Immunity..... EN 50 082-2, EN 50 082-1
Emission and immunity..... EN 61 326
LVD 73/23/EEC..... EN 61 010-1
PELV/SELV ..... IEC 364-4-41 and EN 60 742
ATEX 94/9/EC..... EN 50 014 and EN 50 020

Of span = of the presently selected range