

## 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

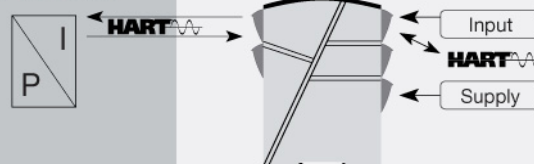
- PR's HART transparent driver primarily processes current signals of 4...20 mA.
- PR5107B is based on microprocessor technology for gain and offset. The analog signal is transmitted at a response time of less than 25 ms.
- Inputs, outputs, and supply are floating and galvanically separated.

#### Mounting / installation

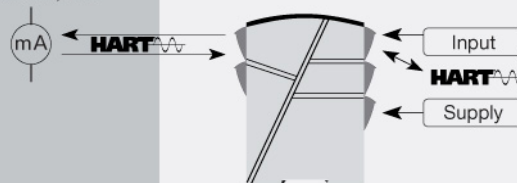
- Mounted vertically or horizontally on a DIN rail. As the devices can be mounted without distance between neighboring units, up to 84 channels can be mounted per meter.

#### Applications

I / P Converter



Current, mA



**Order:**

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

## Environmental Conditions

Operating temperature.....	-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 mm <sup>2</sup> stranded wire
Screw terminal torque.....	0.5 Nm

## Common specifications

### Supply

Supply voltage, universal.....	21.6...253 VAC, 50...60 Hz or 19.2...300 VDC
Fuse.....	400 mA SB / 250 VAC
Max. required power.....	≤ 2 W (2 channels)
Internal power dissipation.....	≤ 2 W (2 channels)

### Isolation voltage

Isolation voltage, test / working.....	3.75 kVAC / 250 VAC
PELV/SELV.....	IEC 61140

### Response time

Response time (0...90%, 100...10%).....	< 25 ms
Signal / noise ratio.....	Min. 60 dB (0...100 kHz)
Accuracy.....	Better than 0.1% of sel. range
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 NE21, A criterion, burst.....	< ±1% of span

## Input specifications

### Current input

Measurement range.....	4...20 mA
Min. measurement range (span).....	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 (@ current output).....	≤ 800 Ω
Load stability.....	≤ 0.01% of span / 100 Ω
Current limit.....	≤ 28 mA

of span..... = of the presently selected range

## Observed authority requirements

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

## Approvals

ATEX 2014/34/EU.....	DEMKO 01ATEX127484, II (1)
UL.....	GD [EEEx ia] IIC UL 913, UL 508
EAC Ex TR-CU 012/2011.....	RU C-DK.GB08.V.00410