

## HART transparent repeater

### 5106B

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



#### Application

- Power supply and Ex / I.S. safety barrier with 2-way HART communication for 2-wire transmitters installed in the hazardous area.
- Ex / I.S. safety barrier with 2-way HART communication for supplied current transmitters installed in the hazardous area.
- Signal isolator with low response time on analog current signals from the hazardous area.

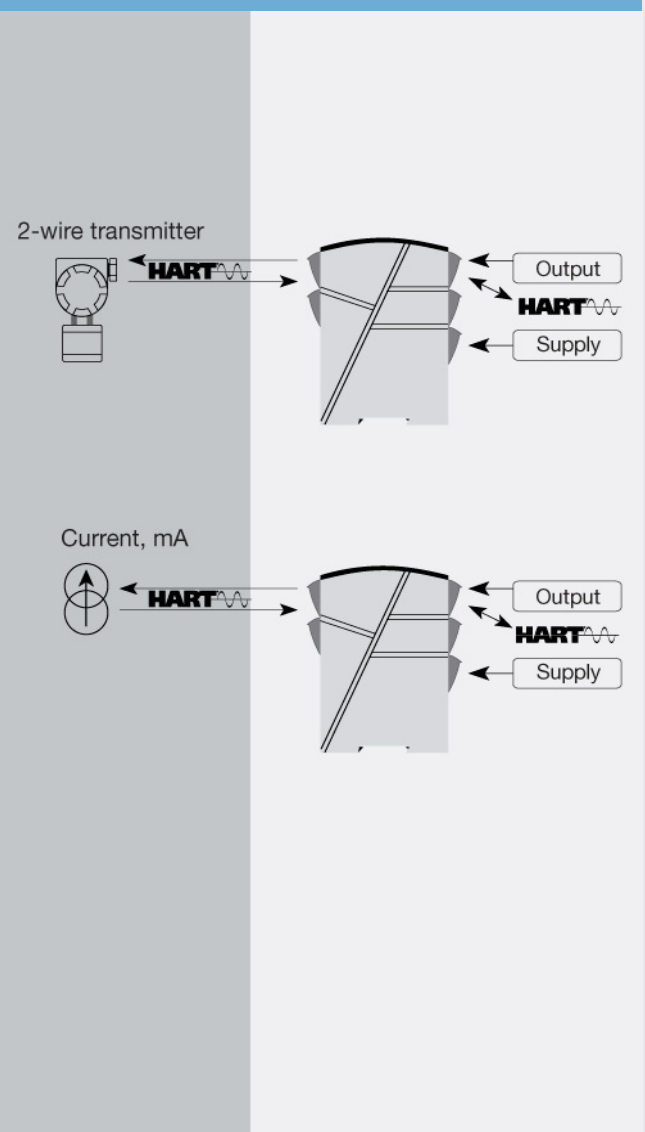
#### Technical characteristics

- PR5106B primarily processes current signals of 4...20 mA.
- PR5106B 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.
- PR5106B is recommended as Ex / I.S. safety barrier for 5335D and 6335D.

#### Applications



Order:

Type	Input	Output	Channels
5106B	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..... 245 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..... ≤ 3 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

#### Auxiliary supplies

2-wire supply (pin 44...42  
 and 54...52)..... 25...17 VDC / 0...20 mA  
 Signal / noise ratio..... Min. 60 dB (0...100 kHz)  
 Accuracy..... Better than 0.1% of sel. range  
 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..... Nom. 10 Ω  
 Input resistance: Non-supplied  
 unit..... Rshunt = ∞, Vdrop < 4 V

### Output specifications

#### Current output

Signal range..... 4...20 mA  
 Min. signal range..... 16 mA  
 Load (@ current output)..... ≤ 600 Ω  
 Load stability..... ≤ 0.01% of span / 100 Ω  
 Current limit..... ≤ 28 mA

#### Passive 2-wire mA output

Signal range..... 4...20 mA  
 Max. external 2-wire supply..... 29 VDC  
 Effect of external 2-wire  
 supply voltage variation..... < 0.005% of span / V  
 Output ripple..... < 3 mVRMS on HART  
 communication

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..... DEMKO 00ATEX127483, II (1)  
 G [EEEx ia] IIC  
 UL..... UL 913, UL 508  
 EAC Ex..... RU C-DK.HA65.B.00355/19