

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

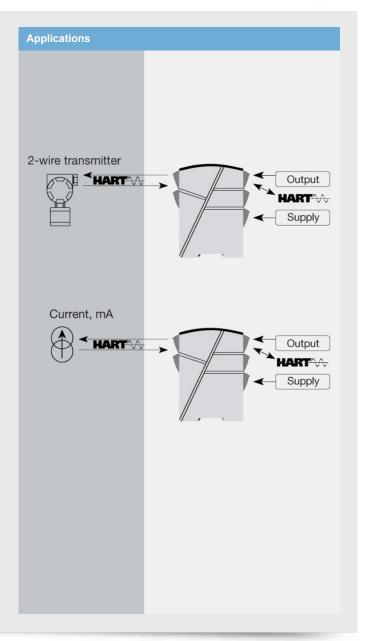
- · Power supply and Ex / I.S. safety barrier with 2-way HART communication for 2-wire transmitters installed in the hazardous area.
- Ex / I.S. safety barrier with 2-way HART communication for supplied current transmitters installed in the hazardous area.
- Signal isolator with low response time on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



Order:

Туре	Input		Output		Channel	s
5106B	420 mA	: В	420 mA 204 mA	: 2 : 9	Single Double	: A : B

Environmental Conditions

Operating temperature	-20°C to +60°C
Calibration temperature	2028°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
DIN rail type	1 x 2.5 mm ² stranded wire
Screw terminal torque	0.5 Nm

Common specifications

Supply	
Supply voltage, universal	21.6253 VAC, 5060 Hz o
11.7	19.2300 VDC
Fuse	400 mA SB / 250 VAC
Max. required power	≤ 3 W (2 channels)
Internal power dissipation	≤ 2 W (2 channels)
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Isolation voltage

isolation voltage, test /	
working	3.75 kVAC / 250 VAC
DELV/SELV	IEC 61140

Response timeResponse time (0...90%, 100...10%)...... < 25 ms

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Auxiliary supplies 2-wire supply (pin 4442 and 5452)	2517 VDC / 020 mA
Signal / noise ratio	Better than 0.1% of sel. range $< \pm 10 \mu A$ $< \pm 0.5\%$ of span
Extended EMC immunity: NAMUR NE21, A criterion, burst	< ±1% of span

Input specifications

Current input

- uu	
Measurement range	420 mA
Min. measurement range (span)	16 mA
Input resistance: Supplied	
unit	Nom. 10 Ω
Input resistance: Non-supplied	
unit	Debunt = m \/drop < 4 \/
uiiit	Tollulli, Vulop < 4 V

Output specifications

Current output

Signal range	420 mA
Min. signal range	16 mA
Load (@ current output)	≤ 600 Ω
Load stability	\leq 0.01% of span / 100 Ω
Current limit	< 28 mA

Passive 2-wire mA output	
Signal range	420 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	, ,
	range

Observed authority requirements

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

Approvals

ATEX 2014/34/EU	DEMKO 00ATEX12/483, II (1)
	G [EEx ia] IIC
UL	UL 913, UL 508
EAC Ex TR-CU 012/2011	RU C-DK.GB08.V.00410