

Ex-isolated driver

5105B

- 1- or 2-channel version
- 3- / 5-port 3.75 kVAC galvanic isolation
- Driver for Ex / I.S. area
- 20 programmable measurement ranges
- Universal supply by AC or DC



Application

- Safety barrier for current signals transmitted to I/P converters and displays mounted in hazardous area.
- Safety barrier for analog current / voltage signals transmitted to hazardous area.
- 1 : 1 or signal conversion of analog current / voltage signals.

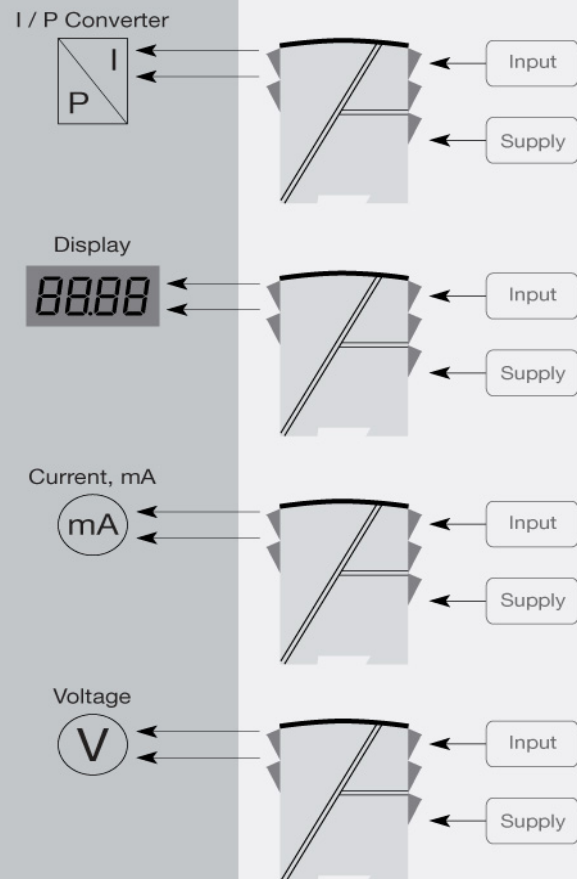
Technical characteristics

- The 20 factory-calibrated measurement ranges in the 5105B can be selected by the internal DIP-switches without the need for a recalibration. Special measurement ranges can be delivered.
- PR5105B 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. By way of the 2-channel version up to 84 channels per meter can be mounted.

Applications



Order:

Type	Input	Output	Channels
5105B	0...20 mA : A	Special : 0	Single : A
	4...20 mA : B	0...20 mA : 1	Double : B
	0...10 V : E	4...20 mA : 2	
	2...10 V : F	0...1 V : 4	
	Special : X	0.2...1 V : 5	
		0...10 V : 6	
		2...10 V : 7	

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..... 225 g
 DIN rail type..... DIN 46277
 Wire size..... 1 x 2.5 mm² stranded wire
 Screw terminal torque..... 0.5 Nm
 Vibration..... IEC 60068-2-6
 2...13.2 Hz..... ±1 mm
 13.2...100 Hz..... ±0.7 g

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
 EMC immunity influence..... < ±0.5% of span
 Extended EMC immunity: NAMUR
 NE21, A criterion, burst..... < ±1% of span

Input specifications**Common input specifications**

Max. offset..... 20% of max. value

Current input

Measurement range..... 0...20 mA
 Min. measurement range (span)..... 16 mA
 Input resistance..... Nom. 10 Ω + PTC 10 Ω

Voltage input

Measurement range..... 0...10 VDC
 Min. measurement range (span)..... 8 VDC
 Input resistance..... > 2 MΩ

Output specifications**Current output**

Signal range..... 0...20 mA
 Min. signal range..... 16 mA
 Load (@ current output)..... ≤ 770 Ω
 Load stability..... ≤ 0.01% of span / 100 Ω
 Current limit..... ≤ 28 mA

Voltage output

Signal range..... 0...1 VDC / 0...10 VDC
 Min. signal range..... 0.8 VDC / 8 VDC
 Load (@ voltage output)..... ≥ 500 kΩ

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 99ATEX126014, II (1)
 GD [EEEx ia] IIC
 UL..... UL 913, UL 508
 EAC Ex..... RU C-DK.HA65 B.00355/19
 DNV-GL Marine..... Stand. f. Certific. No. 2.4