

Repeater / power supply

5104A

- 1- or 2-channel version
- 3- / 5-port 3.75 kVAC galvanic isolation
- Loop supply > 17.1 V
- 20 programmable measurement ranges
- Universal supply by AC or DC



Application

- Power supply and signal isolator for 2-wire transmitters.
- Signal isolator for analog current / voltage signals.
- 1 : 1 or signal conversion of analog current / voltage signals.

Technical characteristics

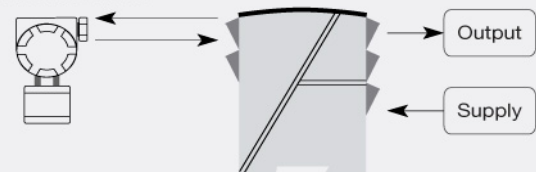
- The 20 factory-calibrated measurement ranges in the 5104A can be selected by the internal DIP-switches without the need for recalibration. Special measurement ranges can be delivered.
- PR5104A is based on microprocessor technology for gain and offset. The analog signal is transmitted at a response 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 / voltage transmitter or as a 2-wire transmitter.

Mounting / installation

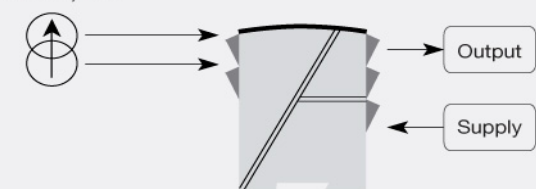
- Mounted vertically or horizontally on a DIN rail. By way of the 2-channel version up to 84 channels per meter can be mounted.

Applications

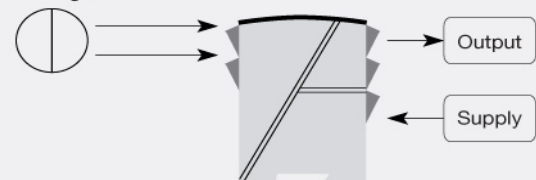
2-wire transmitter



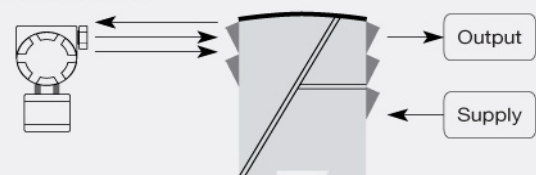
Current, mA



Voltage



3-wire transmitter



Order :

Type	Input	Output	Channels
5104A	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

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)..... 28...17.1 VDC / 0...20 mA
 Signal / noise ratio..... Min. 60 dB (0...100 kHz)
 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)..... ≤ 600 Ω
 Load stability..... ≤ 0.01% of span / 100 Ω
 Current limit..... ≤ 28 mA

Passive 2-wire mA output

Max. external 2-wire supply..... 29 VDC
 Effect of external 2-wire
 supply voltage variation..... < 0.005% of span / V

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

UL..... UL 508 / C22.2 no. 14
 DNV-GL Marine..... Stand. f. Certific. No. 2.4