

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

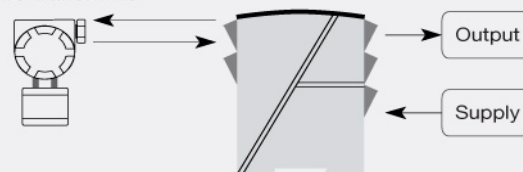
- The 20 factory-calibrated measurement ranges in the 5104A can be selected by the internal DIP-switches without the need for recalibration. Special measurement ranges can be delivered.
- PR5104A is based on microprocessor technology for gain and offset. The analog signal is transmitted at a response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

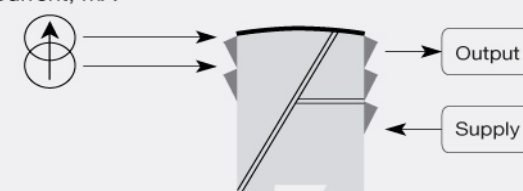
- Mounted vertically or horizontally on a DIN rail. By way of the 2-channel version up to 84 channels per meter can be mounted.

Applications

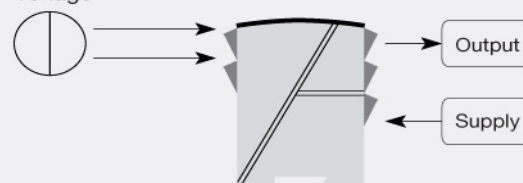
2-wire transmitter



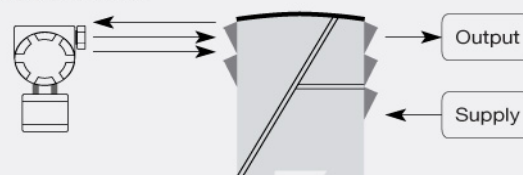
Current, mA



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 EN 60715/35 mm |
| Wire size..... | 0.13...2.08 mm ² AWG 26...14 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 |
| EAC LVD..... | TR-CU 004/2011 |

Approvals

| | |
|----------------------|------------|
| c UL us, UL 508..... | E231911 |
| DNV Marine..... | TAA0000101 |