**Ex repeater / power supply**

**5104B**

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

**Application**

- Supply voltage and safety barrier for 2-wire transmitters mounted in a hazardous area.
- Safety barrier for analog current / voltage signals from a hazardous area.
- 1 : 1 or signal conversion of analog current / voltage signals.

**Technical characteristics**

- The 20 factory-calibrated measurement ranges in the 5104B can be selected by the internal DIP-switches without the need for recalibration. Special measurement ranges can be delivered.
- PR5104B 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.
- NB: 5104B is recommended as I.S. barrier for 5331D, 5333D, 5334B, 5343B, 6331B, 6333B, and 6334B.

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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
- DIN rail type: DIN 46277
- Weight approx: 225 g
- Wire size: 1 x 2.5 mm² stranded wire
- Screw terminal torque: 0.5 Nm
- Vibration:
  - 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
  - Internal power dissipation: ≤ 2 W (2 channels)
- Isolation voltage:
  - Isolation voltage, test / working: 3.75 kVAC / 250 VAC
  - PELV/SELV: IEC 61140

Auxiliary supplies

- 2-wire supply (pin 44...42 and 54...52): 28...17.1 VDC / 0...20 mA

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): ≤ 600 Ω
  - Load stability: ≤ 0.01% of span / 100 Ω
  - Current limit: ≤ 28 mA
- Passive 2-wire mA output:
  - 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
  - External loop supply: 29 VDC 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 99ATEX126013, II (1) GD [EEx 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