

Compact RTD temperature transmitter



5802

- RTD or Ohm input
- Accuracy: Better than 0.1% of selected range
- 2- / 3-wire RTD connection
- Programmable sensor error value
- Output 4...20 mA, with or without M12 connector

Application

- Linearized temperature measurement with Pt100...Pt1000, or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analog current signal.

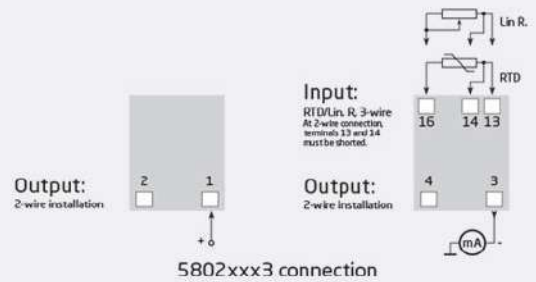
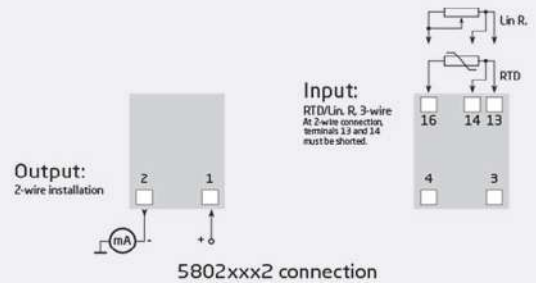
Technical characteristics

- Within a few seconds the user can program PR5802 to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connection.

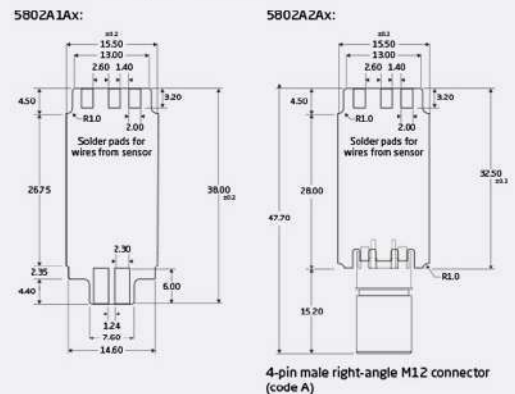
Mounting / installation

- For tube mounting, e.g. M18 barrel housing or customer specific housing.
- The unit is tested with an M12 connector, mounted in a steel housing and molded with Silgel 612 silicone molding compound. This is PR electronics' recommended method to comply with specifications and EMC data.

Applications



Mechanical specifications:



Order

Type	M12 connector	Output pins	PCB only
5802A1A2	No*	1-2	Yes
5802A2A2	Yes	1-2	Yes
5802A1A3	No*	1-3	Yes
5802A2A3	Yes	1-3	Yes

* Prepared for customer-mounted M12 connector.

NB: Please note that minimum order quantity per type is 40 pcs. and that only order quantities divisible by 40 are accepted.

Environmental Conditions

Operating temperature.....	-40°C to +85°C
Storage temperature.....	-40°C to +85°C
Relative humidity.....	< 95% RH (non-cond.)

Mechanical specifications

Dimensions, PCB only (WxHxD).....	5.0 x 15.50 x 38.0 mm
Dimensions (incl. M12 connector).....	9.5 x 15.50 x 47.70 mm
Weight approx.....	2.65 g 5802A1xx
Weight approx.....	4.05 g 5802A2xx

Common specifications

Supply

Supply voltage.....	8.0...35 VDC
Internal power dissipation.....	25 mW...0.8 W

Response time

Response time (programmable).....	0.33...60 s
Voltage drop.....	8.0 VDC
Warm-up time.....	5 min.
Programming.....	Loop Link
Signal / noise ratio.....	Min. 60 dB
Signal dynamics, input.....	19 bit
Signal dynamics, output.....	16 bit
Effect of supply voltage change.....	< 0.005% of span / VDC
Accuracy.....	Better than 0.1% of sel. range
EMC immunity influence.....	< ±0.5% of span

Input specifications

RTD input

RTD type.....	Pt100, Ni100, lin. R
Cable resistance per wire.....	10 Ω (max.)
Sensor current.....	> 0.2 mA, < 0.4 mA
Effect of sensor cable resistance (3-wire).....	< 0.002 Ω / Ω
Sensor error detection.....	Yes

Common input specifications

Max. offset.....	50% of selected max. value
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Output specifications

Common output specifications

Updating time.....	135 ms
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Current output

Signal range.....	4...20 mA
Min. signal range.....	16 mA
Load (@ current output).....	≤ (Vsupply - 8) / 0.023 [Ω]
Load stability.....	≤ 0.01% of span / 100 Ω
Sensor error indication.....	Programmable 3.5...23 mA
NAMUR NE43 Upscale/Downscale.....	23 mA / 3.5 mA
of span.....	= of the presently selected range

Observed authority requirements

RoHS.....	2011/65/EU
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