



# **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**

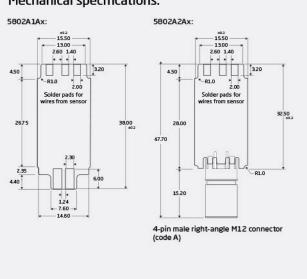
- Within a few seconds the user can program PR5802 to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connection.

### 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.

# Input: In

### Mechanical specifications:



### Order

Туре	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

<sup>\*</sup> 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 a 5802A2xx

# **Common specifications**

# Supply

Supply voltage	8.035 VDC
Internal power dissipation	25 mW0.8 W

### Response time

Response time (programmable)	0.3360 s
Voltage drop Warm-up time	
Programming	
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

# **Output specifications**

Common output specifications Updating time	. 135 ms
Current output	
Signal range	. 420 mA
Min. signal range	. 16 mA
Load (@ current output)	$\leq (Vsupply - 8) / 0.023 [\Omega]$
Load stability	$\leq 0.01\%$ of span / 100 $\Omega$
Sensor error indication	
NAMUR NE43 Upscale/Downscale	23 mA / 3.5 mA

of span..... = of the presently selected

# Observed authority requirements

RoHS	2011/65/EU
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