

APAQ



APAQ R130

Digital 2-wire transmitter
for Pt100 and Pt1000 with
wireless communication



APAQ R130 is a modern transmitter with high reliability and great performance. External influences such as ambient temperature, vibration, moisture and EMC interference have minimal influence on the measurement result, thanks to the robust design.

What characterizes APAQ R130 is simplicity. You can easily configure the transmitters wirelessly via NFC with your smartphone or tablet. There is no need for expensive configuration tools or fixed workstations for transmitter configuration.

Measurements with Pt100 & Pt1000 sensors in 2-, 3-, 4-wire connection

APAQ R130 accepts inputs from Pt100 & Pt1000 sensors in 2-, 3-, 4-wire connections acc. to IEC 60751 ($\alpha=0.00385$)

Temperature linear output

Fully temperature linear 4-20 mA output.

High accuracy

With an accuracy of $\pm 0,15$ K or $\pm 0,15$ % of span (the largest apply) APAQ R130 offers an outstanding performance in its class.

Compact design for easy installation

The rail mounted variant is only 6.3 mm wide, allowing you to save valuable space in your cabinet.

Reliable over time

Minimal drift of $\pm 0.05^\circ\text{C}$ or $\pm 0.05\%$ of span/ year reduces the need for calibration.

Designed for harsh conditions

Rugged design tested for 5 g vibrations.

Adjustable filtering

For smoothing down instabilities on the input by adjusting the filtering level

Wireless configuration

Configure APAQ R130 wirelessly with your smartphone without power supply and cables

INOR Connect, easy-to-use app for configuration

The simple and user friendly app, INOR Connect, is used for transmitter configuration in seconds. All parameters are set in the app and then transferred to the transmitter via NFC.

Specifications

Input RTD

Pt100 (IEC 60751, $\alpha=0.00385$)	2-, 3-, 4-wire connection	-200... +850°C / -328...+1562°F
Pt1000 (IEC 60751, $\alpha=0.00385$)	2-, 3-, 4-wire connection	-200... +850°C / -328...+1562°F
Sensor current		≤ 0.5 mA
Maximum sensor wire resistance		50 Ω /wire

Monitoring

Sensor break and sensor short circuit indication	Upscale (≥ 21.0 mA) or downscale (≤ 3.6 mA) action
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Adjustments

Zero adjustment	Any value within range limits
Minimum span	20 °C / 36 °F

Output

Output signal	4...20 mA, temperature linear
NAMUR compliance	Current limitations and failure currents acc. to NAMUR NE 43
Adjustable filtering level	0.4 to 26 s
Permissible load, see load diagram	818 Ω @ 24 VDC

General data

Isolation	Not galvanically isolated
Power supply, polarity protected	6...32 VDC

Environment conditions

Ambient temperature	Storage and operation	-40...+85°C / -40...+185°F
Humidity		0...98% RH (non-condensing)
Vibrations		Acc. to IEC 60068-2-6, test Fc, 10...2000 Hz, 5 g
Rough Handling		Acc. to IEC 60068-2-31:2008, test Ec
EMC	Standards	Directive: 2014/30/EU Harmonized standards: EN 61326-1, EN 61326-2-3
	Immunity performance	ESD, Radiated EM-field, Magnetic Fields: Criteria A Burst, conducted RF: Criteria A Surge: standard deviation 1% of span

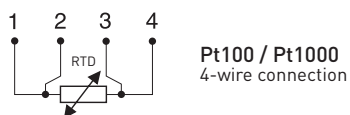
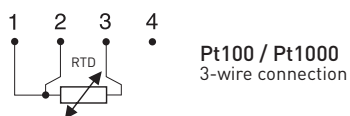
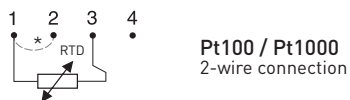
Accuracy and stability

Basic accuracy		Max of $\pm 0.15K$ or $\pm 0.15\%$ of span
Temperature influence	Deviation from 20 °C / 68 °F	Max. of $\pm 0.015^\circ\text{C} / ^\circ\text{C}$ or $\pm 0.015\%$ of span / °C Max. of $\pm 0.015^\circ\text{F} / ^\circ\text{F}$ or $\pm 0.008\%$ of span / °F
Sensor wire influence		2-wire: Compensation for 0 to 100 Ω loop resistance 3-wire: Negligible, with equal wire resistance 4-wire: Negligible
Supply voltage influence		Negligible
Long-term stability		$\pm 0.05\%$ of span per year

Housing

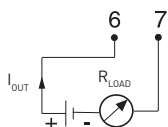
Material, Flammability (UL)	PBT, V0
Mounting	Rail acc. to DIN EN50022, 35 mm
Connection	Single/stranded wires, Max. 1.5 mm ² , AWG 24...12
Weight	32 g / 0.07 lb
Protection, housing / terminals	IP 20 / IP 00

Input connections



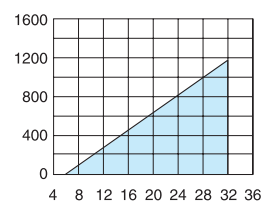
* Short terminals 1 and 2 on the transmitter,
max 50 Ω on each wire

Output connections



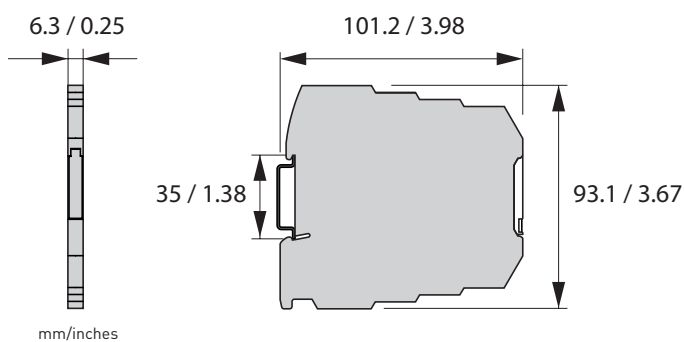
Output load diagram

$$R_{LOAD}(\Omega) = (U-6)/0.022$$



Supply voltage U (V DC)

Dimensions



Ordering information

APAQ R130 RTD

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