APAQ



APAQ R130TC
Programmable 2-wire Transmitter for Thermocouple

5 YEAR WARRANTY

NFC

APAQ R130TC 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 R130TC 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 Thermocouple
APAQ R130TC accepts inputs from the most common Thermocouple sensors.

Temperature linear output
Fully temperature linear 4-20 mA output.

High accuracy
APAQ R130TC 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 ±0.05°C or ±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 R130TC 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.

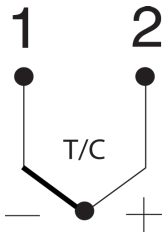
Specifications

Input TC		
TC type B - Pt30Rh-Pt6Rh (IEC 60584)		0...+1820 °C / +32...+3308 °F
TC type E - NiCr-CuNi (IEC 60584)		-270...+1000 °C / -454...+1832 °F
TC type J - Fe-CuNi (IEC 60584)		-210...+1200 °C / -346...+2192 °F
TC type K - NiCr-NiAl (IEC 60584)		-270...+1300 °C / -454...+2372 °F
TC type N - NiCrSi-NiSi (IEC 60584)		-270...+1300 °C / -454...+2372 °F
TC type R - Pt13Rh-Pt (IEC 60584)		-50...+1750 °C / -58...+3182 °F
TC type S - Pt10Rh-Pt (IEC 60584)		-50...+1750 °C / -58...+3182 °F
TC type T - Cu-CuNi (IEC 60584)		-270...+400 °C / -454...+752 °F
Input impedance		>10 MΩ
Maximum wire loop resistance		Field transmitter (including TC sensor): 10 kΩ
Cold Junction Compensation (CJC)		Internal or fixed
Monitoring		
Sensor break		Upscale (≥21.0 mA) or downscale (≤3.6 mA) action
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 sec.
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
RoHS, China RoHS Directive:		2011/65/EU and 2015/863/EU Harmonized standard: EN IEC 63000 China RoHS 2
Accuracy and stability		
Accuracy		(Maximum of)
TC type R, S, T		±2.0 °C or ±0.2 % of span / ±3.6 °F or ±0.2 % of span
TC type B (<100 °C / <212 °F)		not specified
TC type B (100 °C...400 °C / 212 °F...752 °F)		± 10 °C / ± 18 °F
TC type B (>400 °C / >752 °F)		±2.0 °C or ±0.2 % of span / ±3,6 °F or ±0.2 % of span
TC type E, J, K		±1 °C or ±0.2 % of span / ±1.8 °F or ±0.2 % of span
TC type N (-100...+1300 °C)		±1 °C or ±0.2 % of span / ±1.8 °F or ±0.2 % of span
TC type N (-270...-100 °C)		±2.0 °C / ±3.6 °F
CJC accuracy		Typical ±1 °C / ±1.8 °F (max ±3 °C / ±5.4 °F) within ambient temperature range
Warm-up time		After a max. 20 minutes the accuracy specifications are reached (due to the internal cold junction)
Min. span		
TC type B		700 °C / 1260 °F
TC type R, S,		300 °C / 540 °F
TC type E, J, K, T		50 °C / 90 °F
TC type N		100 °C / 180 °F
Temperature influence		
TC type B, E, J, K, R, S, T		±0.02 % of span per °C / ±0.012 % of span per °F
TC type N (-100...+1300 °C)		±0.02 % of span per °C / ±0.012 % of span per °F
TC type N (-270...-100 °C)		±0.2 % of span per °C / ±0.12 % of span per °F
Supply voltage influence		<±0.005 % of span per V
Long-term stability		±0.05 % of span per year

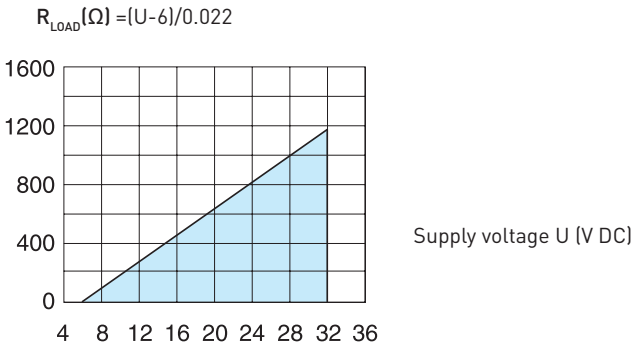
Housing

Material, Flammability (UL)	PBT, V0
Mounting	Rail acc. to DIN 50022 / EN 60715, 35 mm / 1.38 in
Connection, spring cage connection	Single/stranded wires, Max. 2 .5 mm² / AWG 24...12
Weight	40 g / 0.088 lb
Protection, housing / terminals	IP 20 / IP 20

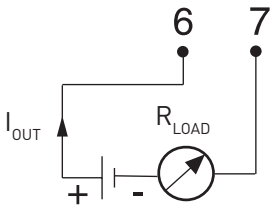
Input connections



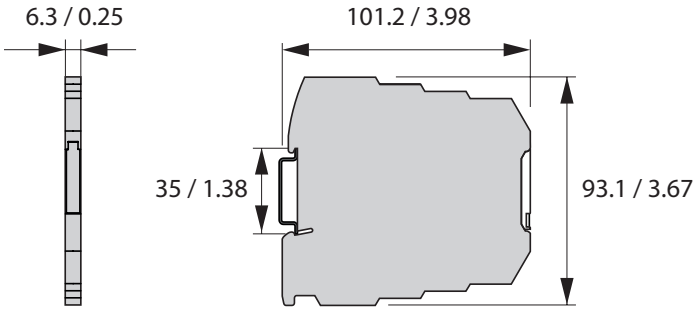
Output load diagram



Output connections



Dimensions



mm/inches

Ordering information

APAQ R130[TC]	70R1300211