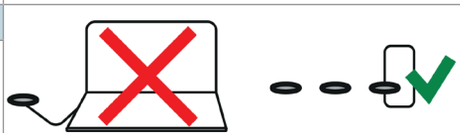
Hat rail transmitter for Pt100/Pt1000 APAQ-R130

Article number: 809700 2001

The APAQ R130 for Pt100 and Pt1000 sensors is a DIN rail transmitter for installation on standard DIN rails according to DIN EN50022. The sophisticated product design leaves enough space for mounting. It is optimally designed for use in plant and machine construction and is characterized by high accuracy, reliability, long-term stability and its robus product design. The transmitter is extremely insensitive to external influences such as vibr tion and EMC interference. Installation and commissioning are particularly user-friendly. F example, parameterization can be carried out wirelessly, conveniently and easily via the c phone app using NFC technology. The monitoring functions such as sensor break monitoring, sensor short-circuit and measuring range monitoring can also be activated via this.

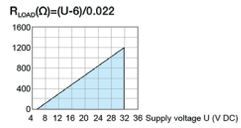
Special features	
Inputs and outputs	**Parametrization**
Input: Pt100, Pt1000 as 2-, 3- and 4-wire Output: 4 to 20 mA, temperature linear	Configuration - wireless via NFC technology Free App for Iphone, Android & Huawei Parameterization templates for fast mass configuration
Accuracy and Long-term stability	
Accuracy: Max. ±0,15K or ±0,15% of span Long-term stability max Drift of ±0.05°C or ±0.05% pf span / year	
Design	**Alarm function**
Robust - vibration and shock resistant design Suitable for hat rails according to DIN EN50022 Compact housing design Facilitated mounting	configurable via app Sensor break monitoring Sensor short circuit Measuring range monitoring

Input Hat rail transmitter for Pt100/Pt1000 APAQ-R130				
Resistance sensors				
Measuring element	**Norm**	**Maximum configurable measuring range**	**Min. Span**	**Accuracy**
Pt100	IEC 60751 | a=0,00385	-200 °C to +850 °C | -328 °F to +1562 °F	20 °C | 36 °F	±0,15 °C| ±0,15 % [1)]
Pt1000	IEC 60751 | a=0,00385	-200 °C to +850 °C | -328 °F to +1562 °F	20 °C | 36 °F	±0,15 °C| ±0,15 % [1)]
Temperature influence of 20 °C / 68 °F | Max. of ±0.015°C / °C or ±0.015 % of span / °C | Max. of ±0.015°F / °F or ±0.008 % of span / °F | [1)] of span				
Connectinon type	2-, 3- and 4-Wire			
Sensor current	≤ 0,5 mA			
Resistivity	50 Ω / Wire			

General information about the input	
Zero adjustment	Within measuring range

MWA / KS / 02.05.2022

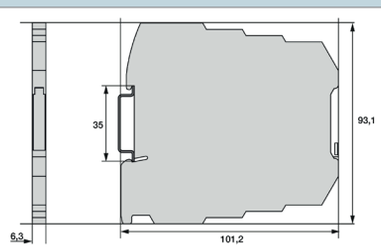
Output		
Output type	analog, temperature linear for RTD	Output load diagram Standard version $R_{LOAD}(\Omega)=(U-6)/0.022$
Output signal (mA)	4 to 20	
Parametrization / Scaling	Configurable via NFC	
Load	818 Ω at 24 VDC	
Connection type	2-wire	



Time response	
Closing time / Update time (Inor)	~150 - 300
Heating period	The specified accuracy is reached after max. 4 minutes
Signal attenuation / Ajustable output filtering (Inor)	0,4 to 26 adjustable via App
Measuring cycle	< 1
Sensor monitoring & sensor error	
Sensor break / Short circuit	Upscale (≥21.0 mA) or Downscale (≤3.6 mA)
Sensor failure effects (Inor)	according to NAMUR NE43

Accuracy and stability	
Influence of the sensor cable	
RTD and resistance (2-wire)	Compensation for 0 to 100 Ω loop resistance
RTD and resistance (3-wire)	Negligible, with equal wire resistance
RTD and resistance (4-wire)	Negligible
Further data	
Supply voltage influence	Negligible
Long-term drift	±0.05 % of span per year

Type		
Dimensions	See drawing	
Material | Flammability	PBT, V0, RoHS compliant	
Mounting	DIN rail according to DIN EN50022, 35 mm	
Connection	Single strands, Max. 2.5 mm², AWG 24 to 12	
Weight	40	
General data		
Isolation	none	
Supply Voltage (VDC)	8 to 32, polarity protected	All dimensions in mm



Would you like to contact us? Click here...

Ambient conditions				
Ambient Temperatur	Storage	-40 °C to +85 °C | -40 °F to +185 °F	Operating	-40 °C to +85 °C | -40 °F to +185 °F
Humidity	0 to 98 (non-condensing)			
Protection	Housing IP20		Anschlussklemmen IP00	
Vibration	according to IEC 60068-2-6, Test Fc, 10bis2000 Hz, 10 g			
Shock	according to IEC-60068-2-27, test Ea			
Environmental influences	according to IEC 60068-2-31:2008, Test Ec			
EMC				
Standard	Directive: 2014/30/EU | Harmonized standards: EN 61326-1, EN 61326-2-3			
Immunity performance	ESD, radiated EMC fields, magnetic fields: Criterion A Burst, conducted RF: Criteria A Overvoltage: standard deviation 1% of span			

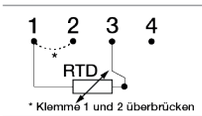
Factory configuration (if not ordered otherwise)			
Input	Pt100, 3-wire, 0 °C to 100 °C	Output (mA)	4 to 20
Sensor control	Upscale (≥21.0 mA)		

Delivery
Transmitter, Instruction manual, individually packed in PE bag

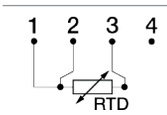
Matching accessories		
Picture	Designation	Order no.
	DIN rail power supply	On request
	Table power supply	On request
	Connection head mounting set	On request
	DIN rail adapter and screws (10 pcs.)	On request

Commissioning

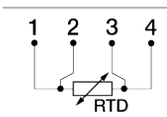
Input



Pt100/Pt1000 - 2-wire

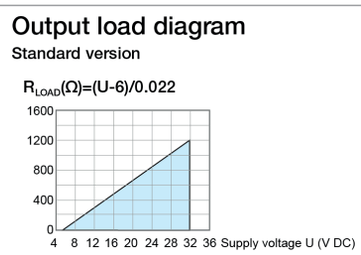


Pt100/Pt1000 - 3-wire

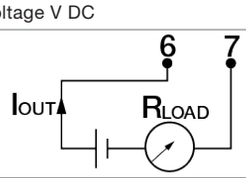


Pt100/Pt1000 - 4-wire

Output



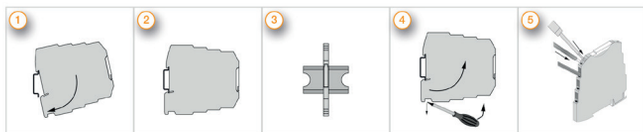
Supply voltage V DC



MWA / KS / 02.05.2022

Mounting

You can easily mount the APAQ R130 hat rail transmitter on 35mm hat rails according to DIN EN50022. The mounting is easy because you can fix the transmitter on the rail without any tools.
Mounting material for the installation of the transmitter is available as accessory.
Important: To prevent measuring errors, the connecting screws for fastening the connecting cable must be tightened firmly.



Mounting and dismounting of the transmitter
(1) Fix the upper part of the transmitter on the rail
(2) Then press the lower part of the transmitter onto the rail. The electrical connection is made according to the wiring diagram
(4) To remove the transmitter, use a screwdriver and bend the latch downwards

Configuration | Parametrization

Massenparametrierung &
Einstellungs-Templates

Before making a configuration of APAQ C130TC you need to do following:
Make sure that you have a mobile device with NFC communication activated.
Download the app INOR Connect to your mobile device.

Required versions:
iOS: iOS 13 or later and Iphone 7 or later Android: Android 4.4 or later

Configuration procedure
Launch the app by clicking on the App icon or holding your mobile device against the transmitter on the part of the device where NFC is located (only possible with Android). Click on “Read Configuration” and hold your mobile device against the transmitter as explained in the first section.
In the app you can edit the following:
Sensor type and number of wire circuits
Measuring range
Upscale or Downscale
sensor control
TAG-number
Password settings
In the configuration window you can enter and change the parameters. The selected configuration is transferred to the transmitter by clicking the "Send to transmitter" button. After the transfer is completed, the transmitter uses the new parameters.

Would you like to contact us? Click here...