

## IPAQ R460

### 4-wire transmitter for resistance thermometers and thermocouples configurable via software or DIP switches

IPAQ R460 is a programmable 4-wire (separately powered) transmitter. It converts Pt, Ni, KTY and TC sensor signals as well as potentiometer, resistor and mV signals to isolated standard signals.

Due to the simple switching of the calibrated measuring ranges per DIP switch, it can be used flexibly. With the USB programming kit INOR-Set the transmitter IPAQ R460 can be configured via PC and the data records can be stored and documented. An additional power supply is not necessary during PC configuration.

The commissioning function, which can be switched on at the front, generates a reference signal at the output with which the subsequent signal path can be tested and adjusted.



#### Specifications:

##### Input

Sensor	Type	Span min.	Measuring error
Pt	Pt100, Pt200, Pt500, Pt1000	10 K	< 0,1 K + 0,05 % f.s.
Ni	Ni100, Ni200, Ni500, Ni1000	10 K	< 0,2 K + 0,05 % f.s.
KTY	KTY, 29 Types	25 K	< 0,3 K + 0,05 % f.s.
Resistor	0 ... 5000 Ω	100 Ω	< 0,1 Ω + 0,02 % f.s.
Sensor current / Sensor connection	0.2 mA / 4-wire, 3-wire, 2-wire		
Maximum sensor wire resistance	< 100 Ω per conductor, manual compensation programmable for 2-wire connection		
Thermocouples	E, J, K, L, N, R, S, T, U / B, C, D	50 K / 100 K	< 0,3 K + 0,08 % f.s.
Cold junction compensation	internal, external, uncompensated, manual	Error of CJC internal < 1.5 K	
mV input	±100 mV ±1000 mV	5 mV, 50 mV	< 50 μV + 0,02 % f.s.
Potentiometer	100 Ω ... 50 kΩ	10 %	< 0,05 %

##### Output

	Current	Voltage
Output signal	0/2 ... 10 mA / 0/4 ... 20 mA	0/1 ... 5 V / 0/2 ... 10 V
Load	≤ 12 V (600 Ω and 20 mA)	≤ 5 mA (2 kΩ and 10 V)
Residual ripple	< 10 mV <sub>rms</sub>	
Output limits	0 ... 102,5 %, (3.8 ... 20.5 mA for output 4 ... 20 mA) Characteristic rising / falling	
Error monitoring	Sensor/wire break, Programmable signalling	

##### General data

Transmission error	< 0.1 % full scale	
Temperature coefficient <sup>2)</sup>	< 100 ppm/K	
Measuring rate / response time T99	4/s / 250 ms	
Test voltage	3 kV AC, 50 Hz, 1 min.	Input against output against supply
Working voltage <sup>3)</sup> (basic insulation)	600 V AC/DC at overvoltage category II and contamination class 2 acc. to DIN EN 61010-1	
Protection against dangerous body currents <sup>3)</sup>	Protective Separation by reinforced insulation acc. to EN 61010-1 up to 300 V AC/DC for overvoltage category II and contamination class 2 between input and output and power supply.	
Ambient temperature	Operations: -25 °C to +70 °C (-13 to +158 °F) Transport and storage: -40 °C to +85 °C (-40 to +185 °F)	
Power supply	24 V DC	Voltage range 9.6 V ... 31.2 V DC, approx. 0.8 W
EMC <sup>4)</sup>	EN 61326-1	
Design	6.2 mm (0.244") housing protection class IP 20, mounting on 35 mm top-hat rail acc. to EN 60715	
Weight	approx. 70 g	

##### Ordering information

**IPAQ R460 70R4600010**

- 1) Factory setting: Input: Pt100, 0...100°C, 4-wire-sensor connection, Output: 0...20 mA, Characteristic rising, error signal 22 mA
- 2) Average TC in specified operating temperature range
- 3) As far as relevant the standards and rules mentioned above are considered by development and production of our devices. In addition relevant assembly rules are to be considered by installation of our devices in other equipment's. For applications with high working voltages, take measures to prevent accidental contact and make sure that there is sufficient distance or insulation between adjacent situated devices.
- 4) Minor deviations possible during interference

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