IPAQ R460

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

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

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.

The power supply can be provided via the connection terminals or via the optional in-rail bus. The supply voltage and error status are indicated by LEDs on the front of the unit.

Specifications:

Input

Sensor	Type	Span min.	Measuring error
Pt	Pt100, Pt1000	25 K	< 0,1 K + 0,05 % f.s.
Ni	Ni100	25 K	< 0,2 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/wire		
Thermocouples	J, K	50 K	< 0,3 K + 0,08 % f.s.
Cold junction compensation	internal, external, uncompensated	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	0/4 ... 20 mA or 20 ... 4/0mA	0 ... 5/10 V or 10/5 ... 0 V
Load	≤12 V (600 Ω and 20 mA)	≤ 5 mA (2 kΩ and 10 V)
Residual ripple	< 10 mV_{rms}	
Output limits	3.8 ... 20.5 mA for output 4 ... 20 mA	Characteristic rising / falling
Error monitoring	Sensor/wire break	

General data		
Transmission error	< 0.1 % full scale	
Temperature coefficient[2]	< 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 [3] (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[3]	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
EMV[4]	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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