2-WIRE PROGRAMMABLE TRANSMITTER

- **RTD or Ohm input**
- **High measurement accuracy**
- **3-wire connection**
- **Programmable sensor error value**
- **For DIN form B sensor head mounting**

Application:

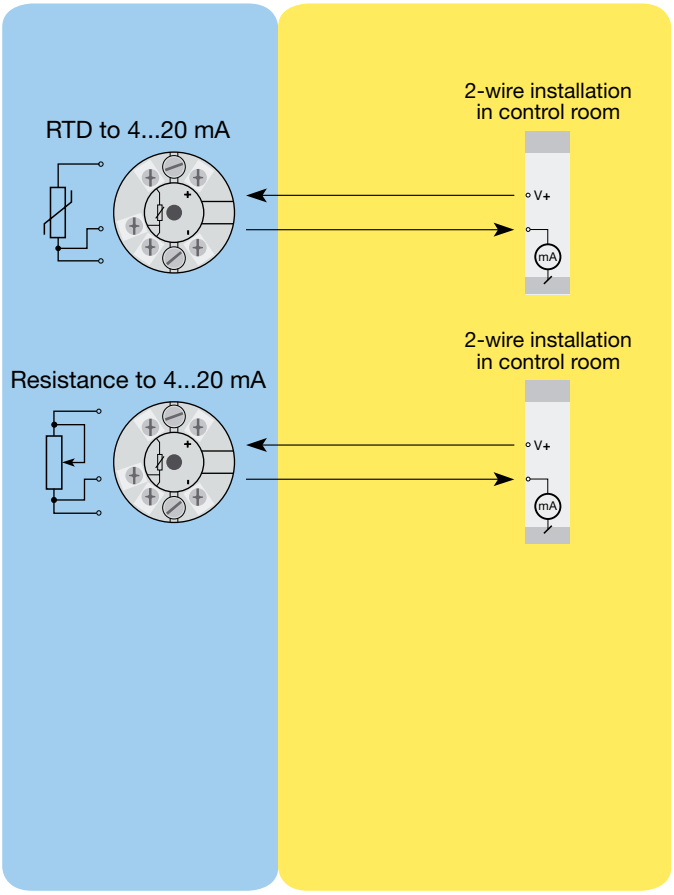
- Linearised temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.

Technical characteristics:

- Within a few seconds the user can program IER133 to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connection.

Mounting / installation:

- For DIN form B sensor head mounting.



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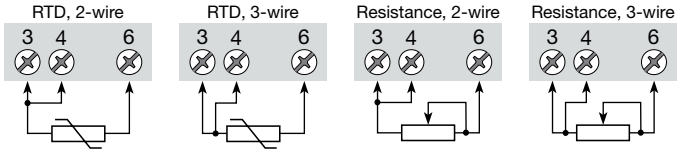
Order: IER133

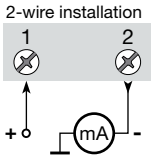
Type	Version
IER	133

Connections:

Input:



Output:



Electrical specifications:

Specifications range:
-40°C to +85°C

Common specifications:

Supply voltage..... 8.0...30 VDC
Internal consumption..... 25 mW...0.8 W
Voltage drop ..... 8 VDC
Warm-up time..... 5 min.
Communications interface ..... Loop Link
Signal / noise ratio..... Min. 60 dB
Response time (programmable) ..... 0.33...60 s
Signal dynamics, input ..... 19 bit
Signal dynamics, output..... 16 bit
Calibration temperature..... 20...28°C
Accuracy, the greater of general and basic values:

General values		
Input type	Absolute accuracy	Temperature coefficient
All	≤ ±0.1% of span	≤ ±0.01% of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
RTD	≤ ±0.3°C	≤ ±0.01°C/°C
Lin. R	≤ ±0.2 Ω	≤ ±20 mΩ / °C

EMC immunity influence ..... < ±0.5% of span

Effect of supply voltage variation ..... ≤ 0.005% of span / VDC
Vibration ..... IEC 60068-2-6 Test FC
Lloyd's specification no. 1..... 4 g / 2...100 Hz
Max. wire size..... 1 x 1.5 mm^2 stranded wire
Humidity ..... < 95% RH (non-cond.)
Dimensions..... Ø 44 x 20.2 mm
Protection degree (encl. / terminal) ... IP68 / IP00
Weight ..... 50 g

Electrical specifications, input:

RTD and linear resistance input:

RTD type	Min. value	Max. value	Min. span	Standard
Pt100	-200°C	+850°C	25°C	IEC 60751
Ni100	-60°C	+250°C	25°C	DIN 43760
Lin. R	0 Ω	10000 Ω	30 Ω	-----

Max. offset..... 50% of selec. max. value
Cable resistance per wire (max.) ..... 10 Ω
Sensor current..... > 0.2 mA, < 0.4 mA
Effect of sensor cable resistance (3-wire)..... < 0.002 Ω / Ω
Sensor error detection..... Yes

Output:

Current output:

Signal range ..... 4...20 mA
Min. signal range ..... 16 mA
Updating time..... 135 ms
Load resistance ..... ≤ (V_{supply}- 8) / 0.023 [Ω]
Load stability ..... < ±0.01% of span/100 Ω

Sensor error detection:

Programmable..... 3.5...23 mA
Namur NE43 Upscale..... 23 mA
Namur NE43 Downscale ..... 3.5 mA

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