



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:

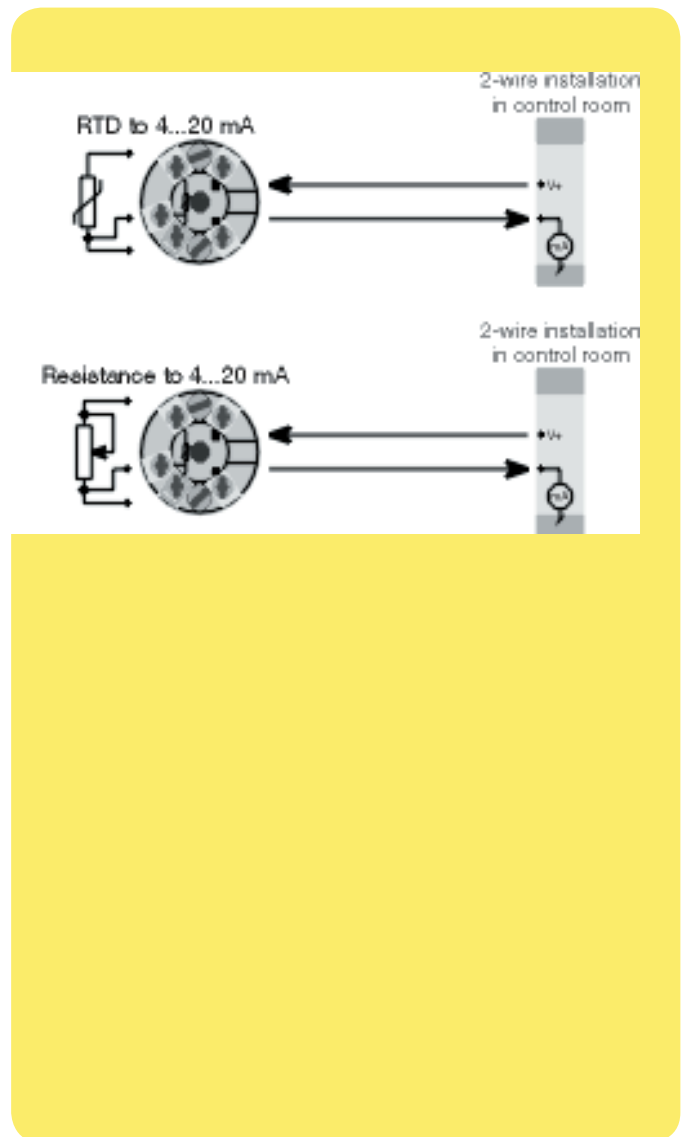
- Linearised temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.

Technical characteristics:

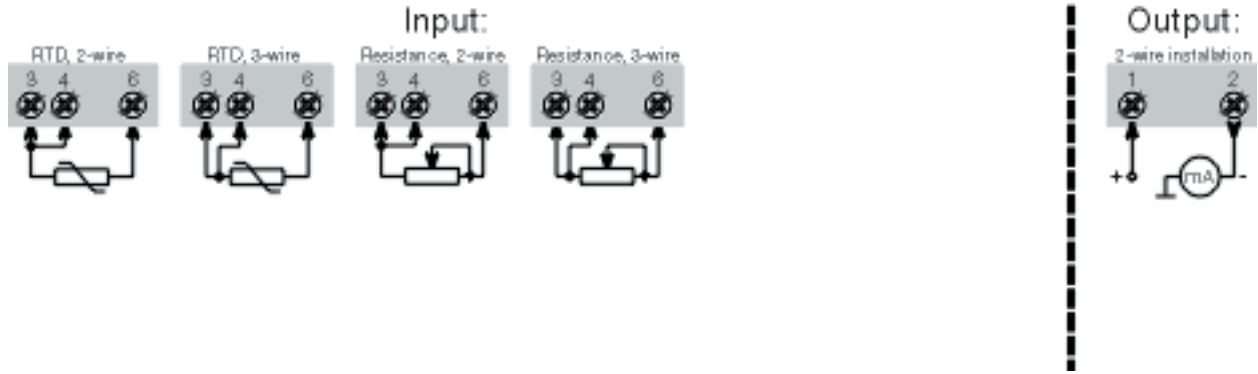
- Within a few seconds the user can program Q9 to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connection.

Mounting / installation:

- For DIN form B sensor head or DIN rail mounting with a special fitting.



Connections:



Electrical specifications:

Specifications range:
-40°C to +85°C

Common specifications:

Supply voltage, DC 8.0...35 V
Internal consumption 25 mW...0.8 W
Voltage drop 8 VDC
Warm-up time 5 min.
Communications interface Loop Link 5905A
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 68-2-6 Test FC
Lloyd's specification no. 1 4 g / 2...100 Hz
Max. wire size 1 x 1.5 mm²
Humidity < 95% RH (non-cond.)
Dimensions Ø 44 x 20.2 mm
Tightness (enclosure / terminal) IP68 / IP00
Weight 50 g

Electrical specifications, input:

RTD and linear resistance input:

RTD type	Min. value	Max. value	Min. span
Pt100	-200°C	+850°C	25°C
Ni100	-60°C	+250°C	25°C
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
Observed authority requirements: Standard:
EMC 89/336/EEC, Emission EN 50 081-1, EN 50 081-2
Immunity EN 50 082-2, EN 50 082-1
Emission and immunity EN 61 326

Of span = Of the presently selected range