

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:

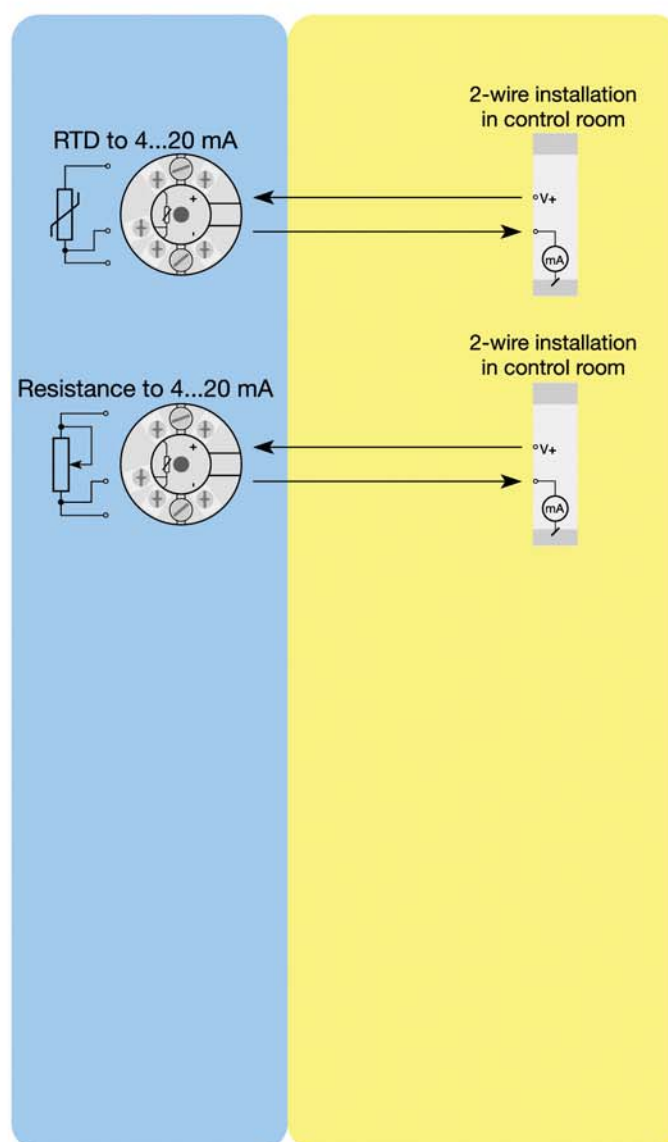
- Linearised temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.

Technical characteristics:

- Within a few seconds the user can program INT 5333 to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 2-wire connection.

Mounting / installation:

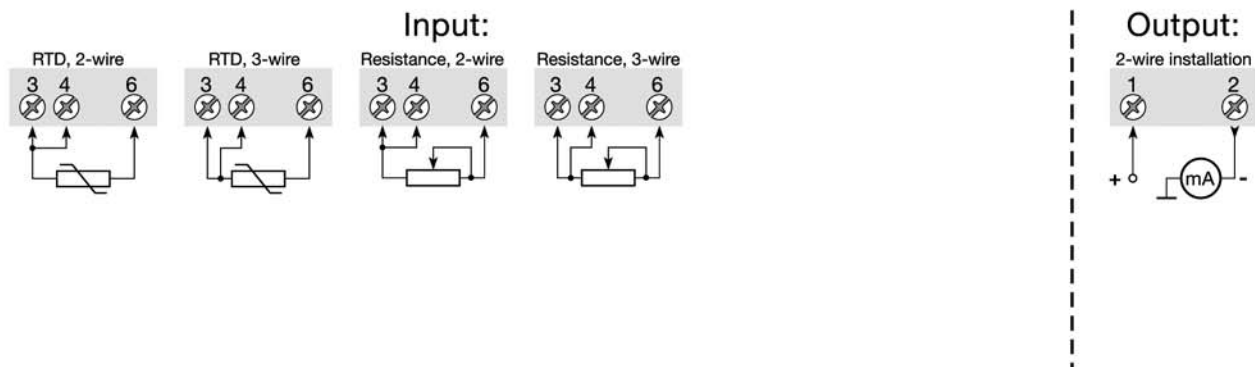
- For DIN form B sensor head or DIN rail mounting with a special fitting.



Order: 5333

Type	Version
5333	ATEX : B
	FM and ATEX : C
	CSA, FM and ATEX : D

Connections:



Electrical specifications:

Specifications range:

-40°C to +85°C

Common specifications:

Supply voltage, DC 8.0...28 V
 Internal consumption 25 mW...0.8 W
 Voltage drop 8 VDC
 Warm-up time 5 min.
 Communications interface Loop Link 5905
 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	$\leq \pm 0.1\%$ of span	$\leq \pm 0.01\%$ of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
RTD	$\leq \pm 0.3^\circ\text{C}$	$\leq \pm 0.01^\circ\text{C} / ^\circ\text{C}$
Lin.R	$\leq \pm 0.2 \Omega$	$\leq \pm 20 \text{ m}\Omega / ^\circ\text{C}$

EMC immunity influence $\leq \pm 0.5\%$ of span

Effect of supply voltage variation $\leq 0.005\%$ 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 $\leq (V_{\text{supply}} - 8) / 0.023 [\Omega]$
 Load stability < $\pm 0.01\%$ of span/100 Ω

Sensor error detection:

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

Ex data:

U_i 28 VDC
 I_i 120 mADC
 P_i 0.84 W
 L_i 10 μH
 C_i 1.0 nF

EEx approval CENELEC:

DEMKO 99 ATEX 126964
 ATEX 0539  II 1 G
 EEx ia IIC T1...T6

Max. amb. temperature for T1...T4 85°C
 Max. amb. temperature for T5 and T6 60°C
 Applicable in zone 0, 1 or 2

FM IS, CL. I, DIV. 1, GP. A-D
 Entity, FM Control Drawing No. 5300Q502

CSA Class I, Zone 0/1, Gr. IIC
 Installation Drawing No. 533XQC03

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
 ATEX 94/9/EC EN 50 014 and EN 50 020
 FM Class Number 3600, 3610
 CSA Class Number 2258 04, 2258 84

Of span = Of the presently selected range