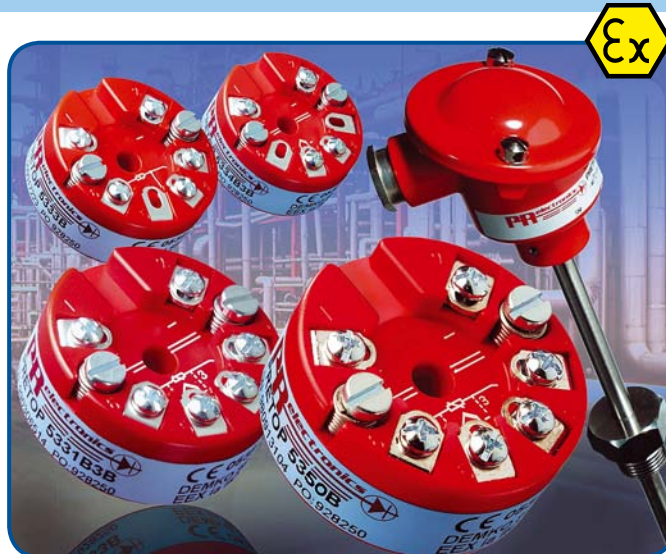


2-WIRE TRANSMITTER WITH HART® PROTOCOL



- RTD, TC, Ohm, or mV input
- Extremely high measurement accuracy
- HART® communication
- Galvanic isolation
- For DIN form B sensor head mounting



Application:

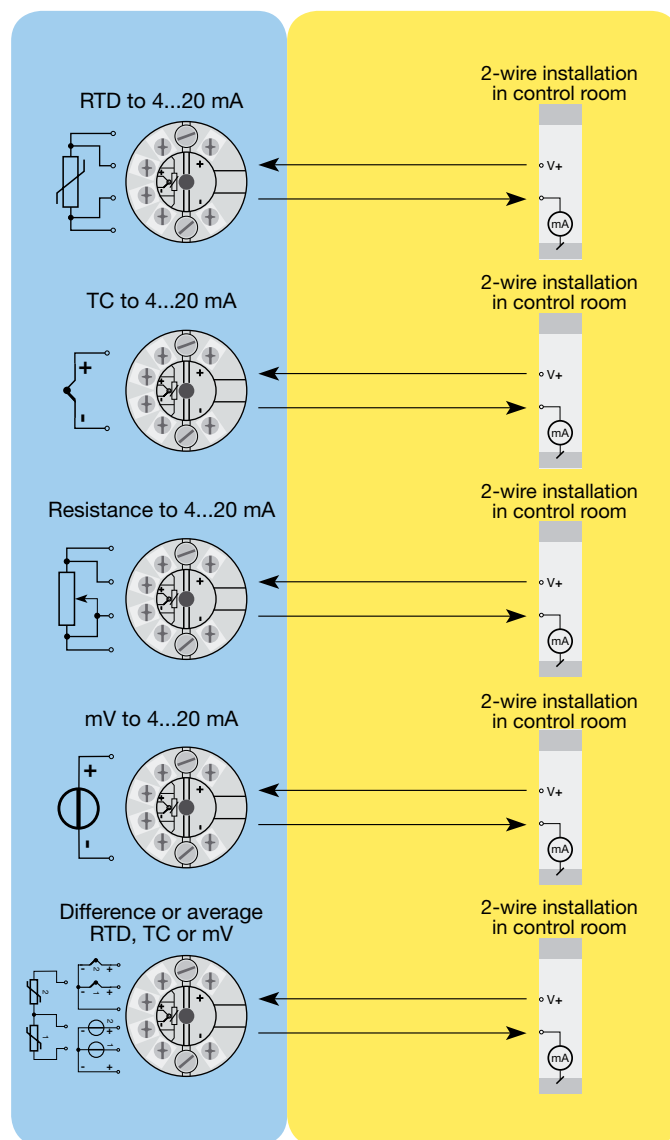
- Linearised temperature measurement with Pt100...Pt1000, Ni100...Ni1000, or TC sensor.
- Difference or average temperature measurement of 2 resistance or TC sensors.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.
- Amplification of a bipolar mV signal to a standard 4...20 mA current signal.
- Connection of up to 15 transmitters to a digital 2-wire signal with HART® communication.

Technical characteristics:

- Within a few seconds the user can program PR5335D to measure temperatures within all ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 2-, 3- and 4-wire connection.
- The 5335D has been designed according to strict safety requirements and is thus suitable for application in SIL 2 installations.
- Continuous check of vital stored data for safety reasons.
- Sensor error detection according to the guidelines in NAMUR NE 89.

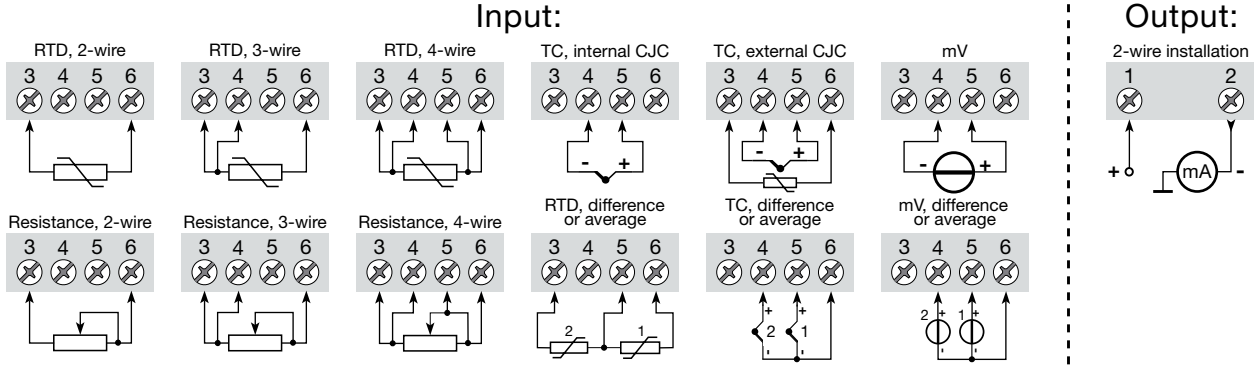
Mounting / installation:

- For DIN form B sensor head mounting.
- **NB:** As Ex barrier we recommend 5106B.



Type	Version
5335	CSA, FM & ATEX : D

Connections:



Electrical specifications:

Specifications range:

-40°C to +85°C

Common specifications:

- Supply voltage..... 8.0...30 VDC
- Voltage drop..... 8.0 VDC
- Isolation voltage, test / operation..... 1.5 kVAC / 50 VAC
- Communications interface..... Loop Link & HART®
- Signal / noise ratio..... Min. 60 dB
- Signal dynamics, input..... 22 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	≤ ±0.05% of span	≤ ±0.005% of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
Pt100 and Pt1000	≤ ±0.1°C	≤ ±0.005°C/°C
Ni100	≤ ±0.2°C	≤ ±0.005°C/°C
Lin. R	≤ ±0.1 Ω	≤ ±5 mΩ / °C
Volt	≤ ±10 μV	≤ ±0.5 μV / °C
TC type: E, J, K, L, N, T, U	≤ ±0.5°C	≤ ±0.025°C / °C
TC type: B, R, S, W3, W5	≤ ±1°C	≤ ±0.1°C / °C

EMC immunity influence.....	< ±0.1% of span
Extended EMC immunity: NAMUR NE 21, A criterion, burst.....	< ±1% of span

- Vibration..... IEC 60068-2-6 Test FC
- Lloyd's specification no. 1..... 4 g / 2...100 Hz
- Humidity..... < 95% RH (non-cond.)
- Dimensions..... Ø 44 x 20.2 mm
- Protection degree (encl. / terminals)... IP68 / IP00

Electrical specifications, input:

Max. offset..... 50% of select. max. value

RTD and linear resistance input:

RTD type	Min. value	Max. value	Min. span	Standard
Pt100	-200°C	+850°C	10°C	IEC 60751
Ni100	-60°C	+250°C	10°C	DIN 43760
Lin. R	0 Ω	7000 Ω	10 Ω	-----

- Cable resistance per wire (max.)..... 5 Ω
- Sensor current..... Nom. 0.2 mA

Voltage input:

- Measurement range..... -800...+800 mV
- Min. span..... 2.5 mV
- Input resistance..... 10 MΩ

TC input:

Type	Min. temperature	Max. temperature	Min. span	Standard
B	+400°C	+1820°C	100°C	IEC584
E	-100°C	+1000°C	50°C	IEC584
J	-100°C	+1200°C	50°C	IEC584
K	-180°C	+1372°C	50°C	IEC584
L	-100°C	+900°C	50°C	DIN 43710
N	-180°C	+1300°C	50°C	IEC584
R	-50°C	+1760°C	100°C	IEC584
S	-50°C	+1760°C	100°C	IEC584
T	-200°C	+400°C	50°C	IEC584
U	-200°C	+600°C	50°C	DIN 43710
W3	0°C	+2300°C	100°C	ASTM E988-90
W5	0°C	+2300°C	100°C	ASTM E988-90

Cold junction compensation..... < ±1.0°C

Current output:

- Signal range..... 4...20 mA
- Min. signal range..... 16 mA
- Updating time..... 440 ms
- Load resistance..... ≤ (V_{supply} - 8) / 0.023 [Ω]

Sensor error detection:

Programmable..... 3.5...23 mA

Ex / I.S. approval:

- KEMA 03ATEX1537..... II 1 G Ex ia IIC T4 or T6 II 1 D Ex iaD

- Max. ambient temp. for T1...T4..... 85°C
- Max. ambient temp. for T5 and T6.... 60°C
- ATEX, applicable in zone..... 0, 1, 2, 20, 21 or 22
- ATEX Installation Drawing No. 5335QE01
- FM, applicable in..... IS, Class I, Div. 1, Group A, B, C, D IS, Class I, Zone 0, AEx ia IIC 5300Q502

- FM Installation Drawing No..... 533XQC03
- CSA, applicable..... IS, Class I, Div. 1, Group A, B, C, D, Ex ia IIC IS, Class I, Zone 0, AEx ia IIC 533XQC03
- CSA Installation Drawing No..... INMETRO 09/UL-BRCO-0002..... BR-Ex ia IIC T4 or T6 or -40°C ≤ Tamb. ≤ +85°C, or -40°C ≤ Tamb. ≤ +60°C

Marine approval:

Det Norske Veritas, Ships & Offshore. Stand. f. Certific. No. 2.4

GOST R approval:

VNIIM & VNIIFTRI, Cert. no. www.prelectronics.com

Observed authority requirements: Standard:

- EMC 2004/108/EC..... EN 61326-1
- ATEX 94/9/EC..... EN 60079-0, -11, -26 EN 61241-0, -11 3600, 3611, 3610
- FM..... C22.2 No. 157, E60079-11, UL 913
- CSA, CAN / CSA..... IEC 60079-0, -11
- INMETRO..... IEC 60079-0, -11

Of span = Of the presently selected range