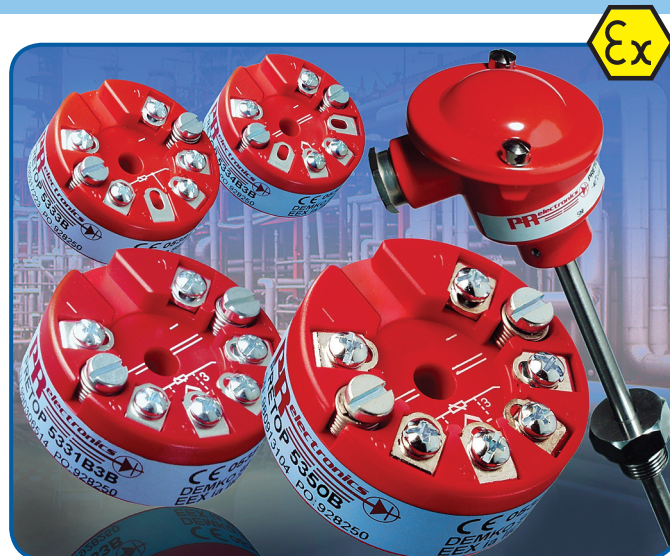


2-WIRE TRANSMITTER WITH HART® PROTOCOL



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



Application:

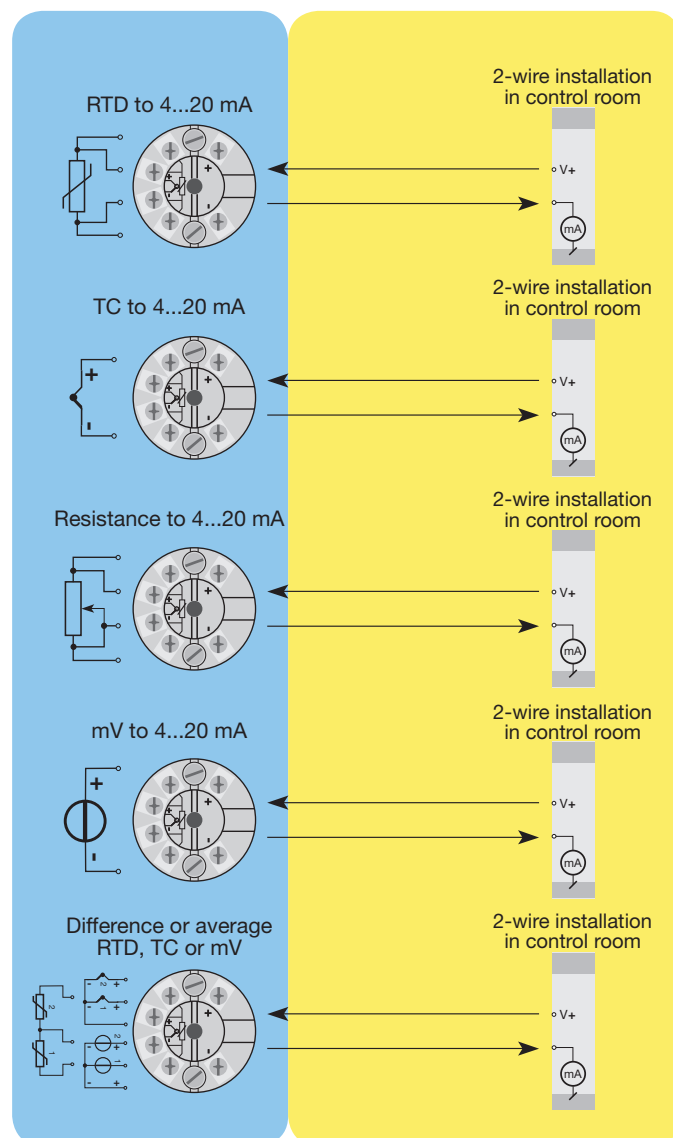
- Linearised temperature measurement with Pt100...Pt1000, Ni100...Ni1000, or TC sensor.
- Difference or average temperature measurement of 2 resistance or TC sensors.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.
- 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.

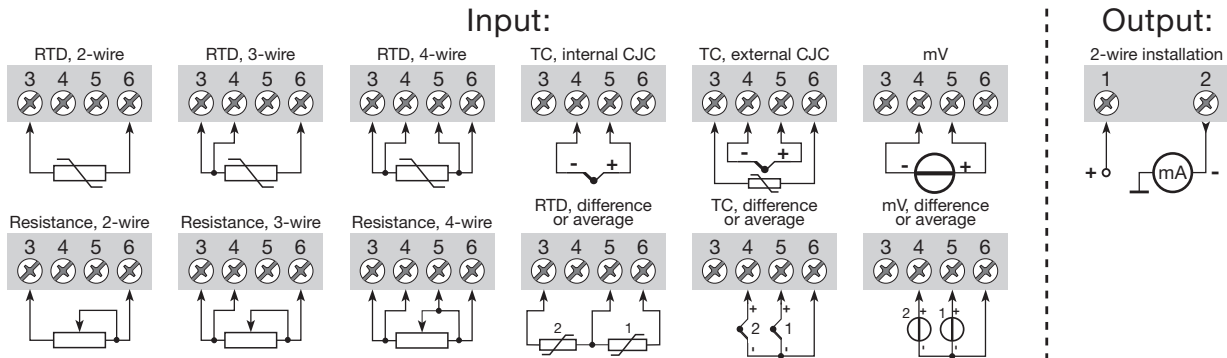


Order: 5335D

Type

5335D

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	$\leq \pm 0.05\%$ of span	$\leq \pm 0.005\%$ of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
Pt100 and Pt1000	$\leq \pm 0.1^\circ\text{C}$	$\leq \pm 0.005^\circ\text{C}/^\circ\text{C}$
Ni100	$\leq \pm 0.2^\circ\text{C}$	$\leq \pm 0.005^\circ\text{C}/^\circ\text{C}$
Lin. R	$\leq \pm 0.1 \Omega$	$\leq \pm 5 \text{ m}\Omega / ^\circ\text{C}$
Volt	$\leq \pm 10 \mu\text{V}$	$\leq \pm 0.5 \mu\text{V} / ^\circ\text{C}$
TC type: E, J, K, L, N, T, U	$\leq \pm 0.5^\circ\text{C}$	$\leq \pm 0.025^\circ\text{C} / ^\circ\text{C}$
TC type: B, R, S, W3, W5	$\leq \pm 1^\circ\text{C}$	$\leq \pm 0.1^\circ\text{C} / ^\circ\text{C}$

EMC immunity influence $< \pm 0.1\%$ of span
Extended EMC immunity:
NAMUR NE 21, A criterion, burst $< \pm 1\%$ 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 $\varnothing 44 \times 20.2 \text{ mm}$
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	25 Ω	-----

Cable resistance per wire (max.) 5 Ω

(up to 50 Ω per wire is possible with reduced measurement accuracy)

Sensor current..... Nom. 0.2 mA

Voltage input:

Measurement range -800...+800 mV

Min. span..... 2.5 mV

Input resistance 10 M Ω

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 $< \pm 1.0^\circ\text{C}$

Current output:

Signal range 4...20 mA

Min. signal range 16 mA

Updating time..... 440 ms

Load resistance $\leq (V_{\text{supply}} - 8) / 0.023 [\Omega]$

Sensor error detection:

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

Of span = Of the presently selected range

Approvals:

EMC 2004/108/EC EN 61326-1

GOST R

Marine approval:

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

I.S. / Ex:

ATEX 94/9/EC KEMA 03ATEX1537

IECEx KEM 10.0083 X

FM certificate..... 2D5A7

CSA certificate..... 1125003

INMETRO certificate..... NCC12.0844X

GOST Ex

Functional Safety:

Hardware assessed for use in SIL applications

FMEDA report - www.prelectronics.com

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