

# 2-WIRE HART<sup>®</sup> TRANSMITTER



- RTD, TC, Ohm, or mV input
- Extremely high measurement accuracy
- HART<sup>®</sup> communication
- Can be installed in Ex zone 0
- 1- or 2-channel version



### Application:

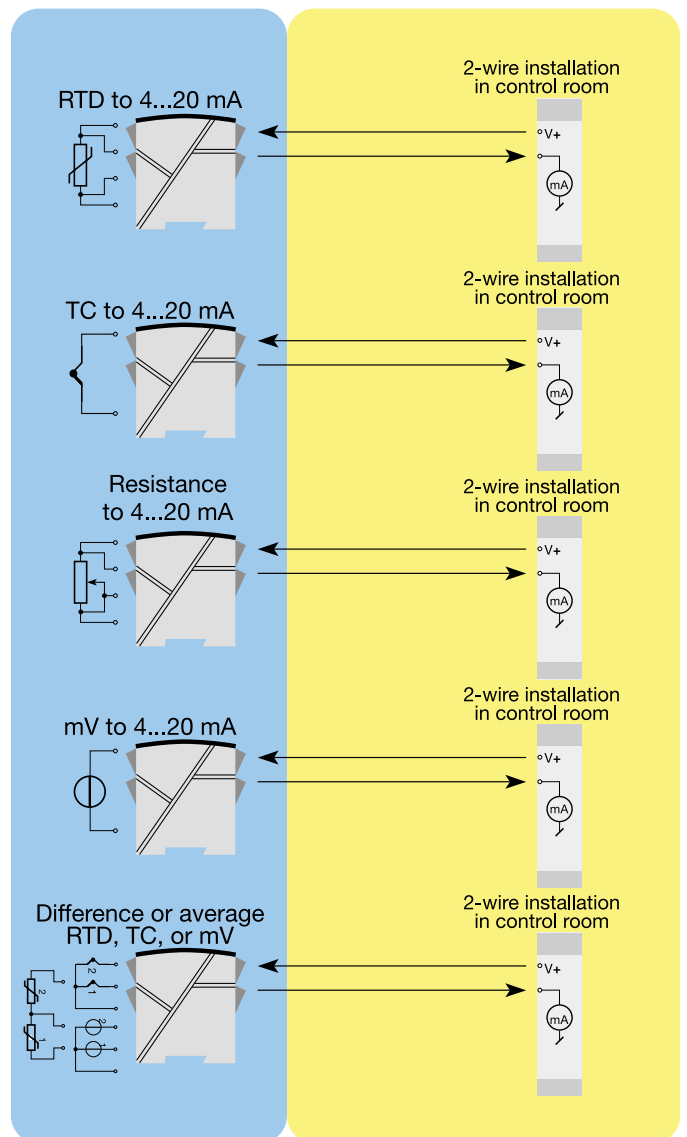
- Linearised temperature measurement with Pt100...Pt1000, Ni100...Ni1000, or TC sensor.
- Difference or average temperature measurement of 2 resistance or TC sensors.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.
-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

### Technical characteristics:

- Within a few seconds the user can program PR6335B, C & D to measure temperatures within all ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 2-, 3- and 4-wire connexion.
- A limit can be programmed on the output signal.
- Continuous check of vital stored data for safety reasons.

### Mounting / installation:

- Mounted vertically or horizontally on a DIN rail. As the modules can be mounted without any distance between neighbouring units, up to 84 channels can be mounted per metre.
- **NB:** As Ex barrier we recommend 5106B.



Order: 6335

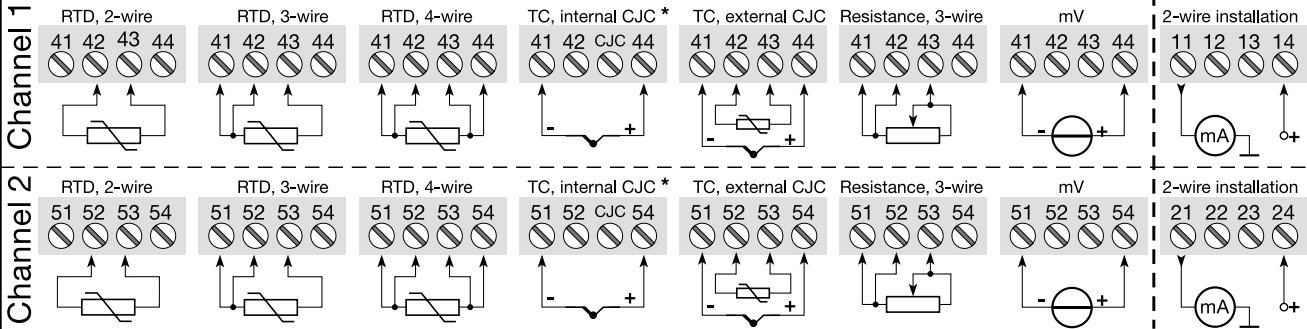
Type	Version	Galvanic isolation	Channels
6335	ATEX : B	1500 VAC : 2	Single : A
	FM and ATEX : C		Double : B
	CSA, FM and ATEX : D		

**Connexions:**

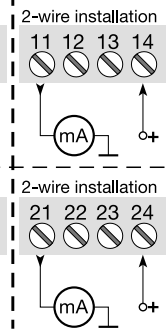
All connexion options are shown in the user manual.

**\*NB!** Please remember to order CJC connectors type 5910EEEx (channel 1) and 5913EEEx (channel 2) for TC inputs with an internal CJC.

**Inputs:**



**Outputs:**



**Electrical specifications:**

**Specifications range:**

-40°C to +60°C

**Common specifications:**

- Supply voltage, DC ..... 8.0...28 VDC
- Voltage drop ..... 8.0 VDC
- Isolation voltage, test / operation ..... 1.5 kVAC / 50 VAC
- Isolation voltage, channel 1 / channel 2 ..... 1500 VAC
- Communications interface ..... Loop Link 5905 & HART®
- Signal / noise ratio ..... Min. 60 dB
- Response time (programmable) ..... 1...60 s
- 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

- Humidity ..... < 95% RH (non-cond.)
- Dimensions (H x W x D) ..... 109 x 23.5 x 104 mm
- Weight (1 / 2 channels) ..... 145 / 185 g

**Electrical specifications, input:**

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

**RTD and linear resistance input:**

RTD type	Min. value	Max. value	Min. span
Pt100	-200°C	+850°C	10°C
Ni100	-60°C	+250°C	10°C
Lin.R	0 Ω	7000 Ω	25 Ω

Cable resistance per wire (max.) ..... 5 Ω

Sensor current ..... Nom. 0.2 mA

**TC input:**

Type	Min. temperature	Max. temperature	Min. span	Norm
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

**Voltage input:**

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

**Current output:**

- Signal range ..... 4...20 mA
- Min. signal range ..... 16 mA
- Updating time ..... 440 ms
- Load resistance ..... ≤ (V<sub>supply</sub> - 8) / 0.023 [Ω]

**Sensor error detection:**

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

**Ex data:**

- U<sub>i</sub> ..... : 28 VDC
- I<sub>i</sub> ..... : 120 mADC
- P<sub>i</sub> ..... : 0.84 W
- L<sub>i</sub> ..... : 10 μH
- C<sub>i</sub> ..... : 1.0 nF

**EEx approval CENELEC:**

- DEMCO 99 ..... ATEX 126961
- ATEX ..... 0539 (Ex) II 1 G
- ..... EEx ia IIC T1...T6
- Max. amb. temperature for T1...T6 .... 60°C
- Applicable in zone ..... 0, 1, or 2
- FM ..... IS, CL. I, DIV. 1, GP. A-D
- Entity, FM Control Drawing No. .... 6335QF01
- CSA ..... Class I, Zone 0/1, Gr. IIC
- Installation Drawing No. .... 6335QC02

**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 and 2258 84

**Of span** = Of the presently selected range