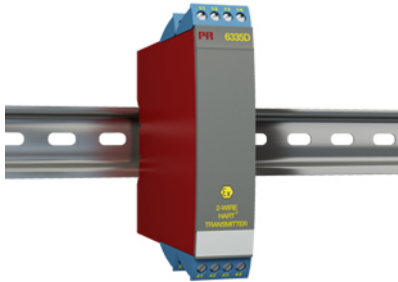


2-wire HART transmitter



6335D

- RTD, TC, Ohm, or mV input
- Extremely high measurement accuracy
- HART 5 protocol
- Can be installed in Ex zone 0
- 1- or 2-channel version



Application

- Linearized 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 analog 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 channels to a digital 2-wire signal with HART communication.

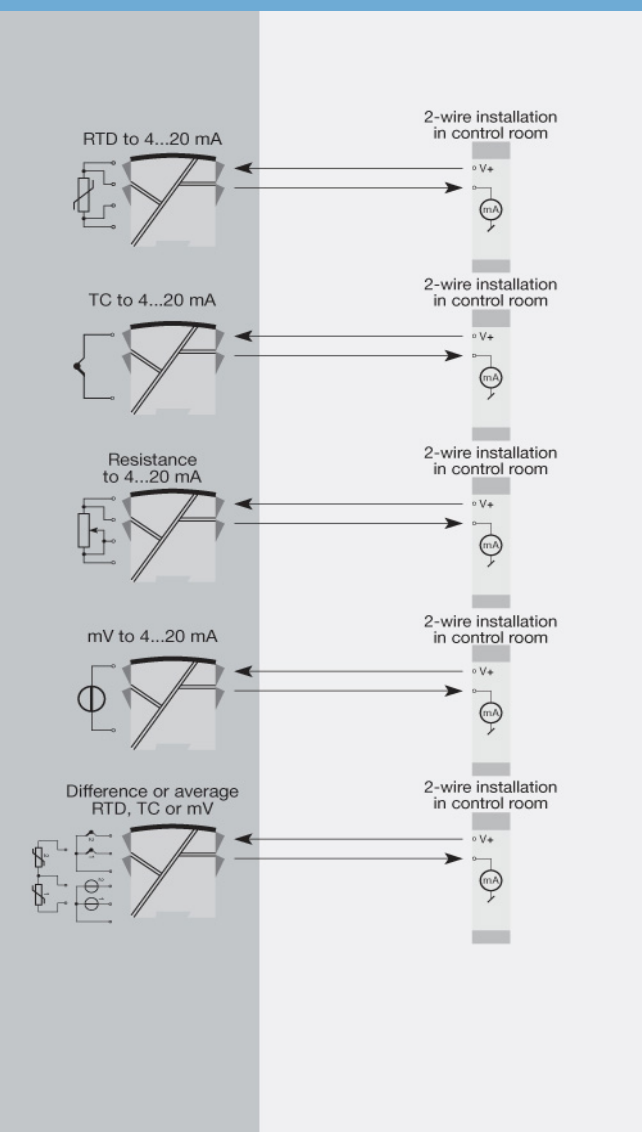
Technical characteristics

- Within a few seconds the user can program PR6335D 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 6335D provides the required failure data (SFF and PFDAVG) for SIL applications as per IEC 61508 / IEC 61511.
- A limit can be programmed on the output signal.
- Continuous check of vital stored data for safety reasons.
- Sensor error detection according to the guidelines in NAMUR NE89.

Mounting / installation

- Mounted vertically or horizontally on a DIN rail. Using the 2-channel version up to 84 channels per metre can be mounted.
- Configuration via standard HART communication interfaces or by PR 5909 Loop Link.
- The 6335D can be mounted in zone 0, 1, 2 and zone 21, 22 including M1 / Class I/II / III, Division 1, Groups A, B, C, D.

Applications



Order

| Type | Version | Galvanic isolation | Channels |
|------|---|--------------------|--------------------------|
| 6335 | Zone 0, 1, 2, 21, 22, M1 / DIV. 1, DIV. 2 : D | 1500 VAC : 2 | Single : A Double : B |

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

Environmental Conditions

| | |
|------------------------------|----------------------|
| Operating temperature..... | -40°C to +85°C |
| Storage temperature..... | -40°C to +85°C |
| Calibration temperature..... | 20...28°C |
| Relative humidity..... | < 95% RH (non-cond.) |
| Protection degree..... | IP20 |

Mechanical specifications

| | |
|------------------------------|---|
| Dimensions (HxWxD)..... | 109 x 23.5 x 104 mm |
| Weight (1 / 2 channels)..... | 145 / 185 g |
| DIN rail type..... | DIN EN 60715/35 mm |
| Wire size..... | 0.13...2.08 mm ² AWG 26...14 stranded wire |
| Screw terminal torque..... | 0.5 Nm |

Common specifications

Supply

| | |
|--|---------------------|
| Supply voltage..... | 8.0...30 VDC |
| Internal power dissipation, 1 / 2 ch..... | 19 mW...0.7 / 1.4 W |

Isolation voltage

| | |
|---|-------------------|
| Isolation voltage, test / working..... | 1.5 kVAC / 50 VAC |
|---|-------------------|

Response time

| | |
|--------------------------------------|---|
| Response time (programmable)..... | 1...60 s |
| Voltage drop..... | 8.0 VDC |
| Warm-up time..... | 30 s |
| Programming..... | HART & PR 5909 Loop Link communications interface |
| Signal / noise ratio..... | Min. 60 dB |
| Accuracy..... | Better than 0.05% of selected range |
| Signal dynamics, input..... | 22 bit |
| Signal dynamics, output..... | 16 bit |
| Effect of supply voltage change..... | < 0.005% of span / VDC |

Input specifications

Common input specifications

| | |
|------------------|----------------------------|
| Max. offset..... | 50% of selected max. value |
|------------------|----------------------------|

RTD input

| | |
|--------------------------------|---|
| RTD type..... | Pt100, Ni100, lin. R |
| Cable resistance per wire..... | 5 Ω (up to 50 Ω per wire is possible with reduced measurement accuracy) |
| Sensor current..... | Nom. 0.2 mA |

| | |
|--|---------------|
| Effect of sensor cable resistance (3-/4-wire)..... | < 0.002 Ω / Ω |
| Sensor error detection..... | Yes |

Linear resistance input

| | |
|----------------------------------|--------------|
| Linear resistance min...max..... | 0 Ω...7000 Ω |
|----------------------------------|--------------|

TC input

| | |
|------------------------|--------------------------------------|
| Thermocouple type..... | B, E, J, K, L, N, R, S, T, U, W3, W5 |
|------------------------|--------------------------------------|

| | |
|---------------------------------------|----------|
| Cold junction compensation (CJC)..... | < ±1.0°C |
|---------------------------------------|----------|

| | |
|--|-------------------|
| Sensor error detection..... | Yes |
| Sensor error current: When detecting / else..... | Nom. 33 μA / 0 μA |

Voltage input

| | |
|------------------------------------|----------------|
| Measurement range..... | -800...+800 mV |
| Min. measurement range (span)..... | 2.5 mV |
| Input resistance..... | 10 MΩ |

Output specifications

Current output

| | |
|-----------------------------------|-----------------------------|
| Signal range..... | 4...20 mA |
| Min. signal range..... | 16 mA |
| Load (@ current output)..... | ≤ (Vsupply - 8) / 0.023 [Ω] |
| Load stability..... | ≤ 0.01% of span / 100 Ω |
| Sensor error indication..... | Programmable 3.5...23 mA |
| NAMUR NE43 Upscale/Downscale..... | 23 mA / 3.5 mA |

Common output specifications

| | |
|--------------------|-----------------------------------|
| Updating time..... | 440 ms |
| of span..... | = of the presently selected range |

Observed authority requirements

| | |
|-------------|------------------------------|
| EMC..... | 2014/30/EU & UK SI 2016/1091 |
| ATEX..... | 2014/34/EU & UK SI 2016/1107 |
| RoHS..... | 2011/65/EU & UK SI 2012/3032 |
| EAC..... | TR-CU 020/2011 |
| EAC Ex..... | TR-CU 012/2011 |

Approvals

| | |
|--------------|---|
| ATEX..... | DEKRA 20ATEX0108X |
| IECEX..... | DEK 20.0063X |
| CSA..... | 1125003 |
| FM..... | FM17US0013X |
| INMETRO..... | DEKRA 23.0011X |
| EAC Ex..... | EAEU KZ 7500361.01.01.08756 |
| SIL..... | Hardware assessed for use in SIL applications |