

## 2-wire HART® transmitter

### 6335A

- RTD, TC, Ohm, or mV input
- Extremely high measurement accuracy
- HART® 5 protocol
- Galvanic isolation
- 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.

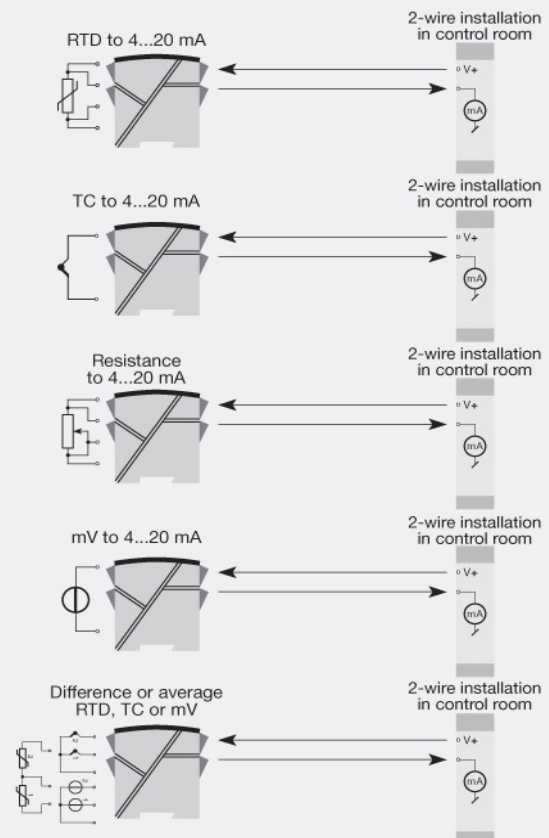
#### Technical characteristics

- Within a few seconds the user can program PR6335A 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 6335A 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 NE89.

#### Mounting / installation

- Mounted vertically or horizontally on a DIN rail. As the devices can be mounted without any distance between neighbouring units, up to 84 channels can be mounted per metre.

#### Connections



**Order:**

| Type  | Galvanic isolation | Channels                 |
|-------|--------------------|--------------------------|
| 6335A | 1500 VAC : 2       | Single : A<br>Double : B |

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

**Environmental Conditions**

|                              |                      |
|------------------------------|----------------------|
| Specifications range.....    | -40°C to +60°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 <sub>2</sub>              |
| Wire size.....               | 1 x 1.5 mm <sup>2</sup> stranded wire |

**Common specifications**

|   |                        |
|---|------------------------|
| Supply voltage.....   | 8.0...35 VDC           |
| Voltage drop.....   | 8.0 VDC                |
| Isolation voltage, test / working.....                      | 1.5 kVAC / 50 VAC      |
| Isolation voltage, ch. 1 / ch. 2.....                       | 3.75 kVAC              |
| Warm-up time.....   | 30 s                   |
| Communications interface.....                               | Loop Link & HART®      |
| Signal / noise ratio.....                                   | Min. 60 dB             |
| Response time (programmable).....                           | 1...60 s               |
| Signal dynamics, input.....                                 | 22 bit                 |
| Signal dynamics, output.....                                | 16 bit                 |
| Effect of supply voltage change.....                        | < 0.005% of span / VDC |
| EMC immunity influence.....                                 | < ±0.1% of span        |
| Extended EMC immunity: NAMUR NE 21, A criterion, burst..... | < ±1% of span          |

**Input specifications**

|   |   |
|---|---|
| Max. offset.....  | 50% of selected max. value  |
| RTD input.....  | Pt100...1000, Ni100...1000, lin. R                                      |
| Cable resistance per wire (max.), RTD.....              | 5 Ω (up to 50 Ω per wire is possible with reduced measurement accuracy) |
| Sensor current, RTD.....                                | Nom. 0.2 mA   |
| Effect of sensor cable resistance (3-/4-wire), RTD..... | < 0.002 Ω / Ω   |
| Sensor error detection, RTD.....                        | Yes   |
| 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, TC.....                         | Yes   |
| Sensor error current: When detecting / else.....        | Nom. 33 μA / 0 μA   |
| Voltage input: Measurement range.....                   | -800...+800 mV  |
| Min. measurement range (span), voltage input.....       | 2.5 mV  |
| Input resistance, voltage input.....                    | 10 MΩ   |

**Output specifications**

|  |                                   |
|--|-----------------------------------|
| Current output: Signal range.....            | 4...20 mA                         |
| Min. signal range.....                       | 16 mA                             |
| Updating time.....                           | 440 ms                            |
| Load resistance, current output.....         | ≤ (Vsupply - 8) / 0.023 [Ω]       |
| Load stability, current output.....          | ≤0.01% of span/100 Ω              |
| Sensor error indication, current output..... | Programmable 3.5...23 mA          |
| NAMUR NE 43 Upscale/Downscale.....           | 23 mA / 3.5 mA                    |
| *of span.....                                | = of the presently selected range |

**Approvals**

|             |   |
|-------------|---|
| EMC.....    | EN 61326-1                                    |
| ATEX.....   | KEMA 10ATEX0006 X                             |
| IECEX.....  | KEM 10.0084X                                  |
| GOST R..... | Yes   |
| SIL.....    | Hardware assessed for use in SIL applications |