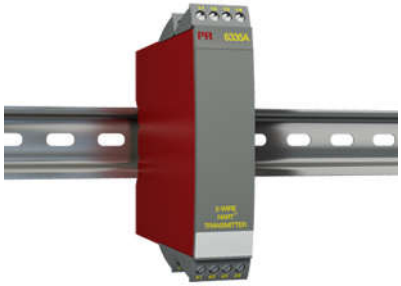
PERFORMANCE MADE SMARTER



## 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.

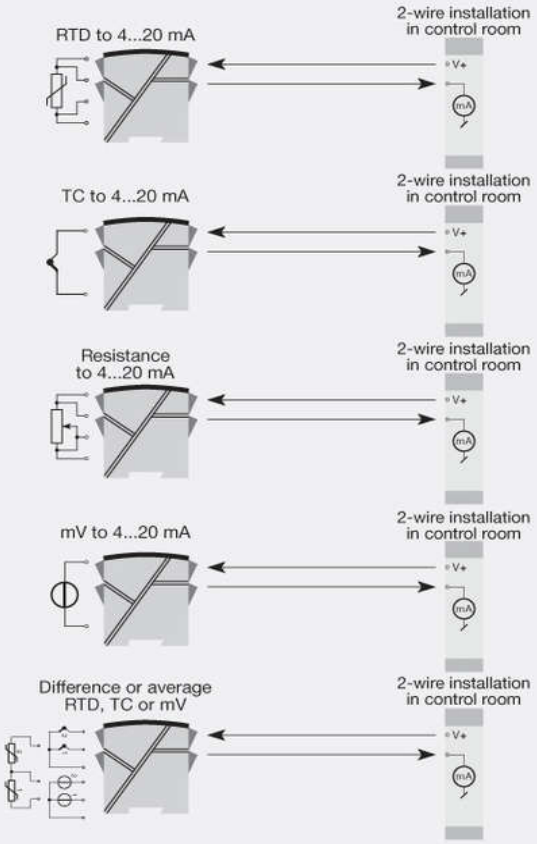
**Technical characteristics**

- 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 installations.
- 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 6335A can be mounted in zone 2, 22 / Class I, Division 2, Groups A, B, C, D.

**Applications**




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Order

| Type | Version | Galvanic isolation | Channels |
|---|---|---|---|
| 6335 | Zone 2, 22 / Div. 2 : A | 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

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...35 VDC
Internal power dissipation, 1 / 2 ch ..... 19 mW...0.8 / 1.6 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 ..... Loop Link & HART
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
EMC immunity influence ..... < ±0.1% of span
Extended EMC immunity: NAMUR NE21, A criterion, burst ..... < ±1% of span

## Input specifications

**Common input specifications**
Max. offset ..... 50% of selected max. value

**RTD input**
RTD type ..... Pt100…1000, Ni100...1000, 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 20ATEX0109X
IECEx ..... DEK 20.0063X
CSA ..... 1125003
FM ..... FM17US0013X
EAC Ex ..... RU C-DK.HA65.B.00355/19
SIL ..... Hardware assessed for use in SIL applications