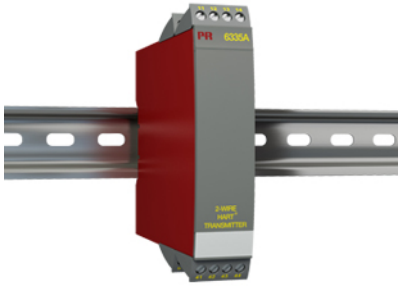
PERFORMANCE MADE SMARTER



2-wire HART transmitter

6335A

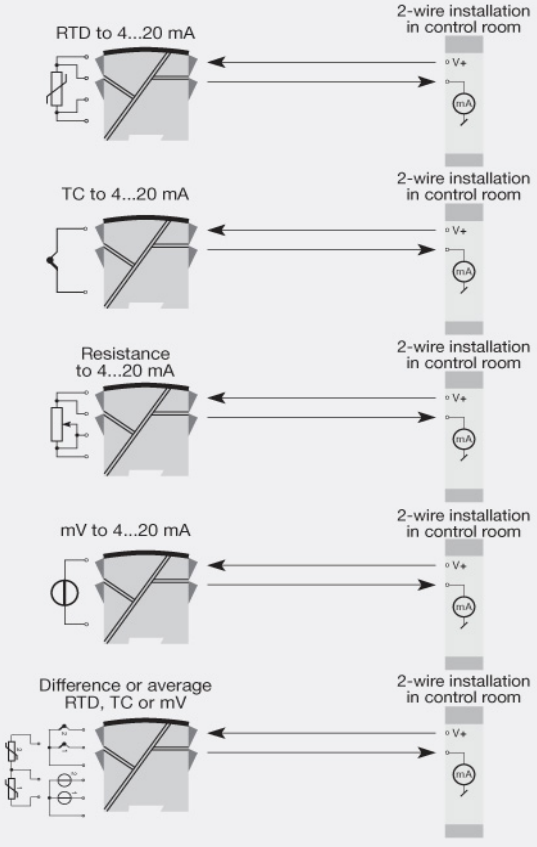
– RTD, TC, Ohm, or mV input
– Extremely high measurement accuracy
– HART 5 protocol
– Galvanic isolation
– 1- or 2-channel version

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 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 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 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	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
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
INMETRO	DEKRA 23.0011X
EAC Ex	EAEU KZ 7500361.01.01.08756
SIL	Hardware assessed for use in SIL applications