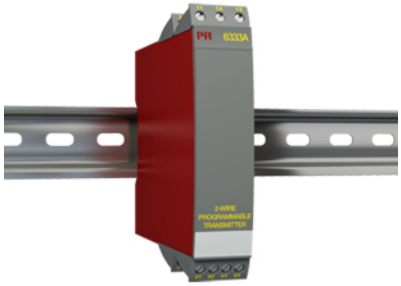
PERFORMANCE MADE SMARTER



2-wire programmable transmitter

6333A

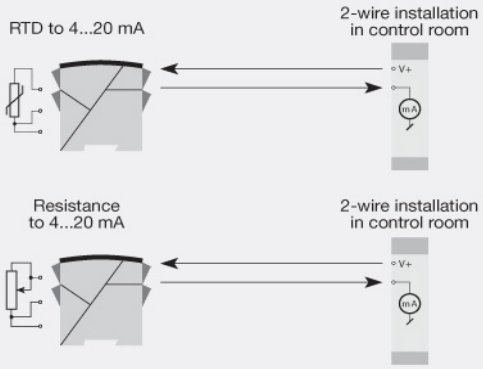
- RTD or Ohm input
- High measurement accuracy
- 3-wire connection
- Programmable sensor error value
- 1- or 2-channel version

Application
- Linearized temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analog current signal, for instance from valves or Ohmic level sensors.

Technical characteristics
- Within a few seconds the user can program PR6333A to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connection.
- A limit can be programmed on the output signal.

Mounting / installation
- Mounted vertically or horizontally on a DIN rail. Using the 2-channel version up to 84 channels per meter can be mounted.
- The 6333A can be mounted in zone 2 and zone 22 / Class I, Division 2, Groups A, B, C, D.

Applications



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Order

Type	Version		Galvanic isolation		Channels	
6333	Zone 2, 22 / Div. 2	: A	None	: 1	Single Double	: A : B

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
Max. required power	≤ 0.8 W/≤ 1.6 W (1 ch./2 ch.)
Internal power dissipation	0.19...0.8 W

Response time

Response time (programmable)	0.33...60 s
Voltage drop	8.0 VDC
Warm-up time	5 min.
Programming	PR 5909 Loop Link communications interface
Signal / noise ratio	Min. 60 dB
Accuracy	Better than 0.1% of sel. range
Signal dynamics, input	19 bit
Signal dynamics, output	16 bit
Effect of supply voltage change	< 0.005% of span / VDC
EMC immunity influence	< ±0.5% 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	10 Ω (max.)
Sensor current	> 0.2 mA, < 0.4 mA
Effect of sensor cable resistance (3-wire)	< 0.002 Ω / Ω
Sensor error detection	Yes

Linear resistance input

Linear resistance min....max	0 Ω...10000 Ω

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	135 ms
of span	= of the presently selected range

Observed authority requirements

EMC	2014/30/EU
ATEX	2014/34/EU
RoHS	2011/65/EU
EAC	TR-CU 020/2011
EAC Ex	TR-CU 012/2011

Approvals

ATEX	DEKRA 20ATEX0106X
IECEx	DEK 20.0062X
CSA	1125003
FM	FM17US0013X
INMETRO	DEKRA 23.0010X
EAC Ex	EAEU KZ 7500361.01.01.08756