PERFORMANCE MADE SMARTER



2-wire programmable transmitter

5333D

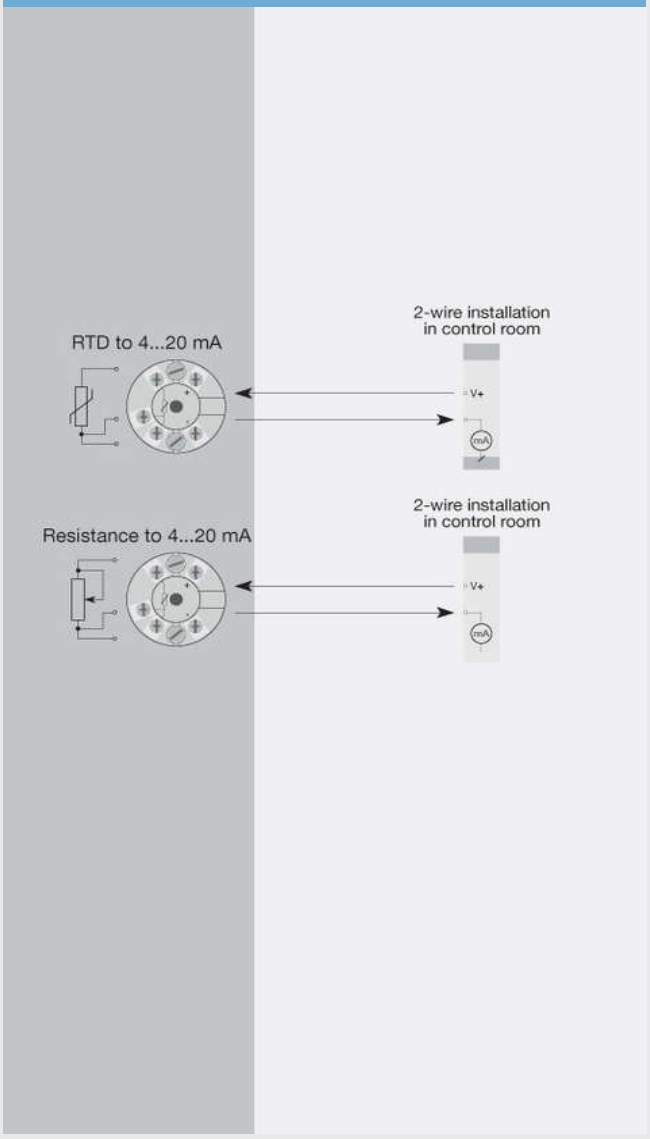
– RTD or Ohm input
– High measurement accuracy
– 3-wire connection
– Programmable sensor error value
– For DIN form B sensor head mounting

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 PR5333D to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connection.

Mounting / installation
- For DIN form B sensor head mounting.

Applications



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Order:

Type
5333D

Environmental Conditions

Operating temperature	-40°C to +85°C
Calibration temperature	20...28°C
Relative humidity	< 95% RH (non-cond.)
Protection degree (encl./terminal)	IP68 / IP00

Mechanical specifications

Dimensions	Ø 44 x 20.2 mm
Weight approx.	50 g
Wire size	1 x 1.5 mm^2 stranded wire
Screw terminal torque	0.4 Nm
Vibration	IEC 60068-2-6
2...25 Hz	±1.6 mm
25...100 Hz	±4 g

Common specifications

Supply

Supply voltage	8.0...30 VDC
Internal power dissipation	25 mW…0.8 W

Response time

Response time (programmable)	0.33...60 s
Voltage drop	8.0 VDC
Warm-up time	5 min.
Programming	Loop Link
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, Ni100, 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
EAC	TR-CU 020/2011

Approvals

ATEX 2014/34/EU	KEMA 03ATEX1535 X
IECEx	DEK 13.0036X
FM	FM17US0013X
CSA	1125003
INMETRO	DEKRA 16.0014 X
EAC Ex TR-CU 012/2011	RU C-DK.GB08.V.00410
DNV-GL Marine	Stand. f. Certific. No. 2.4