2-WIRE PROGRAMMABLE TRANSMITTER

- TC input
- High measurement accuracy
- Galvanic isolation
- Programmable sensor error value
- For DIN form B sensor head mounting

Application:

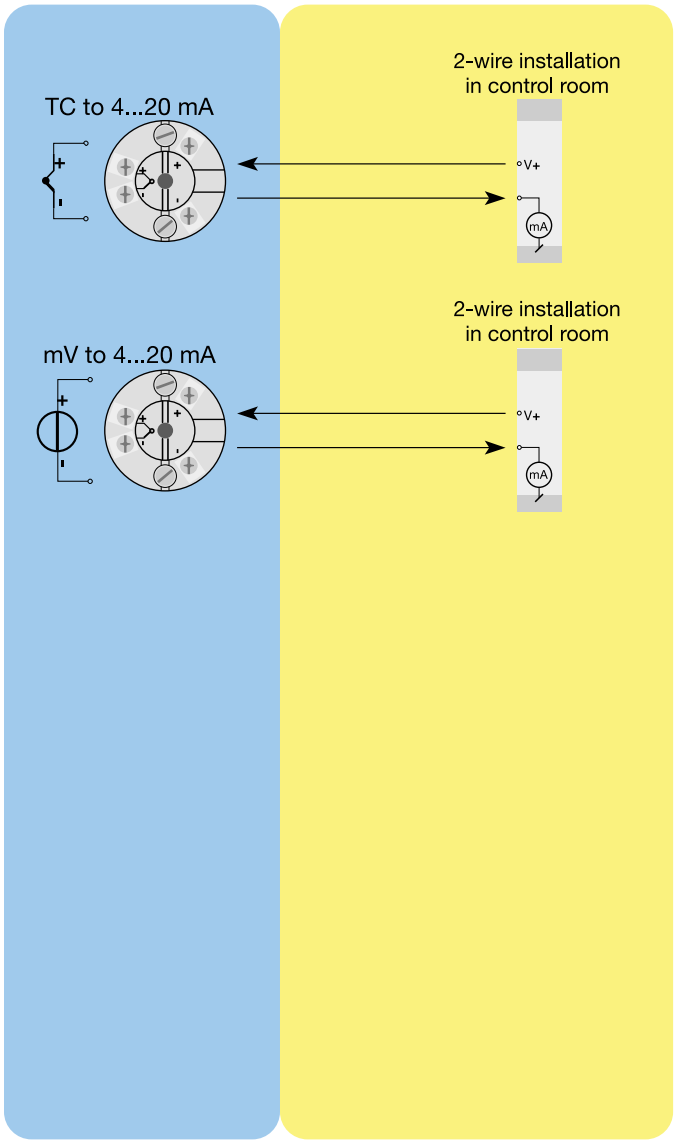
- Linearised temperature measurement with TC sensor.
- Amplification of bipolar mV signals to a 4...20 mA signal, optionally linearised according to a defined linearisation function.

Technical characteristics:

- Within a few seconds the user can program PR5334B to measure temperatures within all TC ranges defined by the norms.
- Cold junction compensation (CJC) with a built-in temperature sensor.
- Continuous check of vital stored data for safety reasons.

Mounting / installation:

- For DIN form B sensor head or DIN rail mounting with a special fitting.
- **NB:** As Ex barrier we recommend 5104B, 5111B, or 5114B.



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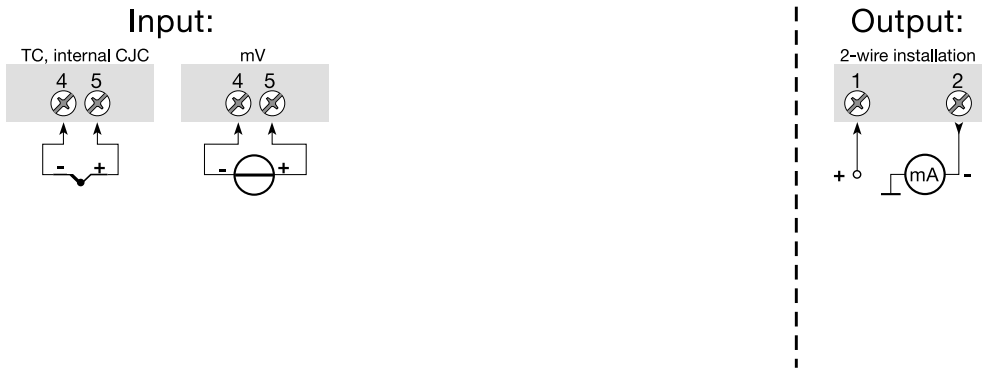
Order : 5334B

Type	Ambient temperature	Galvanic isolation
5334B	-40°C…+85°C : 3	1500 VAC : B

Connexions:



Electrical specifications:

Specifications range:
-40°C to +85°C

Common specifications:

Supply voltage, DC ..... 7.2...28 VDC
Internal consumption ..... 25 mW...0.8 W
Voltage drop ..... 7.2 VDC
Isolation voltage, test / operation..... 1.5 kVAC / 50 VAC
Warm-up time..... 5 min.
Communications interface ..... Loop Link 5905
Signal / noise ratio..... Min. 60 dB
Response time (programmable)..... 1...60 s
EEprom error check ..... < 3.5 s
Signal dynamics, input ..... 18 bit
Signal dynamics, output..... 16 bit
Calibration temperature..... 20...28°C
Accuracy, the greater of general and basic values:

General values		
Input type	Absolute accuracy	Temperature coefficient
All	≤ ±0.05% of span	≤ ±0.01% of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
Volt	≤ ±10 µV	≤ ±1 µV/°C
TC type: E, J, K, L, N, T, U	≤ ±1°C	≤ ±0.05°C/°C
TC type: B, R, S, W3, W5	≤ ±2°C	≤ ±0.2°C/°C

EMC immunity influence ..... < ±0.5% of span
Extended EMC immunity:
NAMUR NE 21, A criterion, burst..... < ±1% of span

Effect of supply voltage variation ..... < 0.005% of span / VDC
Vibration ..... IEC 68-2-6 Test FC
Lloyd's specification no. 1..... 4 g / 2...100 Hz
Max. wire size..... 1 x 1.5 mm2
Humidity ..... < 95% RH (non-cond.)
Dimensions..... Ø 44 x 20.2 mm
Tightness (enclosure / terminal) ..... IP68 / IP00
Weight ..... 50 g

Electrical specifications, input:

Max. offset..... 50% of selec. max. value

TC input:

Type	Min. temperature	Max. temperature	Min. span	Norm
B	+400°C	+1820°C	200°C	IEC584
E	-100°C	+1000°C	50°C	IEC584
J	-100°C	+1200°C	50°C	IEC584
K	-180°C	+1372°C	50°C	IEC584
L	-100°C	+900°C	50°C	DIN 43710
N	-180°C	+1300°C	100°C	IEC584
R	-50°C	+1760°C	200°C	IEC584
S	-50°C	+1760°C	200°C	IEC584
T	-200°C	+400°C	50°C	IEC584
U	-200°C	+600°C	75°C	DIN 43710
W3	0°C	+2300°C	200°C	ASTM E988-90
W5	0°C	+2300°C	200°C	ASTM E988-90

Cold junction compensation ..... < ±1.0°C

Voltage input:

Measurement range ..... -12...150 mV
Min. span..... 5 mV
Input resistance..... 10 MΩ

Current output:

Signal range ..... 4...20 mA
Min. signal range..... 16 mA
Updating time..... 440 ms
Load resistance..... ≤ (V_{supply} - 7.2) / 0.023 [Ω]

Sensor error detection:

Programmable..... 3.5...23 mA
NAMUR NE43 Upscale ..... 23 mA
NAMUR NE43 Downscale..... 3.5 mA

Ex data:

U_i..... 28 VDC
I_i..... 120 mADC
P_i ..... 0.84 W
L_i ..... ≤ 10 µH
C_i..... ≤ 1 nF

EEx approval CENELEC:

DEMKO 99 ..... ATEX 126963
ATEX ..... 0539 Ex II 1 G
EEx ia IIC T1...T6
Max. amb. temperature for T1...T4 .... 85°C
Max. amb. temperature for T5 and T6 ... 60°C
Applicable in zone ..... 0, 1 or 2

Observed authority requirements: **Standard:**
EMC 89/336/EEC, Emission ..... EN 50 081-1, EN 50 081-2
Immunity ..... EN 50 082-2, EN 50 082-1
ATEX 94/9/EC..... EN 50 014 and EN 50 020

Of span = Of the presently selected range