2-WIRE PROGRAMMABLE TRANSMITTER

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

Application:

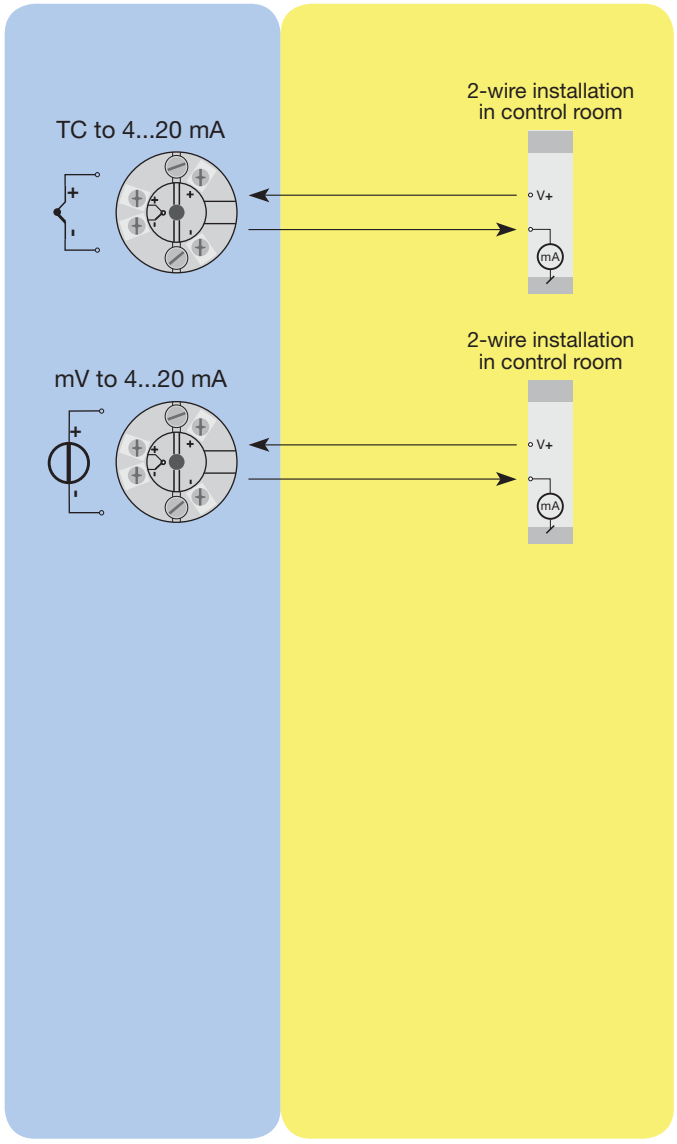
- Linearised temperature measurement with TC sensor.
- Amplification of bipolar mV signals to a 4...20 mA signal, optionally linearised according to a defined linearisation function.

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 mounting.
- **NB:** As Ex barrier we recommend 5104B, 5114B, or 5116B.



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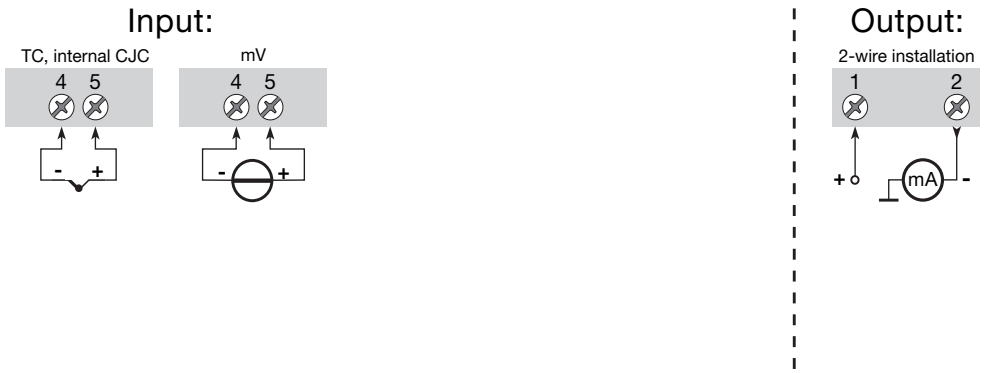
Order: 5334B

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

Connections:



Electrical specifications:

Specifications range:
-40°C to +85°C

Common specifications:

Supply voltage, DC ..... 7.2...30 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
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, LR	≤ ±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 60068-2-6 Test FC
Lloyd's specification no. 1..... 4 g / 2...100 Hz
Max. wire size..... 1 x 1.5 mm^2 stranded wire
Humidity ..... < 95% RH (non-cond.)
Dimensions..... Ø 44 x 20.2 mm
Protection degree (encl. / terminal) ... IP68 / IP00
Weight ..... 50 g

Electrical specifications, input:

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

Voltage input:

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

TC input:

Type	Min. temperature	Max. temperature	Min. span	Standard
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
LR	-200°C	+800°C	50°C	GOST 3044-84

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

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

EEx / I.S. approval:

KEMA 06ATEX0062 X..... ⟨Ex⟩ II 1 GD, T80°C...T105°C
EEx ia IIC T6 / T4
Max. amb. temperature for T1...T4 ... 85°C
Max. amb. temperature for T5 and T6 .. 60°C
ATEX, applicable in zone..... 0, 1, 2, 20, 21 or 22

Ex / I.S. data:

Signal output / supply, terminal 1 to 2:
U_i ..... : 30 VDC
I_i..... : 120 mADC
P_i ..... : 0.84 W
L_i..... : 10 µH
C_i ..... : 1.0 nF
Sensor input, terminal 3, 4, 5 and 6:
U_o ..... : 9.6 VDC
I_o..... : 25 mADC
P_o ..... : 60 mW
L_o..... : 33 mH
C_o ..... : 2.4 µF

Marine approval:

Det Norske Veritas, Ships & Offshore .. Stand. for Certific. No. 2.4

GOST R approval:

VNIIFTRI, Cert No..... Ross DK.GB06.V00100
Ex Permit..... PPC00-17800

Observed authority requirements: **Standard:**

EMC 2004/108/EC
Emission and immunity..... EN 61326-1
ATEX 94/9/EC..... EN 50014, EN 50020, EN 50284, IEC 61241-0 and IEC 61241-11

Of span = Of the presently selected range