2-Wire Programmable Transmitter

Model 5334B

- TC or mV Input
- Extremely High Measurement Accuracy
- 1.5 kVAC Galvanic Isolation
- Programmable Sensor Error Value
- Complies with European ATEX Requirements for Hazardous Location Installation

Application:

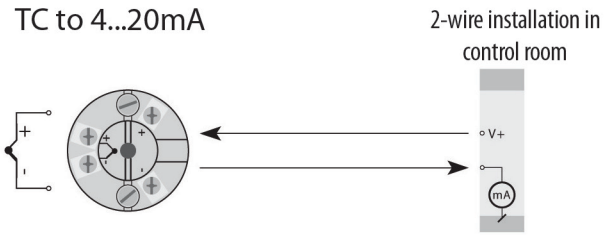
- Linearized temperature measurement with TC sensor.
- Amplification of bipolar mV signals to a 4...20 mA signal, optionally linearized according to a defined linearization function.

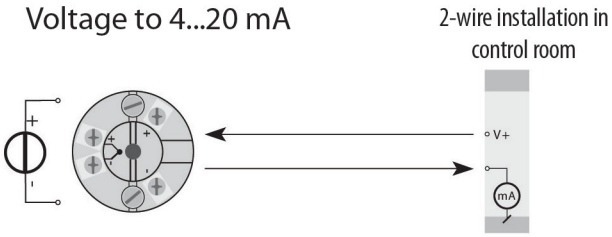
Technical Characteristics:

- Within seconds the user can program a 5334B to measure temperatures within all standard TC ranges.
- Cold junction compensation (CJC) with a built-in temperature sensor.
- Continuous check of vital stored data.

Mounting/Installation:

- DIN Form B sensor head compatible.
- Supplied with 2 x M4 screws on a 33 mm(1.3") BC (optional 6-32 screws available).





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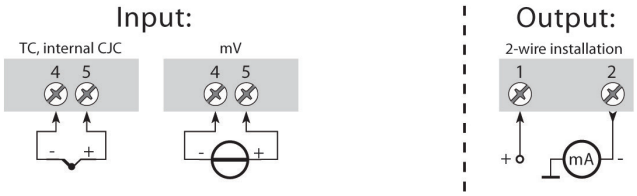
Specifications

Order: 5334B3B



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...60s
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 mm²(16 AWG) 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 selected max. value

Voltage Input:

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

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 ..... ≤ (Vsupply- 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 temp. for T1...T4 ..... 85°C
Max. amb. temp. 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 ..... Standard for Certificate No. 2.4

GOST R Approval* ..... Certificate available upon request.

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
Loop Link = PC compatible programming software.
IS = Intrinsically Safe

*The transmitter is manufactured by PR electronics. All approvals listed are recognized under the PR name.

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