

TC Isolated Safety Barrier

NPEXA-H171

single input, double output

Input: TC

Output: 1:1 mV, 4 ~ 20 mA



Temperature input safety barrier, it converts the thermocouple signals from a hazardous area into 1:1mV and current signals to a safe area by isolation. It has external cold junction compensation terminals. The input, output, and power supply are galvanically isolated from each other. You can use PC or handheld programmer to modify parameters.

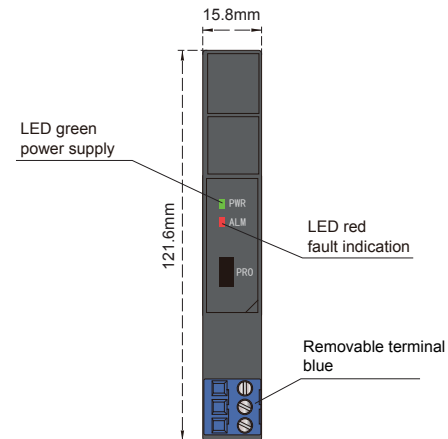
Technical data

Power supply:	18 V DC~32 V DC (Reverse power protection)
Power dissipation:	1.5 W (24V DC, double output)
Input signal:	0 ~ 100 mV
Output signal:	Output1: 1:1 mV Output2: 4 ~ 20 mA
Load resistance:	Output1: $R_L \geq 10k\Omega$ Output1: $R_L \leq 500\Omega$
Compensation accuracy:	1°C (Temperature compensation range: -20°C ~ +60°C)
Temperature drift:	0.01%F.S./°C
Response time:	$\leq 1s$
Electromagnetic compatibility:	IEC 61326-3-1
Dielectric strength:	≥ 2500 V AC (intrinsically safe side / non-intrinsically safe side) ≥ 500 V AC (Power supply side / non-intrinsically safe side)
Insulation resistance:	≥ 100 M Ω (Input /Output/Power supply)
Operation temperature:	-20°C ~ +60°C
Storage temperature:	-40°C ~ +80°C
Dimension:	15.8 mm (W) × 121.6 mm (H) × 104.8 mm (D)
Output states:	Default following mode, it can be configured as 4mA~20mA NE43 mode or fixed output mode.

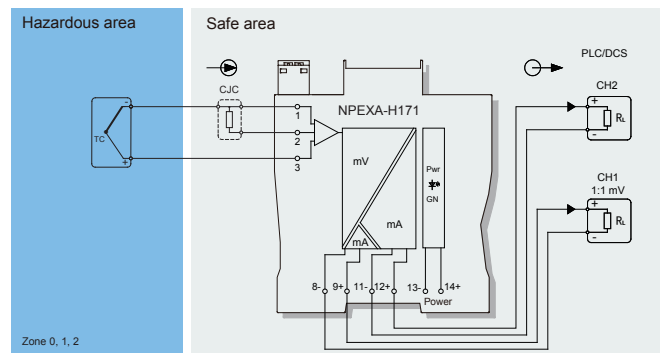
Conversion accuracy list (25°C±2°C, without Cold junction compensation)

Standards	Type	Range	Min.span/Accuracy
IEC 60584-1	K	-200~1372°C	<300°C, ±0.3°C; ≥300°C, ±0.1% F.S.
	E	-120~1000°C	<300°C, ±0.3°C; ≥300°C, ±0.1% F.S.
	J	-140~1200°C	<300°C, ±0.3°C; ≥300°C, ±0.1% F.S.
	T	-270~400°C	<300°C, ±0.3°C; ≥300°C, ±0.1% F.S.
	N	-200~1300°C	<300°C, ±0.3°C; ≥300°C, ±0.1% F.S.
	S	-50~1768°C	<500°C, ±0.5°C; ≥500°C, ±0.1% F.S.
	R	-50~1768°C	<500°C, ±0.5°C; ≥500°C, ±0.1% F.S.
	B	400~1820°C	<500°C, ±0.5°C; ≥500°C, ±0.1% F.S.
ASTM E988-96	W5Re-W26Re	0~2315°C	<500°C, ±0.5°C; ≥500°C, ±0.1% F.S.
GOST R8.585	W3Re-W25Re	0~2315°C	<500°C, ±0.5°C; ≥500°C, ±0.1% F.S.
	L	-100~800°C	<300°C, ±0.3°C; ≥300°C, ±0.1% F.S.

Note: Other sensor input types can be ordered.



Wiring diagram



Explosive-proof parameters

National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI)

Explosive-proof grade: [Ex ia Ga] II C

Um: 250 V

Certified parameters (Terminals 1, 3):

Uo=7.3V, Io=27mA, Po=50mW

II C : Co=12μF , Lo=28mH

II B : Co=151μF , Lo=84mH

II A : Co=700μF , Lo=224mH

Model rules

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The output signal^{note1}

note1 : Output signal

Number	Output
1	4~20mA
2	1~5V
3	0~10mA
4	0~5V
5	0~10V
6	0~20mA