

# TC Isolated Barrier

## NPEXA-C171H

Single input, double outputs

Input: TC

Output: 1:1 mV, 4 ~ 20 mA



Temperature input isolated barrier, it converts the thermocouple signals from a hazardous area into 1:1mV and 4~20mA signals to a safe area by isolation. It has external cold junction compensation terminals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Calibrate the apparatus or modify parameters by using a handheld programmer.

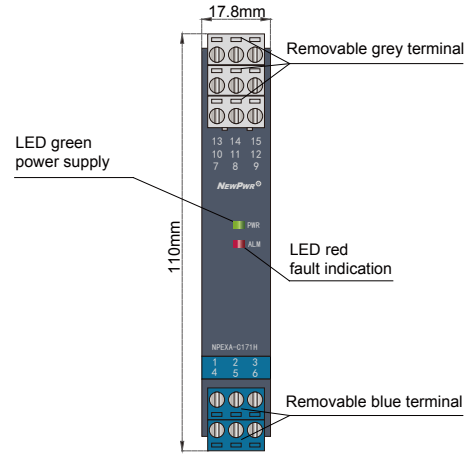
### Parameters

- Power supply: 18V DC ~ 60V DC (Reverse power protection)
- Power dissipation: 1.2W
- Input signal: 0mV ~ 100mV
- Output signal: Output1: 1:1 mV  
Output2: 4 ~ 20mA (sink/source)
- Load resistance: Output1:  $R_L \geq 10k\Omega$   
Output2:  $R_L \leq 550\Omega$  (source)  
 $R_L < [(U-3)/0.02]\Omega$  (sink); U: Loop power supply
- Temperature drift: 30ppm/°C
- Response time:  $\leq 500ms$
- Electromagnetic compatibility: Accordance to IEC 61326-3-1
- Dielectric strength:  $\geq 3000V$  AC (intrinsically safe side / non-intrinsically safe side)  
 $\geq 1500V$  AC (Power supply /non-intrinsically safe side)
- Insulation resistance:  $\geq 100M\Omega$  (Input /Output/Power supply)
- Operation temperature: -20°C ~ +60°C
- Storage temperature: -40°C ~ +80°C
- Dimension: 17.8mm (W) × 110mm (H) × 117mm (D)
- Output states: : Default following mode, it can be configured as 4mA~20mA NE43 mode or fixed output mode.

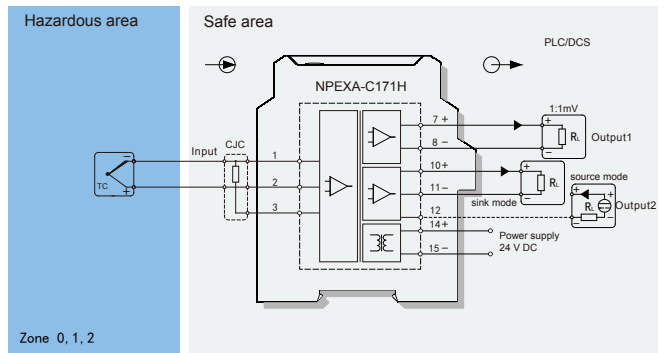
Conversion accuracy list (25°C±2°C, without Cold junction compensation)

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.
	W3Re-W25Re	0~2315°C	<500°C, ±0.5°C; ≥500°C, ±0.1% F.S.
GOST R8.585	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

China National Quality Supervision and Test Centre for Explosion Protected Electrical Products (CQST)

Ex marking: [Ex ia Ga] IIC

Um: 250V

Certified parameters (Terminals 1, 2):

Uo=8.7V, Io=33mA, Po=72mW

Co=3.58μF, Lo=21mH

### Model rules

NPEXA-C17  H

PB: BUS powered  
Default: Terminals powered

The first output signal<sup>note1</sup>

note1: output signal

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