

# TC Isolated Safety Barrier

## NPEXA-H171 single input, double output

Input: TC  
Output: 1:1 mV, 4 ~ 20 mA



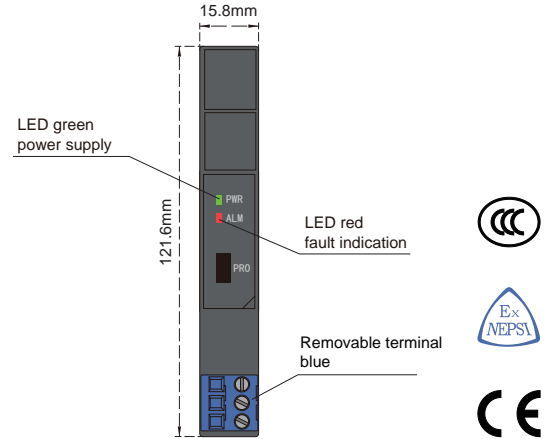
Temperature input safety barrier, it converts the thermocouple signals from a hazardous area into 1:1mV and current signals to a safe area by isolation. It has external cold junction compensation terminals. The input, output, and power supply are galvanically isolated from each other. You can use PC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

### Technical data

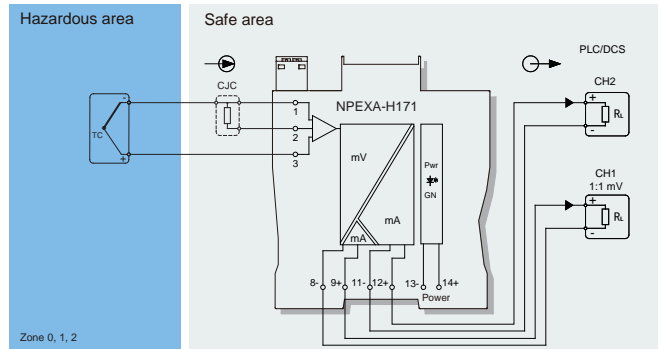
- Power supply: 18 V DC~32 V DC (Reverse power protection)
- Power dissipation: 1.5 W (24V DC, double output)
- Input signal: 0 ~ 100 mV
- Output signal: Output1: 1:1 mV  
Output2: 4 ~ 20 mA
- Load resistance: Output1:  $R_L \geq 10k\Omega$   
Output1:  $R_L \leq 500 \Omega$
- Compensation accuracy: 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:  $\geq 2500$  V AC (intrinsically safe side / non-intrinsically safe side)  
 $\geq 500$  V AC (Power supply side /non-intrinsically safe side)
- Insulation resistance:  $\geq 100$  M $\Omega$  ( Input /Output/Power supply)
- Operation temperature: -20°C ~ +60°C
- Storage temperature: -40°C ~ +80°C
- Dimension: 15.8 mm (W) x 121.6 mm (H) x 104.8 mm (D)
- Output states: Whatever input fault status (except breakage), the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0 ~ 20 mA, the minimum output value may be 0 mA, the maximum output value would not exceed 22 mA)

Range and Conversion accuracy list (25°C±2°C, not contain cold junction compensation):

Type	Range	Min.span/Accuracy	
K	-200°C~+1372°C	<300°C, ±0.3°C	≥300°C, ±0.1% F.S.
E	-100°C~+1000°C	<300°C, ±0.3°C	≥300°C, ±0.1% F.S.
J	-100°C~+1200°C	<300°C, ±0.3°C	≥300°C, ±0.1% F.S.
N	-200°C~+1300°C	<300°C, ±0.3°C	≥300°C, ±0.1% F.S.
S	-50°C~+1768°C	<500°C, ±0.5°C	≥500°C, ±0.1% F.S.
R	-50°C~+1768°C	<500°C, ±0.5°C	≥500°C, ±0.1% F.S.
T	-20°C~+400°C	<300°C, ±0.3°C	≥300°C, ±0.1% F.S.
B	+400°C~+1820°C	<500°C, ±0.5°C	≥500°C, ±0.1% F.S.



### 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

NPEXA-H171   
 |   
 The output signal<sup>note1</sup>

note1 : Output signal

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