

TC & RTD Isolated Safety Barrier



NPEXA-H0D11 double input, double output

Input: TC or RTD
Output: 4 ~ 20 mA

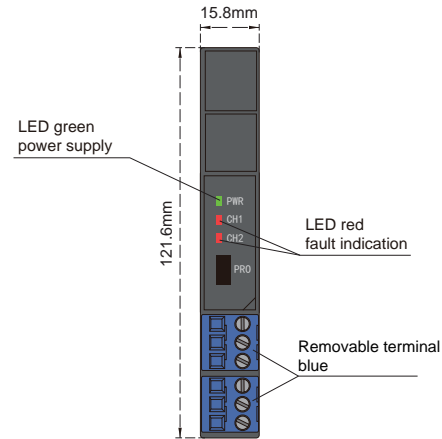
Temperature input safety barrier, it converts the thermocouple or thermal resistance signals from a hazardous area into current signals to a safe area by isolation. It has external cold junction compensation terminals. The input, output, and power supply are galvanically isolated from each other. A self-test feature is also available on this device. You can use PC or handheld programmer to modify parameters.

Technical data

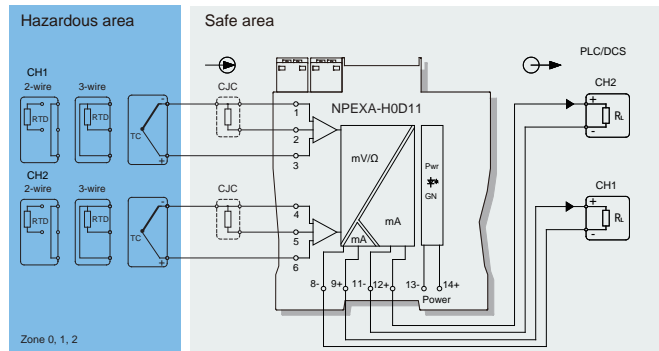
- Power supply: 18 V DC~32 V DC (Reverse power protection)
- Power dissipation: 1.5 W (24V DC, double output)
- Input signal: K, E, S, B, J, T, R, N, etc.
Pt100, Cu100, Cu50, BA1, BA2, etc.
- Line resistance: $\leq 20 \Omega$ per line (RTD)
- Output signal: 4 ~ 20 mA
- Load resistance: $RL \leq 500 \Omega$
- Compensation accuracy: 1°C (Temperature compensation range: $-20^\circ\text{C} \sim +60^\circ\text{C}$)
- Temperature drift: $0.01\% \text{F.S.}/^\circ\text{C}$
- Response time: $\leq 1\text{s}$
- Electromagnetic compatibility: IEC 61326-3-1
- Dielectric strength: $\geq 2500 \text{ V AC}$ (intrinsically safe side / non-intrinsically safe side)
 $\geq 500 \text{ V AC}$ (Power supply side /non-intrinsically safe side)
- Insulation resistance: $\geq 100 \text{ M}\Omega$ (Input /Output/Power supply)
- Operation temperature: $-20^\circ\text{C} \sim +60^\circ\text{C}$
- Storage temperature: $-40^\circ\text{C} \sim +80^\circ\text{C}$
- 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 ($25^\circ\text{C} \pm 2^\circ\text{C}$, not contain cold junction compensation):

Type	Range	Min.span/Accuracy	
K	$-200^\circ\text{C} \sim +1372^\circ\text{C}$	$<300^\circ\text{C}, \pm 0.3^\circ\text{C}$	$\geq 300^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
E	$-100^\circ\text{C} \sim +1000^\circ\text{C}$	$<300^\circ\text{C}, \pm 0.3^\circ\text{C}$	$\geq 300^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
J	$-100^\circ\text{C} \sim +1200^\circ\text{C}$	$<300^\circ\text{C}, \pm 0.3^\circ\text{C}$	$\geq 300^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
N	$-200^\circ\text{C} \sim +1300^\circ\text{C}$	$<300^\circ\text{C}, \pm 0.3^\circ\text{C}$	$\geq 300^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
S	$-50^\circ\text{C} \sim +1768^\circ\text{C}$	$<500^\circ\text{C}, \pm 0.5^\circ\text{C}$	$\geq 500^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
R	$-50^\circ\text{C} \sim +1768^\circ\text{C}$	$<500^\circ\text{C}, \pm 0.5^\circ\text{C}$	$\geq 500^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
T	$-20^\circ\text{C} \sim +400^\circ\text{C}$	$<300^\circ\text{C}, \pm 0.3^\circ\text{C}$	$\geq 300^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
B	$+400^\circ\text{C} \sim +1820^\circ\text{C}$	$<500^\circ\text{C}, \pm 0.5^\circ\text{C}$	$\geq 500^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
Pt100	$-200^\circ\text{C} \sim +850^\circ\text{C}$	$<100^\circ\text{C}, \pm 0.1^\circ\text{C}$	$\geq 100^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
Cu50	$-50^\circ\text{C} \sim +150^\circ\text{C}$	$<100^\circ\text{C}, \pm 0.1^\circ\text{C}$	$\geq 100^\circ\text{C}, \pm 0.1\% \text{ F.S.}$
Cu100	$-50^\circ\text{C} \sim +150^\circ\text{C}$	$<100^\circ\text{C}, \pm 0.1^\circ\text{C}$	$\geq 100^\circ\text{C}, \pm 0.1\% \text{ F.S.}$



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, 2, 3; 4, 5, 6):

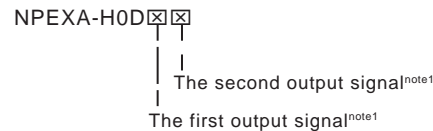
Uo=7.3V, Io=27mA, Po=50mW

II C : Co=12 μF , Lo=28mH

II B : Co=151 μF , Lo=84mH

II A : Co=700 μF , Lo=224mH

Model rules



note1 : Output signal

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