

TC & RTD Isolated Safety Barrier



NPEXA-H01

single input, single output

Input: TC or RTD
Output: 4 ~ 20 mA

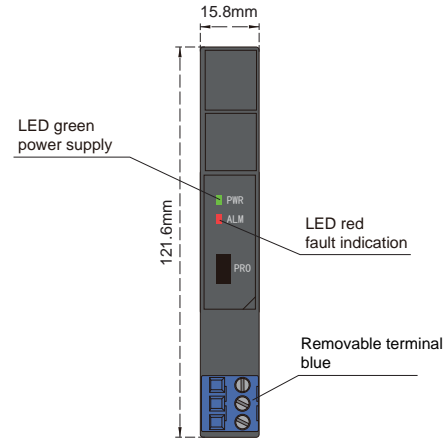
Temperature input safety barrier, it converts the thermocouple or thermal resistance signals from a hazardous area into current signals to a safe area by isolation. It has external cold junction compensation terminals. The input, output, and power supply are galvanically isolated from each other. A self-test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

Technical data

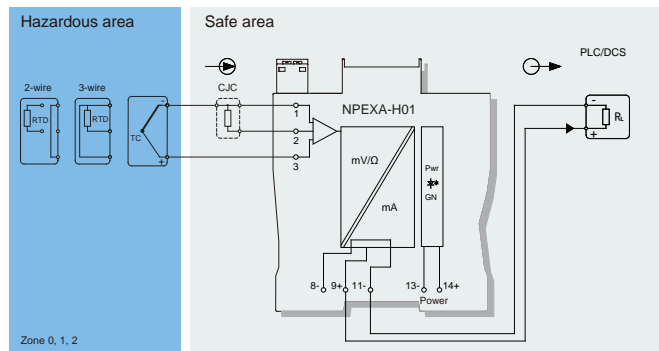
Power supply:	18 V DC~32 V DC (Reverse power protection)
Power dissipation:	1.0 W (24V DC, single output)
Input signal:	K, E, S, B, J, T, R, N, etc. Pt100, Cu100, Cu50, BA1, BA2, etc.
Line resistance:	≤ 20 Ω per line (RTD)
Output signal:	4 ~ 20 mA
Load resistance:	RL ≤ 500 Ω
Compensation accuracy:	1°C (Temperature compensation range: -20°C ~ +60°C)
Temperature drift:	0.01%F.S./°C
Response time:	≤ 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 MΩ (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:	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.
Pt100	-200°C~+850°C	<100°C, ±0.1°C	≥100°C, ±0.1% F.S.
Cu50	-50°C~+150°C	<100°C, ±0.1°C	≥100°C, ±0.1% F.S.
Cu100	-50°C~+150°C	<100°C, ±0.1°C	≥100°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, 2, 3):

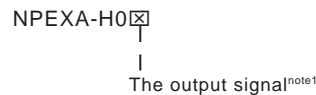
Uo=7.3V, Io=27mA, Po=50mW

II C : Co=12μF , Lo=28mH

II B : Co=151μF , Lo=84mH

II A : Co=700μF , Lo=224mH

Model rules



note1 : Output signal

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