

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.

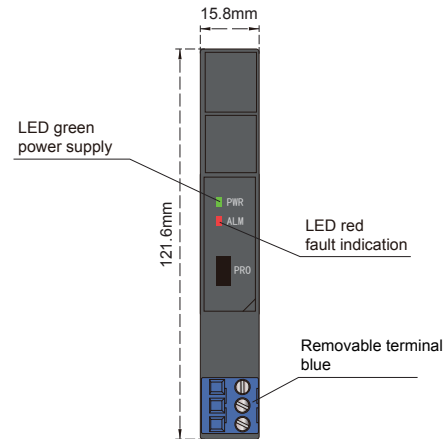
Technical data

Power supply:	18 V DC~32 V DC (Reverse power protection)
Power dissipation:	1.0 W (24V DC, single output)
Input signal:	TC, RTD
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:	Default following mode, it can be configured as 4mA~20mA NE43 mode or fixed output mode.

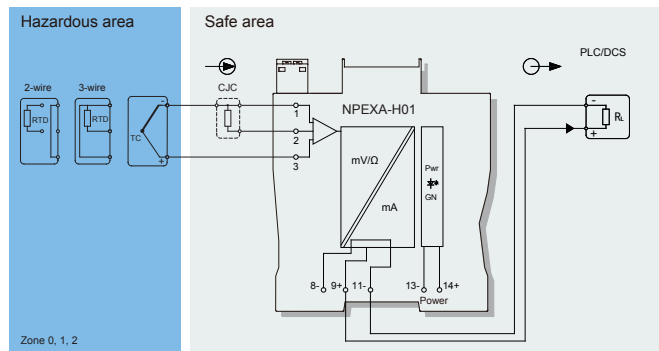
Conversion accuracy list (25°C±2°C, without Cold junction compensation)

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.
	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.
ASTM E988-96	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.
IEC 60751	Pt100(α=0.00385)	-200~850°C	<100°C, ±0.1°C; ≥100°C, ±0.1% F.S.
	Pt100(α=0.00391)	-200~850°C	<100°C, ±0.1°C; ≥100°C, ±0.1% F.S.
	Cu50(α=0.00428)	-180~200°C	<100°C, ±0.1°C; ≥100°C, ±0.1% F.S.
	Cu100(α=0.00428)	-180~200°C	<100°C, ±0.1°C; ≥100°C, ±0.1% F.S.
	Cu50(α=0.00426)	-50~200°C	<100°C, ±0.1°C; ≥100°C, ±0.1% F.S.
	Cu100(α=0.00426)	-50~200°C	<100°C, ±0.1°C; ≥100°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, 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

NPEXA-H01
|
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