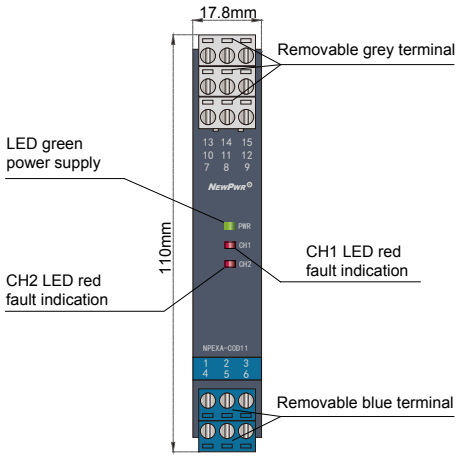
NPEXA-C0D11

Double inputs, double outputs

Input: TC, RTD
Output: 4 ~ 20 mA

Temperature input isolated barrier, it converts the thermocouple or thermal resistance signals from a hazardous area into 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. The self-test function is also available on this device. Calibrate the apparatus or modify parameters by using a handheld programmer.



Parameters

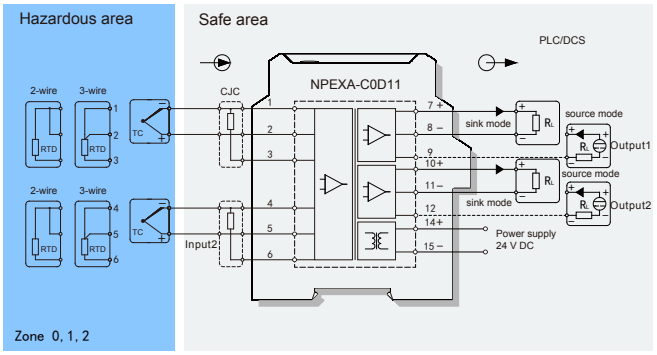
Power supply:	18V DC ~ 60V DC (Reverse power protection)
Power dissipation:	1.2W
Input signal:	TC, RTD
Line resistance:	≤ 20Ω per line (RTD)
Output signal:	4 ~ 20mA (sink/source)
Load resistance:	source: $R_L \leq 550\Omega$ sink: $R_L < [(U-3)/0.02]\Omega$; U: Loop power supply
Compensation accuracy:	1°C (Temperature compensation range: -20°C ~ +60°C)
Temperature drift:	30ppm/°C
Response time:	≤ 500ms
Electromagnetic compatibility:	IEC 61326-3-1
Dielectric strength:	≥ 3000V AC (intrinsically safe side / non-intrinsically safe side) ≥ 1500V AC (Power supply /non-intrinsically safe side)
Insulation resistance:	≥ 100MΩ (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.
GOST R8.585	W3Re-W25Re	0~2315°C	<500°C, ±0.5°C; ≥500°C, ±0.1% F.S.
IEC 60751	L	-100~800°C	<300°C, ±0.3°C; ≥300°C, ±0.1% F.S.
	Pt100(α=0.00385)	-200~850°C	<100°C, ±0.1°C; ≥100°C, ±0.1% F.S.
GOST 6651	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)

Ex marking: [Ex ia Ga] ⅡC
[Ex ia Da] ⅢC

Um: 250V

Certified parameters (Terminals 1, 2, 3; 4, 5, 6):

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

ⅡC: Co=5μF, Lo=28mH

ⅢC(ⅡB): Co=49μF, Lo=84mH

Model rules

NPEXA-C0D☒☒☒

- PB: BUS powered
  Default: Terminals powered
- The second output signal[note1]
- The first output signal[note1]

note1: output signal

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