

# TC Isolated Barrier

## NPEXA-C11A2

Single input, three outputs

Input: TC  
Output: 4 ~ 20 mA , relay



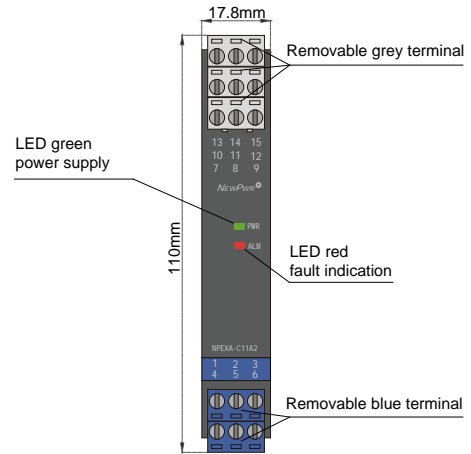
Temperature input isolated barrier, it converts the thermocouple signals from a hazardous area into 4~20mA signals to a safe area by isolation, two relay alarm outputs. It has external cold junction compensation terminals. It needs an independent power supply. The input, output, and power supply are 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

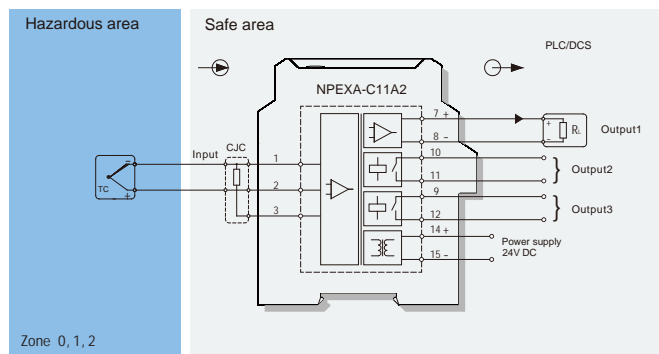
- Power supply: 18V DC ~ 60V DC (Reverse power protection)
- Power dissipation: 1.5W
- Input signal: K, E, S, B, J, T, R, N, etc.
- Output signal: Output1: 4 ~ 20mA  
Output2, Output3: relay contact (alarm value, hysteresis and delay time can be set)
- Load resistance:  $R_L \leq 550\Omega$
- Load capacity: 250VAC/2A, 30VDC/2A
- Compensation accuracy: 1°C (Temperature compensation range: -20°C ~ +60°C)
- Temperature drift: 30ppm/°C
- Response time:  $\leq 500\text{ms}$
- Electromagnetic compatibility: IEC 61326-3-1
- Dielectric strength:  $\geq 3000\text{V AC}$  (intrinsically safe side / non-intrinsically safe side)  
 $\geq 1500\text{V AC}$  (Power supply /non-intrinsically safe side)
- Insulation resistance:  $\geq 100\text{M}\Omega$  (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: 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 ~ 20mA, the minimum output value may be 0mA, the maximum output value would not exceed 22mA)

### Range and Conversion accuracy list

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



### Wiring diagram



### Explosive-proof parameters

China National Quality Supervision and Test Centre for Explosion Protected Electrical Products (CQST)

Ex marking: [Ex ia Ga] IIC

Um: 250V

Certified parameters (Terminals 1, 2):

$U_o=10.5\text{V}$ ,  $I_o=1\text{mA}$ ,  $P_o=3\text{mW}$

II C:  $C_o=1.61\mu\text{F}$ ,  $L_o=700\text{mH}$

II B:  $C_o=11.7\mu\text{F}$ ,  $L_o=700\text{mH}$

II A:  $C_o=52\mu\text{F}$ ,  $L_o=700\text{mH}$

### Model rules

NPEXA-C1  A2   
 PB: BUS powered  
 Default: Terminals powered  
 The first output signal<sup>note1</sup>

note1: output signal

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