

RTD Isolated Barrier

NPEXA-C2D11

Double inputs, double outputs

Input: RTD

Output: 4 ~ 20 mA



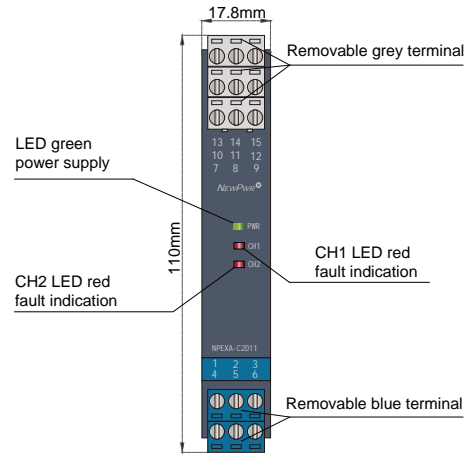
Temperature input isolated barrier, it converts the thermal resistance signals from a hazardous area into 4~20mA signals to a safe area by isolation. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. The self-test function is also available on this device. Calibrate the apparatus or modify parameters by using a handheld programmer.

Parameters

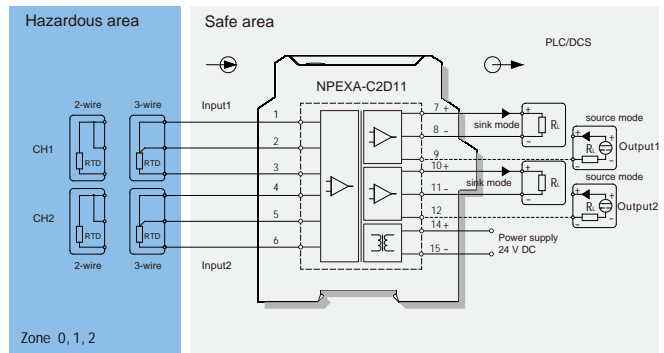
- Power supply: 18V DC ~ 60V DC (Reverse power protection)
- Power dissipation: 1.2W
- Input signal: Pt100, Cu100, Cu50, BA1, BA2, etc.
- Line resistance: $\leq 20\Omega$ per line (RTD)
- Output signal: 4 ~ 20mA (sink/source)
- Load resistance: source: $R_L \leq 550\Omega$ sink: $R_L < [(U-3)/0.02]\Omega$;
U: Loop power supply
- Temperature drift: 30ppm/ $^{\circ}\text{C}$
- 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: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$
- Storage temperature: $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$
- Dimension: 17.8mm (W) \times 110mm (H) \times 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	
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)

Ex marking: [Ex ia Ga] IIC
[Ex ia Da] IIIC

Um: 250V

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

$U_o=8.7\text{V}$, $I_o=33\text{mA}$, $P_o=72\text{mW}$

IIC: $C_o=5\mu\text{F}$, $L_o=28\text{mH}$

IIIC(II B): $C_o=49\mu\text{F}$, $L_o=84\text{mH}$

Model rules

NPEXA-C2D
 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