

RTD Isolated Barrier

NPEXA-C271

Single input, double outputs

Input: RTD

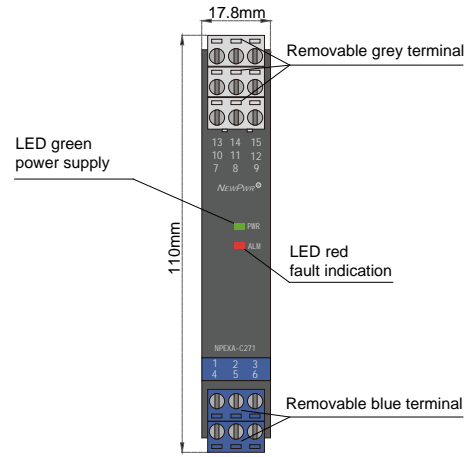
Output: 1:1 Resistance, 4~20mA



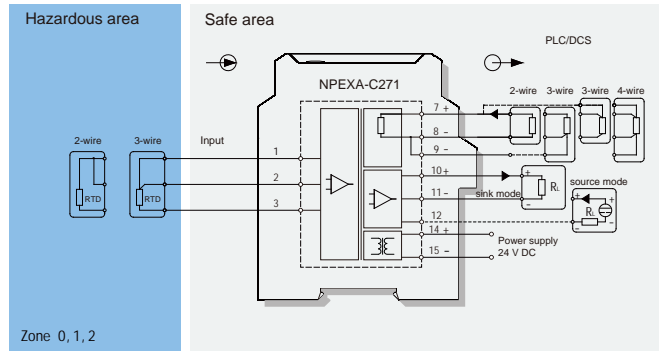
Temperature input isolated barrier, it converts the thermal resistance signals from a hazardous area into 1:1 resistance and 4~20mA signals to a safe area by isolation. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Calibrate the apparatus or modify parameters by using a handheld programmer.

Parameters

- Power supply: 18V DC ~ 60V DC (Reverse power protection)
- Power dissipation: 1 W
- Input signal: 18Ω ~ 400Ω
- Line resistance: ≤ 20Ω per line (RTD)
- Output signal: Output1: 1:1 resistance
Output2: 4 ~ 20mA (sink/source)
- Load resistance: source: $R_L \leq 550\Omega$ sink: $R_L < [(U-3)/0.02]\Omega$;
U: Loop power supply
- Exciting current: 0.1mA ~ 10mA
- Conversion accuracy: (25°C±2°C)
- Output1: excitation current accuracy
0.5mA ~ 10mA ± 0.1%F.S. or < 0.2Ω (select max)
- Output2: range accuracy
< 100°C ±0.1°C
≥ 100°C ±0.1% F.S.
- 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: Whatever input fault status (except breakage, breakage output about 16Ω, breakage output2 about 0V/mA), the output follows the input within measuring range. And output1 the maximum value would not exceed the upper limit 430Ω, output2 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)



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, 3):

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

II C: Co=3.9μF, Lo=22mH

II B: Co=35μF, Lo=66mH

II A: Co=700μF, Lo=176mH

Model rules

NPEXA-C271
 PB: BUS powered
 Default: Terminals powered
 The second 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