C Series Single Channel RTD Isolated Safety Barrier

➔ Introductions

This isolated safety barrier converts the thermal resistance signals from a hazardous area into current or voltage signals to a safe area. DIN rail power supply function can be selected in ordering.

The input, output, and power supply are galvanically isolated from each other. Calibrate the apparatus or modify parameters by using a handheld programmer.

➔ Parameters

Explosive-proof grade: [Ex ia Ga] IIC; [Ex ia Da] IIIC

Power supply:

Connection type: Terminals (9+, 10-) or DIN rail connector

Rated voltage: 18V DC ~ 60V DC (Recommended: 24V DC)

Input (1, 2, 3): 2/3-wire RTD

The input signal needs to be determined when ordering and can also be programmed. Other signal types is required special customization, please see the productlabel for details.

Line resistance: ≤ 20 Ω per line

Output (5, 6; 7, 8):

Output current: 0(4) ~ 20 mA; 0 ~ 10 mA; 20 ~ 4 mA

Output voltage: 0(1) ~ 5 V; 0 ~ 10 V

Note: 4~20mA Outputs can be configured NAMUR NE 43.

Output ripple: ≤ 5 mV_{rms} (Load resistance: 250 Ω)

Load resistance:

0(4) ~ 20 mA, 20 ~ 4 mA: ≤ 550 Ω; 0 ~ 10 mA: ≤ 1.1 kΩ

0(1) ~ 5 V: ≥ 1 MΩ; 0 ~ 10 V: ≥ 2 MΩ

Other load resistance is required special customization, please see the productlabel for details.

Transmission characteristics (25 ℃ ± 2 ℃):

Response time: ≤ 0.5 s

Temperature drift: 30 ppm/℃

Electromagnetic compatibility: Accordance to IEC 61326-3-1

Dielectric strength (1 mA leakage current, 1 minute test time):

≥ 3000 V AC (Intrinsically safe side / Non-intrinsically safe side)

≥ 1500 V AC (Power supply / Non-intrinsically safe side)

Insulation resistance: ≥ 100 MΩ (Input /Output/Power supply)

Parameters certified by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI):

U_m: 250 V

Terminals 1, 2, 3:

U_o: 8.7 V I_o: 33 mA P_o: 72 mW

IIC: C_o: 5μF; L_o: 28mH

IIIC(IIB): C_o: 49μF; L_o: 84mH

Ambient conditions:

Operation temperature: −20 ℃ ~ +60 ℃

Relative humidity: 10 %RH ~ 90 %RH (40 ℃)

Atmosphere pressure: 80 kPa ~ 106 kPa

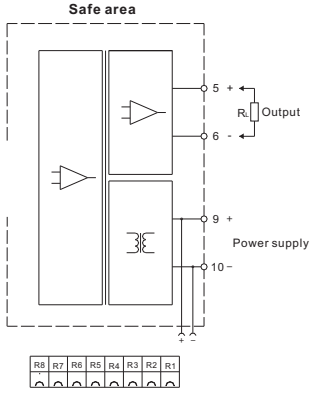
Storage temperature: −40 ℃ ~ +80 ℃

Power dissipation:

0.8 W (24 V DC, single output)

1.2 W (24 V DC, double output)

➔ Wiring diagram



NPEXA-C21 etc.

NPEXA-C211 etc.

❍ The following table shows the values of the current output during a overrange alarm mode, take 4~20mA output as an example. Default following mode.

❍ DIN rail power supply function is selectable at ordering.

➔ Dimension

Width × Height × Depth: 12.8 mm × 110 mm × 117 mm

installation in the control room or high density field ca