

C Series Resistance Input, Resistance Output Isolated Safety Barrier

→ Introductions

This isolated safety barrier converts the resistance signals to 1:1 resistance signals.

The input, output, and power supply are galvanically isolated from each other. It can be interfaced with all kinds of device, such as DCS, PLC and other systems.

→ Parameters

Power supply:

Connection type: Terminals (14+, 15-) or DIN rail connector

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

Input (1, 2, 3; 4, 5, 6):

Input signal: 2/3-wire resistance signal

Signal range: 18 Ω ~ 400 Ω

Line resistance: ≤ 20 Ω per line

Output (7, 8, 9; 10, 11, 12):

Output signal: 1:1 input resistance signal

Output drive current: 0.1 ~ 10 mA

Transmission characteristics:

Output drive current	Accuracy
0.5 ~ 10 mA	± 0.1% F.S. or < 0.2 Ω (Choose the maximum value)

NOTE: The transmission accuracy of resistance decreases with the decrease of drive current.

Response time: ≤ 0.5 s

Temperature drift: 30 ppm/°C

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 (non-intrinsically safe side / non-intrinsically safe side)

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

Parameters certified by China National Quality Supervision and Test Centre for Explosion Protected Electrical Products (CQST):

U_m: 250 V

Terminals 1, 3; 2, 3; 4, 6; 5, 6 :

U_o: 8.7 V I_o: 33 mA P_o: 72 mW C_o: 5.0 μF L_o: 3.0 mH

Ambient conditions:

Operation temperature: -20 °C ~ +60 °C

Relative humidity: 10% RH ~ 90% RH (40 °C)

Atmosphere pressure: 80 kPa ~ 106 kPa

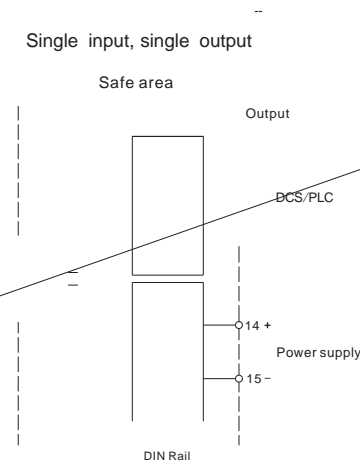
Storage temperature: -40 °C ~ +80 °C

Power dissipation: 0.4 W

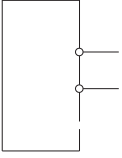
→ Support model type

Model number	Output1	Output2	Power supply	
	1:1 resistance signal	1:1 resistance signal	Terminals	DIN rail
Single input, single output NPEXA-C27	■		■	
NPEXA-C27PB	■		■	■
Single input, double output NPEXA-C277	■	■	■	
NPEXA-C277PB	■	■	■	■
Double input, double output NPEXA-C2D77	■	■	■	
NPEXA-C2D77PB	■	■	■	■

→ Wiring diagram



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DCS/PLC