

AI Isolated Safety Barrier

NPEXA-CM31

Single input, single output

NPEXA-CM311

Single input, double output

Input: 4 ~ 20 mA

Output: 4 ~ 20 mA

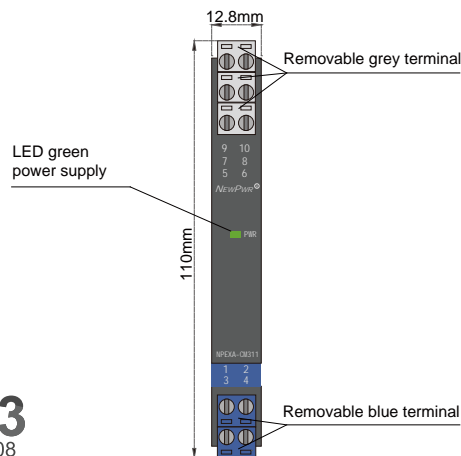
This isolated safety barrier detects loop current and converts it from a hazardous area into current or voltage signals to a safe area by isolation, and also provides transmitters with power in the hazardous area. It allows transmission of HART communication signals. The input, output, and power supply are galvanically isolated from each other.



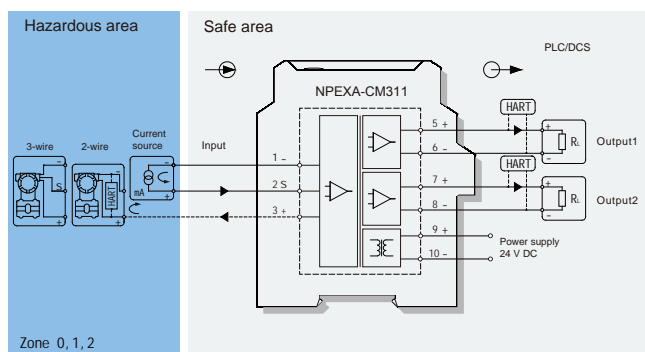
Parameters

| | |
|--------------------------------|--|
| Power supply: | 18V DC ~ 60V DC (Reverse power protection) |
| Power dissipation: | 0.8W (24V, single output) 1.2W (24V, double output) |
| Input signal: | 4 ~ 20mA, HART |
| Input resistance: | approx. 75Ω |
| Available voltage: | open-circuit voltage ≤ 26V voltage: ≥ 16V at 20mA |
| Output signal: | 4 ~ 20mA, HART |
| Load resistance: | $R_L \leq 550\Omega$ |
| Accuracy: | 0.1%F.S. |
| Temperature drift: | 30ppm/°C |
| Response time: | ≤ 2ms |
| Electromagnetic compatibility: | IEC 61326-3-1 |
| Dielectric strength: | ≥ 3000V AC (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: | 12.8mm (W) × 110mm (H) × 117mm (D) |
| Safe state: | The output signal is less than 3.6mA or greater than 21.5mA |

SIL3
IEC 61508



Wiring diagram



Explosive-proof parameters

Functional safety level(SIL) : SIL3, SC3 according to IEC 61508
National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI)
Explosive-proof grade: [Ex ia Ga] II C
Um: 250V
Certified parameters (Terminals 1, 2):
Uo=5V
II C: Co=70μF
II B: Co=700μF
II A: Co=700μF
Certified parameters (Terminals 2, 3):
Uo=28V, Io=93mA, Po=651mW
II C: Co=0.058μF, Lo=2.8mH
II B: Co=0.45μF, Lo=8.4mH
II A: Co=1.50μF, Lo=22.4mH

Other ordering information

| Type | Input | Output1 | Output2 | Power supply |
|-------------|----------|----------|---------|--------------|
| NPEXA-CM32 | 4 ~ 20mA | 1 ~ 5V | ----- | Terminal |
| NPEXA-CM35 | 0 ~ 20mA | 0 ~ 10V | ----- | Terminal |
| NPEXA-CM312 | 4 ~ 20mA | 4 ~ 20mA | 1 ~ 5V | Terminal |
| NPEXA-CM322 | 4 ~ 20mA | 1 ~ 5V | 1 ~ 5V | Terminal |
| NPEXA-CM355 | 0 ~ 20mA | 0 ~ 10V | 0 ~ 10V | Terminal |