

# Digital Input

1/1:GS5011-EX  
 2/2:GS5012-EX  
 1/2:GS5111-EX

Digital input, relay output isolated barriers, transfer digital signals (dry contact or NAMUR proximity switch) from hazardous area to safe area. Each channel can be provided to select phase reversal and to enable line fault detection. The product needs an independent power supply and galvanic isolation among power supply, input and output.

## Specification

**Supply Voltage:**20~35V DC

**Current Consumption: (Supply voltage: 24V; Output energized) :**  
 ≤30mA (GS5011-EX)  
 ≤40mA (GS5012-EX/GS5111-EX)

**Safe-area Relay Output:**

Response Time:≤10ms  
 Contact loading:250V AC,2A or 30V DC,2A  
 Load Type:resistive load

**Hazardous-area Input:**

Signal:Dry contact or NAMUR proximity switch  
 Open-circuit Voltage:≈8V  
 Short-circuit Current:≈8mA

**Input and Output Characteristics (Normal phase)**

If field switch closes or input loop current >2.1mA, output relay will be energized, with yellow LED ON.

If field switch closes or input loop current <1.2mA, output relay will be de-energized, with yellow LED OFF.

**Function of the DIP Switch:**

| Sta. | K1(OUT1), K3(OUT2) | K2(OUT1), K4(OUT2) |
|------|--------------------|--------------------|
| ON   | Inverted phase     | LFD enabled        |
| OFF  | Normal phase       | LFD disenabled     |

Note:Switch input (I) needs the K2 and K4 to be set to OFF state, without line fault (breakage, short-circuit) detection. When using line fault (breakage, short-circuit) detection function, resistances must be fitted: 22kΩ in parallel with switch,

**Power Supply Protection:**Power supply reverse protection

**EMC:**According to IEC 61326-1 (GB/T 18268), IEC 61326-3-1

**Dielectric Strength:**

Between non-intrinsically safe part and intrinsically safe part ≥2500V AC

Between power supply part and output part ≥500V AC

**Insulation Resistance:**

Between non-intrinsically safe part and intrinsically safe part ≥100MΩ

Between power supply part and output part ≥100MΩ

**Weight:**Approx. 100g

**Suitable Location:**Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.

**Suitable Field Apparatus:**Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch、 temperature switches、 liquid level switches, etc.)

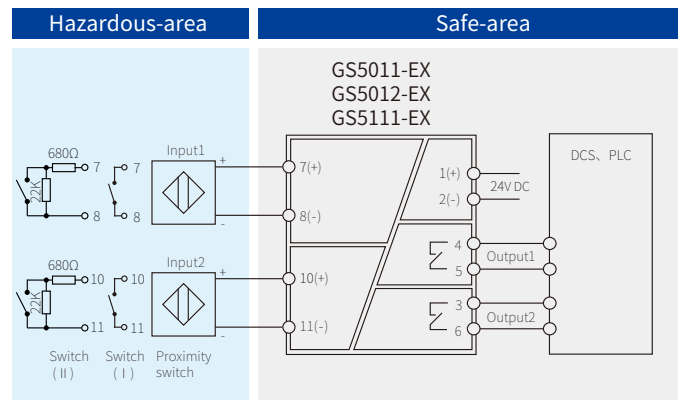


Dimensions:

114.5mm×99mm×12.5mm (GS5011-EX)

114.5mm×99mm×17.5mm (GS5012-EX/GS5111-EX)

## Connection



Note: a) GS5011-EX only contains input1, output1;  
 b) GS5111-EX only contains input1, output1, output2;

## Explosion-proof Certificate

**Certificate Authority:**NEPSI (China)

**Ex Marking:**[Ex ia Ga] II C  
 [Ex iaD]

**Maximum Voltage:**Um=250V

**Intrinsic Safety Parameters:**

Terminals (7、8) , (10、11)

U<sub>o</sub>=10.5V, I<sub>o</sub>=14mA, P<sub>o</sub>=37mW

II C:C<sub>o</sub>=2.4μF, L<sub>o</sub>=165mH

\*II B:C<sub>o</sub>=16.8μF, L<sub>o</sub>=495mH

II A:C<sub>o</sub>=75.0μF, L<sub>o</sub>=1000mH

\*II B Intrinsic safety parameters are also suitable for dust explosion protection[Ex iaD]