1/1:GS5013-EX
2/2:GS5019-EX

Digital input, transistor 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 the line fault detection. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Dimensions:114.5mm×99mm×17.5mm

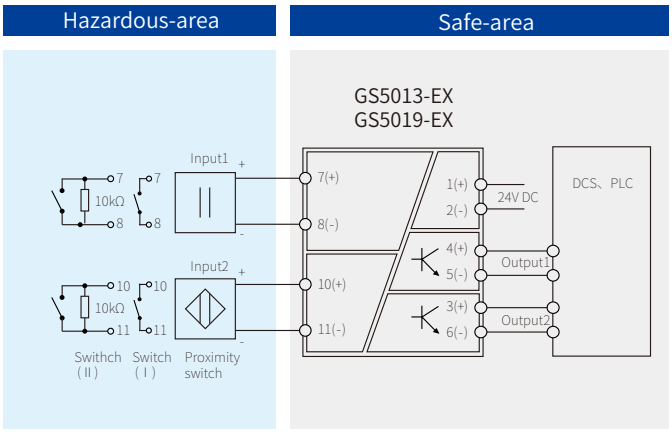
Specification

Supply Voltage:20~35V DC
Current Consumption: (Supply voltage:24V, transistor energized)
⩽40mA (GS5013-EX)
⩽60mA (GS5019-EX)
Safe-area Output:
Digital output:4.5V⩽V_H⩽12V，V_L⩽0.5V
Drive current⩽10mA，Load resistance⩾1kΩ
Transistor collector output:
V_H=V_{CC};V_L⩽2.5V (On-state current=10mA，V_{CC}=24V)
Max.Rated Current⩽40mA，Load resistance:2kΩ⩽R_L⩽20kΩ
Transistor Emitter Output:
V_H⩾V_{CC}-2.5V V_L⩽0.5V (On-state current=10mA，V_{CC}=24V)
Max.Rated Current⩽40mA，Load resistance:2kΩ⩽R_L⩽10kΩ
Note:“V_{CC}”refers to the supply voltage at the output，V_{CC}⩽40V
Hazardous-area Input:
Signal:Dry contact or NAMUR proximity switch input, frequency⩽5kHz
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 transistor will be energized, with yellow LED ON.
If field switch closes or input loop current＜1.2mA, output transistor will be de-energized, with yellow LED OFF.

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

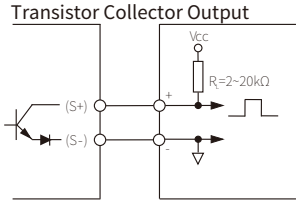
Note:Switch input (I) needs the K2 and K4 to be set to OFF,without line fault (breakage) detection. When using line fault (breakage) detection function, resistances must be fitted: 10kΩ in parallel with switch, See Switch (II), K2 and K4 are set to ON.
Power Supply Protection:Power supply reverse protection
EMC:According to IEC 61326-1 (GB/T 18268)
Ambient Temperature:-20°C~+60°C
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. 150g
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.)

Connection

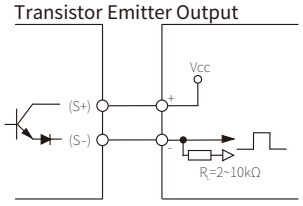


Note: a) GS5013-EX only contains input1, output1.

Application 1:
Transistor Collector Output



Application 2:
Transistor Emitter Output



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_O=10.5V，I_O=14mA，P_O=37mW
II C:C_O=2.4μF， L_O=165mH
*II B:C_O=16.8μF， L_O=495mH
II A:C_O=75.0μF， L_O=1000mH
*II B Intrinsic safety parameters are also suitable for dust explosion protection[Ex iaD]