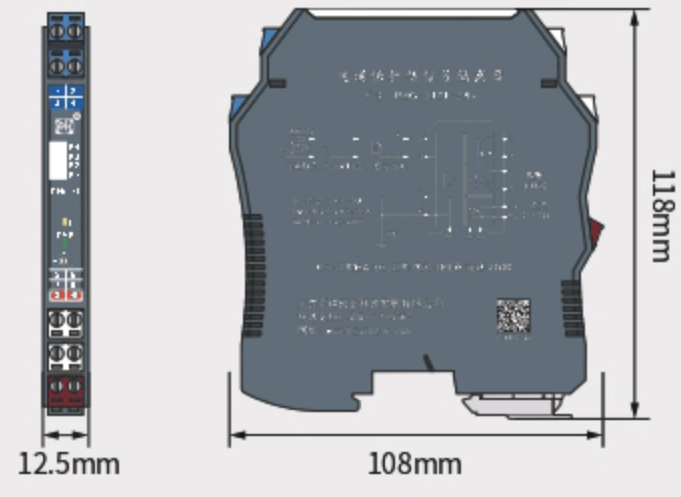
Surge Protection Type Digital Input Signal Isolators

PHG-11TF-28+

1 input and 1 output

Input: Switch contacts/proximity switches

Output: Transistor



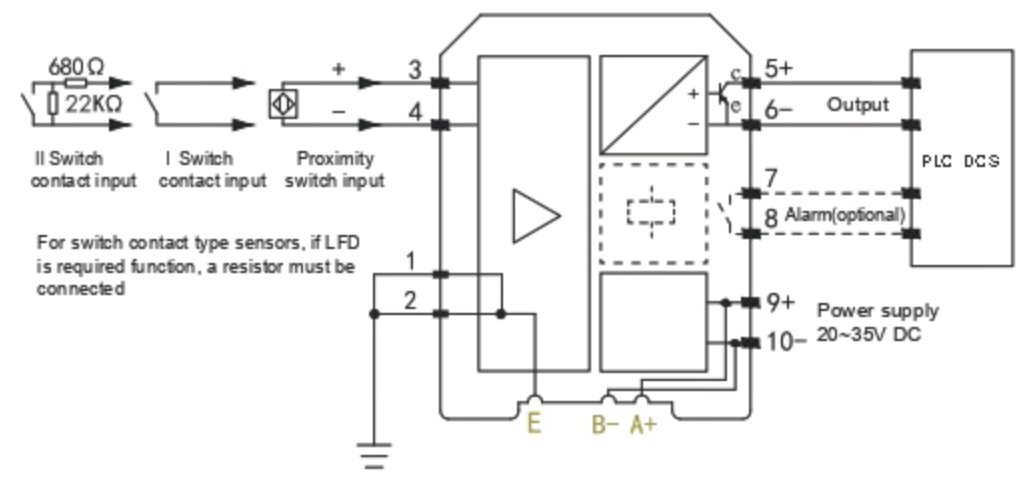
Overview

Surge protection switch input transistor output signal isolator converts the input signal of the switch contact or proximity switch into a transistor output through isolation.
Line fault detection is output through a separate relay and displayed by an LED light on the top of the module. The switch of the module is used to select the phase of the channel and whether the line fault detection function is required.
This product needs to be powered independently, and the power supply, input and output terminals are isolated.

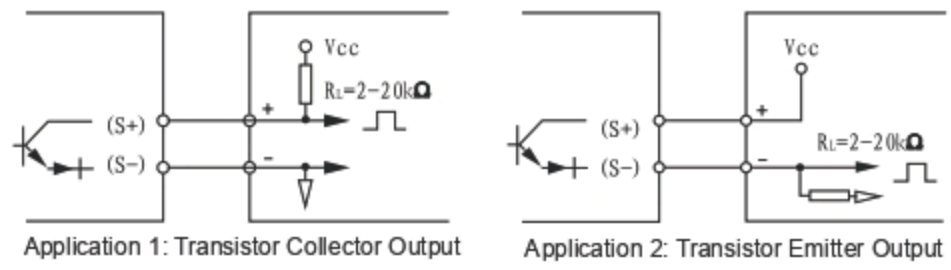
Specifications

Input:
Input signal: Switch contacts/proximity switches
The supply voltage of the sensor: About 8V
Input frequency range: ≤5kHz
Input/output characteristics:
On site input current: >2.1mA, the output is closed, indicating ON
When<1.2mA, the output is open circuit, indicating OFF
Switched control between inverted phase and normal phase of outputs e-c: When the dial switch K1 is at "ON", the transistor output e-c are in inverted phase
When the dial switch K1 is at "OFF", the transistor output e-c are in normal phase
When the K2 is at "ON", the circut will select the red light LFD indication alarm function
Output:
Output signal: Transistor and alarm relay (optional)
Output characteristic: NPN type transistor emitter or collector open circuit output
Drive capability: Output current ≤ 20mA (1.2kΩ), maximum internal current 100mA, equipped with short-circuit current protection
Surge protection features:
Nominal discharge current In(8/20μs): 5kA
Voltage protection level Up(8/20μs): 60V(line to line)
Voltage protection level Up(8/20μs): 600V(line to ground)
According to standards: GB/T18802.21-2016 (equivalent to IEC61643-21:2012)
Basic parameters:
Supply voltage: 20~35V DC
Power consumption: <1W(24V power supply, when the transistor is conducting)
LED indicator: Green: Power indicator
Yellow: Output relay in normal working state
Red: LFD indication, line fault alarm
Temperature parameters: Working temperature: -20℃ ~ +60℃,
Storage temperature: -40℃ ~ +80℃
Relative humidity: 10%~95% RH no condensation
Insulation strength: ≥2000VAC/min (between input/output/power supply)
Insulation resistance: 100MΩ (500 V DC) (between input/output/power supply)
EMC: GB/T 18268(IEC 61326-3-1)
MTBF: 80000h
Wire requirements: Horizontal cutting surface ≥0.5mm²
Insulation strength ≥500V
Applicable field equipments: Field equipment such as dry contacts or NAMUR type proximity switch inputs that comply with DIN19234 standard

Connection wiring



Note: The power supply of the power rail is an optional function.
Users need to specify the power supply mode when ordering.
Please refer to attachment on page 89.



Line Fault Detection (LFD)

Users can select the "ON" side of the switch at the top of the module to enable fault detection function and indicate an alarm through the red LED light. On site input current>7mA, short circuit alarm (SC); On site input current<0.1mA, open circuit alarm (LB). If the switch contact input requires fault detection function (wire breakage, short circuit), a 22k Ω resistor should be connected in parallel at both ends of the switch, and a 680 Ω resistor should be connected in series (as shown in the wiring diagram for switch contact II).

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