

# Isolated Barrier

## GS8074-EX

GYB17.1469



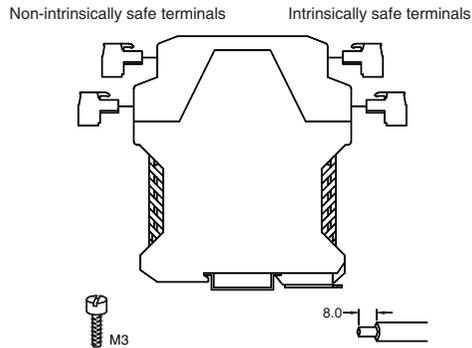
Please read the instruction manual carefully before use the product, and please safekeeping.

### Caution

- Please check whether the product type on the package accords to the ordering contract;
- Read this manual carefully before installation or using. If there is anything unclear, please dial technic support hotline-400 881 0780;
- Isolated barrier should be located in the safe area;
- Supply voltage is 24VDC, 220VAC is forbidden;
- Users are not allowed to dismantle or repair the barrier otherwise it will induce malfunction.

### Connections

- (1). This barrier adopts knock-down connector with screw terminals. The intrinsically safe(IS for short) terminals (blue plugs) should be connected to hazardous area devices and the non-IS ones (green plugs)to the safe area devices.
- (2). Choose for the hazardous area the blue-marked wires. Its minimum cross section area should be 0.5 mm<sup>2</sup>,and minimum dielectric strength should be 500V.
- (3). The wirings in safe area and hazardous area must be separated, and both have protection bushes.
- (4). A length of 8mm bared wire is locked by the M3 bolt. See as shown below.



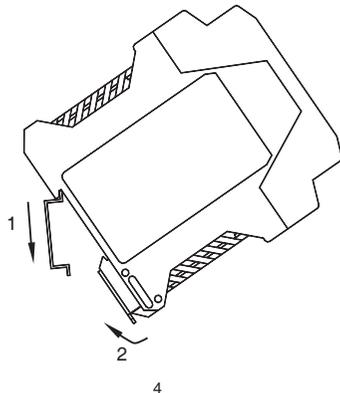
### Installation

During installation,operation and maintenance,users shall comply with the relevant requirements of the product instruction manual,GB 50257-1996"code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering", GB 3836.13-2013"Electrical apparatus for explosive gas atmospheres Part 13:Repair and overhaul for apparatus used in explosive gas atmospheres",GB 3836.15-2000"Electrical apparatus for explosive gas atmospheres Part 15:Electrical installations in hazardous areas(other than mines)"and GB 3836.16-2006"Electrical apparatus for explosive gas atmospheres Part 16:Inspection and maintenance of electrical installation(other than mines)".

GS8000-EX isolated barrier are designed for mounting on 35mm DIN guide rail.

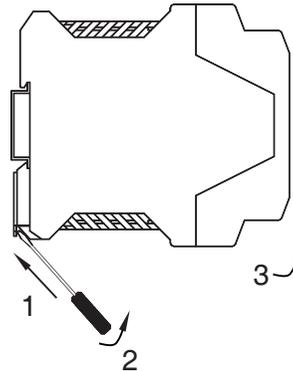
Installation according to the following steps:

- (1). Make the upside of the barrier locked into the guide rail;
- (2). Push the downside of the barrier in the rail.



### Disassembly

- (1).Insert a screwdriver (its edge length≤6mm)into the downside metal lock of the barrier;
- (2).Push the screwdriver upwards,then prize the metal lock downwards;
- (3).Take the barrier out of the guide rail.



### Maintenance

- (1).Before using, please check again whether the module's Ex-proof rating accords to the operation conditions, and also wiring and polarity are correct.
- (2).It is disallowable to test insulativity among the terminals with a megameter. If necessary, the wires must be cut off before testing ,or the internal fuse would blow.
- (3).Every product has been test strictly before leaving factory. If users find any abnormality in the module, please contact the nearest agent or our company.
- (4).In 5 yerars from the delivery date, if the product works improperly during normal operation, we will repair or replace it without payment.

### SHANGHAI CHENZHU INSTRUMENT CO.,LTD.



Add: Building 6, 201 Minyi Road, Caohejing Hi-Tech Park  
 Songjiang New Industrial Park, Shanghai 201612, P.R. China  
 Tel : +86-21-64513350 Fax : +86-21-64846984  
 Email : chenzhu@chenzhu-inst.com  
<http://www.chenzhu-inst.com>

## Summarize

Resistance input, resistance output isolated barrier, converters field 2-wire, 3-wire resistance signal 1:1 isolation transmission to the safe area output. The product needs an independent power supply. Input circuit, output circuit and power supply are each galvanically isolated.

## Specification

**Number of channel:** 1

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

**Current consumption:** (at 24V DC supply)  $\leq 25\text{mA}$

**Safe-area output:**

Output signal: Resistance (With input 1:1)  
Current range: 0.5mA~3mA  
(Input resistance for 2000 $\Omega$ ~4000 $\Omega$ , <1mA)

**Hazardous-area input:**

Input signal: 2-wire, 3-wire resistance signal  
Signal range: 60 $\Omega$ ~4000 $\Omega$

**Transfer accuracy:** 0.1%F.S. or 0.2 $\Omega$  (take bigger value)

**Temperature drift:** 0.01%F.S./ $^{\circ}\text{C}$

**Power supply protection:** Protect the barrier from reverse supply voltage destroy

**Electromagnetic compatibility:** According to IEC 61326-1(GB/T 18268)

**Dielectric strength:**

Between non-intrinsically safe part and intrinsically safe part  $\geq 2500\text{VAC}$

Between power supply part and non-intrinsically safe part  $\geq 500\text{VAC}$

**Insulation resistance:**

Between non-intrinsically safe part and intrinsically safe part  $\geq 100\text{M}\Omega$

Between power supply part and non-intrinsically safe part  $\geq 100\text{M}\Omega$

**Weight:** approx.150g

**Suitable location:** Mounting in non-hazardous area, and connected to the IS apparatus in Zone 0/1/2, IIC, IIB, IIA, T4~T6 hazardous area.

**Suitable IS apparatus:**

2-wire, 3-wire resistance, resistance signal

## Operation Conditions

(1). The air should not contain any medium corrupting the coat of chrome, nickel and silver. Moreover, violent quiver and impact or any cause of electromagnetic induction (such as big current or spark, etc.) must be avoided when using.

(2). Operating temperature: -20 $^{\circ}\text{C}$ ~+60 $^{\circ}\text{C}$

(3). Storage temperature: -40 $^{\circ}\text{C}$ ~+80 $^{\circ}\text{C}$

(4). Relative humidity: 10%~90%

## Safety Certificates

**National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI)**

**Compliance with standard:** GB3836.1, GB3836.4, GB3836.20

**Ex-marking:** [Ex ia Ga] IIC

**maximum voltage:**  $U_m=250\text{V}$

**Intrinsic safety parameter:** (9,10,13,14,15 terminals)

$U_o=11.7\text{V}$ ,  $I_o=60\text{mA}$ ,  $P_o=176\text{mW}$

IIC :  $C_o=1.54\mu\text{F}$ ,  $L_o=9\text{mH}$

IIB :  $C_o=10.3\mu\text{F}$ ,  $L_o=27\text{mH}$

IIA :  $C_o=41.0\mu\text{F}$ ,  $L_o=72\text{mH}$

(1) for distributed inductance and capacitance e.g. as in a cable, allow the values of capacitance and inductance;

(2) for circuits containing up to 1% inductance or up to 1% capacitance with a cable, allow the values of capacitance and inductance;

(3) for connection of the combined inductance and capacitance where both are greater than 1% of the allowed value (excluding the cable), allow up to 50% each of the values of capacitance and inductance

## Intrinsic safety explosion protection loop system

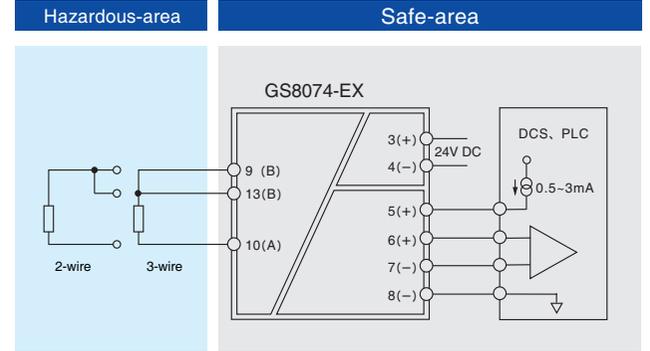
Special requirements have to be confirmed before using the intrinsically safe explosion loop system (intrinsically safe circuit) which connected by isolated barrier and intrinsically safe apparatus in field:

(1) The explosion level of intrinsically safe apparatus should meet the requirements of operation conditions. The apparatus should pass the explosion protection test and get the certificate by state-authorized explosion-proof product certification bodies.

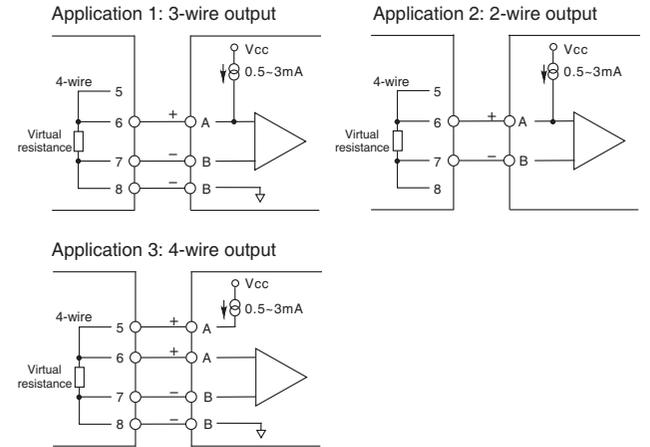
(2) The intrinsic safety parameters of isolated barrier and intrinsically safe apparatus both are sure, and comply with 12.2.5 of GB 3836.15-2000.

(3) If any parameters are unclear, the system has to be confirmed by state-authorized explosion-proof product certification bodies.

## Application



## Output connection



## Dimensions

114.5mm x 99.0mm x 22.5mm

