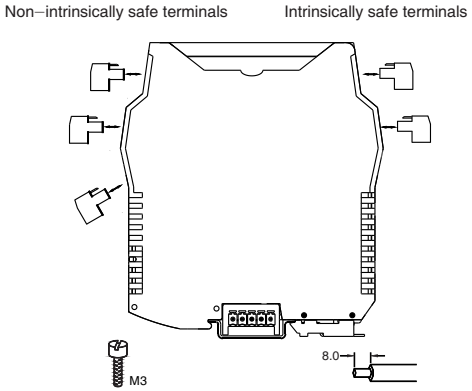
Connections

(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 harzardous area the blue-marked wires. Its minimum cross section area should be 0.5 mm^2,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.

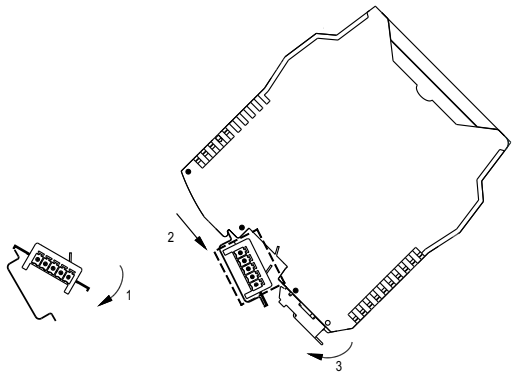


Installation

The isolated barrier should be located at safe area, according to the related requirements in IEC60079-17(EN60079-17)and IEC60079-19(EN60079-19).

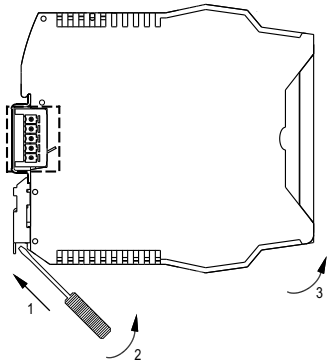
GS8500-EX series isolated barrier are designed for mounting on 35mm DIN guide rail.

Installation according to the following steps:
(1). First make the bus-powered outlet locked into the guide rail;(If no bus-powered function,omit this step);
(2). Make the upside of the barrier locked into the guide rail;
(3). 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 years from the delivery date, if the product works improperly during normal operation, we will repair or replace it without payment.

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CHENZHU | User Manual

Isolated Barrier

GS8589-EX.11
GS8589-EX.22

GYB15.1343

XK06-014-00557 生产许可

5 YEARS WARRANTY

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 something 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.

CZ.GS8589-EX.22.11(S)E-3.0/17.11

Summarize

Voltage signal input Isolated barrier, provides the insulation power to the field instrument, and sends the hazardous area DC signal isolation to the safe area output.The product needs an independent power supply, input circuit,output circuit and power supply are each galvanically isolated.

Note: when ordering the user, the product model、input、output signal type、range and distribution specifications should be specified.

Specification

Number of channels: 1(GS8589-EX.11)
2(GS8589-EX.22)

Supply voltage: 20~35V DC

Current consumption: (at 24V DC supply, 15V/20mA distribution voltage)
⩽100mA(GS8589-EX.11)
⩽130mA(GS8589-EX.22)

Safe-area output:

Current: 0~20mA, 4~20mA
Load resistance: $R_L \leqslant 300\Omega$
Voltage: 0~5V, 1~5V, 0~10V
Load resistance: $R_L \geqslant 20k\Omega$

Hazardous-area input:

Voltage: 0~5V, 1~5V, 0~10V
Impedance: ⩾100kΩ

Note:

1. Users can specify 0~20mA input or 4~20mA input when ordering.

2．When the GS8589-EX.22 safe area current is output, the hazardous area input terminal has no distribution voltage.

Transfer accuracy: 0.1%F.S.

Temperature drift: 0.01%F.S./℃

Response time: Reach 90% of final value in 1ms

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

Electromagnetic compatibility: According to IEC 61326-1(GB/T 18268), IEC 61326-3-1

Dielectric strength:

Between non-intrinsically safe part and intrinsically safe part⩾2500VAC
Between power supply part and non-intrinsically safe part⩾500VAC

Insulation resistance:

Between non-intrinsically safe part and intrinsically safe part⩾100MΩ
Between power supply part and non-intrinsically safe part⩾ 100MΩ

Weight: Approx.150g

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/1/2,IIC、IIB、IIA, T4~T6 hazardous area.

Suitable IS apparatus:

Voltage、current source output device.

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℃~+60℃

(3). Storage temperature: -40℃~+80℃

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

Safety Certificates

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

Compliancy with standard: GB3836.1、GB3836.4、GB3836.20

Ex-marking: [Ex ia Ga] IIC

maximum voltage: Um=250V

Intrinsic safety parameter:(9,10;12,13 terminals)

Uo=13.7V, Io=8mA, Po=28mW
IIC : Co=0.79μF , Lo=250mH
IIB : Co=5.0μF , Lo=750mH
IIA : Co=18.1μF , Lo=1000mH
(10,11;13,14 terminals)
Uo=24.2V, Io=143.8mA, Po=870mW
IIC : Co=0.09μF , Lo=1.5mH
IIB : Co=0.70μF , Lo=4.5mH
IIA : Co=2.33μF , Lo=12mH

Largest external capacitance (Co) and inductance (Lo) numerical attention when using the following requirements:

(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

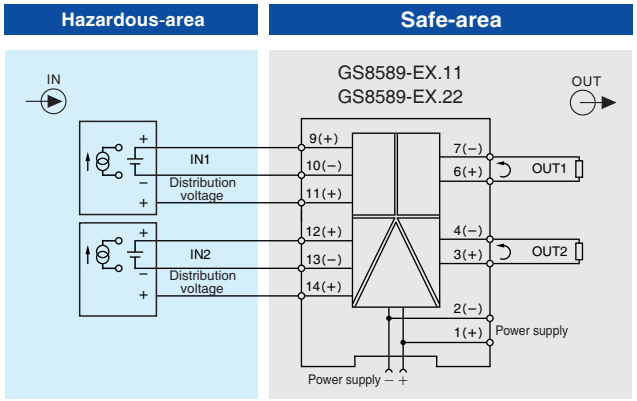
Special requirements have to be confirmed before using the intrinsically safe explosion loop system(intrinsically circuit) which connected by isolated barrier and intrinsically safe apparatus in field:

(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



Note: GS8589-EX.11 only contains input 1 and output 1.

Dimensions

118.9mm×106.0mm×17.5mm