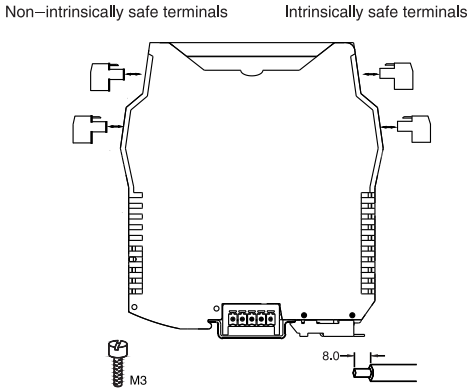
Connections

(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.

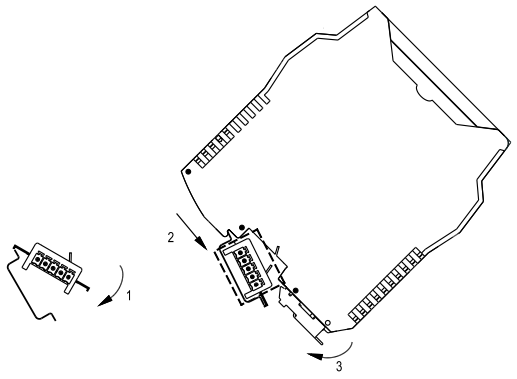


Installation

During installation, operation and maintenance, users shall comply with the relevant requirements in GB 3836.13, GB/T 3836.15, GB/T 3836.16, GB/T 3836.18, GB 15577 and GB 50257.

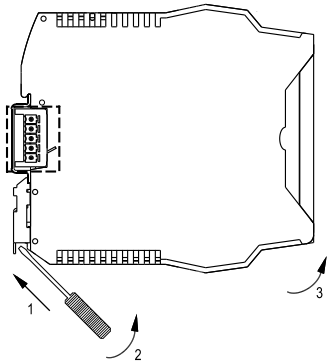
GS8500-EX series isolated barrier are designed for mounting on 35mm DIN guide rail.

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 yeras 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

GS8577-EX
GS8578-EX

GYB19.2099

XK06-014-02638 生产许可

5 YEAR 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.GS8578-EX.11(S)E-5.5/19.06

Summarize

Loop-powered isolated barrier, converts thermal resistance, thermal couple, and mV signal in hazardous area into 4~20mA signal. It has sensor breakage alarm indicator function. TC input has cold junction compensation function. It is intelligent, indexing number of TC and range can be configured through computer.

Specification

Number of channels: 1(GS8577-EX), 2(GS8578-EX)
Supply voltage: 12~30V DC
Safe-area signal:
Current output: 0/4~20mA;
Load resistance: $R_L \leqslant (Ue-12)/0.021\Omega$
Hazardous-area signal: "Input signal and range list"

Type		Range	Min.span	Accuracy
TC	T	−200℃ ~+400℃	50℃	0.5℃/0.1%
	E	−200℃ ~+900℃	50℃	0.5℃/0.1%
	J	−200℃ ~+1200℃	50℃	0.5℃/0.1%
	K	−200℃ ~+1372℃	50℃	0.5℃/0.1%
	N	−200℃ ~+1300℃	50℃	0.5℃/0.1%
	R	−40℃ ~+1768℃	500℃	1.5℃/0.1%
	S	−40℃ ~+1768℃	500℃	1.5℃/0.1%
	B	+320℃ ~+1820℃	500℃	1.5℃/0.1%
mV		−100mV~+100mV	10mV	20uV/0.1%
RTD	Pt100	−200℃ ~+850℃	20℃	0.2℃/0.1%
	Cu50	−50℃ ~+150℃	20℃	0.2℃/0.1%
	Cu100	−50℃ ~+150℃	20℃	0.2℃/0.1%

Note: 1."%" of output accuracy is relative to the setting range, should take a bigger of relative error and absolute error as the output accuracy in application.

2. RTD input, allow max wire resistance 50Ω (3-wire);

3. TC input, transfer accuracy not contain cold junction compensation error;Every increase in compensation wire 100Ω, cold end error increases 0.2 ℃;

4. RTD type B input, the lower limits of temperature range must be gre-ater than 680℃, to meet the accuracy specifications.

5. mV signal has to be customized.

Alarm directions:
Lower limit overflow alarm, output current ≈3.8mA;
Upper limit overflow and breakage alarm, output current ≈20.8mA
(Notes: breakage alarm current<4mA or other special requirements, be customized)
Temperature drift: 0.01%F.S./℃
Cold junction compensation: ±1℃(Compensation range: -20℃~+60℃)
Response time: Reach 90% of final value in 1s
Power supply protection: Protect the barrier form reverse supply voltage destroy
Electromagnetic compatibility: According to GB/T 18268(IEC 61326-1)
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 non-hazardous area, and connected to the is apparatus in zone 0 hazardous area.
Suitable IS apparatus:
2-/3-wire thermal resistance, thermal couple and mV 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℃~+60℃
(3). Storage temperature: -40℃~+80℃
(4). Relative humidity: 10%~90%

Intrinsic Safety Description

National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation(NEPSI)
Compliancy with standard: GB 3836.1, GB 3836.4, GB 3836.20
GB12476.1 and GB12476.4
Ex-marking: [Ex ia Ga] IIC
[Ex iaD]
Maximum voltage: Um=250V
Intrinsic safety parameter:(9,10,11; 12,13,14 terminals)
Uo=8.5V, Io=20mA, Po=43mW
IIC : Co=6.5μF , Lo=3.6mH
*IIB : Co=60μF , Lo=10.8mH
IIA : Co=1000μF , Lo=28.8mH
Note: *IIB parameters also applicable for combustible dust atmospheres [Ex iaD]

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

Intrinsic Safety Explosion Protection Loop System

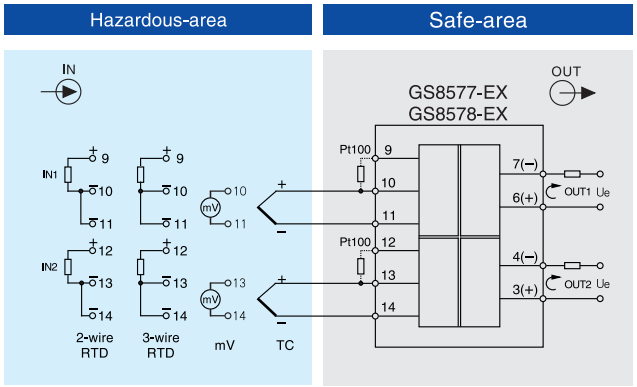
Special requirements have to be confirmed before using the intrinsically safe explosion loop system(intrinsically circuit) which connected by isolated barrier and intrinsically safe apparatus in field:

(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



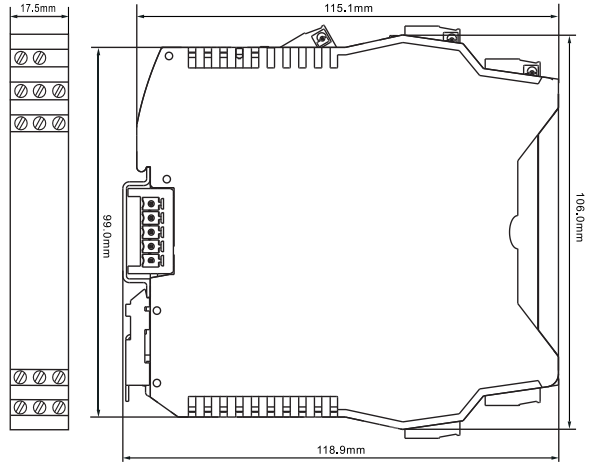
Note: GS8577-EX only contain input 1 and output 1.

Type

GS8577-EX, GS8578-EX: RTD, TC input
GS8577-EX.RTD, GS8578-EX.RTD: RTD input
GS8577-EX.TC, GS8578-EX.TC: TC input

Configuration Software EasyConfig

EasyConfig is configuration software. Based on the Windows operating system, the software is easy to use for its friendly interface and the use of USB interface. The parameters such as the sensor type and range scope could be set in by users the software.
Version of operating system: Windows XP and above version
Hardware interface: USB interface
Dedicated adapter: USBCOM-MINI(dedicated USB to RS-232 serial connection)

Dimensions

118.9mm×106.0mm×17.5mm