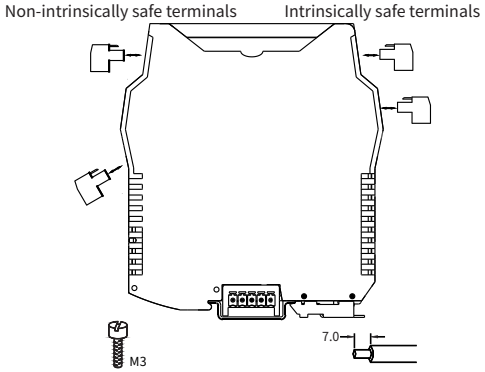
Connections

(1) This barrier adopts a pluggable connector with screw terminals. The intrinsically safe(IS) 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 0.5mm^2, and the minimum dielectric strength should be 500V.

(3) The wirings in the safe area and the hazardous area must be separated, and both have protection bushes.

(4) A length of 7mm bared wire is locked by the M3 bolt. See as shown below.



Installation

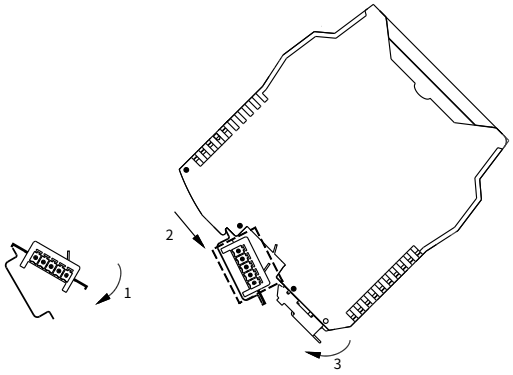
The isolated barrier should be installed in the safe area, according to the related requirements in GB 3836.13-2013, GB/T 3836.15-2017, GB/T 3836.16-2017, GB/T 3836.18-2017, GB 15577-2018 and GB 50257-2014.

The isolated barrier is designed for mounting on 35mm DIN rail. Installation procedure:

(1) Clamp the bus connector on the rail;
(If no bus-powered function, omit this step);

(2) Hook the backplane of the barrier into the top of the rail;

(3) Press downward.

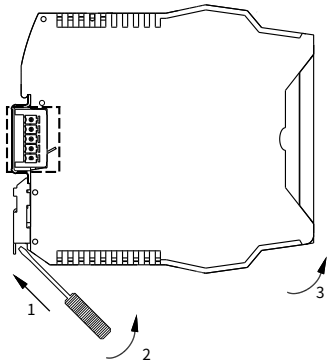


Disassembly

(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 rail.



Maintenance

(1) Before using, please check again whether the product's model and Ex-proof rating are consistent with the operation conditions; whether the wiring and polarity are correct.

(2) It is disallowable to test the insulation among the terminals with a megameter. The wiring must be disconnected before testing the insulation of the system, otherwise the internal fuse would blow.

(3) Every product has been strictly tested before leaving factory. If product does not work properly, please contact the nearest agent or CHENZHU technic support .

(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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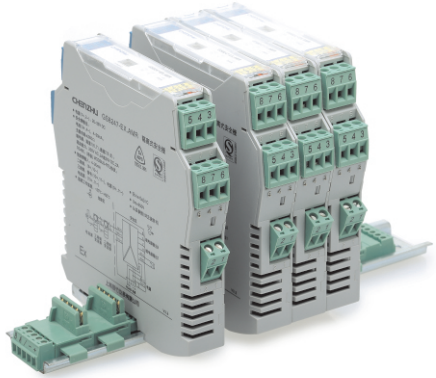
CHENZHU | User Manual

Isolated Barrier

GS8593B-EX

GYB20.1610



5 YEARS WARRANTY

Please read the user manual carefully before using the product, and please keep it properly for further reference.

⚠ Caution

- Please check whether the product type on the package accords to the ordering contract;
- Read this manual carefully before installation or use. If there is something unclear, please contact technical support;
- Isolated barrier should be installed in the safe area;
- Supply voltage is 24VDC, 220VAC is forbidden;
- It is strictly forbidden to disassemble the barrier to prevent from failing or malfunction.

CZ.GS8593B-EX.11(S)E-6.0/20.01

Summarize

Communication signals input isolated barriers, realize the bi-direction communication of RS-485(half duplex) digital signals between hazardous area and safe area. It also provides isolated power supply for field instruments. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

Number of channels: 1
Supply voltage: 20~35V DC
Current consumption: ⩽160mA (24V DC supply, 140mA distribution)
Safe-area output:
Signal: RS-485 (half duplex) digital signal
Signal level rules: standard RS-485 differential level
Transmission delay: ⩽10us
Baud rate: ⩽56kbps
Drive ability: up to 32 transceivers
Hazardous-area input:
Signal: RS-485 (half duplex) digital signal
Signal level rules: standard RS-485 difference level
Distribution power: open-circuit voltage: ⩽17V
distribution voltage at 140mA: 9V±10%
Power supply protection: Power supply reverse protection
EMC: According to IEC 61326-1(GB/T 18268)
Dielectric strength:
Between non-IS part and IS part⩾2500VAC
Between power supply part and non-IS signal part⩾500VAC
Insulation resistance:
Between non-IS part and IS part⩾100MΩ
Between power supply part and non-IS signal part⩾100MΩ
Weight: Approx.150g
Suitable location: Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC.
Suitable field apparatus:
With RS-485 half duplex communication interface device.

Ambient Conditions

(1)There should be no following substances in the air: flammable and explosive substances; medium that could corrupt the coat of chrome, nickel and silver. Moreover, please avoid using this product in violent quiver, impact or strong electromagnetic interference environment.
(2) Operating temperature: -25°C~+60°C
(3) Storage temperature: -40°C~+80°C
(4) Relative humidity: 10%~90%

Intrinsic Safety Certification

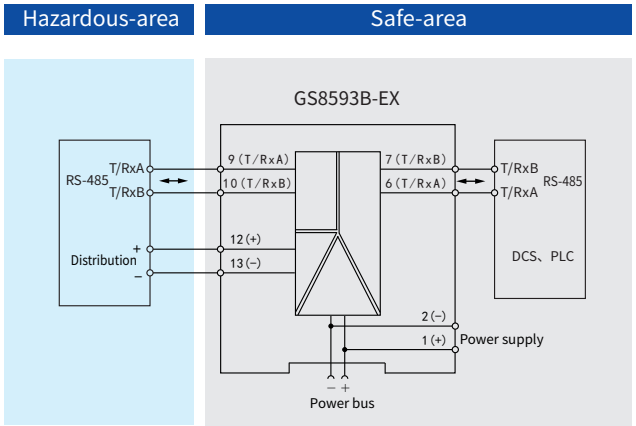
Certifying authority: NEPSI (China)
Conformity standards: GB3836.1, GB3836.4, GB3836.20, GB12476.1 and GB12476.4
Ex marking: [Ex ia Ga] II C , [Ex iaD]
Maximum voltage: Um=250V
Intrinsic safety parameters: (9, 10 terminals)
Uo=6.6V, Io=65mA, Po=110mW
II C: Co=22μF ，Lo=8mH
*II B: Co=500μF ，Lo=24mH
II A: Co=1000μF，Lo=64mH
(12, 13 terminals)：
Uo=17.22V, Io=430mA, Po=2.1W
II C: Co=0.333μF，Lo=151.7μH
*II B: Co=1.93μF ，Lo=455.1μH
II A: Co=8.1μF ，Lo=1213.6μH
Note: * II B parameters are also applicable for combustible dust atmospheres.

When using the values of maximum external capacitance (Co) and inductance (Lo), please attend the following requirements:
(1) For circuits only containing distributed capacitance and distributed inductance, e.g. cable, allow the values of Co and Lo in accordance with the allowed values in the certification parameters;
(2) For circuit combined with IS circuit and cables, if the inductance or capacitance of IS circuit are no greater than 1% of the respective parameters, then the permissible maximum external output parameters of capacitance and inductance in accordance with the allowed values in the certification parameters;
(3) For circuit combined with inductance and capacitance, if both parameters are greater than 1% of the output parameters (excluding cables), then the permissible maximum external output parameters of capacitance and inductance should be 50% of the allowed values in the certification parameters.

Intrinsic Safety Explosion Protection System

Special requirements have to be confirmed before using the intrinsically safety explosion protection system(intrinsically circuit) which connected by isolated barrier and intrinsically safe apparatus in field:
(1) The EX-proof 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 authorized explosion-proof product certification bodies.
(2) The intrinsic safety parameters of isolated barrier and intrinsically safe apparatus both are clear, and comply with GB/T 3836.15.
(3) If any parameters are unclear, the system has to be confirmed by authorized explosion-proof product certification bodies.

Application



Note: Bus-powered function is optional.

Dimensions

118.9mm×106.0mm×17.5mm