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Product Catalogue

(2018)



GS8500-EX Series Isolated Barrier

上海辰竹仪表有限公司

SHANGHAI CHENZHU INSTRUMENT CO.,LTD.





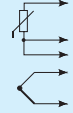
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A NEW/GOOD BRAND FOR ISOLATED BARRIERS



Products List

Field instruments	Type	Model	Channels	Hazardous area	Non-hazardous area	Feature	Page
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	DO	GS8523-EX	1	Output voltage ≥ 12V at 45mA drive current	Switch input	Loop-powered SIL3 Independent power supply	4
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	AI	GS8535-EX	1/2	2-wire/3-wire transmitter current source input HART	0/4~20mA, 0/1~5V HART	Independent power supply SIL2 Independent power supply SIL3	6
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1 input 1 output: GS8512-EX.11
 1 input 2 outputs: GS8512-EX.12
 2 inputs 2 outputs: GS8512-EX.22

Digital input, relay output isolated barrier, transfer digital signals (switch or NAMUR proximity detectors) from hazardous area to safe area. Switches are provided to select phase reversal and to enable the line fault detection. The product needs an independent power supply.

Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/1/2, II C/ II B/ II A, T4-T6 hazardous area.
 Supply voltage: 20-35V DC
 Current consumption: (at 24Vdc supply, output energized)
 ≤ 30mA (GS8512-EX.11)
 ≤ 40mA (GS8512-EX.12 / GS8512-EX.22)

Safe area relay output:

Response time: ≥ 10ms
 Drive ability: 250V AC, 2A or 30V DC, 2A
 Load type: Resistive load

Hazardous-area input:

Signal: Switch or NAMUR Proximity Detector
 Open Circuit Voltage: ≈ 8V
 Short Circuit Current: ≈ 8mA

Input and output characteristics (Normal phase):

If input > 2.1mA, output relay is energized, with yellow LED ON.
 If input < 1.2mA, output relay is de-energized, with yellow LED OFF.

Function of the DIP Switch:

state	K1(Out 1) K3(Out 2)	K2(Out 1) K4(Out 2)
ON	Inverted phase	LFD enabled
OFF	Normal phase	LFD disenabled

Note: Switch (I), K2 and K4 must be set to OFF state, no line fault (breakage, short circuit) detection; When using line fault (breakage, short circuit) detection function, resistors must be fitted, 22kΩ in parallel with switch, 680Ω in series with switch, see Switch (II), K2 and K4 set to ON state.

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

Ambient temperature: -20°C ~ +60°C

Dielectric strength:

Between non-intrinsically safe part and intrinsically safe part ≥ 2500V AC

Between power supply part and non-intrinsically safe part ≥ 500V AC

Insulation resistance:

Between non-intrinsically safe part and intrinsically safe part ≥ 100MΩ

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

Enclosure structure: GS8500 series structure customized by Germany Phoenix Contact

Weight: Approx. 100g

Suitable IS apparatus: Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch, temperature switched, liquid level switch)

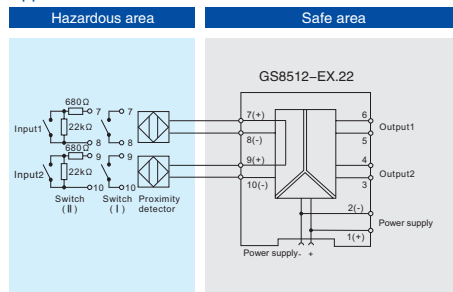
SIL3
IEC61508



Dimensions: 118.9mm x 106.0mm x 12.5mm



Application



Note: GS8512-EX.11 only contains input1, output1;
 GS8512-EX.12 input part only contains input1;
 Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply module in additional.

Certificates

- CE DNV 11 ATEX 08689X
II(1)G[Ex ia Ga] II C -20°C ≤ Ta ≤ +60°C
- Functional Safety(SIL): SIL3 conforms to IEC61508
- National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation(NEPSI)
 Ex marking: [Ex ia Ga] II C
 Maximum voltage: Um=250V
 Intrinsic safety parameter(7/8; 9/10 terminals):
 U₀=10.5V, I₀=14mA, P₀=37mW
 II C: C₀=2.4μF, L₀=165mH
 II B: C₀=16.8μF, L₀=495mH
 II A: C₀=75.0μF, L₀=1000mH

1 input 1 output: GS8523-EX

Digital output isolated barrier, enables intrinsically safe devices such as solenoid valves, alarm transmitters and some other low-power loads, located in hazardous area to be controlled from safe area. The input and output are each galvanically isolated, allow the control switch to connect directly to the either side of power supply circuit.

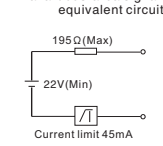
Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/1/2, II C/ II B/ II A, T4-T6 hazardous area.
 Supply voltage: 20-35V DC
 Current consumption: ≤ 75mA (at 24V supply, 45mA output)
 Hazardous-area output:

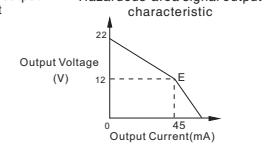
Open circuit voltage: 22V-24V

Minimum output voltage: ≥ 12V at 45mA

Hazardous-area signal output equivalent circuit



Hazardous-area signal output characteristic



Response time: ≤ 20ms

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

Ambient temperature: -20°C ~ +60°C

Dielectric strength:

Between non-intrinsically safe part and intrinsically safe part ≥ 2500V AC

Insulation resistance:

Between non-intrinsically safe part and intrinsically safe part ≥ 100MΩ

Enclosure structure: GS8500 series structure customized by Germany Phoenix Contact

Weight: Approx. 100g

Suitable IS apparatus: solenoid valves/alarm transmitters and so on.

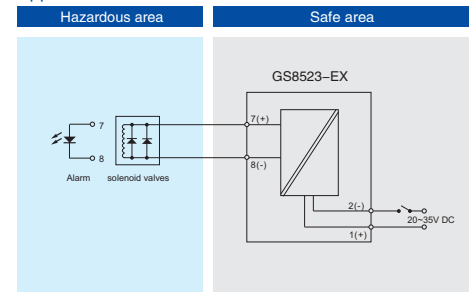
SIL3
IEC61508



Dimensions: 118.9mm x 106.0mm x 12.5mm



Application



Certificates

- CE DNV 11 ATEX 08690X
II(1)G[Ex ia Ga] II C -20°C ≤ Ta ≤ +60°C
- Functional Safety(SIL): SIL3 conforms to IEC61508
- National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation(NEPSI)
 Ex marking: [Ex ia Ga] II C
 Maximum voltage: Um=250V
 Intrinsic safety parameter(7/8 terminals):
 U₀=25V, I₀=140mA, P₀=875mW
 II C: C₀=0.11μF, L₀=1.5mH
 II B: C₀=0.84μF, L₀=4.5mH
 II A: C₀=2.97μF, L₀=12.0mH

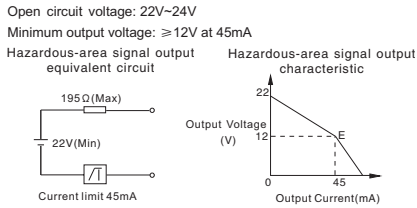
1 input 1 output: GS8523-EX.I

Digital output isolated barrier, enables intrinsically safe devices such as solenoid valves, alarm transmitters and some other low-power loads, located in hazardous area to be controlled from safe area. The product should be supplied power independently. Power, input and output are isolated each other.

Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/1/2, II C/II B/II A, T4-T6 hazardous area. Supply voltage: 20-35V DC
Current consumption: ≤80mA(at 24V supply, 45mA output)
Safe area:

If input switch is ON or transistor is turned ON, power the devices located in hazardous area.
If input switch is OFF or transistor is turned OFF, power the devices located in hazardous area.
Hazardous-area:



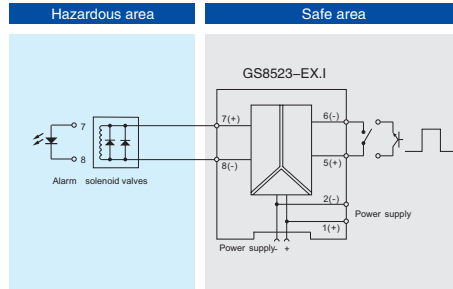
Response time: ≤20ms
Power supply protection: Protect the barrier from reverse supply voltage destroy
Electromagnetic compatibility:
According to IEC 61326-1(GB/T 18268), IEC 61326-3-1
Ambient temperature: -20°C~+60°C
Dielectric strength:
Between non-intrinsically safe part and intrinsically safe part≥2500V AC
Between power supply part and non-intrinsically safe part≥500V AC
Insulation resistance:
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and non-intrinsically safe part≥100MΩ
Enclosure structure: GS8500 series structure customized by Germany Phoenix Contact
Weight: Approx. 100g
Suitable IS apparatus: solenoid valves/alarm transmitters and so on.



Dimensions:118.9mm x 106.0mm x 12.5mm



Application



Note: Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply module in additional.

Certificates

- ① DNV 11 ATEX 08690X
II(1)G[Ex ia Ga] II C -20°C ≤Ta ≤ +60°C
- ② National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation(NEPSI)
Ex marking: [Ex ia Ga] II C
Maximum voltage: Um=250V
Intrinsic safety parameter(7/8 terminals):
U_o=25V, I_o=140mA, P_o=875mW
II C: C₀=0.11μF, L₀=1.5mH
II B: C₀=0.84μF, L₀=4.5mH
II A: C₀=2.97μF, L₀=12.0mH

1 input 2 outputs: GS8535-EX

2-wire HART transmitter, 3-wire transmitter, current source input isolated barrier(1 input, 2 outputs), provide isolated power supplies for transmitters which located in hazardous area. Transfer 4-20mA signal(or current source signal) which generated by the transmitter from hazardous area to safe area separately, also allows bi-directional transmission of HART communication signals. The product should be supplied power independently. Input, output and power are each galvanically isolated.

Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/Zone 20 hazardous area.
Supply voltage: 20-35V DC
Current consumption: ≤75mA(at 24V supply, 20mA output)
Safe-area output:

Current: 0/4-20mA; HART digital signal
Load resistance: R_L ≤300Ω
Load resistance: R_L ≥250Ω (HART)
Voltage: 0/1-5V
Load resistance: R_L ≥300kΩ
Output loop-powered: Power supply U_s: 12-30V DC
Note: Users can specify current output or voltage output or output loop-powered when ordering.
Hazardous-area input:
Current: 0/4-20mA, HART digital signal
Available voltage: Open circuit voltage: ≤28V
Voltage: ≥15.5V at 20mA
Normal working current: ≤25mA

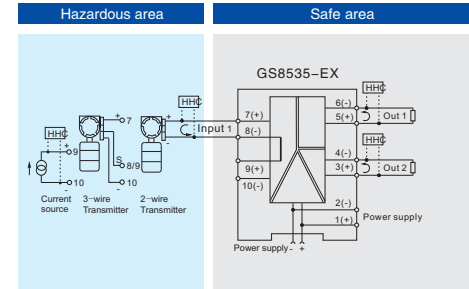
Transfer accuracy: 0.1%F.S.
Temperature drift: 0.005%F.S./°C
Response time: Reach 90% of final value in 2ms
Power supply protection: Protect the barrier from reverse supply voltage destroy
Electromagnetic compatibility:
According to IEC 61326-1(GB/T 18268), IEC 61326-3-1
Ambient temperature: -20°C~+60°C
Dielectric strength:
Between non-intrinsically safe part and intrinsically safe part≥2500V AC
Between power supply part and non-intrinsically safe part≥500V AC
Insulation resistance:
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and non-intrinsically safe part≥100MΩ
Enclosure structure: GS8500 series structure customized by Germany Phoenix Contact
Weight: Approx. 115g
Suitable IS apparatus: 2-wire HART transmitter, 3-wire transmitter, current source



Dimensions:118.9mm x 106.0mm x 12.5mm



Application



Note: 1. It is not allowed to use HHC (HART hand-held communicator) in hazardous area and safe area at the same time;
2.HHC (HART hand-held communicator) used in hazardous area must have EX certification;
3.Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply module in additional.

Certificates

- ① Functional Safety(SIL): SIL2 conforms to IEC61508
- ② National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation(NEPSI)
Ex marking: [Ex ia Ga] II C, [Ex iaD]
Maximum voltage: Um=250V
Intrinsic safety parameter(7/8/9/10 terminals):
U_o=28V, I_o=93mA, P_o=651mW
II C: C₀=0.083μF, L₀=4.2mH
* II B: C₀=0.65μF, L₀=12.6mH
II A: C₀=2.15μF, L₀=33.6mH
Note:* II B parameters also applicable dust atmospheres [Ex iaD] (9/10 terminals):
U_o=3.5V, C₀=100μF
U_o=20V, I_o=110mA, C₀=0μF, L₀=0.54μH

2 inputs 2 outputs: GS8536-EX

2-wire HART transmitter, 3-wire transmitter, current source input isolated barrier(2 channels), provide isolated power supplies for transmitters which located in hazardous area. Transfer 4-20mA signal(or current source signal) which generated by the transmitter from hazardous area to safe area separately, also allows bi-directional transmission of HART communication signals. The product should be supplied power independently. Input, output and power are each galvanically isolated.

Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/Zone 20 hazardous area.

Supply voltage: 20-35V DC

Current consumption: $\leq 100\text{mA}$ (at 24V supply, 20mA output)

Safe-area output:

Current: 0/4-20mA; HART digital signal

Load resistance: $R_L \leq 300\ \Omega$

Load resistance: $R_L \geq 250\ \Omega$ (HART)

Voltage: 0/1-5V

Load resistance: $R_L \geq 300\text{k}\ \Omega$

Output loop-powered: Power supply U_s : 12-30V DC

Note: Users can specify current output or voltage output or output looppowered when ordering.

Hazardous-area input:

Current: 0/4-20mA, HART digital signal

Available voltage: Open circuit voltage: $\leq 28\text{V}$

Voltage: $\geq 15.5\text{V}$ at 20mA

Normal working current: $\leq 25\text{mA}$

Transfer accuracy: 0.1%F.S.

Temperature drift: 0.005%F.S./ $^{\circ}\text{C}$

Response time: Reach 90% of final value in 2ms

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

Ambient temperature: -20°C ~ $+60^{\circ}\text{C}$

Dielectric strength:

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

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

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 $\geq 100\text{M}\ \Omega$

Enclosure structure: GS8500 series structure customized by Germany

Phoenix Contact

Weight: Approx. 135g

Suitable IS apparatus: 2-wire HART transmitter, 3-wire transmitter, current source

SIL2
IEC61508



CCS



EX certificate
By NEPSI



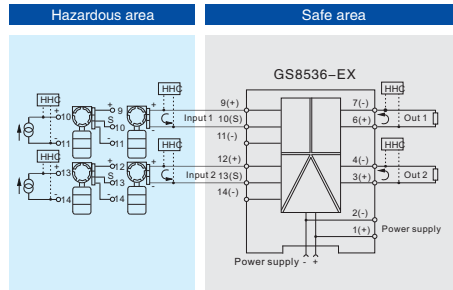
IEC61508 certificate
By CCM



ATEX certificate
By DNV

Dimensions: 118.9mm x 106.0mm x 17.5mm

Application



Note: 1. It is not allowed to use HHC (HART hand-held communicator) in hazardous area and safe area at the same time;

2. HHC (HART hand-held communicator) used in hazardous area must have EX certification;

3. Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply module in additional.

Certificates

① Functional Safety(SIL): SIL2 conforms to IEC61508

② National Supervision and Inspection Center for Explosion Protection and

Safety of Instrumentation(NEPSI)

Ex marking: [EX ia Ga] II C, [EX iaD]

Maximum voltage: $U_m=250\text{V}$

Intrinsic safety parameter(9/10/11; 12/13/14 terminals):

$U_o=28\text{V}$, $I_o=93\text{mA}$, $P_o=651\text{mW}$

II C: $C_o=0.083\ \mu\text{F}$, $L_o=4.2\text{mH}$

* II B: $C_o=0.65\ \mu\text{F}$, $L_o=12.6\text{mH}$

II A: $C_o=2.15\ \mu\text{F}$, $L_o=33.6\text{mH}$

Note: * II B parameters also applicable dust atmospheres [Ex iaD]

(10/11; 13/14 terminals)

$U_o=1.2\text{V}$, $C_o=100\ \mu\text{F}$

1 input 1 output: GS8547-EX

2-wire HART transmitter, 3-wire transmitter, current source input isolated barrier, provide isolated power supplies for transmitters which located in hazardous area. Transfer 4-20mA signal(or current source signal) which generated by the transmitter from hazardous area to safe area separately, also allows bi-directional transmission of HART communication signals. The product should be supplied power independently. Input, output and power are each galvanically isolated.

Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/1/2, II C/ II B/ II A, T4-T6 hazardous area.

Supply voltage: 20-35V DC

Current consumption: $\leq 65\text{mA}$ (at 24V supply, 20mA output)

Safe-area output:

Current: 0/4-20mA, HART digital signal

Load resistance: $R_L \leq 550\ \Omega$

Load resistance: $R_L \geq 250\ \Omega$ (HART)

Voltage: 0/1-5V

Load resistance: $R_L \geq 300\text{k}\ \Omega$

Note: Users can specify current output or voltage output when ordering.

Hazardous-area input:

Signal: 0/4-20mA, HART digital signal

Available voltage: Open circuit voltage: $\leq 28\text{V}$

Voltage: $\geq 15.5\text{V}$ at 20mA

Normal working current: $\leq 25\text{mA}$

Transfer accuracy: 0.1%F.S.

Temperature drift: 0.005%F.S./ $^{\circ}\text{C}$

Response time: Reach 90% of final value in 2ms

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

Ambient temperature: -20°C ~ $+60^{\circ}\text{C}$

Dielectric strength:

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

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

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 $\geq 100\text{M}\ \Omega$

Enclosure structure: GS8500 series structure customized by Germany

Phoenix Contact

Weight: Approx. 110g

Suitable IS apparatus: 2-wire HART transmitter, 3-wire transmitter, current source

SIL3
IEC61508



CCS



EX certificate
By NEPSI



IEC61508 certificate
By CCM

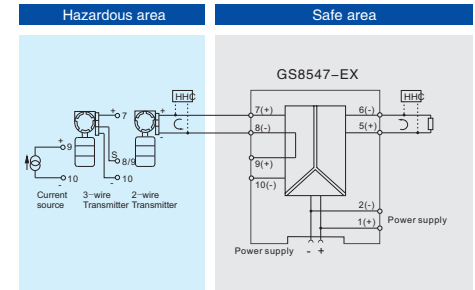


ATEX certificate
By DNV



Dimensions: 118.9mm x 106.0mm x 12.5mm

Application



Note: 1. It is not allowed to use HHC (HART hand-held communicator) in hazardous area and safe area at the same time;

2. HHC (HART hand-held communicator) used in hazardous area must have EX certification;

3. Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply module in additional.

Certificates

① DNV 11 ATEX 08691X
II(1)G[Ex ia Ga] II C $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$

② Functional Safety(SIL): SIL3 conforms to IEC61508

③ National Supervision and Inspection Center for Explosion Protection and

Safety of Instrumentation(NEPSI)

Ex marking: [EX ia Ga] II C

Maximum voltage: $U_m=250\text{V}$

Intrinsic safety parameter(7/8/9/10 terminals):

$U_o=28\text{V}$, $I_o=93\text{mA}$, $P_o=651\text{mW}$

II C: $C_o=0.083\ \mu\text{F}$, $L_o=4.2\text{mH}$

II B: $C_o=0.65\ \mu\text{F}$, $L_o=12.6\text{mH}$

II A: $C_o=2.15\ \mu\text{F}$, $L_o=33.6\text{mH}$

1 input 1 output: GS8567-EX

Operation side(HART) isolated barrier, accepts 4~20mA signal from safe area to drive executive mechanisms in hazardous area, also allows bi-directional transmission of HART communication signals. The product should be supplied power independently. Input, output and power are each galvanically isolated.

Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/1/2, II C/ II B/ II A, T4-T6 hazardous area.
 Supply voltage: 20-35V DC
 Current consumption:

- ≤50mA(at 24V supply, 20mA output, 800 Ω load)
- ≤40mA(at 24V supply, 20mA output, 100 Ω load)

Safe-area input:

Current: 0/4~20mA; HART digital signal
 Voltage drop: ≤6V

Hazardous-area output:

Current: 0/4~20mA; HART digital signal
 Load resistance: $R_L \leq 800 \Omega$
 Load resistance: $R_L \geq 250 \Omega$ (HART)

Transfer accuracy: 0.1%F.S.

Temperature drift: 0.005%F.S./°C

Response time: Reach 90% of final value in 2ms

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

Load short-circuit alarm: when output load $\leq 80 \Omega$, go into load short-circuit alarm state, and output is zero.

Electromagnetic compatibility:

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

Ambient temperature: -20°C~+60°C

Dielectric strength:

Between non-intrinsically safe part and intrinsically safe part $\geq 2500V$ AC

Between power supply part and non-intrinsically safe part $\geq 500V$ AC

Insulation resistance:

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

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

Enclosure structure: GS8500 series structure customized by Germany Phoenix Contact

Weight: Approx. 100g

Suitable IS apparatus: 2-wire valve positioner, electric converter

SIL2
IEC61508



Dimensions:118.9mm x 106.0mm x 12.5mm



Ex certificate By NEPSI



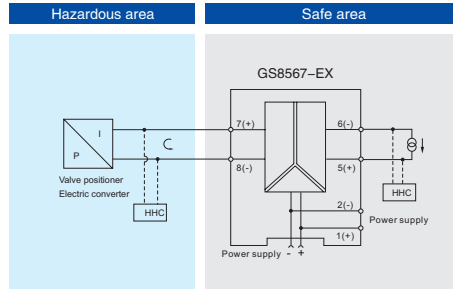
IECEx certificate By GCM



ATEX certificate By DNV



Application



Note: 1. It is not allowed to use HHC (HART hand-held communicator) in hazardous area and safe area at the same time;
 2. HHC (HART hand-held communicator) used in hazardous area must have EX certification;
 3. Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply module in additional.

Certificates

- ① DNV 11 ATEX 08693X
II(1)G[Ex ia Ga] II C -20°C ≤Ta≤ +60°C
- ② Functional Safety(SIL): SIL2 conforms to IEC61508
- ③ National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation(NEPSI)
Ex marking: [EX ia Ga] II C
Maximum voltage: Um=250V
Intrinsic safety parameter(7/8 terminals):
U₀=28V, I₀=93mA, P₀=651mW
II C: C₀=0.083μF, L₀=4.2mH
II B: C₀=0.65μF, L₀=12.6mH
II A: C₀=2.15μF, L₀=33.6mH

2 inputs 2 outputs: GS8568-EX

Operation side(HART) isolated barrier, accepts 4~20mA signal from safe area to drive executive mechanisms in hazardous area, also allows bi-directional transmission of HART communication signals. The product should be supplied power independently. Input, output and power are each galvanically isolated.

Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/Zone 20 hazardous area.
 Supply voltage: 20-35V DC
 Current consumption: ≤80mA(at 24V supply, 20mA output)

Safe-area input:

Current: 0/4~20mA, HART digital signal
 Voltage drop: ≤2V

Hazardous-area output:

Current: 0/4~20mA, HART digital signal
 Load resistance: $R_L \leq 800 \Omega$
 Load resistance: $R_L \geq 250 \Omega$ (HART)

Transfer accuracy: 0.1%F.S.

Temperature drift: 0.005%F.S./°C

Response time: Reach 90% of final value in 2ms

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

Ambient temperature: -20°C~+60°C

Dielectric strength:

Between non-intrinsically safe part and intrinsically safe part $\geq 2500V$ AC

Between power supply part and non-intrinsically safe part $\geq 500V$ AC

Insulation resistance:

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

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

Enclosure structure: GS8500 series structure customized by Germany Phoenix Contact

Weight: Approx. 135g

Suitable IS apparatus: 2-wire valve positioner, electric converter

SIL2
IEC61508



Dimensions:118.9mm x 106.0mm x 17.5mm



Ex certificate By NEPSI

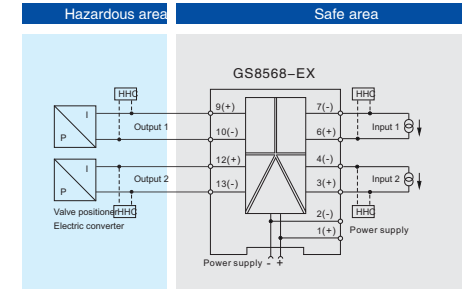


IECEx certificate By GCM



ATEX certificate By DNV

Application



Note: 1. It is not allowed to use HHC (HART hand-held communicator) in hazardous area and safe area at the same time;
 2. HHC (HART hand-held communicator) used in hazardous area must have EX certification;
 3. Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply module in additional.

Certificates

- ① Functional Safety(SIL): SIL2 conforms to IEC61508
- ② National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation(NEPSI)
Ex marking: [EX ia Ga] II C, [EX iaD]
Maximum voltage: Um=250V
Intrinsic safety parameter(9/10; 12/13 terminals):
U₀=28V, I₀=93mA, P₀=651mW
II C: C₀=0.083μF, L₀=4.2mH
* II B: C₀=0.65μF, L₀=12.6mH
II A: C₀=2.15μF, L₀=33.6mH
Note:* II B parameters also applicable dust atmospheres [Ex iaD]

1 input 1 output: GS8572-EX(RTD/TC Input)
GS8572-EX.RTD(RTD Input)

Isolated barrier, converts thermal resistance, thermal couple, mV signal in hazardous area into 0/4-20mA or 0/1-5V signal. It is intelligent and has cold junction compensation function, RTD, TC, indexing number and range can be configured through computer. The product should be supplied power independently. Input, output and power are each galvanically isolated.

Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/1/2, II C/ II B/ II A, T4-T6 hazardous area.

Supply voltage: 20-35V DC

Current consumption: ≤40mA(at 24V supply, 20mA output)

Safe-area signal:

Current output: 0/4-20mA; Load resistance: $R_L \leq 300\Omega$

Voltage output: 0/1-5V; Load resistance: $R_L \geq 20k\Omega$

(Note: Current output: Load resistance: $R_L \leq 550\Omega$, current

consumption ≤55mA, need to be customized)

Hazardous-area signal:

Input signal: please see "Input signal and range list"

Temperature drift: 0.01%F.S./°C

Cold junction compensation: ±1°C(Compensation range: -20°C→+60°C)

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

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

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

Ambient temperature: -20°C→+60°C

Dielectric strength: Between non-intrinsically safe part and intrinsically safe part≥2500V AC; Between power supply part and non-intrinsically safe part≥500V AC

Insulation resistance: Between non-intrinsically safe part and intrinsically safe part≥100MΩ; Between power supply part and non-intrinsically safe part≥100MΩ; Enclosure structure: GS8500 series structure customized by Germany Phoenix Contact

Weight: Approx. 150g

Suitable IS apparatus: 2-wire/3-wire RTD, TC

Input signal and range list

	Type	Range	Min. span	Accuracy
TC	T	-200°C→+400°C	50°C	0.5% / 0.1%
	E	-200°C→+900°C	50°C	0.5% / 0.1%
	J	-200°C→+1200°C	50°C	0.5% / 0.1%
	K	-200°C→+1372°C	50°C	0.5% / 0.1%
	N	-200°C→+1300°C	50°C	0.5% / 0.1%
	R	-40°C→+1768°C	500°C	1.5% / 0.1%
	S	-40°C→+1768°C	500°C	1.5% / 0.1%
	B	+320°C→+1820°C	500°C	1.5% / 0.1%
RTD	Pt100	-200°C→+850°C	20°C	0.2% / 0.1%
	Cu50	-50°C→+150°C	20°C	0.2% / 0.1%
	Cu100	-50°C→+150°C	20°C	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 junction error increase 0.2°C;

4. TC type B input, the lower limits of temperature range must be greater than 680°C, to meet the accuracy specifications.

SIL2
IEC61508



Dimensions:
118.9mm x 106.0mm x 17.5mm(GS8572-EX)
118.9mm x 106.0mm x 12.5mm(GS8572-EX.RTD)



EX certificate By NEPSI



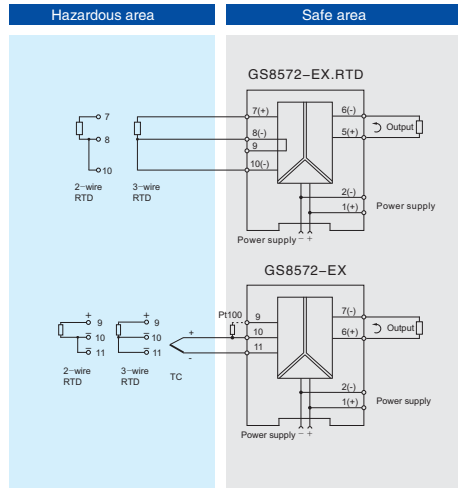
IECEx certificate By CCM



ATEX certificate By DNV



Application



Note: Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply module in additional.

2-wire connection cannot eliminate conductor resistance, error will be increased.

Certificates

① DNV 11 ATEX 08694X
II(1)G[Ex ia Ga] II C -20°C ≤ Ta ≤ +60°C

② Functional Safety(SIL): SIL2 conforms to IEC61508

③ National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation(NEPSI)

Ex marking: [EX ia Ga] II C

Maximum voltage: Um=250V

Intrinsic safety parameter(7/8/9/10 terminals):

U₀=8.5V, I₀=20mA, P₀=43mW

II C: C₀=6.5μF, L₀=3.6mH

II B: C₀=60μF, L₀=10.8mH

II A: C₀=1000μF, L₀=28.8mH

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1 input 1 output: GS8572-EX.TC(TC Input)

Isolated barrier, converts thermal couple and mV signal in hazardous area into 0/4-20mA or 0/1-5V signal. It is intelligent and has cold junction compensation function, TC and mV indexing number and range can be configured through computer. The product should be supplied power independently. Input, output and power are each galvanically isolated.

Specification

Suitable location: Mounting in safe area, be connected with IS apparatus in Zone 0/1/2, II C/ II B/ II A, T4-T6 hazardous area.

Supply voltage: 20-35V DC

Current consumption: ≤40mA(at 24V supply, 20mA output)

Safe-area signal:

Current output: 0/4-20mA; Load resistance: $R_L \leq 300\Omega$

Voltage output: 0/1-5V; Load resistance: $R_L \geq 20k\Omega$

(Note: Current output: Load resistance: $R_L \leq 550\Omega$, current

consumption ≤55mA, need to be customized)

Hazardous-area signal:

Input signal: please see "Input signal and range list"

Temperature drift: 0.01%F.S./°C

Cold junction compensation: ±1°C(Compensation range: -20°C→+60°C)

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

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

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

Ambient temperature: -20°C→+60°C

Dielectric strength: Between non-intrinsically safe part and intrinsically safe part≥2500V AC; Between power supply part and non-intrinsically safe part≥500V AC

Insulation resistance: Between non-intrinsically safe part and intrinsically safe part≥100MΩ; Between power supply part and non-intrinsically safe part≥100MΩ

Enclosure structure: GS8500 series structure customized by Germany Phoenix Contact

Weight: Approx. 150g

Suitable IS apparatus: TC, mV signal

Input signal and range list

	Type	Range	Min. span	Accuracy
TC	T	-200°C→+400°C	50°C	0.5% / 0.1%
	E	-200°C→+900°C	50°C	0.5% / 0.1%
	J	-200°C→+1200°C	50°C	0.5% / 0.1%
	K	-200°C→+1372°C	50°C	0.5% / 0.1%
	N	-200°C→+1300°C	50°C	0.5% / 0.1%
	R	-40°C→+1768°C	500°C	1.5% / 0.1%
	S	-40°C→+1768°C	500°C	1.5% / 0.1%
	B	+320°C→+1820°C	500°C	1.5% / 0.1%
mV		-100mV→+100mV	10mV	20uV / 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. TC input, transfer accuracy not contain cold junction compensation error;

Every increase in compensation wire 100Ω, cold junction error increase 0.2°C;

3. TC type B input, the lower limits of temperature range must be greater than 680°C, to meet the accuracy specifications;

4. mV signal need to be customized.

SIL2
IEC61508



Dimensions:
118.9mm x 106.0mm x 12.5mm(T/E/J/K/N/R/S/B input)
118.9mm x 106.0mm x 17.5mm(mV input)



EX certificate By NEPSI



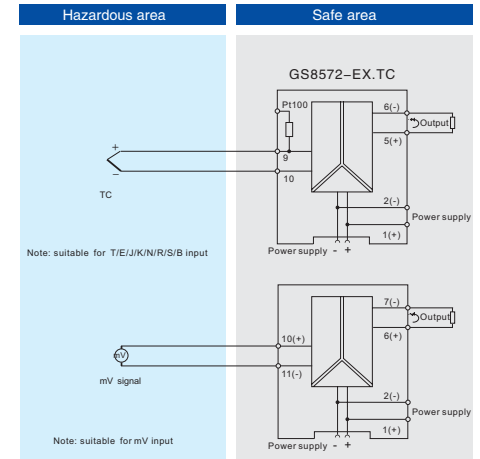
IECEx certificate By CCM



ATEX certificate By DNV



Application



Note: Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply module in additional.

Certificates

① DNV 11 ATEX 08694X
II(1)G[Ex ia Ga] II C -20°C ≤ Ta ≤ +60°C

② Functional Safety(SIL): SIL2 conforms to IEC61508

③ National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation(NEPSI)

Ex marking: [EX ia Ga] II C

Maximum voltage: Um=250V

Intrinsic safety parameter(9/10/11 terminals):

U₀=8.5V, I₀=20mA, P₀=43mW

II C: C₀=6.5μF, L₀=3.6mH

II B: C₀=60μF, L₀=10.8mH

II A: C₀=1000μF, L₀=28.8mH

Bus power supply module



Suitable for 12.5mm isolated barriers

Bus connectors
(CZBPS-C-12.5)



Bit	5
Spacing	3.81mm
Rated voltage	150V
Max. load current	8A
Rated surge voltage	2500V

Suitable for 17.5mm isolated barriers

Bus connectors
(CZBPS-C-17.5)



Bit	5
Spacing	3.81mm
Rated voltage	150V
Max. load current	8A
Rated surge voltage	2500V

Bus connector plugs



Suitable for GS8500-EX series

Bus connector plug
(CZBPS-F1)



Bit	5
Spacing	3.81mm
Rated voltage	160V
Max. load current	8A
Rated surge voltage	2500V
Wire size	0.14-1.5mm ²
Ferrules size	0.25-1.5mm ² (without insulating sleeve) 0.25-0.5mm ² (with insulating sleeve)

Bus connector reverse plug
(CZBPS-B1)



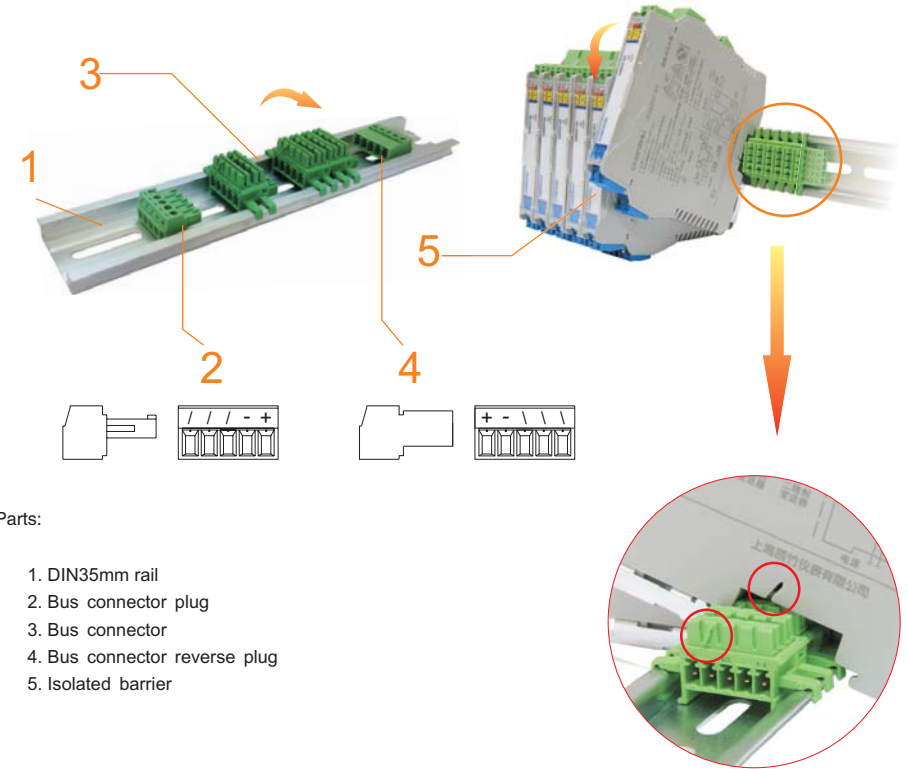
Bit	5
Spacing	3.81mm
Rated voltage	160V
Max. load current	8A
Rated surge voltage	2500V
Wire size	0.14-1.5mm ²
Ferrules size	0.25-1.5mm ² (without insulating sleeve) 0.25-0.5mm ² (with insulating sleeve)

Programming Accessories

Isolated adapter USBCOM-MINI



Configuration software EasyConfig



Parts:

1. DIN35mm rail
2. Bus connector plug
3. Bus connector
4. Bus connector reverse plug
5. Isolated barrier

NOTES:

1. Each isolated barrier is used with one bus connector in a set. Connectors can be combined in a group, 8 connectors combined in a group is recommended, and 16 is at most;
2. A bus connector plug and a bus connector reverse plug should be assembled for one group;
3. The Wire used for bus power supply module, whose length of ferrules or bared wired is about 8mm and should be locked by M2 bolts;
4. There is an error prevention function against incorrect positioning of the device. Pay attention to the direction of error prevention slot during the installation.

