CHENZHU COMPANY OVERVIEW

CHENZHU' s headquarter is located at Shanghai, China, with an area of 8500m².

Shanghai Chenzhu Instrument Co,Ltd. was founded in April, 2002, who was originated from Shanghai Institute of Process Automation Instrumentation. CHENZHU is a professional company with core expertise of R&D, manufacturing and sale service of high quality safety products, such as isolated barriers, signal conditioners, surge protective devices, safety relays etc.

MANAGEMENT SYSTEMS


ISO9001


ISO14001


ISO45001


IECEx QUALITY ASSESSMENT

R&D Strength

Based on ISO/IEC/GB standards, CHENZHU has established the professional laboratory which is applied up to 70 test capabilities and verification items in CHENZHU's safety electrical products' development process.



R&D Team	R&D Investment	Innovation	Testing Facility
28%	11%	110+	80+
Work Force	of Sale Revenue	Patents	Capabilities

Smart Factory

CHENZHU factory is continually driven by lean management and flexible production. By our strict quality examination, CHENZHU ensures the production meets the design specification and satisfies our customers.

Factory	Max Cap.	Sales Volume	Lean Production
3500㎡	2,000,000pcs	1,080,000pcs	10+
In total	Year	In 2021	Years' experience

SIL Certification

Certificate

Product Safety
Functional
Safety

TÜVRheinland CERTIFIED

www.tuv.com
ID 0600000000

No.: 968/EZ 531.03/19

Product tested	Isolated Barriers for safety-related applications	**Certificate holder**	SHANGHAI CHENZHU INSTRUMENT CO., LTD. Floor 7~8, Building 6, No. 201, Minyi Road, Songjiang District, Shanghai, 201612, P.R. China
Type designation	GS8512-EX, GS8523-EX, GS8535-EX, GS8536-EX, GS8547-EX, GS8567-EX, GS8568-EX		
Codes and standards	IEC 61508 Parts 1-7:2010 IEC 61326-3-1:2017		IEC 61298 Parts 1-3:2008
Intended application	GS8512-EX and GS8523-EX are intended to be used in safety-related applications and have the safety function to de-energize output(s) on demand. The safe state is the de-energized state. GS8535-EX, GS8536-EX, GS8547-EX, GS8567-EX and GS8568-EX are intended to be used in safety-related applications and have the safety function of repeating 4~20 mA current or converting the 4~20mA into 1~5V output voltage within the accuracy of ±2%. In case of a failure the output current is < 3.6 mA or > 21.5 mA. The barriers comply with the requirements of IEC 61508: GS8512-EX, GS8523-EX, GS8547-EX: IEC 61508 SC 3, SIL 3 GS8535-EX, GS8536-EX, GS8567-EX, GS8568-EX: IEC 61508 SC 3, SIL 2		
Specific requirements	The instructions of the associated Safety Manuals shall be considered.		

Valid until 2024-06-13

The issue of this certificate is based upon an examination, whose results are documented in Report No. 968/EZ 531.03/19 dated 2019-06-13.
This certificate is valid only for products which are identical with the product tested.

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51105 Köln

Köln, 2019-06-13 — Certification Body Safety & Security for Automation & Grid — Dipl.-Ing. Gebhard Bouwer

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TÜVRheinland®
Precisely Right.

Code and standards: IEC61508-2010 Functional safety of electrical/electronic /programmable electronic safety-related systems

Certificate authority: TÜV Rheinland

IECEx Certification

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx SIR 21.0022X**	Page 1 of 3	Certificate history:
Status:	**Current**	Issue No: 0	
Date of Issue:	2021-06-23		
Applicant:	**SHANGHAI CHENZHU INSTRUMENT CO., LTD.** Floor 7~8, Building 6, No. 201, Minyi Road, Songjiang District, Shanghai 201612 **China**		
Equipment:	**GS8500-EX series safety barriers GS8512-EX.11, GS8512-EX.12, GS8512-EX.22, GS8523-EX, GS8523-EX.I, GS8547-EX, GS8567-EX, GS8572-EX, GS8572-EX.RTD, GS8572-EX.R, GS8572-EX.TC.**		
Optional accessory:			
Type of Protection:	**Intrinsically Safe ia**		
Marking:	[Ex ia Ma] I [Ex ia Ga] IIC [Ex ia Da] IIIC		

Approved for issue on behalf of the IECEx Certification Body: **Neil Jones**

Position: **Certification Manager**

Signature: (for printed version) PP McFalliwell

Date: 2021-06-23

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

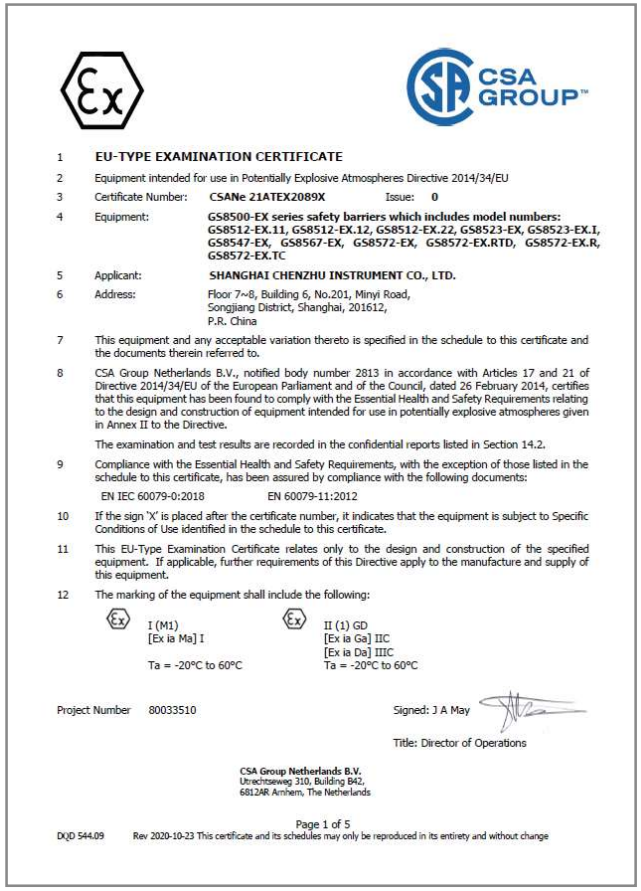
Certificate issued by:
SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

CSA GROUP™

Code and standards: IEC60079-0 Explosive atmospheres
- Part 0: Equipment - General requirements
IEC60079-11 Explosive atmospheres
- Part 11: Equipment protection by intrinsic safety "i"

Certificate authority: Canadian Standards Association (CSA)

ATEX Certification



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **CSANe 21ATEX2089X** Issue: **0**

4 Equipment: **GS8500-EX series safety barriers which includes model numbers: GS8512-EX.11, GS8512-EX.12, GS8512-EX.22, GS8523-EX, GS8523-EX.I, GS8547-EX, GS8567-EX, GS8572-EX, GS8572-EX.RTD, GS8572-EX.R, GS8572-EX.TC**

5 Applicant: **SHANGHAI CHENZHU INSTRUMENT CO., LTD.**

6 Address: Floor 7~8, Building 6, No.201, Minyi Road, Songjiang District, Shanghai, 201612, P.R. China

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-11:2012

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

I (M1) [Ex ia Ma] I Ta = -20°C to 60°C

II (1) GD [Ex ia Ga] IIC [Ex ia Da] IIIC Ta = -20°C to 60°C

Project Number 80033510 Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V. Utrechtseweg 310, Building B42, 6812AR Arnhem, The Netherlands

Page 1 of 5

DQD 544.09 Rev 2020-10-23 This certificate and its schedules may only be reproduced in its entirety and without change

Code and standards: EN60079-0 Explosive atmospheres
- Part 0: Equipment - General requirements
EN60079-11 Explosive atmospheres
- Part 11: Equipment protection by intrinsic safety "i"

Certificate authority: Canadian Standards Association (CSA)

China Ex Certification

EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert NO.GYB21.4014X

This is to certify that the product

Isolated barrier

manufactured by Shanghai Chenzhu Instrument Co.,Ltd (Address:Floor 7~8, Building 6, No. 201, Minyi Road, Songjiang District, Shanghai, P.R. China)

which model is GS8567-EX、GS8547-EX、GS8523-EX、GS8523-EX.I、GS8512-EX.11、GS8512-EX.12、GS8512-EX.22

Ex marking [Ex ia Ma] I、Ex nA IIC T4 Gc、Ex nA nC IIC T4 Gc (The corresponding relationship between model and Ex marking is specified in the attachment to this certificate)

product standard Q31/0117000327C005-2017

drawing number GS8547-EX.0-6.0、GS8523-EX.0-6.0、GS8523-EX.I.0-6.0、GS8512-EX.11.0-6.0、GS8512-EX.12.0-6.0、GS8512-EX.22.0-6.0、GS8567-EX.0-6.0

has been inspected and certified by NEPSI, and that it conforms to GB 3836.1-2010,GB 3836.4-2010,GB 3836.8-2014.

This Approval shall remain in force until 2026.12.09

Remarks 1.The corresponding relationship between model and Ex marking is specified in the attachment to this certificate.
2.Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment to this certificate.
3.Conditions for safe use are specified in the attachment to this certificate.
4.Intrinsic safety parameters specified in the attachment to this certificate.

Director

National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation

Issued Date 2021.12.10

This Certificate is valid for products compatible with the documents and samples approved by NEPSI.

103 Cao Bao Road Shanghai 200233, China http://www.nepsi.org.cn Email: info@nepsi.org.cn Tel: +86 21 64368180 Fax: +86 21 64844580

Edition 05

Code and standards:
GB3836.1-2010 Explosive atmospheres - Part 1: Equipment - General requirements
GB3836.4-2010 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
GB 3836.8-2014 Explosive atmospheres - Part 8: Equipment protection by type of protection "n"
GB 3836.20-2010 Explosive atmospheres - Part 20:Equipment with equipment protection level(EPL)Ga
GB12476.1-2013 Electrical apparatus for use in the presence of combustible dust
- Part 1: General requirements
GB12476.4-2010 Electrical apparatus for use in the presence of combustible dust
- Part 4: protection by intrinsic safety "iD"

Certificate authority: NEPSI

CCC Certification

CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

SITTIAS Worldwide Access

CERTIFICATE NO: 2020322316000236

APPLICANT:	**SHANGHAI CHENZHU INSTRUMENT CO., LTD.**
ADDRESS:	Room 702, Building 5, No.518, Xinzhuan Road, Songjiang Hi-tech Park, Caohejing Development Park, Shanghai, P.R. China
MANUFACTURER:	SHANGHAI CHENZHU INSTRUMENT CO., LTD.
ADDRESS:	Room 702, Building 5, No.518, Xinzhuan Road, Songjiang Hi-tech Park, Caohejing Development Park, Shanghai, P.R. China
FACTORY:	SHANGHAI CHENZHU INSTRUMENT CO., LTD.
ADDRESS:	Building 2(26#), No. 301, Minqiang Road, Songjiang District, Shanghai, 201612, P.R. China
PRODUCTNAME:	Isolated Barrier
SERIES,SPECIFICATION,MODEL:	GS8535-EX、GS8536-EX、GS8547-EX、GS8547-EX.L
STANDARDS:	GB 3836.1-2010、GB 3836.4-2010、GB 3836.8-2014、GB 12476.1-2013、GB 12476.4-2010

This is to certify that the above mentioned product(s)complies with the requirements of implementation rules for compulsory certification (REFNO. CNCA-C23-01:2019).

Valid from: December 22, 2021 **Valid until:** June 15, 2025

Date of original certification: June 16, 2020

The validity of this certificate is subject to positive result of the regular follow up inspection by issuing certification body until the expiry date.

This certificate is available through CNCA's website: www.cnca.gov.cn

APPROVAL: Guo AiHua

Shanghai Inspection and Testing Institute of Instruments and Automation Systems Co., Ltd.

http://www.sttias.com.cn Building 9,103 Cao Bao Road, Shanghai 200233,China Tel: +86 21 64510844

S 0005467

Code and standards:

GB3836.1-2010 Explosive atmospheres - Part 1: Equipment - General requirements

GB3836.4-2010 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

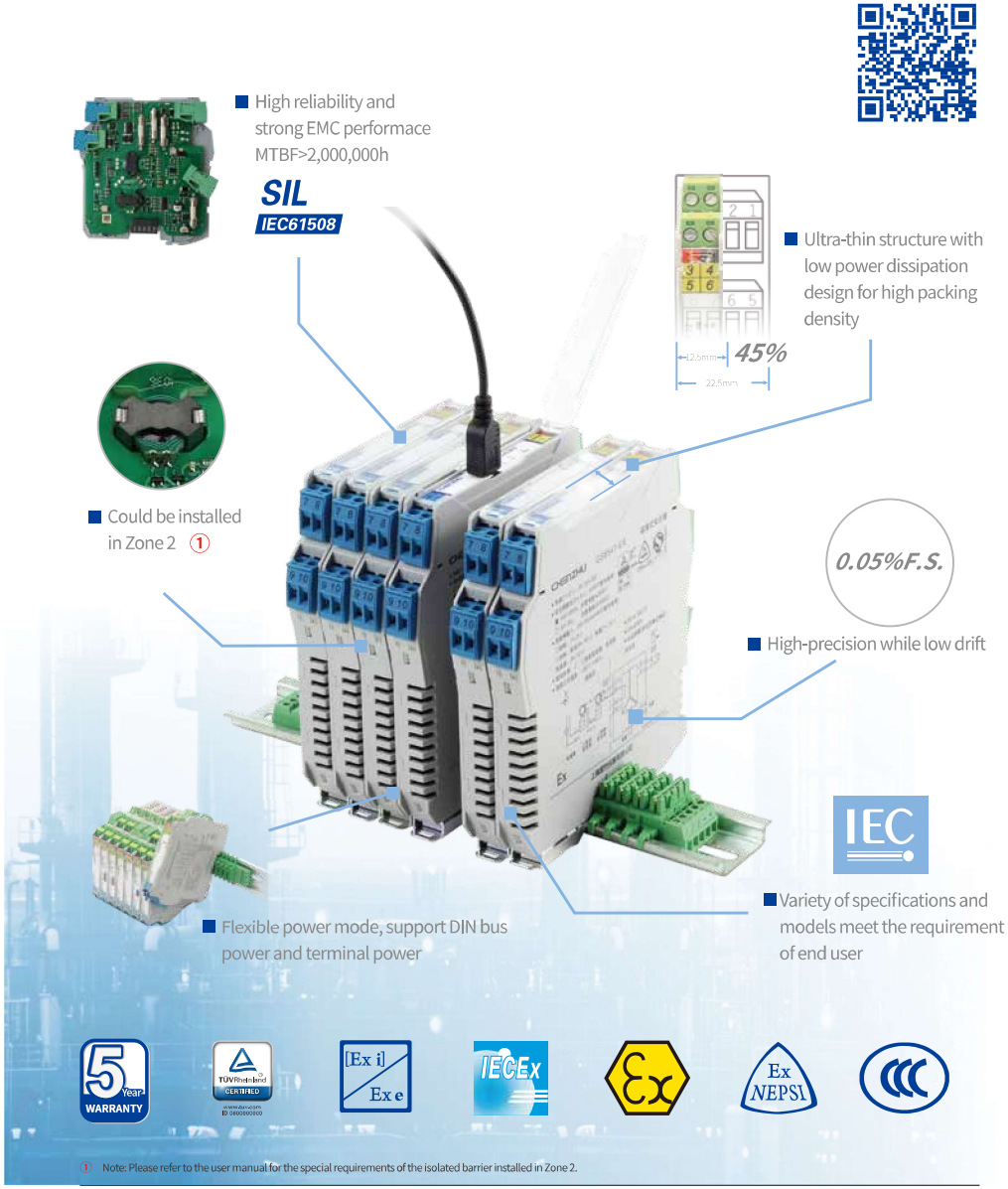
GB 3836.8-2014 Explosive atmospheres - Part 8: Equipment protection by type of protection "n"

GB12476.1-2013 Electrical apparatus for use in the presence of combustible dust - Part 1: General requirements

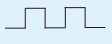
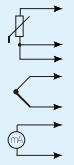
GB12476.4-2010 Electrical apparatus for use in the presence of combustible dust - Part 4: protection by intrinsic safety "iD"

Certificate authority: SITTIAS

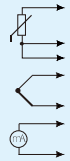
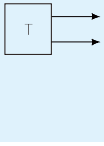
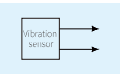
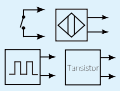
Overview



Selection Guide

Field instrument	Application	Module No.	Channels	Hazardous Side Signal	Control Side Signal	Features	Page
	Digital Input	GS8512-EX.11	1/1	Dry contact switch proximity switch input	Relay contact output	Independent powered	11
		GS8512-EX.12	1/2			SIL3	
		GS8512-EX.22	2/2				
		GS8512-EX.33	3/3			Independent powered	12
		GS8114-EX	4/4				13
		GS8519-EX.11	1/1		Transistor output	Independent powered	14
		GS8519-EX.12	1/2				
		GS8519-EX.22	2/2				
		GS8519-EX.12A	1/2			Independent powered LFD output	15
	Electrical Level Input	GS8515-EX	1/2	Electrical level sensors Electrode input	Relay contact output	Independent powered LFD	16
	Digital Output	GS8521-EX	1/1	Drive current at 35mA Output voltage≥12V	Dry contact input	Loop powered	17
		GS8523-EX	1/1	Drive current at 45mA Output voltage≥12V		Loop powered SIL3	18
		GS8523-EX.I	1/1			Independent powered	19
		GS8525-EX	1/1	Drive current at 60mA Output voltage≥12V		Loop powered	20
	Analog Input	GS8531-EX	1/1	2-wire transmitter input HART	4~20mA output HART	Loop powered	21
		GS8532-EX	2/2				
		GS8535-EX	1/2	2-wire or 3-wire transmitter	0/4~20mA	Independent powered	22
		GS8536-EX	2/2	Current source input	0/1~5V output	SIL2	23
		GS8547-EX	1/1	HART	HART	Independent powered SIL3	24
		GS8549-EX	1/1			Independent powered	25
		GS8347-EX	1/3		4~20mA Relay contact Output	Configurable Independent powered	26
	Analog Output	GS8567-EX	1/1	0/4~20mA output HART	0/4~20mA output HART	Independent powered SIL2	27
		GS8568-EX	2/2				28
	Pulse Input	GS8552-EX.11	1/1	Voltage pulse, transistor Distribution voltage: 12V	5V/12V Voltage pulse, transistor	Independent powered	29
		GS8552-EX.22	2/2				
		GS8554-EX.11	1/1	Voltage pulse, transistor Distribution voltage: 24V	12V/24V Voltage pulse, transistor		30
		GS8554-EX.22	2/2				
		GS8556-EX	3/3	Encoder input	12V Voltage pulse		31
	Fire and Smoke Detector Input	GS8565-EX	1/1	Fire、smoke detector input	0~40mA output	Loop powered	32
		GS8566-EX	2/2				
	Temperature Converters	GS8572-EX	1/1	2-wire or 3-wire RTD TC input	0~20mA、4~20mA 0~5V、1~5V output	Independent powered Configurable	33
		GS8572-EX.RTD	1/1	2-wire or 3-wire RTD input			
		GS8572-EX.R	1/1	Potentiometer input			
		GS8572-EX.TC	1/1	TC input			34
		GS8572-EX.SIL.RTD	1/1	2-wire or 3-wire RTD input	4~20mA 1~5V output	Independent powered Configurable SIL2	35
		GS8572-EX.SIL.TC	1/1	TC input			

Selection Guide

Field instrument	Application	Module No.	Channels	Hazardous Side Signal	Control Side Signal	Features	Page
	Temperature Converters	GS8576-EX	1/2	2-wire or 3-wire RTD TC input	0~20mA, 4~20mA 0~5V, 1~5V Output	Independent powered Configurable	36
		GS8576-EX.RTD	1/2	2-wire or 3-wire RTD input			
		GS8576-EX.TC	1/2	TC input			
		GS8576-EX.R	1/2	Potentiometer input			
		GS8579-EX	2/2	2-wire or 3-wire RTD TC input			
		GS8579-EX.RTD	2/2	2-wire or 3-wire RTD input			
		GS8579-EX.TC	2/2	TC input			
		GS8579-EX.R	2/2	Potentiometer input			
		GS8577-EX	1/1	2-wire or 3-wire RTD TC input	4~20mA output	Loop powered Configurable	37
		GS8577-EX.RTD	1/1	2-wire or 3-wire RTD input			
		GS8577-EX.TC	1/1	TC input			
		GS8578-EX	2/2	2-wire or 3-wire RTD TC input			
		GS8578-EX.RTD	2/2	2-wire or 3-wire RTD input			
		GS8578-EX.TC	2/2	TC input			
		GS8074-EX	1/1	60Ω~4000Ω	60Ω~4000Ω	1:1 input and output	38
		GS8081-EX	1/1	-5mV~+60mV	-5mV~+60mV	Independant powered	39
	Voltage Input	GS8589-EX.11	1/1	0~5V, 1~5V, 0~10V, 2~10V	0~5V, 1~5V, 0~10V, 2~10V	Independant powered	40
		GS8589-EX.22	2/2	Distribution power: 10V/20mA, 15V/20mA, none	0~20mA, 4~20mA		
	Communication Input	GS8592-EX.3	1/1	RS-232	RS-232	Independent powered	41
		GS8595-EX.3	1/1		RS-485 full duplex		42
		GS8599-EX.3	1/1		RS-485 half duplex		43
		GS8591-EX.3	1/1	RS-485 half duplex	RS-485 full duplex		44
		GS8593-EX.3	1/1		RS-485 half duplex		45
		GS8596-EX.3	1/1		RS-232		46
		GS8594-EX.3	1/1	RS-485 full duplex	RS-232		47
		GS8597-EX.3	1/1		RS-485 half duplex		48
		GS8598-EX.3	1/1		RS-485 full duplex		49
		GS8593B-EX	1/1	RS-485 half duplex Distribution power: 9V/140mA	RS-485 half duplex		50
		GS8590-EX.3	1/1	CAN	CAN		51
	Vibration Tansducer Input	GS8557-EX	1/1	-20V~-0.5V	-20V~-0.5V	Independent powered	52
		GS8558-EX	1/1	-10V~+10V	-10V~+10V		53
	Frequency Converter	GS8555-EX	1/1	Dry contact/proximity switch Voltage pulse Transistor input	0~20mA, 4~20mA 0~5V, 1~5V SPST relay	Independent powered Configurable	54
		GS8355-EX	1/3				55

1/1：GS8512-EX.11
1/2：GS8512-EX.12
2/2：GS8512-EX.22

Digital input, relay output isolated barrier, transfers digital signals(dry contact or NAMUR proximity switch) from hazardous area to safe area. Each channel can be provided to select phase reversal and to enable the line fault detection.The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

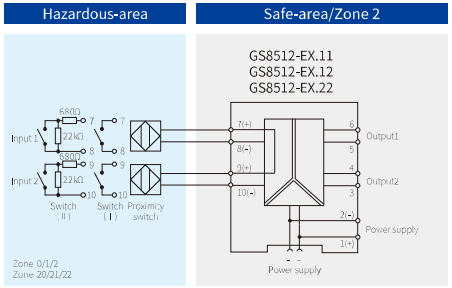
Supply Voltage：20~35V DC
Current Consumption：(Supply voltage: 24V; Output energized)
⩽30mA(GS8512-EX.11)
⩽40mA(GS8512-EX.12 / GS8512-EX.22)
Safe-area Relay Output:
Response Time：⩽10ms
Contact loading：250V AC,2A or 30V DC,2A
Load Type：resistive load
Hazardous-area Input:
Signal：Dry contact or NAMUR proximity switch
Open-circuit Voltage：≈8V
Short-circuit Current：≈8mA
Input and Output Characteristics(Normal phase)
If field switch closes or input loop current＞2.1mA, output relay will be energized, with yellow LED ON.
If field switch closes or input loop current＜1.2mA, output relay will be de-energized, with yellow LED OFF.
Function of the DIP Switch:

Sta.	K1(OUT1), K3(OUT2)	K2(OUT1), K4(OUT2)
ON	Inverted phase	LFD enabled
OFF	Normal phase	LFD disenabled

Note：Switch input (I) needs the K2 and K4 to be set to OFF state, without line fault (breakage, short-circuit) detection. When using line fault (breakage, short-circuit) detection function, resistances must be fitted: 22kΩ in parallel with switch, 680Ω in series with switch. See Switch (II), K2 and K4 are set to ON state.
Power Supply Protection：Power supply reverse protection
EMC：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 output part⩾500V AC
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part⩾100MΩ
Between power supply part and output part⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 100g
Suitable Location：Mounting in safe area or zone2(for ec protection), and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC.
Suitable Field Apparatus：Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch、temperature switches、liquid level switches, etc.)

Dimensions：118.9mm×106.0mm×12.5mm

Connection



Note: a) GS8512-EX.11 only contains input1、output1;
b) GS8512-EX.12 only contains input1、output1、output2;
c) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Ex nA nC II C T4 Gc
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8；9、10 terminals)：
U_o=10.5V，I_o=14mA，P_o=37mW
II C：C_o=2.4μF，L_o=165mH
★II B：C_o=16.8μF，L_o=495mH
II A：C_o=75.0μF，L_o=1000mH
I：C_o=95.0μF，L_o=2380mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

3/3：GS8512-EX.33

Digital input, relay output isolated barrier, transfers digital signals(dry contact or NAMUR proximity switch) from hazardous area to safe area. Each channel can be provided to select phase reversal.The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

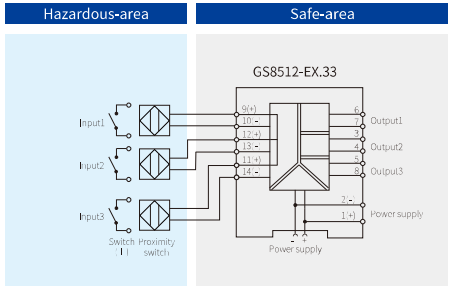
Supply Voltage：20~35V DC
Current Consumption：⩽65mA(Supply voltage: 24V; Output energized)
Safe-area Relay Output:
Response Time：⩽10ms
Contact loading：250V AC,2A or 30V DC,2A
Load Type：resistive load
Hazardous-area Input:
Signal：Dry contact or NAMUR proximity switch
Open-circuit Voltage：≈8V
Short-circuit Current：≈8mA
Input and Output Characteristics(Normal phase)
If field switch closes or input loop current＞2.1mA, output relay will be energized, with yellow LED ON.
If field switch closes or input loop current＜1.2mA, output relay will be de-energized, with yellow LED OFF.
Function of the DIP Switch:

Sta.	K1(OUT1), K2(OUT2), K3(OUT3)
ON	Inverted phase
OFF	Normal phase

Power Supply Protection：Power supply reverse protection
EMC：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 output part⩾500V AC
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part⩾100MΩ
Between power supply part and output part⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 100g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch、temperature switches、liquid level switches, etc.)

Dimensions：118.9mm×106.0mm×17.5mm

Connection



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10；12、13；11、14 terminals)：
U_o=10.5V，I_o=14mA，P_o=37mW
II C：C_o=2.4μF，L_o=165mH
★II B：C_o=16.8μF，L_o=495mH
II A：C_o=75.0μF，L_o=1000mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

4/4：GS8114-EX

Digital input, relay output isolated barrier, transfers digital signals(dry contact or NAMUR proximity switch) from hazardous area to safe area. Each channel can be provided to select phase reversal.The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

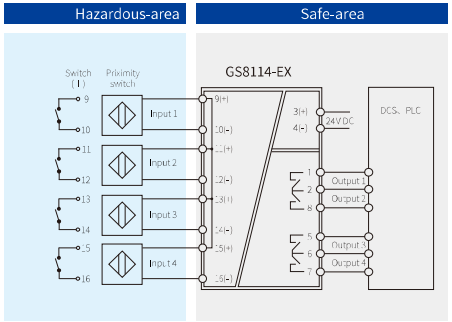
Supply Voltage：20~35V DC
Current Consumption：≤75mA(Supply voltage: 24V; Output energized)
Safe-area Relay Output:
Response Time：≤20ms
Contact loading：250V AC,2A or 30V DC,2A
Load Type：resistive load
Hazardous-area Input:
Signal：Dry contact or NAMUR proximity switch
Open-circuit Voltage：≈8V
Short-circuit Current：≈8mA
Input and Output Characteristics(Normal phase)
If field switch closes or input loop current＞2.1mA, output relay will be energized, with yellow LED ON.
If field switch closes or input loop current＜1.2mA, output relay will be de-energized, with yellow LED OFF.
Function of the DIP Switch:

Sta.	K1(OUT1)	K2(OUT2)	K3(OUT3)	K4(OUT4)
ON	Corresponding channel inverted phase			
OFF	Corresponding channel normal phase			

Power Supply Protection：Power supply reverse protection
EMC：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 output part≥500V AC
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and output part≥100MΩ
Weight：Approx. 150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch、temperature switches、liquid level switches, etc.)

Dimensions：114.5mm×99.0mm×22.5mm

Connection



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10；11、12；13、14；15、16 terminals)：
U_o=10.5V，I_o=14mA，P_o=37mW
II C：C_o=2.4μF，L_o=165mH
★II B：C_o=16.8μF，L_o=495mH
II A：C_o=75.0μF，L_o=1000mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8519-EX.11
1/2：GS8519-EX.12
2/2：GS8519-EX.22

Digital input, transistor output isolated barriers, transfer digital signals(dry contact or NAMUR proximity switch) from hazardous area to safe area. Each channel can be provided to select phase reversal and to enable the line fault detection. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

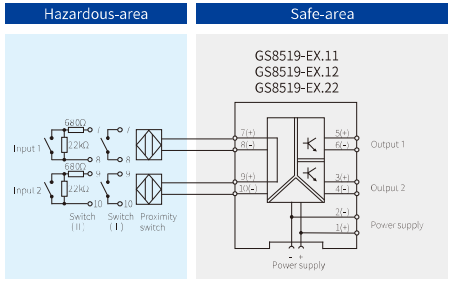
Supply Voltage：20~35V DC
Current Consumption：(Supply voltage：24V, transistor energized)
≤40mA(GS8519-EX.11)
≤60mA(GS8519-EX.12 / GS8519-EX.22)
Safe-area Output:
Digital Output：4.5V≤V_H≤12V，V_L≤0.5V
Drive current≤10mA, Load resistance≥1kΩ
Transistor Collector Output:
V_H=Vcc; V_L≤2.5V(On-state current=10mA,Vcc=24V)
Max.Rated Current≤40mA, Load resistance: 2kΩ≤RL≤20kΩ
Transistor Emitter Output:
V_H≥Vcc-2.5V; V_L≤0.5V(On-state current=10mA,Vcc=24V)
Max.Rated Current≤40mA，Load resistance：2kΩ≤R≤10kΩ
Note：“V_{cc}”refers to the supply voltage at the output，Vcc≤40V
Hazardous-area Input:
Signal：Dry contact or NAMUR proximity switch input, frequency≤5kHz
Open-circuit Voltage：≈8V
Short-circuit Current：≈8mA
Input and Output Characteristics(Normal phase):
If field switch closes or input loop current＞2.1mA, output transistor will be energized, with yellow LED ON.
If field switch closes or input loop current＜1.2mA, output transistor will be de-energized, with yellow LED OFF.

Sta.	K1(OUT1), K3(OUT2)	K2(OUT1), K4(OUT2)
ON	Inverted phase	LFD enabled
OFF	Normal phase	LFD disenabled

Note：Switch input (I) needs the K2 and K4 to be set to OFF state, without line fault (breakage, short-circuit) detection. When using line fault (breakage, short-circuit) detection function, resistances must be fitted: 22kΩ in parallel with switch, 680Ω in series with switch. See Switch (Ⅱ), K2 and K4 are set to ON state.
Power Supply Protection：Power supply reverse protection
EMC：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 output part≥500V AC
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and output part≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch、temperature switches、liquid level switches, etc.)

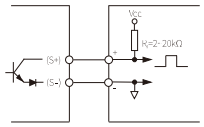
Dimensions：118.9mm×106.0mm×12.5mm

Connection

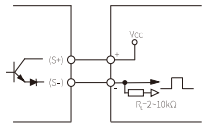


Note: a) GS8519-EX.11 only contains input2 and output2;
b) GS8519-EX.12 only contains input1、output1、output2;
c) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Application 1:
Transistor Collector Output



Application 2:
Transistor Emitter Output



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8；9、10 terminals)：
U_o=10.5V，I_o=14mA，P_o=37mW
II C：C_o=2.4μF，L_o=165mH
★II B：C_o=16.8μF，L_o=495mH
II A：C_o=75.0μF，L_o=1000mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/2：GS8519-EX.12A
With LFD function

Digital input, transistor output isolated barriers, transfer digital signals (dry contact or NAMUR proximity switch) from hazardous area to safe area. Switches can be provided to select phase reversal and to enable the line fault detection. Line faults are signalled through separated relay. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Dimensions：118.9mm×106.0mm×12.5mm

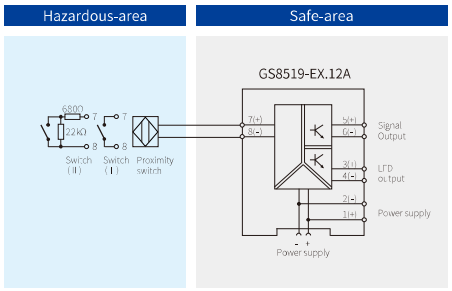
Specification

Supply Voltage：20~35V DC
Current Consumption：≤40mA(Supply voltage: 24V, transistor energized)
Safe-area Output：
Digital Output：$4.5V \leqslant V_H \leqslant 12V$, $V_L \leqslant 0.5V$
Drive current≤10mA, Load resistance≥1kΩ
Transistor Collector Output：
$V_H = V_{CC}$; $V_L \leqslant 2.5V$(On-state current=10mA, V_{CC}=24V)
Max.Rated Current≤40mA, Load resistance: 2kΩ≤R_L≤20kΩ
Transistor Emitter Output：
$V_H \geqslant V_{CC}$-2.5V; $V_L \leqslant 0.5V$(On-state current=10mA, V_{CC}=24V)
Max.Rated Current≤40mA, Load resistance: 2kΩ≤R_L≤10kΩ
Note： "Vcc" refers to the supply voltage at the output, $V_{CC} \leqslant 40V$
LFD Alarm：
If input loop current ≤50uA(line break) or ≥6.5mA(line short-circuit), LFD output transistor will be energized, with red LED ON.
Hazardous-area Input：
Signal：Dry contact or NAMUR proximity switch input, frequency≤5kHz
Open-circuit Voltage：≈8V; Short-circuit Current：≈8mA
Input and Output Characteristics(Normal phase)：
If field switch closes or input loop current>2.1mA, signal output transistor will be energized, with yellow LED ON
If field switch closes or input loop current<1.2mA, signal output transistor will be de-energized, with yellow LED OFF.

Sta.	K1	K2
ON	Inverted phase	LFD enabled
OFF	Normal phase	LFD disenabled

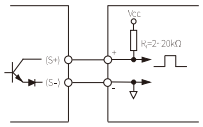
Note： Switch input (I) needs the K2 to be set to OFF state,without line fault (breakage, short-circuit) detection； When using line fault (breakage, short-circuit) detection function, resistances must be fitted： 22kΩ in parallel with switch, 680Ω in series with switch. See Switch (Ⅱ), K2 are set to ON state.
Power Supply Protection：Power supply reverse protection
EMC：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 output part≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and output part≥ 100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 100g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch、temperature switches、liquid level switches, etc.)

Connection

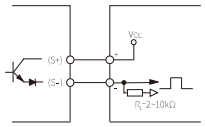


Note： Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Application 1:
Transistor Collector Output



Application 2:
Transistor Emitter Output



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 terminals)：
U_o=10.5V，I_o=14mA，P_o=37mW
II C：C_o=2.4μF，L_o=165mH
★II B：C_o=16.8μF，L_o=495mH
II A：C_o=75.0μF，L_o=1000mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/2：GS8515-EX

Isolated barriers provide an AC detection voltage to the electrode sensor. When the conductive medium contacts the electrode, an AC will be generated in the input measurement loop. The change of the AC signal detected will be transmitted to the Safe area via the isolated barrier and will output via relay contacts. This product has the Line Fault (breakage) Detection function. If we select the LFD, output2 will output alarm signal. If we do not select LFD, output2 and output1 will output same signal.

Note： Dimensions： 118.9mm×106.0mm×17.5mm

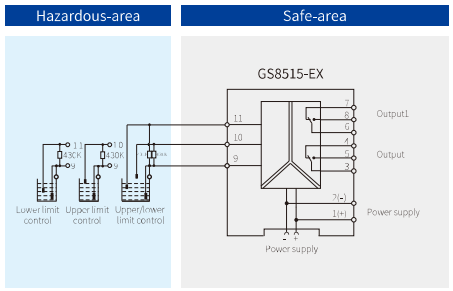
Specification

Supply Voltage：20~35V DC
Current Consumption：≤50mA(Supply voltage: 24V, relay energized)
Safe-area Relay Output：
Contact loading：250V AC,2A or 24V DC,2A
Load Type：resistive load
Delay Time： 0.5s or 10s(Adjustable via the switch K3)
Hazardous-area Input：
Control Input：ON/OFF control(9，10)
Upper limit/lower limit control(9，10，11)
Sensitivity：1kΩ~150kΩ(Adjustable via the potentiometer)
Input and Output Characteristics：
If liquid level exceeds limit：
When the DIP switch is set to NO state, the output relay will be energized, with yellow LED on.
When the DIP switch is set to NC state, the output relay will be de-energized, with yellow LED OFF.
When LFD enabled, output relay 1 wille be de-energized, with yellow LED OFF and red LED flashing; output relay 2 will be energized, with yellow LED ON.
Function of the DIP Switch：

Switch	Sta.	Function
K1	OFF	Relay contact(6,8 and 3,5): Nomal open
	ON	Nomal close
K2	OFF	LFD Disenabled
	ON	LFD Enabled
K3	OFF	Delay 0.5s
	ON	Delay 10s

Note：430kΩ resistance should be paralleled between electrodes when using LFD.
Relay contact teminals 6,8 and 3,5 are NO(nomal open)teminals
Relay contact teminals 6,7 and 3,4 are NC(nomal close)teminals
Response Time：≤20ms
Power Supply Protection：Power supply reverse protection
EMC：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 output part≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and output part≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Electrical level detect instrument

Connection



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11 terminals)：
U_o=6.6V，I_o=2.5mA，P_o=4.2mW
II C：C_o=22μF，L_o=100mH
★II B：C_o=500μF，L_o=300mH
II A：C_o=1000μF，L_o=800mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8521-EX

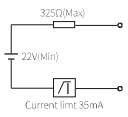
Digital output isolated barriers, control the 12V/35mA power supply to hazardous area. This product is suitable for driving IS devices such as solenoid valves, LED and some other low-power loads located in the hazardous area. The input and output are each galvanically isolated, and allow the control switch to directly connect to the either side of 24V DC power supply loop circuit.

Dimensions：118.9mm×106.0mm×12.5mm

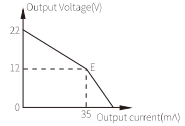
Specification

Loop Supply Voltage（Ue）： 20~35V DC
Current Consumption： ⩽65mA(Supply voltage：24V,output：35mA)
Hazardous-area Output：
Open-circuit Voltage：22V~24V
Output Voltage at 35mA：⩾12V

Equivalent Output Circuit：

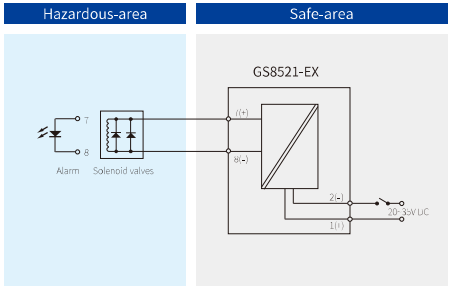


Output Characteristic：



Response Time： ⩽20ms
Power Supply Protection： Power supply reverse protection
EMC： 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
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part⩾100MΩ
Structure： GS8500 range structure customized by Phoenix Contact.
Weight： Approx. 100g
Suitable Location： Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus： solenoid valves, LED.

Connection



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 terminals)：
U_0=28V，I_0=93mA，P_0=651mW
II C：C_0=0.083μF，L_0=4.2mH
★II B：C_0=0.65μF，L_0=12.6mH
II A：C_0=2.15μF，L_0=33.6mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8523-EX

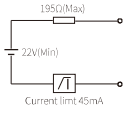
Digital output isolated barriers, control the 12V/45mA power supply to hazardous area. This product is suitable for driving IS devices such as solenoid valves, LED and some other low-power loads located in the hazardous area. The input and output are each galvanically isolated, and this product is loop powered.

Dimensions：118.9mm×106.0mm×12.5mm

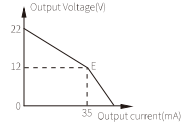
Specification

Loop Supply Voltage(Ue)： 20~35V DC
Current Consumption： ⩽75mA(Supply voltage: 24V; output: 45mA)
Hazardous-area Output：
Open-circuit Voltage：22V~24V
Output voltage at 45mA：⩾12V

Equivalent Output Circuit：

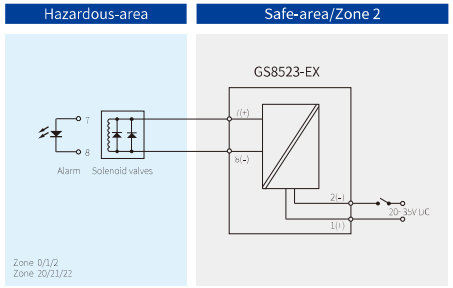


Output Characteristic：



Response Time： ⩽20ms
Power Supply Protection： Power supply reverse protection
EMC： 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
Structure： GS8500 range structure customized by Phoenix Contact.
Weight： Approx. 100g
Suitable Location： Mounting in safe area or zone2(for ec protection), and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC.
Suitable Field Apparatus： solenoid valves, LED.

Connection



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Ex nA II C T4 Gc
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 terminals)：
U_0=25V，I_0=140mA，P_0=875mW
II C：C_0=0.11μF，L_0=1.5mH
★II B：C_0=0.84μF，L_0=4.5mH
II A：C_0=2.97μF，L_0=12.0mH
I：C_0=4.87μF，L_0=23mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Digital Output

1/1：GS8523-EX.I

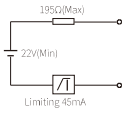
Digital output isolated barrier, with 12V/45mA output to hazardous area, is controlled by switches and logic signal in the safe area. This product is suitable for driving IS devices such as solenoid valves, LED and some other low-power loads located in the hazardous area. This product needs independent power supply and galvanic isolation among power supply, input and output.

Dimensions：118.9mm×106.0mm×12.5mm

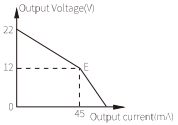
Specification

Supply Voltage：20~35V DC
Current Consumption：≤80mA(Supply voltage: 24V; output: 45mA)
Safe-area Input：
If input switch or transistor is close, power the devices located in hazardous area.
If input switch or transistor is open, stop powering the devices located in hazardous area.
Hazardous-area Output：
Open-circuit Voltage：22V~24V
Output voltage at 45mA：≥12V

Equivalent Output Circuit：



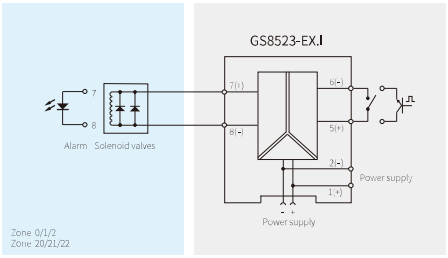
Output Characteristic：



Response Time：≤20ms
Power Supply Protection：Power supply reverse protection
EMC：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 input part≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and input part≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 100g
Suitable Location：Mounting in safe area or zone2(for ec protection), and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC.
Suitable Field Apparatus：solenoid valves, LED.

Connection

Hazardous-area	Safe-area/Zone 2



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Ex nA II C T4 Gc
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 terminals)：
U_0=25V，I_0=140mA，P_0=875mW
II C：C_0=0.11μF，L_0=1.5mH
★II B：C_0=0.84μF，L_0=4.5mH
II A：C_0=2.97μF，L_0=12.0mH
I：C_0=4.87μF，L_0=23mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Digital Output(Loop Powered)

1/1：GS8525-EX

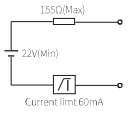
Digital output isolated barriers, control the 12V/60mA power supply to hazardous area. This product is suitable for driving IS devices such as solenoid valves, LED and some other low-power loads located in the hazardous area. The input and output are each galvanically isolated, and allow the control switch to directly connect to the either side of 24V DC power supply loop circuit.

Dimensions：118.9mm×106.0mm×12.5mm

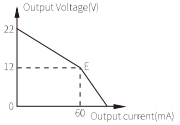
Specification

Loop Supply Voltage（Ue）：20~35V DC
Current Consumption：≤95mA(Supply voltage: 24V; output: 60mA)
Hazardous-area Output：
Open-circuit Voltage：22V~24V
Output Voltage at 60mA：≥12V

Equivalent Output Circuit：



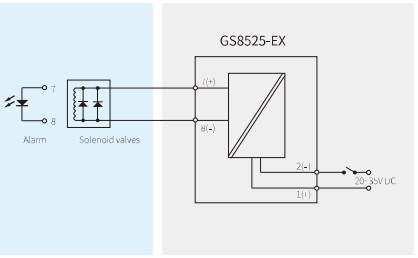
Output Characteristic：



Response Time：≤20ms
Power Supply Protection：Power supply reverse protection
EMC：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
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 100g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIB and zone20 IIIC.
Suitable Field Apparatus：solenoid valves, LED.

Connection

Hazardous-area	Safe-area



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II B
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 terminals)：
U_0=25V，I_0=185mA，P_0=1157mW
★II B：C_0=0.84μF，L_0=4.5mH
II A：C_0=1.36μF，L_0=10.56mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

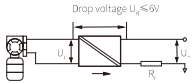
1/1：GS8531-EX
2/2：GS8532-EX

These products can work as an AI isolated barrier to provide a separate power to the transmitter located in the hazardous area and transfer the current from hazardous area to safe area. It can also work as an AO isolated barrier to transfer current signal from the safe area to the hazardous area and drive devices like actuator in field. It allows bi-directional transmission of HART communication signals. The input and output are each galvanically isolated, and these products are loop powered.

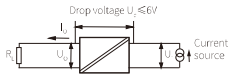
Dimensions：118.9mm×106.0mm×12.5mm

Specification

Loop Supply Voltage（Ue）: 20~30V DC
Application 1(AI):
Safe-area Output:
Current：4~20mA, HART digital signal
HART Communication Load Resistance RL ⩾250Ω
Hazardous-area Input:
Current：4~20mA, HART digital signal
Supply Voltage：Uo⩾Ue-RI ×0.02-6



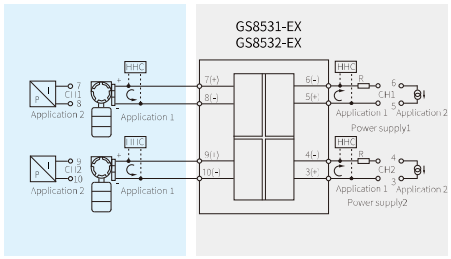
Output Accuracy: 0.4%F.S.
Application 2(AO):
Safe-area Input:
Current：4~20mA, HART digital signal
Hazardous-area Output:
Current：4~20mA, HART digital signal
Load Resistance：RL≤(Ui-6)/0.02
HART Communication Load Resistance RL⩾250Ω



Output Accuracy: 0.2%F.S.
Temperature Drift: 0.01%F.S./°C
EMC: 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
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part⩾100MΩ
Structure: GS8500 range structure customized by Phoenix Contact.
Weight: Approx. 150g
Suitable Location: Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone1 IIC and zone21 IIIC.
Suitable Field Apparatus:
2-wire (HART) transmitter(Application 1)
2-wire valve positioner, electrical converter(Application 2)

Connection

Hazardous-area	Safe-area



Note: a) GS8531-EX only contains CH1;
b) Can't use HHC (HART Hand Held Communicator) in hazardous area and safe area at the same time;
c) HHC(HART Hand Held Communicator)used in the hazardous area must get the explosion-proof certificate.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ib Gb] II C
[Ex ibD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8；9、10 terminals)：
U_o=23.1V，I_o=29mA，P_o=670mW
II C：C_o=0.096μF，L_o=0.5mH
★II B：C_o=0.288μF，L_o=1.5mH
II A：C_o=0.528μF，L_o=4.0mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex ibD]

1/2：GS8535-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 from hazardous area to safe area.It also allows bi-directional transmission of HART communication signals.The product needs an independent power supply and galvanic isolation among power supply, input and output.

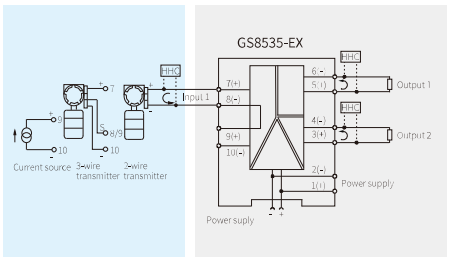
Dimensions：118.9mm×106.0mm×12.5mm

Specification

Supply Voltage: 20~35V DC
Current Consumption: ⩽75mA(Supply voltage: 24V; output: 20mA)
Safe-area Output:
Current：0/4~20mA, HART digital signal
Load Resistance：RL⩽300Ω
HART Communication Load Resistance：RL⩾250Ω
Voltage：0/1~5V
Load Resistance：RL⩾330kΩ
Output loop powered voltage Ue：12~30V DC
Note：Customers need specify current(active or passive) or voltage output when ordering.
Hazardous-area Input:
Current：0/4~20mA, HART digital signal
Distribution：
Open-circuit Voltage：⩽28V
Voltage at 20mA：⩾15.5V
Normal working current：⩽25mA
Output Accuracy: 0.1%F.S.(Typical：0.05%F.S.)
Temperature Drift: 0.005%F.S./°C
Response Time(0~90%): ⩽2ms
Power Supply Protection: Power supply reverse protection
EMC: 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 output part⩾500V AC
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part⩾100MΩ
Between power supply part and output part⩾100MΩ
Structure: GS8500 range structure customized by Phoenix Contact.
Weight: Approx. 110g
Suitable Location: Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus: 2-wire (HART) transmitter, 3-wire transmitter, current source

Connection

Hazardous-area	Safe-area



Note: a) Can't use HHC (HART Hand Held Communicator) in hazardous area and safe area at the same time;
b) HHC(HART Hand Held Communicator)used in the hazardous area must get the explosion-proof certificate;
c) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 / 9、10 terminals)：
U_o=28V，I_o=93mA，P_o=651mW
II C：C_o=0.083μF，L_o=4.2mH
★II B：C_o=0.65μF，L_o=12.6mH
II A：C_o=2.15μF，L_o=33.6mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]
(9、10 terminals)：
U_o=3.5V，C_o=100μF
U_i=20V，I_i=110mA

2/2：GS8536-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 from hazardous area to safe area.It also allows bi-directional transmission of HART communication signals.The product needs an independent power supply and galvanic isolation among power supply, input and output.

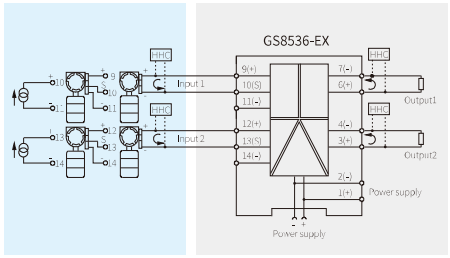
Dimensions：118.9mm×106.0mm×17.5mm

Specification

Supply Voltage：20~35V DC
Current Consumption：≤100mA(Supply voltage: 24V; output: 20mA)
Safe-area Output：
Current：0/4~20mA, HART digital signal
Load Resistance：RL≤300Ω
HART Communication Load Resistance：R.≥250Ω
Voltage：0/1~5V
Load Resistance：RL≥330kΩ
Output loop powered voltage Ue：12~30V DC
Load Resistance：RL≤(Ue-5)/0.02
Note：Customers need specify current(active or passive) or voltage output when ordering.
Hazardous-area Input：
Current：0/4~20mA, HART digital signal
Distribution：
Open-circuit Voltage：≤28V
Voltage at 20mA：≥15.5V
Normal working current：≤25mA
Output Accuracy：0.1%F.S.(Typical：0.05%F.S.)
Temperature Drift：0.005%F.S./℃
Response Time(0~90%)：≤2ms
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)，IEC 61326-3-1
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part≥2500V AC
Between power supply part and output part≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and output part≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 135g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：2-wire (HART) transmitter, 3-wire transmitter, current source.

Connection

Hazardous-area	Safe-area



Note: a) Can't use HHC (HART Hand Held Communicator) in hazardous area and safe area at the same time.;
b) HHC(HART Hand Held Communicator)used in the hazardous area must get the explosion-proof certificate.
c) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11；12、13、14 terminals)：
U_0=28V，I_0=93mA，P_0=651mW
II C：C_0=0.083μF，L_0=4.2mH
★II B：C_0=0.65μF，L_0=12.6mH
II A：C_0=2.15μF，L_0=33.6mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]
(10、11；13、14 terminals)：
U_0=1.2V，C_0=100μF
U_i=20V，I_i=110mA

1/1：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 from hazardous area to safe area. It also allows bi-directional transmission of HART communication signals. The product needs an independent power supply and galvanic isolation among power supply, input and output.

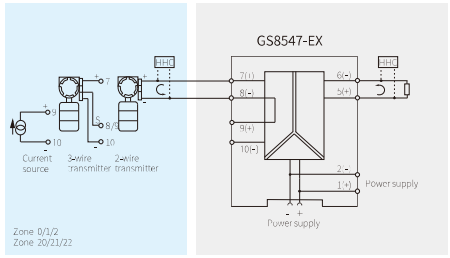
Dimensions：118.9mm×106.0mm×12.5mm

Specification

Supply Voltage：20~35V DC
Current Consumption：≤65mA(Supply voltage: 24V; output: 20mA)
Safe-area Output：
Current：0/4~20mA, HART digital signal
Load Resistance：RL≤550Ω
HART Communication Load Resistance：R.≥250Ω
Voltage：0/1~5V
Load Resistance：RL≥330kΩ
Note：Customers need specify current output or voltage output when ordering.
Hazardous-area Input：
Current：0/4~20mA, HART digital signal
Distribution：
Open-circuit Voltage：≤28V
Voltage at 20mA：≥15.5V
Normal working current：≤25mA
Output Accuracy：0.1%F.S.(Typical：0.05%F.S.)
Temperature Drift：0.005%F.S./℃
Response Time(0~90%)：≤2ms
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)，IEC 61326-3-1
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part≥2500V AC
Between power supply part and output part≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and output part≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 110g
Suitable Location：Mounting in safe area or zone2(for ec protection), and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC.
Suitable Field Apparatus：2-wire (HART) transmitter, 3-wire transmitter, current source

Connection

Hazardous-area	Safe-area/Zone 2



Note: a) Can't use HHC (HART Hand Held Communicator) in hazardous area and safe area at the same time.;
b) HHC(HART Hand Held Communicator)used in the hazardous area must get the explosion-proof certificate.
c) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Ex nA II C T4 Gc
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 / 9、10 terminals)：
U_0=28V，I_0=93mA，P_0=651mW
II C：C_0=0.083μF，L_0=4.2mH
★II B：C_0=0.65μF，L_0=12.6mH
II A：C_0=2.15μF，L_0=32.8mH
I：C_0=3.76μF，L_0=53.9mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8549-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 the 4~20mA signal from hazardous area to safe area. It also allows bi-directional transmission of HART communication signals. The product needs an independent power supply and galvanic isolation among power supply, input and output.

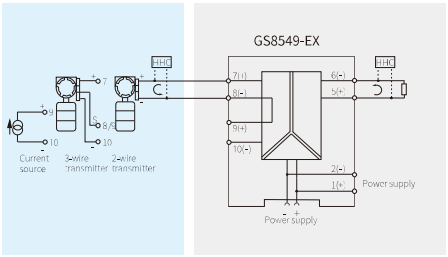
Specification

Supply Voltage：20~35V DC
Current Consumption：≤70mA(Supply voltage: 24V; output: 20mA)
Safe-area Output：
Current：0/4~20mA, HART digital signal
Load Resistance：RL≤550Ω
HART Communication Load Resistance：R.≥250Ω
Voltage：0/1~5V
Load Resistance：RL≥330kΩ
Note：Customers need specify current output or voltage output when ordering.
Hazardous-area Input：
Current：0/4~20mA, HART digital signal
Distribution：
Open-circuit Voltage：≤28V
Voltage at 20mA：≥19V
Normal working current：≤25mA
Output Accuracy：0.1%F.S.(Typical：0.05%F.S.)
Temperature Drift：0.005%F.S./℃
Response Time(0~90%)：≤2ms
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part≥2500V AC
Between power supply part and output part≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and output part≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 110g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIB and zone20 IIIC.
Suitable Field Apparatus：2-wire (HART) transmitter, 3-wire transmitter, current source

Dimensions：118.9mm×106.0mm×12.5mm

Connection

Hazardous-area | Safe-area



Note: a) Can't use HHC (HART Hand Held Communicator) in hazardous area and safe area at the same time.;
b) HHC(HART Hand Held Communicator)used in the hazardous area must get the explosion-proof certificate.
c) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II B
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 / 9、10 terminals)：
U_0=28V，I_0=187mA，P_0=1310mW
*II B：C_0=0.65μF，L_0=4.5mH
II A：C_0=2.15μF，L_0=12.0mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/3：GS8347-EX

Analog input isolated barrier provides isolated power supplies for transmitters which located in hazardous area and transfer 4~20mA signal from hazardous area to safe area. This product controls two relay outputs to monitor the input. It also has a 4~20mA current or 1~5V voltage output and a 5-digit LCD display values. The product needs an independent power supply and galvanic isolation among power supply, input and output.

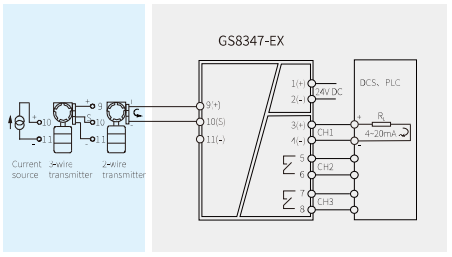
Specification

Supply Voltage：20~35V DC
Current Consumption：≤100mA(Supply voltage: 24V; Output: 20mA; Relay: energized)
Safe-area Output：
Current：4~20mA Load resistance：RL≤300Ω
Voltage：1~5V Load resistance：RL≥35kΩ
(Note：Customers need to specify current output or voltage output when ordering)
Relay characteristics：
Response Time：≤20ms
Contact loading：250V AC,2A or 30V DC,2A
Load Type：resistive load
Hazardous-area Input：
Current：4~20mA
Distribution：
Open-circuit Voltage：≤26V
Voltage at 20mA：≥16V
Transmission Accuracy：0.1%F.S.
Temperature Drift：0.005%F.S./℃
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part≥2500V AC
Between power supply part and output part≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and output part≥100MΩ
Weight：Approx. 350g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：2-wire or 3-wire transmitter，current source signal

Dimensions：107.5mm×75.0mm×45mm

Connection

Hazardous-area | Safe-area



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11 terminals)：
U_0=28V，I_0=93mA，P_0=651mW
II C：C_0=0.083μF，L_0=4.2mH
*II B：C_0=0.65μF，L_0=12.6mH
II A：C_0=2.15μF，L_0=33.6mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8567-EX

Analog output isolated barrier transfer the 4~20mA signal from safe area to hazardous area to drive excecutive devices. It also allows bi-directional transmission of HART communication signals. The product needs an independent power supply and galvanic isolation among power supply, input and output.

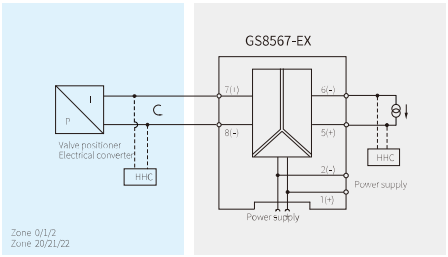
Specification

Supply Voltage：20~35V DC
Current Consumption：≤55mA(Supply voltage: 24V; output: 20mA)
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：Rₗ≤800Ω
HART Communication Load Resistance：Rₗ≥250Ω
Output Accuracy：0.1%F.S.
Temperature Drift：0.005%F.S./℃
Response Time(0~90%)：≤2ms
Power Supply Protection：Power supply reverse protection
Output short-circuit Alarm:
When output load ≤80Ω, short-circuit alarm active, and output 0mA
EMC：According to IEC 61326-1(GB/T 18268)，IEC 61326-3-1
Ambient Temperature：-20℃~+60℃
Dielectric Strength:
Between non-intrinsically safe part and intrinsically safe part≥2500V AC
Between power supply part and input part≥500V AC
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and input part≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 100g
Suitable Location：Mounting in safe area or zone2(for ec protection), and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC.
Suitable Field Apparatus：2-wire valve positioner, electrical converter, etc.

Dimensions：118.9mm×106.0mm×12.5mm

Connection

Hazardous-area	Safe-area/Zone 2



Note: a) Can't use HHC (HART Hand Held Communicator) in hazardous area and safe area at the same time.;
b) HHC(HART Hand Held Communicator)used in the hazardous area must get the explosion-proof certificate.
c) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Ex nA II C T4 Gc
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 terminals)：
U_o=28V，I_o=93mA，P_o=651mW
II C：C_o=0.083μF，L_o=4.2mH
★II B：C_o=0.65μF，L_o=12.6mH
II A：C_o=2.15μF，L_o=32.8mH
I：C_o=3.76μF，L_o=53.9mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

2/2：GS8568-EX

Analog output isolated barrier transfer the 4~20mA signal from safe area to hazardous area to drive excecutive devices. It also allows bi-directional transmission of HART communication signals. The product needs an independent power supply and galvanic isolation among power supply, input and output.

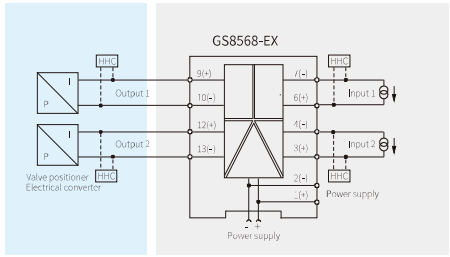
Specification

Supply Voltage：20~35V DC
Current Consumption：≤80mA(Supply voltage: 24V; output: 20mA)
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：Rₗ≤800Ω
HART Communication Load Resistance：Rₗ≥250Ω
Output Accuracy：0.1%F.S.(Typical：0.05%F.S.)
Temperature Drift：0.005%F.S./℃
Response Time(0~90%)：≤2ms
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)，IEC 61326-3-1
Ambient Temperature：-20℃~+60℃
Dielectric Strength:
Between non-intrinsically safe part and intrinsically safe part≥2500V AC
Between power supply part and input part≥500V AC
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part≥100MΩ
Between power supply part and input part≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 135g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：2-wire valve positioner, electrical converter, etc.

Dimensions：118.9mm×106.0mm×17.5mm

Connection

Hazardous-area	Safe-area



Note: a) Can't use HHC (HART Hand Held Communicator) in hazardous area and safe area at the same time.;
b) HHC(HART Hand Held Communicator)used in the hazardous area must get the explosion-proof certificate.
c) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10；12、13 terminals)：
U_o=28V，I_o=93mA，P_o=651mW
II C：C_o=0.083μF，L_o=4.2mH
★II B：C_o=0.65μF，L_o=12.6mH
II A：C_o=2.15μF，L_o=33.6mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8552-EX.11
2/2：GS8552-EX.22

Dimensions：118.9mm×106.0mm×17.5mm

Pulse input isolated barriers, provide isolated power supply for field instruments. The isolated barrier transfer the pulse signal generated by the hazardous-area device to the safe area. The input adopts hysteresis comparison circuit and has high anti-interference performance. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

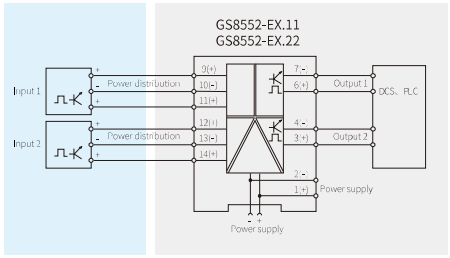
Supply Voltage：20~35V DC
Current Consumption：(Supply voltage: 24V; output: 12V voltage pulse)
≤80mA(GS8552-EX.22，12V Distribution volatge)
≤45mA(GS8552-EX.11，12V Distribution volatge)
Safe-area Output:
Transistor Output：Supply voltage V_{CC}≤40V, Rated current≤40mA
Transistor Collector Output:
V_H=V_{CC}; V_L≤2.5V(On-state current=10mA, V_{CC}=24V)
Load Resistance：2kΩ≤R_L≤20kΩ
Transistor Emitter Output:
V_H≥V_{CC}-2.5V; V_L≤0.5V(On-state current=10mA, V_{CC}=24V)
Load Resistance：2kΩ≤R_L≤20kΩ
Voltage pulse Output:
12V Range PLC/DCS：High Voltage 9V≤V_H≤12V
5V range PLC/DCS：High Voltage 4.5V≤V_H≤5.5V
Low Voltage：V_L≤0.5V
Load Resistance：R_L≥1kΩ，Rated current≤10mA
Hazardous-area Input:
Voltage pulse Input：High Voltage V_H≥4V; Low Voltage V_L≤1V
Frequency at voltage pulse output≤50kHz
Frequency at transistor output≤20kHz
Transistor Input：NPN/PNP
Frequency at voltage pulse output≤20kHz
Frequency at transistor output≤10kHz
(Input signal Vh≤12V，Duty ratio≥30%)
The input signal type can be set by the DIP switches:

Sta.	Input 1		Input 2	
	K4	K3	K2	K1
Voltage pulse Input	OFF	OFF	OFF	OFF
Emitter (PNP) Input	OFF	ON	OFF	ON
Collector (NPN) Input	ON	OFF	ON	OFF

12V distribution power：Open-voltage:≤15V; Rated voltage:≥9V at 20mA
5V distribution power：Open-voltage:≤5.5V; Rated voltage:≥4.5V at 20mA
Note：a) K3 and K4, K1 and K2 cannot be ON at the same time;
b) Customers must specify distribution power voltage when ordering.
Power Supply Protection：Power supply reverse protection
EMC：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 output part≥1500V AC
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：2-wire or 3-wire pulse signal source

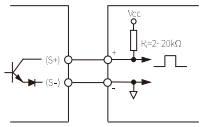
Connection

Hazardous-area | Safe-area

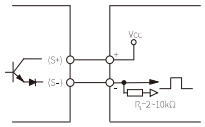


Note: a) GS8522-EX.11 only contains input1, output1;
b) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Application 1:
Transistor Collector Output



Application 2:
Transistor Emitter Output



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11；12、13、14 terminals)：
U_o=15.5V，I_o=110mA，P_o=427mW，C_i=25nF
II C：C_o=0.50μF，L_o=2.0mH
★II B：C_o=3.1μF，L_o=6.0mH
II A：C_o=12.5μF，L_o=16.0mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8554-EX.11
2/2：GS8554-EX.22

Dimensions：118.9mm×106.0mm×17.5mm

Pulse input isolated barriers, provide isolated power supply(24V) for field instruments. The pulse signal generated in the hazardous-area device is transmitted to the safe-area through the isolated barrier to output. The input adopts hysteresis comparison circuit which has high anti-interference performance. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

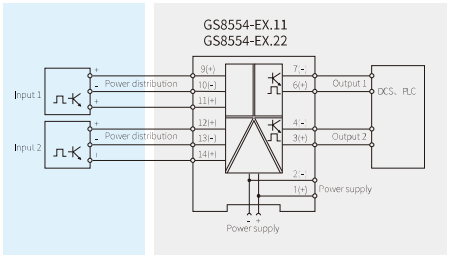
Supply Voltage：20~35V DC
Current Consumption：(Supply voltage: 24V; output: 12V voltage pulse)
≤160mA(GS8554-EX.22，24V distribution volatge)
≤90mA(GS8554-EX.11，24V distribution volatge)
Safe-area Output:
Transistor Output：Supply voltage V_{CC}≤40V, Rated current≤40mA
Transistor Collector Output:
V_H=V_{CC}; V_L≤2.5V(On-state current=10mA, V_{CC}=24V)
Load Resistance：2kΩ≤R_L≤20kΩ
Transistor Emitter Output:
V_H≥V_{CC}-2.5V; V_L≤0.5V(On-state current=10mA, V_{CC}=24V)
Load Resistance：2kΩ≤R_L≤20kΩ
Voltage pulse Output:
24V Range PLC/DCS：High Voltage 16V≤V_H≤24V
12V Range PLC/DCS：High Voltage 9V≤V_H≤12V
Low Voltage：V_L≤0.5V
Load Resistance：R_L≥1kΩ, Rated current≤10mA
Hazardous-area Input:
Voltage pulse Input：High voltage V_H≥4V; Low voltage V_L≤1V
Frequency at oltage pulse output≤50kHz
Frequency at transistor output≤20kHz
Transistor Input：NPN/PNP
Frequency at voltage pulse output≤20kHz
Frequency at transistor output≤10kHz
(Input signal Vh≤12V，Duty ratio≥30%)
The input signal type can be set by the DIP switches:

Sta.	Input 1		Input 2	
	K4	K3	K2	K1
Voltage pulse Input	OFF	OFF	OFF	OFF
Emitter (PNP) Input	OFF	ON	OFF	ON
Collector (NPN) Input	ON	OFF	ON	OFF

Distribution power：Open-voltage: ≤26V ; Rated voltage: ≥16V at 20mA
Note：a) K1 and K2 cannot be ON at the same time;
b) K3 and K4 cannot be ON at the same time。
Power Supply Protection：Power supply reverse protection
EMC：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 output part≥1500V AC
Structure：GS8500 range structure customized by Phoenix Contact.
Weight：Approx. 150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：2-wire or 3-wire pulse signal source

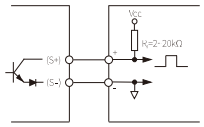
Connection

Hazardous-area | Safe-area

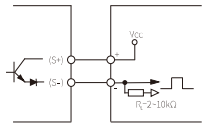


Note: a) GS8554-EX.11 only contains input1、output1;
b) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power supply accessories in additional.

Application 1:
Transistor Collector Output



Application 2:
Transistor Emitter Output



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11；12、13、14 terminals)：
U_o=28V，I_o=93mA，P_o=651mW
II C：C_o=0.083μF，L_o=4.2mH
★II B：C_o=0.65μF，L_o=12.6mH
II A：C_o=2.15μF，L_o=33.6mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Pulse Input

3/3：GS8556-EX

Dimensions：118.9mm×106.0mm×17.5mm

Pulse input and output isoltaed barriers transfer the voltage (V type), the complementary (F type) and the open collector (C type) output from the encoder in the hazardous area to safe area. Meanwhile, this product supplies power to the encoder in hazardous area. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

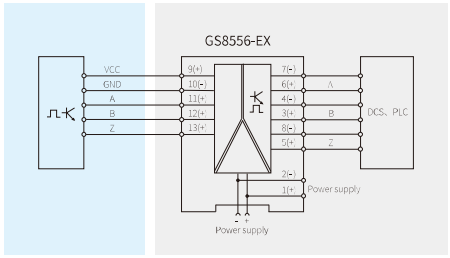
Supply Voltage：20~35V DC
Current Consumption：≤120mA (Supply voltage: 24V; Output: 12V voltage pulse; distribution voltage: 24V)
Safe-area Output：
Transistor Output：Supply voltage V_{CC}≤40V，Rated current≤40mA
Transistor Collector Output：
V_H=V_{CC}; V_L≤2.5V(On-state current=10mA, V_{CC}=24V)
Load Resistance：2kΩ≤R_L≤20kΩ
Transistor Emitter Output：
V_H≥V_{CC}-2.5V; V_L≤0.5V(On-state current=10mA, V_{CC}=24V)
Load Resistance：2kΩ≤R_L≤20kΩ
Voltage pulse Output：
High Voltage：9V≤V_{IH}≤12V
Low Voltage：V_L≤0.5V
Load Resistance：R_L≥1kΩ, Rated current≤10mA
Hazardous-area Input：
Voltage pulse Input：High voltage V_{IH}≥4V; Low voltage V_L≤1V
Frequency at voltage pulse output≤50kHz
Frequency at transistor output≤20kHz
Transistor Input：NPN/PNP
Frequency at voltage pulse output≤20kHz
Frequency at transistor output≤10kHz
(Input signal Vh≤12V，Duty ratio≥30%)
The input signal type can be set by the DIP switches：

Sta.	Input 1		Input 2		Input 3	
	K1	K2	K3	K4	K5	K6
Voltage pulse Input	OFF	OFF	OFF	OFF	OFF	OFF
Emitter (PNP) Input	ON	OFF	ON	OFF	ON	OFF
Collector (NPN) Input	OFF	ON	OFF	ON	OFF	ON

Distribution power：Open-voltage: ≤26V; Rated voltage: ≥15.5V at 20mA
Note：a) K1 and K2 cannot be ON at the same time;
b) K3 and K4 cannot be ON at the same time;
c) K5 and K6 cannot be ON at the same time。
Power Supply Protection：Power supply reverse protection
EMC：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 output part ≥1500V AC
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：2-wire or 3-wire pulse signal source,encoder

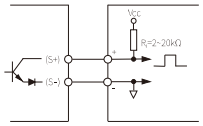
Connection

Hazardous-area | Safe-area

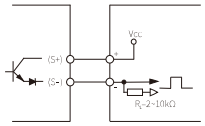


Note：Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power accessories in additional.

Application 1:
Transistor Collector Output



Application 2:
Transistor Emitter Output



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11 terminals)：
U_0=28V，I_0=111mA，P_0=777mW
II C：C_0=0.083μF，L_0=2.5mH
*II B：C_0=0.65μF，L_0=7.5mH
II A：C_0=2.15μF，L_0=20.0mH
(11、10；12、10；13、10 terminals)：
U_0=13.65V，I_0=7.5mA，P_0=26mW
II C：C_0=0.7μF，L_0=100mH
*II B：C_0=5.0μF，L_0=300mH
II A：C_0=18.1μF，L_0=800mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Fire and Smoke Dectector Input(Loop Powered)

1/1：GS8565-EX
2/2：GS8566-EX

Dimensions：118.9mm×106.0mm×12.5mm

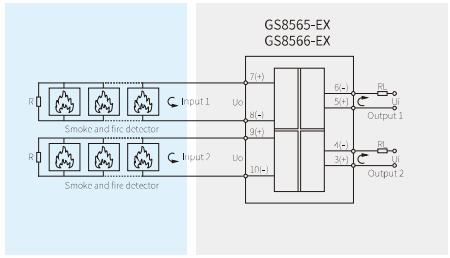
Fire detector input isolated barriers provide the fire and smoke detectors in hazardous area isolated power and transfer 0~40mA signal generated by detectors in the hazardous area to the safe area. This product acts as an smoke alarm and it is suitable for loop-powered DCS/PLC system.

Specification

Loop Supply Voltage（Ui)：20~30V DC
Safe-area output：
Current：0~40mA
Hazardous-area input：
Current：0~40mA
Distribution Voltage：
Uo≥Ui-(280+R_L)I-6(Ui≤24V)
Uo≥18-(280+R_L)I(Ui>24V)
Short-circuit Current：≤65mA(Supply voltage：24V)
Transmission Accuracy：0.2%F.S.
Temperature Drift：0.01%F.S./°C(0°C~60°C)
0.02%F.S./°C(-20°C~0°C)
Response Time(0~90%)：≤2ms
Power Supply Protection：Power supply reverse protection
EMC：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 channels ≥1500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between channels ≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.100g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Smoke, fire detector

Connection

Hazardous-area | Safe-area



Note：GS8565-EX only contains input1, output1;

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8；9、10 terminals)：
U_0=25.2V，I_0=93mA，P_0=586mW
II C：C_0=0.107μF，L_0=4.2mH
*II B：C_0=0.82μF，L_0=12.6mH
II A：C_0=2.9μF，L_0=33.6mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8572-EX(RTD, TC input)
GS8572-EX.RTD(RTD input)
GS8572-EX.R(Potentiometer input)

Temperature input isolated barriers, converter potentiometer/RTD/TC signals in hazardous area into current or voltage signals and output to safe area. It can be configured by computer. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

Supply Voltage：20~35V DC
Current Consumption：≤40mA(Supply voltage: 24V; Output: 20mA)
Safe-area Output：
Output Current：0~20mA/4~20mA; Load resistance: R_L≤300Ω
Output Voltage：0~5V/1~5V; Load resistance: R_L≥35kΩ
(Customers need specify current output or voltage output when ordering)
Hazardous-area Input：
Input Signal：please see the table 'Input Signal and Range'.
Temperature Drift：0.01%F.S./℃
CJC：±1℃(Compensation range：-20℃~+60℃)
Response Time(0~90%)：≤1s
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ≥2500V AC
Between power supply part and output part ≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area or zone2(for ec protection), and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC.
Suitable Field Apparatus：2-wire or 3-wire RTD, TC, Potentiometer

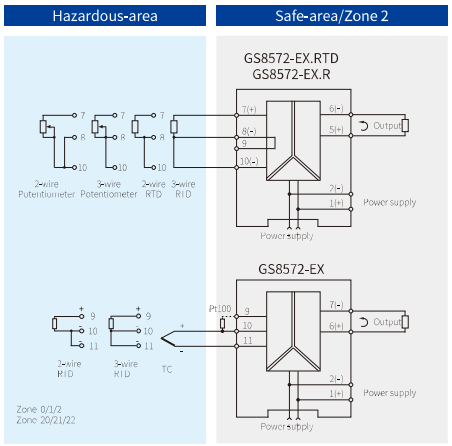
Input Signal and Range

	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%
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%
Potentiometer		0kΩ~5kΩ		0.1%
		0kΩ~10kΩ		0.1%

Note：1、The "%" of conversion accuracy is relative to its range. Take the larger value between the range error and the absolute error when applying.
2、Allow a maximum wire resistance of 50Ω/line for RTD input(3-wire).
3、When the thermocouple is input, the conversion accuracy does not include the CJC. For every 100Ω increase in the compensation wire, the cold junction error increases by 0.2℃.
4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 ℃ to ensure the accuracy index.
5、When the Type S thermocouple is input, the temperature measurement accuracy is 0.6% below 10℃.

Dimensions:
118.9mm×106.0mm×17.5mm(GS8572-EX)
118.9mm×106.0mm×12.5mm(GS8572-EX.RTD/GS8572-EX.R)

Connection



Note: a) 2-wire connection cannot eliminate conductor resistance and error will increase
b) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Ex nA II C T4 Gc
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8、9、10 terminals)：
U_0=5.4V，I_0=23mA，P_0=32mW
II C：C_0=65μF，L_0=65mH
★II B：C_0=1000μF，L_0=265mH
II A：C_0=1000μF，L_0=535mH
I：C_0=1000μF，L_0=880mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8572-EX.TC

Temperature input isolated barriers, converter TC/mV signals in hazardous area into current or voltage signals and output to safe area. It can be configured by computer. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Specification

Supply Voltage：20~35V DC
Current Consumption：≤40mA (Supply voltage: 24V; Output: 20mA)
Safe-area Output：
Output Current：0~20mA/4~20mA; Load resistance: R_L≤300Ω
Output Voltage：0~5V/1~5V; Load resistance: R_L≥35kΩ
(Customers need specify current output or voltage output when ordering)
Hazardous-area Input：
Input Signal：please see the table 'Input Signal and Range'.
Temperature Drift：0.01%F.S./℃
CJC：±1℃(Compensation range：-20℃~+60℃)
Response Time(0~90%)：≤1s
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ≥2500V AC
Between power supply part and output part ≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area or zone2(for ec protection), and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC.
Suitable Field Apparatus：TC, mV signal

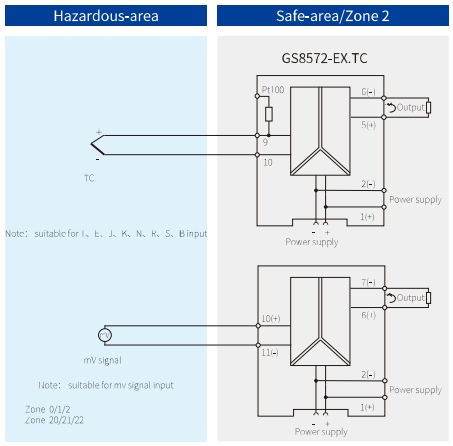
Input Signal and Range

	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 signal		-100mV~+100mV	10mV	20uV / 0.1%

Note：1、The "%" of conversion accuracy is relative to its range. Take the larger value between the range error and the absolute error when applying.
2、When the thermocouple is input, the conversion accuracy does not include the CJC. For every 100Ω increase in the compensation wire, the cold junction error increases by 0.2℃.
3、When the Type B thermocouple is input, the temperature range is required to be greater than 680 ℃ to ensure the accuracy index.
4、When the Type S thermocouple is input, the temperature measurement accuracy is 0.6% below 10℃.
5、mV signal input needs to be customized.

Dimensions:
118.9mm×106.0mm×12.5mm(TC input)
118.9mm×106.0mm×17.5mm(mV input)

Connection



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Ex nA II C T4 Gc
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11 terminals)：
U_0=5.4V，I_0=23mA，P_0=32mW
II C：C_0=65μF，L_0=65mH
★II B：C_0=1000μF，L_0=265mH
II A：C_0=1000μF，L_0=535mH
I：C_0=1000μF，L_0=880mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

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

Temperature input isolated barriers, converter RTD/TC signals in hazardous area into 4~20mA or 0/1~5V signals and output to safe area. It can be configured by computer. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Dimensions：118.9mm×106.0mm×12.5mm

Specification

Supply Voltage：20~35V DC
Current Consumption：≤45mA(Supply voltage: 24V; Output: 20mA)
Safe-area Output：
Output Current：4~20mA；Load resistance：RL≤300Ω
Output Voltage：1~5V；Load resistance：RL≥35kΩ
(Customers need specify current output or voltage output when ordering)
Hazardous-area Input：
Input Signal：please see the table 'Input Signal and Range'.
Temperature Drift：0.01%F.S./℃
CJC：±1℃(Compensation range：-20℃~+60℃)
Response Time(0~90%)：≤1.2s
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268), IEC 61326-3-1
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ≥2500V AC
Between power supply part and output part ≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：2-wire or 3-wire RTD, TC

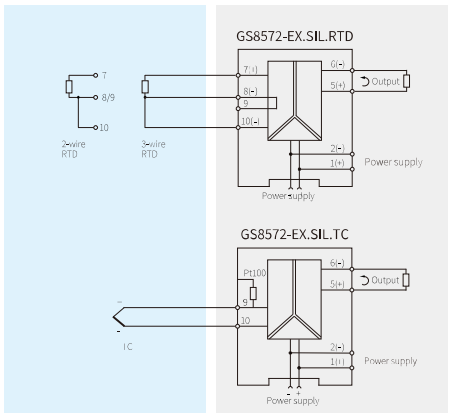
Input Signal and Range

	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%
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、The "%" of conversion accuracy is relative to its range. Take the larger value between the range error and the absolute error when applying.
2、Allow a maximum wire resistance of 50Ω/line for RTD input(3-wire).
3、When the thermocouple is input, the conversion accuracy does not include the CJC.
4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 ℃ to ensure the accuracy index.
5、When the Type S thermocouple is input, the temperature measurement accuracy is 0.6% below 10℃.

Connection

Hazardous-area | Safe-area



Note: a) 2-wire connection cannot eliminate conductor resistance and error will increase
b) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8、9、10 terminals)：
U_0=6.6V，I_0=10mA，P_0=16.5mW
II C：C_0=6.5μF，L_0=3.6mH
★II B：C_0=60μF，L_0=10.8mH
II A：C_0=1000μF，L_0=28.8mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/2：GS8576-EX / GS8576-EX.RTD
GS8576-EX.TC / GS8576-EX.R
2/2：GS8579-EX / GS8579-EX.RTD
GS8579-EX.TC / GS8579-EX.R

Temperature input isolated barriers, converter RTD/TC/mV/potentiometer signals in hazardous area into 0/4~20mA or 0/1~5V signals and output to safe area. It can be configured by computer. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Dimensions：118.9mm×106.0mm×17.5mm

Specification

Supply Voltage：20~35V DC
Current Consumption：≤65mA(Supply voltage：24V;Output：20mA)
Safe-area Output：
Output Current：0~20mA/4~20mA；Load resistance：R.≤300Ω
Output Voltage：0~5V/1~5V；Load resistance：RL≥35kΩ
(Customers need specify current output or voltage output when ordering.)
Hazardous-area Input：
Input Signal：please see the table 'Input Signal and Range'.
Temperature Drift：0.01%F.S./℃
CJC：±1℃(Compensation range：-20℃~+60℃)
Response Time(0~90%)：≤1s
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ≥2500V AC
Between power supply part and output part ≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：2-wire or 3-wire RTD、TC, mV signal、Potentiometer

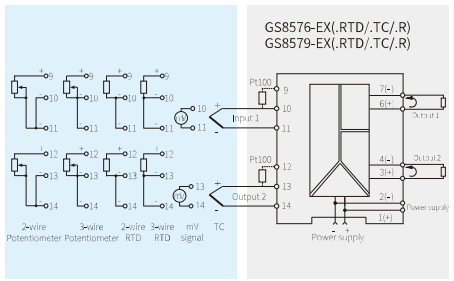
Input Signal and Range

	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 signal		-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%
Potentiometer		0kΩ~5kΩ		0.1%
		0kΩ~10kΩ		0.1%

Note：1、The "%" of conversion accuracy is relative to its range. Take the larger value between the range error and the absolute error when applying.
2、Allow a maximum wire resistance of 50Ω/line for RTD input(3-wire).
3、When the thermocouple is input, the conversion accuracy does not include the CJC. For every 100Ω increase in the compensation wire, the cold junction error increases by 0.2℃.
4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 ℃ to ensure the accuracy index.
5、When the Type S thermocouple is input, the temperature measurement accuracy is 0.6% below 10℃.
6、mV signal input needs to be customized.

Connection

Hazardous-area | Safe-area



Note: a) GS8576-EX only contains input1, output1, output2;
b) GS8576-EX/GS8579-EX：RTD, TC input;
c) GS8576-EX.RTD/GS8579-EX.RTD：RTD input;
d) GS8576-EX.TC/GS8579-EX.TC：TC, mV input;
e) GS8576-EX.R/GS8579-EX.R：Potentiometer input;
f) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power accessories in additional.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11；12、13、14 terminals)：
U_0=8.5V，I_0=20mA，P_0=43mW
II C：C_0=6.5μF，L_0=3.6mH
★II B：C_0=60μF，L_0=10.8mH
II A：C_0=1000μF，L_0=28.8mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Temperature Input(Loop Powered)

1/1：GS8577-EX
GS8577-EX.RTD / GS8577-EX.TC
2/2：GS8578-EX
GS8578-EX.RTD / GS8578-EX.TC

Temperature input isolated barriers, converter RTD/TC/mV signals in hazardous area into 0/4~20mA or 0/1~5V signals and output to safe area. It can be configured by computer. The input and output are each galvanically isolated, and this product is loop powered.

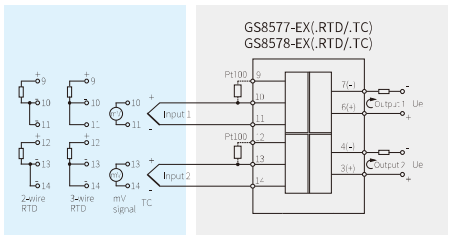
Dimensions：118.9mm×106.0mm×17.5mm

Specification

Loop Supply Voltage（Ue）： 12~30V DC
Safe-area Output：
Output Current：4~20mA
Load Resistance：RL≤(Ue-12)/0.021Ω
Hazardous-area Input：
Input Signal：please see the table 'Input Signal and Range'.
Temperature Drift： 0.01%F.S./℃
CJC： ±1℃(Compensation range：-20℃~+60℃)
Response Time(0~90%)： ≤1s
Power Supply Protection： Power supply reverse protection
EMC： According to IEC 61326-1(GB/T 18268)
Ambient Temperature： -20℃~+60℃
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
Structure： GS8500 range structure customized by Phoenix Contact
Weight： Approx.150g
Suitable Location： Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus： 2-wire or 3-wire RTD, TC, mV signal

Connection

Hazardous-area	Safe-area



Note: a) GS8577-EX only contains input1, output1.;
b) GS8577-EX/GS8578-EX：RTD, TC input;
c) GS8577-EX.RTD/GS8578-EX.RTD：RTD input;
d) GS8577-EX.TC/GS8578-EX.TC：TC, mV input.

Input Signal and Range

	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 signal		-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、The "%" of conversion accuracy is relative to its range. Take the larger value between the range error and the absolute error when applying.
2、Allow a maximum wire resistance of 50Ω/line for RTD input(3-wire).
3、When the thermocouple is input, the conversion accuracy does not include the CJC. For every 100Ω increase in the compensation wire, the cold junction error increases by 0.2℃.
4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 ℃ to ensure the accuracy index.
5、When the Type S thermocouple is input, the temperature measurement accuracy is 0.6% below 10℃.
6、mV signal input needs to be customized.

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11；12、13、14 terminals)：
U_0=8.5V，I_0=20mA，P_0=43mW
II C：C_0=6.5μF，L_0=3.6mH
★II B：C_0=60μF，L_0=10.8mH
II A：C_0=1000μF，L_0=28.8mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Resistance Input

1/1：GS8074-EX

Resistance input and output isolated barriers, transfer 2-wire, 3-wire resistance signal to the safe-area output. The product needs an independent power supply and galvanic isolation among power supply, input and output.

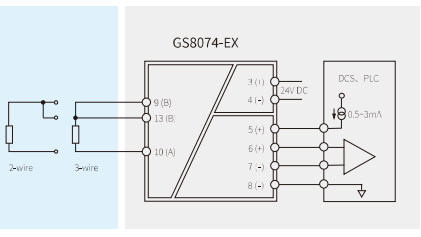
Dimensions：114.5mm×99.0mm×22.5mm

Specification

Supply Voltage： 20~35V DC
Current Consumption： ≤25mA(Supply voltage: 24V)
Safe-area Output：
Output signal：60Ω~4kΩ(With input 1: 1)
Current range：0.5mA~3mA(Input resistance at 2kΩ~4kΩ, current＜1mA)
Hazardous-area Input：
Input Signal：2-wire, 3-wire resistance signal
Signal range：60Ω~4kΩ
Transmissiton accuracy： 0.1%F.S. or 0.2Ω(Take larger value)
Temperature Drift： 0.01%F.S./℃
Response Time(0~90%)： ≤5ms
Power Supply Protection： Power supply reverse protection
EMC： According to IEC 61326-1(GB/T 18268)
Ambient Temperature： -20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ≥2500V AC
Between power supply part and output part ≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Weight： Approx.100g
Suitable Location： Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus： 2-wire or 3-wire RTD, resistance signal

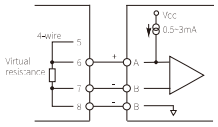
Connection

Hazardous-area	Safe-area

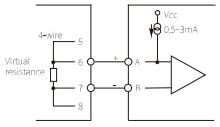


Output connection

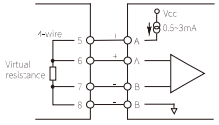
Application 1：3-wire output



Application 2：2-wire output



Application 3：4-wire output



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、13、14、15 terminals)：
U_0=11.7V，I_0=60mA，P_0=176mW
II C：C_0=1.54μF，L_0=9mH
★II B：C_0=10.3μF，L_0=27mH
II A：C_0=41.0μF，L_0=72mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

mV Input

1/1: GS8081-EX

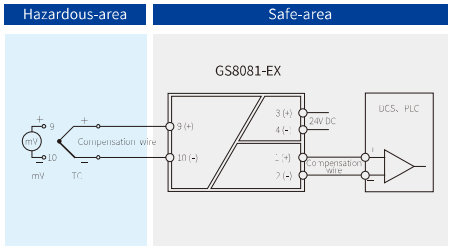
mV signals input and output isolated barriers, transfer mV signals to the safe-area. The product needs an independent power supply and galvanic isolation among power supply, input and output. It is suitable for I/O cards with external CJC.

Dimensions: 114.5mm×99.0mm×22.5mm

Specification

Supply Voltage: 20~35V DC
Current Consumption: ≤15mA(Supply voltage: 24V)
Safe-area Output:
Signal: -5mV~+60mV(Same with input 1: 1)
Internal impedance: <10Ω
Hazardous-area Input:
Signal : -5mV~+60mV
Internal impedance: >20MΩ
Transmission Accuracy: 0.03%F.S. or 18uV(Take larger value)
Temperature Drift: 0.01%F.S./°C
Response Time(0~90%): ≤5ms
Power Supply Protection: Power supply reverse protection
EMC: 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 output part ≥500V AC
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Weight: Approx.100g
Suitable Location: Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
uitable field apparatus: T, E, J, K, S, B, mV signal

Connection



Explosion-proof Certificate

Certifying Authority: NEPSI(China)
Ex Marking: [Ex ia Ga] II C
[Ex iaD]
Maximum Voltage: Um=250V
Intrinsic Safety Parameters(9、10 terminals):
U_o=8.5V, I_o=4mA, P_o=8.5mW
II C: C_o=6.5μF, L_o=1000mH
★II B: C_o=60μF, L_o=1000mH
II A: C_o=1000μF, L_o=1000mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Voltage Input

1/1: GS8589-EX.11
2/2: GS8589-EX.22

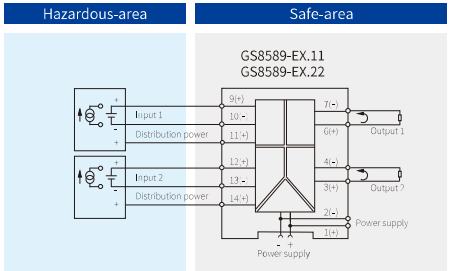
Voltage signal input isolated barriers; provide the isolated power to the field instrument, and transfer DC voltage in hazardous area to safe-area. The product needs an independent power supply and galvanic isolation among power supply, input and output.

Dimensions: 118.9mm×106.0mm×17.5mm

Specification

Supply Voltage: 20~35V DC
Current Consumption: (Supply voltage: 24V; Distribution power: 15V/20mA)
≤100mA(GS8589-EX.11)
≤130mA(GS8589-EX.22)
Safe-area Output:
Current: 0~20mA, 4~20mA
Load Resistance: RL≤300Ω
Voltage: 0~5V, 1~5V, 0~10V, 2~10V
Load resistance: RL≥35kΩ
Hazardous-area Input:
Voltage: 0~5V, 1~5V, 0~10V, 2~10V
Load Resistance: ≥300kΩ
Distribution power: 10V/20mA or 15V/20mA or none
Note: When the output of GS8589-EX.22 is current, the module do not support distribution power.
Transmission Accuracy: 0.1%F.S.
Temperature Drift: 0.01%F.S./°C
Response Time(0~90%): ≤0.1s
Power Supply Protection: Power supply reverse protection
EMC: 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 output part ≥500V AC
Insulation Resistance:
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Structure: GS8500 range structre customized by Phoenix contact
Weight: Approx.150g
Suitable Location: Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus: Voltage. current source output device

Connection



Note: a) GS8589-EX.11 only contains input1 and output1
b) Bus-powered function is optional, if necessary please specified when ordering, and purchase bus power accessories in additional.

Explosion-proof Certificate

Certifying Authority: NEPSI(China)
Ex Marking: [Ex ia Ga] II C
[Ex iaD]
Maximum Voltage: Um=250V
Intrinsic Safety Parameters(9、10; 12、13 terminals):
U_o=13.7V, I_o=8mA, P_o=28mW
II C: C_o=0.79μF, L_o=250mH
★II B: C_o=5.0μF, L_o=750mH
II A: C_o=18.1μF, L_o=1000mH
(10、11; 13、14 terminals):
U_o=24.2V, I_o=143.8mA, P_o=870mW
II C: C_o=0.09μF, L_o=1.5mH
★II B: C_o=0.70μF, L_o=4.5mH
II A: C_o=2.33μF, L_o=12mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8592-EX.3

Communication signals input isolated barriers, realize the bi-direction communication of RS-232 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

Supply Voltage：20~35V DC
Current Consumption：
⩽175mA(Supply voltage: 24V, distribution current: 100mA)
⩽120mA(Supply voltage: 24V, distribution current: 50mA)
Safe-area：
Signal：RS-232
Transmission delay：⩽10μs
Transmission rate：⩽56kbps
Hazardous-area：
Signal：RS-232
Distribution Power：5V/100mA, 6V/100mA, 8V/50mA, 9V/50mA, 12V/50mA
Distribution Voltage Deviation：±10%
Function of the DIP Switches：

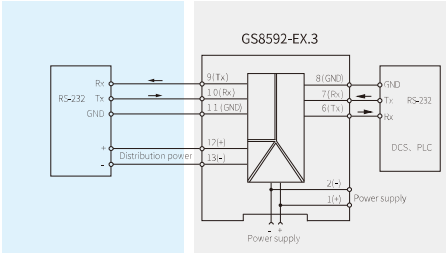
Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-25°C~+60°C
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ⩾2500V AC
Between power supply part and output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：With RS-232 communication interface device

Dimensions：118.9mm×106.0mm×17.5mm

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、11；10、11 terminals)：
U_0=11.7V，I_0=4.0mA，P_0=12mW
(9、10、11 terminals)：
U_0=23.5V，I_0=8.5mA，P_0=50mW
II C：C_0=0.12μF，L_0=100mH
*II B：C_0=0.97μF，L_0=300mH
II A：C_0=3.52μF，L_0=800mH
(12、13 terminals)：
U_0=23.1V，I_0=187mA，P_0=1.08W
II C：C_0=0.1μF，L_0=0.8mH
*II B：C_0=1.0μF，L_0=2.4mH
II A：C_0=3.6μF，L_0=6.4mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8595-EX.3

Communication signals input isolated barriers, realize the bi-direction communication between the RS-232 digital signals generated by the field instrument and the RS-485(full duplex) / RS-422 digital signals in the 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

Supply Voltage：20~35V DC
Current Consumption：
⩽160mA(Supply voltage: 24V, distribution current: 100mA)
⩽120mA(Supply voltage: 24V, distribution current: 50mA)
Safe-area：
Signal：RS-485(full duplex) / RS-422 digital signals
Transmission delay：⩽10μs
Signal transmission rate：⩽56kbps
Drive ability：up to 32 transceivers
Hazardous-area：
Signal：RS-232
Distribution power：5V/100mA、6V/100mA、8V/50mA、9V/50mA、12V/50mA
Distribution Voltage Deviation：±10%
Function of the DIP Switches：

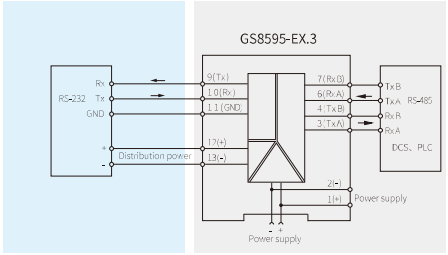
Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-25°C~+60°C
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ⩾2500V AC
Between power supply part and output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：With RS-232 communication interface device

Dimensions：118.9mm×106.0mm×17.5mm

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、11；10、11 terminals)：
U_0=11.7V，I_0=4.0mA，P_0=12mW
(9、10、11 terminals)：
U_0=23.5V，I_0=8.5mA，P_0=50mW
II C：C_0=0.12μF，L_0=100mH
*II B：C_0=0.97μF，L_0=300mH
II A：C_0=3.52μF，L_0=800mH
(12、13 terminals)：
U_0=23.1V，I_0=187mA，P_0=1.08W
II C：C_0=0.1μF，L_0=0.8mH
*II B：C_0=1.0μF，L_0=2.4mH
II A：C_0=3.6μF，L_0=6.4mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8599-EX.3

Communication signals input isolated barriers, realize the bi-direction communication between the RS-232 digital signals generated by the field instrument and the RS-485(half duplex) digital signals in the 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.

Dimensions：118.9mm×106.0mm×17.5mm

Specification

Supply Voltage：20~35V DC

Current Consumption：

⩽180mA(Supply voltage: 24V, distribution current: 100mA)

⩽120mA(Supply voltage: 24V, distribution current: 50mA)

Safe-area：

Signal：RS-485(half duplex)

Transmission delay：⩽10μs

Signal transmission rate：⩽56kbps

Drive ability：up to 32 transceivers

Hazardous-area：

Signal：RS-232

Distribution Power：5V/100mA、6V/100mA、8V/50mA、9V/50mA、12V/50mA

Distribution Voltage Deviation：±10%

Function of the DIP Switches：

Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection

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

Ambient Temperature：-25°C~+60°C

Dielectric Strength：

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

Between power supply part and output part ⩾500V AC

Insulation Resistance：

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

Between power supply part and output part ⩾100MΩ

Structure：GS8500 range structure customized by Phoenix Contact

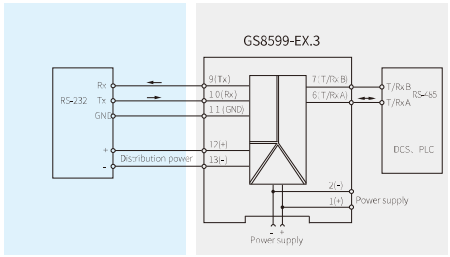
Weight：Approx.150g

Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.

Suitable Field Apparatus：With RS-232 communication interface device

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)

Ex Marking：[Ex ia Ga] II C

[Ex iaD]

Maximum Voltage：Um=250V

Intrinsic Safety Parameters(9、11；10、11 terminals)：

U_0=11.7V，I_0=4.0mA，P_0=12mW

(9、10、11 terminals)：

U_0=23.5V，I_0=8.5mA，P_0=50mW

II C：C_0=0.12μF，L_0=100mH

*II B：C_0=0.97μF，L_0=300mH

II A：C_0=3.52μF，L_0=800mH

(12、13 terminals)：

U_0=23.1V，I_0=187mA，P_0=1.08W

II C：C_0=0.1μF，L_0=0.8mH

*II B：C_0=1.0μF，L_0=2.4mH

II A：C_0=3.6μF，L_0=6.4mH

*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8591-EX.3

Communication signals input isolated barriers, realize the bi-direction communication between the RS-485(half duplex) digital signals generated by the field instrument and the RS-485(half duplex) /RS-422 digital signals in the 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.

Dimensions：118.9mm×106.0mm×17.5mm

Specification

Supply Voltage：20~35V DC

Current Consumption：

⩽175mA(Supply voltage: 24V, Distribution current: 100mA)

⩽120mA(Supply voltage: 24V, distribution current: 50mA)

Safe-area：

Signal：RS-485(full duplex) /RS-422 digital signals

Transmission delay：⩽10μs

Signal transmission rate：⩽56kbps

Drive Ability：up to 32 transceivers

Hazardous-area：

Signal：RS-485(half duplex)

Distribution Power：5V/100mA、6V/100mA、8V/50mA、9V/50mA、12V/50mA

Distribution Voltage Deviation：±10%

Function of the DIP Switches：

Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection

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

Ambient Temperature：-25°C~+60°C

Dielectric Strength：

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

Between power supply part and output part ⩾500V AC

Insulation Resistance：Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ

Between power supply part and output part ⩾100MΩ

Structure：GS8500 range structure customized by Phoenix Contact

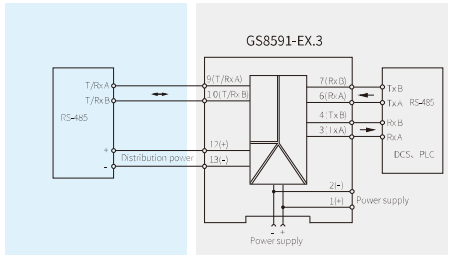
Weight：Approx.150g

Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.

Suitable Field Apparatus：With RS-485 half duplex communication interface device

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)

Ex Marking：[Ex ia Ga] II C

[Ex iaD]

Maximum Voltage：Um=250V

Intrinsic Safety Parameters(9、10 terminals)：

U_0=6.6V，I_0=65mA，P_0=110mW

II C：C_0=22μF，L_0=8mH

*II B：C_0=500μF，L_0=24mH

II A：C_0=1000μF，L_0=64mH

(12、13 terminals)：

U_0=23.1V，I_0=187mA，P_0=1.08W

II C：C_0=0.1μF，L_0=0.8mH

*II B：C_0=1.0μF，L_0=2.4mH

II A：C_0=3.6μF，L_0=6.4mH

*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8593-EX.3

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

Supply Voltage：20~35V DC
Current Consumption：
⩽160mA(Supply voltage: 24V, Distribution current: 100mA)
⩽120mA(Supply voltage: 24V, Distribution current: 50mA)
Safe-area：
Signal：RS-485(half duplex)
Transmission delay：⩽10μs
Signal transmission rate：⩽56kbps
Drive Ability：up to 32 transceivers
Hazardous-area：
Signal：RS-485(half duplex)
Distribution Power：5V/100mA、6V/100mA、8V/50mA、9V/50mA、12V/50mA
Distribution Voltage Deviation：±10%
Function of the DIP Switches：

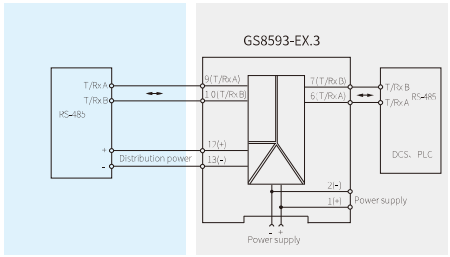
Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-25°C~+60°C
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ⩾2500V AC
Between power supply part and output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：With RS-485 half duplex communication interface device

Dimensions：118.9mm×106.0mm×17.5mm

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10 terminals)：
U_0=6.6V，I_0=65mA，P_0=110mW
II C：C_0=22μF，L_0=8mH
*II B：C_0=500μF，L_0=24mH
II A：C_0=1000μF，L_0=64mH
(12、13 terminals)：
U_0=23.1V，I_0=187mA，P_0=1.08W
II C：C_0=0.1μF，L_0=0.8mH
*II B：C_0=1.0μF，L_0=2.4mH
II A：C_0=3.6μF，L_0=6.4mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8596-EX.3

Communication signals input isolated barriers, realize the bi-direction communication between the RS-485(half duplex) digital signals generated by the field instrument and the RS-232 digital signals in the 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

Supply Voltage：20~35V DC
Current Consumption：
⩽160mA(Supply voltage: 24V, Distribution current: 100mA)
⩽120mA(Supply voltage: 24V, Distribution current: 50mA)
Safe-area：
Signal：RS-232
Transmission delay：⩽10μs
Signal transmission rate：⩽56kbps
Hazardous-area：
Signal：RS-485(half duplex)
Distribution Power：5V/100mA、6V/100mA、8V/50mA、9V/50mA、12V/50mA
Distribution Voltage Deviation：±10%
Function of the DIP Switches：

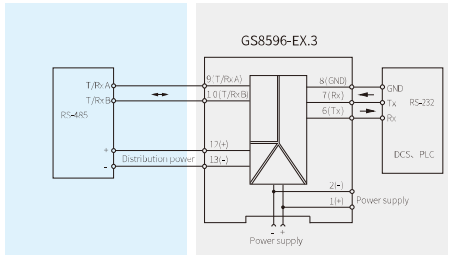
Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-25°C~+60°C
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ⩾2500V AC
Between power supply part and output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：With RS-485 half duplex communication interface device

Dimensions：118.9mm×106.0mm×17.5mm

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10 terminals)：
U_0=6.6V，I_0=65mA，P_0=110mW
II C：C_0=22μF，L_0=8mH
*II B：C_0=500μF，L_0=24mH
II A：C_0=1000μF，L_0=64mH
(12、13 terminals)：
U_0=23.1V，I_0=187mA，P_0=1.08W
II C：C_0=0.1μF，L_0=0.8mH
*II B：C_0=1.0μF，L_0=2.4mH
II A：C_0=3.6μF，L_0=6.4mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8594-EX.3

Communication signals input isolated barriers, realize the bi-direction communication between the RS-485(full duplex) / RS-422 digital signals generated by the field instrument and the RS-232 digital signals in the 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.

Dimensions：118.9mm×106.0mm×17.5mm

Specification

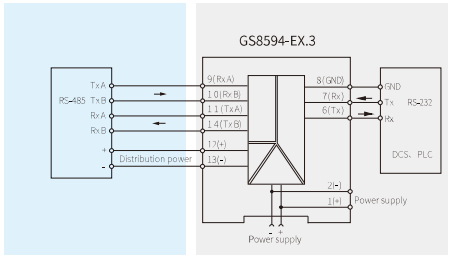
Supply Voltage：20~35V DC
Current Consumption：
⩽160mA(Supply voltage: 24V, Distribution current: 100mA)
⩽120mA(Supply voltage: 24V, Distribution current: 50mA)
Safe-area：
Signal：RS-232
Transmission delay：⩽10μs
Signal transmission rate：⩽56kbps
Hazardous-area：
Signal：RS-485(full duplex) / RS-422 digtial signals
Distribution Power：5V/100mA、6V/100mA、8V/50mA、9V/50mA、12V/50mA
Distribution Voltage Deviation：±10%
Function of the DIP Switches：

Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-25°C~+60°C
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ⩾2500V AC
Between power supply part and output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：With RS-485 full duplex/RS-422 communication interface device

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10；11、14 terminals)：
U_0=6.6V，I_0=65mA，P_0=110mW
II C：C_0=22μF，L_0=8mH
*II B：C_0=500μF，L_0=24mH
II A：C_0=1000μF，L_0=64mH
(12、13 terminals)：
U_0=23.1V，I_0=187mA，P_0=1.08W
II C：C_0=0.1μF，L_0=0.8mH
*II B：C_0=1.0μF，L_0=2.4mH
II A：C_0=3.6μF，L_0=6.4mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8597-EX.3

Communication signals input isolated barriers, realize the bi-direction communication between the RS-485(full duplex) / RS-422 digital signals generated by the field instrument and the RS-485(half duplex) digital signals in the 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.

Dimensions：118.9mm×106.0mm×17.5mm

Specification

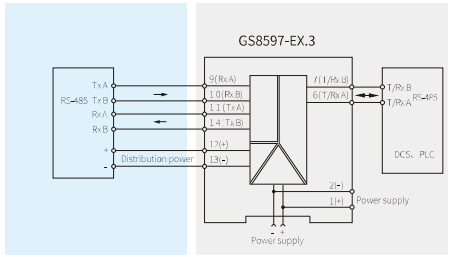
Supply Voltage：20~35V DC
Current Consumption：
⩽160mA(Supply voltage: 24V, Distribution current: 100mA)
⩽120mA(Supply voltage: 24V, Distribution current: 50mA)
Safe-area：
Signal：RS-485(half duplex)
Transmission delay：⩽10μs
Signal transmission rate：⩽56kbps
Drive Ability：up to 32 transceivers
Hazardous-area：
Signal：RS-485(full duplex) / RS-422 digtial signals
Distribution Power：5V/100mA、6V/100mA、8V/50mA、9V/50mA、12V/50mA
Distribution Voltage Deviation：±10%
Function of the DIP Switches：

Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-25°C~+60°C
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ⩾2500V AC
Between power supply part and output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：With RS-485 full duplex/RS-422 communication interface device

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10；11、14 terminals)：
U_0=6.6V，I_0=65mA，P_0=110mW
II C：C_0=22μF，L_0=8mH
*II B：C_0=500μF，L_0=24mH
II A：C_0=1000μF，L_0=64mH
(12、13 terminals)：
U_0=23.1V，I_0=187mA，P_0=1.08W
II C：C_0=0.1μF，L_0=0.8mH
*II B：C_0=1.0μF，L_0=2.4mH
II A：C_0=3.6μF，L_0=6.4mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8598-EX.3

Communication signals input isolated barriers, realize the bi-direction communication of RS-485(full duplex) / RS-422 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.

Dimensions：118.9mm×106.0mm×17.5mm

Specification

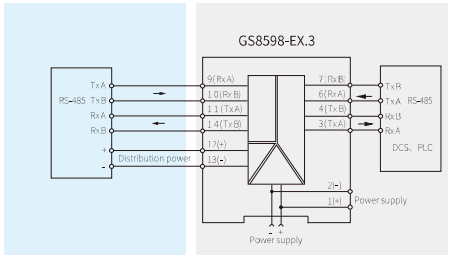
Supply Voltage：20~35V DC
Current Consumption：
⩽160mA(Supply voltage: 24V, Distribution current: 100mA)
⩽120mA(Supply voltage: 24V, Distribution current: 50mA)
Safe-area：
Signal：RS-485(full duplex) / RS-422 digital signals
Transmission delay：⩽10μs
Signal transmission rate：⩽56kbps
Drive Ability：up to 32 transceivers
Hazardous-area：
Signal：RS-485(full duplex) / RS-422 digital signals
Distribution Power：5V/100mA、6V/100mA、8V/50mA、9V/50mA、12V/50mA
Distribution Voltage Deviation：±10%
Function of the DIP Switches：

Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection
EMC：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 output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：With RS-485 full duplex/RS-422 communication interface device

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10；11，14 terminals)：
U_0=6.6V，I_0=65mA，P_0=110mW
II C：C_0=22μF，L_0=8mH
*II B：C_0=500μF，L_0=24mH
II A：C_0=1000μF，L_0=64mH
(12、13 terminals)：
U_0=23.1V，I_0=187mA，P_0=1.08mW
II C：C_0=0.1μF，L_0=0.8mH
*II B：C_0=1.0μF，L_0=2.4mH
II A：C_0=3.6μF，L_0=6.4mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

1/1：GS8593B-EX

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.

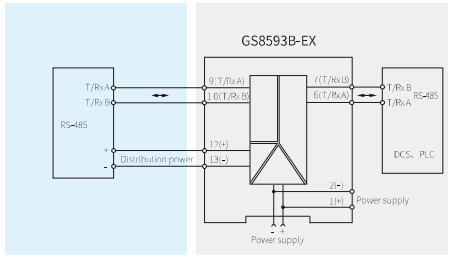
Dimensions：118.9mm×106.0mm×17.5mm

Specification

Supply Voltage：20~35V DC
Current Consumption：
⩽160mA(Supply voltage: 24V, Distribution power: 9V/140mA)
Safe-area：
Signal：RS-485(half duplex)
Transmission delay：⩽10μs
Signal transmission rate：⩽56kbps
Drive Ability：up to 32 transceivers
Hazardous-area：
Signal：RS-485(half duplex)
Distribution Power：Open- circuit voltage⩽17V
Distribution voltage：9V±10% at 140mA
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-25°C~+60°C
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ⩾2500V AC
Between power supply part and output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：With RS-485 half duplex communication interface device

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10 terminals)：
U_0=6.6V，I_0=65mA，P_0=110mW
II C：C_0=22μF，L_0=8mH
*II B：C_0=500μF，L_0=24mH
II A：C_0=1000μF，L_0=64mH
(12、13 terminals)：
U_0=17.22V，I_0=430mA，P_0=2.1mW
II C：C_0=0.333μF，L_0=151.7μH
*II B：C_0=1.93μF，L_0=455.1μH
II A：C_0=8.1μF，L_0=1213.6μH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Communication Input

1/1：GS8590-EX.3

Communication signals input isolated barriers, realize the bi-direction communication of CAN 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.

Dimensions：118.9mm×106.0mm×17.5mm

Specification

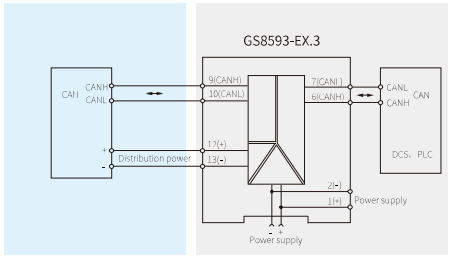
Supply Voltage：20~35V DC
Current Consumption：
⩽100mA(Supply voltage: 24V, Distribution power: 50mA)
⩽140mA(Supply voltage: 24V, Distribution power: 5V/100mA or 6V/90mA)
Safe-area：
Signal：CAN digital signal
Transmission delay：⩽10μs
Signal transmission rate：⩽250kbps
Drive Ability：up to 8 transceivers
Hazardous-area：
Signal：CAN digital signal
Distribution Power：5V/100mA、6V/100mA、8V/50mA、9V/50mA、12V/50mA
Distribution Voltage Deviation：±10%
Function of the DIP Switches：

Distribution voltage	K1	K2	K3	K4
12V/50mA	OFF	OFF	OFF	OFF
9V/50mA	ON	OFF	OFF	OFF
8V/50mA	ON	ON	OFF	OFF
6V/100mA	ON	ON	ON	OFF
5V/100mA	ON	ON	ON	ON

Power Supply Protection：Power supply reverse protection
EMC：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 output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：With CAN communication interface device

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10 terminals)：
U_o=6.6V，I_o=334mA，P_o=551mW
II C：C_o=22μF，L_o=0.25mH
*II B：C_o=500μF，L_o=0.75mH
II A：C_o=1000μF，L_o=2.0mH
(12、13 terminals)：
U_o=23.1V，I_o=187mA，P_o=1.08W
II C：C_o=0.1μF，L_o=0.8mH
*II B：C_o=1.0μF，L_o=2.4mH
II A：C_o=3.6μF，L_o=6.4mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Vibration Transducer

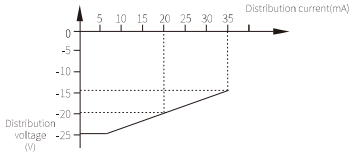
1/1：GS8557-EX

Vibration transducer input isolated barriers, provide isolated power supply for the transmitters in hazardous area and transfer the 1: 1 negative voltage signals, which vibration transducer outputs in hazardous area, to safe area. It can transmit AC and DC signals. This product needs an independent power supply and galvanic isolation among power supply, input and output.

Dimensions：118.9mm×106.0mm×17.5mm

Specification

Supply Voltage：20~35V DC
Current Consumption：
⩽65mA(Supply voltage: 24V, distribution current: 20mA)
Safe-area Output：
Signal：-20V~-0.5V
Load Resistance：R⩾20kΩ
Hazardous-area Input：
Signal：-20V~-0.5V
Input impedance：10kΩ
Distribution Power：Open- circuit voltage>-25V
Distribution Voltage：⩽-19.5V at 20mA



DC Transmissiton accuracy：⩽±50mV
AC Transmissiton accuracy：

0Hz~1kHz	±1%
1kHz~10kHz	-2%~+1%
10kHz~20kHz	-5%~+1%

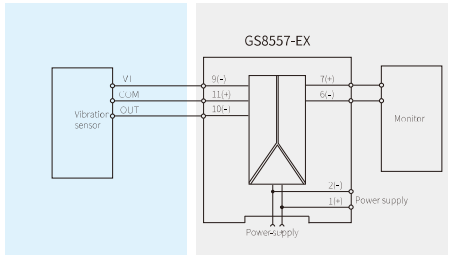
Phase response： Less than 1us is equals to

-0.72°	200Hz
-2°	600Hz
-3.6°	1kHz
-36°	10kHz
-72°	20kHz

Bandwidth(-3dB)：⩾50kHz
Temperature Drift：0.01%/°C(-20°C~+60°C)
Power Supply Protection：Power supply reverse protection
EMC：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 output part ⩾500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ⩾100MΩ
Between power supply part and output part ⩾100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.100g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Vibration transducer、Negative voltage generator

Connection

Hazardous-area | Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10、11 terminals)：
U_o=26.5V，I_o=93mA，P_o=687mW
II C：C_o=0.095μF，L_o=4.2mH
*II B：C_o=0.73μF，L_o=12.6mH
II A：C_o=2.45μF，L_o=33.6mH
*II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Vibration Transducer

1/1：GS8558-EX

Vibration transducer input isolated barriers, transfer the 1: 1 voltage signals, which vibration transducer outputs in hazardous area, to safe area. It can transmit AC and DC signals. This product needs an independent power supply and galvanic isolation among power supply, input and output.

Dimensions：118.9mm×106.0mm×12.5mm

Specification

Supply Voltage：20~35V DC
Current Consumption：≤40mA
Safe-area Output：
Signal：-10V~+10V
Load Resistance：RL≥20kΩ
Hazardous-area Input：
Signal：-10V~+10V
Internal impedance：10kΩ
DC Transmissiton accuracy：＜±0.2%F.S.
AC Transmissiton accuracy：

0Hz~600Hz	±0.2%F.S.
600Hz~10kHz	-1.5%~＋0.2%F.S.

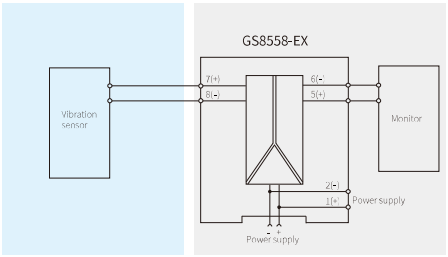
Phase response：Less than 1us is equals to

-0.72°	200Hz
-2°	600Hz
-3.6°	1kHz
-36°	10kHz

Bandwidth(-3dB)：≥40kHz
Temperature Drift：0.005%/℃(-20℃~+60℃)
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ≥2500V AC
Between power supply part and output part ≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.100g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Vibration transducer

Connection

Hazardous-area	Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(7、8 terminals)：
U_0=1.2V，I_0=0.2mA，P_0=0.06mW
II C：C_0=100μF，L_0=100mH
★II B：C_0=300μF，L_0=300mH
II A：C_0=800μF，L_0=800mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Frequency Converters

1/1：GS8555-EX

Frequency converter isolated barrier, change the digital input signal in the hazardous area into a proportional free adjustable 0/4~20mA(or 0/1~5V) analog output signal and function as a trip alarm.The product needs an independent power supply and galvanic isolation among power supply, input and output.

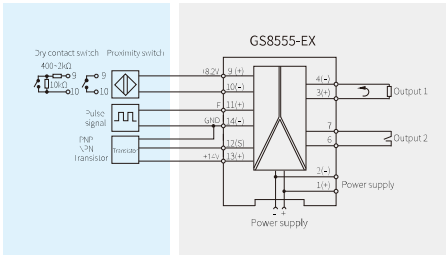
Dimensions：118.9mm×106.0mm×17.5mm

Specification

Supply Voltage：20~35V DC
Current Consumption：≤60mA(Supply voltage: 24V, Output current: 20mA, Relay: energized)
Safe-area Output：
Current：0~20mA，4~20mA
Load resistance≤400Ω
Voltage：0~5V，1~5V
Load resistance≥330kΩ
(Note：Customers need to specify current output or voltage output when ordering)
Safe-area Relay Characteristics：
Response Time：≤20ms
Contact Loading：250V AC,2A or 30V DC,2A
Load Type：Resistive load
Hazardous-area Input：
Signal Type：
1)3-wire PNP/NPN Sensor Input：
Sensor Distribution：14V，current＜20mA
Input Frequency：0.1Hz~100kHz
2)Frequency Signal Input：
Input Frequency：0.1Hz~100kHz
Max. Input Voltage：30Vp-p
Min.Input voltage：∿2V,(2Hz~100KHz)
⎍2V,(0.1Hz~100KHz)
3)Dry Contact or Proximity Switch Input：
Distribution Voltage：≈8V，Short-circuit current：≈8mA
Input Frequency：0.1Hz~100kHz
Pulse Width：≥2μs
Temperature Drift：0.1%F.S.
Temperature Drift：0.01%F.S./℃
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ≥2500V AC
Between power supply part and output part ≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Structure：GS8500 range structure customized by Phoenix Contact
Weight：Approx.150g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch、temperature switches、liquid level switches, etc.), voltage pulse, 3-wire PNP/NPN sensor output, incremental encoder.

Connection

Hazardous-area	Safe-area



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

Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10 terminals)：
U_0=10.5V，I_0=14mA，P_0=37mW
II C：C_0=2.4μF，L_0=165mH
★II B：C_0=16.8μF，L_0=495mH
II A：C_0=75.0μF，L_0=1000mH
(11、14 terminals)：
U_0=14V，I_0=8mA，P_0=28mW
II C：C_0=0.73μF，L_0=150mH
★II B：C_0=4.60μF，L_0=450mH
II A：C_0=17.0μF，L_0=1000mH
(12、13、14 terminals)：
U_0=17V，I_0=330mA，P_0=1.4W
II C：C_0=0.375μF，L_0=0.22mH
★II B：C_0=2.20μF，L_0=0.66mH
II A：C_0=9.0μF，L_0=1.76mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Frequency Converters

1/3：GS8355-EX

Frequency converter isolated barriers，change the digital input signal in the hazardous area into a proportional free adjustable 0/4~20mA(or 0/1~5V) analog output signal and function as a trip alarm. The user can set the instrument parameters through the 3 buttons on the panel, and the 5-digit 7-segment LCD displays the measured value and the instrument parameter setting value.The product needs an independent power supply and galvanic isolation among power supply, input and output.

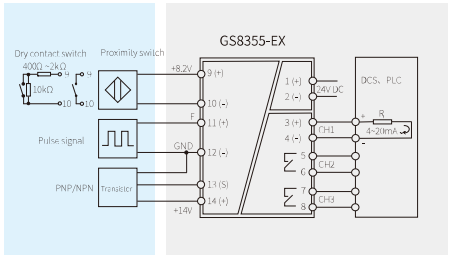
Dimensions：107.5mm×75.0mm×45mm

Specification

Supply Voltage：20~35V DC
Current Consumption：≤110mA(Supply voltage: 24V, Output current: 20mA, Relay: energized)
Safe-area Output：
Current：0~20mA，4~20mA
Load resistance≤400Ω
Voltage：0~5V，1~5V
Load resistance≥330kΩ
(Note：Customers need to specify output signal when ordering)
Safe-area Relay Characteristics：
Response Time：≤20ms
Contact Loading：250V AC,2A or 30V DC,2A
Load Type：Resistive load
Hazardous-area Input：
Signal Type：
1)3-wire PNP/NPN Sensor Input：
Sensor Distribution：14V，Current<20mA
Input Frequency：0.1Hz~100kHz
2)Frequency Signal Input：
Input Frequency：0.1Hz~100kHz
Max. Input Voltage：30Vp-p
Min.Input voltage:∿ 2V,(2Hz~100KHz)
⎍ 2V,(0.1Hz~100KHz)
3)Dry Contact or Proximity Switch Input：
Distribution Voltage：≈8V，Short-circuit current：≈8mA
Input Frequency：0.1Hz~100kHz
Pulse Width：≥2μs
Transmission Accuracy：0.1%F.S.
Temperature Drift：0.01%F.S./℃
Power Supply Protection：Power supply reverse protection
EMC：According to IEC 61326-1(GB/T 18268)
Ambient Temperature：-20℃~+60℃
Dielectric Strength：
Between non-intrinsically safe part and intrinsically safe part ≥2500V AC
Between power supply part and output part ≥500V AC
Insulation Resistance：
Between non-intrinsically safe part and intrinsically safe part ≥100MΩ
Between power supply part and output part ≥100MΩ
Weight：Approx.350g
Suitable Location：Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone0 IIC and zone20 IIIC.
Suitable Field Apparatus：Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch、temperature switches、liquid level switches, etc.), voltage pulse, 3-wire PNP/NPN sensor output, incremental encoder.

Connection

Hazardous-area	Safe-area



Explosion-proof Certificate

Certifying Authority：NEPSI(China)
Ex Marking：[Ex ia Ga] II C
[Ex iaD]
Maximum Voltage：Um=250V
Intrinsic Safety Parameters(9、10 terminals)：
U_o=10.5V，I_o=14mA，P_o=37mW
II C：C_o=2.4μF，L_o=165mH
★II B：C_o=16.8μF，L_o=495mH
II A：C_o=75.0μF，L_o=1000mH
(11、12 terminals)：
U_o=14V，I_o=8mA，P_o=28mW
II C：C_o=0.73μF，L_o=150mH
★II B：C_o=4.60μF，L_o=450mH
II A：C_o=17.0μF，L_o=1000mH
(13、14 terminals)：
U_o=17V，I_o=330mA，P_o=1.4W
II C：C_o=0.375μF，L_o=0.22mH
★II B：C_o=2.20μF，L_o=0.66mH
II A：C_o=9.0μF，L_o=1.76mH
★II B Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Accessories

Bus Connector

	Suitable for 12.5mm Isolated Barrier	Suitable for 17.5mm Isolated Barrier
	Bus connector (CZBPS-C-12.5)	Bus connector (CZBPS-C-17.5)
Number of Positions	5	5
Pitch	3.81mm	3.81mm
Normal voltage Un	150V	150V
Normal current In	8A	8A
Rated Surge Voltage	2500V	2500V

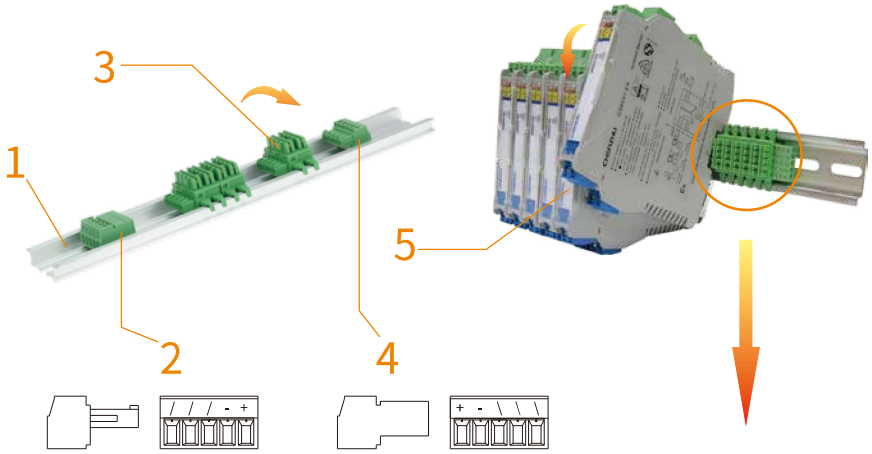
Bus Connector Plug

	Suitable for GS8500-EX Range	
	Male plug (CZBPS-F1)	Female plug (CZBPS-B1)
Number of Positions	5	5
Pitch	3.81mm	3.81mm
Normal Voltage Un	160V	160V
Normal Current In	8A	8A
Rated Surge Voltage	2500V	2500V
Conductor Cross Section	0.14~1.5mm²	0.14~1.5mm²
Conductor Cross Section with Ferrules	0.25~1.5mm²(without plastic sleeve) 0.25~0.5mm²(with plastic sleeve)	0.25~1.5mm²(without plastic sleeve) 0.25~0.5mm²(withplastic sleeve)

Configuration Accessory

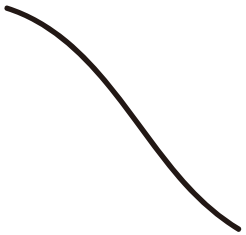
Configuration Tool: USBCOM-MINI	Software: Easyconfig
	

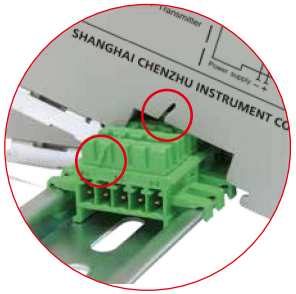
Bus Powered Description



Component:

1、DIN 35mm rail
2、Female plug
3、Bus connector
4、Male plug
5、Isolated barrier





Instruction for Use:

1. Each isolated barrier is matched with a bus connector. The connectors can be spliced together. It is recommended to connect 8-16 connectors in a group.
2. A male plug and a female plug are required at the head and tail of each group of connectors.
3. The wire used in the bus power supply module has a length of about 8 mm for the ferrules or exposed wire. The exposed wires or ferrules should be fixed by M2 screws in the plug.
4. Bus connector has a pluggable error-proof function. Pay attention to the direction of the error-proof slot on the barrier housing when installing the isolated barrier to the bus connector.