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SELECTION GUIDE

GS8200-EX Range
Isolated Barrier



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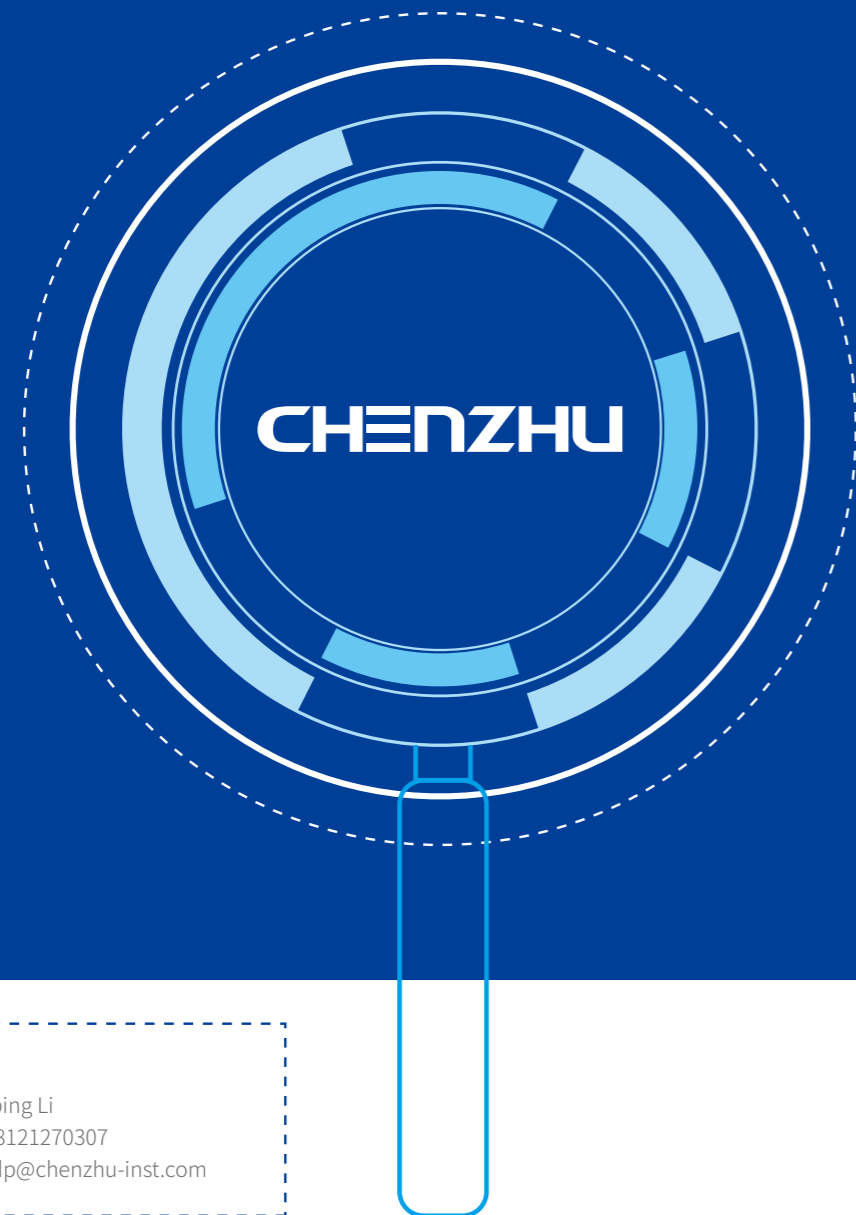
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CHENZHU COMPANY OVERVIEW



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.



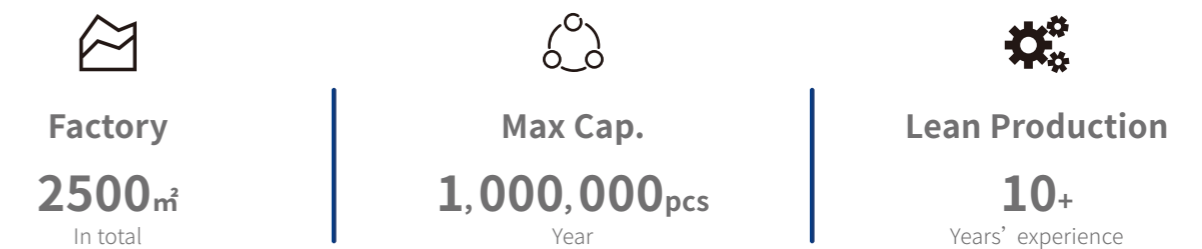
R&D Strength

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.



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.



GS8200-EX range isolated barriers measure and transmit analog (4~20mA) signals or temperature sensor signals. This product could monitor whether the input signal is abnormal and then, output in the way of relay contact. It also provides one channel RS-485 output based on MODBUS-RTU protocol. The PLC could collect digital signals to achieve digital application.

■ Suitable for Various IS Apparatus

Suitable for various field apparatus, such as RTD, TC, transmitters, etc.

■ Easy to Configure

Friendly configuration interface based on Windows system helps to modify parameter more conveniently.

■ Flexible Power Supply

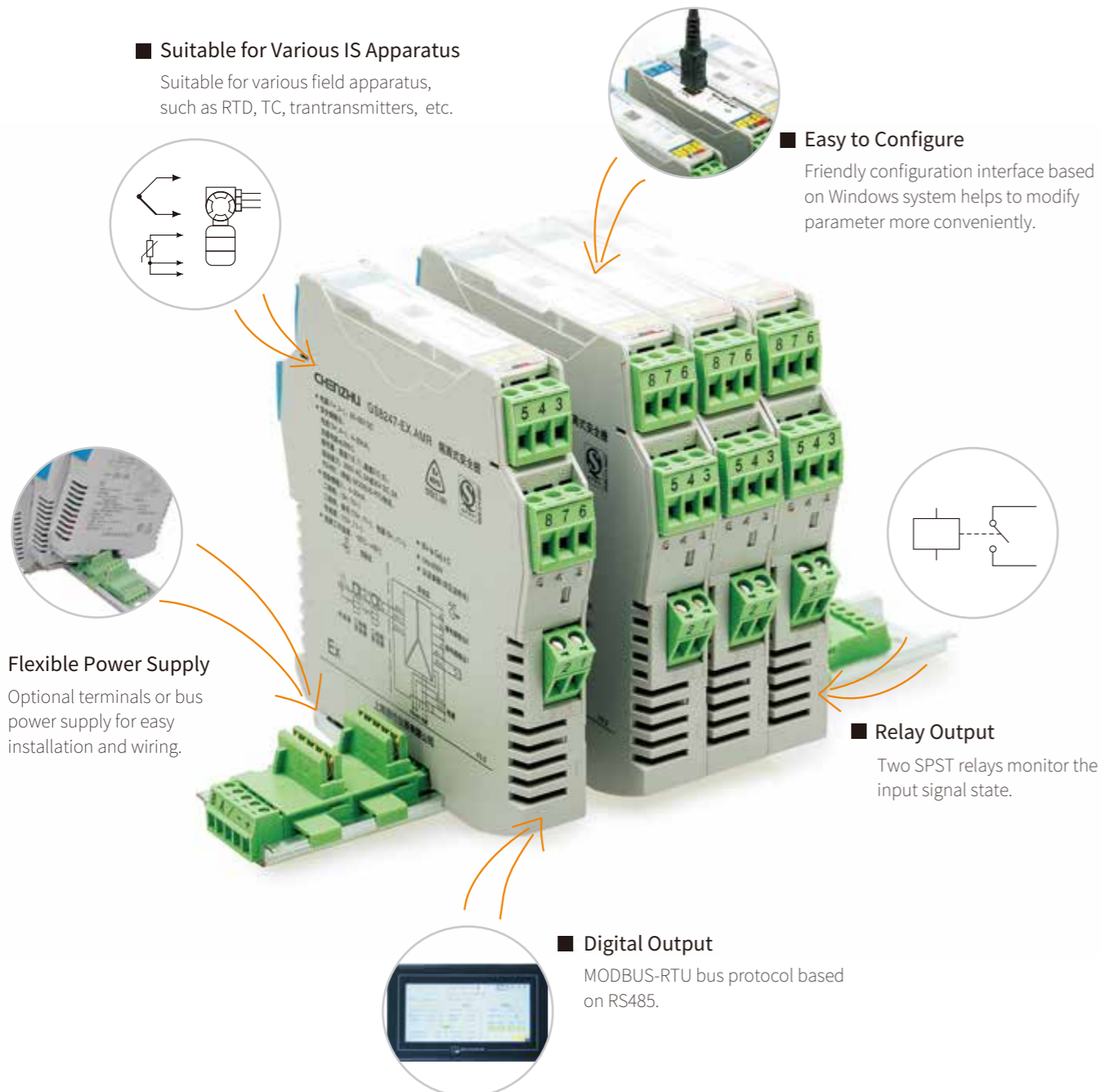
Optional terminals or bus power supply for easy installation and wiring.

■ Relay Output

Two SPST relays monitor the input signal state.

■ Digital Output

MODBUS-RTU bus protocol based on RS485.



GS8200-EX Range

Field instrument	Application	Module No.	Channels	Hazardous Side Signal	Control Side Signal	Features	Page
	Analog Input	GS8247-EX.AMR	1/4	2-wire/3-wire transmitter current source input	4~20mA RS485 Relay output	Configurable Line fault detection Independent powered	5
		GS8247-EX.MR	1/3		RS485 Relay output		6
		GS8247-EX.AR	1/3		4~20mA Relay output		7
		GS8247-EX.AM	1/2		4~20mA RS485 output		8
	Temperature Converters	GS8272-EX.AMR	1/4	RTD/TC input	4~20mA RS485 Relay output	Configurable Line fault detection Independent powered	9
		GS8272-EX.MR	1/3		RS485 Relay output		10
		GS8272-EX.AR	1/3		4~20mA Relay output		11
		GS8272-EX.AM	1/2		4~20mA RS485 output		12

1/4:GS8247-EX.AMR

Isolated barrier, with single channel analog input and multi-functional output, provide isolated power supply for transmitters in hazardous area and transfer 4~20mA current signal generated by the transmitter or the current source from hazardous area to safe area. It also provides one channel RS-485 output based on MODBUS-RTU protocol and two channels relay output. The RS485 interface can be only connected with rail. The power supply can be connected with rail or terminals.

Specification

Supply Voltage:20~35V DC

Current Consumption:≤80mA

Safe-area Relay Output:

Current Output:

Output Signal:4~20mA,d.c.

Load Resistance: $R_L \leq 300\Omega$

Response Time(0~90%):≤0.5s

Temperature Drift:0.1%F.S./10°C

RS485 Output:

Communication Protocol:MODBUS-RTU

Communication Distance:≤1000m

Number of Slaves:≤32

Response Time(0~90%):≤0.5s

Relay output:

Number of Channels:2

Contact Loading:250V AC,2A or 30V DC,2A

Load Type:Resistive load

Response Time(0~90%):≤0.5s

User can set alarm parameters and relay logic through software

Transmission Accuracy:0.1%F.S.(Typical:0.05%F.S.)

Hazardous-area Input:

Input Signal:4~20mA,d.c.

Distribution:

Open-circuit Voltage:≤28V

Voltage at 20mA:≥15.5V

Rated Current:≤25mA

Line break error:≤0.2mA

Line shorted error:≥22mA

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 zone 0 IIC and zone 20 IIIC

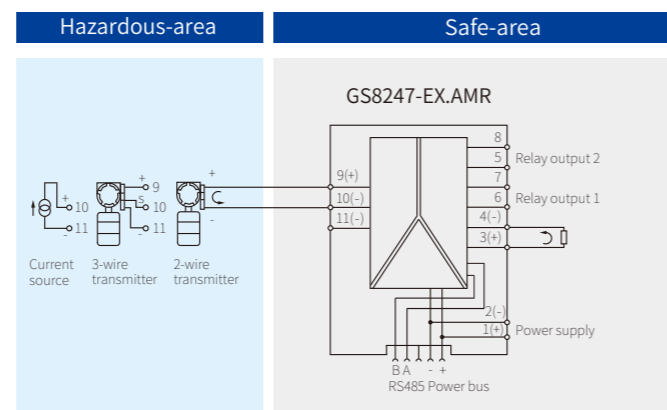
Suitable Field Apparatus:2-wire or 3-wire transmitter,current source



Dimensions:118.9mm×106.0mm×17.5mm



Connection



Note:a)RS485 output need to use with the bus terminal;
b)Bus terminal is standard accessory.

Explosion-proof Certificate

Certifying Authority:NEPSI(China)

Ex Marking:[Ex ia Ga] II C
[Ex iaD]

Maximum Voltage:Um=250V

Intrinsic Safety Parameters:Terminals(9、10、11)

$U_o=28V, I_o=93mA, P_o=651mW$

IIC: $C_o=0.083\mu F, L_o=4.2mH$

*IIB: $C_o=0.65\mu F, L_o=12.6mH$

IIA: $C_o=2.15\mu F, L_o=33.6mH$

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

Description of Indicator Light and Output Current

Example(Default setting):

Instrument Status	LED L	LED H	Output Current
Normal	OFF	OFF	4~20mA
Underrange	Flashing(slow)	OFF	3.8~4mA
Overrange	OFF	Flashing(slow)	20~20.8mA
Output below the lower limit	Flashing(fast)	OFF	3.8mA
Output exceeds the upper limit	OFF	Flashing(fast)	20.8mA
Line break error	ON	OFF	3mA
Line shorted error	OFF	ON	21mA

1/3:GS8247-EX.MR

Isolated barrier, with single channel analog input and multi-functional output, provide isolated power supply for transmitters in hazardous area. It also provides one channel RS-485 output based on MODBUS-RTU protocol and two channels relay output. The RS485 interface and power supply can be connected with rail or terminals.

Specification

Supply Voltage:20~35V DC

Current Consumption:≤70mA

Safe-area Relay Output:

RS485 Output:

Communication Protocol:MODBUS-RTU

Communication Distance:≤1000m

Number of Slaves:≤32

Response Time(0~90%):≤0.5s

Relay output:

Number of Channels:2

Contact Loading:250V AC,2A or 30V DC,2A

Load Type:Resistive load

Response Time(0~90%):≤0.5s

User can set alarm parameters and relay logic through software

Transmission Accuracy:0.1%F.S.(Typical:0.05%F.S.)

Hazardous-area Input:

Input Signal:4~20mA,d.c.

Distribution:

Open-circuit Voltage:≤28V

Voltage at 20mA:≥15.5V

Rated Current:≤25mA

Line break error:≤0.2mA

Line shorted error:≥22mA

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 zone 0 IIC and zone 20 IIIC

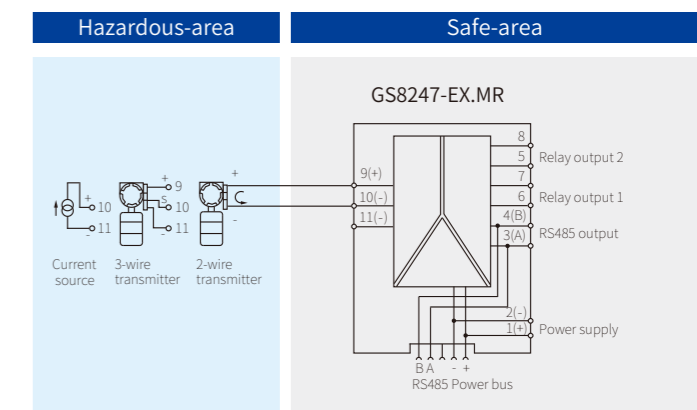
Suitable Field Apparatus:2-wire or 3-wire transmitter,current source



Dimensions:118.9mm×106.0mm×17.5mm



Connection



Note:Bus terminal is optional.

Explosion-proof Certificate

Certifying Authority:NEPSI(China)

Ex Marking:[Ex ia Ga] II C
[Ex iaD]

Maximum Voltage:Um=250V

Intrinsic Safety Parameters:Terminals(9、10、11)

$U_o=28V, I_o=93mA, P_o=651mW$

IIC: $C_o=0.083\mu F, L_o=4.2mH$

*IIB: $C_o=0.65\mu F, L_o=12.6mH$

IIA: $C_o=2.15\mu F, L_o=33.6mH$

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

Description of Indicator Light and Output Current

Example(Default setting):

Instrument Status	LED L	LED H
Normal	OFF	OFF
Underrange	Flashing(slow)	OFF
Overrange	OFF	Flashing(slow)
Output below the lower limit	Flashing(fast)	OFF
Output exceeds the upper limit	OFF	Flashing(fast)
Line break error	ON	OFF
Line shorted error	OFF	ON

1/3:GS8247-EX.AR

Isolated barrier, with single channel analog input and multi-functional output, provide isolated power supply for transmitters in hazardous area and transfer 4~20mA current signal generated by the transmitter or the current source from hazardous area to safe area. It has alarm setting function, which can be output by relay according to set parameters. Power supply can be connected with rail or terminals.

Specification

Supply Voltage:20~35V DC

Current Consumption:≤80mA

Safe-area Relay Output:

Current Output:

Output Signal:4~20mA,d.c.

Load Resistance: $R_L \leq 300\Omega$

Response Time(0~90%):≤0.5s

Temperature Drift:0.1%F.S./10°C

Relay output:

Number of Channels:2

Contact Loading:250V AC,2A or 30V DC,2A

Load Type:Resistive load

Response Time(0~90%):≤0.5s

User can set alarm parameters and relay logic through software

Transmission Accuracy:0.1%F.S.(Typical:0.05%F.S.)

Hazardous-area Input:

Input Signal:4~20mA,d.c.

Distribution:

Open-circuit Voltage:≤28V

Voltage at 20mA:≥15.5V

Rated Current:≤25mA

Line break error:≤0.2mA

Line shorted error:≥22mA

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

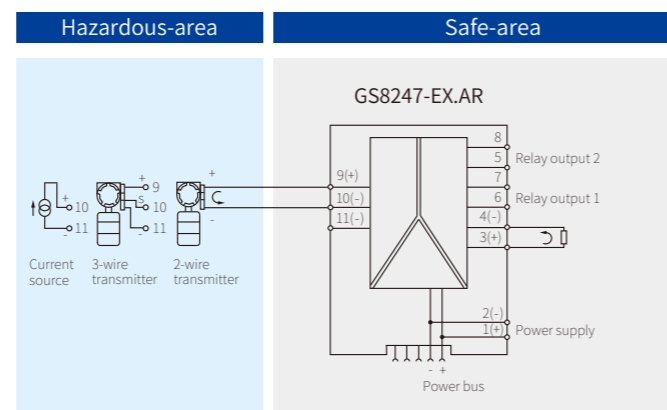
Suitable Location:Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC

Suitable Field Apparatus:2-wire or 3-wire transmitter,current source



Dimensions:118.9mm×106.0mm×17.5mm

Connection



Note:Bus terminal is optional.

Explosion-proof Certificate

Certifying Authority:NEPSI(China)

Ex Marking:[Ex ia Ga] II C
[Ex iaD]

Maximum Voltage:Um=250V

Intrinsic Safety Parameters:Terminals(9、10、11)

$U_o=28V, I_o=93mA, P_o=651mW$

IIC: $C_o=0.083\mu F, L_o=4.2mH$

*IIB: $C_o=0.65\mu F, L_o=12.6mH$

IIA: $C_o=2.15\mu F, L_o=33.6mH$

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

Description of Indicator Light and Output Current

Example(Default setting):

Instrument Status	LED L	LED H	Output Current
Normal	OFF	OFF	4~20mA
Underrange	Flashing(slow)	OFF	3.8~4mA
Overrange	OFF	Flashing(slow)	20~20.8mA
Output below the lower limit	Flashing(fast)	OFF	3.8mA
Output exceeds the upper limit	OFF	Flashing(fast)	20.8mA
Line break error	ON	OFF	3mA
Line shorted error	OFF	ON	21mA

1/2:GS8247-EX.AM

Isolated barrier, with single channel analog input and multi-functional output, provide isolated power supply for transmitters in hazardous area and transfer 4~20mA current signal generated by the transmitter or the current source from hazardous area to safe area. It also provides one channel RS-485 output based on MODBUS-RTU protocol. The RS485 interface and power supply can be connected with rail or terminals.

Specification

Supply Voltage:20~35V DC

Current Consumption:≤70mA

Safe-area Relay Output:

Current Output:

Output Signal:4~20mA,d.c.

Load Resistance: $R_L \leq 300\Omega$

Response Time(0~90%):≤0.5s

Temperature Drift:0.1%F.S./10°C

RS485 Output:

Communication Protocol:MODBUS-RTU

Communication Distance:≤1000m

Number of Slaves:≤32

Response Time(0~90%):≤0.5s

Transmission Accuracy:0.1%F.S.(Typical:0.05%F.S.)

Hazardous-area Input:

Input Signal:4~20mA,d.c.

Distribution:

Open-circuit Voltage:≤28V

Voltage at 20mA:≥15.5V

Rated Current:≤25mA

Line break error:≤0.2mA

Line shorted error:≥22mA

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

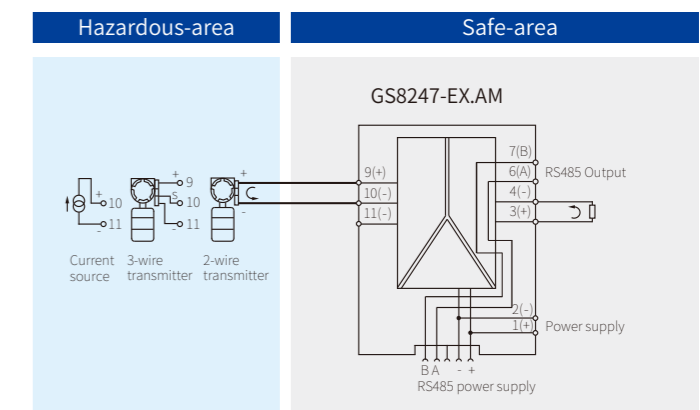
Suitable Location:Mounting in safe area, and connected to the IS apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC

Suitable Field Apparatus:2-wire or 3-wire transmitter,current source



Dimensions:118.9mm×106.0mm×17.5mm

Connection



Note:Bus terminal is optional.

Explosion-proof Certificate

Certifying Authority:NEPSI(China)

Ex Marking:[Ex ia Ga] II C
[Ex iaD]

Maximum Voltage:Um=250V

Intrinsic Safety Parameters:Terminals(9、10、11)

$U_o=28V, I_o=93mA, P_o=651mW$

IIC: $C_o=0.083\mu F, L_o=4.2mH$

*IIB: $C_o=0.65\mu F, L_o=12.6mH$

IIA: $C_o=2.15\mu F, L_o=33.6mH$

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

Description of Indicator Light and Output Current

Example(Default setting):

Instrument Status	LED L	LED H	Output Current
Normal	OFF	OFF	4~20mA
Underrange	Flashing(slow)	OFF	3.8~4mA
Overrange	OFF	Flashing(slow)	20~20.8mA
Output below the lower limit	Flashing(fast)	OFF	3.8mA
Output exceeds the upper limit	OFF	Flashing(fast)	20.8mA
Line break error	ON	OFF	3mA
Line shorted error	OFF	ON	21mA

Temperature Converters

1/4:GS8272-EX.AMR

Isolated barrier, with single channel temperature input and multi-functional output, convert the input signals into proportional 4~20mA current signal from hazardous area to safe area. It also provides one channel RS-485 output based on MODBUS-RTU protocol and two channels relay output. The RS485 interface and power supply can be connected with rail or terminals.

Specification

Supply Voltage:20~35V DC

Current Consumption:≤40mA

Safe-area Relay Output:

Current Output:

Output Signal:4~20mA,d.c.

Load Resistance: $R_L \leq 300\Omega$

Response Time(0~90%):≤1s

Temperature Drift:0.1%F.S./10°C

RS485 Output:

Communication Protocol:MODBUS-RTU

Communication Distance:≤1000m

Number of Slaves:≤32

Response Time(0~90%):≤1s

Relay output:

Number of Channels:2

Contact Loading:250V AC,2A or 30V DC,2A

Load Type:Resistive load

Response Time(0~90%):≤1s

Transmission Accuracy:0.1%F.S.

CJC error:±1°C(-20°C~+60°C)

Hazardous-area Input:Please check the table 'Input Signal and Range'

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

Weight:Approx.150g

Suitable Location:Mounting in safe area, and connected to the IS

apparatus in hazardous area up to zone 0 IIC and zone 20 IIIC

Suitable Field Apparatus:RTD,TC

Input Signal and Range

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

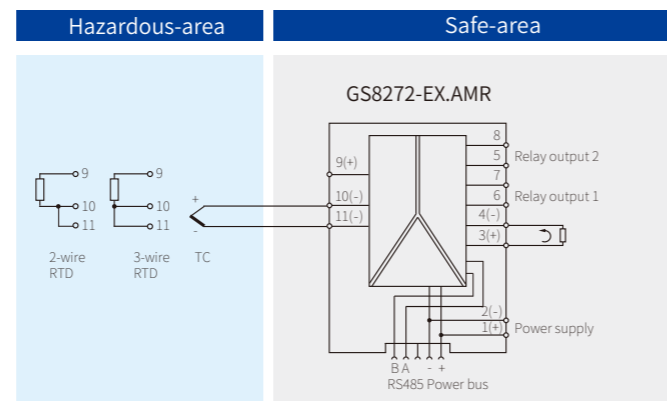
- Note: 1、The “%” of conversion accuracy is relative to its range. Take the larger value between the relative error and the absolute error when applying.
 2、Allow a maximum wire resistance of 50Ω/line for RTD input(3-wire).
 3、When the thermocouple is input, the conversion accuracy does not include the CJC.
 4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 °C to ensure the accuracy index.



Dimensions:118.9mm×106.0mm×17.5mm



Connection



- Note:a)Use normal terminals when RTD input; Use CJC terminals when TC input;
 b)RS485 output need to use with the bus terminal;
 c)Bus terminal is standard accessory.

Explosion-proof Certificate

Certifying Authority:NEPSI(China)

Ex Marking:[Ex ia Ga] II C

[Ex iaD]

Maximum Voltage:Um=250V

Intrinsic Safety Parameters:Terminals(9、10、11)

$U_o=6.6V, I_o=5mA, P_o=9mW$

$IIC:C_o=22\mu F, L_o=100mH$

$\star IIB:C_o=66\mu F, L_o=300mH$

$IIA:C_o=176\mu F, L_o=800mH$

$\star IIB$ Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Description of Indicator Light and Output Current

Example(Default setting):

Instrument Status	LED L	LED H	Output Current
Normal	OFF	OFF	4~20mA
Underrange	Flashing(slow)	OFF	3.8~4mA
Overrange	OFF	Flashing(slow)	20~20.8mA
Output below the lower limit	Flashing(fast)	OFF	3.8mA
Output exceeds the upper limit	OFF	Flashing(fast)	20.8mA
Line break error	OFF	ON	21mA
Line shorted error	ON	OFF	3mA

Note:TC input can't detect input shorted error

Temperature Converters

1/3:GS8272-EX.MR

Isolated barrier, with single channel temperature input and multi-functional output, provide one channel RS-485 output based on MODBUS-RTU protocol. It has alarm setting function, which can be output by relay according to set parameters. The RS485 interface and power supply can be connected with rail or terminals.

Specification

Supply Voltage:20~35V DC

Current Consumption:≤35mA

Safe-area Relay Output:

RS485 Output:

Communication Protocol:MODBUS-RTU,

Communication Distance:≤1000m

Number of Slaves:≤32

Response Time(0~90%):≤1s

Relay output:

Number of Channels:2

Contact Loading:250V AC,2A or 30V DC,2A

Load Type:Resistive load

Response Time(0~90%):≤1s

User can set alarm parameters and relay logic through software

Transmission Accuracy:0.1%F.S.

CJC error:±1°C(-20°C~+60°C)

Hazardous-area Input:Please check the table 'Input Signal and Range'

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 zone 0 IIC and zone 20 IIIC

Suitable Field Apparatus:RTD,TC

Input Signal and Range

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

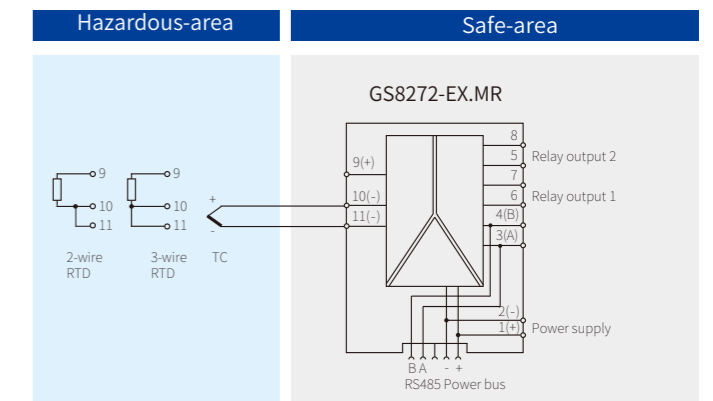
- Note: 1、The “%” of conversion accuracy is relative to its range. Take the larger value between the relative error and the absolute error when applying.
 2、Allow a maximum wire resistance of 50Ω/line for RTD input(3-wire).
 3、When the thermocouple is input, the conversion accuracy does not include the CJC.
 4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 °C to ensure the accuracy index.



Dimensions:118.9mm×106.0mm×17.5mm



Connection



- Note:a)Use normal terminals when RTD input; Use CJC terminals when TC input;
 b)Bus terminal is optional.

Explosion-proof Certificate

Certifying Authority:NEPSI(China)

Ex Marking:[Ex ia Ga] II C

[Ex iaD]

Maximum Voltage:Um=250V

Intrinsic Safety Parameters:Terminals(9、10、11)

$U_o=6.6V, I_o=5mA, P_o=9mW$

$IIC:C_o=22\mu F, L_o=100mH$

$\star IIB:C_o=66\mu F, L_o=300mH$

$IIA:C_o=176\mu F, L_o=800mH$

$\star IIB$ Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Description of Indicator Light and Output Current

Example(Default setting):

Instrument Status	LED L	LED H
Normal	OFF	OFF
Underrange	Flashing(slow)	OFF
Overrange	OFF	Flashing(slow)
Output below the lower limit	Flashing(fast)	OFF
Output exceeds the upper limit	OFF	Flashing(fast)
Line break error	OFF	ON
Line shorted error	ON	OFF

Note:TC input can't detect input shorted error

Temperature Converters

1/3:GS8272-EX.AR

Isolated barrier, with single channel temperature input and multi-functional output, convert the input signals into proportional 4~20mA current signal from hazardous area to safe area. It has alarm setting function, which can be output by relay according to set parameters. Power supply can be connected with rail or terminals.

Specification

Supply Voltage:20~35V DC

Current Consumption:≤40mA

Safe-area Relay Output:

Current Output:

- Output Signal:4~20mA,d.c.
- Load Resistance: $R_L \leq 300\Omega$
- Response Time(0~90%):≤1s
- Temperature Drift:0.1%F.S./10°C

Relay output:

- Number of Channels:2
- Contact Loading:250V AC,2A or 30V DC,2A
- Load Type:Resistive load
- Response Time(0~90%):≤1s

User can set alarm parameters and relay logic through software

Transmission Accuracy:0.1%F.S.

CJC error:±1°C(-20°C~+60°C)

Hazardous-area Input:Please check the table 'Input Signal and Range'

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 zone 0 IIC and zone 20 IIIC

Suitable Field Apparatus:RTD,TC

Input Signal and Range

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

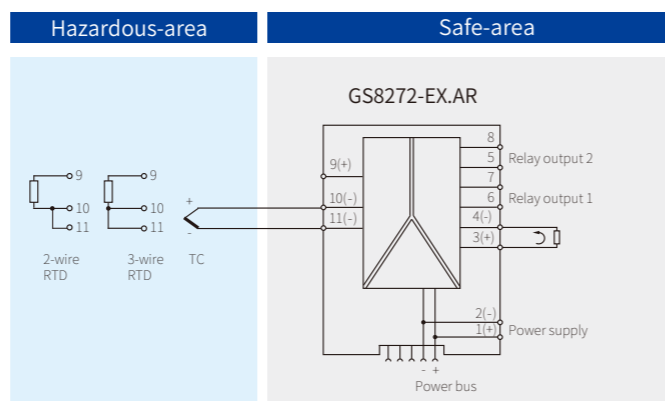
- Note: 1、The “%” of conversion accuracy is relative to its range. Take the larger value between the relative error and the absolute error when applying.
 2、Allow a maximum wire resistance of 50Ω/line for RTD input(3-wire).
 3、When the thermocouple is input, the conversion accuracy does not include the CJC.
 4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 °C to ensure the accuracy index.



Dimensions:118.9mm×106.0mm×17.5mm



Connection



Note:a)Use normal terminals when RTD input; Use CJC terminals when TC input;
 b)Bus terminal is optional.

Explosion-proof Certificate

Certifying Authority:NEPSI(China)

Ex Marking:[Ex ia Ga] II C

[Ex iaD]

Maximum Voltage: $U_m=250V$

Intrinsic Safety Parameters:Terminals(9、10、11)

$$U_o=6.6V, I_o=5mA, P_o=9mW$$

$$IIC:C_o=22\mu F, L_o=100mH$$

$$\star IIB:C_o=66\mu F, L_o=300mH$$

$$IIA:C_o=176\mu F, L_o=800mH$$

★ IIB Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Description of Indicator Light and Output Current

Example(Default setting):

Instrument Status	LED L	LED H	Output Current
Normal	OFF	OFF	4~20mA
Underrange	Flashing(slow)	OFF	3.8~4mA
Overrange	OFF	Flashing(slow)	20~20.8mA
Output below the lower limit	Flashing(fast)	OFF	3.8mA
Output exceeds the upper limit	OFF	Flashing(fast)	20.8mA
Line break error	OFF	ON	21mA
Line shorted error	ON	OFF	3mA

Note:TC input can't detect input shorted error

Temperature Converters

1/3:GS8272-EX.AM

Isolated barrier, with single channel temperature input and multi-functional output, convert the input signals into proportional 4~20mA current signal from hazardous area to safe area. It also provides one channel RS-485 output based on MODBUS-RTU protocol. The RS485 interface and power supply can be connected with rail or terminals.

Specification

Supply Voltage:20~35V DC

Current Consumption:≤35mA

Safe-area Relay Output:

Current Output:

- Output Signal:4~20mA,d.c.
- Load Resistance: $R_L \leq 300\Omega$
- Response Time(0~90%):≤1s
- Temperature Drift:0.1%F.S./10°C

RS485 Output:

Communication Protocol:MODBUS-RTU

Communication Distance:≤1000m

Number of Slaves:≤32

Response Time(0~90%):≤1s

Transmission Accuracy:0.1%F.S.

CJC error:±1°C(-20°C~+60°C)

Hazardous-area Input:Please check the table 'Input Signal and Range'

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 zone 0 IIC and zone 20 IIIC

Suitable Field Apparatus:RTD,TC

Input Signal and Range

	Type	Range	Min.Span	Accuracy
TC	T	-200°C~+400°C	50°C	0.5°C / 0.1%
	E	-200°C~+900°C	50°C	0.5°C / 0.1%
	J	-200°C~+1200°C	50°C	0.5°C / 0.1%
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	Pt100	-200°C~+850°C	20°C	0.2°C / 0.1%
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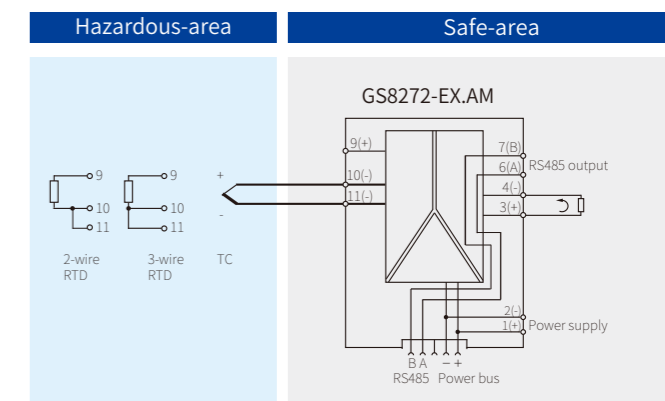
- Note: 1、The “%” of conversion accuracy is relative to its range. Take the larger value between the relative error and the absolute error when applying.
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 3、When the thermocouple is input, the conversion accuracy does not include the CJC.
 4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 °C to ensure the accuracy index.



Dimensions:118.9mm×106.0mm×17.5mm



Connection



Note:a)Use normal terminals when RTD input; Use CJC terminals when TC input;
 b)Bus terminal is optional.

Explosion-proof Certificate

Certifying Authority:NEPSI(China)

Ex Marking:[Ex ia Ga] II C

[Ex iaD]

Maximum Voltage: $U_m=250V$

Intrinsic Safety Parameters:Terminals:(9、10、11)

$$U_o=6.6V, I_o=5mA, P_o=9mW$$

$$IIC:C_o=22\mu F, L_o=100mH$$

$$\star IIB:C_o=66\mu F, L_o=300mH$$

$$IIA:C_o=176\mu F, L_o=800mH$$

★ IIB Intrinsic Safety Parameters are also suitable for dust explosion protection[Ex iaD]

Description of Indicator Light and Output Current

Example(Default setting):

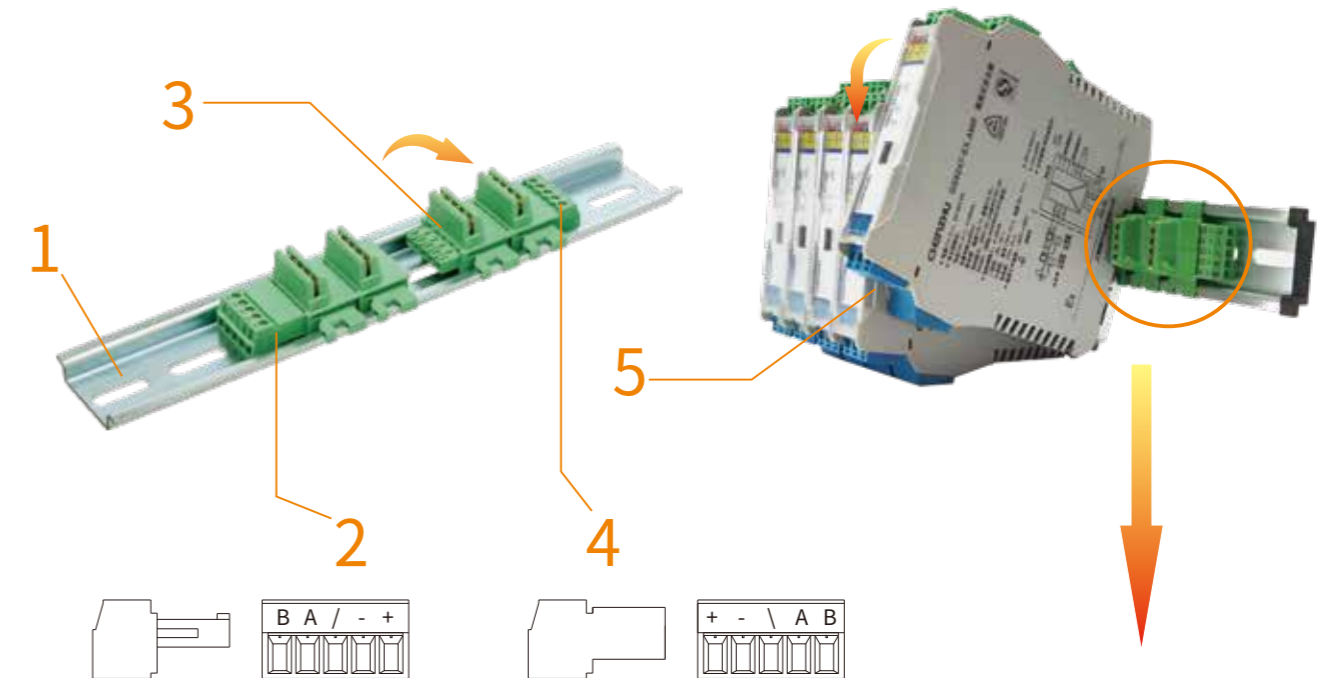
Instrument Status	LED L	LED H	Output Current
Normal	OFF	OFF	4~20mA
Underrange	Flashing(slow)	OFF	3.8~4mA
Overrange	OFF	Flashing(slow)	20~20.8mA
Output below the lower limit	Flashing(fast)	OFF	3.8mA
Output exceeds the upper limit	OFF	Flashing(fast)	20.8mA
Line break error	OFF	ON	21mA
Line shorted error	ON	OFF	3mA

Note:TC input can't detect input shorted error

Power Bus

	Male Plug (CZBPS-F)	Bus connector (CZBPS-C-17.5)	Female plug (CZBPS-B)
Number of Positions	5	5	5
Pitch	3.81mm	3.81mm	3.81mm
Normal voltage Un	160V	150V	160V
Normal current In	8A	8A	8A
Rated Surge Voltage	2500V	2500V	2500V
Conductor Cross Section	0.14~1.5mm ²	/	0.14~1.5mm ²
Conductor Cross Section with Ferrules	0.25~1.5mm ² (without plastic sleeve) 0.25~0.5mm ² (with plastic sleeve)	/	0.25~1.5mm ² (without plastic sleeve) 0.25~0.5mm ² (with plastic sleeve)

Configuration Accessory



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.

