

# 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 can be only connected with rail. The power supply can be connected with rail or terminals.

### Specification

**Supply Voltage:**20~35V DC

**Current Consumption:**≤60mA

**Safe-area Relay Output:**

Current Output:

Output Signal:4~20mA

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:≤1s

Relay output:

Number of Channels:2

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

Load Type:Resistive load

Response Time:≤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%
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%

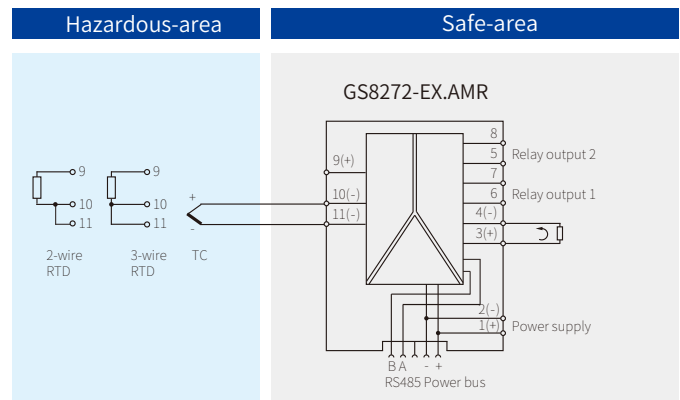
Note: 1、The “%” of conversion accuracy is relative to its range. Take the larger value between the relative error and the absolute error when applying.  
2、Allow a maximum wire resistance of 50Ω/line for RTD input(3-wire).  
3、When the thermocouple is input, the conversion accuracy does not include the 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)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: $C_o=22\mu F, L_o=100mH$

\*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