

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.

Specification

Loop Supply Voltage (Ue): 12~30V DC

Safe-area Output:

Output Current: 4~20mA

Load Resistance: $R_L \leq (U_e - 12) / 0.021 \Omega$

Hazardous-area Input:

Input Signal: please see the table 'Input Signal and Range'.

Temperature Drift: 0.01%F.S./°C

CJC: ±1°C(Compensation range: -20°C~+60°C)

Response Time(0~90%): ≤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

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

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%
mV signal	-100mV~+100mV	10mV	20uV / 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 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°C.

4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 °C to ensure the accuracy index.

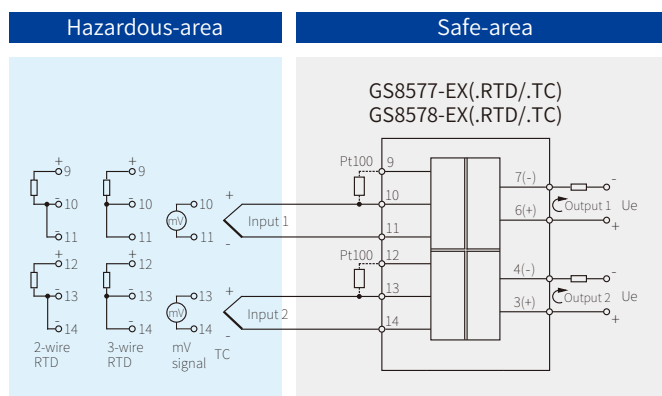
5、When the Type S thermocouple is input, the temperature measurement accuracy is 0.6% below 10°C.

6、mV signal input needs to be customized.



Dimensions: 118.9mm × 106.0mm × 17.5mm

Connection



- 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.

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):

$U_o=8.5V, I_o=20mA, P_o=43mW$

II C: $C_o=6.5\mu F, L_o=3.6mH$

*II B: $C_o=60\mu F, L_o=10.8mH$

II A: $C_o=1000\mu F, L_o=28.8mH$

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