

Temperature Input

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: $\leq 40\text{mA}$ (Supply voltage: 24V; Output: 20mA)

Safe-area Output:

Output Current: 0~20mA/4~20mA; Load resistance: $R_L \leq 3500\Omega$

Output Voltage: 0~5V/1~5V; Load resistance: $R_L \geq 35k\Omega$

(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./ $^{\circ}\text{C}$

CJC: $\pm 1^{\circ}\text{C}$ (Compensation range: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$)

Response Time(0~90%): $\leq 1\text{s}$

Power Supply Protection: Power supply reverse protection

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

Ambient Temperature: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$

Dielectric Strength:

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

Between power supply part and output part $\geq 500\text{V AC}$

Insulation Resistance:

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

Between power supply part and output part $\geq 100\text{M}\Omega$

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 | $-200^{\circ}\text{C} \sim +400^{\circ}\text{C}$ | 50 $^{\circ}\text{C}$ | 0.5 $^{\circ}\text{C} / 0.1\%$ |
| | E | $-200^{\circ}\text{C} \sim +900^{\circ}\text{C}$ | 50 $^{\circ}\text{C}$ | 0.5 $^{\circ}\text{C} / 0.1\%$ |
| | J | $-200^{\circ}\text{C} \sim +1200^{\circ}\text{C}$ | 50 $^{\circ}\text{C}$ | 0.5 $^{\circ}\text{C} / 0.1\%$ |
| | K | $-200^{\circ}\text{C} \sim +1372^{\circ}\text{C}$ | 50 $^{\circ}\text{C}$ | 0.5 $^{\circ}\text{C} / 0.1\%$ |
| | N | $-200^{\circ}\text{C} \sim +1300^{\circ}\text{C}$ | 50 $^{\circ}\text{C}$ | 0.5 $^{\circ}\text{C} / 0.1\%$ |
| | R | $-40^{\circ}\text{C} \sim +1768^{\circ}\text{C}$ | 500 $^{\circ}\text{C}$ | 1.5 $^{\circ}\text{C} / 0.1\%$ |
| | S | $-40^{\circ}\text{C} \sim +1768^{\circ}\text{C}$ | 500 $^{\circ}\text{C}$ | 1.5 $^{\circ}\text{C} / 0.1\%$ |
| | B | $+320^{\circ}\text{C} \sim +1820^{\circ}\text{C}$ | 500 $^{\circ}\text{C}$ | 1.5 $^{\circ}\text{C} / 0.1\%$ |
| RTD | Pt100 | $-200^{\circ}\text{C} \sim +850^{\circ}\text{C}$ | 20 $^{\circ}\text{C}$ | 0.2 $^{\circ}\text{C} / 0.1\%$ |
| | Cu50 | $-50^{\circ}\text{C} \sim +150^{\circ}\text{C}$ | 20 $^{\circ}\text{C}$ | 0.2 $^{\circ}\text{C} / 0.1\%$ |
| | Cu100 | $-50^{\circ}\text{C} \sim +150^{\circ}\text{C}$ | 20 $^{\circ}\text{C}$ | 0.2 $^{\circ}\text{C} / 0.1\%$ |
| Potentiometer | | 0k Ω ~5k Ω | | 0.1% |
| | | 0k Ω ~10k Ω | | 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 50 Ω /line for RTD input(3-wire).

3、When the thermocouple is input, the conversion accuracy does not include the CJC. For every 100 Ω increase in the compensation wire, the cold junction error increases by 0.2 $^{\circ}\text{C}$.

4、When the Type B thermocouple is input, the temperature range is required to be greater than 680 $^{\circ}\text{C}$ to ensure the accuracy index.

5、When the Type S thermocouple is input, the temperature measurement accuracy is 0.6% below 10 $^{\circ}\text{C}$.



Dimensions:

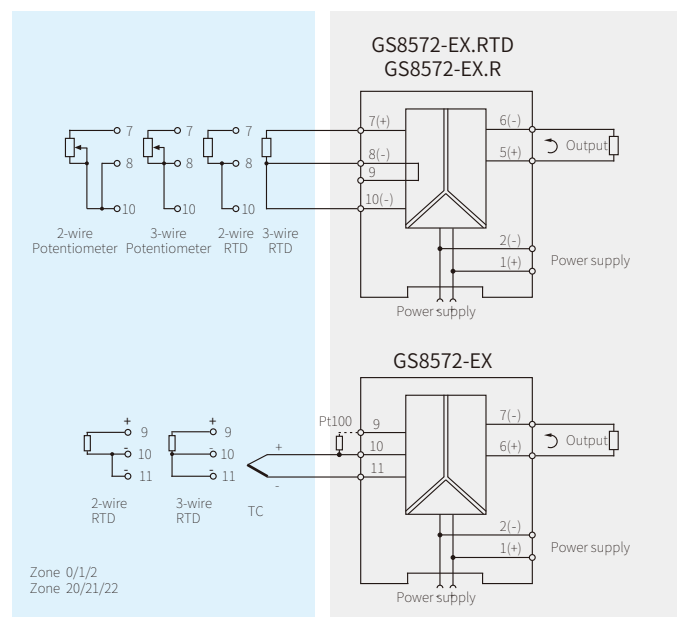
118.9mm × 106.0mm × 17.5mm(GS8572-EX)

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

Connection

Hazardous-area

Safe-area/Zone 2



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 IIC T4 Gc

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

Intrinsic Safety Parameters(7、8、9、10 terminals):

$U_0=5.4\text{V}$, $I_0=23\text{mA}$, $P_0=32\text{mW}$

II C: $C_0=65\mu\text{F}$, $L_0=65\text{mH}$

*II B: $C_0=1000\mu\text{F}$, $L_0=265\text{mH}$

II A: $C_0=1000\mu\text{F}$, $L_0=535\text{mH}$

I: $C_0=1000\mu\text{F}$, $L_0=880\text{mH}$

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