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MAKING CONTROL SMARTER

SGWS115A TEMPERATURE SENSOR USER MANUAL



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Table 1 Software Version

Date	Version	Content
2025-12-10	1.0	Original release.

Table 2 Sign Instruction

Sign	Instruction
 NOTE	Highlights an essential element of a procedure to ensure correctness.
 CAUTION	Indicates a procedure or practice, which, if not strictly observed, could result in damage or destruction of equipment.
 WARNING	Indicates error operation may cause death, serious injury and significant property damage.

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1 OVERVIEW

SGWS115A resistance type temperature sensor adopts the high-precision Pt100 film platinum resistor and has stainless 304 steel enclosure. It is used for measuring the temperature of liquid and gas fluids. Its features are highly precise measurement, high resolution, improved security and easy operation. The sensor can measure the temperature of various liquids and vapours which produced during production process.

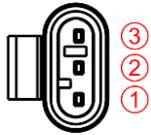
2 PERFORMANCE PARAMETER

Table 3 Performance Parameter

Item	Content
Measuring range	-20°C~ +150°C
Output mode	Three-wire system resistance output
Standard	DIN EN 60751(Corresponds to IEC751)
Screw thread	G1/2 standard pipe thread
Autothermal coefficient	0.4K/mW(when the temperature is 0°C)
Long-term stability	R0 nominal resistance drift ≤0.04%
Anti-vibration level	At least 40g acceleration (10-2000Hz)
Insulation resistance	>100MΩ, (when the temperature is 20°C)
Shock resistance level	At least 100g acceleration (after 8.5ms fluctuation)
Response time	Water @0.4m/s $t_{0.5}=0.05s$ $t_{0.9}=0.15s$ Air @2m/s $t_{0.5}=3.0s$ $t_{0.9}=10.0s$
Test condition	0.3mA~1mA
Temperature coefficient	TCR=3850ppm/K
Weight	0.11kg
Allowable tolerance	Class A
Measurement accuracy class	Class 0.25
Protection Class	IP65
Shell	Stainless steel 304
Measurement medium	Fluid, such as liquid and gas.

3 TERMINAL CONNECTION

Table 4 Terminal Description

	Port	Description	Color
	①	Resistor A port, see the following figure.	Red
	②	Resistor B port, see the following figure.	Blue
	③	Resistor B port, see the following figure.	Black

4 ELECTRICAL CONNECTION

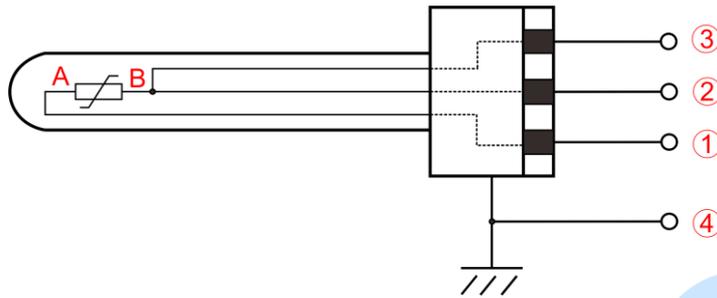


Fig.1 SGWS115A Electrical Connection Diagram

NOTE: ①: Resistor A port, ②&③: Resistor B port, ④: Enclosure ground.

5 CASE DIMENSIONS

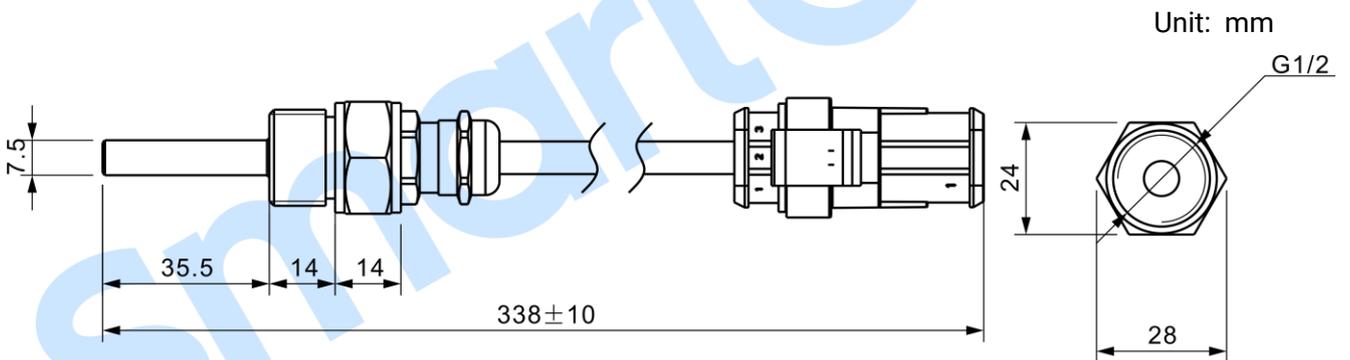


Fig.2 Overall and Cutout Dimensions

6 INSTALLATION STRUCTURE

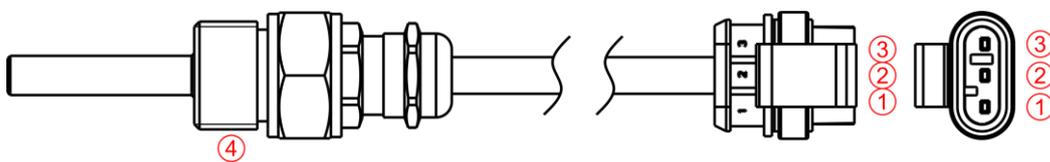


Fig.3 Installation Structure

NOTE: ①: Resistor A port, ②&③: Resistor B port, ④: Enclosure ground.

7 PRECAUTIONS AND NOTES

- a) SGWS115A resistance type temperature sensor can be connected to 2-wire system as well as 3-wire system. However, 3-wire system is recommended to ensure measurement accuracy. Please ensure that the wiring is correct;
- b) Only one end of shielding layer should be connected to earth;
- c) Any impurity on the sensor detector must be cleared up immediately to ensure reliability and accurate operation of the sensor;
- d) Measured data will be accurate only if the measurement medium is flowing medium;
- e) Sensor is fixed by screw thread. Care should be taken not to over tighten when fixing to avoid damage the sensor.

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