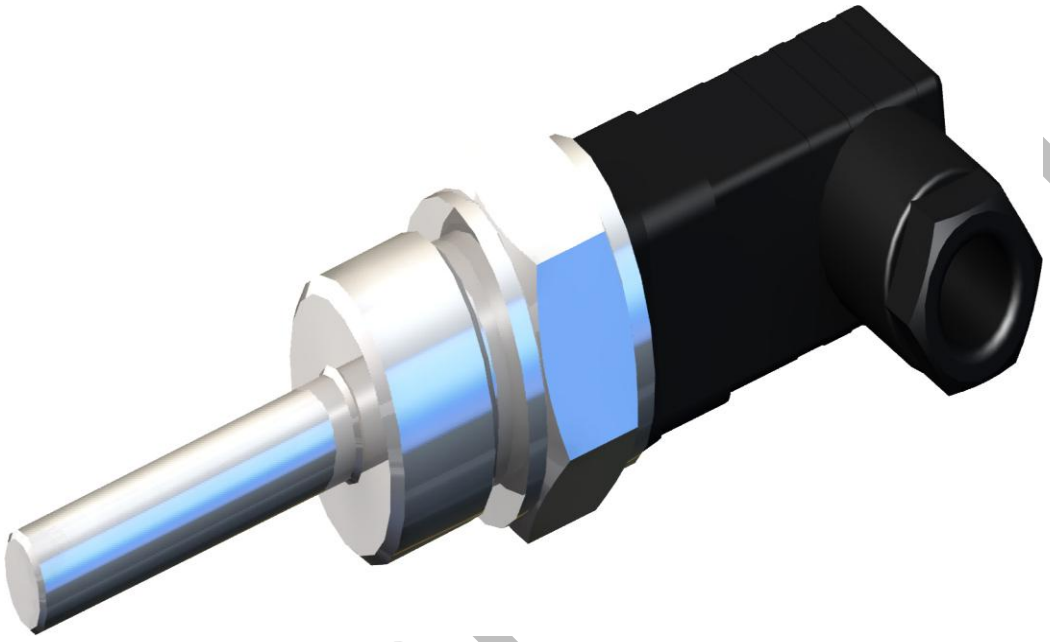
Smartgen®

SGWS115 Temperature Sensor

USER MANUAL



Smartgen Technology

众智电子 **Chinese trademark**

Smartgen® **English trademark**

Smartgen — make your generator ***smart***

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Version History

Date	Version	Content
2013-11-29	1.0	Original release

This manual is suitable for SGWS115 temperature sensor only.

Clarification of notation used within this publication.

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 a procedure or practice, which could result in injury to personnel or loss of life if not followed correctly.

Contents

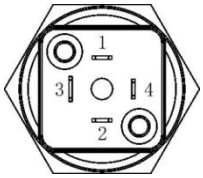
1. OVERVIEW

SGWS115 resistance type temperature sensor is based on German Heraeus-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 and other mediums.

2. PERFORMANCE PARAMETER

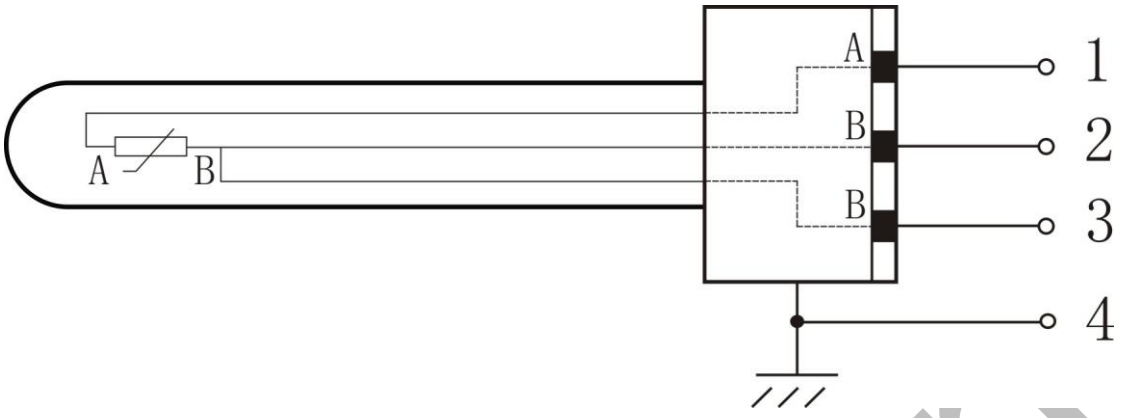
Item	Content
Measuring range	-20°C~ +150°C
Output mode	Three-wire system resistance output
standard	DIN EN 60751(Corresponds to IEC751)
Screw thread	G1/2 standard pipe thread
Autothermal coefficient	0.4K/mW(when the temperature is 0°C)
Long-term stability	R0 nominal resistance drift ≤0.04%
Anti-vibration 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 t0.5=0.05s t0.9=0.15s Air @2m/s t0.5=3.0s t0.9=10.0s
Test condition	0.3mA～1mA
Temperature coefficient	TCR＝3850ppm/K
Weight	100g
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

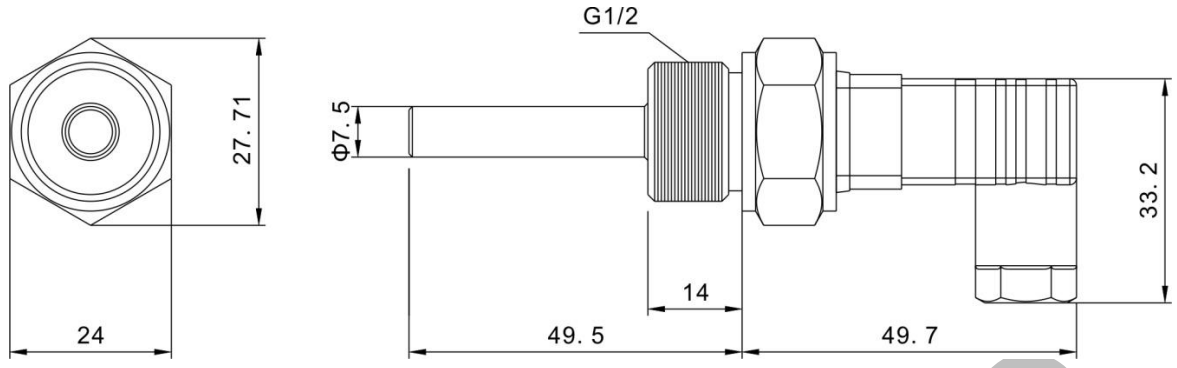


Port	Connection type
1	Resistance A (see picture below)
2	Resistance B (see picture below)
3	Resistance C (see picture below)
4	Shell ground (Shield ground)

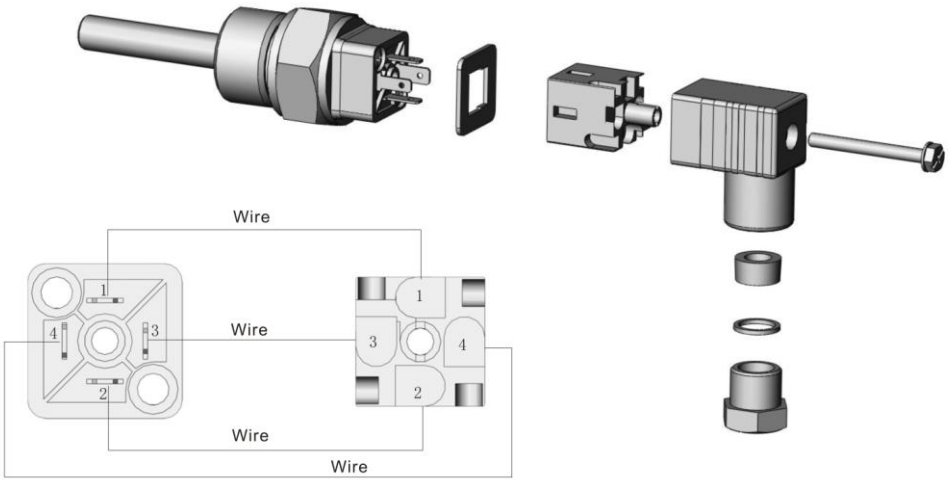
4. ELECTRICAL CONNECTION



5. CASE DEMENSION



6. INSTALLATION



7. ATTENTION

- SGW115 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.
- Only one end of shielding layer should be connected to earth.
- Any impurity on the sensor detector must be cleared up immediately to ensure reliability and accurate operation of the sensor.
- Measured data will be accurate only if the measurement medium is flowing medium.
- Sensor is fixed by screw thread. Care should be taken not to over tighten when fixing to avoid damage the sensor.