



Features:

- **Bird-Cage design: Improved Resistance to Mechanical Shock**
- **Platinum Capsule: High Temperature Contamination Protection**
- **Metal Sheath: For Harsh Environments**
- **Temperature Range: From -200 °C To 670 °C**
- **5.56 mm Diameter: Faster Responses**

OVERVIEW

AM1880 Standard Platinum Resistance Thermometers (SPRT) interpolates temperature in the range from -200 °C to 670 °C on the International Temperature Scale of 1990 (ITS-90). It is designed as a primary or secondary standard thermometer to calibrate other thermometers and to measure temperature precisely in primary and secondary laboratories.

The sensing element and sensor support utilizes a “Bird-Cage” design and they are protected inside a platinum capsule. Compared to the traditional coil wound method, the “Bird-Cage” resists mechanical shocks much better and allows for high purity platinum wire to be wound strain-free. The platinum capsule protects the sensing element from contaminations at high temperature. The “Bird-Cage” structure combined with 5.56 mm Inconel sheath makes this SPRT responds to temperature changes much faster. All parts used in the SPRT are thoroughly cleaned before assembly and the assembly process is well controlled to protect the sensor from contaminations. The gas mixture filled in the thermometer makes the sensor wire oxidation effect as low as possible.

Every AM1880 SPRT is fully tested for stability after manufactured. This world class probe meets ITS-90 criteria of standard thermometer fully.

SPECIFICATIONS

| | |
|------------------------------|---|
| Temperature Range | -200 °C to 670 °C |
| R_{tpw} | Nominal 25.5 Ω |
| Resistance Ratio | W(Ga) ≥ 1.11807 W(Hg) ≤ 0.844235 |
| Drift at 0.01 °C* | < 0.006 °C/year, < 0.003 °C/year typical |
| Repeatability | < 0.001 °C |
| Thermal Shock | < 0.001 °C after 10 times thermal cycles from minimum to maximum temperatures |
| Self-heating | < 0.0015 °C at 1 mA current |
| Measurement Current | 1 mA |
| Sensor Length | 42 mm |
| Insulation Resistance | > 1000 MΩ at room temperature |
| Sheath Material | Inconel™ |
| Dimension | 5.56 mm (OD) X 500 mm (L) |
| External Leads | Insulated copper wire, 4 leads, 2.5 meters |
| Termination | Gold-plated Spade |
| Handle Dimension | 21 mm (OD) X 80 mm (L) |
| Optional Calibration | NVLAP/ISO17025 accredited calibration and data available per request |
| Accessories | Carrying Case Included |

*Long-term drift rate is for reference only. It could be affected by such facts as handling, application, and maintenance, etc.