



**AM1880 Primary
Metal-Sheath SPRT
With Bird-Cage Design
From AccuMac Corporation**

Highlights:

- **Bird-Cage design to make it mechanical shocks resistant**
- **Platinum Capsule to protect sensor from high temperature contaminations**
- **Metal Sheath for harsh environment**
- **Temperature range from -200 °C to 670 °C**
- **5.56 mm diameter for quick 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/or to measure temperature precisely in primary and secondary laboratories.

The sensing element and sensor support adopt a “Bird-Cage” design and they are protected inside a platinum capsule. Compared to the traditional coil winding method, the “Bird-Cage” handles mechanical shocks much better at the same time 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*	ΔR(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	21mm (OD) X 80 mm (L)
Calibration	Not included
Carrying Case	Included

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