AM1850/1860 Metel-Sheath SPRTs

AccuMac

HIGHLIGHTS

- ✓ **Metal sheathed**
- ✓ **Great reference thermometer for dry block calibrators**
- ✓ **Temperature range: -200 °C to 670 °C**

OVERVIEW

Standard Platinum Resistance Thermometers (SPRTs) are common used to interpolate temperature in the range from -189.3442°C to 660.323°C on the International Temperature Scale of 1990 (ITS-90). They are widely used as standard or reference thermometers to calibrate other thermometers and to measure temperature precisely in primary and secondary laboratories. AM1850 and AM1860 SPRTs are the crown jewels of AccuMac temperature probes. It takes decades of our scientific expertise and original craftsmanship to create these world class products. They feature a very low drift rate.

To improve the durability of the SPRT, Inconel 600 replaces quartz glass as sheath material of the thermometer. A special capsule is adopted to protect the platinum sensor wire from contamination introduced by metal sheath at high temperature. All parts used in the thermometer are completely cleaned and treated at high temperature before assembly. The gas mixture filled in the thermometer is well controlled to reduce oxidation effect as low as possible. Every SPRT is fully tested for stability after manufactured. This world class probe meets ITS-90 criteria of standard thermometer fully with a very competitive pricing.

AM1850 has a temperature range from -200°C to 500°C. AM1860 covers range from -200°C to 670°C. They are widely used as reference thermometer at drywell block calibrator and temperature bath.

SPECIFICATIONS

Temperature Range	1850: -200°C to 500°C 1860: -200°C to 670°C
R_{tpw}	Nominal 25 Ω or nominal 100 Ω
Resistance Ratio	W(Ga)>=1.11807 W(Hg)<=0.844235
Drift at 0.01°C*	1850 ΔR(0.01°C) <0.002 °C/100 hours at 500°C ΔR(0.01°C) <0.008 °C/year 1860 ΔR(0.01°C) <0.003 °C/100 hours at 670°C ΔR(0.01°C) <0.01 °C/year
Repeatability	±0.0015 °C
Thermal Shock	±0.0015 °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	1850: 6.35 mm (OD) X 480 mm (L) 1860: 6.35 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

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

OPTIONAL ACCESSORIES

Model	Description
9002	Complementary Wooden Carrying Case