

## HIGHLIGHTS

- ✓ Accuracy  $\pm 0.035^{\circ}\text{C}$  at  $0^{\circ}\text{C}$
- ✓ Temperature range:  $-200^{\circ}\text{C}$  to  $670^{\circ}\text{C}$
- ✓ Durable and shock resistance
- ✓ Customized dimensions available



## OVERVIEW

AM1620/1640/1660 series precision Industrial PRTs (IPRTs) are rugged probes with excellent accuracy and stability. They cover a wide range of temperature from  $-200^{\circ}\text{C}$  to  $670^{\circ}\text{C}$  with amazing accuracy of  $\pm 0.035^{\circ}\text{C}$  at  $0^{\circ}\text{C}$ , short term stability of  $\pm 0.01^{\circ}\text{C}$  and fast response time of 5 seconds. These IPRTs come with standard length 12-inch but customized dimensions are available per request.

To reach the best performance in stability and repeatability, the wire-wound sensing elements are specially designed to protect the platinum sensing wire from contamination at high temperature. A unique support structure and filling material provide the best balance among the hysteresis effect, mechanical shock and thermal shock performance. All of these probes conform to the standard 385 curve so the resistance ratio of the PRT follow DIN/IEC-751 curve precisely.

## FEATURES

- Temperature range:  $-200^{\circ}\text{C}$  to  $670^{\circ}\text{C}$
- Accuracy:  $\pm 0.035^{\circ}\text{C}$  at  $0^{\circ}\text{C}$
- Long term drift:  $\pm 0.04^{\circ}\text{C}$
- Short term stability:  $0.01^{\circ}\text{C}$
- Durable and shock resistance
- Temperature Coefficient 0.00385
- Follow DIN/IEC-751 precisely
- Inconel<sup>tm</sup> sheath
- Quick response time
- Customized dimensions available

## SPECIFICATIONS

|                                  |  |
|----------------------------------|--|
| <b>Temperature Range</b>         | 1660: -200°C to 670°C<br>1640: -200°C to 420°C<br>1620: -60°C to 300°C                           |
| <b>Resistance at 0 °C</b>        | Nominal 100 Ω  |
| <b>Temperature Coefficient</b>   | 0.00385 Ω/ Ω/°C  |
| <b>Accuracy</b>                  | ±0.04°C at -200°C<br>±0.035°C at 0°C<br>±0.05°C at 200°C<br>±0.09°C at 420°C<br>±0.15°C at 660°C |
| <b>Drift</b>                     | ±0.04°C at 0 °C after 100 hours at 420 °C  |
| <b>Short Term Stability</b>      | ±0.01°C  |
| <b>Thermal Shock</b>             | ±0.007°C after 10 times thermal cycles from minimum to maximum temperatures                      |
| <b>Hysteresis</b>                | <=0.01°C   |
| <b>Self-heating</b>              | 50 mW/°C   |
| <b>Response Time</b>             | 5 seconds for 63% response to step change in water moving at 3 feet per second                   |
| <b>Measurement Current</b>       | 0.5 mA or 1 mA   |
| <b>Sensor Length</b>             | 32 mm  |
| <b>Sensor Location</b>           | 5 mm from tip  |
| <b>Insulation Resistance</b>     | >1000 MΩ at room temperature   |
| <b>Sheath Material</b>           | 1660/1640: Inconel™<br>1620: 316 Stainless Steel   |
| <b>Dimension</b>                 | 0.25 inch X 12 inch (6.35 mm X 305 mm)   |
| <b>External Leads</b>            | Teflon™ –insulated copper wire, 4 leads, 2.5 meters  |
| <b>Handle Dimension</b>          | 15mm (OD) X 65 mm (L)  |
| <b>Handle Temperature Range*</b> | -50°C to 180°C   |
| <b>Calibration Options</b>       | Optional calibrations available per request  |

\*Handle temperature outside this range will cause damage to the probe.

## OPTIONAL ACCESSORIES

| Model | Description          |
|-------|----------------------|
| 9001  | Wooden Carrying Case |