The Platinum/Cobalt resistance thermometer is the temperature sensor for cryogenic temperature by utilizing Platinum/Cobalt thin alloy in the sensing part, and is for the temperature measurement from cryogenic temperature area to room temperature. The Platinum/Cobalt thin alloy is Platinum alloyed with trace amounts of Cobalt, and has superior characteristics as a cryogenic temperature sensor because its resistance value and sensitivity in cryogenic temperature range are far bigger than precious metals like as Platinum. Two kinds of thermometers, R800-6 up to 4K and R800-7 up to 15K, are available.

- The temperature from the cryogenic temperature (R800-6 4K, R800-7 15K) to the room temperature (300K) can be measured by a single sensor.

- The accuracy in the whole measuring range is high (±0.5K) and the sensor is interchangeable.

- The thin capsule metal type durable construction offers low heat capacity and excellent stability.

- Due to 4-wire type, precision measurement by a DC potentiometer can be executed.

**General Specifications**
Measuring element: Platinum/Cobalt thin alloy  
Measuring temperature: 4K to 375K (R800-6)  
15K to 375K (R800-7)  
Resistance value at 0ºC: 100Ω ± 0.15Ω  
Sensitivity: Min. 0.090/K at 12K  
Max. 0.400/K  
Repeatability: Within 10mK  
Nominal current: 2mA  
Self-heat characteristic: 4mK/1mA (in LN₂)  
Temperature measurement construction:  
Spiral coil type aluminum ceramic construction  
Protective tube:  
Capsule type brass with gold plated  
Ø2.0mm x L23mm  
Lead wire:  
4-wire type, Polyester covered copper wire  
Ø0.2m x L1000mm  
Response time:  
5 seconds at 90% response  
(0ºC → Liquid oxygen)

**External Dimensions**

![Diagram](image)
Specifications subject to change without notice. Original 2002.10

TEMPERATURE – RESISTANCE CHARACTERISTICS

TEMPERATURE – SENSITIVITY CHARACTERISTICS

TEMPERATURE – RESISTANCE VALUE TABLE

<table>
<thead>
<tr>
<th>Temperature (K)</th>
<th>Resistance value (Ω)</th>
<th>Temperature (K)</th>
<th>Resistance value (Ω)</th>
<th>Temperature (K)</th>
<th>Resistance value (Ω)</th>
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