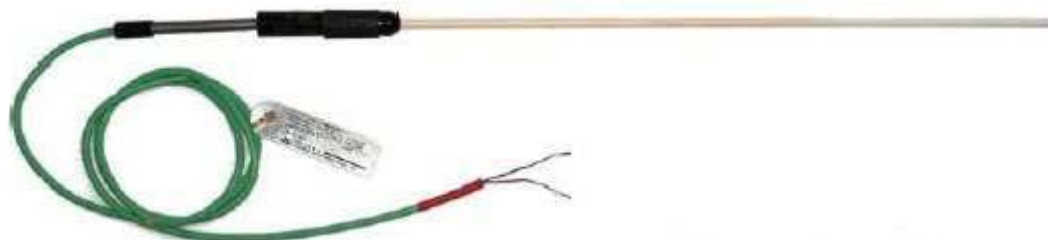


Tempsens offers special Reference thermocouples for high temperatures upto 1500°C for highly accurate temperature measurement. These Thermocouples are offered in platinum / Rhodium (type R, S or B) elements with a high purity Alumina insulations and sheath materials.

Thermocouples employing platinum in combination with platinum-rhodium alloys have been found to be the most reproducible of all the various types. They are resistant to oxidation in air and, because of their high melting points, can be used at very high temperatures. The best-known member of this group is the Type S (Pt10Rh/Pt) or Type R (Pt13Rh/Pt).

It was long considered more accurate and has probably been studied more than any other thermocouple. The performance of Type R or Type S thermocouple depends strongly on the annealing process, materials used and other construction techniques.



## Technical Specifications

|                          |   |
|--------------------------|---|
| <b>Make</b>              | Tempsens  |
| <b>No. of Element</b>    | Simplex   |
| <b>Temperature Range</b> | 0 to 1500 °C  |
| <b>Sheath Material</b>   | Alumina ( 99.7 % pure Al <sub>2</sub> O <sub>3</sub> )                    |
| <b>Sheath length</b>     | 450 mm  |
| <b>Extension Cable</b>   | 1.5 mtr. Long Teflon insulated cable with male/female miniature connector |
| <b>Sheath Dia</b>        | 06 mm   |
| <b>Handle Dimension</b>  | 15 mm (OD) X 100 mm( L)   |
| <b>Calibration</b>       | at 5 points at Tempsens NABL Accredited Lab                               |
| <b>Accuracy</b>          | Special Class (0.6 °C or 0.1 % of temperature whichever is greater)       |
| <b>Model</b>             | TTCS, TTCR  |
| <b>Type</b>              | S(Pt10%Rh/Pt), R(Pt13%Rh/Pt)  |

High accuracy Platinum Resistance Thermometer (PRT) is an interpolating instrument converting temperature to resistance. It works together with readout device to measure temperature or change of temperature. It has wide applications for dry-wells or temperature baths.

It is recommended to calibrate this PRT annually over the full temperature range in between annual calibrations; user can check the drift rate by comparing RTPW against the last Calibration results



## Technical Specifications

|                             |  |   |   |  |
|-----------------------------|--|---|---|--|
| <b>Make</b>                 | Tempsens   |   |   |  |
| <b>Resistance at 0°C</b>    | Nominal 100 Ω  |   |   |  |
| <b>Temp. Coefficient</b>    | 0.00385 Ω/ Ω/ °C   |   |   |  |
| <b>Sheath Material</b>      | SS-316   |   |   |  |
| <b>Dimension</b>            | (6.0 mm X 450 mm)  |   |   |  |
| <b>Extension leads</b>      | 1.5 mtr. long teflon Insulated silver plated copper cable with flying leads                      |   |   |  |
| <b>Handle Dimension</b>     | 15 mm (OD) X 100 mm( L)  |   |   |  |
| <b>Calibration Standard</b> | at 5 points at Tempsens NABL Accredited Lab  |   |   |  |
| <b>Short Term Stability</b> | 0.01°C   | 0.01°C  | 0.02°C  | 0.02°C   |
| <b>Temp. Range</b>          | -38 to 250°C(1/10 Din)   | -38 to 250°C(1/5 Din)   | -80 to 300°C(1/3 Din)   | -80 to 400°C(Class A)  |
| <b>Model</b>                | TPRT 110   | TPRT 105  | TPRT 103  | TPRT 100   |
| <b>Drift</b>                | ± 0.03°C at 0°C after 100 hours at 250°C   | ± 0.05°C at 0°C after 100 hours at 250°C  | ± 0.07°C at 0°C after 100 hours at 250°C  | ± 0.10°C at 0°C after 100 hours at 250°C   |
| <b>Accuracy</b>             | ±0.04°C at -38°C<br>±0.03°C at -0°C<br>±0.08°C at 100°C<br>±0.13°C at 200°C<br>±0.155°C at 250°C | ±0.10°C at - 38°C<br>±0.06°C at 0°C<br>±0.16°C at 100°C<br>±0.26°C at 200°C<br>±0.31°C at 250°C | ±0.23°C at -80°C<br>±0.10°C at -0°C<br>±0.27°C at 100°C<br>±0.43°C at 200°C<br>±0.60°C at 300°C | ±0.31°C at -80°C<br>±0.15°C at 0°C<br>±0.35°C at 100°C<br>±0.65°C at 250°C<br>±0.95°C at 400°C |

SSPRT provides an affordable alternative for precision temperature measurement and calibration in labs & fields. Metal Sheathed Semi Standard Platinum Resistance Thermometer is widely used as a reference to calibrate various temperature probes, particularly in secondary calibration laboratories.

SSPRT is constructed with a 6 mm outer diameter metal sheath of high durability. Inside the sheath, the sensing element is protected to shield the sensor from contamination by free floating metal ions found within metal environment at high temperatures.

The electrical configuration is a four wire current potential hookup to eliminate effect of lead wire resistance. A special powder mixture is filled into the sensor capsule to support the element wire to protect the element from mechanical shocks. The element is housed in a special protective Assembly to ensure minimum drift over long term use.



## Technical Specifications

|                                |  |
|--------------------------------|--|
| <b>Model</b>                   | SSPRT                                  |
| <b>Make</b>                    | Tempsens                               |
| <b>Resistance at 0°C</b>       | 100 ±1Ω                                |
| <b>Temperature Coefficient</b> | 0.00385 Ω/ Ω/°C                        |
| <b>Temperature Range</b>       | -200 °C to 670°C                       |
| <b>Sheath Material</b>         | Inconel 600                            |
| <b>Drift</b>                   | ±30m°C at 0°C after 100 hours at 660°C |
| <b>Dimension</b>               | (6.0 mm X 450 mm)                      |
| <b>Extension leads</b>         | 1.5m Teflon Insulated Copper Cable     |
| <b>Short Term Stability</b>    | 0.01°C                                 |
| <b>Handle Dimension</b>        | 15 mm (OD) X 100 mm( L)                |
| <b>Calibration (Optional)</b>  | 5 Fixed Point Calibration ITS90        |

K type and N type Thermocouple is mainly use in Industries as a secondary master sensor. It works together with readout device to measure Temperature or change of temperature. It has wide applications for dry-wells or temperature baths. It is recommended to calibrate this Thermocouple annually over the full temperature range.

## Features

- ✓ Good accuracy: 0.4% of reading at 1.1°C of temperature, whichever is higher
- ✓ Temperature range: 0°C to 1200°C



## Technical Specifications

|                          |   |
|--------------------------|---|
| <b>Make</b>              | Tempsens  |
| <b>No. of Element</b>    | Simplex   |
| <b>Temperature Range</b> | 0 to 1200 °C  |
| <b>Sheath Material</b>   | Inconel 600   |
| <b>Sheath length</b>     | 400 mm  |
| <b>Extension Cable</b>   | 1.5 mtr. Long Teflon insulated cable with male/female miniature connector |
| <b>Sheath Dia</b>        | 6 mm  |
| <b>Handle Dimension</b>  | 15 mm (OD) X 100 mm( L)   |
| <b>Calibration</b>       | at 5 points at Tempsens NABL Accredited Lab                               |
| <b>Accuracy</b>          | Special Class (1.1°C or 0.4% of temperature whichever is greater)         |
| <b>Model</b>             | TTCK, TTCN  |
| <b>Type</b>              | CR/AL K Type, NI-CR-SI/N Type   |