

## Platinum Resistance Temperature Detector

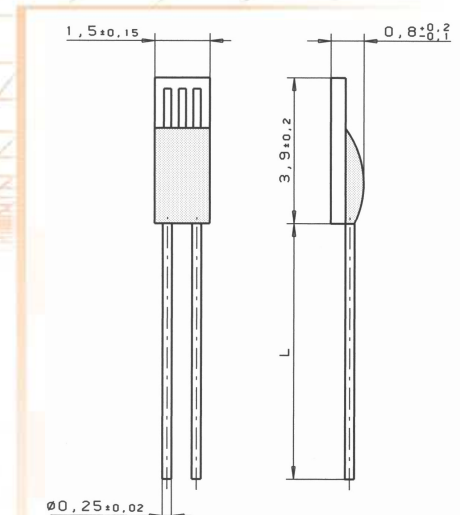
C 416

The C series thin-film PRTDs combine the ideal curve characteristics of ceramic wire-wound RTDs with the vibration resistance of glass wire-wound RTDs and represent an excellent alternative to wire-wound RTDs. They are characterized by high long-term stability, excellent temperature shock resistance and a wide temperature range of -196°C to +500°C. The deviation from the DIN EN 60751 (according to IEC 751) characteristic curve is minimal over the entire temperature range, they show no hysteresis. These features make them best suited for applications in aerospace, chemical and power generation plants and analytical equipment.

| Nominal Resistance $R_0$ | Tolerance             | Order Number<br>Blister Reel |
|--------------------------|-----------------------|------------------------------|
| 100 Ohm at 0°C           | DIN EN 60751, class B | 32 208 519                   |

The measuring point for the nominal resistance is defined at 8 mm from the end of the sensor body.

|                                 |  |  |
|---------------------------------|--|--|
| <b>Specification</b>            | DIN EN 60751   |  |
| <b>Nominal resistance</b>       | 100 $\Omega$ at 0 °C   |  |
| <b>Temperature range</b>        | -196°C to +500°C   |  |
| <b>Temperature coefficient</b>  | TCR = 3850 ppm/K   |  |
| <b>Leads</b>                    | AuPd   |  |
| <b>Lead lengths (L)</b>         | 10 mm +/- 1 mm   |  |
| <b>Long-term stability</b>      | max. $R_0$ -drift 0,03% after 1000 h at 500 °C   |  |
| <b>Environmental conditions</b> | unhoused for dry environments only   |  |
| <b>Insulation resistance</b>    | > 100 M $\Omega$ at 20 °C; > 2 M $\Omega$ at 500 °C  |  |
| <b>Vibration resistance</b>     | at least 40 g acceleration at 10 to 2000 Hz, depends on installation   |  |
| <b>Shock resistance</b>         | at least 100 g acceleration with 8ms half sine wave, depends on installation   |  |
| <b>Self heating</b>             | 0.4 K/mW at 0 °C   |  |
| <b>Response time</b>            | water current (v = 0.4 m/s):   | $t_{0,5} = 0.07$ s<br>$t_{0,9} = 0.25$ s |
|                                 | air stream (v = 2 m/s):  | $t_{0,5} = 3.2$ s<br>$t_{0,9} = 14.0$ s  |
| <b>Measuring current</b>        | 0.3 to 1.0 mA<br>(self heating has to be considered)   |  |
| <b>Note</b>                     | Other tolerances, values of resistance and wire lengths are available on request.  |  |
|                                 | For brazing and soldering of the leads only brazing/solder alloys should be used which are specified for brazing/soldering to gold alloys. |  |



We reserve the right to make alterations and technical data printed. All technical data serves as a guideline and does not guarantee particular properties to any products.

## Heraeus Sensor Technology USA

1901 Route 130  
North Brunswick, NJ 08902  
Phone 732-940-4400 Fax 732-940-4445  
Email info.hst-us@heraeus.com  
www.hst-us.com

name of document: 30910002 Index A  
Status: 09/2008, HSTUSA 10/09