

Heraeus Sensor Technology Temperature Sensors for the Automotive Industry

Developments in the automotive sector exhibit trends which would have been inconceivable a few years ago. Advanced diesel engine technologies have resulted in significant reductions in both fine-particle and NO₂ emissions. A fundamental requirement for this technology is a precise drift-free temperature measurement, made possible with the Heraeus high-temperature thin film Platinum temperature sensor.

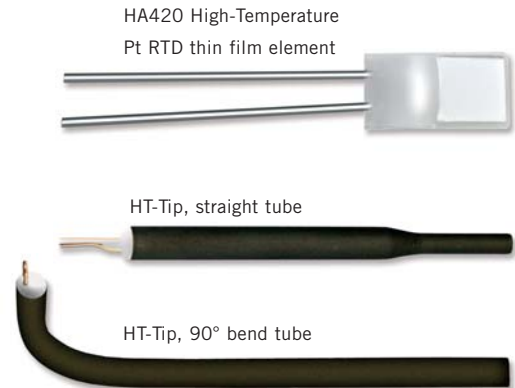
Platinum temperature sensors from Heraeus Sensor Technology improve our quality of life in numerous ways.

Their application in car diesel particulate filters, in the oil sump, and in the exhaust feedback loop helps to protect the environment.

The continuous measurement of the oil temperature is a basic requirement for determining the oil quality. The continuous monitoring of oil quality results in longer intervals between oil changes and improved engine reliability.

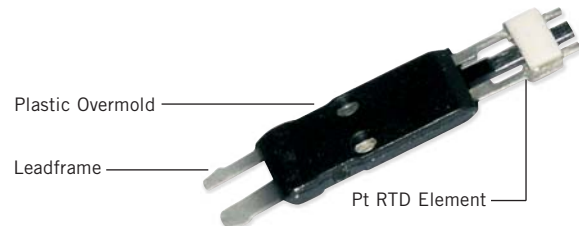
High Temperature Pt RTD Elements

- Wide operating temperature range:
 - 70 to + 850°C (Type HDA)
 - 70 to + 1000°C (Type HA)
- Pt 200 Ohm resistance
- 3770 or 3850 ppm temperature coefficient
- Element size: 3.9 mm long x 1.9mm wide
- Excellent long-term stability – less than 5°K drift after 1000 hours @ 1000°C with a 2 mA source current
- HA420 can be installed in areas where space is a premium
- To insure accuracy at high temperature, the element must not be exposed to a reducing atmosphere at temperatures above 650°C
- If installed in a closed housing, design must allow for exposure to free air
- Available prepackaged in sensor tip specifically designed for incorporation into probe assembly (type HT-Tip)



Oil Temperature Sensor

- All designs tailored to the specific requirements of the application. Design can be based upon an established design template (shown below), or a completely unique configuration
- Exposed element provides a fast response time.
- High long-term stability – less than 0.06 % resistance drift after 1000 h at 170°C
- High-reliability Pt thin film RTD temperature sensor
- Design can accommodate pick and place assembly equipment
- Temperature range dependent upon materials of construction
- Wider operating temperature than NTC and KTY based designs



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