

HDA420, Pt Temperature Sensor

Temperature range -40 °C to +900 °C, temporary up to +950 °C

- Large operation window up to 900 °C
- Automotive certified
- High accuracy and stability
- High vibration resistance
- Optimized for welding and brazing

HDA 420 Pt-RTDs are designed and tested to measure high temperatures with great performance and long life-time. The HDA 420 is setting standards for temperature detection in automotive exhaust gas systems. In addition HDA420 elements are used to monitor high temperature processes in industry, wood burning and other areas.

Nominal Resistance R_0 [Ω]	Tolerance Class	Order Number	Packaging
Pt200	-40 °C to +278 °C: ± 2.5 K >+278 °C to +900 °C: ± 0.9 % of temperature	32208775 5052797	Plastic bag Blister reel
Pt200	-40 °C to +278 °C: ± 4.5 K >+278 °C to +900 °C: ± 1.8 % of temperature	32208771	Plastic bag

The measuring point for the nominal resistance is 2 mm from the end of the sensor body.

Specification

HNE (Heraeus Nexensos)

Temperature Range of Tolerance Class

-40 °C to +900 °C, temporary up to 950 °C

The specified tolerance range refers to the delivery condition of the sensor.

Temperature Coefficient

TCR = 3770 ppm/K

Response Time

Water ($v = 0.4$ m/s):
 $t_{0.5} = 0.05$ s
 $t_{0.9} = 0.17$ s

Air ($v = 2$ m/s):
 $t_{0.5} = 3$ s
 $t_{0.9} = 11$ s

Measuring Current

Pt200 Ω: -40 °C to 20 °C max. 5.0 mA;
 above 20 °C max. 2.8 mA
 (self-heating has to be considered)

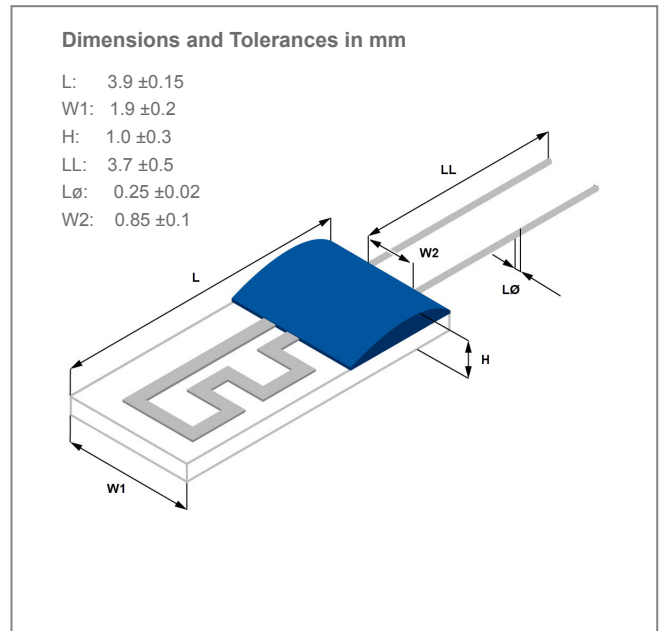


Image for illustration purposes only
 Color, shape and forming of fixing drop may vary

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Long-Term Stability

500 hours at +900 °C (5V, pullup resistor 1000 Ω) or 500 cycles at +900 °C / < 40 °C:

32208775:

Post test tolerance -40 °C to +278 °C: ±5 K
>+278 °C to +900 °C: ±1.8 % of temperature

32208771:

Post test tolerance -40 °C to +278 °C: ±9 K
>+278 °C to +900 °C: ±3.6 % of temperature

Self-Heating

0.2 K/mW at 0 °C

Insulation Resistance

> 100 MΩ at 20 °C

Vibration Resistance

Depends on installation

Shock Resistance

Depends on installation

Lead Type

Platinum

Tensile Strength of Leads

≥ 9N

Connection Technology

Brazing, Welding

Environmental Conditions

Unhoused for dry environment only. Up to 650 °C in housings also as MI-cable type possible, above 650 °C no reducing atmosphere, free air admission necessary

Packaging

Blister reel, Plastic bag

Storage Life

Min. 12 months (in original packaging)

Note

Other tolerances, values of resistance and wire lengths are available on request.

Due to random sample measurements, a bending of connection wires may occur (called V-shape). This bending is batch-dependent and has no influence on the functionality of the platinum measuring resistor.



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