

EC3032 Series, Polymer Encapsulated Pt Temperature Sensor

Temperature range -50 °C to +200 °C, temporary up to +250 °C

- Robust semi-rigid protection
- Internal protection IP67 and IP68
- Wide operation range: -50 °C to 200 °C
- 6kV AC dielectric strength
- According to DIN EN 60751

The Encapsulated Precision Temperature Sensor EC3032 was originally designed as a precise, robust temperature sensor for high-end industrial e-motors. Its properties make it the ideal sensing solution in e-motors, industrial automation, analytical equipment, or EV charging plugs. The EC3032 is a standard product.

In principle, the products can also be used in automotive applications, in this case YAGEO Nexensos will check upon the request of the customer, whether additional requirements can be met (e.g. IMDS, PPAP).

Nominal Resistance (Element) R_0 [Ω]	Tolerance Class (Element)	Order Number	Packaging
Pt 100	F 0.3 (B)	5180937	Plastic bag
Pt 1000	F 0.3 (B)	5016951	Plastic bag

Temperature Range of Tolerance Class

Validity of Class F 0.3 (B) -50 °C to +200 °C
Temporary up to 250 °C (up to 50 hours)

Temperature Coefficient

TCR = 3850 ppm/K

Response Time

Water ($v = 0.3$ m/s) $t_{0.5} = 3.1$ s
 $t_{0.9} = 8.1$ s

Measuring Current

Pt100 Ω: 0.3 to 1.0 mA
Pt1000 Ω: 0.1 to 0.3 mA
(self-heating has to be considered)

Long-Term Stability (Sensor Element)

The drift of the resistance value at 0 °C after a storage for 1000 hours in air at the declared upper temperature limit is not more than the tolerance value of the declared tolerance class according DIN EN 60751.
Typical drift of $R(0$ °C) is 0.04 % after 1000 hours at +500 °C.

Self-Heating (Sensor Element)

0.4 K/mW at 0 °C

Connection Technology

Welding, Crimping, Brazing, Soft Soldering, Clamping

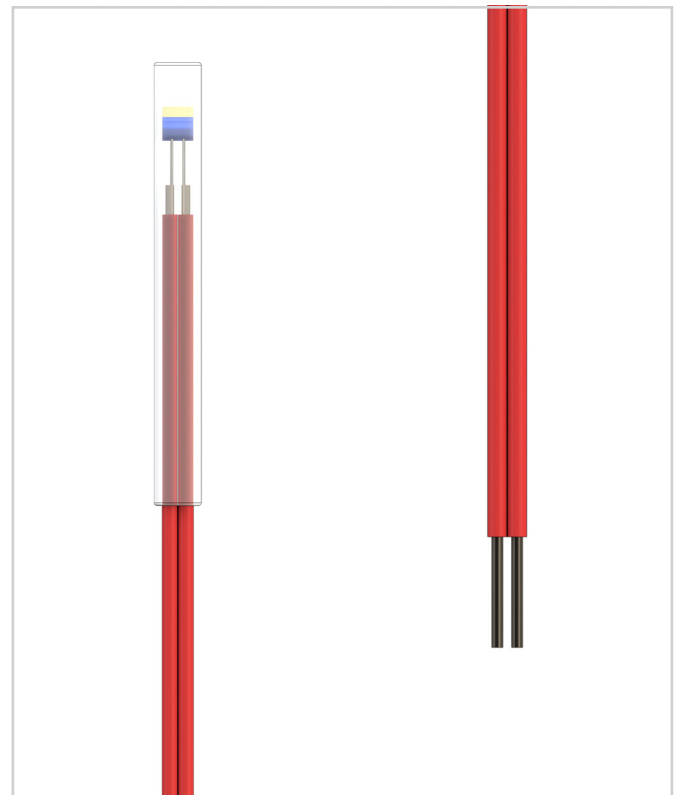


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Housing

Semi-rigid fluorocarbon

Connection Cable

PTFE insulated, AWG24 (0.24 mm²), stranded Ni-plated Cu

Conductor Resistance

0.0648 Ω (0.081 Ω/m)

Application Examples

- E-motor and Stator protection
- Industrial Automation
- Analytic Equipment
- Charging Connectors

Properties

- Internal Protection:
IP67 and IP68 according to DIN EN 60529
- Dielectric Strength (Sensor Head):
6kV AC, 60 sec
- Approx. 100 N cable pull force, measured between cables and sensor housing at room temperature
- Robust semi-rigid protection out of PTFE

Customer-Specific Adaptions can be implemented in High Volume for the following Properties:

- Total Length L
- Cable Length CL / Cable Type
- Sensor Housing Length HL
- Sensor Housing Diameter ØD
- Sensor Resistance
- Connectors

Dimensions and Tolerances in mm

ØD:	3.2 +0.2 -0.4
HL:	30 ±5
CL:	400 ±10
L:	408 ±10
L2:	6

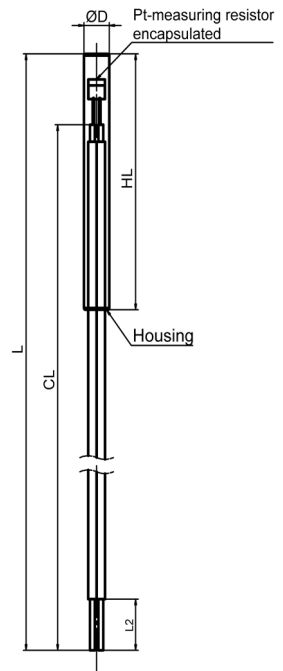


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Resistance vs.
Temperature Table



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Page 2 of 2