

## EC-Series - Polymer Encapsulated Pt Temperature Sensor

Temperature range -50 °C to +260 °C

### Performance Characteristics

- Flexible fluorocarbon housing
- Water and dustproof acc. to IP69H
- Excellent vibration and shock resistance
- High dielectric strength
- According to DIN EN IEC 60751

### Application Examples

- E-motors for mobility
- Industrial torque motors
- Charging stations and sockets
- Analytical equipment
- HVAC

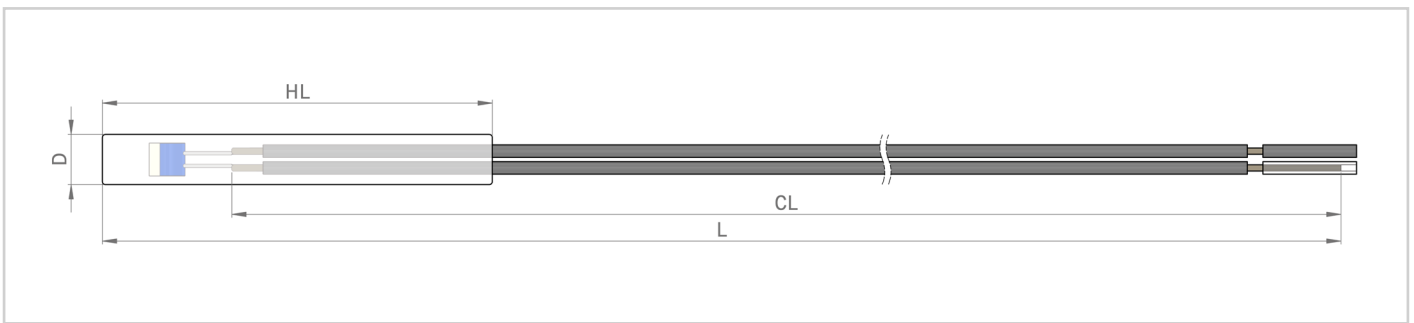


Image for illustration purposes only

### Dimensions and Materials

| No. | Product Type        | Element Nominal Resistance $R_0$ [Ω] | Dimensions and Tolerances (mm) |               |          |          | Conductor            |            |       | Order Number |
|-----|---------------------|--------------------------------------|--------------------------------|---------------|----------|----------|----------------------|------------|-------|--------------|
|     |                     |                                      | HL                             | D             | CL       | L        | Core (AWG)           | Insulation | Color |              |
| 1   | EC3032-C            | Pt100 / F 0.3                        | 30 ±5                          | 3.2 +0.2 -0.4 | 400 ±10  | 408 ±10  | 24/19 NPC            | PTFE       | Red   | 5180937      |
| 2   | EC3032-C            | Pt1000 / F 0.3                       | 30 ±5                          | 3.2 +0.2 -0.4 | 397 ±10  | 405 ±10  | 24/19 NPC            | PTFE       | Red   | 5016951      |
| 3   | EC3032-C            | Pt100 / F 0.3                        | 30 ±5                          | 3.2 +0.2 -0.4 | 400 ±10  | 408 ±10  | 24/19 NPC            | PTFE       | White | 5185070      |
| 4   | EC3032-C            | Pt1000 / F 0.3                       | 30 ±5                          | 3.2 +0.2 -0.4 | 400 ±10  | 408 ±10  | 24/19 NPC            | PTFE       | White | 5185071      |
| 5   | EC3032-C Automotive | Pt1000 / F 0.3                       | 30 ±5                          | 3.2 +0.2 -0.4 | 400 ±10  | 408 ±10  | 24/19 NPC            | PTFE       | Red   | 5161009      |
| 6   | EC1732-C            | Pt1000 / F 0.3                       | 17 +3 -2                       | 3.2 +0.2 -0.4 | 1550 ±25 | 1558 ±25 | 24/19 NPC            | PTFE       | White | 5184744      |
| 7   | EC3045-C            | Pt1000 / F 0.3                       | 30 ±5                          | max. 4.5      | 400 ±10  | 408 ±10  | 24/19 NPC<br>UL 1659 | PTFE       | Black | 5192571      |
| 8   | EC3021-C            | Pt1000 / F 0.3                       | 30 ±5                          | 2.1 +0.1 -0.4 | 250 ±10  | 258 ±10  | 30/07 NPC            | PTFE       | Blue  | 5185633      |
| 9   | EC3021-C            | Pt100 / F 0.3                        | 30 ±5                          | 2.1 +0.1 -0.4 | 250 ±10  | 258 ±10  | 30/07 NPC            | PTFE       | Red   | 5185634      |
| 10  | EC3021-C Automotive | Pt1000 / F 0.3                       | 30 ±5                          | 2.1 +0.1 -0.4 | 250 ±10  | 259 ±10  | 30/07 NPC            | PTFE       | Blue  | 5196848      |

## EC-Series - Polymer Encapsulated Pt Temperature Sensor

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### Performance Data

| No. | Temperature Range  | Dielectric Strength AC (Housing) | Response Time Water ( $v = 0.4 \text{ m/s}$ ) |          | Pull Force [N] | Conductor Resistance [ $\Omega/\text{m}$ ] | Application   |
|-----|--------------------|----------------------------------|-----------------------------------------------|----------|----------------|--------------------------------------------|---------------|
|     |                    |                                  | T0.5 [s]                                      | T0.9 [s] |                |                                            |               |
| 1   | -50 °C bis +200 °C | 6 kV / 60 s                      | 3.1                                           | 8.1      | > 50           | 0.081 $\pm$ 10 %                           | Multi-Purpose |
| 2   | -50 °C bis +200 °C | 6 kV / 60 s                      | 3.1                                           | 8.1      | > 50           | 0.081 $\pm$ 10 %                           | Multi-Purpose |
| 3   | -50 °C bis +260 °C | 6 kV / 60 s                      | 3.1                                           | 8.1      | > 50           | 0.081 $\pm$ 10 %                           | Multi-Purpose |
| 4   | -50 °C bis +260 °C | 6 kV / 60 s                      | 3.1                                           | 8.1      | > 50           | 0.081 $\pm$ 10 %                           | Multi-Purpose |
| 5   | -50 °C bis +200 °C | 6 kV / 60 s                      | 3.1                                           | 8.1      | > 50           | 0.081 $\pm$ 10 %                           | Automotive    |
| 6   | -50 °C bis +200 °C | 6 kV / 60 s                      | 3.1                                           | 8.1      | > 50           | 0.081 $\pm$ 10 %                           | Multi-Purpose |
| 7   | -50 °C bis +200 °C | 6 kV / 60 s                      | 3.1                                           | 8.1      | > 50           | 0.081 $\pm$ 10 %                           | Multi-Purpose |
| 8   | -50 °C bis +260 °C | 3 kV / 60 s                      | 1.8                                           | 4.8      | > 25           | 0.32 $\pm$ 10 %                            | Multi-Purpose |
| 9   | -50 °C bis +260 °C | 3 kV / 60 s                      | 1.8                                           | 4.8      | > 25           | 0.32 $\pm$ 10 %                            | Multi-Purpose |
| 10  | -50 °C bis +260 °C | 3 kV / 60 s                      | 1.8                                           | 4.8      | > 25           | 0.32 $\pm$ 10 %                            | Automotive    |

### Temperature Coefficient

TCR = 3850 ppm/K

### Measuring Current

Pt100  $\Omega$ : 0.3 to 1.0 mA

Pt1000  $\Omega$ : 0.1 to 0.3 mA

(self-heating has to be considered)

### Self-Heating (Sensor Element)

0.4 K/mW at 0 °C

### Customization Options

- All outer dimensions
- Conductor size and material
- Sensor resistance
- Connectors
- Certifications (e.g. IMDS, PPAP, IP rating)

**IP69H**  
compliant

**RoHS**  
compliant

The information provided in this data sheet describes certain technical characteristics of the product, but shall not be qualified or construed as quality guarantee (Beschaffenheitsgarantie) in the meaning of sections 443 and 444 German Civil Code. The information provided in this data sheet regarding measurement values (including, but not limited to, response time, long-term stability, vibration and shock resistance, insulation resistance and self-heating) are average values that have been obtained under laboratory conditions in tests of large numbers of the product. Product results or measurements achieved by customer or any other person in any production, test, or other environment may vary depending on the specific conditions of use. YAGEO Nexensos does not recommend the use of standard catalogue products or automotive grades for aerospace applications or manned space flight. The customer is solely responsible to determine whether the product is suited for the customer's intended use; in this respect YAGEO Nexensos cannot assume any liability. The sale of any products by YAGEO Nexensos is exclusively subject to the General Terms of Sale and Delivery of YAGEO Nexensos in their current version at the time of purchase, which is available under [www.yageogroup.com/SalesResources/ResourceLibrary](http://www.yageogroup.com/SalesResources/ResourceLibrary) or may be furnished upon request. This data sheet is subject to changes without prior notice.