## Technical Information

### Model TES.03.02

**AUTOMOTIVE Sector**  
Temperature sensor for disk brakes

### Description
Temperature sensor thermocouple type "K" for disk brakes. Inconel 600 sheath diameter 1 mm tapered to 3.17 mm, mineral oxide insulation, teflon MFA conductor insulation, teflon MFA insulation sheath and outer armor in AISI 304, complete with two contact mignon connector.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sensor Type</strong></td>
<td>Thermocouple “K” type hot joint insulated</td>
</tr>
<tr>
<td><strong>Sensor Number</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Precision</strong></td>
<td>Class 1 (special) according to EN60584</td>
</tr>
<tr>
<td><strong>Working Temperature</strong></td>
<td>-40 / +990 °C</td>
</tr>
<tr>
<td><strong>Short Time Temperature</strong></td>
<td>+1010 °C</td>
</tr>
</tbody>
</table>
| **Sensor Sheath**          | Material: INCONEL 600  
Diameter: 1.0 mm  
Total length: 195 mm  
Internal insulation: mineral oxide |
|                           | * on request other length                                                      |
| **Process Connection**     | Special                                                                      |
| **Cable**                  | Diameter: 3.2 mm  
Length: 0.30 mt |
|                           | * on request other length                                                      |
| **CONDUCTORS**             | number: 2  
section: 0.22 mm2  
type: strand  
material: thermocouple “K” type  
insulation: teflon MFA |
|                           | Insulation sheath: teflon MFA  
Internal sheath: none  
External armor: AISI 304 |
|                           | COLOURING  
standard: ANSI  
conductors: red (+) ; yellow (-)  
sheath: yellow |
|                           | * on request other colouring                                                    |
| **Electrical Connection**  | Mignon connector 2 contacts                                                    |
| Laser Marking          | Thermo Engineering Logo  
|                       | Thermo Engineering P/N  
|                       | Customer P/N  
|                       | dd/mm/yy production  
|                       | * on request other marking  
| Tests                 | Visual  
|                       | Dimensional  
|                       | Room temperature insulation resistance  
|                       | Electrical Continuity  
|                       | * on request other test  
| Room Temperature Insulation Resistance | According to IEC 1515 resistance > 1GΩ @ 25 °C; between the terminals and the sheath with a test voltage of 500 VDC.  
| Respons Time          | t_50: 4 sec  
|                       | t_90: 10 sec  
| Certifications        | Conformity Certificate  
|                       | Conformity Certificate RoHS 2002/95/CE  