Exhaust Gas High Temperature Sensor

This sensor operates over a temperature range from -40 °C to 850°C. It monitors the temperature before and after SCR system in the diesel engines as part of the engine control strategy. It is designed for fast response, optimized for thermal dissipation and suitable for high vibration and corrosive environments.

**Applications**
- Gasoline or Diesel engines
- Exhaust gas
- SCR
- Aerospace

**Features**
- 1000°C PT200 RTD element
- Survives excursions to 1000°C
- Highly resistant to corrosive exhaust gases
- Long-term stability
- Extended life from moisture-proof design
- Design optimized for heat transfer
- High 3 % accuracy
- Flexible Pigtail Connector
- Customizable hex dimensions and thread type
- Alternate 1% accuracy RTD element available
Exhaust Gas High Temperature Sensor NTC

Typical Application Circuit

Supply Voltage: \( U_p = 5V \)
Resistance: \( R_p = 1000 \text{ Ohm} \)
Lead resistance: \( R_1 = 1.0 \text{ Ohm} \)
Max current: \( 2.7 \text{ mA} \)

RvT Table

<table>
<thead>
<tr>
<th>( T ) (°C)</th>
<th>( R_s ) (Ohms)</th>
<th>( U_0 )</th>
<th>( \pm 1 ) ( R_s ) (Ohms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-40</td>
<td>170.2</td>
<td>0.73</td>
<td>±3.49</td>
</tr>
<tr>
<td>0</td>
<td>201</td>
<td>0.84</td>
<td>±3.45</td>
</tr>
<tr>
<td>25</td>
<td>220.1</td>
<td>0.9</td>
<td>±3.42</td>
</tr>
<tr>
<td>50</td>
<td>239</td>
<td>0.96</td>
<td>±3.39</td>
</tr>
<tr>
<td>100</td>
<td>276.4</td>
<td>1.08</td>
<td>±3.34</td>
</tr>
<tr>
<td>200</td>
<td>349.5</td>
<td>1.29</td>
<td>±3.23</td>
</tr>
<tr>
<td>300</td>
<td>420.2</td>
<td>1.48</td>
<td>±3.13</td>
</tr>
<tr>
<td>400</td>
<td>486.6</td>
<td>1.64</td>
<td>±4.0</td>
</tr>
<tr>
<td>500</td>
<td>554.6</td>
<td>1.78</td>
<td>±4.84</td>
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<tr>
<td>600</td>
<td>618.3</td>
<td>1.91</td>
<td>±5.61</td>
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<tr>
<td>700</td>
<td>679.7</td>
<td>2.02</td>
<td>±6.3</td>
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<tr>
<td>800</td>
<td>738.7</td>
<td>2.12</td>
<td>±6.92</td>
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<tr>
<td>850</td>
<td>767.3</td>
<td>2.17</td>
<td>±7.21</td>
</tr>
</tbody>
</table>
Exhaust Gas High Temperature Sensor Specifications

**Operating Temperature**
-40 to 850°C
Survives short (under 1 hour) excursions to 1000°C

**Storage Temperature**
-40 to 125°C

**Response Time**
\[T_{63} = 3.5\text{s (400°C Salt bath)}\]

**Temperature Accuracy**
\[\pm 4.5\text{°C from } -40 \text{ °C } \sim 300 \text{ °C}\]
\[\pm 1.5\% \text{ from } 300 \text{ °C } \sim 850 \text{ °C}\]

**Housing Material**
304 Series Stainless Steel

**Thread Designation**
M14 × 1.5

**Weight**
52 grams

**Connector**
Connector house type: AMP 282104-1
Connector pin type: AMP 282404-3

**Mating Connector**
Mating connector house type: AMP 282080-1
Mating Terminal type: AMP 282403-1
Max 60 N pull force to connector

**Recommended Mounting Torque**
45+/- 5 N*M

**Ordering Code for Standard Product**
CTTS-186019-F02A
* Other configurations available on request

Mounting Boss