The reluctance resolver is an inductive rotary position sensor and is designed to determine the rotor position in electric motors. It acts like a transformer; with a primary coil and two secondary coils and where the amplitude of the secondary voltages are modified by the airgap of the rotor. In electric vehicles, the rotor position sensor is considered one of the most important technical components for precise and effective control of the motor and thus for avoiding efficiency losses.

**PRODUCT HIGHLIGHTS**

- Accuracy ±1° electrical
- Temperature range -40°C to +150°C
- Oil or glycol compatibility
- ASIL D on system level

**PRODUCT OVERVIEW**

<table>
<thead>
<tr>
<th>Product / Solution Name</th>
<th>Reluctance Resolver / Rotor Position Sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Focus</td>
<td>e-Motor</td>
</tr>
<tr>
<td>Sensor Type</td>
<td>Rotary Position Sensor</td>
</tr>
</tbody>
</table>
Reluctance Resolver / Rotor Position Sensor
for the Automotive, Industrial and Commercial Transport Industry

MAIN FEATURES AND BENEFITS
• Temperature range: -40°C to +150°C
• Accuracy: ±1° electrical
• Speed range: Up to 20,000 rpm
• Different variants for different shaft sizes available
• Combined temperature sensor possible
• Pole pair numbers: 2-, 3-, 4-, 5-, 6-, 10-, 12-, and 18-speed
• Customized cable assembly and connector interface
• High accuracy performance with eccentricity (static / dynamic)
• Robustness against external fields

DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>SCR X05</th>
<th>SCR X08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stator inside diameter</td>
<td>101 mm</td>
<td>117 mm</td>
</tr>
<tr>
<td>Stator inside diameter</td>
<td>55 mm</td>
<td>75 mm</td>
</tr>
<tr>
<td>Rotor max inside diameter</td>
<td>38 mm</td>
<td>55 mm</td>
</tr>
</tbody>
</table>

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