Wheel Detection

Wheel Detection System
RSR123-EIB

The Wheel Detection System RSR123-EIB is commonly used in the area of level crossings. Simple commissioning significantly simplifies integration.

Information
Wheel detection (SIL 4)

Applications
Track vacancy detection
Level crossing protection
Switching tasks

Benefits
- Highly resistant to electromagnetic interferences
- Convenient plug-in connection and rail claw interface via optocoupler or relay
- No need of adjustments of the evaluation boards
RSR123-EIB

Based on the patented V.Mix Technology, the RSR123 combines different inductive sensing methods making it highly resistant to electromagnetic interferences caused by eddy current brakes or rail currents.

In the EIB evaluation board, the customer interface can be implemented via optocoupler or relay contacts.

## Technical Data

<table>
<thead>
<tr>
<th>RSR123</th>
<th>EIB</th>
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</thead>
<tbody>
<tr>
<td><strong>Interfaces</strong></td>
<td>Optocoupler or relay</td>
</tr>
<tr>
<td><strong>Safety level</strong></td>
<td>SIL 4</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>-40 °C to +85 °C; -40 °C to +70 °C</td>
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<tr>
<td><strong>Humidity</strong></td>
<td>Up to 100%; Up to 100% (without condensation or ice formation for the entire temperature range)</td>
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<td><strong>Electromagnetic compatibility</strong></td>
<td>EN 50121-4; EN 50121-4</td>
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<tr>
<td><strong>Conditions</strong></td>
<td>UV resistance: yes; Protection class: IP65 / IP68 to 8 kPa/60 min.; Wheel diameter: 300 mm to 2 100 mm; Speed: 0 km/h (static) to 450 km/h</td>
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<tr>
<td><strong>Dimensions</strong></td>
<td>Height: 60 mm; Width: 270 mm; Depth: 77 mm</td>
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</tbody>
</table>

### Optocoupler

- **Dimensions**: Max. C-E voltage: 70 V DC; Max. switching current: 10 mA; Insulation voltage: 1500 V AC to the sensor, 1 000 V AC for the supply, 500 V AC between the outputs
- **Power supply**: Voltage: +19 V DC to +72 V DC; Power: approx. 4.5 W per counting head; Insulation voltage: 1 500 V AC

### Relay

- **Dimensions**: Max. voltage: 380 V AC or 125 V DC; Max. switching current: 5 A; Insulation voltage: up to 3 000 V AC, depending on the relay type
- **Power supply**: Voltage: +19 V DC to +72 V DC / +9.5 V DC to +36 V DC; Power: approx. 4.5 W per counting head; Insulation voltage: 1 500 V AC