Wheel Detection

Wheel Sensor RSR110

The Wheel Sensor RSR110 is available in two system variants which are Single Wheel Sensor RSR110s and Double Wheel Sensor RSR110d. Thanks to their open analogue interface, both wheel sensors can be easily integrated into the electronics of any system. This enables system integrators to adapt the evaluation of the information perfectly in line with individual requirements.

Information

Analogue sensor signal for the evaluation of wheel detection (SIL 0), direction (SIL 0), speed, wheel diameter and wheel centre

Application

Switching and triggering tasks such as hot box and flat wheel detection systems, lubrication systems, vehicle detection, wagon weighbridges, washing systems, automatic equipment identification etc.

Speed measurement

Benefits

Open analogue interface

Simple integration

High availability

Very precise information

Convenient pluggable cable and rail claw

RSR110

The RSR110 system variants are highly resistant to electromagnetic interference caused by eddy current brakes or rail currents, for example.

Single Wheel Sensor RSR110s: One sensor system for direction-independent wheel detection.
Double Wheel Sensor RSR110d: Two sensor systems for wheel detection including directional information.

The current signal can be evaluated completely as desired using simple electronics, a PLC or a microcontroller. This reduces the number of hardware components as well as the space requirements and power consumption.

For systems where tailored software integration is not required, the wheel sensor information can be digitised using the Frauscher Wheel Sensor Signal Converter WSC.

Technical Data
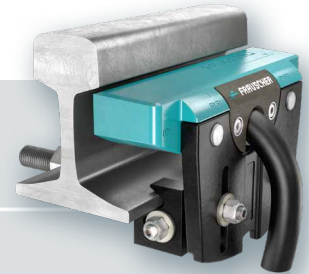
RSR110

Interfaces	Open analog interface or optional Wheel Sensor Signal Converter WSC
Safety level	SIL 0
Output signal	Wheel sensor current: constant current (5 mA) Change in current (damping by train wheel)
Temperature	-40 °F to 185 °F (-40 °C to 85 °C)
Humidity	Up to 100%
Electromagnetic compatibility	EN 50121-4
Conditions	UV resistance: yes Protection class: IP65 / IP68 up to 8 kPa/60min Wheel diameter: 1' (300 mm) to 7' (2100 mm) Speed: 0 mph (static) to 280 mph (0 to 450 km/h)
Dimensions	Height: 2.4" (60 mm) Width: 10.6" (270 mm) Depth: 3" (77 mm)
Power supply	Voltage: +8 V DC to +33 V DC

System Design

WSC	Wheel Sensor Signal Converter
RSR	Wheel Sensor

RSR110s

Information

WSC optional

≤ 6 miles (10 km)

15', 30', 80' (5, 10, 25 m)

Track

RSR110s   < 50 m   RSR110s

RSR110d

Information

WSC optional

≤ 6 miles (10 km)

15', 30', 80' (5, 10, 25 m)

Track

RSR110d