# Wheel Sensor RSR110

EN

# RSR110

## Frauscher Wheel Sensor

## High availability and versatility

The new high-availability RSR110 wheel sensor can be easily integrated into the electronics of any system thanks to its open analogue interface. It enables system integrators to adapt the interpretation of the signal perfectly in line with individual requirements.

### Diverse applications

The RSR110 offers the user a high-availability solution for switching and trigger tasks, such as:

» Vehicle detection
» Hot box and flat wheel detection systems
» Lubrication systems
» Weighbridges
» Detection of axle spacing and wheel arrangement
» Gate control
» Lighting systems
» Washing systems
» Automated measurement tasks (e.g. speed measurement).



Flat wheel detection system

Hot box detection system

Vehicle detection

### High availability

The combination of different inductive operating principles and the robust design of the RSR110 guarantee high availability, even when subjected to extreme mechanical, electromagnetic, climatic or environmental interference.

### Easy and fast mounting

The patented Frauscher rail claws are characterised by the utmost flexibility and accuracy and are available for all rail profiles currently in use. The plug-in connector cable significantly reduces the effort required for assembly, disassembly or changing the sensor, which in turn gives rise to savings both in terms of money and time. It also minimises the amount of time spent by service personnel in a hazardous area.

» Open analogue interface

» Easy to integrate

» Flexible evaluation

» Fewer hardware components

» Lower power consumption
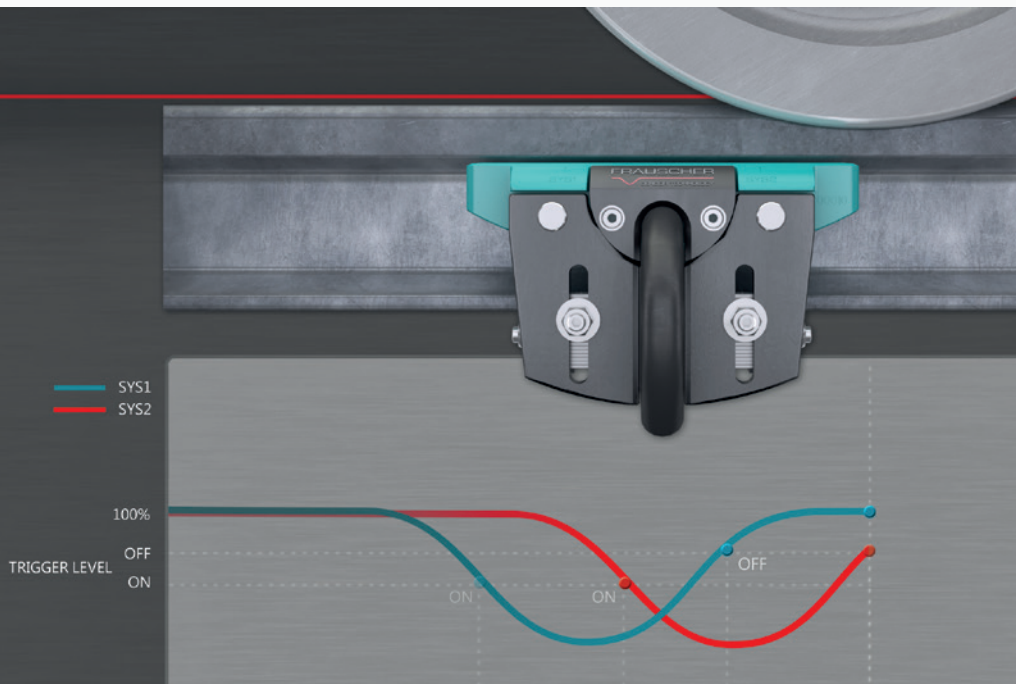
## Open interface for easy integration

The open analogue interface of the RSR110 enables it to be integrated into the system electronics easily and directly. Evaluation can take place via a PLC or a microcontroller, for example. Since a separate evaluation board is not required, the number of hardware components also means that less space is required and less power is consumed.

## Accurate and flexible evaluation

The RSR110 provides information in the form of load-independent current values. This enables the detection of an axle, direction, speed, axle count, wheel centre and wheel diameter to be interpreted from the analogue signal curve.

The damping-dependent current signal can be evaluated entirely freely according to the user's own requirements. The threshold values for triggering and the sample rate can also be freely selected depending on the specific application. Frauscher will also provide its customers with basic specifications and documents.

# FRAUSCHER
## SENSOR TECHNOLOGY

# Technical data — RSR110

| | |
|---|---|
| **Housing dimensions** | |
| Height | 60 mm |
| Width | 270 mm |
| Depth | 77 mm |
| Drill hole spacing | 145 mm |
| Drill hole diameter | 12 mm |
| **Input voltage** | 8 V DC to 33 V DC |
| **Output signal** | |
| Wheel sensor current | Constant current (no damping) |
| Current when occupied | Change in current (damping by train wheel) |
| **Safety level** | CENELEC requirements in accordance with EN 50126, EN 50128, EN 50129, SIL 0 |
| **Connection cable** | Plug-in cable (standard lengths 5, 10 and 25 m) |
| **Adjustment** | Automated adjustment via the connection cable is possible outside of the hazardous area<br>No electronics in the trackside connection box |
| **Mounting** | Simple, universal mounting using the adjustable rail claw for all rail profiles currently in use (S41, S45, S49, UIC60, R65...) |
| **Protection class** | IP65 / IP68 - 8 kPa/60 min. |
| **Climatic stress** | |
| Temperature | -40°C to +85°C |
| Humidity | up to 100% |
| UV resistance | Yes |
| **Traversing speed** | 0 km/h (static) to 450 km/h<br>Fail-safe evaluation during partial traversing is also possible |
| **Special features** | Suitable for use with linear eddy current brake (ECB)<br>Minimal sensitivity above the top of rail (TOR)<br>High resistance to magnetic field interference and rail currents<br>Plug-in connection on the wheel sensor<br>Easy, universal mounting with the adjustable rail claw |
| **Applications (including but not limited to)** | Switching and trigger tasks, vehicle detection, hot box and flat wheel detection system, lubrication systems, weighbridges, identification of axle distances and wheel arrangement, gate control, lighting systems, washing systems, automated measurement tasks such as speed measurement, wheel diameter calculation |