
PINTSCH TIEFENBACH

**Wheel sensors.**
Rail switches.

# Wheel sensors

## Rail switches

**Applications**

>> Train locating
>> Direction detection
>> Axle counting

**Product advantages**

>> Non-contact and non-wear activation by the wheel
>> Maintenance-free with high durability
>> No need to adjust anything in the entire rail and wheel range prone to wear
>> Affixing the switch does not weaken the rail
>> Robust and weatherproof
>> Compact dimensions
>> Not affected by rail currents, harmonics, radio waves, etc.


**Inductive sensors which detect the metal mass of the rail wheel flange, using them to generate electric impulses**

The designation 'wheel sensor' originates in the sensor switches which PINTSCH TIEFENBACH has been developing and manufacturing since starting its business operations in the 1950s, which are activated by non-contact magnets (magnetic switches) or by metal masses, so-called inductive proximity switches. The latter were enhanced for use as wheel detectors in the railway industry, and because they are affixed to rails for this application, are referred to as wheel sensors. PINTSCH TIEFENBACH's extensive experience in manufacturing sensors was decisive for the product designation, which has remained in use until today.

Depending on the application, a distinction is made between single wheel sensors for vehicle detection and switching tasks, and double wheel sensors for direction detection, axle counting and speed measurements.

PINTSCH TIEFENBACH's expertise in the manufacture of wheel sensors is based on more than 30 years of experience in which these products have been consistently enhanced and improved. The customer receives a product which has proven its high level of operational reliability in a multitude of applications, but has primarily been used as an axle counting points, satisfying the requirements of the user optimally.

When it comes to the wheel sensors, PINTSCH TIEFENBACH provides its customers with – in every respect – customised components for evaluating and subsequent processing of the sensor signals, providing users with support when configuring and installing the components.

This involves providing special switching amplifier modules employing Euro rack technology or isolating amplifiers in compact housing configurations for installation on DIN- rails, used for processing signals.

A patented process of operation by using a constant current source allows the wheel sensors – in combination with these modules – to realize a precise and very reliable switching performance even at higher speeds and extensive cable lengths.

## Types / Applications

| Type | Single wheel sensor | Double wheel sensor | Application | | | Vmax | Inter-face according to DIN 19234 (NAMUR) | Special feature |
|---|---|---|---|---|---|---|---|---|
| | | | Train location | Direction detection | Axle counting | | | |
| N59-1R-200-45 | X | | X | | | ≦60 km/h | X | |
| N59-1R-200-40 | X | | X | | | ≦350 km/h | | |
| N59-116I-200-45 | X | | X | | | ≦350 km/h | | Complete with integrated isolating amplifier |
| N59-116vI-200-45 | X | | X | | | ≦350 km/h | | Integrated isolating amplifier, impulse extension 4s |
| 2N59-1R-200-45 | | X | X | X | X | ≦60 km/h | X | DB material number: 00117857 |
| 2iNX59-1R-200-45 | | X | X | X | X | ≦60 km/h | X | Intrinsically safe, explosion proof in accordance with Directive 94/9/EC [ATEX] |
| 2N59-1R-200-40 | | X | X | X | X | ≦350 km/h | | |
| 2N59-1R-400RE-40 | | X | X | X | X | ≦350 km/h | | With drop-off detection using additional sensors |


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