

## DNH SIL4 NEGATIVE HYPERFREQUENCY SENSOR

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### DNH SIL4 Negative Hyperfrequency Sensor

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*Safety system for track vacancy  
detection*

THE DNH ALLOWS DETECTING THE PASSING OR THE PRESENCE OF ELEMENT CROSSING THE RADAR BEAM. ELEMENTS ARE DETECTED WITH THE HIGHEST LEVEL OF RAILWAY SAFETY: SIL 4.

### Composition :

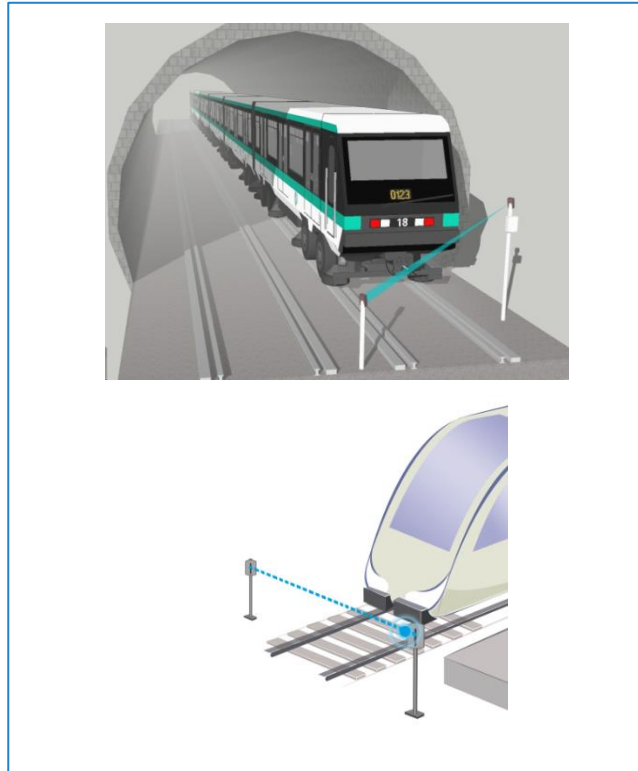
- 1 transmitter antenna
- 1 receiver antenna
- 1 processing unit
- Wall brackets or poles as required

### Features:


- Detection of all types of vehicles:
  - ✓ train, tram, metro, ...
  - ✓ spacing between transmitter and receiver: 4.3m maximum  $\pm 10\%$
- Autonomous device: only requires a 230VAC power supply
- Electrical interfacing to the user device made easy through relay contacts:
  - ✓ two relay working contacts (safety guided) to denote the track occupancy state
  - ✓ one relay contact to denote the system status
- Waterproof connectors for reliable interconnection (junction box not required)
- Storage of all the activities occurring within the system:
  - ✓ date and time of each crossing, system errors
  - ✓ storage capacity of 250 000 crossings
- Detection of high-speed trains
- No additional mechanical or electrical adjustment required after installation
- Easy installation thanks to the maintenance and installation tool (easy to pair and align the two antennas)
- Possible use in harsh environmental conditions (rain, snow, wind,  $-20^{\circ}\text{C}$  +  $85^{\circ}\text{C}$ )

### Mechanical:

- The transmitter and receiver can be positioned on all types of rigid support (wall mounting in a tunnel, on poles for installation on track or using existing poles)
- Dimensions of compact casings:
  - ✓ Transmitter and receiver antennas:
    - height = 140mm (5,5")
    - width = 110mm (4,3")
    - depth = 60mm (2,3")
  - ✓ Processing unit:
    - height = 280mm (11")
    - width = 170mm (6,7")
    - depth = 90mm (3,5")
- Waterproof housings and connectors; IP67
- The transmitter can be placed between two tracks



## TECHNICAL FEATURES

| FEATURE   | PERFORMANCE              | UNIT   |
|---|--------------------------|--|
| Power supply                                    | 230                      | VAC  |
| Maximum consumption                             | 20                       | W  |
| temperature range                               | -20 to +85 (-4 to 185)   | °C (°F)  |
| Maximum humidity                                | 100                      | %  |
| Protection index to immersion and solid objects | IP 67<br>Class 2         | -<br> |
| Electrical insulation                           | 1 double cut output SIL4 | -  |
| Number of output                                | 1 system status output   | -  |
| "   | 250V/2A (AC15)           | -  |
| Output load                                     | 24V/4A (DC13)            | -  |
| "   | 4 x10 <sup>6</sup>       | actuation  |
| Maximum number of actuation                     | 0,5                      | hour   |
| MTTR  |                          |  |

## STANDARD COMPLIANCE

|   |            |
|---|------------|
| Railroad applications – Signaling system, telecommunications and processing - electronic safety systems for the signaling               | EN 50129   |
| Railroad applications – Signaling system, telecommunications and processing - Software for systems of command and railroad protection   | EN 50128   |
| Railroad applications - Conditions of environment for the material - Part 3: equipment for the signaling and the telecommunications     | EN 50125-3 |
| Railroad applications - electromagnetic Compatibility - Part 4: emission and immunity of the devices of signaling and telecommunication | EN 50121-4 |

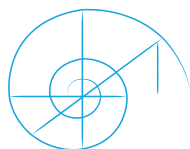
## ADVANTAGES

Safe: SIL 4  
 Autonomous, waterproof and compact  
 Requires no maintenance  
 Low consumption  
 Easy to install\*  
 Open radar frequency band dedicated to detection

\* The fixation on existing support must comply with the technical and technological constraints of the system.

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