

DRF WHEEL SAFETY SENSOR

Wheel Safety Sensor
(DRF and DRF-MP)



DRF

DRF : TRAIN WHEEL SENSOR

The DRF developed by CLEARSY detects the safe passage of the iron wheel of a bogie by detecting the metal mass of the flange of the wheel. It is fixed against a track rail, without drilling.

If the detector had to move away from the rail over 7mm (failed fixation), it would be in the state which corresponds to the detection of an iron wheel.

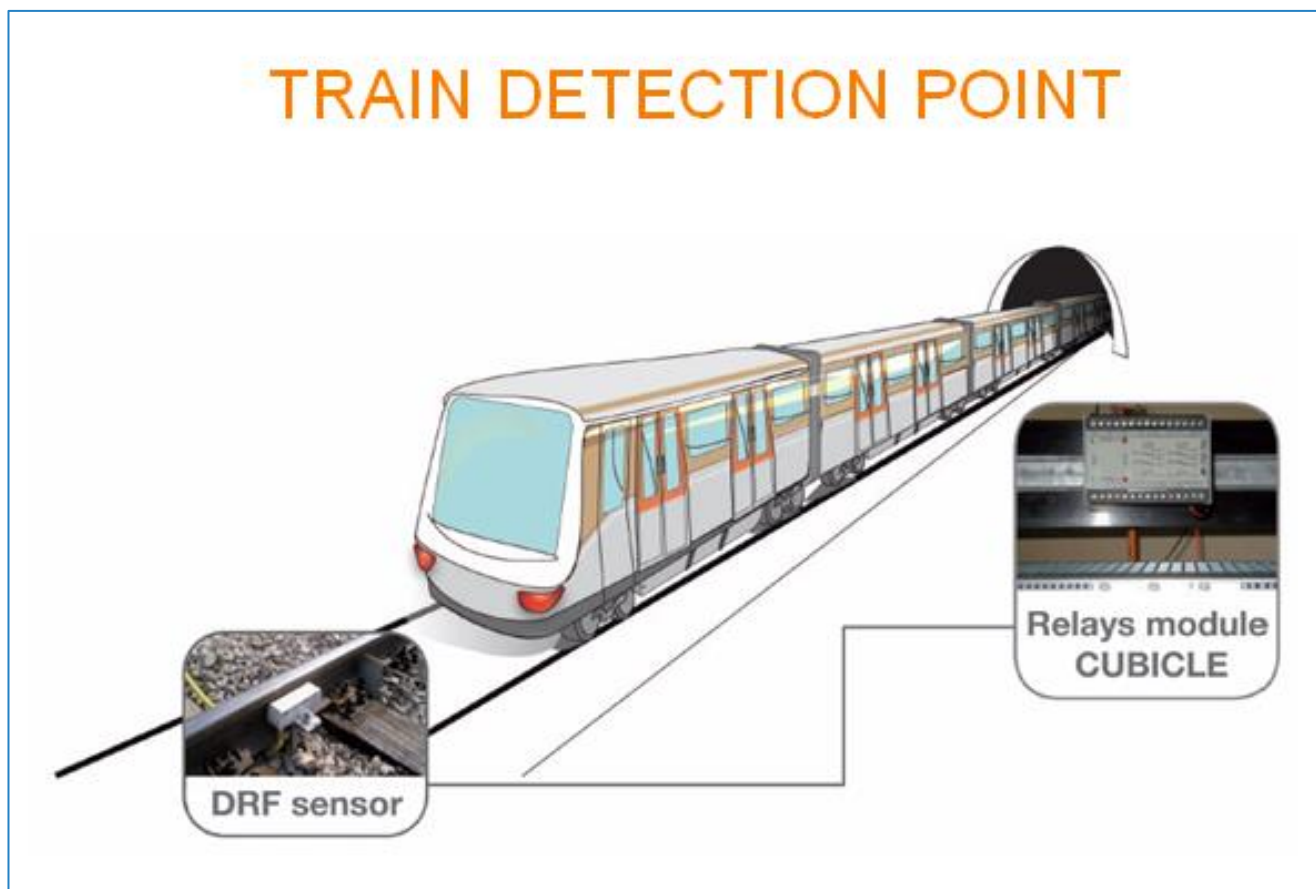
Functional applications of this device are, for example:

- Counting train axles to detect its presence (SIL4)
- Detecting the presence of the train in track circuit replacement
- Detecting the passage of the train associated with a control logic crossing
- Detection of crossing a particular point (function KPG)
- All functions usually performed by mechanical pedals in railway signaling (destruction pedals, signal enabling pedal, axle counter, etc.)

DESCRIPTION

Used with a standard automat or a SIL4 safety automat with interlocking functions, DRF sensors help detect and protect train movement for signaling.

The DRF sensor is made of 2 sensor units for direction detection. It is connected to a relay module located in a hotbox. There are two types of relay modules, depending on the outflow level when detecting a wheel: one is normally supplied (established work contact) and descends when a wheel is detected, the other is normally low (established resting contact) and rises when it detects a wheel.



TECHNICAL INFORMATION

[Detects all types of train wheel passage according to UIC 510-2](#)

[Maximum speed detection 350 km/h](#)

[DRF sensor service temperatures: from -40 to +80°C, humidity up to 100 %](#)

[Device service temperatures DRF: from -30 to +70°C](#)

[DRF sensor has IP68 protection](#)

[DRF sensor is mounted against the inner track rim](#)

[Universal sensor support compatible with all track types UIC60, S45 \(other profiles available\)](#)

[No track perforation](#)

[Protection against traction return, over-tension, atmospheric discharges...](#)

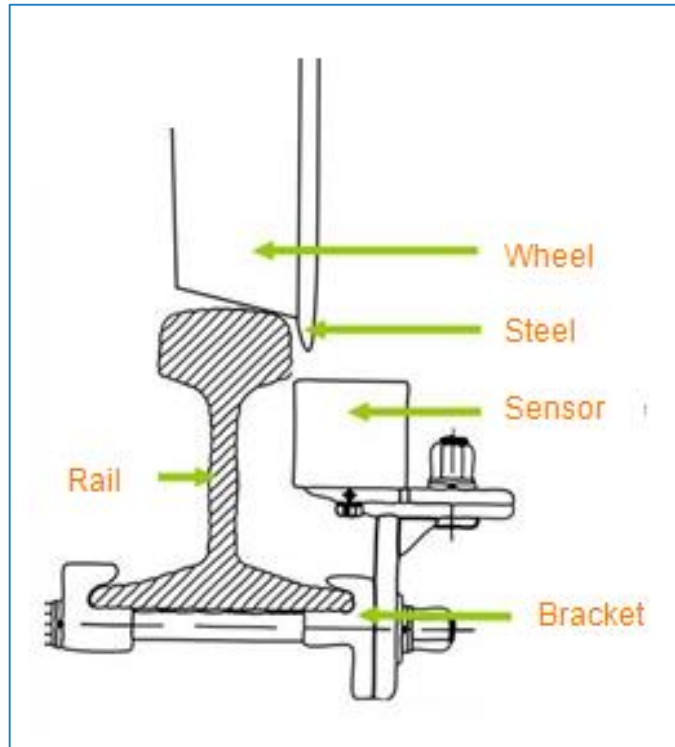
[Outflow relays comply with standard EN 50205](#)

[Reliability is increased thanks to contactless detection. This type of pedal doesn't wear out, contrary to Forflex-type mechanical pedals.](#)

[Possible delivery of a specific fixture if the track is already perforated](#)

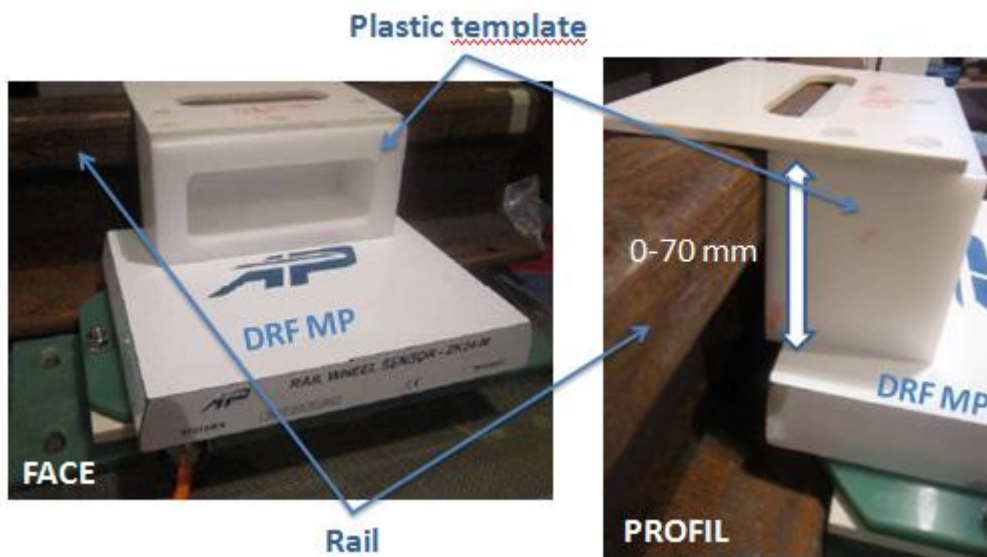
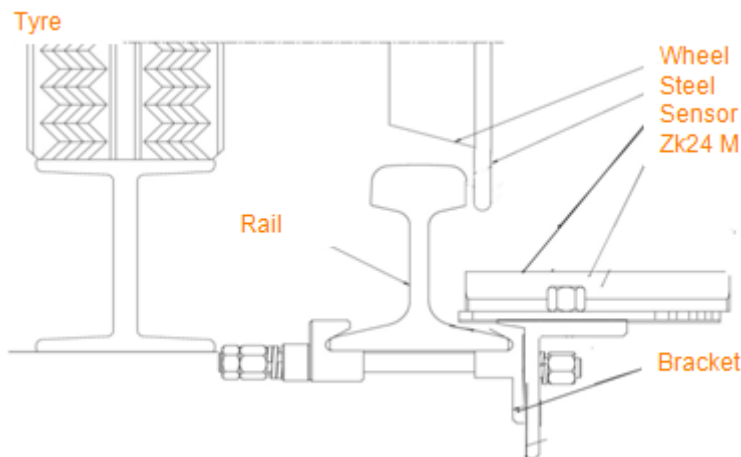
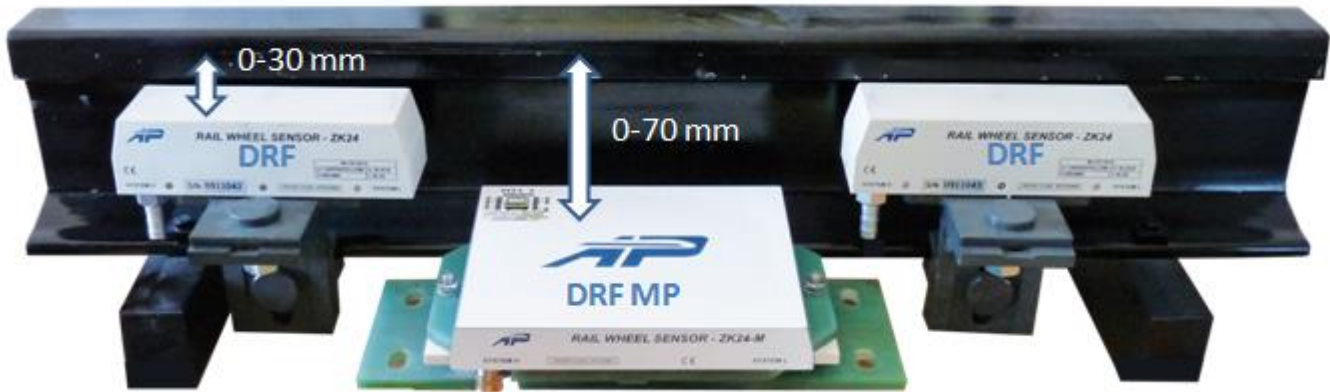
[Protection against backflow tensile overload, atmospheric discharges ...](#)

[DRF sensor is tested and certified according to rail safety standards by ISA laboratories of TÜV Rheinland Group](#)



DRF FOR SUBWAYS WITH TYRES: LE DRF-MP

The DRF-MP fulfils the same tasks the DRF does but for tyres, it works the same way and doesn't require to cut the rails. It detects steel wheel presence up to 70 mm when detection for the DRF version is up to 30 mm.

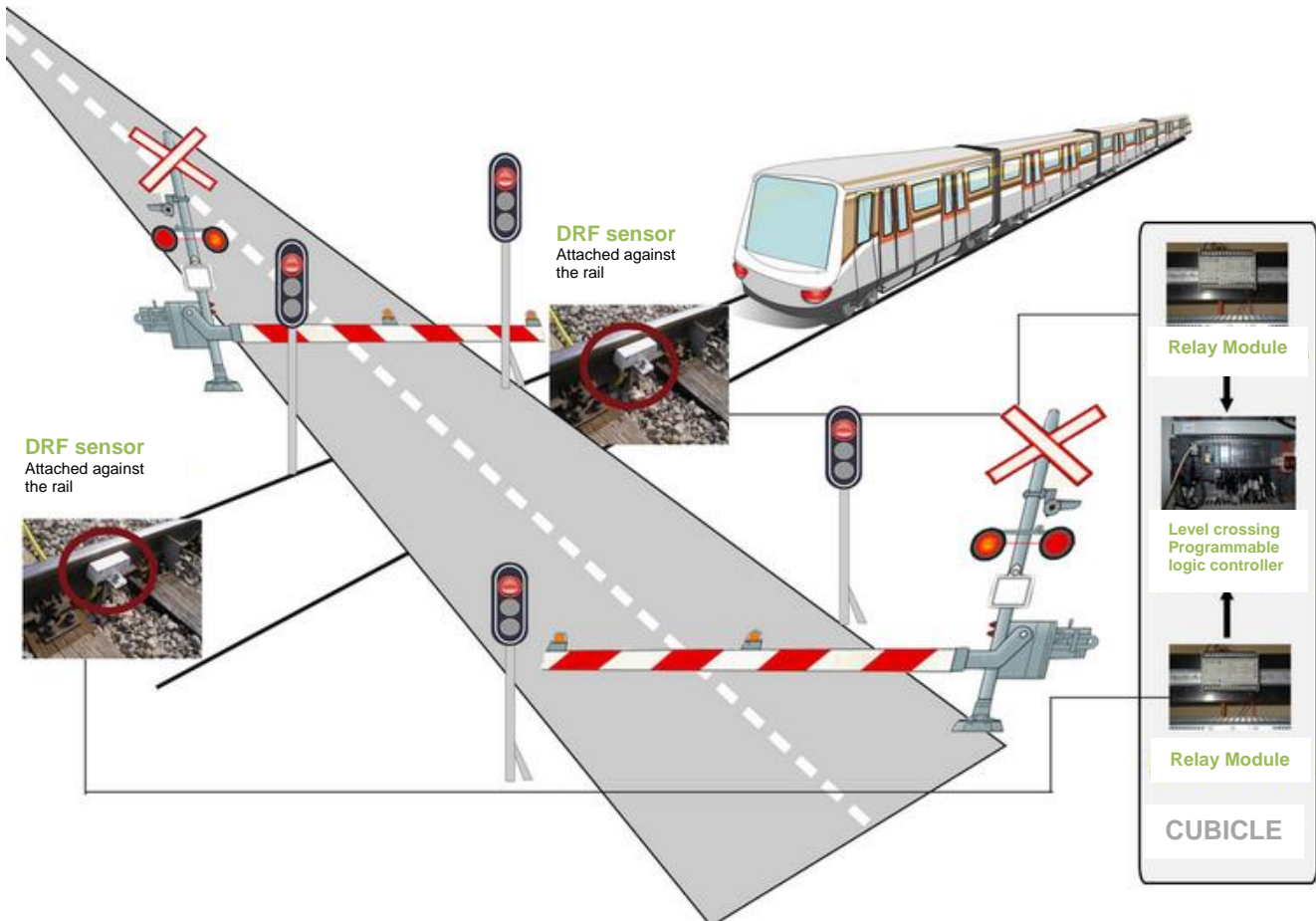


USING DRF FOR MANAGING A LEVEL CROSSING

DRF sensor detects train passage and the module linked to the sensor sends information to the control logic of the level crossing.

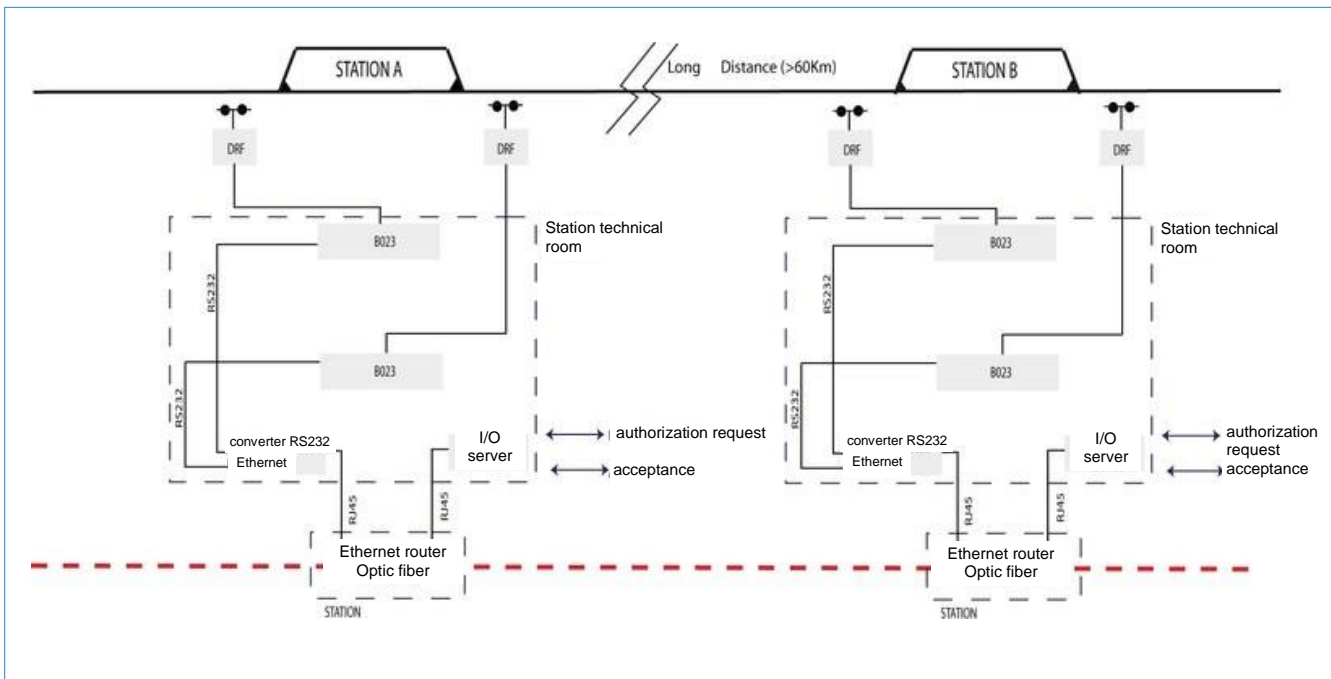
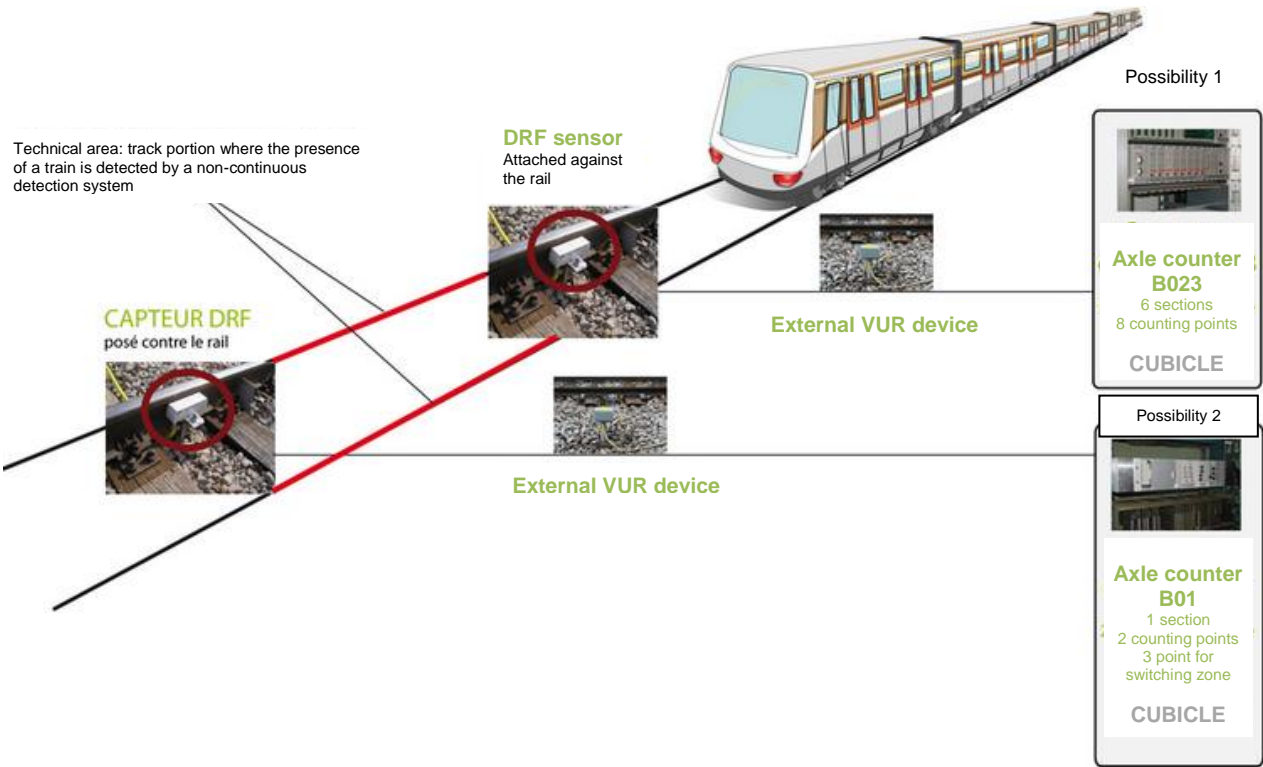
If this logic is provided by a safety PLC SIL4 linked to a SIL 4 safety program, then the management of the crossing signals and in particular of the signals toward the road is then safely managed.

For the record, the finger of a mechanical pedal can break and not detect an iron wheel.



USE FOR SIL4 AXLE COUNTER

Associated with the controller or a PLC SIL4 safety with interlocking functions, the DRF sensors are involved in the detection and protection function of train movements in a signaling setting.



■ Train detection in areas with a SIL4 Axles counter device

WHY BUY CLEARSY DRF ?

DRF is a safe and tested product.

This product has passed all tests:

- more than 850 DRF sensors sold in the United Kingdom, Austria, Russia, Chili, Croatia, Serbia, Slovakia, Hungary, South Africa and Indonesia;
- more than 800 DRF sensors were sold for their axle counting ability in the USA, Germany, Austria, Croatia, Hungary, Slovakia, Serbia, Kosovo, Bosnia and Turkey.

Easy to install and doesn't wear out like mechanical pedals.

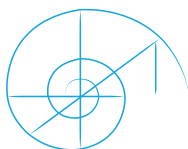
The DRF application functions cover numerous operations (wheel detection, SIL4 axle counting, grade crossing command...)

We are available to answer your questions and help you. We would be happy to provide you with an in-depth study based on your specifications.

Competitive pricing in relation to mechanical pedals and other existing pedals.

CLEARSY

Safety Solutions Designer



320 AVENUE ARCHIMEDE - LES PLEIADES III BAT A
13100 AIX-EN-PROVENCE - FRANCE

Tél. +33 (0)4 42 37 12 70 - Fax : +33 (0)4 42 37 12 71
contact@clearsy.com | www.clearsy.com