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Clearguard ZP D 43 electronic wheel detection equipment

Reliable and cost-effective track vacancy detection

The Clearguard ZP D 43 electronic wheel detection equipment is a wheel detection component for use in track vacancy detection systems using the axle counting method.

It is preferentially used in the outdoor equipment of the Clearguard Az S 350 U and Clearguard ACM 200 counting systems and comprises a double wheel detector and a trackside connection box. Clearguard ZP D 43 is the successor model to ZP 43 E and ZP 43 V.

DEK 43 double wheel detector
The DEK 43 double wheel detector is made up of a transmitter and a receiver in separate housings, each mounted with a reducing plate against the rail web.

Trackside connection box
The trackside connection box of the Clearguard ZP D 43 consists of a base plate and a cover which is made of either plastic or aluminum (selectable). The base plate supports a board module which in turn comprises a base plate, the application-specific printed circuit board and a protective cover.

Benefits
Long service life
Low fault liability
High mechanical stability
Low-cost spare parts' stockage
Flexible application options in a broad speed range
Unaffected by metal objects such as steel-capped safety boots

References

- EVS EUREGIO Verkehrsschienennetz GmbH, Eschweiler, Germany
- Guangdong Guangfo Inter-City Co. Ltd. (GFGS), Guangzhou, China
- Rotterdamse Elektrische Tram (RET), Rotterdam, Netherlands
- Swiss Federal Railways (SBB), Berne, Switzerland
- Hannoversche Verkehrsbetriebe AG (ÜSTRA), Hanover, Germany

Technical data

Operating frequency	43 kHz
Wheel detection equipment supply voltage optional	30 V DC to 72 V DC 26 V AC to 50 V AC
Signal frequency f_1	3.60 kHz
Signal frequency f_2	6.52 kHz
Test voltage	10 kV DC to rail
Ballast resistance	0 Ω to ∞ Ω
Rail profiles	S49, S54, UIC 60, R65, etc.
Sleepers	wood, steel, concrete
Mounting of double wheel detector	at rail web, in sleeper bay or over sleeper
Protective device (optional)	deflector
Ambient temperature range	–40 °C to +80 °C
Output impedance	135 Ω
Power consumption	2.5 kW
Distance between wheel detection equipment and evaluation computer for direct supply (standard) for external supply	 ≤ 6.5 km (permissible cable capacitance max. 325 nF) ≤ 21 km (depending on cabling)
Traversal speed	≤ 450 km/h for wheel diameters of ≥ 865 mm
Interfaces	1 double wire to interlocking, star-quad; for tail cables of up to 250 m in length also core-stranded or paired signaling cable
Cable length, double wheel detector-trackside connection box	approx. 5 m, optional 10 m, 15 m
Dimensions of trackside connection box	360 x 360 x 160 mm

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