ON-
BOARD
ELECTRONICS

HASLERRail

Product snapshot

CORRail 2000

Speed Sensing and Odometry

HaslerRail's range of on-board electronics can be interconnected to equip your rail vehicles with a fully networked system for data recording, speed sensing, data and energy management and visualisation

CORRail 2000

Spatial filtering velocimetry for contactless sensing of speed and direction

CORRail 2000 is the latest iteration of HaslerRail's bogie-mounted True Speed Over Ground (TSOG) sensor now accommodating speed detection and signal conditioning in one housing.

The speed reference target for the device is the rail head rather than the track bed. Illuminated by integrated IR LEDs, the rail head is clearly presented to CORRail 2000's photodiode array for precise focussing and highly accurate optical correlation of speed and direction.

CORRail 2000 - advantages at a glance:

- Unaffected by changing track bed substrate, unlike some microwave-based sensors
- Ideal for ETCS and ATO applications with its combination of sensing accuracy and an availability >99.5%
- The patented splash guard extends cleaning interval to > 6 months even under the most adverse conditions
- Heated version of the splash guard is available for operating in harsh winter weather
- Speed sensing is unaffected by wheel slip / slide
- No recalibration required as speed sensing is independent of wheel diameter
- Smart sensor with self diagnostics
- Lean, efficient algorithmic processing for low latency
- High quality preprocessing of optical signals
- Less prone to drop-outs than radar-based sensors

Property	Value
Speed measurement range	0.4 - 500 km/h Forward / backward detection
Mean error	1 - 100 km/h < 0.2 km/h 100 - 500 km/h < 0.2%
Statistical error	1 - 100 km/h < 0.2 km/h 1σ Limit 100 - 500 km/h < 0.2% 1σ Limit
Initialisation time	<10 s
Interface	RS-485 / 10 - 30 V pulse
Power supply	24 - 110 VDC
Typical power consumption	25 W
Lifespan	20 years
Reliability (MTBF)	500,000 h

Observed standards	
EN50155:2021	ISO 20653:2013 (IP69K)
EN 50121-3-2:2016 + A1:2019	EN 61373:2010 +AC:2017-09 (Cat 2)
EN 62311:2020	EN 45545-2:2020 (HL3)
EN 60529:1991+A1:2000+A2:2013 (IP68)	

CORRail installed on a DB BR401 and optimally positioned close to the wheel

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