

## CORRail R-350 Rail

### Non-contact optical Sensor

Type CR-R350

Patent Nr. DE 43 13 497 C2

The CORRail R-350 Rail sensor has been developed for use in extreme conditions. These include longitudinal dynamic tests with rail vehicles.

- Correvit R-350 with working range of 350 ±50 mm, applicable from 0.3 ... 400 km/h
- Excellent distance measurement accuracy: ±0,2 %
- Adjustable filter time (unfiltered, moving average filter 8 ... 512 ms, FIR-Filter 2 ... 100 Hz)
- Direct connection to PC or various evaluation systems
- Signal outputs: Analog, Digital, CAN-Bus, USB or RS-232C
- Negligible service and maintenance requirements

#### Description

The CORRail R-350 Rail sensor, with its excellent measuring accuracy on the applicable railhead profile - wet or dry - marks a significant step in the development of the proven optical Correvit® principle.

The coupling-art optical elements, optoelectronic components, as well as the digital signal processing, guards the CORRail R-350 Rail sensor still more insusceptible to interferences.

#### Application

High-precision slip-free measurement of distance, longitudinal velocity and acceleration for tests with rail vehicles.

#### Technical specifications

##### Performance specifications

Velocity range	kph	0.2 ... 400
Distance resolution	mm	2.47
Measurement accuracy <sup>1</sup>	% FSO <sup>2</sup>	<±0.2
Measurement frequency	Hz	250
Working distance and range	mm	350 ±50

##### Signal outputs

Digital output 1 - V <sub>L</sub>	Pulse/m	1 ... 1 000/TTL
Analog output 1 - V <sub>L</sub>	V	0 ... 10

<sup>1</sup>) Determined on test surface with distance >200 m / <sup>2</sup>) Full Scale Output

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This information corresponds to the current state of knowledge. CORRail GmbH reserves the right to do additional changes. Liability for consequential damage resulting from the use of CORRail GmbH products is excluded.



#### Technical specifications (Continued)

##### Signal inputs

Triggerinput for calibration		yes
Analog input 1+2	V	-10 ... 10
Counter input	kHz	0 ... 100

##### Interfaces

CAN (Motorola/Intel)		2.0B
USB (Full Speed)		2.0
RS-232C		yes

##### System specifications

Power supply	V	10 ... 28
Power consumption at 12V	W	33
Temperature range		
Operation (ambient temperatures)	°C	-25 ... 50
Storage	°C	-40 ... 85
Relative humidity (non-condensing)	%	5 ... 80
Protection standard		
Sensor head (cable mounted)		IP67
Electronics (cable mounted)		IP30
Dimensions (LxWxH)		
Sensor head	mm	125x70x45
Electronics	mm	180x125x95
Weight		
Sensor head	grams	500
Electronics	grams	1 100
Shock		
g		50 half-sine
ms		6
Vibration		
g		10
Hz		10 ... 150
Illumination		LED-IR
Wave length	nm	850
Laser class		1M

## Dimensions in mm

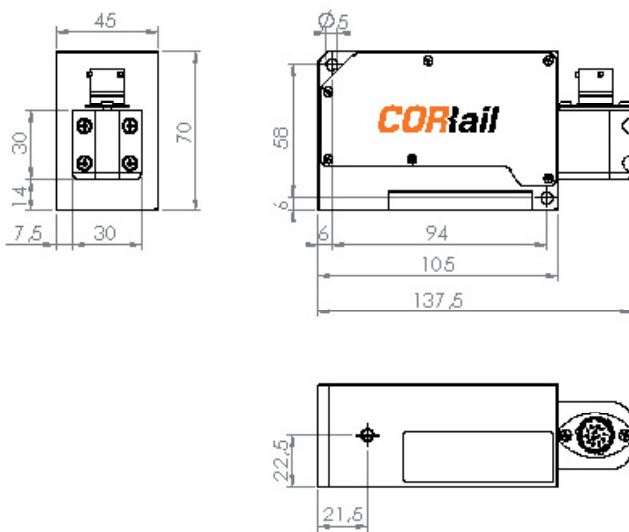


Fig. 1: Dimensions CORRail R-350 Rail Sensor

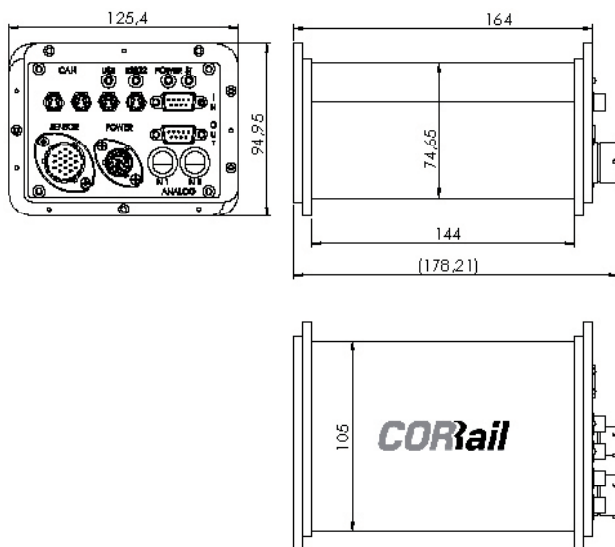
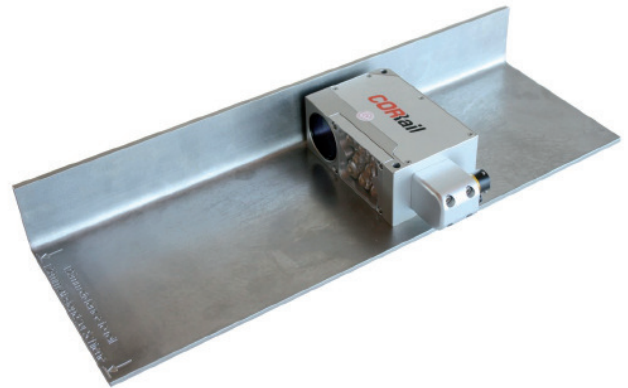


Fig 2: Dimensions CORRail R-350 Rail Electronics

## Mounting

With optional mounting plate HCR16709 at an appropriate position, e.g. on the bogie of the rail vehicle. The mounting distance between the railhead surface and the lower edge of the mounting plate must be 125 mm.



## Included accessories

- Sensor cable, l = 5 m
- Power cable, MIL, 6-pol. to Banana, l = 2 m
- Connection cable CAN, l = 2 m
- Connection cable RS-232C, l = 2 m
- Connection cable USB, l = 2 m
- Distribution cable, D-Sub, 2 x BNC, l = 1 m
- Mini metric folding rule
- CD Corrail Config-Tool
- Sensor calibration (DIN EN ISO 9001)
- Screw driver Torx T10
- Hexagon wrench 4 mm
- Screw set for R-350 Rail
- Transportation case, complete

## Type/Art. Nr.

HCR17202  
HCR17180  
HCR13946  
HCR13425  
HCR13947  
HCR10523  
HCR14643  
HCR17479  
HCR11428  
HCR15887  
HCR14283  
HCR17193  
HCR17198

## Optional accessories

- Light barrier
- Brake switch cable, 5m open end
- Mounting plate for R-350 Rail Sensor

## Typ/Art. Nr.

HCR17472  
HCR-KBRE  
HCR16709

## Order description

CORRail R-350 Rail Sensor

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