

# OMS 4



## Description

The OMS 4 optical sensor combines non-contact, optical with inertial measurement technology.

The optical speed measurement is characterized by its long-term stability and high accuracy. The high bandwidths of angular rate and acceleration sensors enable the detection of the smallest, highly dynamic changes in movement.

The fusion of optical speed measurement and movement data from angular rate and acceleration sensors enables the measurement of all necessary longitudinal parameters with unprecedented accuracy and dynamics. In this way, the OMS 4 helps our customers to successfully perform their longitudinal measurement tasks in an efficient and simple way.

## Features

- Proven spatial filter principle
- Integrated angular rate and acceleration sensors
- Sensor fusion
- Highest dynamics due to 1kHz update rate
- CAN output
- Simple parameterization via Ethernet
- Long-life IR-LED lighting
- POI conversion
- Easy handling
- Precise optics / optomechanics
- Protection against undervoltage by UPS

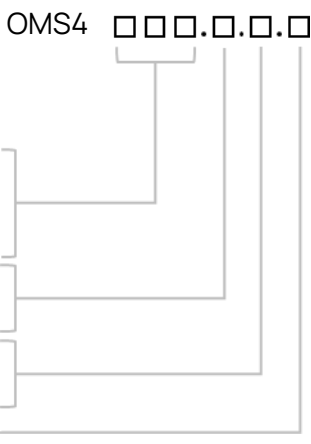
## Applications

- Longitudinal dynamics
- Brake measurement
- Tire performance
- Indoor testing
- Land Survey
- Rail Applications
- Mobile machines
- Motorcycle
- Industrial Applications

## Technical data

Speed		
Measuring range	250/350/450	km/h
Nonlinearity	< ±0.2	%FS
Optical resolution	≈0.6	mm
Working distance	300 ±150	mm
Angular rates		
Measuring range	±500	°/s
Accelerations		
Measuring range	±20	g
Measurement frequency	1000	Hz
Signal delay	4.5	ms
Supply		
Voltage	10 ... 36	V
Power consumption (at 12 V)	< 25	W
UPS	3	s
Environmental conditions		
Storage / Operation	-40 ... 85 / -25 ... 50	°C
Shock / Vibration (Sensor)	50 / 10	g
Dimensions		
Sensor (without connector)	95 x 65 x 40	mm
ECU	155 x 125 x 60	mm
Weight		
Sensor	390	g
ECU	900	g
Protection class		
Sensor (cable plugged)	IP68	
ECU	IP40	
Illumination	IR	
Wavelength	850	nm
CAN Interface	2.0B (galv. isolated)	
Number of individual nodes	2	
Speed	125 / 250 / 500 / 1000	kBaud
Terminating resistor	switchable	
Ethernet Interface	galvanically insulated	
Parameterization	Webinterface	
Measurement data	TCPIP (protocol on request)	
USB Interface	Protocol on request	
I/O Interface	Light barrier / brake switch / synchronization / PPM output (galv. isolated)	

## Ordering Code

Speed range [km/h]	250 350 450	
Orientation sensor	L: longitudinal T: transversal	
Orientation connector	H: horizontal V: vertical	
Length sensor cable [m]	5	

## Scope of delivery

Sensor	
Sensor cable	MT0000227
Power cable	MT0000063
Transport case	MT0000207
Measuring tape	MT0000208

CAN cable	MT0000061
ETH cable	MT0000064
USB Stick	MT0000212
Set of screws	MT0000213
Screwdriver	MT0000214

## Optional accessories

Towing Lug Mount T1	MT0000209
Side Mount S1	MT0000210
Side Mount M1	MT0000211
Light barrier	MT0000264
Brake switch	MT0000265

USB cable	MT0000065
I/O cable open end	MT0000066
I/O cable BNC	MT0000263
I/O cable customized	on request

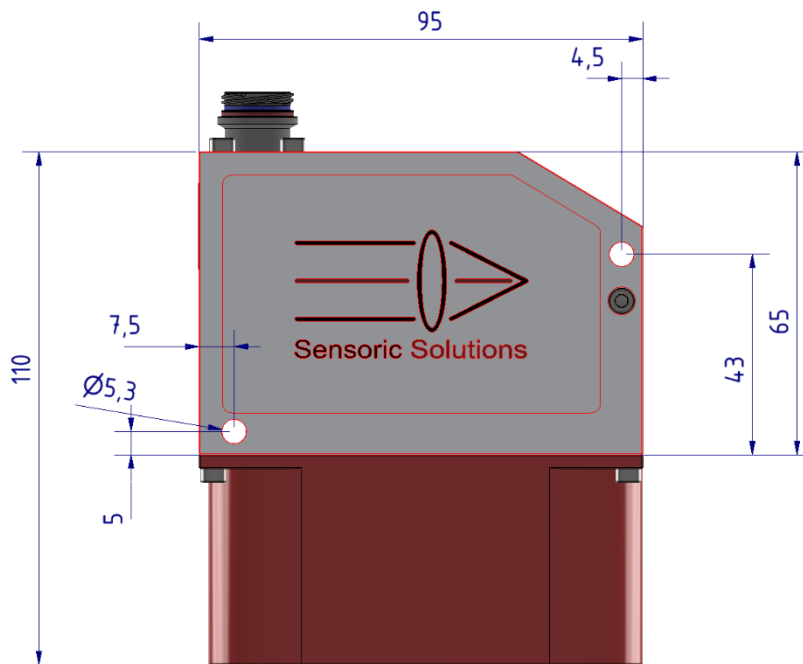
Customized cable on request

## Additional Information:

State of origin: Germany, Tariff Code: 90318020

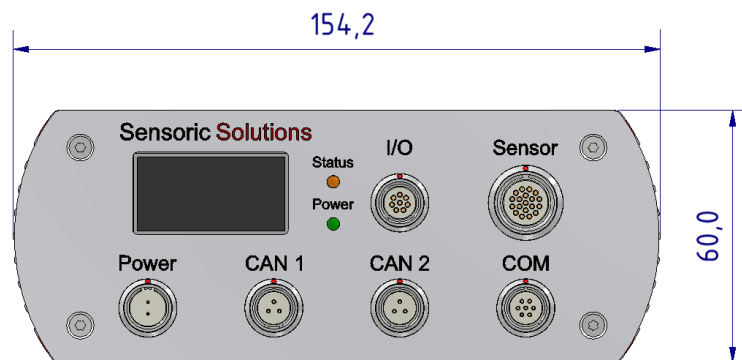
## Drawings

### Sensor



depth = 40

### ECU



depth = 124