

OMS 7 Race



Description

The OMS 7 Race combines the proven sensor technology of the OMS 7 with the powerful ECU of the OMS Race to create a high-precision, compact and lightweight solution. This fusion results in an innovative optical sensor with integrated inertial measurement technology that offers maximum measurement accuracy with a large operating range and low weight.

The sensor is based on the proven spatial filter principle, which is supplemented by an inertial measurement unit (IMU) and a novel signal processing approach. This combination results in improved accuracy and lower noise compared to similar products on the market.

The OMS 7 Race is ideal for use in motorsport and wherever a compact and lightweight ECU is required in conjunction with the large operating range of the OMS 7.

Features

- Proven local filter principle
- Highest dynamics thanks to 1kHz update rate
- Parameterizable sensor fusion
- CAN / CAN FD output
- Diagnostic data via CAN
- Sensor / ECU replaceable
- Long-life IR LED lighting
- Easy handling
- Precise optics / optomechanics

Applications

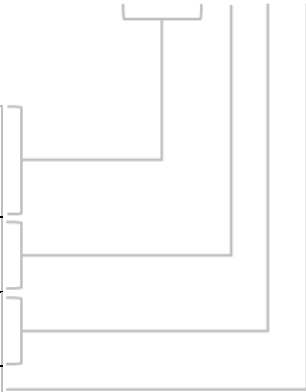
- Innovative motorsport series
- Racing
- Longitudinal and dynamics
- Tires / wheel and brake test
- Indoor tests
- Surveying
- ADAS test
- Mobile machines
- Motorcycles
- Parking maneuvers
- Industrial applications

Technical data

	OMS 7 Race	
Velocity		
Measuring range	250 / 400	km/h
Non-linearity	< ±0.2	%FS
Angle		
Measuring range	±30	°
Measuring accuracy ±10°	< 0.1	°
Measuring accuracy ±30°	< 0.2	°
Optical resolution	≈0.6	mm
Working distance	300 ±150	mm
Angular rates		
Measuring range	±500	°/s
Accelerations		
Measuring range	±20	g
Measuring frequency	1000	Hz
Signal delay	3.75	ms
Sensor fusion	Balanced / Optical priority / No fusion (adjustable)	
Supply	Galv. separated	
Voltage	10 ... 36	V
Consumption (at 12 V)	< 16	W
Ambient conditions		
Storage / Operation	-40 ... 85 / -25 ... 50	°C
Shock / Vibration (sensor)	Tested with profiles from F1 teams	
Dimensions		
Sensor (without plug)	95x65x40	mm
ECU	121 x 84 x 22	mm
Weight		
Sensor	390	g
ECU	270	g
Protection class		
Sensor (cable plugged in)	IP68	
ECU	IP67	
Lighting	IR	
	850	nm
CAN interface	FD / 2.0B (galvanically isolated)	
Number of individual nodes	1	
Baud rate	125 / 250 / 500 / 1000	kBaud
	FD Data: up to 8	Mbit
Terminating resistor	Switchable	
Ethernet interface	Galvanically isolated	
Parameterization	Web interface	
Measurement data	TCP/IP (protocol on request)	
I/O interface	Digital In / Digital Out (TTL; galvanically isolated)	

Order code

OMS7Race □□□.□.□.□

Velocity [km/h]	250 400*	
Sensor alignment	L: longitudinal* T: transversal	
Plug alignment	H: horizontal V: vertical*	
Sensor cable length [m]	5	

*) Standard: OMS7Race-400.L.V.5

Scope of delivery

Sensor	
Sensor cable 5m	
Power cable	MT0000374
CAN cable	MT0000376
ETH cable	MT0000377

Suitcase	MT0000207
USB stick	MT0000212
Screw set	MT0000213
Hex key L-wrenches	MT0000214
Measuring tape	MT0000208

Customized cable assembly on request

Optional accessories OMS 7 Race

Side holder S1	MT0000210
Side bracket M1	MT0000211

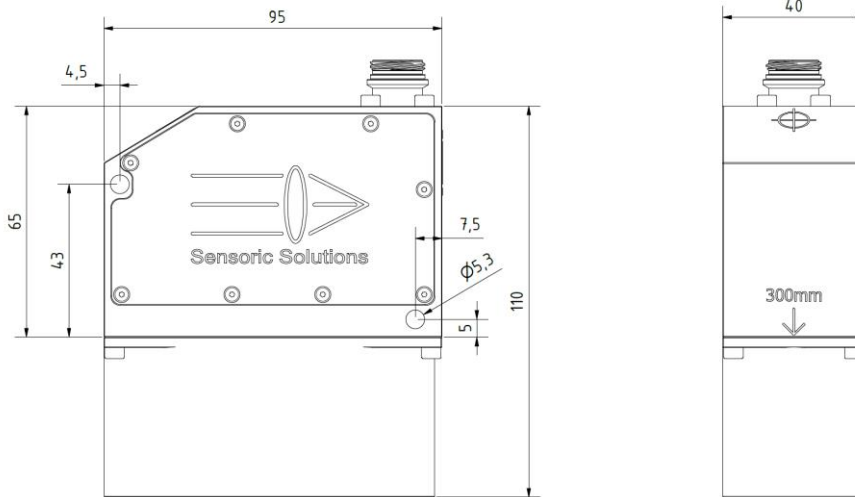
Towing eye holder T1	MT0000209
Wheel holder W1	MT0000330

Additional product information:

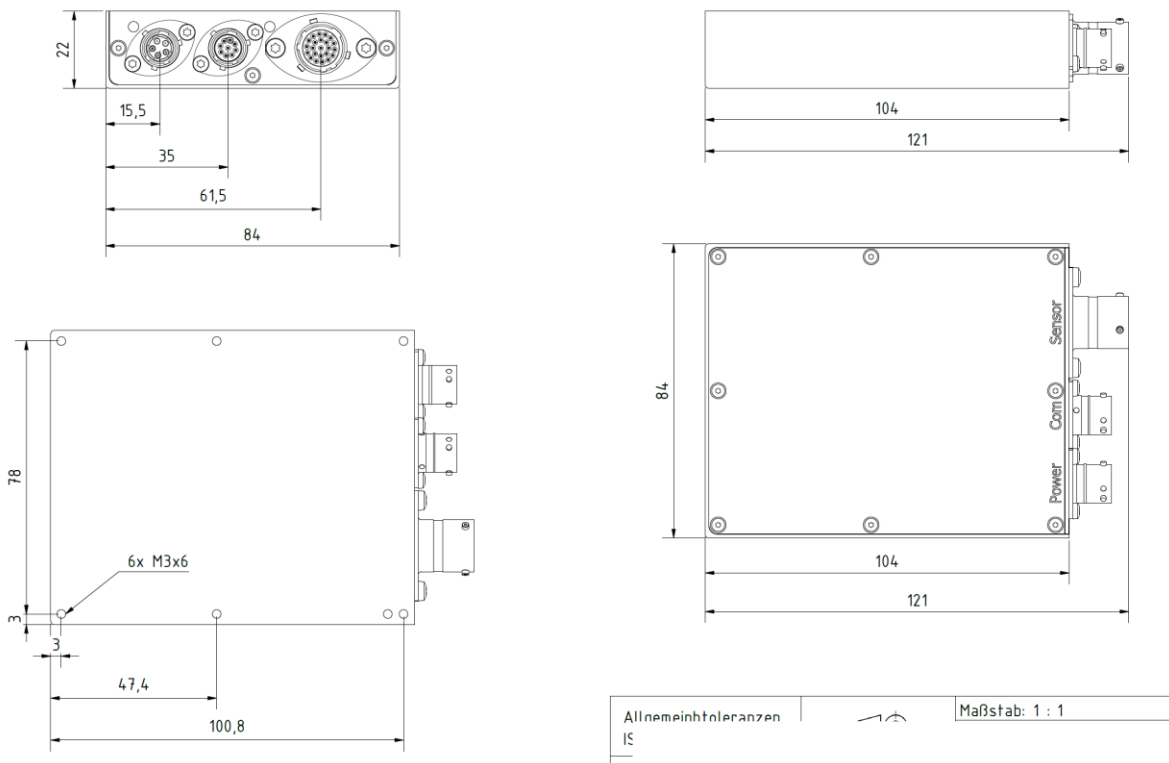
Country of origin: Germany, Goods tariff: 90318020

Drawings

Sensor OMS 7 Race



ECU



Allgemeintoleranzen
IS
Maßstab: 1 : 1