



NavSensor

Description

The multifunctional AcquaLink® NavSensor is a unit of very high precision sensors. The inertial sensor complements the inbuilt satellite receiver module (GPS) to provide accurate readings of the speed of travel as well as the pitch & roll (up and down) and YAW (sideways) motion of the boat. Compass readings can be displayed electronically thanks to the fluxgate, which also facilitates course corrections for electronic autopilots. The barometer and air temperature sensors are early indicators of forthcoming weather conditions.



A2C59501981

Features

- M12 5 pin connector
- NMEA 2000® certified
- GPS Module: Position, time, boats vector, signal quality, satellites
- Flux compass: + / -40° tilt angle, < 2° accuracy, (under voltage condition)
- Barometer: Air pressure
- Air temperature: -20 / +65 °C
- Inertial sensor: Resolution 1 °/s
- YAW-range 100 °/s, linearity + / -3 °/s
- Calculated heeling, pitch & roll-range + / -50°

Technical Data	
Housing Material	Mounting/Housing: Plastic (PBT-ASA-GF30FR) Top: Plastic (ASA)
Dimensions	WxH: 100 x 108.3 mm
Unit weight	250g
Operating temperature	-20° / +70°
Storage temperature	-30° / +80°
Operating voltage range	8 – 16 VDC
Current consumption	~50mA
GPS channels	66 channels (22 Tracking, 66 Acquisition)
GPS datum	WGS-84 (default)
GPS-time to first fix	Cold (open sky): 33s (typical) Warm (open sky): 1s (typical)
GPS frequency range	1575.42MHz ± 1.023MHz
GPS position accuracy	Autonomous: 3m (2D RMS)
GPS max. altitude	< 50,000 m
GPS max. velocity	< 515 m/s
Air temperature range	-20° / +65°C
Air temperature resolution	+/-1°C
Air temperature adaption time	30s
Barometer resolution	1hPa
Yaw resolution	1°/s
Yaw range	+/-100°/s
Calculated heeling resolution	1°
Calculated heeling, pitch & roll-range	+ / -50°
Compass resolution	0.5°
Compass field strength	min 8 – 80 uT
Compass tilt angle	+ / - 40°
Compass auto calibration	by 2 circles (opposite directions)
Nominal Position	NL 0; According to DIN 16257
Mounting/Fixing	Top or pole mount; Thread: 1-14 UNS-2B
Protection Class	IEC 60945 exposed equipment (IPX6 extended)
Flammability Housing	UL-94 V0
EMC	IEC 60945:2002 / ISO7637-2
Reverse Polarity Protection	Yes, 1 minute
Short Circuit Protection	Yes, 1 minute
Approval	CE, NMEA 2000®

NMEA 2000 Data

Receiving Data

PGN	Message name
59392	Acknowledgment ISO
60928	Address Claim ISO
126208	Command Group Function
59904	Request ISO
60160	Transport Protocol, Data Transfer ISO
60416	Transport Protocol ISO

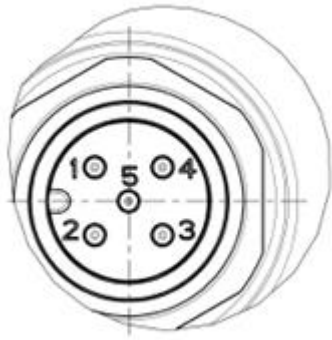
Transmitting Data

PGN	Message name
59392	Acknowledgment ISO
60928	Address Claim ISO
65240	Commanded Address ISO
126208	Command Group Function
126464	TX/RX PGN List Group Function
126993	Heartbeat PGN
126996	Product Information
126998	Configuration Information
127250	Vessel Heading
127251	Rate of Turn
127257	Attitude
129025	Position, Rapid Update
129026	COG & SOG, Rapid Update
129029	GNSS Position Data
129033	Local Time Offset
130311	Environmental Parameters
130314	Actual Pressure
130316	Temperature, Extended Range
127258	Temperature (Old Version)

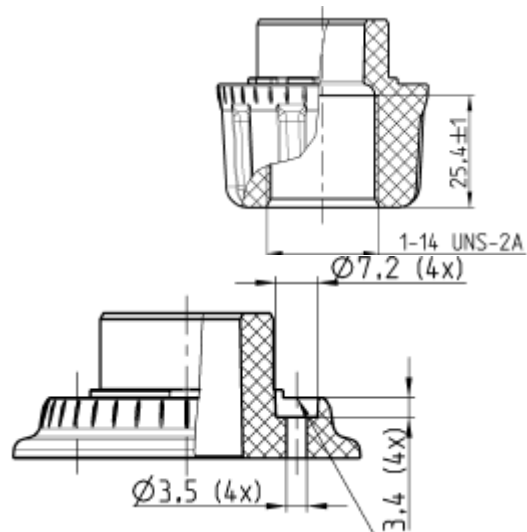
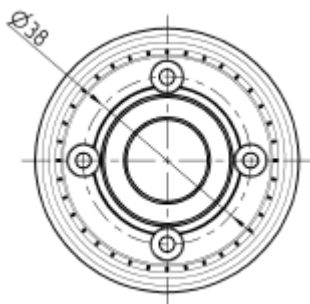
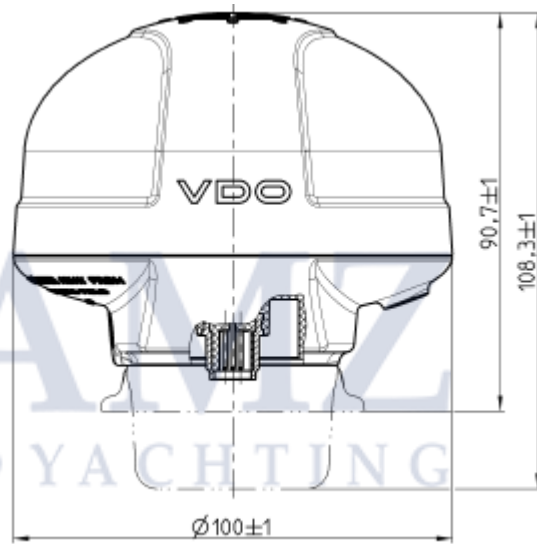
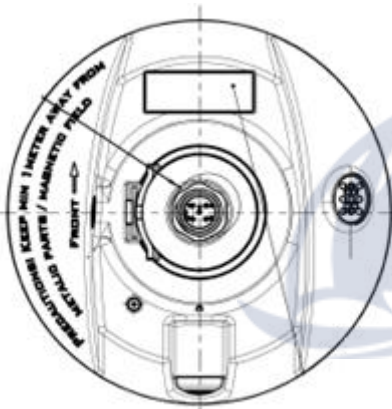
Connector

M12

Pin	Signal
1	Shield
2	NET-S (V+)
3	NET-C (V-)
4	NET-H (CAN H)
5	NET-L (CAN L)



Mechanical Design



Setting push button for calibration and operational status indication



Accessories

Part Number	Item specifics
A2C38293800	Mount NavSensor Flat
A2C97838800	Mount NavSensor threaded
A2C96243700	NMEA 2000 Cable 0.5m
A2C96243800	NMEA 2000 Cable 2m
A2C96244000	NMEA 2000 Cable 6m
A2C96244200	NMEA 2000 Cable 10m
A2C38804100	NMEA 2000 Cable 30m
A2C39308500	NMEA 2000 Infield Installation Connector Female
A2C39310500	NMEA 2000 Infield Installation Connector Male
A2C39312700	T Splitter NMEA 2000
A2C39310600	NMEA 2000 Terminator Female
A2C39311000	NMEA 2000 Terminator Male
A2C39312500	NMEA 2000 Inline Terminator
A2C39312900	NMEA 2000 Power cable