Marine Tank Level Sensors Data Sheet

**Across Ocean Systems Ltd.** offers two types of Tank Level sensor.

Pressure based Tank Level Sensors are commonly used when port can be made available very close to the bottom of the tank. The pressure based tank level sensor measures tank level for tanks up to 2.5m with NMEA 2000 output and Wi-Fi configuration interface. Our easy calibration web interface is available to calibrate tanks of non rectangular shapes.

Ultrasonic Tank Level Sensors are commonly used when access to the top of the tanks is available and sensor can be conveniently installed. The Sensors transmit ultrasonic waves which bounce from the surface of the liquid and the reflected waves come back to the unit. Time of flight measurement is proportional to the distance to the surface of the fluid, thus proportional to the level of the tank.

All AOS Ltd. NMEA 2000® Digital Sensors have our standard Wi-Fi configuration interface that allows configuration directly from your iPhone / Android mobile phone, as well as from a PC or MAC computer. Using Chrome web browser is preferable. In the configuration pages, one can name the sensor, change the senor instance as well as modify other sensor settings. Appropriate single or multiple output PGNs can be also selected, as some sensors support an output of multiple PGNs for the data they represents. Multi channel modules can output the same or different type PGNs for each channel. Where applicable simple multi-point calibration is available e. g. for calibration of tank level sensors.
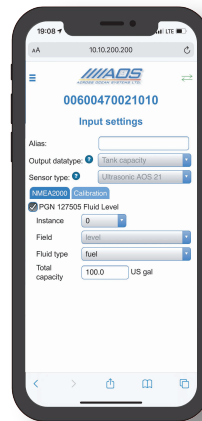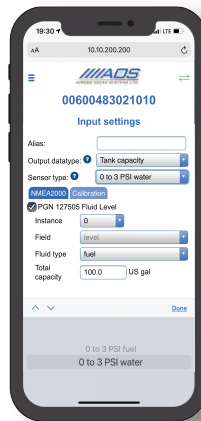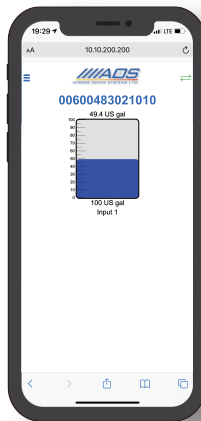
* Power consumed in normal operation. During configuration the power consumed is higher due to enabling the Wi-Fi interface

Specifications

36.00 (1.42")

61.00mm
(2.4")

Cable 300mm (11.8")

ø 21.40
ø 16.90

58.50
26.40
8.00
13.00
12.00
10.00
1/4" NPT
ø 19.20

All dimensions are in millimeters except the thread size
The tread size is 1/4" NPT for all pressure ranges
All specification as subject to change

NMEA 2000® Level A certified

Working Range

Part # / Parameter	Working Range / Value	Comment
LS-P-0-250-N2K	0 psi to 3 psi (0 bar to 0.2 bars)	
Max Tank Depth	0 to 84" (2.10 m) Water / 0 to 102" (2.59 m) Diesel	Max depth depends on fluid density
Resolution	0.1" (2 mm)	
Accuracy	+/- 0.5%	
LS-U-0-100-N2K	1" to 40" (1 m) Water / 40" (1 m) Diesel	
Max Tank Depth	40" (1 m) Water / 40" (1 m) Diesel	Does not depends on fluid density
Resolution	0.1" (2 mm)	
Accuracy	+/- 0.5%	Based on sensor's full working range

Electrical

Parameter	Value	Comment
NMEA 2000® Operating Voltage	9 VDC to 32 VDC	Powered via NMEA 2000® port
NMEA 2000®Power Consumption	< 50 mA / 100* mA	*When Wi-Fi is enabled for configuration
NMEA 2000® LEN	1 LEN / 2 LEN config	NMEA 2000® Spec. (1 LEN = 50 mA)
NMEA 2000® Reverse Polarity	Protected	Indefinite

NMEA 2000® Supported PGNs

Parameter	PGN	Name	Update rate
System PGNs	059392	ISO Acknowledgment	
	059904	ISO Request	
	060160	ISO Transport Protocol, Data Transfer	
	060416	ISO Transport Protocol, Conn Management	
	060928	ISO Address Claim	
	065240	ISO Commanded Address	
	126208	NMEA Request/ Command/ Acknowledge	
	126464	PGN List - Transmit PGNs group function	
	126993	Heartbeat	60 sec
	126996	Product information	
	126998	Configuration information	
Data PGNs	127505	Fluid Level	2.5 sec

Mechanical and Environmental

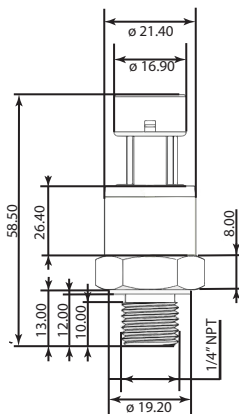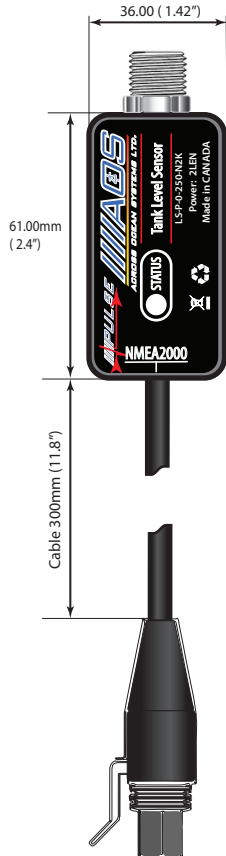| Parameter	Value	Comment
NMEA 2000® Box	61.0mm X 36.0mm X 28.0mm (2.4" X 1.42" X 1.1")	Without a drop cable connected
Cable	300 mm (11.1")	
Sensor size / Thread size	58.5mm X 29.5mm X 31mm (2.3" X 1.16" X 1.22") / 1/4" MNPT	Without the connector attached
Weight	180g (6.5 oz)	
Operational / Storage Temp	-30 °C to +60 °C (-22 °F to +140 °F) -40 °C to +70 °C (-40 °F to +158 °F)	
Operational Humidity	90%	Non Condensing
IP Rating	IP66 / IP64	NMEA 2000® Box / Current Sensor

Standards Compliance

Across Ocean System's devices are NMEA 2000® Level A certified and designed to comply with the most stringent marine standards such as IEC 60945 and IEC 61162-3, as well as the European CE standard - Electromagnetic Compatibility section.