Marine NMEA2000®
Temperature Sensors Data Sheet

Across Ocean Systems Ltd. offers a range of digital non-intrusive temperature measuring sensors. The advantage of these types of temperature sensors is that they are easy to install and monitor either internal, surface or ambient temperatures. Sensors come in standard temperature ranges from -50 °C (-58 °F) to 120 °C (250 °F) or high temperature range from -100 °C (-150 °F) to 700 °C (1300 °F). All temperature sensors are designed to operate in marine environment.

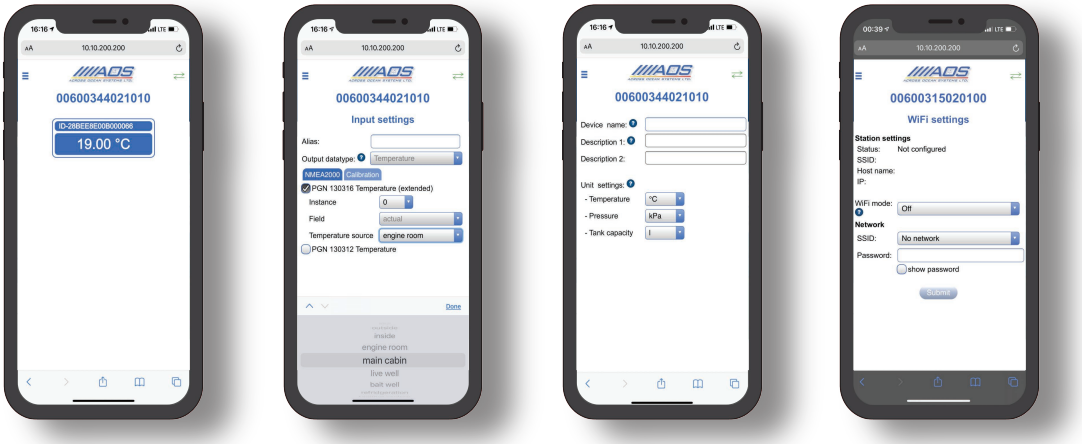
Standard Temperature Sensor

Ring Terminal Temperature Sensor

High Temperature Range Sensor

⚠WARNING Before installing the temperature sensors ensure that all surfaces are cooled down. Installing the sensor to hot surface over 50 °C (122 °F) could cause severe burns to the skin.

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.



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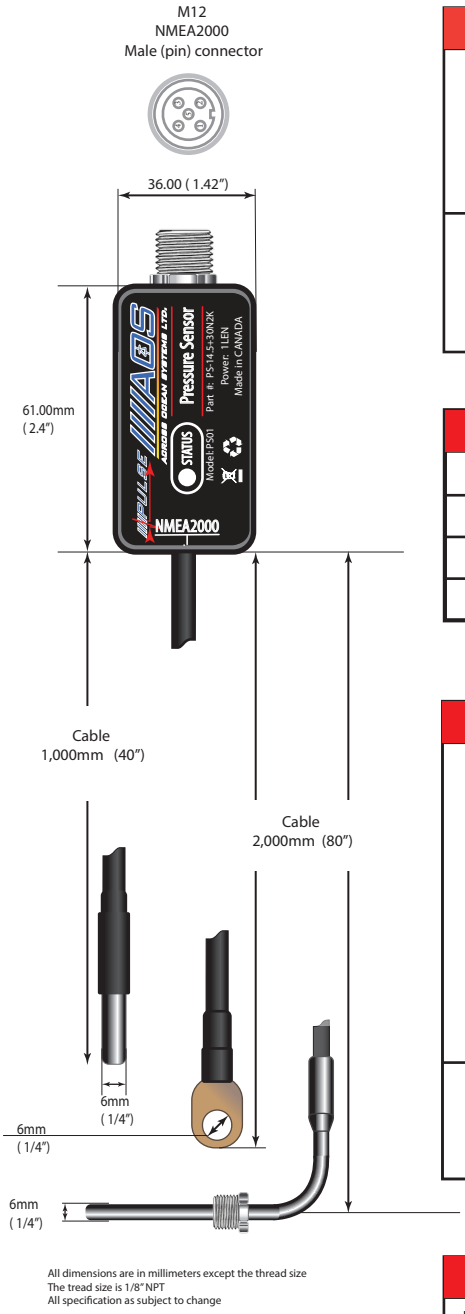
Specifications



All dimensions are in millimeters except the thread size
The tread size is 1/8" NPT
All specification as subject to change

Working Range

Parameter	Part Number	Value	Comment
Temperature Range	**TS-125-1M-N2K**	-50° C to 120 C -58° F to 250° F	
	TS-125-3M-N2K		
	Resolution	0.1° C / 0.2° F	
	Accuracy	±0.5° C (0.9° F)	±0.5°C Accuracy from -10°C to +85°C
Temperature Range	**TSHT-1000-2M-N2K**	-100° C to 700 C -150° F to 1,300° F	±0.5°C Accuracy from -10°C to +85°C
	Resolution	1° C / 2° F	
	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®

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	130316	Temperature, extended range	1.0 sec
	130312	Temperature	2.0 sec
	127489	Engine parameters dynamic	0.5 sec
	127493	Transmission parameters	0.1 sec

Mechanical and Environmental

Parameter	Value	Comment
NMEA 2000® Box	36mm X 61mm X 26mm (1.42" X 2.4" X 1.1")	Without the M12 Connector
Cable	300mm (11.8")	Cable length may vary
Weight	from 180g (6.5 oz) to 264g (9.4 oz)	Cable length may vary
Operational / Storage Temp	-30 °C to +60 °C (-22 °F to +140 °F) -40 °C to +70 °C (-40 °F to +158 °F)	Applies to NMEA 2000 converter box
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.

NMEA 2000® Level A certified

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