TLM100

Tank Level Monitor (40" Max Depth)

The TLM100 is used to sense fluid levels of tanks by using ultrasonic technology. Ultrasonic sound waves are transmitted via the TLM100 mounted at the top of the tank and the flight times of the sound waves to and from the fluid are measured much like a depth sensor. What this means for you is that there are no difficult to handle long probes protruding into the tank, which often foul and/or corrode. Once the TLM100 calculates and transmits the fluid level over the NMEA 2000® network, you can observe tank levels anywhere on the vessel where there is an NMEA 2000® compatible display such as the Maretron DSM Series.

The TLM100 is capable of sensing fluid levels in tanks up to 40" (1.02m) in depth. It can be used for diesel, fresh water, waste water, black water, and oil tanks (see TLM150 for gasoline tanks or the FPM100 for deeper tanks). Unlike most tank senders that only work with rectangular tanks, the TLM100 can be calibrated for irregular tank shapes so you can know the true fluid level in your tanks.

The TLM100 is mounted directly to the top of tanks using the industry standard SAE J1810 5-hole mounting pattern. The TLM100 can also be mounted to tanks with threaded tank openings using optional adapters that include both a 1.5" NPT and a 1.25" BSP adapter. There are other important TLM100 optional accessories including an optional focus tube to permit use on boats with planing hulls, which is required if the vessel spends a significant amount of time with the bow pitched up.

Most importantly, the TLM100 is NMEA 2000 certified so you can view any and all tank levels anywhere on the vessel when using a compatible NMEA 2000 display. The TLM100 is another key component of Maretron's N2KView® vessel monitoring and control system.

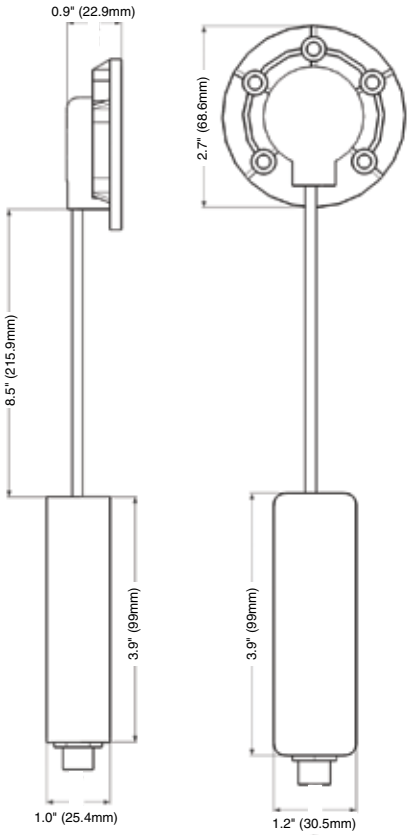
Available accessories for the TLM100:

TA-5H-x

TFT-5H

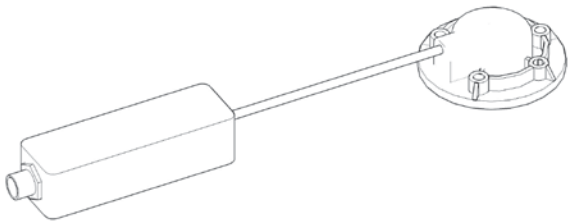
TFT-x

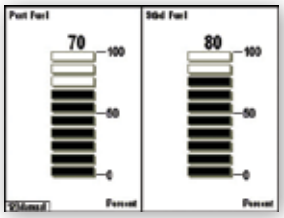
TFTDBE-5H

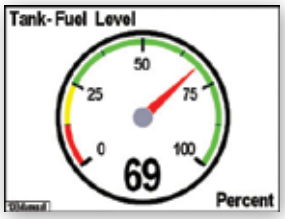


PRODUCTS

PART NUMBER	DESCRIPTION
TLM100-01	Tank Level Monitor (40" Max Depth)
TA-5H-1.25BSP	1.25" BSP Displacement Hull Tank Adapter
TA-5H-1.5NPT	1.5" NPT Displacement Hull Tank Adapter
TFT-5H	SAE 5-Bolt Pattern Non-Displacement Hull Focus Tube
TFT-1.25BSP	1.25" BSP Non-Displacement Hull Focus Tube
TFT-1.5NPT	1.5" NPT Non-Displacement Hull Focus Tube
TFTDBE-5H	5-Bolt Pattern Focus Tube with Dead Band Eliminator







DSM Series Screen Shots

SPECIFICATIONS

PARAMETER	VALUE	COMMENT
Accuracy	+/-2%	
Resolution	+/-1%	
Number of Tank Types	16	Fuel, fresh water, waste water, live well, oil, etc.
Number of Tanks per Tank Type	16	16 tanks per tank type numbered 0-15
Maximum Tank Depth	40" (1.02m)	
Minimum Depth Reading	2" (5.08cm)	Sensor deadband
Support for Irregularly Shaped Tanks	Yes	Can be calibrated for any shape tank
Programmable Tank Capacity	Yes	Allows displays to calculate amount remaining
Maximum Tank Angle	6°	Without focus tube
	15°	With focus tube

NMEA 2000® PARAMETER GROUP NUMBERS (PGNs)

DESCRIPTION	PGN#	PGN NAME	DEFAULT RATE
Periodic Data PGNs	127505	Fluid Level	0.4 times/second
Response to Requested PGNs	126464	PGN List (Transmit and Receive)	N/A
	126996	Product Information	N/A
Protocol PGNs	126998	Configuration Information	N/A
	059392	ISO Acknowledge	N/A
	059904	ISO Request	N/A
	060928	ISO Address Claim	N/A
	065240	ISO Address Command	N/A
	126208	NMEA Request/Command/Acknowledge	N/A
Maretron Proprietary PGNs	126720	Device Configuration Information	N/A
	130818	Device Label	N/A

ELECTRICAL

PARAMETER	VALUE	COMMENT
Operating Voltage	9 to 16 Volts	DC Voltage
Power Consumption	<100mA	Average Current Drain
Load Equivalence Number (LEN)	2	NMEA 2000® Spec. (1LEN = 50mA)
Reverse Battery Protection	Yes	Indefinitely
Load Dump Protection	Yes	Energy Rated per SAE J1113

MECHANICAL

PARAMETER	VALUE	COMMENT
Size	3.9" x 1.2" x 1.0" (99mm x 30.5mm x 25.4mm)	Interface Component
	2.7" dia. x 0.9" (68.6mm dia. x 22.9)	Sensor Component
	8.5" (215.9mm)	Interconnecting Cable
Weight	12 oz. (340 g)	
Mounting	SAE J1810 5-hole bolt pattern	Can mount to 1.25" BSP or 1.5" NPT using available adapters

ENVIRONMENTAL

PARAMETER	VALUE
IEC 60945 Classification	Exposed
Degree of Protection	IP67
Operating Temperature	-25°C to 55°C
Storage Temperature	-40°C to 70°C
Relative Humidity	93%RH @40° per IEC60945-8.2
Vibration	2-13.2Hz @ ±1mm, 13.2-100Hz @ 7m/s² per IEC 60945-8.7
Rain and Spray	12.5mm Nozzle @ 100liters/min from 3m for 30min per IEC 60945-8.8
Solar Radiation	Ultraviolet B, A, Visible, and Infrared per IEC 60945-8.10
Corrosion (Salt Mist)	4 times 7days @ 40°C, 95%RH after 2 hour Salt Spray Per IEC 60945-8.12
Electromagnetic Emission	Conducted and Radiated Emission per IEC 60945-9
Electromagnetic Immunity	Conducted, Radiated, Supply, and ESD per IEC 60945-10
Safety Precautions	Dangerous Voltage, Electromagnetic Radio Frequency per IEC 60945-12

CERTIFICATIONS

PARAMETER	COMMENT
NMEA 2000®	Level B
Maritime Navigation and Radio Communication Equipment & Systems	Tested to IEC 60945
FCC and CE Mark	Electromagnetic Compatibility