Maretron
Vessel Monitoring & Control Systems

Installation Instructions

TFT-5H SAE 5-Bolt Pattern Non-Displacement Hull Focus Tube
TFT-1.5NPT 1.5” NPT Non-Displacement Hull Focus Tube
TFT-1.25BSP 1.25” BSP Non-Displacement Hull Focus Tube

Packing List

Please find the following items included:

- 1 adapter with focus tube
- 1 focus tube cap with center hole
- 1 packet of epoxy
- 1 wooden mixing stick

Installation on a Tank with a SAE J1810 5-Bolt Fitting and Focus Tube

If a focus tube is used for a tank with a SAE J1810 5-bolt fitting, determine the depth of the tank at the location of the tank sensor mounting hole and use a saw with a metal-cutting blade to trim the focus tube so that it reaches 1” (2.54cm) above the tank bottom when mounted. Remove any burrs from the end of the focus tube after trimming. Optionally, install the focus tube cap (see below).

Next, place the gasket included with the focus tube over the focus tube (between the focus tube flange and the tank mounting flange), and then drop the focus tube into the hole so that the bolt holes on the focus tube, focus tube gasket, and tank fitting all line up (WARNING – the gasket must be properly aligned; it only fits one way).

Place the gasket included with the TLM100/TLM150 over the focus tube so that the bolt holes line up (WARNING – the gasket must be properly aligned; it only fits one way), then place the TLM100/TLM150 sensor component on top of the TLM100/TLM150 gasket so that the bolt holes line up.

Insert mounting screws into the bolt holes on the TLM100/TLM150 sensor component, and thread them into the tank fitting (the tank fitting may instead have studs installed, so in this case, install the nuts over the studs), tightening them to a torque of 10-15 in-lbs (1.1-1.7 N·m). Do not use threadlocking compounds containing methacrylate ester, such as Loctite Red (271), as they will cause stress cracking of the plastic enclosure.

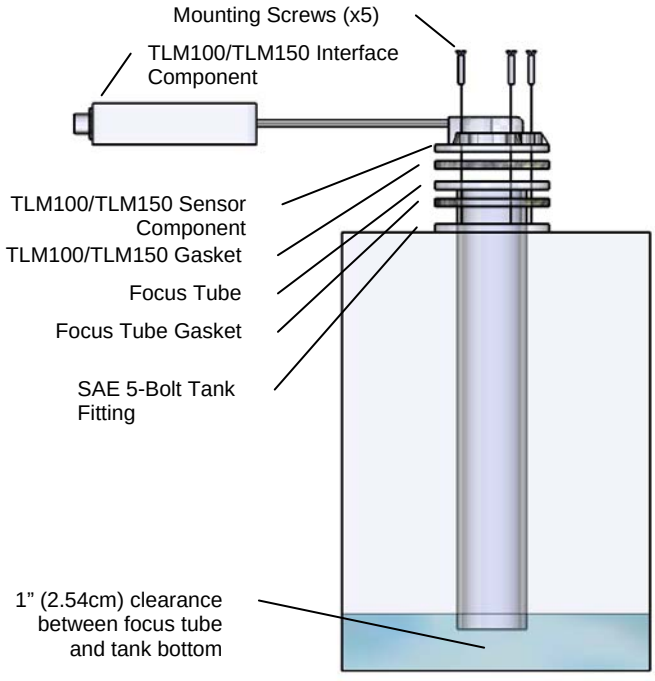

Figure 1 – Mounting TLM100/TLM150 to SAE 5-Hole Tank with Focus Tube

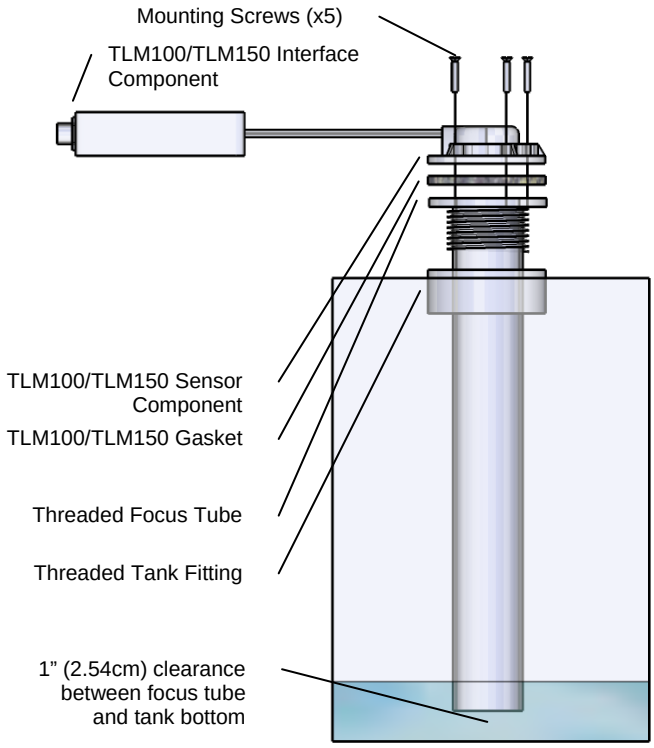

Figure 2 – Mounting TLM100/TLM150 with Focus Tube on Threaded Tank Fitting

Installation on a Tank with a 1.25”BSP or 1.5”NPT Threaded Tank Fitting and Focus Tube

If a focus tube is used for a tank with a SAE J1810 5-bolt fitting, determine the depth of the tank at the location of the tank sensor mounting hole and use a saw with a metal-cutting blade to trim the focus tube so that it reaches 1” above the tank bottom when mounted. Remove any burrs from the end of the focus tube after trimming. Optionally, install the focus tube cap (see below).

For a threaded tank sender mounting hole, first thread the adapter into the tank opening and tighten to a torque of 3-5 ft-lbs (4.1-6.8 N·m).

Next, place the TLM100/TLM150 gasket over the adapter so that the bolt holes on the gasket line up with the bolt holes on the adapter (WARNING – the gasket must be properly aligned; it only fits one way). Place the TLM100/TLM150 sensor component on top of the adapter so that the bolt holes on the TLM100/TLM150 sensor component line up with the bolt holes on the adapter.

Place the included mounting screws through the bolt holes on the TLM100/TLM150 sensor component, and thread them into the adapter, tightening them to a torque of 10-15 in-lbs (1.1-1.7 N·m). Do not use threadlocking compounds containing methacrylate ester, such as Loctite Red (271), as they will cause stress cracking of the plastic enclosure.

Installation of the Focus Tube Cap (Optional)

The focus tube cap may be installed over the end of a focus tube that is used with a Maretron TLM100/TLM150 ultrasonic tank level monitor. Use the focus tube cap if the tank bottom is not flat below the location of the focus tube to ensure that the ultrasonic signal is reflected back to the TLM100/TLM150 when the tank is empty.

Note that when the fluid is below the level of the focus tube cap, the ultrasonic signals will be reflected by the focus tube cap and not the liquid surface, and so the reported tank level will not reflect the actual tank level.

Please follow these instructions to install the focus tube cap onto a focus tube.

1. Cut the focus tube to length as described above.
2. Test-fit the focus tube cap on the end of the focus tube and ensure that it can completely slide onto the focus tube. You may need to use a rubber mallet to completely seat the focus tube cap.
3. Mix the epoxy according to the instructions on the epoxy packet using the included wooden mixing stick.
4. Use the wooden mixing stick to apply a thin coat of epoxy to the inside curved edge of the focus tube cap as well as the outside 1” of the bottom of the focus tube.

WARNING
The epoxy included with the Focus Tube Cap is compatible with water and diesel fuel, but is not intended for use with gasoline. If you plan to use the Focus Tube Cap in a gasoline tank (i.e., with the TLM150), use an adhesive that is suitable for use in gasoline, such as PC Products PC-11 Marine Epoxy (http://www.pcepoxy.com/our-products/paste-epoxies/pc-11.php).

5. Insert the end of the focus tube into the focus tube cap. Ensure that the focus tube is fully inserted into the cap.
6. Wait 24 hours before immersing the focus tube with attached cap into liquid.

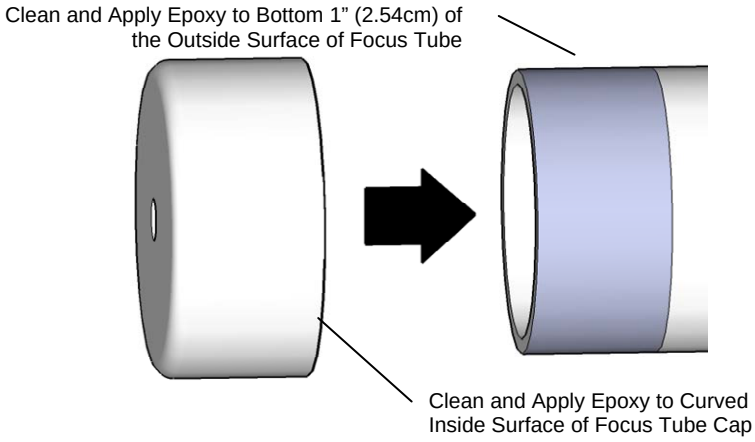

Figure 3 - Focus Tube Cap Installation

For installation support, please contact:

Maretron, LLP
9014 N. 23rd Ave #10
Phoenix, AZ 85021-7850
Telephone: (+1) 866-550-9100
E-mail: support@maretron.com
Web: http://www.maretron.com