



Autocal Fuel Level Senders – 2 & 3 Terminal Model# AFLS all lengths

Overview

Livorsi Marine's new microcontroller-based senders can be distinguished from our older analog style by an "A" in the part number ex: AFLS, and no trim/adjust potentiometers on the top of the sender. Senders with aluminum tubing are for oil, diesel, or gasoline of up to 10% ethanol; and senders with PVC tubing are for potable water. We do not offer units for non-potable water, which leaves conductive deposits on the sense wire.

How The Senders Measure Liquid

Livorsi Marine senders work by measuring capacitance. This means that no moving parts are required. Electronics in the head convert the measured capacitance to the programmed output of ohms or volts. In fuel senders, capacitance is measured between the inner-sensing tube and the grounded outer tube, and it requires the fluid to be non-conductive. In water senders, capacitance is measured between the inner insulated sense wire and the water, which is grounded by the outer wire.

Shortening Senders (if required)

A fuel sender's outer tube can be shortened using a tubing cutter and the inner tube snipped. Unless the sender was ordered as bendable, bending the tubing risks shorting the inner to outer tube which causes a false Empty reading. A sender ordered as bendable can be safely bent black bend line on the tubing and the head, because it is insulated internally above that line.

Connections

NEG: connect this to DC ground. NOTE: our senders work with negative-ground systems only

SEND: connect this to the sender input of your gauge or display. NOTE: this is an electronic output which will confuse your ohmmeter if you try to take a resistance reading

Connections for 3 Terminal Sender

POS: Connect to a 12 volt source

Calibration

Output range and alarm levels are not changeable by the customer. The output range (ex: 240/33 ohms) and alarm levels (if ordered) are set at the factory per the customer's order. They cannot be changed by the end user. They can be changed back at the factory if needed.

Factory Calibrations

If you did not need to shorten the sender, the factory Empty and Full settings should be correct. Please contact us for advice if they seem wrong, rather than recalibrating.

AutoCal

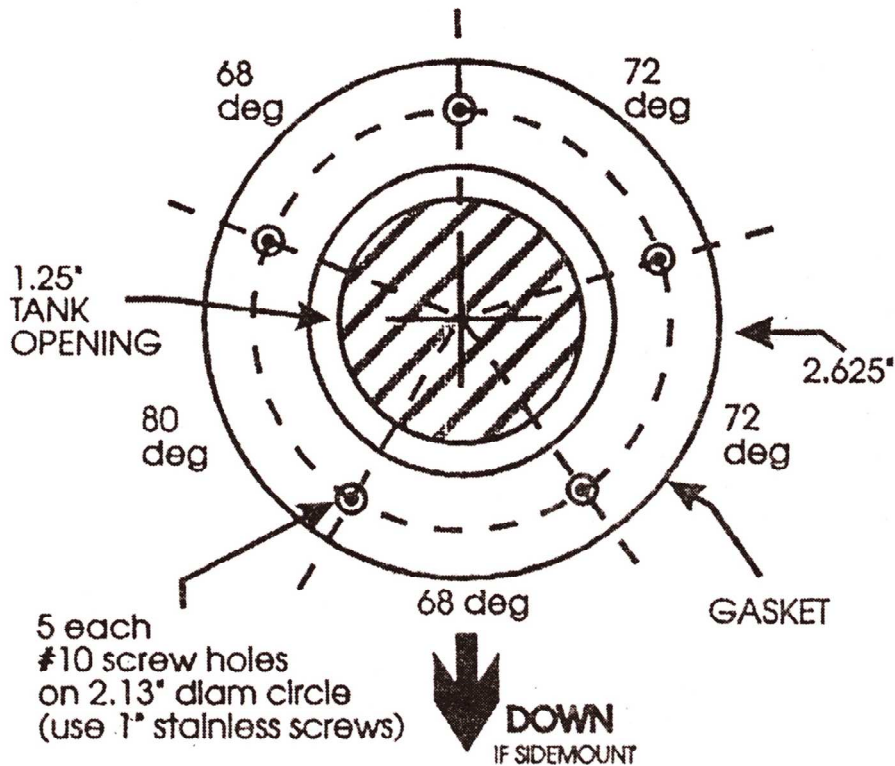
Empty: After shortening the sender and with sender out of the tank, connect the empty sender to the system wiring and turn on the power. The gauge needle should bounce between Empty and Full a couple of times and return to Empty as the sender discovers its shorter length.

Full: Turn OFF the power and install the sender into a full tank of the appropriate liquid. Turn ON the power. The reading should go above Full and then finish on Full. This Autocal Full will use Full Detection at each fill up.

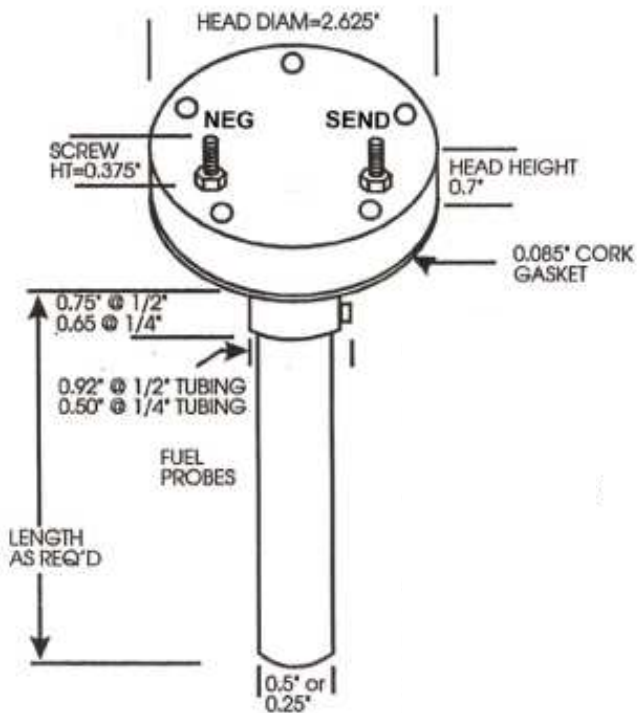
Note: For the Autocal Full Detection feature to work, **sender must be installed in a full tank**, otherwise only an estimated fuel level will be displayed on the gauge until the tank is filled completely.

Another option for the Autocal Full Detection feature to work is- filling a PVC tube with the same type of fuel.

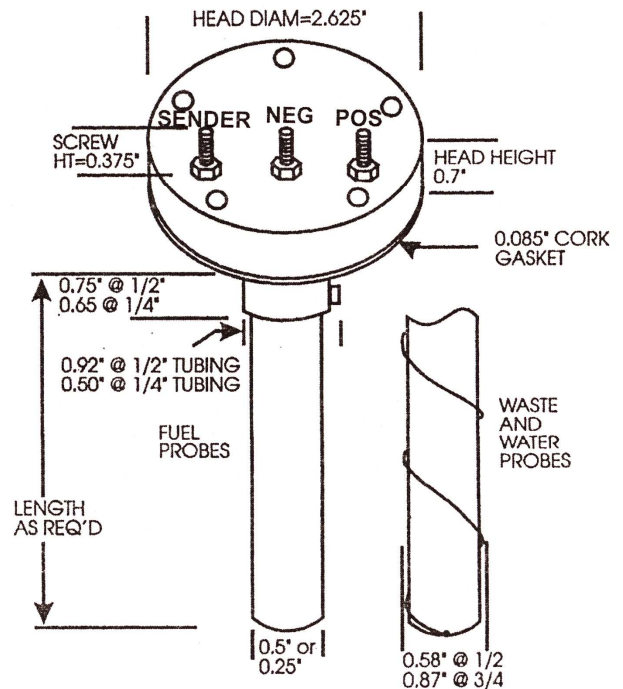
**MOUNTING DIAGRAM
STANDARD 5-HOLE BOLT PATTERN
ACTUAL SIZE IF CIRCLE MEASURES 2 5/8"**



2 Terminal



3 Terminal



SENDER MUST BE INSTALLED IN FULL TANK FOR THE AUTOCAL DETECTION FEATURE TO WORK