

FIREBOY® - XINTEX®

OWNER'S INSTALLATION MANUAL

FOR THE MODEL

LLM-4

LIQUID LEVEL MONITOR



LLM-4 Four Tank System

1. INTRODUCTION

Your Liquid Level Monitor – Four Tank (LLM-4), from Fireboy-Xintex, is the latest state of the art device designed to monitor fresh water tanks and holding tanks. **[Senders will not work and are not for use in fuel tanks.]** The senders employ a capacitance process to measure the liquid remaining in water and holding tanks; therefore there are no moving parts to foul or stick. Also, the LLM-4's unique "on/off" power switch allows you to conserve your battery power, when continuous monitoring is not required. Fireboy-Xintex's extensive R&D process and quality manufacturing techniques ensure that your liquid level monitor will provide you years of satisfactory service. We, at Fireboy-Xintex are proud of our products and if you should ever have any concerns or questions, please call us **Toll Free at 1-866-350-9500**.

2. DISPLAY

The LLM-4 display is packaged with the following components. Please check to be sure that you have everything you need before you begin your installation.

- 1 ea. Display module, measuring 4" x 5" x 7/8"
- 1 ea. Packet of six Phillips screws

3. DISPLAY INSTALLATION

The LLM-4 should be mounted at the instrument panel or in a convenient location so that visual LED indicators may be observed easily. If a 2" instrument blank is not available in the panel, we recommend you use the LLM-4 bezel as a template, to center your display. To remove the bezel, insert a small flat blade screwdriver in the slot on either side of the module and carefully pry up until the bezel is loosened. With the bezel removed, center it where you want your display mounted and mark the center of the bezel. Then drill a 2 1/8" diameter hole. After the hole is drilled, place the back of the housing into the hole you've created and attach the housing to the panel, with the screws provided. Make sure that you do not over tighten. Once this is accomplished, and you are satisfied with the housing's position, snap the bezel back on. **Do not make electrical connections at this time.**

4. DETERMINING THE TYPE OF SENDER - THREADED OR FLANGED

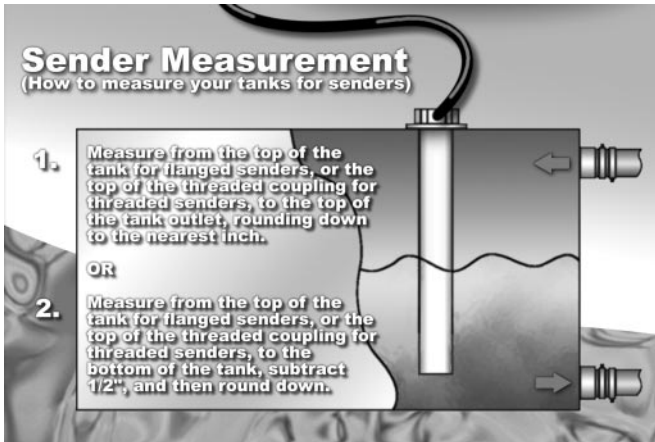
Due to the extensive variety of tank designs and configurations, senders are sold separately and must be purchased from your dealer or by contacting the factory **Toll Free at 1-866-350-9500**. Two types of senders are available and both types are available in one-inch increments, from 7 inches to 36 inches in length. The first type is our threaded sender (TS sender) which has a threaded top and is designed to fit tanks with an existing 1 1/2" NPT (National Pipe Thread) top port. The other type is our flanged sender (FS sender) and is used for easy refit of existing tanks, which do not have a threaded top port. The flanged top features a standard 5 bolt pattern and includes a gasket and five stainless steel 8# x 1 1/4" Phillips screws. **[Senders will not work and are not for use in fuel tanks.]**

5. HOW TO MEASURE YOUR TANK

Measure from the top of the tank for flanged senders, or the top of the threaded coupling for threaded senders, to the top of the tank outlet, rounding down to the nearest inch.

OR

Measure from the top of the tank for flanged senders, or the top of the threaded coupling for threaded senders, to the bottom of the tank subtract 1/2", and then round down.



Technical Assistance is available by phoning our factory Toll Free at 1-866-350-9500.

6. SENDER INSTALLATION

To install a flanged sender (FS Sender), use a hole saw and drill a 1 1/2" hole in the top of the tank. Care should be taken to remove shavings made when drilling into a fresh water tank. We recommend that you drain your fresh water tank before drilling and place a catch basin under the spot where you are drilling. After drilling, attempt to remove any shavings that may have dropped into your tank. To provide a watertight seal, place a bead of silicone sealant on top of the rubber gasket, then insert the flanged sender and secure with screws provided. Do not over tighten.



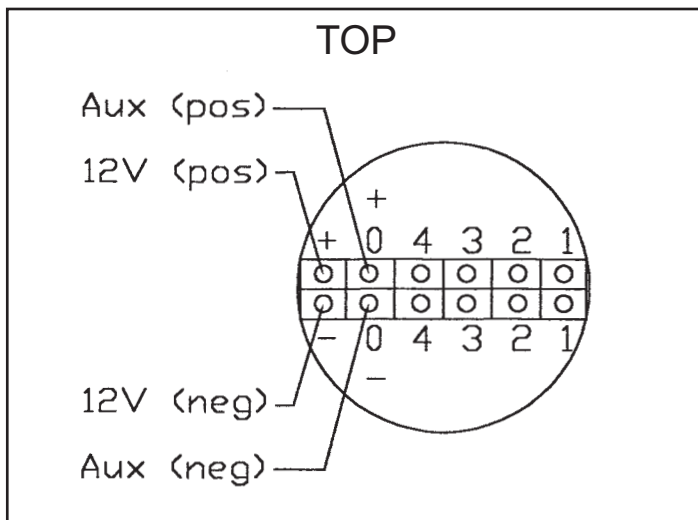
To install a threaded sender (TS Sender), simply screw the threaded sender into the 1 1/2" NPT top port of your fresh water or holding tank. (Do not use in fuel tanks). The o-ring (provided) will form the water-tight seal between the sender and the tank wall. Do not over tighten.



7. ELECTRICAL CONNECTIONS

On the back of the LLM-4 there is a 6x2 terminal block. Each row of six connectors is sequentially labeled on the back, from right to left, **1 - 4**, then **+ 0 & - 0** and finally **+ & -**. Each sender has one-foot **RED** and **BLACK** wires connected to it, with no polarity between the two wires. Using 22 gauge, or better, marine wire, connect the sender wires to the corresponding numbered terminal block connectors, e.g. connect two sender wires from the first sender to the #1 terminal connector on the top and bottom row, connect two sender wires from the second sender to the #2 terminal connector on the top and bottom row, etc.

The terminal block connectors labeled + 0 & - 0 are designed for a remote auxiliary alarm, visual or audible. This a special option and in most cases will not be used, unless the customer has consulted first with Technical Support, at Fireboy-Xintex, Inc. The power connection to the LLM-4 shall be made through a suitable fuse (1/2 amp) or circuit breaker arrangement connecting the positive wire (+12VDC) to the terminal connector labeled + and the common ground wire to the terminal connector labeled -.



FOLLOW ALL APPLICABLE WIRING CODES

TESTING THE SYSTEM

The LLM-4 display head will indicate the level of each numbered tank, by illuminating the LEDs in the appropriate bar windows. The LED display lights will remain illuminated unless the On/Off switch is pushed. If the sender is wired incorrectly or not attached, the LED indicators will not illuminate. Should this occur, check all wiring for breaks, crimps or fraying. Also check to see if the sender wires are correctly attached to the appropriate terminal connector. If the wiring is acceptable, remove all power to the display head and senders for 30 seconds. Repower the unit and test. If the problem persists, contact the technical service department at Fireboy-Xintex by calling TOLL FREE 1-866-350-9500.

NOTES

LIMITED WARRANTY
THIS WARRANTY IS IN LIEU OF ALL OTHER
EXPRESS OR IMPLIED WARRANTIES

Seller warrants title, materials, and workmanship on equipment, except components manufactured by others for which the Seller assigns, as permitted, the original manufacturer's warranty. Seller's warranty shall be for a period of one (1) year from the date of sale to the ORIGINAL CONSUMER PURCHASER, during which non-conforming equipment returned to Seller at Buyer's expense and risk shall be repaired or replaced at Seller's option.

Fireboy-Xintex, Inc., will repair or replace products found to be defective in materials or workmanship with the period set forth above, provided that:

- (a) the product has not been subjected to abuse, contamination, neglect, accident, incorrect wiring not our own, improper installation or servicing, or used in violation of instructions furnished by Fireboy-Xintex, Inc., and,
- (b) as to any prior defects in materials or workmanship covered by this warranty, the products has not been repaired or altered by anyone except Fireboy-Xintex, Inc., and,
- (c) the serial number has not been removed, defaced or otherwise changed, and,
- (d) examination discloses, in the judgement of Fireboy-Xintex, Inc., a defect of materials or workmanship which developed under normal installation, use and service. Fireboy-Xintex, Inc., does not assume the costs of removal and/or installation of the product or any other incidental costs which may arise as a result of any defect in materials or workmanship, and,
- (e) upon discovery of defect, Buyer shall immediately cease use of the product and notify Fireboy-Xintex, Inc.

ANY WARRANTY IMPLIED BY LAW, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS, IS IN EFFECT ONLY FOR THE DURATION OF THE EXPRESS WARRANTIES SET FORTH ABOVE.

NO PERSON IS AUTHORIZED TO GIVE ANY OTHER WARRANTY, OR TO ASSUME FOR FIREBOY-XINTEX, INC., ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF ITS PRODUCTS.

FIREBOY-XINTEX, INC. SHALL NOT BE LIABLE FOR THE LOSS OF USE, REVENUE, OR PROFIT FOR ANY INJURY, OR FOR ANY OTHER CONSEQUENTIAL OR INCIDENTAL DAMAGES.

BUYER IS NOT RELYING ON SELLER'S JUDGEMENT REGARDING HIS PARTICULAR REQUIREMENTS, AND HAS HAD AN OPPORTUNITY TO INSPECT THE PRODUCT TO HIS SATISFACTION.

***FIREBOY*® - XINTEX®**

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