

# Instruction Manual *Monitor* **Tank Level Sensor**

**309500A**  
6-18-02

**Part No. 117267, Series A**



**Read Warnings and Instructions**

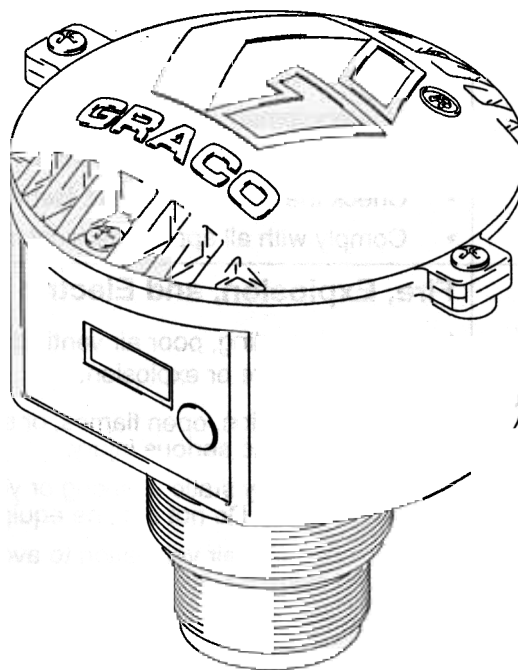
INSTRUCTIONS

For use with Matrix Total Fluid  
Management components.

U.S. Patent Pending

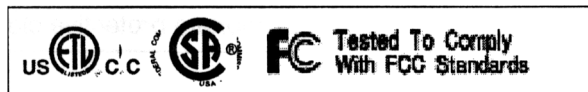
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# Symbols

## Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow instructions.

## Caution Symbol



This symbol alerts you to the possibility of damage or destruction of equipment if you do not follow instructions

## WARNING



### Equipment Misuse Hazard

Equipment misuse can cause equipment to malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all manuals, tags, and labels before operating the equipment.
- Use equipment only for its intended purpose. If you are uncertain, call your Graco distributor.
- Do not alter or modify equipment. Use only genuine Graco parts and accessories.
- Check the equipment daily. Repair or replace worn or damaged parts immediately.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.



### Fire, Explosion, and Electric Shock Hazard

Improper grounding, poor air ventilation, open flames, or sparks can cause a hazardous condition and result in a fire or explosion.

- Poor ventilation, open flames, or sparks can cause a hazardous condition and result in a fire or explosion and serious injury.
- If there is any static sparking or you feel an electric shock while using this equipment, stop immediately. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being dispensed.
- Keep the dispensing area free of debris, including solvent, rags, and spilled gasoline.
- Do not smoke while working with flammable fluids.
- You must use the battery type provided with the Matrix Fluid Management System. Use of any other batteries than those specified could affect the safety of this unit.
- Only replace the battery in a non-hazardous location, away from flammable fluids or fumes.
- To reduce the risk of a fire, explosion, electric shock, and serious burns to the body, handle and dispose of a used battery properly.
- Do not short circuit, charge, force over discharge, disassemble, crush, penetrate, incinerate, or heat the battery to a temperature exceeding 185° F (85° C).
- Any misuse or abuse of the battery may cause it to leak or explode.



### Toxic Fluid Hazard

Hazardous fluids or toxic fumes can cause a serious injury or death if splashed in the eyes or on the skin, swallowed, or inhaled.

- Know the specific hazards of the fluid you are using. Read the fluid manufacturer's warnings.
- Store hazardous fluid in an approved container. Dispose of the hazardous fluid according to all local, state, and national guidelines.
- Wear appropriate protective clothing, gloves, eyewear, and respirator.

# Installation

## ! WARNING

### Fire, Explosion, and Electric Shock Hazard



Installing and servicing this equipment requires access to parts which may cause electric shock or other serious injury if work is not performed properly.

- Do not install or service this equipment unless you are trained and qualified.
- Comply with all applicable local, state, and national fire, electrical, and other safety regulations.

## Programming Tank Levels

Once the tank sensor(s) has been installed it is necessary to program the tank levels using the Matrix software that is installed on the computer. This can be accomplished by referencing the correct step in manual 309501 Matrix PC Software Guide.

## Tank Level Sensor Installation

- 1 Remove the bung or plug from the tank that the sensor will be installed on. See FIG. 1.
2. Screw the tank level sensor into the tank. **Hand tighten only.**

New Drawing being completed

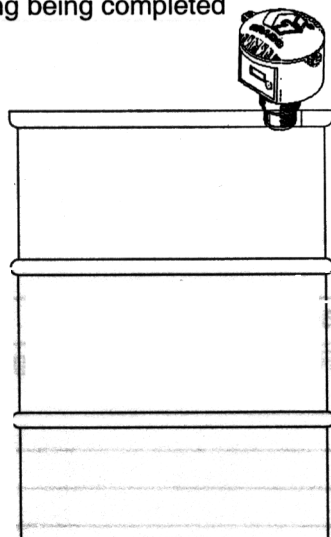


FIG. 1

# Operation

## Viewing Tank Levels

Tank levels can be viewed on the tank sensor when installed on a storage tank.

1. Press and release the tank read button (A). See FIG. 2.
2. The LCD (B) displays the first screen with the gallons remaining in the storage tank. This screen displays for approximately 4 seconds.

Note: the tank sensor can be set to display in gallons or liters through the Matrix PC software. The maximum amount that can be shown is 99,999 gallons.

**99,999  
Gallons**

3. A second screen then displays the remaining life of the unit's batteries. This screen displays for approximately 3 seconds. Batteries should be replaced when the remaining percent drops below 10%. More often if the unit is operating on a frequent basis.

**100%  
Battery**

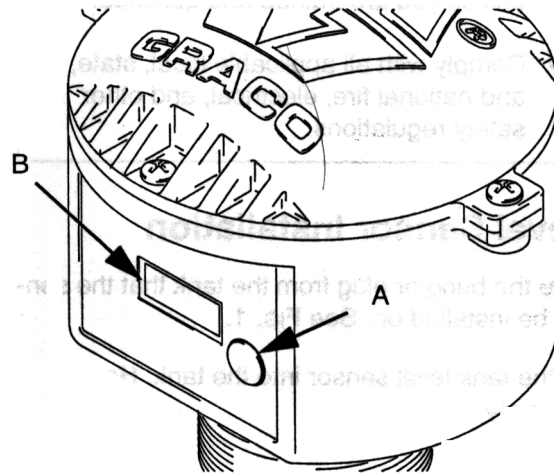


FIG. 2

## Troubleshooting

Problem	Cause	Solution
LCD display begins to fade or does not display at all	weak or dead batteries	Replace batteries (see page 5)
Incorrect readout		

# Service

Once the tank level sensor has been installed no additional maintenance or service is necessary with the exception of replacing batteries.

## ! WARNING

### Fire, Explosion, and Electric Shock Hazard



Only replace the battery in a non-hazardous location, away from flammable fluids or fumes.



Use of any batteries other than those specified could affect the safety and operation of this unit.

## ! WARNING

### Fire, Explosion, and Electric Shock Hazard



To reduce the risk of a fire, explosion electric shock, and serious burns to the body, handle and dispose of a used battery properly.



Do not short circuit, charge, discharge, disassemble, crush, penetrate, incinerate, or heat the battery to a temperature exceeding 185° F (85° C).

Any misuse or abuse of the battery may cause it to leak or explode.

## Replacing Batteries

When battery indicator shows replacement of batteries is needed follow this procedure.

1. Remove the four screws (9) holding the top of the tank sensor in place. See FIG. 3
2. Remove the cover (3) exposing the two 9V batteries (7).
3. Replace the two batteries (7).
4. Replace the cover (3) and the four screws (9) that hold the cover in place.

**Note:** make sure that the packing o-ring (8) is not damaged and is in the correct location.

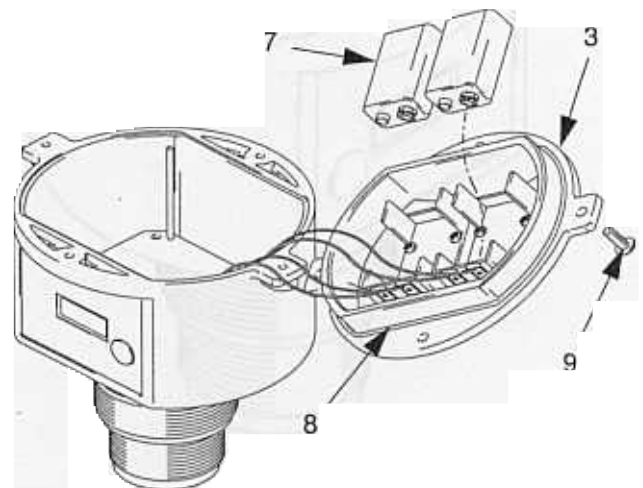
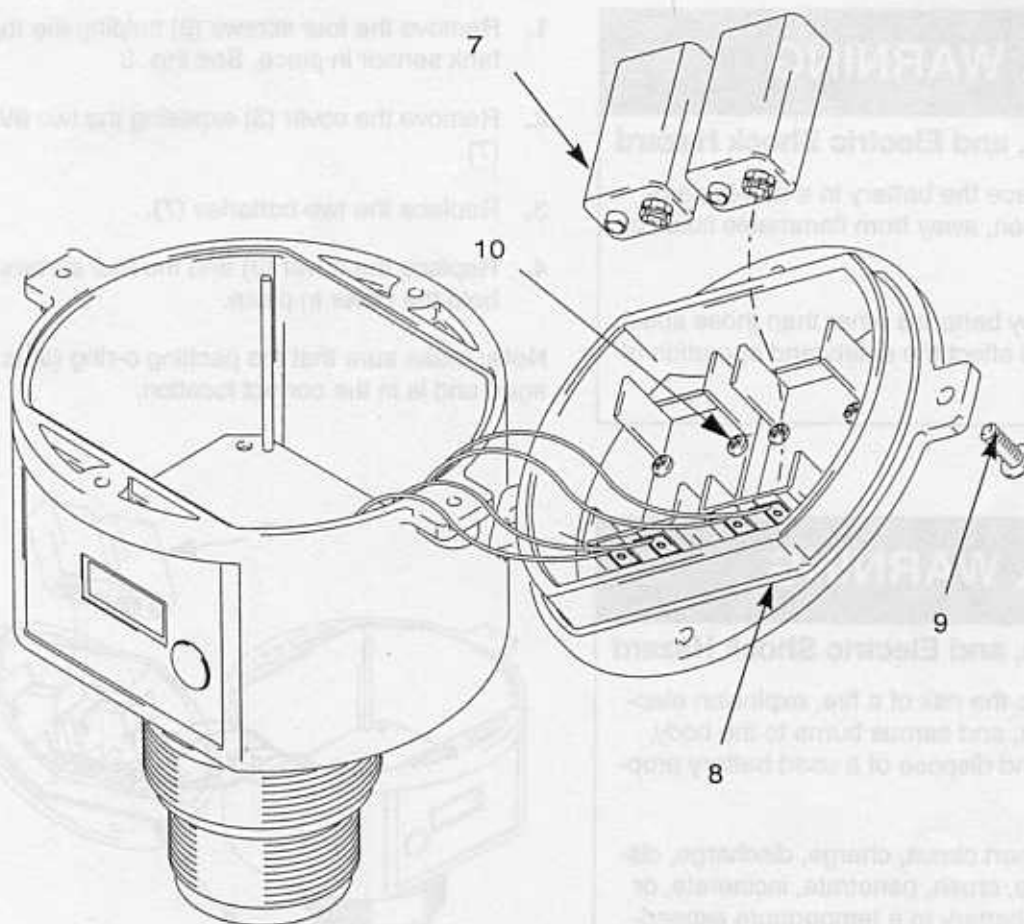


FIG. 3

# Parts

## Part No. 244592, Ultrasonic Tank Level Sensor



Ref. No.	Part No.	Description	Qty	Ref. No.	Part No.	Description	Qty
7	113716	BATTERY, 9 volt	2	9	117467	SCREW, self tapping, HI-LO, #10-16 x 9/16	4
8	112343	PACKING, o-ring	1	10	117468	SCREW, self tapping, HI-LO, #4-24 x 3/8	12

# Technical Data

Weight .....	..... X.XX oz (XXX grams)
Frequency .....	..... xx.xx megahertz
Power .....	.... less than 100 milliwatts
Batteries .....	..... 9V
Range .....	..... XXft
Fittings .....	..... OD
Temperature Range ..	..... F and C
Battery Life .....	.2 years depending on usage

## Radio Frequency Receiver Approval FSS ID: JHI2

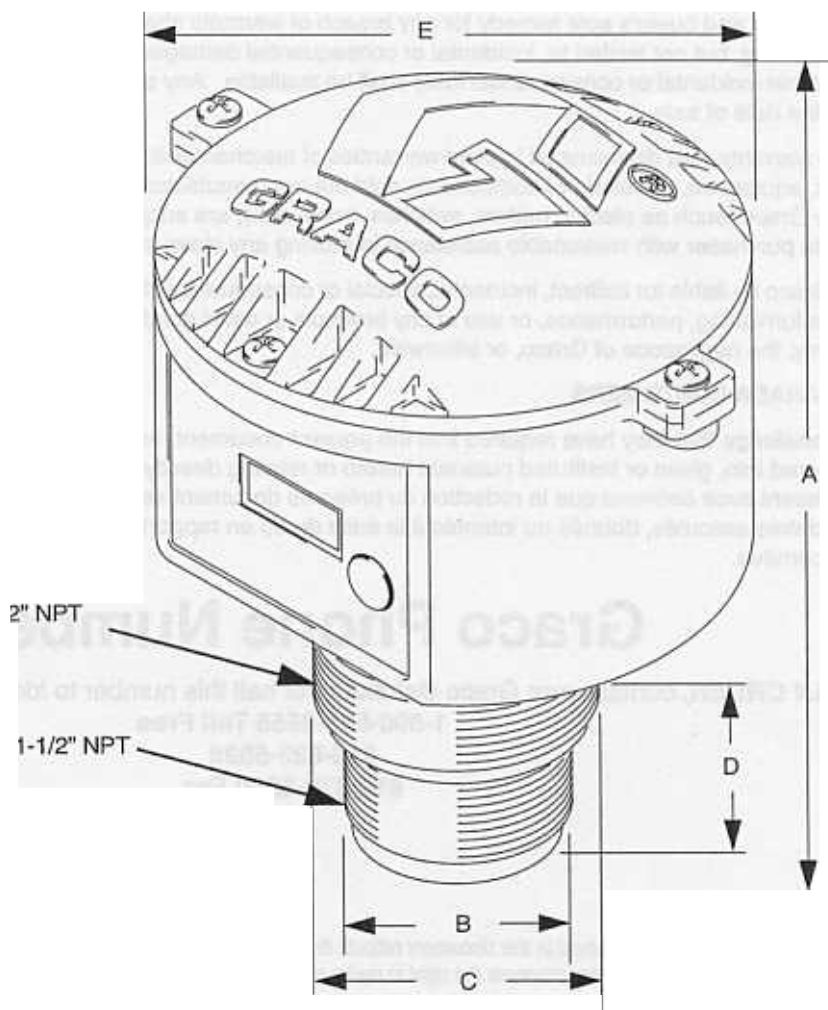
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause under sired operation.

Changes or modification t this equipment, not expressly approved by the party responsible for compliance, could void the user's authority to operate the equipment.

## Dimensions

A	6.9 in. (175 mm)
B	1.9 in. (48 mm)
C	2.4 in. (61 mm)
D	2.3 in. (58 mm)
E	4.9 in. (124 mm)



# Graco Standard Warranty

Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months or two thousand hours of operation from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. However, any deficiency in the gun barrel, gun body, manifold, mounting bracket, internal power supply, and alternator (excluding turbine bearings) will be repaired or replaced for thirty-six months or six thousand hours of operation from the date of sale. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

**THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

Graco makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose in connection with accessories, equipment, materials or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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**612-623-6928**

**612-378-3590 Fax**

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