

918 TCP/TCPS Overfill Alarm

Installation & Maintenance Instructions

The 918TCP/TCPS provides an audible alarm for either a high or low level warning. Incorporates an alarm box and a single-point level sensor.



Failure to follow any or all of the warnings and instructions in this document could result in a hazardous liquid spill, which could result in property damage, environmental contamination, fire, explosion, serious injury or death.

Installation



WARNINGS

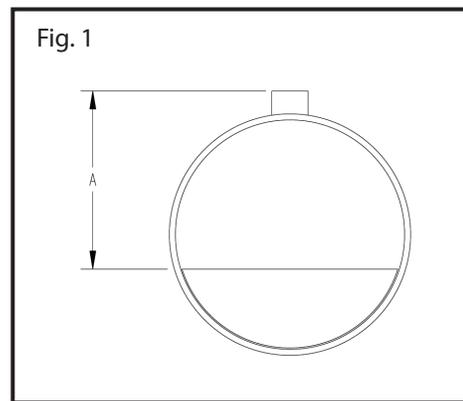
- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- You must be trained to install or maintain this alarm. Stop now if you have not been trained.
- Any modification to this device other than those stated in these installation instructions will void the product warranty.
- This device is intended to be used as an auxiliary warning to the operator of a possible overfill situation and should not be the only system in place to prevent a tank from overfilling. It is the sole responsibility of the operator to continuously prevent any spillage regardless of the situation or status of the gauge.
- Install in accordance with all applicable local, state, and federal laws.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- Tanks could be under pressure. Vapors could be expelled from tank vents, piping, valves or fittings while performing installation. Vapors could catch fire or cause an explosion. Avoid sparks, open flame, or hot tools when working on gauge.
- In the event of malfunction, contact Morrison Bros. Customer Service.

Measuring Activation Point in Tank

1. If the unit is a 918TCPS, install the included quick coupling Part F or Part A onto the tank open. Use a non-hardening fuel resistant pipe sealant on threads of Part F or A. Tighten until secure.
2. Measure the distance from the top of the tank opening (or the Part F or A) to the desired activation level (A) in inches. (Fig. 1) This dimension will be used to set the probe length.
3. Make sure you have enough length to get the desire set point:

918TCP0400 AA/AS
918TCPS400 AA/AS
918TCPS800 AA/AS

918TCP0500 AA/AS
918TCPS500 AA/AS
918TCPS900 AA/AS

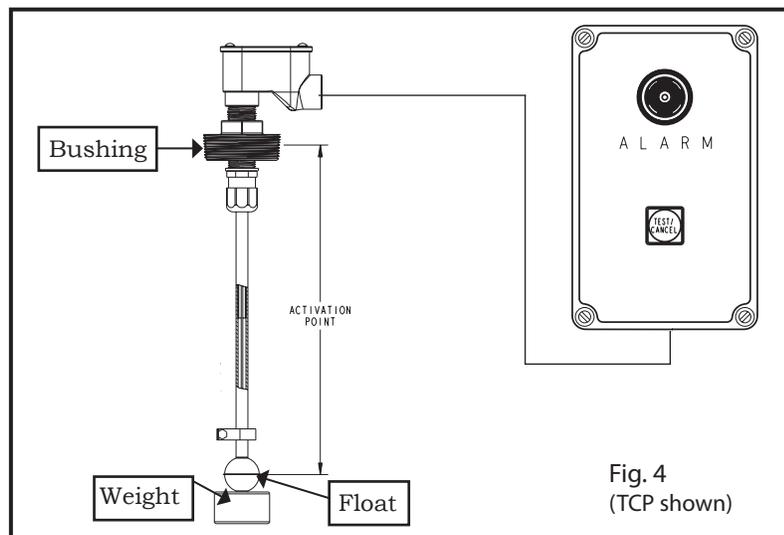
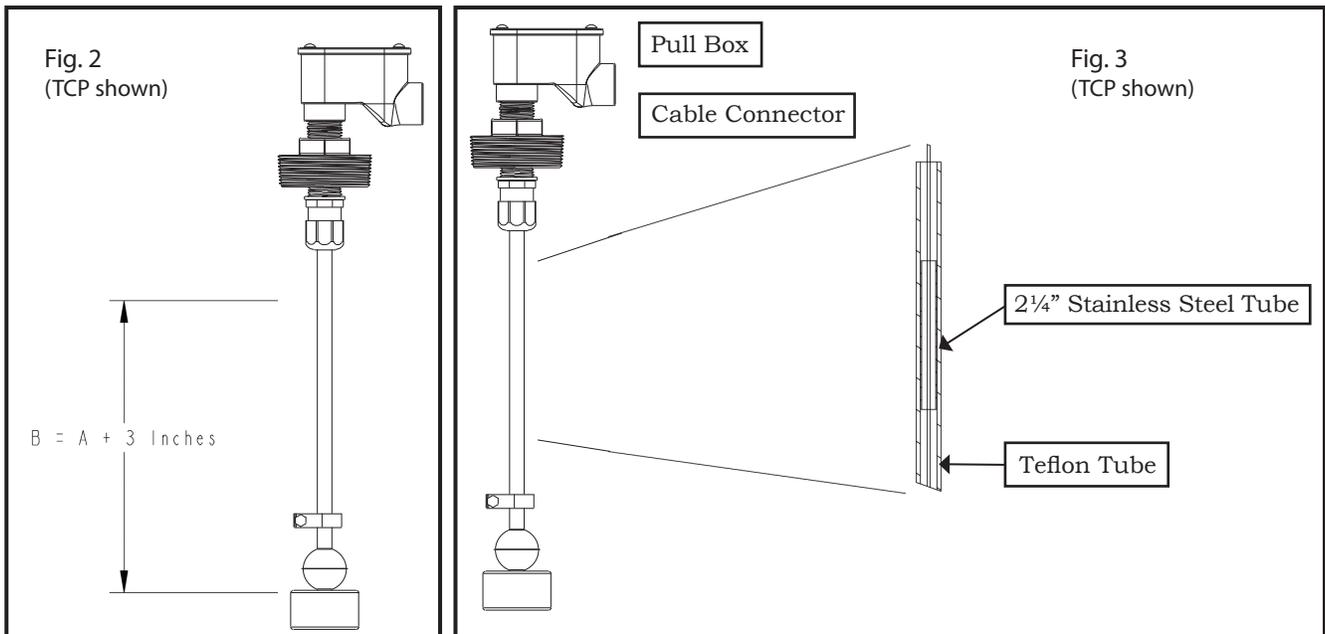


Setting the Probe Length

Warning: If using a low level alarm the collar clamp should be removed and relocated at the bottom

1. Add 3" to the activation level (A) above to get the cut length (B).
2. Mark the Teflon tube at the cut length (B). (Fig. 2)
3. Disassemble pull box and remove Teflon tubing assembly from the cable connector.
4. Feed the wires through the 12" aluminum tube provided and insert aluminum tube into Teflon tube to aid in cutting the Teflon tubing without cutting the wires. After cutting the Teflon tubing at point (B), remove the aluminum tube.
5. Replace the 2 1/4" stainless steel tube at the top of the Teflon tube inserting it about 1 1/2" into the Teflon tube. (Fig. 3)
6. Insert the wires and the Teflon tube back into the liquid tight cable connector and pull box. Make certain the float is situated so the "NC" marking is at the top, nearest the cable connector. Tighten the cable connector making certain it is placed over the stainless steel tube.
7. Connect the alarm box, with the batteries installed, just to verify the activation point.
8. With the float resting on the weight, lift the float up until the alarm sounds. Note where the float is when the alarm sounds and silence the alarm. Measure the distance from the middle of the float, at the point it activated the alarm, to the middle of the threaded bushing. (Fig. 4)

Warning: If alarm is not activated, wires may have been sliced, cut, and/or damaged. Do not use if alarm is not activated.



9. Compare this measurement to the valve in Step 1, activation level (A). If necessary the assembly can be adjusted slightly by loosening the cable connector and moving the tubing as necessary, making certain the cable connector remains placed over the stainless steel tube for compression. Make sure cable connector is secured by pulling on the Teflon tubing; tighten if loose.
10. Disconnect the alarm box and prepare to install unit into tank.

Probe Installation

Unit mounts on top of an aboveground storage tank with a 2" NPT connection.

Warning: High/Low Level Alarm requirements may differ from one location to the next. Be sure to follow all Federal, State, and Local Code Requirements governing this installation

1. Verify that the liquid tight cable connector, below the threaded bushing, is still tight. Tug on the Teflon tube to verify. Tighten if necessary.
2. Apply a non-hardening fuel resistant pipe sealant to the threads on the 2" NPT threaded bushing.
3. Slowly lower the weight end of the sensor into the tank. If the unit is a TCPS, feed the weight end through the quick coupler Part D.
4. Thread the bushing into the tank bug and tighten until secure. If the unit is a TCPS, thread the bushing into the Part F or A and tighten until secure. Slowly lower the weight end of the sensor into the tank through the Part F or A and then couple the Part D onto the Part F or A.

Electrical Switch Ratings

10 watt resistive load, 200VAC/DC max, 500mA max (*Ratings for resistive loads only.*)

*Do not use for inductive loads.

Wiring

Note: As defined in article 501 – Class 1 Locations of the National Electric Code, this apparatus and its connected wiring are intrinsically safe. Under normal conditions this apparatus and its wiring cannot release sufficient energy to ignite a specific ignitable atmospheric mixture by opening, shorting, or grounding.

Important: Wiring must be performed by a qualified technician, licensed by the appropriate local, state, and federal authority. All appropriate precautions and electrical codes should be followed.

Warning: Interconnect wiring between the Sensor and its destination must be kept isolated and separate from other wiring. This wiring must not share any junction box, conduit, raceway, or fixtures with circuits other than those defined by NEC as being intrinsically safe for all Class 1 locations.

1. All wires should run in conduits as appropriate per local, state, and federal codes.
2. The wires must be #18-22 AWG fuel and oil resistant wire.

Alarm Installation and Testing

Refer to 918S, 918D, 918Q Series Alarm Installation, Operation and Maintenance Instructions.



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Maintenance

This device should be maintained per applicable codes or at least once each year.

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- In the event of malfunction, contact Morrison Bros. Customer Service.

Steps

1. Visually inspect the gauge and alarm for damage or excessive wear. If either is found replace the gauge or alarm.
2. If necessary, clean the clear front cover of the gauge or alarm box with a damp cloth.
3. Measure the fluid height and correlate it to the tank manufacturer's volume chart to verify the gauge volume reading. If readings do not match adjust the gauge setting according to the installation instructions.
4. Test the battery level and overall operation of the 918 Alarm Box. Refer to 918S, 918D, 918Q Series Alarm Installation, Operation and Maintenance Instructions.
5. Check alarm points to an alarming device to verify alarm settings. **The tank fluid level must be several inches lower than the alarm level setting.**
6. Inspect the warning tag located near the tank fill and off-loading area. If the tag is damaged or difficult to read, contact Morrison Bros. at (800) 553-4840 for a free replacement tag.



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