

925 Series Multi-Level Sensors

Installation & Maintenance Instructions

The 925 detects the level(s) of liquid in a tank when used in conjunction with an alarm device like the Morrison Figures 918S, 918D, 918Q or 918AC. Once the liquid has reached the level of actuation, the sensor will send a signal causing the alarm, to which the sensor is connected, to be activated. The 925 may be ordered with 1-5 user specified set points for the level floats.



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.
- Any modification of this sensor 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 alarm condition and should not be the only system in place to prevent a tank from overflowing. It is the sole responsibility of the operator to continuously prevent any spillage regardless of the situation or status of the sensor.
- 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.

Electrical Switch Ratings

100 watt resistive load, 300VAC-700mA max / 350VDC - 1.0A max, SPST (*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.

NOTE: The 918S, 918D and 918Q alarm boxes are intrinsically safe devices for use with Class 1, Division L Group D. T4 Hazardous locations when powered by Morrison Bros. Co. battery pack part number 918S--0113 2B.

	Level	Wire Color
	L5	Blue
	L4	White
	L3	Yellow
	L2	Black
	L1	Red

Steps

1. Inspect unit for shipping damage. Replace unit if damage is found. Remove packaging material.
2. Check inside float area(s) for foreign matter such as packaging material. Remove any that is found.
3. This sensor is designed to be connected to an alarm device like the Morrison Figures 918S, 918D, 918Q or 918AC.
4. Turn off power to alarm device.
5. Before installing sensor into the tank, temporarily connect the wires coming from the alarm device to the sensor.
6. Once the sensor is attached properly to the alarm device, power the alarm.
7. With the sensor in the vertical position, slowly move float up on tube until the alarm device is actuated; repeat for every float.
8. Turn off power to alarm device.
9. Disconnect temporary wire connections.

WARNING: If alarm does not actuate, wires may have been sliced, cut, and/or damaged. Do not use if alarm does not actuate.

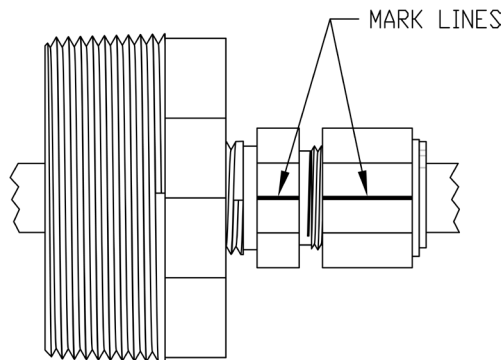
Sensor Installation

1. To ensure proper function, the sensor must be installed in the vertical position.
2. Locate the opening, on the top of the tank, where the sensor is to be installed. If possible, select a location away from the fill port to avoid excessive turbulence that could affect the float. Also make certain that there are no objects inside the tank or sump, near the selected opening, that could interfere with float function.
3. Apply a non-hardening fuel resistant pipe sealant to the threads on the 2" NPT threaded bushing.
4. Lower the Sensor into the Tank.
5. Thread the bushing into the tank bung and tighten until secure, making sure bushing doesn't move from original position..
6. Complete permanent wiring to alarm device.

Float Height Adjustment (if necessary)

Adjusting the float height impacts all the floats at the same time, individual adjustment is not obtainable.

1. Mark the fitting and the nut on the compression fitting before loosening the nut, see example below.



2. Loosen nut enough so the tubing can slide up and down on the fitting.
3. Slide tubing up or down to obtain your desired float height adjustment.

NOTE: You cannot slide the tube up more than the gap between bottom of bushing and top retaining ring of the highest float.

4. Retighten the nut by hand.
5. Rotate the nut with a wrench to the original position as indicated by previous marks lining up.
6. Double check your float height, repeat steps 3 thru 5 if needed.



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Maintenance

This device should be maintained and checked for proper operation per applicable codes or at least once a year.



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Steps

1. Turn power off to alarming device.
2. If sensor is not accessible to manually move float, remove sensor from tank. This may require disconnecting wiring from sensor to alarming device.
3. Visually inspect the level sensor for damage or excessive wear. If either is found, replace the sensor or alarm.
4. If necessary, temporarily connect wiring to alarming device.
5. Turn on power to alarming device.
6. With the sensor in the vertical position, slowly move float(s) up on tube until the alarm device is actuated.
7. If the sensor did not activate, replace sensor with new unit.
8. Reinstall sensor to original position in tank.
9. Turn off power to alarming device.
10. Complete permanent wiring to alarming device.
11. Turn on power to alarming device.



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