Installation Manual

Installing the Freedom Electronics
Interstitial and Sump Sensors.

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Part #	FM-000200
Description	Freedom Sensor Installation manual
Sensor Models	FE-794390-420 Interstitial Sensor
	FE-794380-208 Sump Sensor

Technicians should be ATG Certified.

Important Safety Information

Know Your Environment
Working at a fueling station can present many dangers. It is a potentially dangerous environment of electricity, flammable fuels, vapors, and interaction with the general public. Only trained and knowledgeable individuals should perform service on the equipment. It is important to your safety and the safety of others to follow proper procedures.

Emergency Shut Off (ESO)
Know how to turn OFF power to all the fueling equipment by locating the ESO switch and circuit breakers. You must know how to shut off all fuel flow and electricity in an emergency.

Follow the Regulations
Information is available at Occupational Safety and Hazard Association (OSHA), National Fire Protection Association (NFPA) 30A; Code for Motor Fuel Dispensing Facilities and Repair Garages, NFPA 70; National Electrical Code (NEC), as well as other national, state and local entities. All applicable codes must be followed to maintain safe installation, service, use and operation of the equipment.

LOTO (Lockout/Tagout)
Always make sure ALL power is turned OFF before servicing the equipment. Follow OSHA Standard 29 CFR 1910.147 The Control of Hazardous Energy (Lockout/Tagout).

No Sparks - No Smoking
Sparks from power tools, burning cigarettes, static electricity, vehicles and other sources can ignite fuels and their vapors. Ensure that you use safe and established practices while working with electrical devices and equipment.

Wear Proper PPE
Check with your company, customers and the job/site specifics to determine what types of personal protective equipment are appropriate. Always wear the proper PPE to prevent injuries and save lives.

Barricade Your Work Area
One of the dangers of working at an active retail fueling station is the potential impact of customers and the general public. It is important to properly establish your work area by barricading, to reduce the potential of vehicles or customers from entering the work area. The use of barricades is both for the protection of workers and protection of the general public/customers.

Read the Manual(s)
Knowledge of all related manufacturer procedures, manuals and documents is important. Follow the Recommended Practices of The American Petroleum Institute (API). Understand the specific procedures before starting work. If you do not understand a procedure, call Freedom Electronics at 770-792-8888.

Notify Site
On arrival identify yourself to the site manager and inform them of the work you will be performing.

Sump Sensor
FE-794380-208

Non-Discriminating - Tri-State

Detects the presence of liquid in containment sumps.
- Dispenser Pan
- Spill Containment
- STP Sump

Includes:
Bracket: 212-0767
Seal Kit: 330020-067P

Interstitial Sensor
FE-794390-420

Non-Discriminating - Normally Open

Detects the presence of liquid between the double walls of the tank.
- Convault Tank
- Annular Space

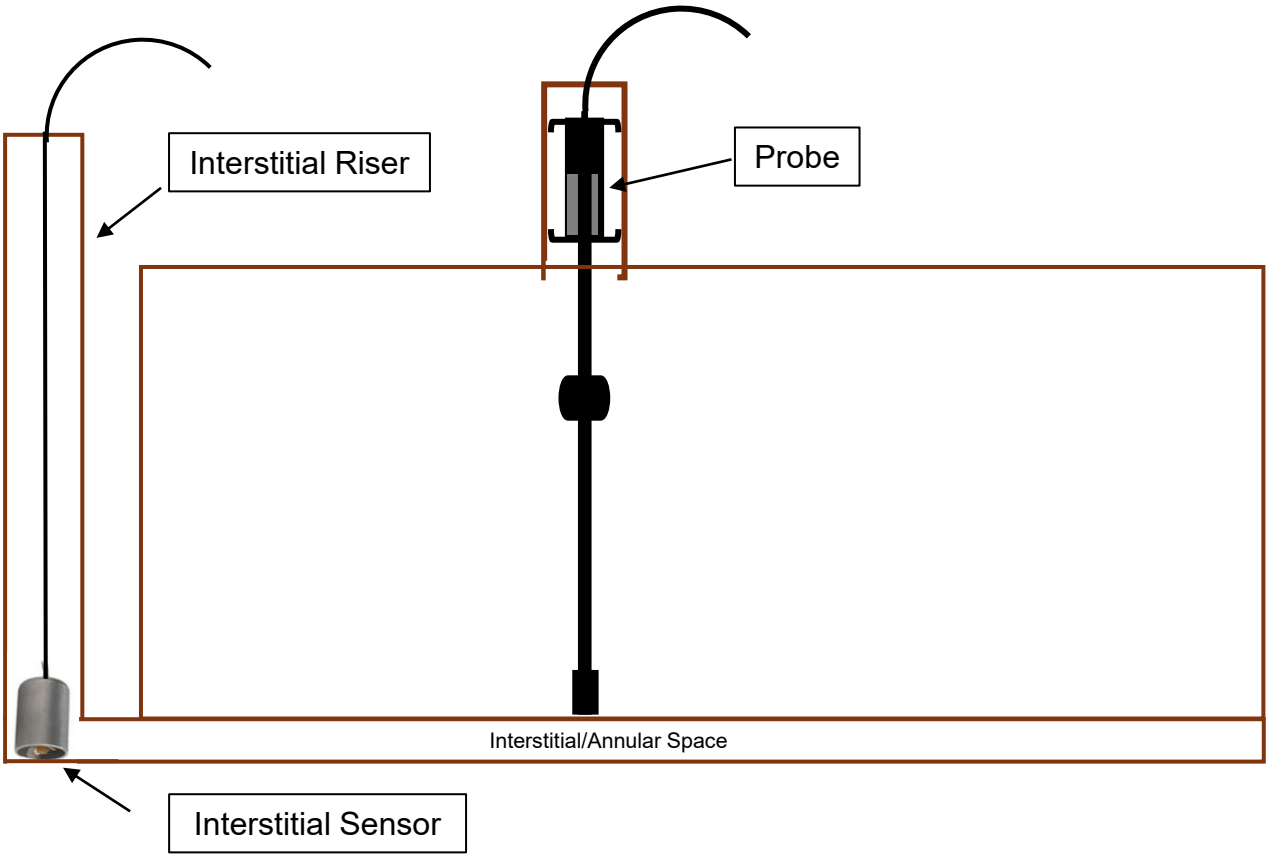
Includes:
Seal Kit: 330020-067P

Ratings:
- Coding: Ex ia IIC T6 Ga
- Entity Parameters: Ui= 5V, Ii= 150mA, Pi=0.75W
- Ambient temperature range: -30C to +85C

Sensors operate with TLS-300, TLS-350, TLS-450 and TLS-450 PLUS.

Interstitial Sensor Installation

1. Verify there is no liquid present in the annular space.
2. Lower the sensor into the interstitial riser pipe until the sensor rests on the bottom.



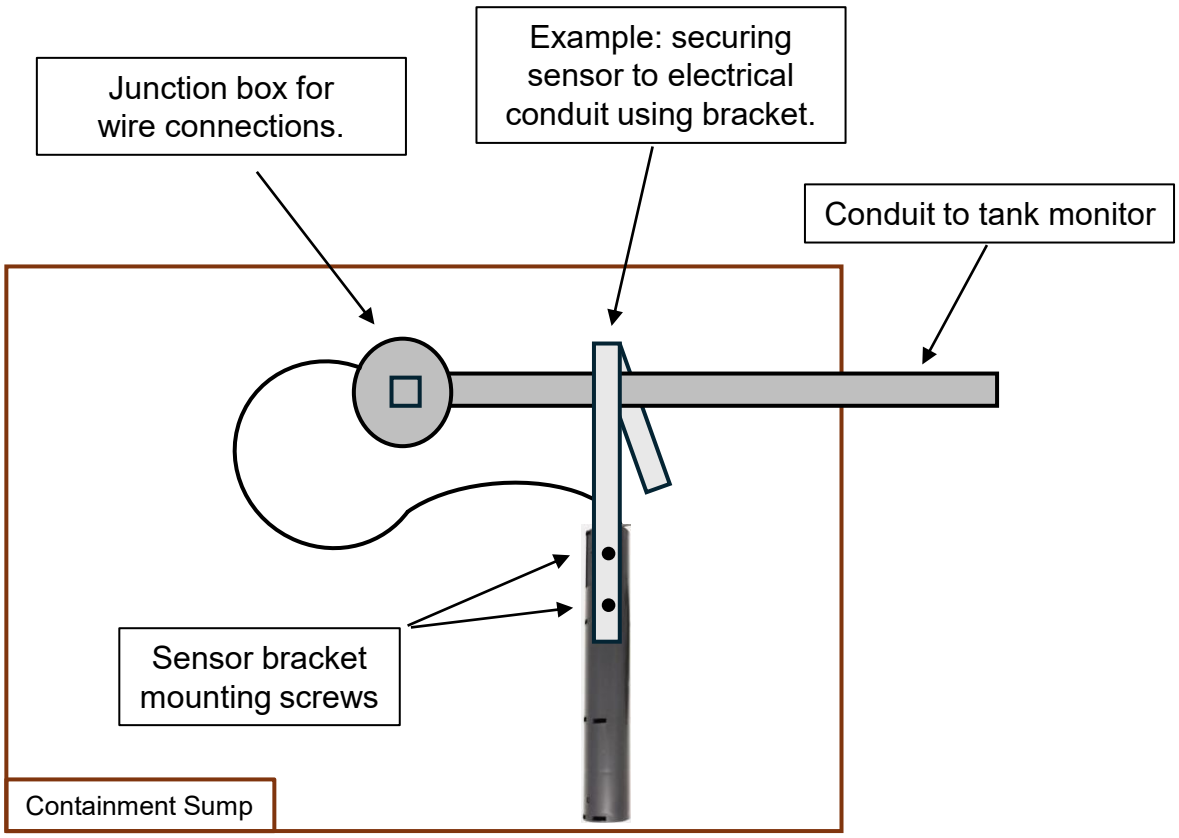
Sump Sensor Installation

1. Verify there is no liquid present in the sump.

2. Attach the mounting bracket to the sensor using the (2) included screws.

3. Place the sensor in the lowest part of the sump and secure using the mounting bracket. The sensor must be sitting on the bottom of the sump in a vertical position.

    - Mount the sensor where it can be easily removed for testing.
    - Additional hardware may be required to secure the sensor.
    - Do NOT Mount the sensor onto flexible product lines.



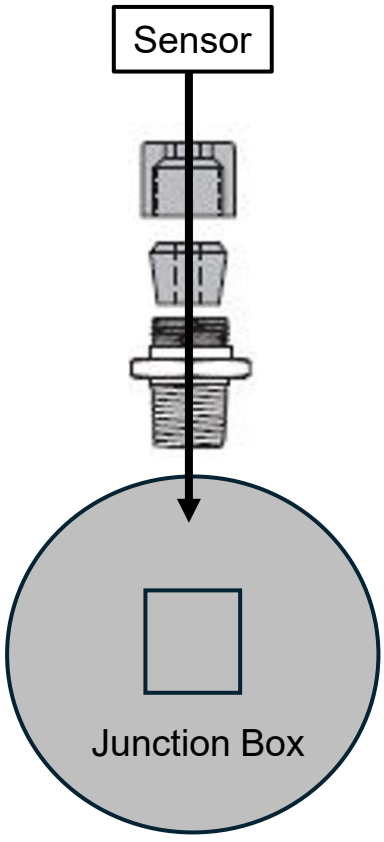
Sensor Cable

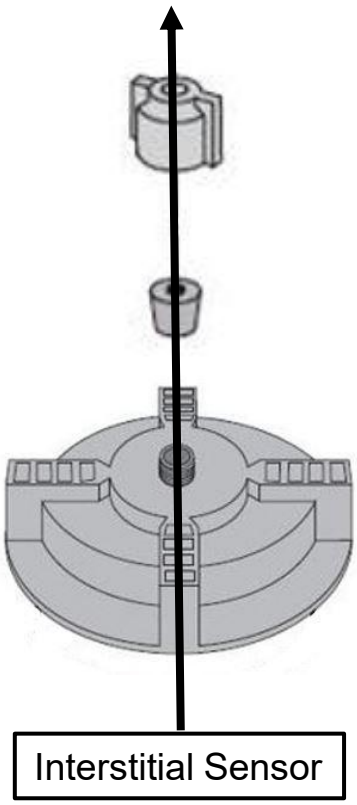
For Sump Sensor:

1. Route the sensor cable into the junction box and tighten the cord grip.

For Interstitial Bell Sensor:

1. Push the sensor cable through the cap and cord grip.
    - The sensor cable should have a minimal amount of slack between the sensor and cap.
2. Install the sensor cap and tighten the cord grip.
3. Route the sensor cable into the junction box and tighten the cord grip.

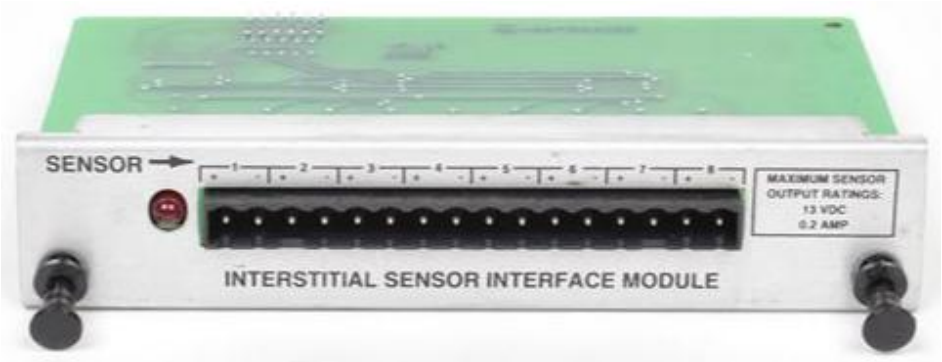




Sensor Wiring

1. Connect the wires from the sensor cable to the field wiring(from the console) using wire nuts.

   • Sensor field wiring must be a two-wire shielded cable, with no splices.
   • Shields must be grounded at the console and cut off on the field side.
   • Polarity does not matter



2. After verifying proper operation, seal the wire nuts with the included epoxy pack.

Related Documents

- Veeder-Root Sensor Products Application Guide 577013-750
- Veeder-Root TLS-3XX Series Consoles Site Prep and Installation Manual 576013-879
- Veeder-Root TLS-3XX Series Console Troubleshooting Guide 576013-818
- Veeder-Root TLS-3XX Series Consoles System Setup Manual 576013-623
- Veeder-Root TLS-450PLUS Console Site Prep and Installation Manual 577014-073
- Veeder-Root TLS-450PLUS Consoles Troubleshooting Guide 577014-075
- Veeder-Root TLS-450PLUS/TLS4 Operator’s Manual 577014-110