

Groundwater Sensor

Installation Guide

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For complete warranty, technical support, and additional product information, refer to your console's Operator Manual.

DAMAGE CLAIMS

1. Thoroughly examine all components and units as soon as they are received. If damaged, write a complete and detailed description of the damage on the face of the freight bill. The carrier's agent *must* verify the inspection and sign the description.
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RETURN SHIPPING

For the parts return procedure, please follow the instruction in the "Veeder-Root Warranty and Dispatch Program" pages in the "Policies, Literature, and Contact" Section of the Veeder-Root **Consoles - North America** Price List.

Contents

Introduction

- Related Manuals 1
- Contractor Certification Requirements 1
- Safety Symbols 2
- Before You Begin 3
 - Installation Components 4

Sensor Installation 5

Figures

- Figure 1. Installation Kit 4
- Figure 2. Groundwater Sensor Installation 5
- Figure 3. Groundwater Sensor Field Wiring Diagram 6
- Figure 4. Epoxy Sealant for Three-Wire Connections 7

Introduction

This manual tells you how to install the Veeder-Root Groundwater Sensor, Part No. 794380-62X. The manual assumes all preliminary site preparation is completed, and that field wiring from the monitor to the sensor junction box is in place.

For new installations, or if site preparation is necessary, refer to the appropriate Veeder-Root Site Preparation and Installation Instructions or contact your Veeder-Root representative for assistance.

Related Manuals

You must reference the appropriate manual below, to plan and install wiring that will connect the sensor to the console:

576013-879	TLS-300/TLS-350 Series Site Prep and Installation Guide
576013-773	ILS-350 Site Prep & Installation

Contractor Certification Requirements

Veeder-Root requires the following minimum training certifications for contractors who will install and setup the equipment discussed in this manual:

- Level 1** Contractors holding valid Level 1 Certification are approved to perform wiring and conduit routing, equipment mounting, probe and sensor installation, tank and line preparation, and line leak detector installation.
- Level 2/3** Contractors holding valid Level 2 or 3 Certifications are approved to perform installation checkout, startup, programming and operations training, troubleshooting and servicing for all Veeder-Root Tank Monitoring Systems, including Line Leak Detection and associated accessories.

Warranty Registrations may only be submitted by selected Distributors.







Safety Symbols

The following safety symbols may be used throughout this manual to alert you to important safety hazards and precautions

 <p>EXPLOSIVE Fuels and their vapors are extremely explosive if ignited.</p>	 <p>FLAMMABLE Fuels and their vapors are extremely flammable.</p>
 <p>ELECTRICITY High voltage exists in, and is supplied to, the device. A potential shock hazard exists.</p>	 <p>TURN POWER OFF Live power to a device creates a potential shock hazard. Turn Off power to the device and associated accessories when servicing the unit.</p>
 <p>NO SMOKING Sparks and embers from burning cigarettes or pipes can ignite fuels and their vapors.</p>	 <p>NO OPEN FLAMES Open flames from matches, lighters, welding torches, etc. can ignite fuels and their vapors.</p>
 <p>NO POWER TOOLS Sparks from power tools (such as drills) can ignite fuels and their vapors.</p>	 <p>NO VEHICLES Moving vehicles in the area during service can create a potential for personal injury to you or others. Sparks from starting vehicles can ignite fuels and their vapors.</p>
 <p>NO PEOPLE IN THE AREA Unauthorized people in the area during service can create a potential for personal injury to you and them.</p>	 <p>USE SAFETY BARRICADES Unauthorized people or vehicles in the work area are dangerous. Always use safety cones or barricades, safety tape, and your vehicle to block the work area.</p>
 <p>WEAR EYE PROTECTION Fuel spray from residual pressure in the lines can cause serious eye injuries. Always wear eye protection.</p>	 <p>INJURY Careless or improper handling of materials can result in bodily injury.</p>
 <p>GLOVES Wear gloves to protect hands from irritation or injury.</p>	 <p>READ ALL RELATED MANUALS Knowledge of all related procedures before you begin work is important. Read and understand all manuals thoroughly. If you do not understand a procedure, ask someone who does.</p>

Before You Begin

To protect yourself and your equipment, observe the following warnings and cautions.

 WARNING	
    	<p>This product is to be installed in systems operating near locations where highly combustible fuels or vapors may be present.</p> <p>Fire or explosion resulting in serious injury or death could result if the equipment is improperly installed or modified. Serious contamination of the environment may also occur.</p> <ol style="list-style-type: none">1. Read and follow all instructions in this manual, including all safety warnings. Install only as described in this manual.2. To avoid electrical shock, be sure AC power to the monitor is off during installation.3. To protect yourself and others from being struck by vehicles, block off your work area during installation or service.4. Comply with all applicable codes including: the National Electrical Code; federal, state, and local codes; and other applicable safety codes.5. Do not alter or modify any component or substitute components in this kit.6. Substitution of components may impair intrinsic safety. Circuitry within the sensor and console barrier form an intrinsically safe, energy-limited system. This system makes the groundwater sensor intrinsically safe for use in a Class I, Group D hazardous location. The sensor wiring is intrinsically safe only when connected to Veeder-Root Consoles.7. A groundwater sensor should be installed only in wet wells where preliminary testing has determined that water in the well is not contaminated, or contaminated water has been remediated and is now clean.

Installation Components

- Groundwater sensor P/N 794380-62X
- Installation Kit - P/N 330020-280 (Figure 1)
- Manual 576013-763

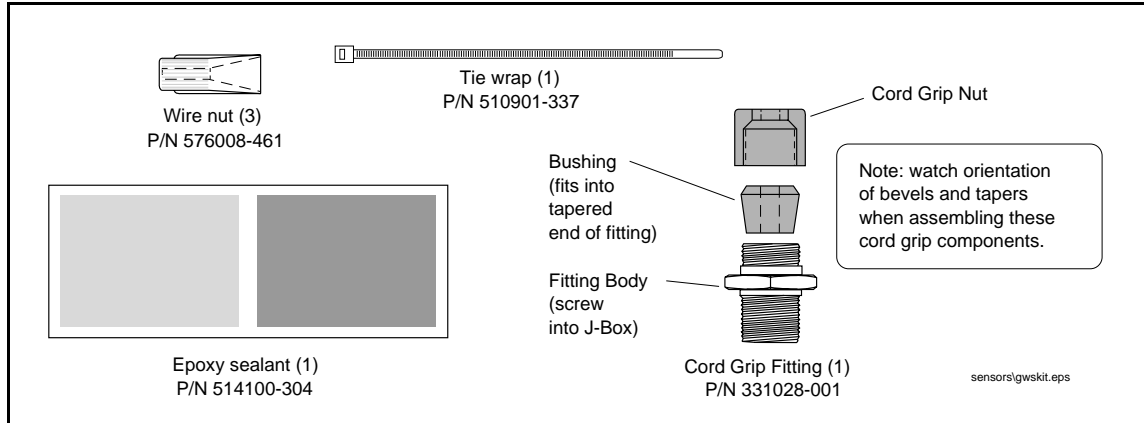


Figure 1. Installation Kit

Sensor Installation



To install the groundwater sensor:

1. Turn off AC power to the Veeder-Root monitoring system.
2. Remove any existing cap from the well in which the sensor will be installed. (A new well cap is supplied with the groundwater sensor.)
3. Lower the groundwater sensor into the monitoring well until the water float touches the bottom of the well.
4. Raise the sensor 2-inches to 4-inches from the bottom of the well and mark the sensor with a piece of tape at the point even with the top of the well casing.
5. Secure the sensor at the point marked with the tape to the retainer under the sensor well cap. Allow any excess sensor length (should be no more than 2-feet) to hang loosely from the retainer [Figure 2].

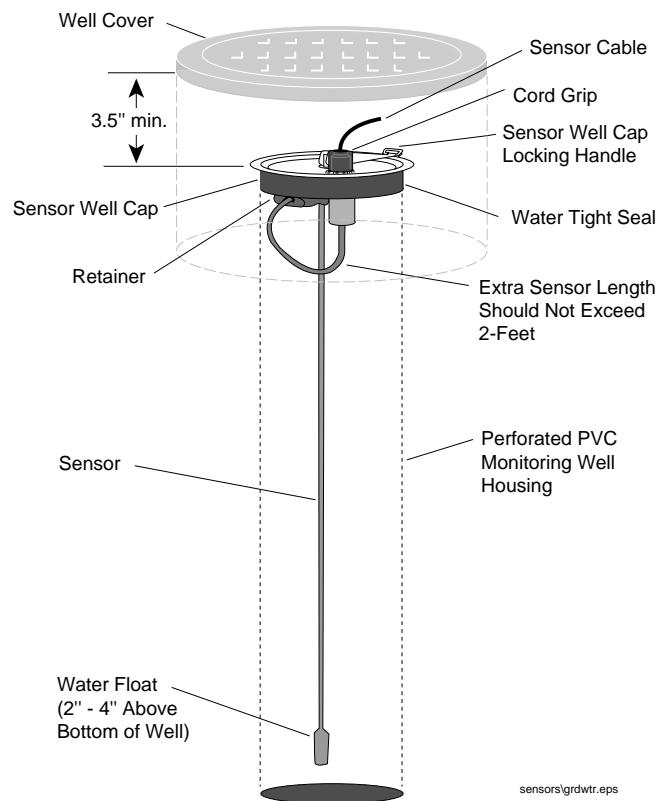


Figure 2. Groundwater Sensor Installation

6. Press the sensor well cap into the top of the well with the excess sensor length hanging inside the well housing.
7. Press down the locking handle on the sensor well cap to secure it in position and to form a water-tight seal between the sensor well cap and the monitoring well housing.

Sensor Installation

- Pass the end of the sensor cable through the nut, bushing, and cord grip fitting and into the Junction box (J-box). Pull the excess cable through the fitting and out the opened side of the J-box.
- After sliding the J-box cord grip fitting up to the J-box, apply the UL-classified sealant (suitable for use with the fuel involved) to the fitting then screw it into the J-box. Tighten the J-box cord grip fitting nut to ensure a watertight seal at the sensor cable entry.
- Using the wiring nuts, connect the wires from the sensor cable to the field wires from the console. Be sure to observe proper polarity between sensor and console [Figure 3].

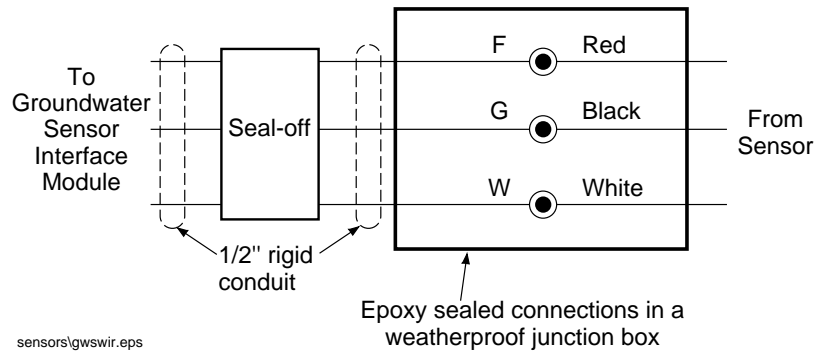


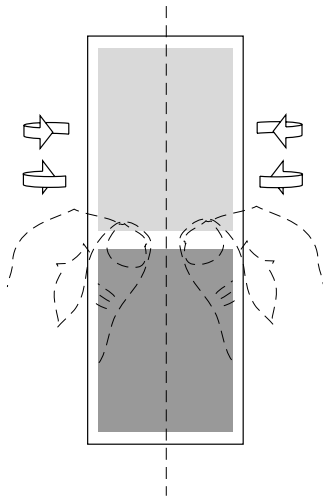
Figure 3. Groundwater Sensor Field Wiring Diagram

- Seal wire nuts with epoxy sealant following instructions in Figure 4 on page 7.

CAUTION: Epoxy sealant is irritating to eyes, respiratory system, and skin. Can cause allergic skin reaction. **Contains:** epoxy resin and Cycloaliphatic epoxy-carboxylate. **Precautions:** Wear suitable protective clothing, gloves, eye, and face protection. Use only in well ventilated areas. Wash thoroughly before eating, drinking, or smoking.

- For additional security, a padlock may be installed on the sensor cap to ensure that the locking handle cannot be opened by unauthorized personnel.



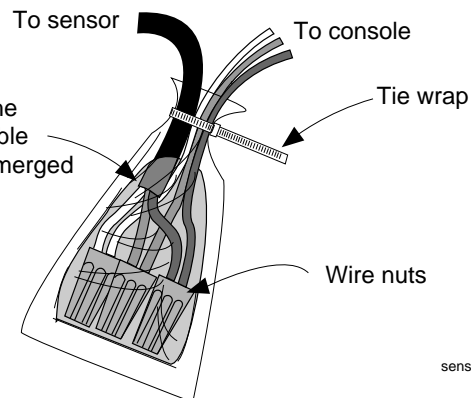
**Instructions:**

NOTE: When temperature is below 50°F (10°C), keep resin in a warm place prior to mixing (e.g., in an inside pocket next to body).

1. Remove guard bag, using caution not to damage inner bag.
2. Grip both edges of bag at the center barrier as shown in the figure to the left while you flex and wrinkle the bag across the barrier. This will weaken the barrier.
3. Squeeze the CLEAR SIDE of the resin, forcing the resin through the center barrier.
4. Mix thoroughly to a uniform color by squeezing contents back and forth 25-30 times.
5. Squeeze resin to one end of bag, and cutoff other end.
6. Slowly insert connection into sealing pack until it fits snugly against the opposite end.
7. Twist open end of bag and use tie wrap to close it off, or wrap open end of bag with vinyl electrical tape (not included) and position the taped end up until the resin jells.

3 Wire Sensor Connection

Make sure that the end of sensor cable sheathing is submerged in sealant



sensorslepxy3w.eps

Figure 4. Epoxy Sealant for Three-Wire Connections

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