

ENVIROMUX® Series

E-LLS-SF-10/25CM

Stainless Steel Vertical Liquid Level Float Switch

Installation Instruction



Description

The action of the E-LLS-SF-xxCM Float Switch is straight forward and simple. Mount the switch vertically in a location where the float is free to slide up and down on its rod containing a magnetic switch and away from any other magnetic field source. The float can be inverted on the rod to change from normally open to normally closed behavior.

The E-LLS-SF-xxCM is compatible with the dry-contact inputs of the E-2D/5D/16D, E-MINI-LXO, E-MICRO-T(RHP) and E-1W(P) Environment Monitoring Systems. It is widely used for level control and alerting in all kinds of industries, such as electronics, electric power, chemical, water treatment, water supply and drainage due to its low price, reliable performance and flexible installation.

Features

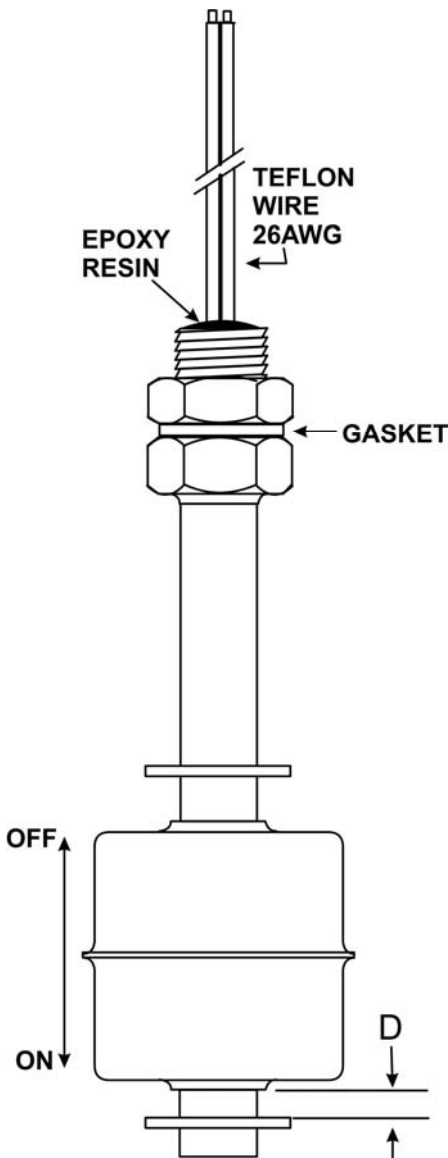
- Vertically mounted float switch – install in the top or bottom (inside of the tank).
- Magnets within the float actuate a highly reliable and repeatable hermetically sealed reed switch as the float rises and lowers with liquid level.
- Single-pole single-throw (SPST) circuitry.
 - Configure for normally open or normally closed circuit connection.
 - By default, when installed on top of the tank and used for sensing when liquid rises to a certain level, the sensor normal status will be "normally closed" and will open when the liquid reaches that level.
 - To reverse this behavior and have the status be "normally open", simply remove the bottom clip, remove, flip and replace the float, and reinstall the clip.
- IP68-rated water and dust protection.
- Max pressure: 217.5 psi (1.5 MPa)
- Float specific gravity: 0.7
- Material: SUS304 /SUS316L stainless steel
- Gasket material: NBR
- Cable length: 15in (38.10 cm)
 - Wire gauge: 26 AWG
 - Wire type: Teflon
 - Includes two gel-filled butt splice connectors (NTI #WC-UY2) for extending the cable length up to 1,000 feet.
- Connect to digital input on any ENVIROMUX Environment Monitoring System or RJ45 sensor port on an E-2D/5D/16D.
 - To connect to the RJ45 inputs, use CAT5/5e/6 cable terminated at one end with RJ45 connector. Connect the un-terminated end to the sensor cables using the included butt splice connectors.
- Float Diameter: 1.100 in (28 mm)
- Stem length:
 - E-LLS-SF-10CM: 3.93 in (100 mm)
 - E-LLS-SF-25CM: 9.84 in (250 mm)
- Operating temperature: -4 to 194°F (-20 to 90°C).
- Electrical rating: AC 220V/1A; DC 24V/0.5A
- Mounting thread: M10
- Potting material: Epoxy Resin

Installation

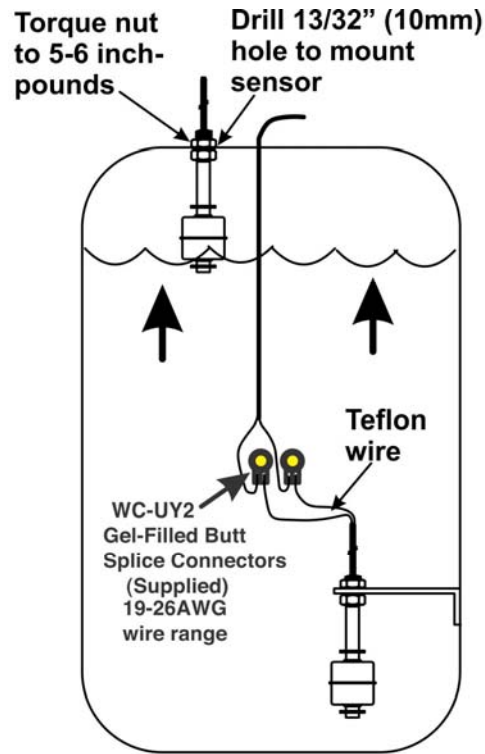
1. Select a location in a tank or tube with room to mount the sensor straight up and down.
2. Drill a 13/32" (10mm) hole for mounting the sensor and debur the hole on the inside of the tank.
3. Place the sensor inside the tank, with the gasket on the inside, and guide the wires through the drilled hole.
4. From the outside, guide the wires through the retaining nut and apply the nut to the threaded portion of the sensor. Apply the nut but be careful not to overtighten or the gasket inside may get squeezed out. Tighten nut to 5-6 inch-pounds.

The switch can be used to either sense a high fluid level, or a low fluid level. The sensor can be mounted at the top of the tank, inside the tank or on the underside of the tank.

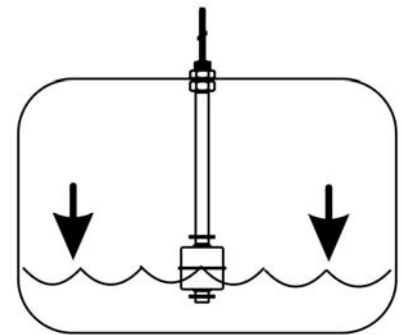
Note: When mounted in the bottom of the tank, be sure to limit the amount of pressure the sensor will be exposed to. The maximum allowable pressure it is designed to work within is 217.5 psi (1.5 MPa).



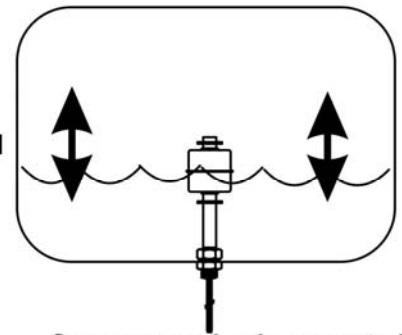
When the float drops to the "D" position (when $D < 4\text{mm}$) the reed switch will be closed.



E-LLS-SF-10CM Sensing high fluid level in tank and another mounted inside the tank for measuring low fluid level.



E-LLS-SF-25CM Sensing low fluid level in tank. Sensor set at normal status of "Open" so it will alert when status changes to "Closed".

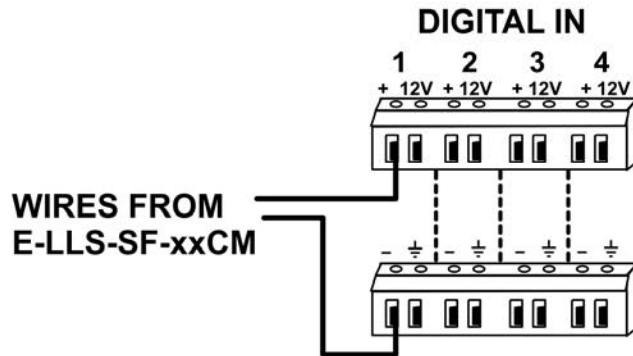


Sensor can also be mounted on the underside of the tank. Configure switch operation accordingly.

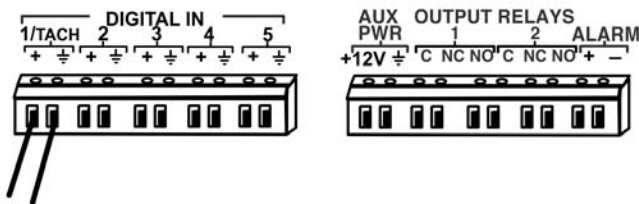
5. Connect the wires to your monitoring device. If the wires need to be extended, use the NTI gel-filled WC-UY2 butt splices provided and extend with 19-26 AWG wire up to 1000 feet.
6. When using an ENVIROMUX, either connect to a set of Digital Input terminals (as shown below), or attach to a CAT5/5e/6 cable for connection to an RJ45 sensor port as shown on the next page.

Schematic for wiring Liquid Level Sensor to Digital Input

VIEW OF TERMINALS ON E-16D

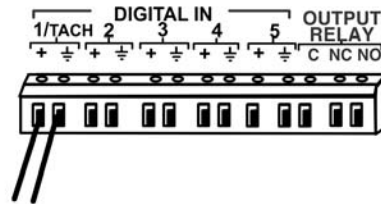


VIEW OF TERMINALS ON E-5D



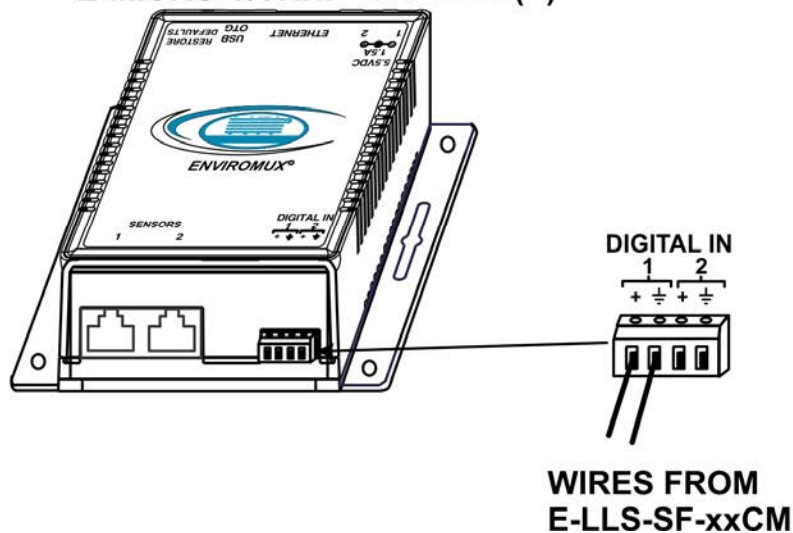
**WIRES FROM
E-LLS-SF-xxCM**

VIEW OF TERMINALS ON E-2D/E-MINI-LXO



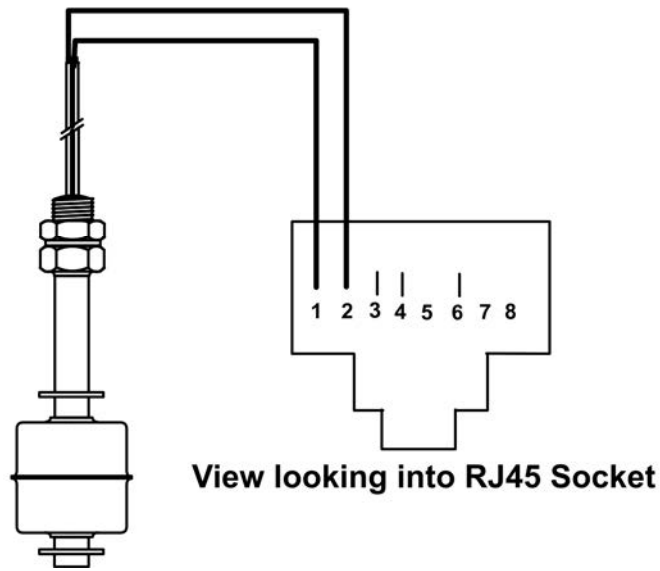
**WIRES FROM
E-LLS-SF-xxCM**

E-MICRO-T/TRHP OR E-1W(P)



**WIRES FROM
E-LLS-SF-xxCM**

Schematic for wiring Liquid Level Sensor to RJ45 Sensor Socket



Configuration

To configure the ENVIROMUX SYSTEM to respond to status changes in the E-LLS-SF-xxCM, first click on “**Add New Digital Input**”.

Monitoring

- Summary
- Sensors
- Digital Inputs**
- IP Devices
- Output Relays
- IP Cameras

Administration

- Smart Alerts**
- Log
- Support
- Logout

Digital Input Sensors

Digital Inputs					
Conn.	Description	Type	Value	Status	Action

[Add New Digital Input](#) ←

[Add New Smoke Detector](#)

Remote Digital Inputs					
Conn.	Description	Type	Value	Status	Action

[Add New Remote Digital Input](#)

A page will open where you must select which DIGITAL INPUT terminals the three alarm types are connected to on the SYSTEM. When finished, click on “Add”.

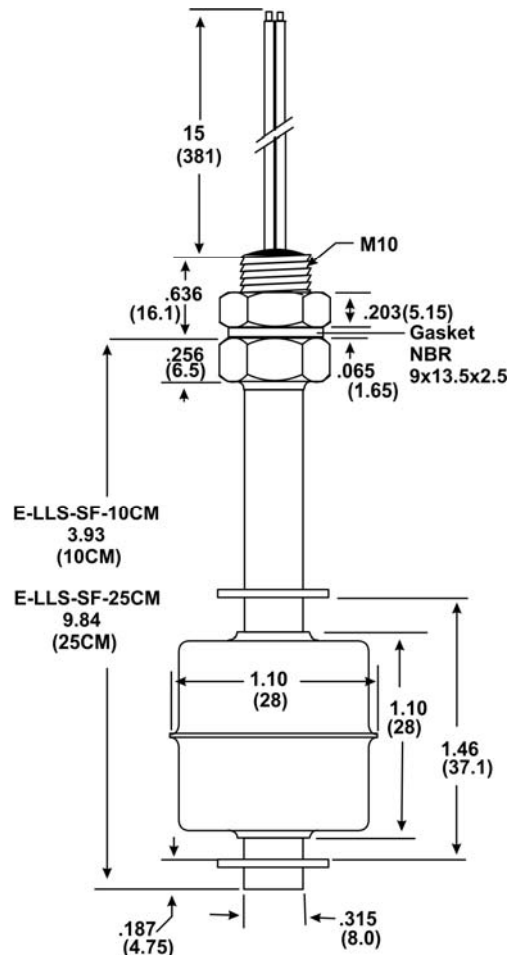
Digital Input Configuration

Level Sensor	
Sensor Settings	
Description	Water Sensor <small>Descriptive name for the sensor</small>
Group	1 <small>Select which group the sensor belongs to</small>
Normal Status	Open <small>Select the normal status for the sensor</small>
Refresh Rate	5 Sec <small>The refresh rate at which the digital input view is updated</small>

Sensor configuration page from ENVIROMUX-2D/-5D/-16D

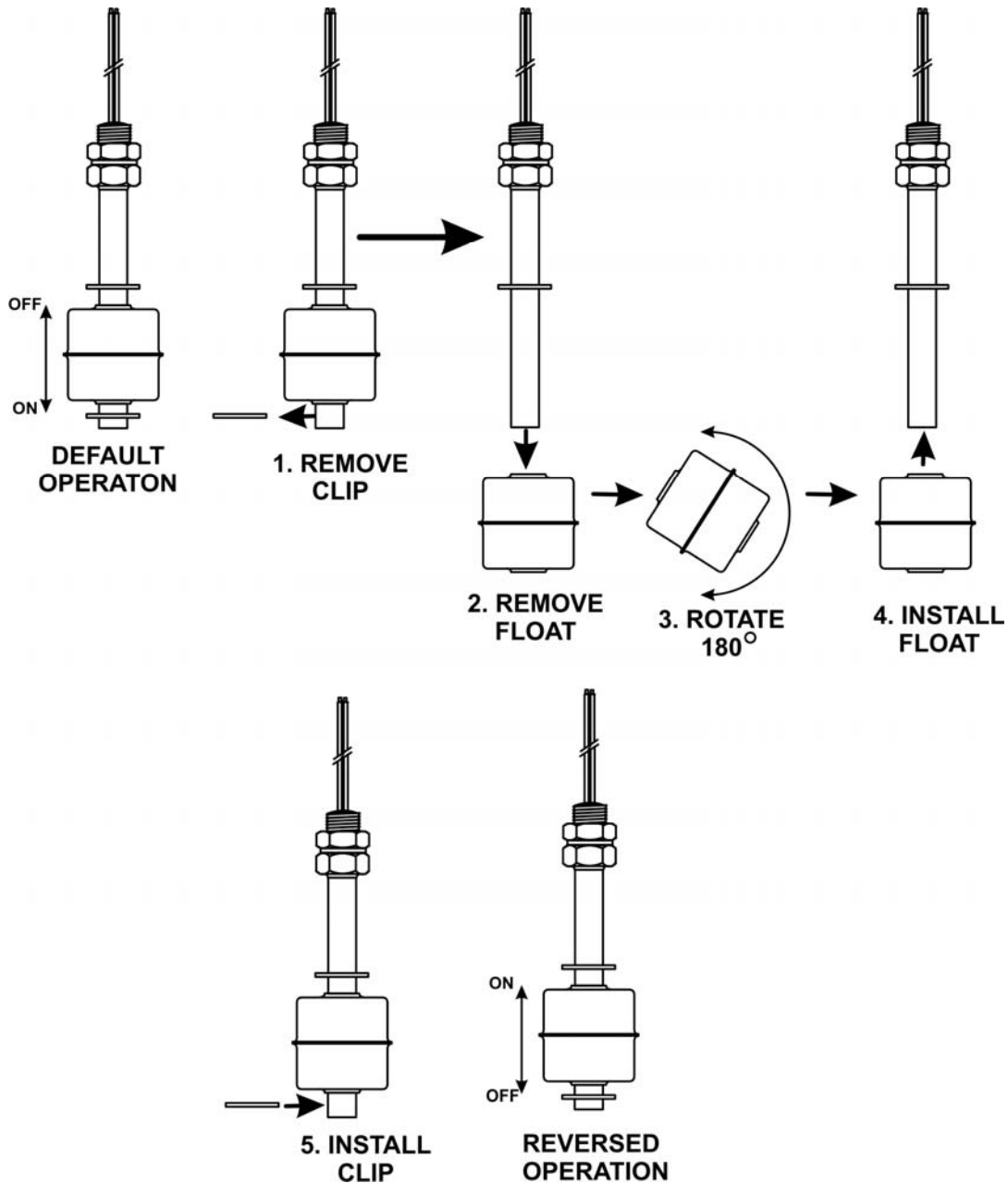
When liquid is sensed, the contact status will change to Closed and if the SYSTEM is configured to send an alert message to a user or group of users, messages will be sent. For more on SYSTEM configuration, see the manual that came with your SYSTEM.

Dimensions



Units: Inches (Millimeters)

To reverse the operation of the switch (On = Closed Switch, Off = Open Switch):



TRADEMARK

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CHANGES

The material in this guide is for information only and is subject to change without notice. Network Technologies Inc reserves the right to make changes in the product design without reservation and without notification to its users.

WARRANTY INFORMATION

The warranty period on this product (parts and labor) is two (2) years from the date of purchase. Please contact Network Technologies Inc at **(800) 742-8324** (800-RGB-TECH) or **(330) 562-7070** or visit our website at <http://www.networktechinc.com> for information regarding repairs and/or returns. A return authorization number is required for all repairs/returns.