Installation Test

Required Equipment:

- ❑ DLS2100 HLS with Red Flange assembled and ready for installation
- ❑ DMM (Digital Multi-Meter)
- ❑ Large Pipe Wrench, 24” minimum

Installation:

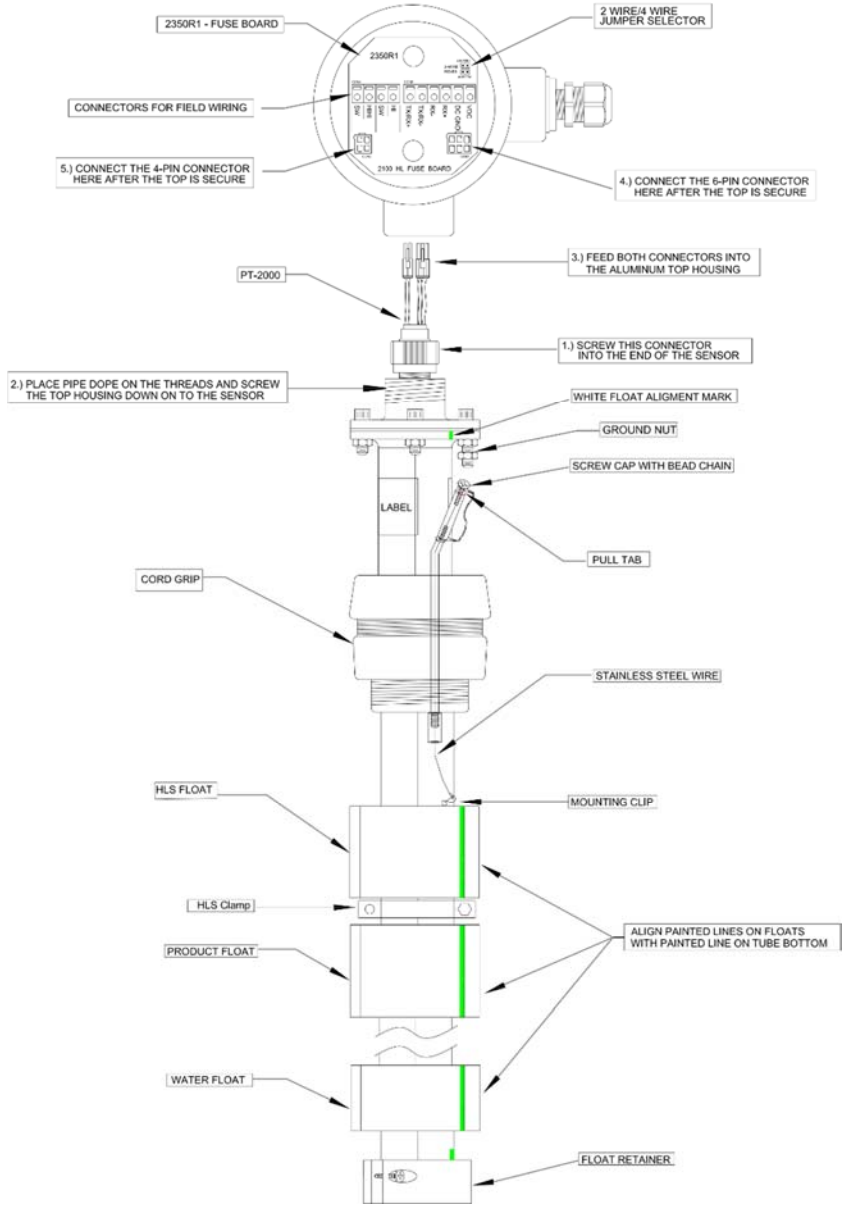
1. Install the DLS into the tank port, using the Installation Guide tool, if available. Carefully lower the sensor into the tank (avoid damaging the floats and test apparatus).
2. Make sure the Teflon test string is loose, but not excessively loose.
3. Unscrew the cord grip nut to loosen the rubber gasket so the sensor can rest on the bottom of the tank.
4. Screw the cord grip and reducer bushing into the tank port.
5. Unscrew the chained screw cap from the test fixture to expose the pull tab.
6. Push the gasket down to seat it in the cord grip body.
7. The pull tab should be loose, not taut. If the pull tab is taut, push the 3/16” tube into the gasket until it is loose.

Testing the HIHI Switch Circuit (HLS):

1. Open the cover of the DLS2100 to access the 2350R1 fuse board.
2. Connect the DMM probes to CON 4 pins 3 and 4, HIHI (Normally closed with float seated).
3. Pull up on the pull tab to release the slack and continue pulling, raising the HLS float, until the circuit opens.
4. Release the pull tab to return the HLS float to the normal position to close the circuit.
5. Disconnect the DMM.

Model 2100 Digital Level Sensor
With High Level Shut-In

QUICK START, PRE-INSTALLATION TEST AND INSTALLATION TEST GUIDE



Quick Start

Required Equipment:

- ❑ DLS2100 HLS with Red Flange
- ❑ 2350R1 Fuse Boards
- ❑ PT2000 Pigtail
- ❑ Cord Grip165200-FT (Cord Grip)
- ❑ HLS Float (w/mounting tab)
- ❑ HLS Float Stop
- ❑ Product and/or Water Interface Float
- ❑ Float Stop
- ❑ Reducer Bushing (not supplied)
- ❑ Teflon Tape or Thread Sealant/Anti-Seize (not supplied)
- ❑ Phillips Screw Driver (not supplied)

HI Sensing:
For the 1/4 inch resolution DLS, the High Level senses and sends the hi-level digital signal when the float is 9.5 inches (approximately) from the top of the measurement scale.

For the 1/2" resolution DLS, the High Level senses and sends the high-level digital signal when the float is 11 inches (approximately) from the top of the measurement scale.

HIHI Sensing:
For both resolutions, the High-High alarm allows for complete shut-in within 4" of the top of the measurement scale.

Prepare DLS2100 With HLS for installation:

1. Apply thread sealant to Cord Grip165200-FT and 3x2 or 4x2 Reducer Bushing.
2. Screw Cord Grip into Reducer Bushing with proper orientation.
3. Disassemble Cord Grip for ease of installation.
4. Locate the label on the top of the sensor tube to find the break in the label.
5. Slide separated parts onto the SS tube, beginning with the nut and gasket with mounted 3/16" tube against the side of the tube with the break in the label (nut must sit against gasket).
6. Assemble Cord Grip and slide the assembly up the sensor tube, within one foot from the top and hand tighten the nut to keep the Cord Grip assembly from sliding down.
7. Install the HLS Float on the tube with the mounting tab on the same side as the 3/16" tube and slide the float up next to the Cord Grip assembly.
8. Slide the mounting rod attached to the Teflon string through the mounting tab on the HLS Float.
9. Slide HLS Float Stop up the sensor tube and secure centered over the thin yellow electrical tape.
10. Install the product and water interface float (if required) on the sensor tube, aligning the white paint on the float(s) with the yellow paint on the tube.
11. Install the Float Stop and tighten the mounting screw.

Note: Test the sensor communications and Digital Outputs prior to installation.

Pre-Installation Test

Required Equipment:

- ❑ DLS2100 with Red Flange assembled and ready for installation
- ❑ HHC-1000 or Computer with Terminal Emulation Program
- ❑ DMM (Digital Multi-Meter)

Testing the sensor communications and Digital Outputs prior to installation:

1. Open the cover of the DLS2100 to access the 2350R1 fuse board.
2. Configure the HHC-1000 or Computer for the Baud Rate marked on the DLS (masking tape).
3. Connect the HHC-1000 or Computer to the 2350R1 fuse board, CON 3.
4. Request data from the sensor to verify that the Level & Temperature values are valid and references the location of the floats on the sensor. Please note that readings of 999.99" or 000.00" indicate an error. If an error code is reported, determine error condition and correct before proceeding. Error codes 1, 2, or 3 are related to float configuration.
5. Verify there are no warnings indicated. Warning code 3 indicates the HIHI float isn't recognized (float not present, off scale or wrong orientation). Correct the issue before proceeding.
6. Configure the sensor for the proper Unit Number or Address.
7. Configure the sensor for the Baud Rate and Parity required by the PLC / EFM.
8. Disconnect the HHC-1000 or Computer and reconnect the Wago Plug in CON 3.

Testing the HI Switch circuit:

1. Connect a DMM set for ohms or continuity to CON 4 pins 1 and 2, HI (Normally Closed).
2. Move product float up the sensor tube to within 3 inches of the HL Clamp and the circuit will open and stay open along the upper 3 inches to the float stop.
3. Move the float down the tube and the circuit will return to the closed position.

Testing the HIHI Switch circuit:

1. Move the DMM probes to CON 4 pins 3 and 4, HIHI (Normally closed with float seated).
2. Move the HLS float about ¾" away from the float stop to open the circuit.
3. If the circuit does not open ¾" above float stop, verify the float stop is properly positioned.
4. Return the HLS float to the float stop to close the circuit. Disconnect the DMM.