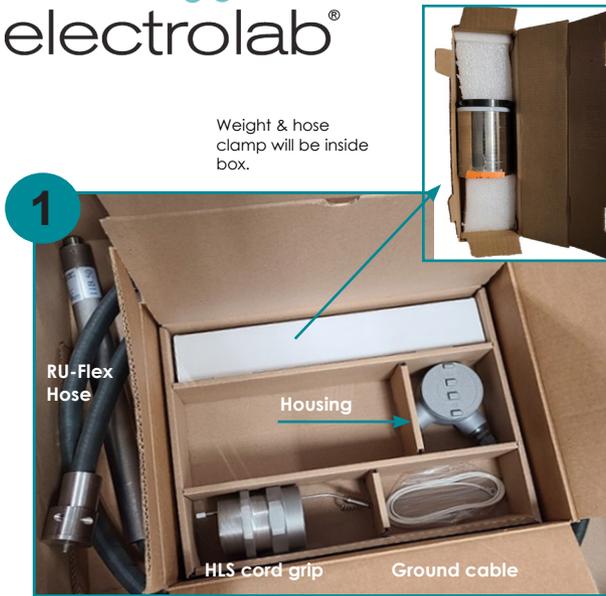


# Assembly Instructions RU-Flex 2100 DLS w/ HLS



1

Weight & hose clamp will be inside box.

RU-Flex Hose

Housing

HLS cord grip

Ground cable

Confirm that you have all the necessary materials.



2

Apply thread sealant to the threads of the cord grip & the threads of the reducer bushing. Join the two components together.



3

Remove the ground screw from the stainless steel sleeve of the sensor.

Slide the cord grip/HLS bushing assembly onto the sleeve 1-foot from the top of the sensor. Align the test fixture tube with the break in the sensor label and the ground screw.



4

Slide the stainless steel hose clamp onto the sleeve of the sensor, right above the cord grip/reducer assembly. Tighten the screw on the opposite side



5

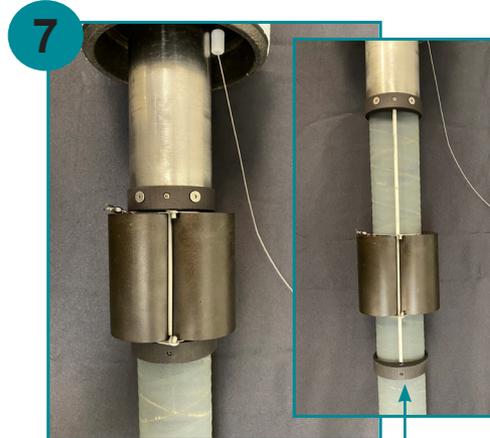
Apply thread sealant to the threads of the sensor flange. Remove the pigtail from the housing and connect the rounded end to the top of the sensor flange.



6

Tighten the housing onto the sensor flange. Feed the pigtail through the 1-inch port of the housing. Do **not** allow the wires to twist as the housing is screwed in place.

Connect the assorted connectors into the fuseboard. Place lid on housing.



7

Pull down on the float and HLS positioning apparatus, until fully extended. Tighten the lockset screws using a 1/16" allen wrench to secure the HLS fixture.



8

Connect the HLS test fixture wire to the high-level float and close the clip pin. Sensor is ready for communications test and installation!

\* Sensor housing pictured is a GRL housing. Housing model will vary by order.  
\*\* Thread sealant and additional tools are provided by customer.



## Pre-Installation Sensor Communications Test

### Communications Test:

1. Open the housing of the RU Flex 2100 DLS to access the fuse board.
2. Configure the HHC-1000 or computer for the Baud Rate that is marked on the DLS with masking tape. Connect the HHC-1000 or computer to the fuse board.
3. Request data from the sensor to verify that the level and temperature values are valid and the sensor is reading the location of the floats.

### Required Equipment

- ❑ RU Flex 2100 DLS w/ HLS ready for installation.
- ❑ HHC-1000 or Computer w/ Terminal Emulation program
- ❑ DMM (Digital Multi-Meter)
- ❑ Large pipe wrench, 24" minimum

4. Verify there are no errors indicated.
5. Configure sensor for the proper Unit Number, Address, or protocol.

### Special Installation Considerations

Failure to use the required weight for the RU Flex 2100 DLS will void the warranty. Some installations may require the addition of a riser to ensure the tube sits within the cord grip and prevents movement of the sensor tube. See table below.

Tank Height (A)	Port Height <sup>1</sup> (B)	Length from Bottom of Tank to Top of Port <sup>2</sup> (A+B)	Weight Required	
			tank flow	lbs.
15	3	15-3	Standard	1 x 12
			Turbulent	2 x 8
16	3	16-3	Standard	1 x 12
			Turbulent	2 x 8
20	3	20-3	Standard	1 x 12
			Turbulent	2 x 8
25	3	25-3	Standard	2 x 8
			Turbulent	(1 x 12) + (1 x 8)
30	3	30-3	Standard	2 x 8
			Turbulent	(1 x 12) + (1 x 8)
35	3	35-3	Standard	(1 x 12) + (1 x 8)
			Turbulent	2 x 12
36	3	36-3	Standard	(1 x 12) + (1 x 8)
			Turbulent	2 x 12

1 - All calculations were done with standard port height of 3". Adjust accordingly for longer port lengths.  
 2 - Measurement does not account for curvature at the top of the tank. Common measurement if mounting at center of tank is a difference of 6".

**Please note** readings of 999.99" or 000.00" indicate an error. If an error code is reported, determine the cause of the error and correct it before proceeding. Refer to the *RU Flex 2100 DLS User Guide* found online at [www.electrolabcontrols.com](http://www.electrolabcontrols.com)

For Technical Assistance, contact:  
 Electrolab, Inc.  
 159 Enterprise Parkway  
 Boerne, TX 78006  
[insidesales@electrolabcontrols.com](mailto:insidesales@electrolabcontrols.com)

210-824-5364  
 888-301-2400

### Installation in the Tank

1. Carry the assembled RU-Flex 2100 DLS and its weight separately to the top of the tank. *Do not attach weights on sensor until ready to install sensor in tank.*
2. Uncoil the sensor onto the catwalk. Fully extend the HLS float and positioning apparatus, then tighten the lockset screws using a 1/16" allen wrench. Attach the HLS float's hook to the pull string of the HLS test apparatus.
3. Position the sensor for installation and screw the weight onto the sensor bottom.
4. Lower the sensor into the tank port, keeping an arch in the hose with its natural curve. Keep hands 18-inches apart to prevent bending the sensor past a safe point.
5. When the weight reaches the bottom of the tank, loosen the cord grip of the sensor to be attached to the tank port. Secure the cord grip onto the tank port.
6. Raise the sensor 1/2-inch from the bottom of the tank and allow the hose to relax.
7. Secure the cord grip by fully hand-tightening the top nut. Then, tighten securely with a wrench. Secure the hose clamp above the cord grip and against the top nut to prevent slippage. Proceed to "Installation Test."

### Installation Test

1. Open the cover of the DLS2100 to access the 2350R1 fuse board.
2. Use the DMM to check continuity between CON 4-Pin 4 and CON 2-Pin 4 (red wire). Then check continuity between CON 4-Pin 2 and CON 2-Pin 3 (white wire). If the DMM shows discontinuity between either connection, replace the fuse board. Use the DMM to check continuity between CON 4-Pin 3 and Pin 4 (HIHI) and between CON 4-Pin 2 and Pin 1 (HI).
3. Connect the DMM probes to CON 4, Pins 3 & 4, HIHI.
4. Pull the pull-tab to release the slack. Continue pulling and raising the HLS float until the circuit opens.
5. Close the circuit by releasing the pull-tab to return the HLS float to its normal position.
6. Disconnect the DMM. Proceed to "Electrical Connection."

### Electrical Connection

1. *With the power disconnected*, feed the external cables to the sensor through the open port on the side of the housing. Unplug the gray, 6-position connector from the internal fuse board.
2. Install the power and signal wires using the white depressor tool. Save the white depressor tool for future use.
3. Plug the connector into the fuseboard.
4. Unplug the gray, 4-position connector from the internal fuse board.
5. Install the the HLS signal wire. Route wires away from the housing threads and screw in the housing cover.