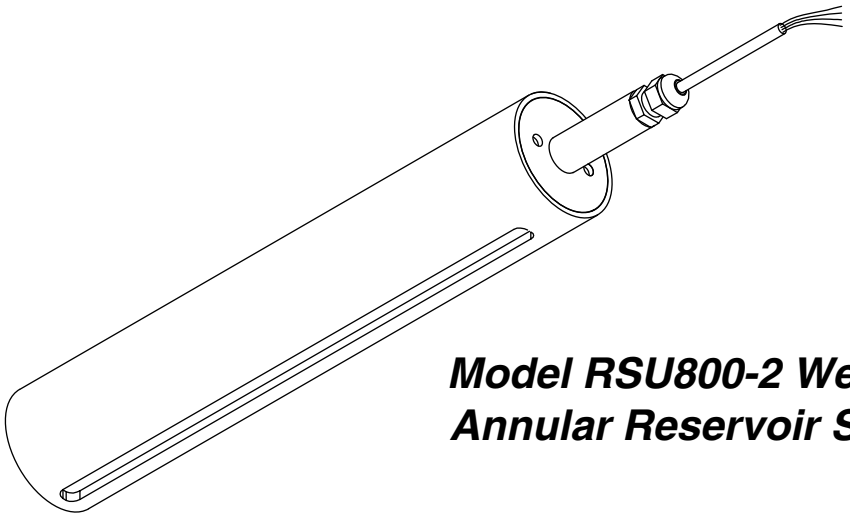
PNEUMERCATOR
Liquid Level Control Systems

RSU800-2 Reservoir Sensor Installation Instructions



Model RSU800-2 Wet Annular Reservoir Sensor

For use with the following consoles:

LC1000	**LDE700**
LDE740	**LDE1000**
E700-1	

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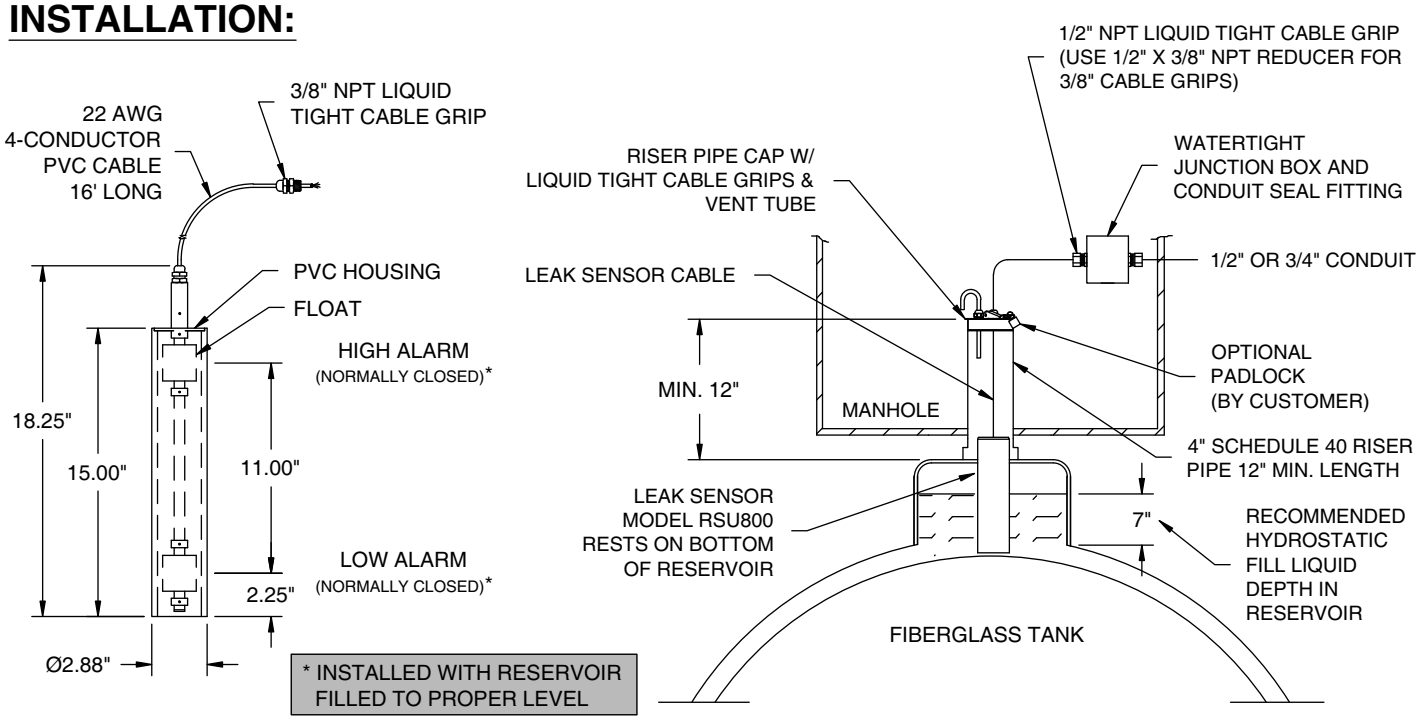
PRODUCT DESCRIPTION: Model RSU800-2 is a dual float normally closed sensor that detects level changes within the reservoir. A breach of the inner tank wall will trigger a high alarm, and a breach of the outer wall will trigger a low alarm as the reservoir level changes. Fluctuations due to temperature and barometric pressure changes should not trigger an alarm. The sensor can be wired as non-discriminating (one alarm for high and low levels) requiring (1) N.C. input, or as discriminating (individual alarms for high and low levels) requiring (2) N.C. inputs.

APPLICATIONS: This Secondary Containment Leak Sensor is designed to monitor brine or glycol fluid levels in fiberglass double wall tank reservoirs.

INSTALLATION:



***NOTE:** Before installation, mark the sensor at 7" from the bottom. The reservoir level must be maintained at or very near this level to avoid false alarms due to level fluctuations.*

1. All sensors must be tested before installation. Manually move the floats to set off the alarm from the high and low positions.

2. Fit the reservoir with a 4" RISER PIPE (12" min. length) and CAP, supplied by the installer. The riser cap should have a 3/8" NPT tapped hole to accept the cable grip connector supplied by PNEUMERCATOR. Use a riser pipe with a vent tube only if local installation codes require one.

3. Thread the supplied connector into the cap's tapped hole using sealing compound as required.

4. Slowly lower the sensor into the riser until it rests on the reservoir bottom. The top portion should extend into the riser pipe for support from tipping over. The liquid level in the reservoir should be at about 7 inches up the sensor's height for optimum performance.

5. Feed the sensor cable through the bottom of the connector in the cap. Leave just enough slack inside the riser pipe so the sensor remains on the bottom, and will not tip over.

6. Mate the riser and cap; then tighten the connector over the cable to ensure a watertight seal.

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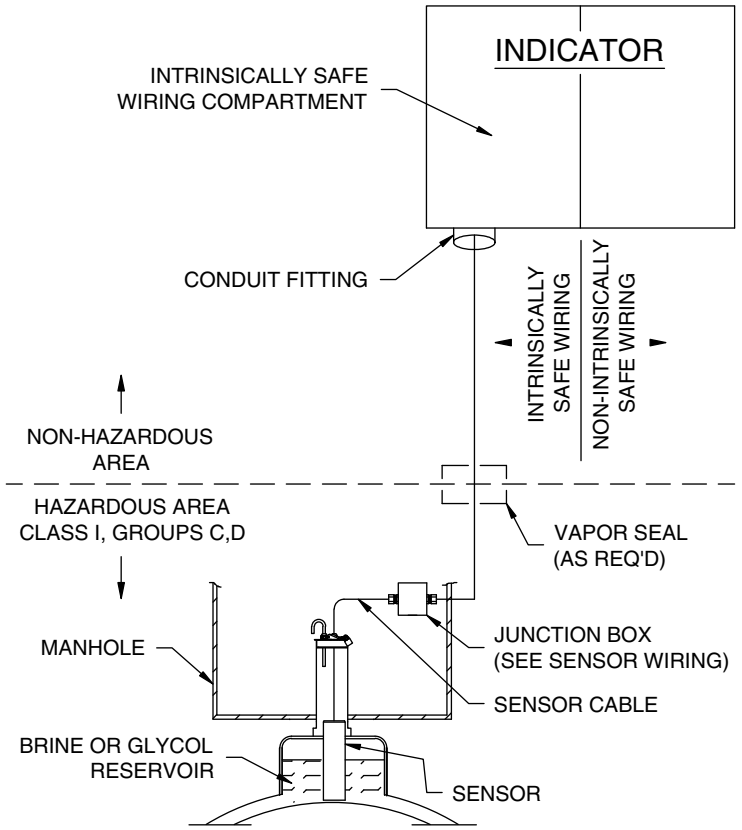
WIRING:

⚠ WARNING

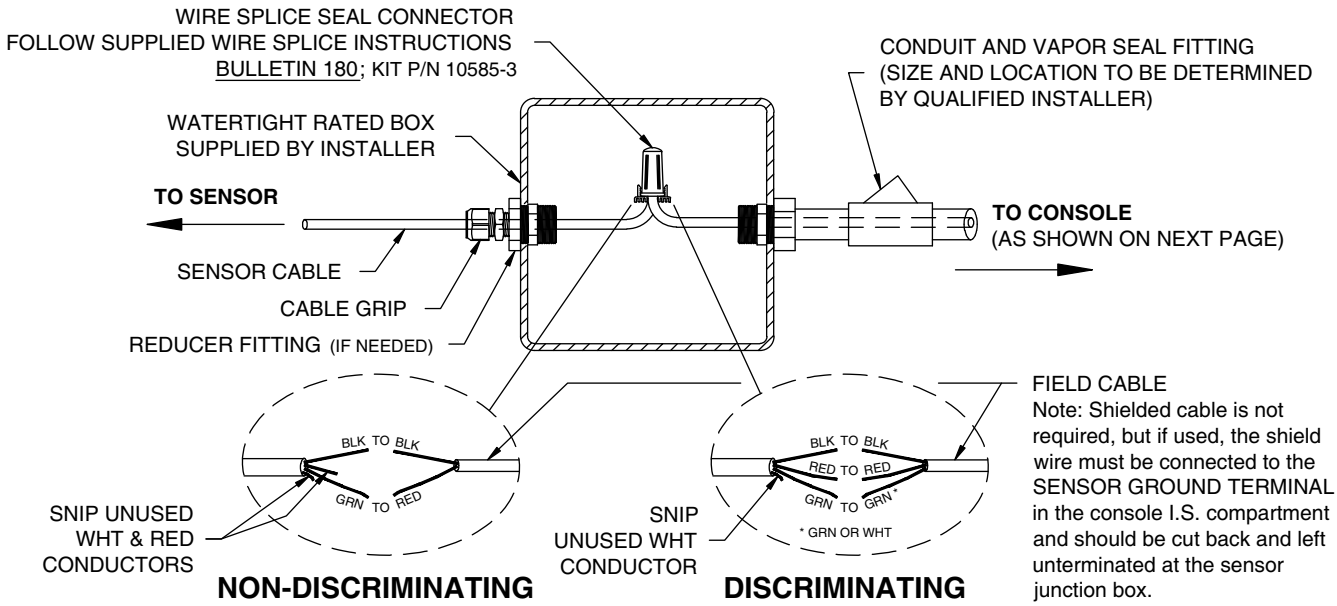
Intrinsically safe input wiring: Wire and install in accordance with Article 504 of National Electric Code ANSI/NFPA 70. Non-Intrinsically Safe Wiring cannot be run in conduit or open raceways together with intrinsically safe wiring. FAILURE TO COMPLY MAY RESULT IN PERSONAL INJURY, PROPERTY LOSS AND EQUIPMENT DAMAGE.



CABLE SELECTION:

Use Belden 8442 or Alpha 1172C (2-cond. for non-discriminating wiring), Belden 8443 or Alpha 1173C (3-cond. for discriminating wiring) or any equivalent 2 or 3-conductor, 22 AWG cable, refer to console installation manual for more cable selection and limitation information. Shielded cable is not required, but if used, the shield wire must be connected to the SENSOR GROUND TERMINAL in the console I.S. compartment and should be cut back and left unterminated at the sensor junction box.

TYPICAL WIRING FOR SENSOR



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WIRING CONT'D:

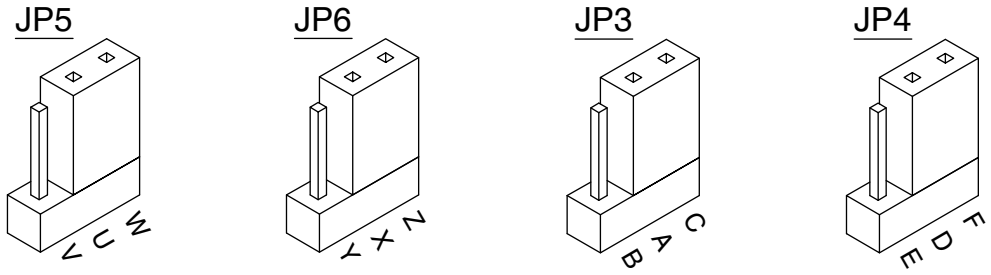
CABLE COLOR CODES

FUNCTION	SENSOR CABLE	FIELD CABLE (DISCRIMINATING WIRING)	FIELD CABLE (NON-DISCRIMINATING WIRING)
HIGH	GREEN	GRN OR WHT (SEE PAGE 3)	RED (SEE PAGE 3)
LOW	BLACK	BLACK	BLACK
COMMON	RED	RED	-

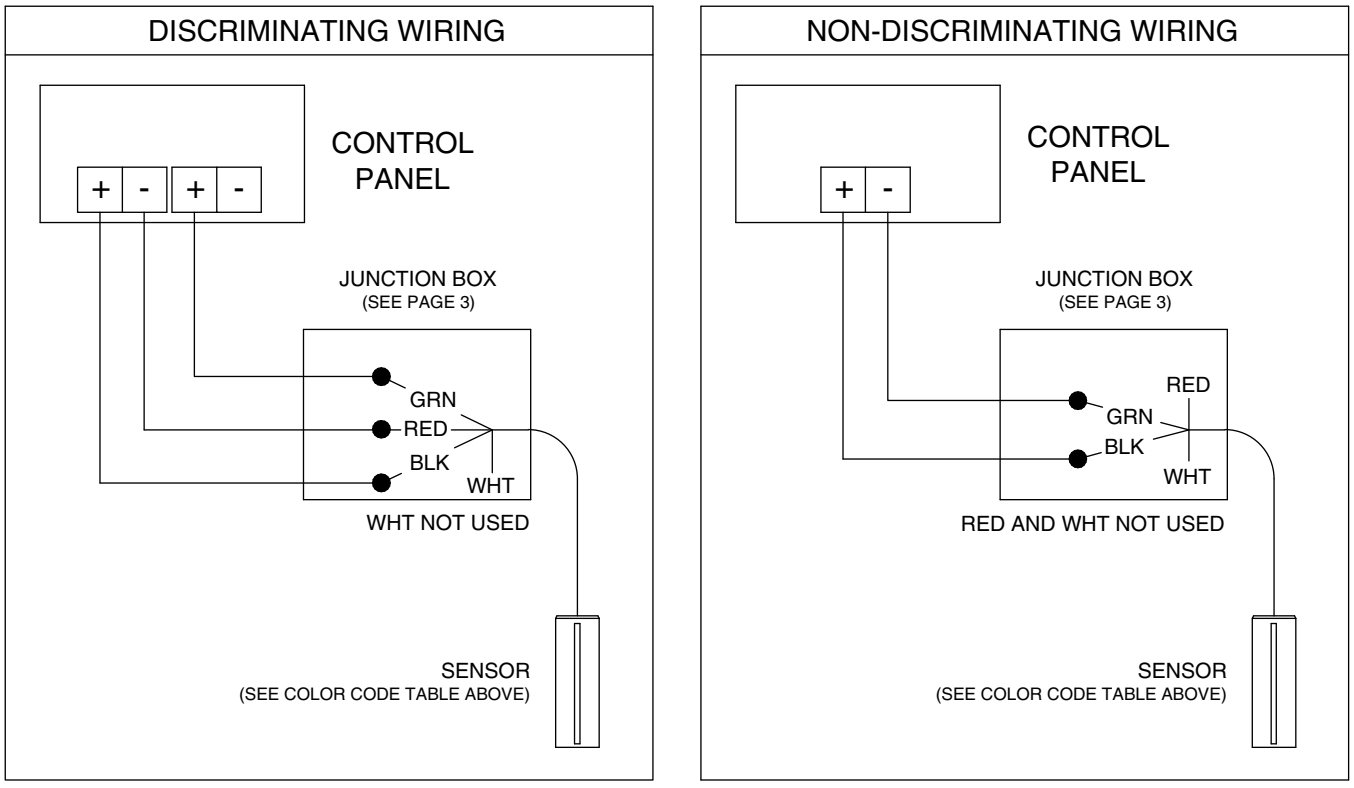
LC1000 SERIES SENSOR INPUT WIRING

This sensor requires the jumpers on the P.C.boards to be set normally closed. JP5: Jump pins U-W; JP6: Jump pins X-Z; JP3: Jump pins A-C; and JP4: Jump pins D-F. All instances of these jumpers must be set normally closed. Check both boards. JP4 is not always supplied.

JUMPERS SHOWN SET TO NORMALLY CLOSED



WIRING OPTIONS



NOTE: *Model LC1001 is not supplied with a second switch input and therefore cannot support discriminating wiring.*

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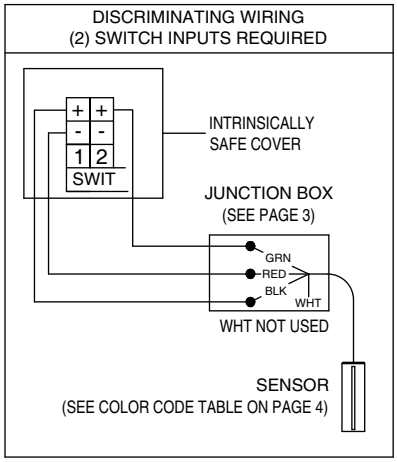
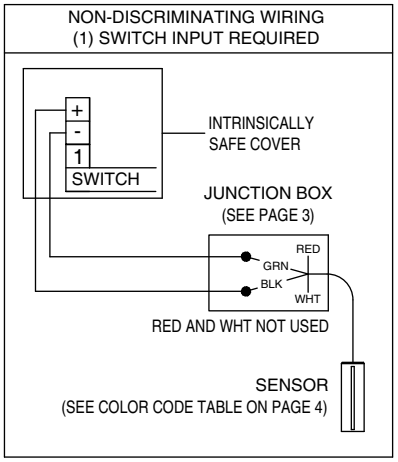
WIRING CONT'D:

LDE740 SENSOR INPUT WIRING

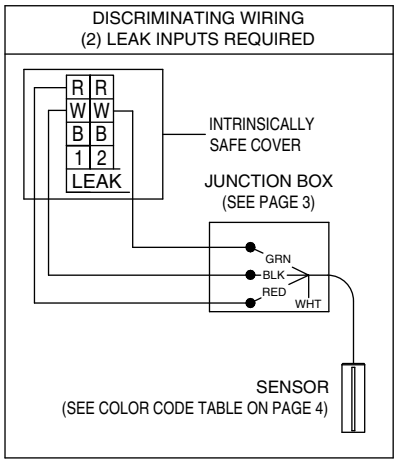
The sensor can be wired to the indicator as non-discriminating using (1) switch input or (1) leak input. Discriminating wiring necessitates using either (2) switch inputs or (2) leak inputs.

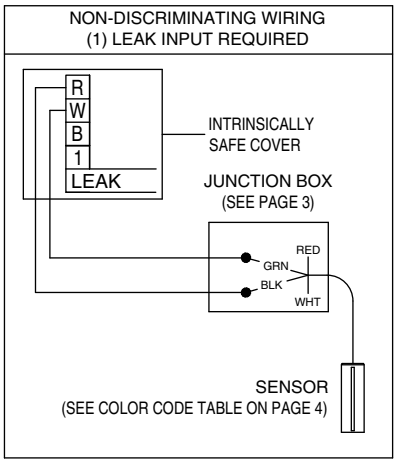
SWITCH INPUT WIRING OPTIONS:





LEAK INPUT WIRING OPTIONS:





PROGRAMMING: Follow the proper procedure depending on whether you are hooking up to the switch inputs or the leak inputs.

SWITCH INPUT PROGRAMMING:
F40 (N) (S) E
N= NUMBER OF SWITCH 1-8
S= STATE 0= NO, 1= NC

LEAK INPUT PROGRAMMING:
F42 (N) (S) E
N= NUMBER OF LEAK CHANNEL 1-8
S= LEAK CHANNEL STATE 0= LEAK (901, 902, 903), 1= NO, 2= NC

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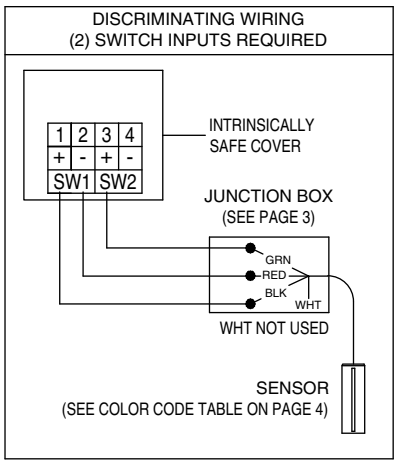
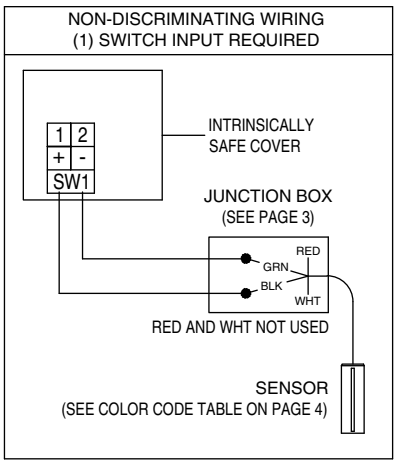
WIRING CONT'D:

LDE700, LDE1000 AND E700-1 SENSOR INPUT WIRING

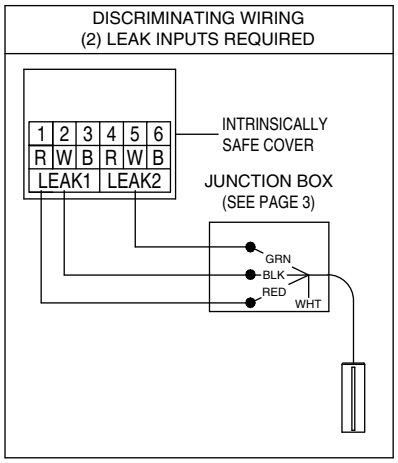
The sensor can be wired to the indicator as non-discriminating using (1) switch input or (1) leak input. Discriminating wiring necessitates using either (2) switch inputs or (2) leak inputs.

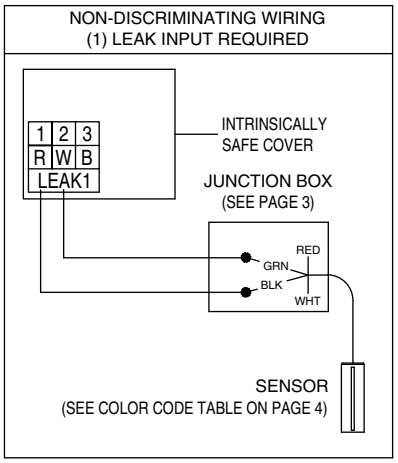
SWITCH INPUT WIRING OPTIONS:





LEAK INPUT WIRING OPTIONS:





PROGRAMMING: Follow the proper procedure depending on whether you are hooking up to the switch inputs or the leak inputs.

SWITCH INPUT PROGRAMMING:

F40 (N) (S) E

N= NUMBER OF SWITCH

S= STATE 0= NO, 1= NC

LEAK INPUT PROGRAMMING:

F42 (N) (S) E

N= NUMBER OF LEAK CHANNEL

S= STATE 0= LEAK (901, 902, 903), 1= NO, 2= NC

PERIODIC TESTING: Test to ensure proper operation of sensor by performing the following steps:

1. Remove the sensor from the reservoir. This should activate the alarm from the low level position.
2. Move the float to the middle, no alarm condition. Reset any alarms on the control panel. The system should now be in normal condition.
3. Turn the sensor upside down to activate the high alarm. Reset the control panel.
4. Return the sensor to the reservoir.

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