XP Level Monitor Calibration/Installation

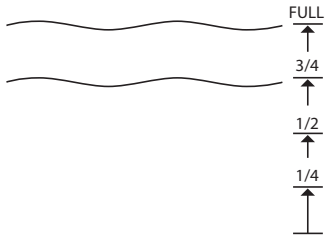
Date Originated: 00/00/00	**Revision:** B	**Revision Date:** 05/07/04

Subject: For Calibrating and Installing XP Level Monitors

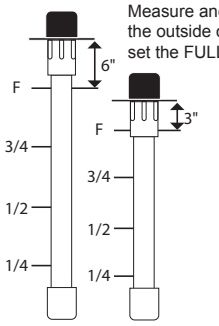
Note:
This calibration procedure must be performed to insure that the indicated fluid levels on the display(FULL, 3/4. 1/2, 1/4, E) acurrately match the actual levels in the tank. Calibration must be done before the probe is installed in the tank.

Step 1: Compute Tank Levels

Determine and record the linear dimensions for the 4 tank levels. Irregular tank shapes may require volume calculations to arrive at accurate levels.

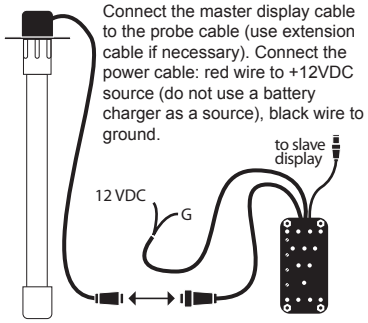


Step 2: Mark Probe



Measure and mark the levels on the outside of the probe. Do not set the FULL level closer than 6" from the bottom of the flange on long probes and 3" on probes 23" or shorter. These dimensions allow for adjustment and reaction time when filling the tank.

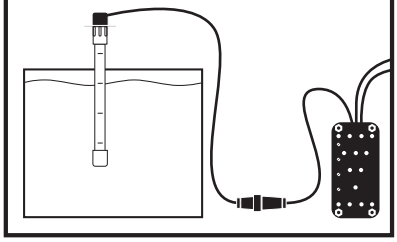
Step 3: Connect Cables



Connect the master display cable to the probe cable (use extension cable if necessary). Connect the power cable: red wire to +12VDC source (do not use a battery charger as a source), black wire to ground.

Step 4: Calibration Technique

The probe is calibrated by submerging the probe into a full tank - sequentially stopping at each of the marked levels on the probe to adjust the calibration screws on the master display.

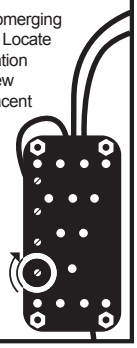


Step 4: Calibration Screws

Hold the probe in the tank only submerging to the 1/4 level mark on the probe. Locate and adjust the bottom-most calibration screw on the display. Turn the screw clockwise until the single LED adjacent to the screw illuminates.

Submerge the probe to the 1/2 mark and turn the next screw until the 2 adjacent LEDs illuminate.

Repeat this process for the next 2 levels.



Note:
The same probe is used for foam or water tanks. Slightly better accuracy can be expected if a foam level monitor is calibrated in foam. If not practical, foam probes can be calibrated in water when marginal accuracy is required.

Note:
Do not mix and match calibrated probes and displays without recalibration. Once a probe and display are calibrated as a pair they should be installed together.

Note:
The flange must be mounted on the top of the tank or inside a fill tower in a way that holds probe vertically level.

Note:
Do not locate the probe flange in an area that may accumulate water and cover the probe. Do not paint the probe above the flange. Either of these actions can permanently damage the probe.

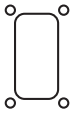
Step 5: Probe Installation

Cut a 1.5" diameter hole at the desired location on top of the tank. Use the probe flange as a template to drill four mounting holes. If the tank is plastic, drill 7/32" holes to accept the #14x3/4"screws provided. If the tank is metal, drill and tap the holes for 1/4" bolts (not included). Place the rubber gasket between the flange and the top of the tank when installing the probe.

Step 6: Display Installation

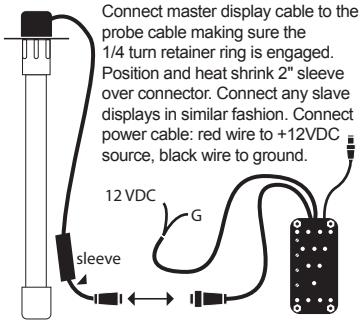
If not already assembled, mount the display module to the decorative mounting bezel and apply the graphic overlay.

Drill and mount the master display and any slave display modules and cover plates using drawing no.208 (dimensions for master and slave displays) and/or drawing no.265 (dimensions for mini slave displays).



See Drawings 208 and/or 265

Step 7: Reconnect Cables



Connect master display cable to the probe cable making sure the 1/4 turn retainer ring is engaged. Position and heat shrink 2" sleeve over connector. Connect any slave displays in similar fashion. Connect power cable: red wire to +12VDC source, black wire to ground.

Note:
The display power supply(+12VDC to +26VDC) should be in a circuit with a 500mA to 1A fuse. (Total current drain approx. 200mA per large display)

Note:
Slave Displays connect to the master display via 7 conductor extension cables. Be sure all 1/4 turn connector retainer rings are secure.

WARNING:
Do not use the XP Series Level Probes in flamable liquid. Explosion or fire could result.