

## INSTALLATION, OPERATION, AND INSTRUCTION MANUAL

### ***Level-Trac*** Model LT-40 and LT-41 Point Level Water Indicator

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Note: This document should be reviewed in its entirety prior to installation of equipment.

## 1. Operating Principle

Quest-Tec Level-Trac LT-40/41 probe fixtures are a simple devices to provide a means of point level water indication to be used for alarms or trips. The fixture is designed to be piped in to a vertical configuration to track the contents of a steam drum or other pressure vessel.

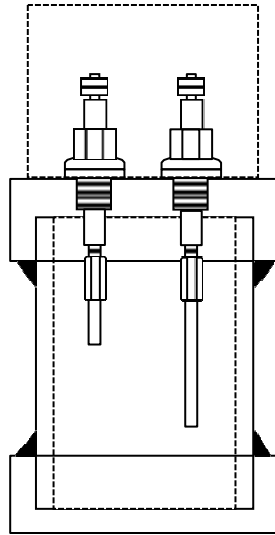


Figure 1.1 above shows a cross sectional view of the LT-40/41 with two probes.

## 2.0 Model Numbering

The LT-40/41 probe fixture has the following model numbers:

<i>Model</i>	<i>Description</i>
LT-40-01	One Type 800, TFE insulated probe, rated to 1000 PSI.
LT-40-02	Two Type 800, TFE insulated probes, rated to 1000 PSI.
LT-41-01	One Type 801, Zirconia insulated, brazed probe, rated to 2000 PSI.
LT-41-02	Two Type 801, Zirconia insulated, brazed probes, rated to 2000 PSI.

In addition the model number, the LT-40/41 must be described to include the 3/4" piping connection type, NPT or SW. If two probes are to be supplied, the difference in probe lengths, if any, must also be specified.

## 2.0 Mechanical Installation Considerations

The LT-40/50 will be inscribed on the chamber with the probe location of the probe tip(s) to facilitate positioning of the LT-40/41 to the intended activation point. Typically, the unit is mounted on a vertical pipe leg between nozzles located on drum or vessel.

The unit should be mounted with a blowdown valve arrangement to allow for the periodic clearing of sediment or scale.

## 3.0 Installation & Cabling

A common conductor is attached directly to the LT-40/41. Each probe requires an additional conductor. This should be 18 AWG, tinned copper, at minimum.

Quest-Tec recommends the model LT-120 control unit to drive the probes and provide desired contact terminals.

## 4.0 Probes

The LT-40/41 fixtures are identical in all mechanical respects, except for the probe type used. The LT-40 will use the Type 800, TFE insulated probe rated for Working Steam Pressure to 1000 PSI. The LT-41 will use the Type 801, brazed, zirconia insulated probe rated for Working Steam Pressure to 2000 PSI. The probes are interchangeable, so care must be taken that the intended probe is used.

### 4.1 Probe Maintenance

Typical probe maintenance is limited to ensuring that the probes are clean. This can be accomplished by gently blowing down the column, or removal and re-installation. Individual installations will have site specific water quality, and this should be performed either "as needed" or per established maintenance cycle.

### 4.2 Probe Removal

Probe removal requires isolation and draining of the unit.

1. Prior to isolating the water column, ensure that there will be no false alarm ramifications that could lead to expensive boiler trips.
2. Upon isolation of the water column, drain all water out. Keep the drain open until probes have been re-installed.
3. Remove the probe covers.
4. Disconnect the probe wire(s).
5. Using a 3/4" deep socket, remove the probe.

### 4.3 Probe Installation

1. Clean the threads and gasket sealing surface.
2. Clean and lubricate the threads on the probe.
3. Thread the probe and gasket hand tight.
4. Torque the probe to 53 ft/lbs.
5. Re-attach probe wires.

Spare Parts	
P/N	Description
QTLT-PR800	Type 800, TFE Insulated Probe (For LT-500 Column)
QTLT-PR801	Type 801, Brazed Zirconia Insulated Probe (For LT-501 Column, or to upgrade LT-500 Column)
QTLT-801G	Probe Gasket, Type 800 or Type 801