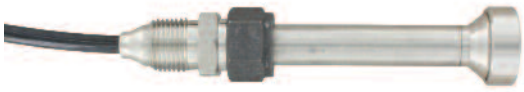
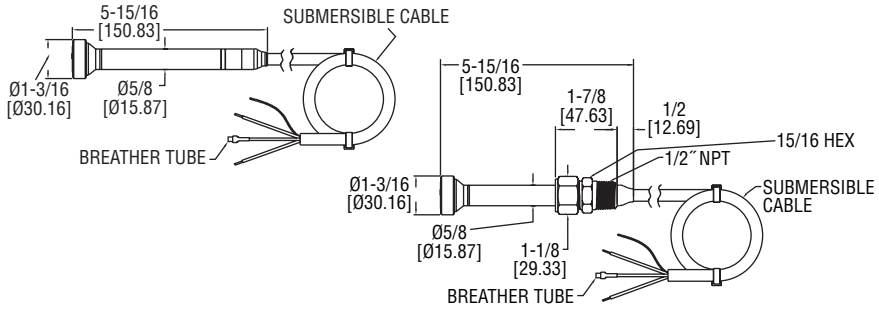
Series FBLT Submersible Level Transmitter

Specifications - Installation and Operating Instructions

FBLT



FBLT with NPT Option



FBLT with NPT Option

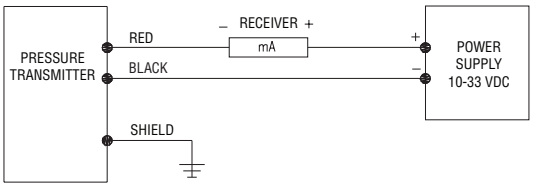
The Series FBLT Submersible Level Transmitter is designed with a flush diaphragm tip that will not clog in harsh applications such as sewage lift stations. Narrow body design allows the FBLT to fit into stilling wells and narrow installations. The FBLT features a robust FKM fluoroelastomer diaphragm that is PTFE coated for a stick resistant surface that will hold up in aggressive fluids. The diaphragm cavity is filled with a gel that will not leak out versus oil or grease that our competitors use. Body is constructed of 316 SS and the cable is either polyurethane or ETFE for more corrosive applications.

The unit measures the height of liquid above the position that it is mounted in a tank or pit in reference to atmospheric pressure. Ventilation tube in the cable automatically compensates for changes in atmospheric pressure above the fluid. The vent is protected with a maintenance free filter, eliminating particulate or water droplets from entering the transmitter. For extra protection against humidity, we offer the A-297 desiccant filter that can be attached to the vent tube.

The FBLT incorporates lighting and surge protection (not guaranteed or covered by warrantee) to stand up in harsh applications. Optional NPT connection allows the unit to be rigidly installed in a pipe/conduit, or to attach our A-625 hanging loop for attaching a chain for pulling out of the installation.

Applications
Sewage lift stations, industrial slurries, industrial sumps, landfill leachate, reservoirs, sludge pits, oil tanks, etc.

ELECTRICAL INSTALLATION
An external power supply delivering 10 to 33 VDC with minimum current capability of 40 mA DC (per transmitter) is required to power the control loop. See figure below for connection of the power supply, transmitter and receiver.



The maximum receiver load resistance (RLmax) for the DC power supply voltage (Vsup) is expressed by the formula:

$$RLmax = \frac{Vsup - 10V}{0.02A}$$

Shielded cable is recommended for control loop wiring.

SPECIFICATIONS
Service: Compatible liquids.
Wetted Materials:
Body: 316 SS;
Cable: Polyether polyurethane or ETFE;
Diaphragm: PTFE coated FKM fluoroelastomer;
Label: Polyethylene polyamid.
Accuracy: ±0.25% FS (absolute).
Temperature Limits: -4 to 176°F (-20 to 80°C).
Compensated Temperature Limits: 32 to 140°F (0 to 60°C).
Thermal Effect: ±0.0075%/°F (±0.0135%/°C).
Pressure Limit: 2x range.
Power Requirements: 10 to 33 VDC.
Output Signal: 4 to 20 mA DC 2-wire.
Response Time: < 50 ms.
Max Loop Resistance: 1000 Ω @ 30 VDC.
Electrical Connections: Wire pigtail.
Mounting Connection: Suspended below point being monitored.
Electrical Protection: Surge/lightning protected per EN61000-4-5, Class 5.
Weight:
Body: 0.3 lb (0.136 kg);
Cable: 0.037 lb (0.009 kg) per foot.
Agency Approval: CE.

WARNING:
A voltage potential between the ground wire of the unit and the ground of other equipment can lead to electrolytic corrosion. Always ensure the grounding system provides an equipotential between the transmitter and the earthing ground connection. Avoid using the power system protective ground since this will often have a significant potential difference to the transmitter ground. Also note that dissimiliar metals in the ground system may cause electrolysis corrosion of the transmitter or other components in the ground system.

During installation, connect a voltmeter or ammeter between the shield ground wire and the grounding connection. If there is a measurable voltage or current electrolytic corrosion may be a serious possibility. If there is a potential difference then some isolation system will be required. Improper grounding may lead to damage or poor signal integrity.

Model Number Guide

Example	**FBLT**	**2**	**S**	**C**	**I**	**V**	**P**	**F**	**30**	**50**	**NIST**	**FBLT-2SC-IVPF-30-50-NIST**
Construction	FBLT											Flush Tip
Circuit Options		2										Surge protected
Body Material			S									316 SS
Accuracy				C								0.25%
Output					I							4 to 20 mA
Reference						V						Vented
Cable Material							P E					Polyether polyurethane ETFE
Range Unit								F M P				Feet of water column Meter of water column PSI
Range Value									X			
Cable Length										X		In feet for feet and psi range, in meters for meter range
Options											NIST NPT	NIST Traceable Certificate 1/2″ NPT mounting option

Note: With NPT option only, tighten connection with wrench on top 15/16 hex, not the nut.

MAINTENANCE/REPAIR
Upon final installation of the Series FBLT, no routine maintenance is required. The Series FBLT is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty).

WARRANTY/RETURN
Refer to “Terms and Conditions of Sales” in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.