- spot on the stem and adjust the Z screw until the calibration display shows the desired zero value (4mA for current loop, 0 volts for voltage 5 or 10 Volt range, 1 ohm approximate for 5 Kohms resistor range).
- 3. Span adjust: move the float to the highest desired location on the stem or the top and adjust the S screw until the calibration display shows the desired max value (20 mA for current loop, 5 volts for 5 Volts, 10 volts for 10 volts and 5 Kohms for 5 Kohms).
- 4. Adjusting the span may move the zero point, so repeat steps 2 and 3 until there is no longer any deviation.
- 5. Install the LFT01 in the vessel.

## 7. Maintenance

Under normal operation this unit should be maintenance free. The exception is buildup of material from the liquid or scaling which can cause the float to stick or restrict its movement. In this case remove the sensor from the tank and clean it with a suitable cleanser that will not damage the material and will also not form any dangerous reaction with the liquid being measured or the scale that has formed on the stem and float. Always follow all necessary safety protocols when conducting maintenance. Remove all cleanser residues after cleaning to avoid contamination of the liquid being measured. When maintenance is finished the device should be recalibrated before it is reinstalled in the tank to ensure it is operating properly.

### 8. Specifications

Sensing Technology: Reed switch chain type
Minimum Length: 12 inches (288mm)
Maximum Length: 96 inches (2304mm)
Resolution: 0.50 inch (12mm) standard

0.25 inch (6.5mm) optional

Dead Band: Dependant on float: see float types
Specific Gravity: Dependant on float: see float types

Wetted Parts

Stem: 316 Stainless steel
Float: 316 Stainless steel
Fitting Size: 1/2" or 2" NPT Male
Enclosures: See head types -

WAx, POx, AHx, CAx, CSx, EXx,

ADx, XDx

Temperature Range -20 to 120°C (-4 to 250°F)

Max. Pressure: Dependant on float: see float types

Electrical Connection:

Micro-DC plug, 5-pin

or cable

Protection: NEMA 4X/IP65 or NEMA 4X/IP66

DIN Rail or Hockey-Puck Transmitter

Input Voltage: 12-32 VDC max.
Output: 4-20 mA 2-wire
0-5 VDC 3-wire

0-10 VDC 3-wire 5 VDC max.

Sensing Voltage: 5 VDC max.
Sensing Current: 2.5 mA max.
Adjustments: via potentiometer

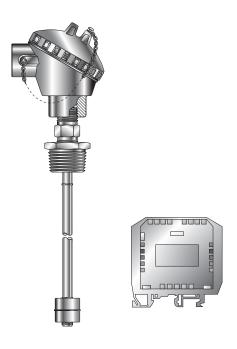
Ambient Temperature Range:

-20 to to 60°C (-4 to 140°F)

## LFT01 Level Float Sensor



# **Quick Reference Guide**



mlft01, rev1.0/21082012



# Manufacturer of Superior Quality Instrumentation







### Disclaimer

Intempco guaranties that its products are free from defects in material and workmanship. This warranty is valid for a period of one year from the date of purchase, and covers these components of the products which are non-moving and not subject to normal wear. This warranty does not cover products which are modified or altered. Moreover, it does not cover electrical cables which are cut during installation.

The above stated warranty becomes null and void if anyone, other than service personnel authorized by Intempco, attempts to repair a defective product.

Intempco's only obligation under this warranty is to repair or replace, at Intempco's option, products that are found, upon Intempco's examination, to be defective. Intempco shall have no obligation for consequential damages to personal or real property, or for injury to any person.

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# 1. Description

The LFT01 is a simple, reliable and cost effective means of continuous sensing of liquid levels. This device uses a magnetic float which is free to move vertically along a stem equipped with reed magnetic switches giving a resolution of 1/2". The switches are fully contained within the stem.

There are a number of materials available depending on the liquid which will be measured. The use of a 2" NPT fitting accommodates the diameter of the float and allows the unit to be installed from the top of the vessel without removal of the float. If the 1/2" float is requested the float must be removed before installation.

Each transducer comes standard with a shielded cable or a 5-pin M12 Micro-DC plug. The transmitted analog level signal is generated via either an onboard puck mounted transmitter or a DIN rail transmitter, mounted remotely. The puck or DIN rail transmitter can be used to calibrate the device for different spans within the full length of the stem. The output signal is a stepped analog signal of either the industry standard 4-20 mA current loop or 0-5 Vdc, 0-10 Vdc, or 0-5 K ohms range.

### 2. Note

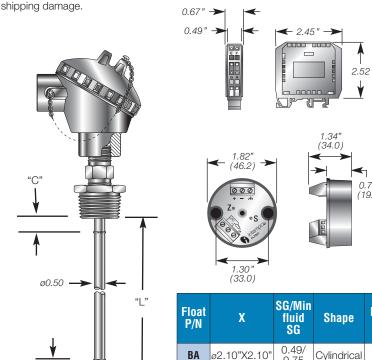
Prior to unpacking and installation, please read the operating instructions and follow them carefully. These units are to be installed, used and serviced only by individuals who are familiar with the operating instructions and the applicable regulations for operational safety and accident prevention.

The unit is constructed using the most up to date production equipment and complies with the safety requirements of the local guidelines. The manufacturer cannot be held responsible for damage caused by misuse or incorrect installation. The installation conditions and connection values indicated in the operating instructions must be followed.

Handle the instrument with care, as sudden impacts or drops could cause damage. This device is not ESD sensitive, so no such precautions need to be taken during handling or unpacking.

## 3. Control of Units

The units are calibrated and checked before shipment and shipped in good condition. If you detect a visible defect on the unit, we recommend that you carefully check the packing material. In the event of a defect, please immediately notify the mail service/freight forwarder, as they are responsible for



CA

Float BA shown

ø2.06"

## 4. Dimensions

## 5. Installation

Care should be taken in selecting the mounting location. High voltage wires and moving parts should be avoided. The locations should also be chosen for ease of access. The probe should have sufficient space around it to allow the float sensor a full range of motion.

### Magnetic Interference:

This device is sensitive to magnetic fields, so it should be located a sufficient distance away from any devices that create or intrinsically have magnetic fields. Also, if it is mounted in a vessel that is ferrous it should be mounted a sufficient distance from any surface to prevent it from affecting the float.

#### Thermal:

Although the rating for the probe is -20 to +120°C it should be noted that the electronics in the DIN or puck transmitter are only rated for -20 to +60°C and the location of these devices should ensure that they remain within those ratings.

### Vibration:

The LFT01 series of float sensors could be affected by vibration or momentary impact. Excessive vibration may cause false sensor readings and may even cause permanent damage to the unit. The reed switches are electro-mechanical devices that physically move under the pull of the float magnet, but they could be caused to move by excessive vibration.

## Corrosion:

The LFT01 is immune to most types of corrosion being made of 316 stainless steel, but in installations where there might be an electrolytic reaction between the mount and the sensor due to the type of liquid being measured and a tank or mount with a dissimilar metal to the sensor, it may be advisable to use an appropriate isolating material or dielectric compound on the threads to prevent corrosion. This isolation should also be taken into consideration when ensuring proper grounding.

### Precautions:

Although this is a sealed and intrinsically safe device, precautions should always be taken to ensure that this device is properly grounded when used in an explosive or flammable environment otherwise a significant static charge could build up on the body of the sensor and be a source of ignition.

### Mounting:

The float stem should be mounted rigidly so that it does not move with turbulence. It should also be mounted as vertical as possible. A few degrees off of vertical will not harm operation.

The specific gravity of the measured liquid should be known in order to ensure that the appropriate float may be used. Refer to the float table for specifics.

### Din rail transmitter:

The transmitter should be mounted in a location which is free from humidity, protected from ESD and is within its temperature rating of -20 to +60°C. There should also be protection from air born particulates and dust if these are present in its environment.

### 6. Calibration

Max.

isq 008

750 psi

0.75 0.60/

0.85

Spherical

1. Install an appropriate power supply and calibration display.

