

HiTECH

Technologies, Inc.

MiniSwitch™

Ultrasonic Point Level Switch INSTRUCTION MANUAL



***HiTECH* Technologies Inc.**

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1. System Description

The LL01 Series Liquid Level Detection systems are ideal, low cost ultrasonic liquid level detection systems for many applications.

They operate in a broad spectrum of viscous to light liquids.

2. Principle of Operation

The LL01 Series operates using ultrasonic sound wave propagation.

Ultrasonic sound waves are greatly attenuated when transmitted through air. Conversely when liquid is present, transmission of the sound waves is greatly enhanced.

The electronic control unit generates electrical signals that are converted to bursts of ultrasonic energy at the sensor. The ultrasonic bursts are transmitted across the liquid sensing gap.

Upon receipt of a valid signal, the solid state electronics generate a “data enable” condition indicating liquid is present.

This signal energizes a relay and/or provides an output condition.

Model LL-01 MiniSwitch

MODEL	TYPE	INPUT POWER	OUTPUT	FUNCTION
LL-01	Integral	9 VDC to 30 VDC	Relay output (1.0 AMP)	N.O. N.C.

Notes:

1. Standard Sensor Material: 316 Stainless Steel.
2. 1/4" NPT mounting is standard
3. Standard length of the sensor is 1.125" with activation point 1/4" from the bottom of the sensor.

3. Installation

Follow the instructions below:

1. Drill a suitable hole in the vessel or pipe wall and tap for 1/4" NPT. If this walled vessel or material is not suitable for threading, weld or braze a bushing to accept the sensor.
2. Screw the sensor in the threaded section and make sure that there is a good seal. Use a pipe compound or sealing tape to avoid excessive tightening.
Do not overtighten.
3. Run the power and control wiring cable to the electronic control unit.

MAINTENANCE

Electronics are constructed with solid-state components and epoxy potted. Periodically, check and clean the sensor when used with liquids, which cause a coating build up on sensor. No other maintenance is required.

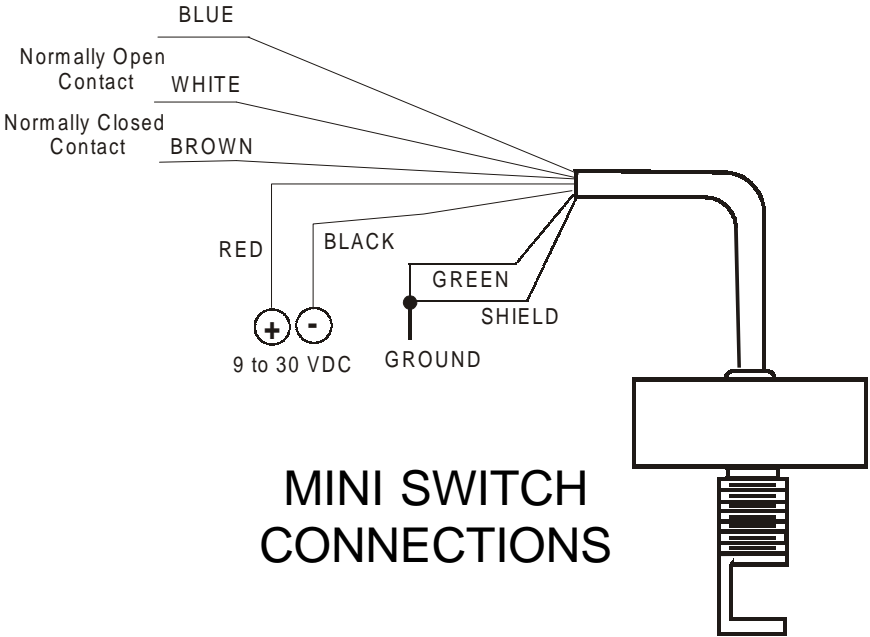
CLEANING

If the pipe or vessel to which the sensor is mounted is to be steam cleaned or cleaned with abrasive detergents, remove the entire unit before cleaning by:

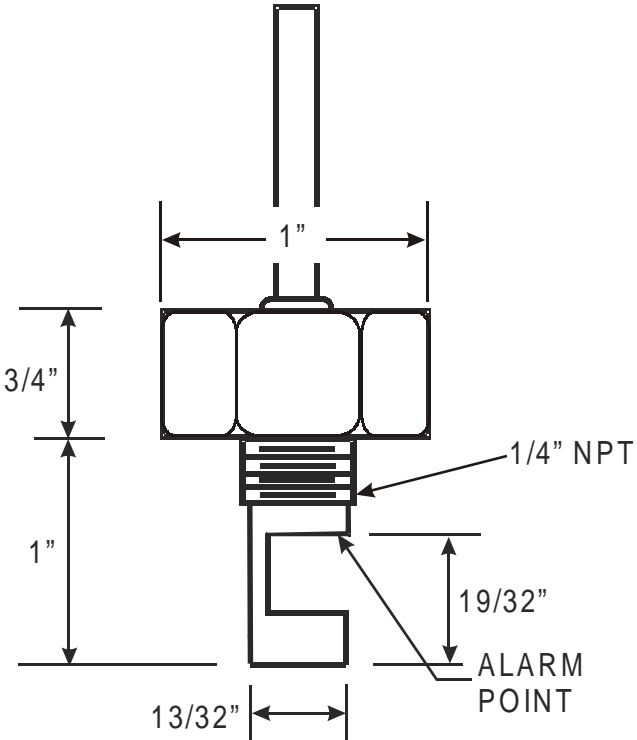
1. Disconnecting the power at the source;
2. Opening the housing cover;
3. Removing power and control wiring cables;
4. Unthreading the sensor;

To reinstall, follow Installation Procedures.

4. System Wiring Drawing



5. Dimensional Drawings



MINI SWITCH
MOUNTING

6. PERFORMANCE GUARANTEE

Since 1986, every instrument sold by **HITECH** has been guaranteed to perform in the application it originally was engineered and recommended for.

Our company policy remains the same, every product sold comes with a **written performance guarantee.**

Should the equipment be unable to perform satisfactorily in your application and we are not able to correct the problem, we will accept the instrument in return and issue full credit.

This performance guarantee is valid for 60 days. Thereafter, our standard limited two year factory warranty goes into effect.

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