

## MTLS-10A MAGNE-TRAC™ MAGNETICALLY-ACTUATED POINT LEVEL 10 AMP SWITCH Features & Specifications

### Features

- Suitable for high and low liquid level sensing
- Magnetically coupled to float; avoids direct contact with process media
- Latching, bi-stable design actuated by the passing magnetic float, the switch maintains its state until return float passage in the opposite direction
- Universal operation; normally open or normally closed contacts option
- Double pole double throw (DPDT) configuration enables controlling two separate devices with a single switch module
- Attaches directly to the magnetic level indicator (MLI) chamber exterior; no additional piping or valves are required
- Simple, universal mounting fits multiple MLI chamber pipe sizes
- Trip-point is easily adjusted by loosening clamps and vertically repositioning the switch enclosure on the MLI chamber exterior
- Independent sensitivity adjustment provides a means for increasing or decreasing the magnetic attraction between the float and switch; this versatility allows the switch to be used with virtually any strength float magnet without de-coupling/switch non-function (too weak) or float "lock-up" (too strong)



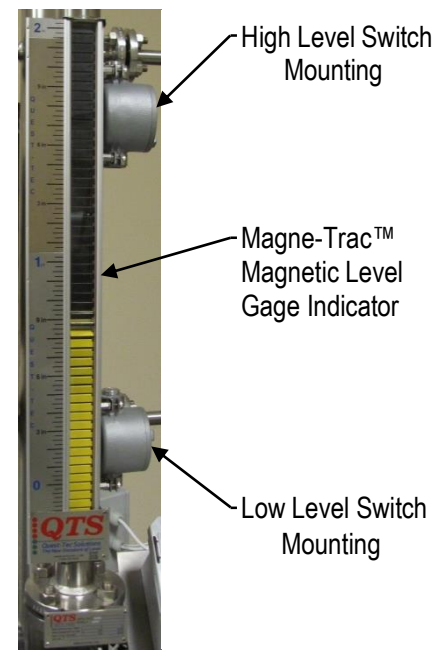
MTLS-10A with Aluminum NEMA 4X, 7 & 9 Enclosure

### Description

The MTLS-10A is a weatherproof and explosion-proof housed magnetically-actuated electric switch designed for chamber exterior mounting on a Magne-Trac™ magnetic level indicator (MLI) having a magnetic float that rides a liquid level. The MTLS-10A provides electrical current switching via two isolated single pole double throw (SPDT) normally open or normally closed contacts and is configured for double pole double throw (DPDT) operation such that two separate devices can be controlled with a single switch within the switch rating. The switch is a latching, bi-stable design that when actuated by the passing MLI float, the switch contacts remain in the actuated position until the float, traveling in the opposite direction, passes back by the switch. The switch is well suited for sending high or low level alarm signals and operating pump control relays. Switch action is break before make.

### Specifications

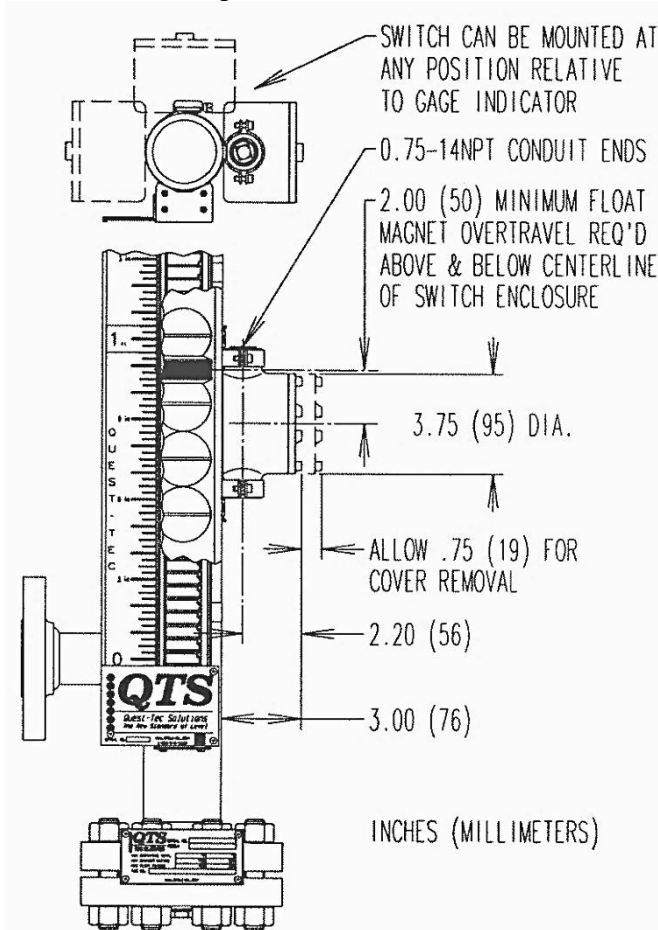
Switch Type.....	Latching, bi-stable, snap-acting magnetic cam actuated
Switch Action.....	Break before make
Contact Material.....	Silver-alloy, gold crosspoint
Contact Configuration.....	Two SPDT (one DPDT), normally open or normally closed
Contact Ratings.....	AC Resistive: 10.1 amp, 1/4 HP @ 125 or 250 VAC DC Resistive: 0.5 amp @ 110 VDC, 0.25 amp @ 220 VDC DC Inductive: 0.2 amp @ 110 VDC, 0.1 amp @ 220 VDC
Terminal Block.....	6 position, screw clamp, 14-30 AWG
Deadband.....	Approx. +/- 0.500" (12.7 mm) of float travel
Switch Operating Temp...	Minimum: -40° F (-40° C) Maximum: 248° F (120° C)
Enclosure Type.....	NEMA 4X, 7 & 9
Enclosure Material.....	Copper-free aluminum (consult factory for other options)
Enclosure Connections....	Top and bottom 3/4-14NPT female
Enclosure Certifications...	Class I & II, Divisions 1 & 2, Groups B, C & D Class III, Divisions 1 & 2



MLI High and Low Level Switch Mounting

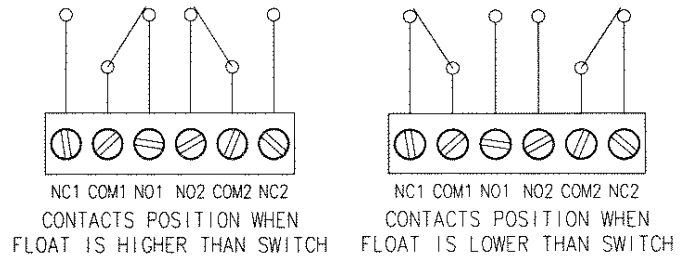
## MTLS-10A MAGNE-TRAC™ MAGNETICALLY-ACTUATED POINT LEVEL 10 AMP SWITCH Installation & Operation

### Mounting Dimensions & Instructions



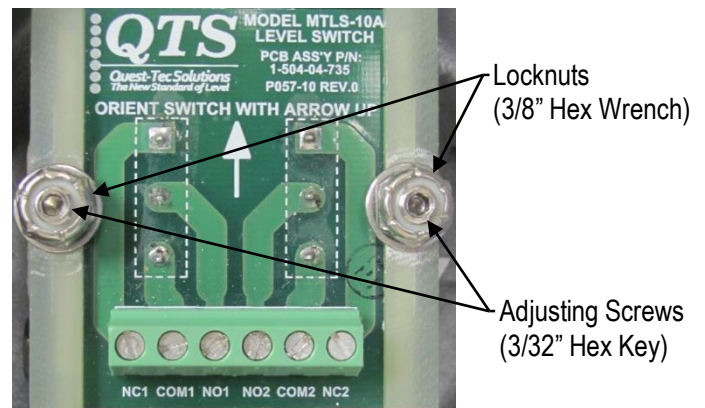
Mount the MTL-10A Level Switch according to the "INSTALL WITH THIS END UP" label affixed to the enclosure exterior. Position the enclosure on the MLI chamber in the location of the desired switching; the trip-point is approximately 1/2" (13mm) above the enclosure centerline however this can vary based on float magnet strength. The switch location must be within the working range of the MLI float magnet allowing 2" (50mm) minimum overtravel both above and below the trip-point. Wrap the two (supplied) worm-drive clamps over the tabs of the hub clamps and around the MLI chamber and tighten. Fasten the MLI indicator to the chamber over top of the worm-drive clamp bands. Connect conduit to the enclosure hub end(s). Install the (supplied) flush pipe plug into the unused hub connection.

### Switch Wiring



Route wiring through conduit end(s) of enclosure and connect to terminal block according to your application. Make certain wires do not interference with switch rotating parts. Cycle float past switch in both directions while testing for switch function.

### Switch Sensitivity Adjustment



The MTL-10A Level Switch sensitivity adjustment allows the float-to-switch magnetic attraction to be "tuned" to the specific float magnet strength to prevent de-coupling/switch non-function (sensitivity too low) and float "lock-up" (sensitivity too high). Obtaining the ideal setting requires cycling the float past the switch in both directions one or more times while observing the MLI indicator operation as switching occurs. To adjust:

1. Hold adjusting screws stationary and loosen locknuts 1 turn.
2. Turn adjusting screws counterclockwise to reduce sensitivity, clockwise to increase sensitivity. Turn each screw no more than two turns at a time to prevent movement binding.
3. Maximum safe adjustment is 7 turns-out from 0 turns (0 turns is with the screws at their maximum clockwise stop position).
4. Hold adjusting screws in position and tighten locknuts snug.