

# TUNING FORK POINT LEVEL SWITCHES

## For High/Low Liquid Levels

### LTU-2000 Series



- ✓ Unique Tuning Fork Technology, Unaffected by Variations in Density, Conductivity, Dielectric, Foam, Tank Agitation or Vibration
- ✓ 316 SS Construction with Optional ETFE Coating
- ✓ 0.1% Accuracy, 0.5 mm Repeatability
- ✓ Models Available with Fixed or Adjustable Time Delay



LTUM1-2014

All shown smaller than actual size.

The LTU-2000 Series tuning fork level switches are point level switches that detect high or low liquid levels. Based on the vibrating tuning fork principle, these units accurately detect contact with a liquid, triggering a switching output. Depending on the liquid viscosity, the LTU-2000 is virtually immune to chemical or physical properties, and can be installed at any angle into a pipe or tank. Recalibration is not required between batches, and units may be cleaned in place. Models are available with PNP, NPN or relay.

Model	LTUP	LTUR	LTUM1	LTUM2
<b>Power</b>	20 to 60 Vdc	20 to 60 Vdc 20 to 264 Vac	20 to 60 Vdc	85 to 264 Vac
<b>Output</b>	PNP (3-wire)	SPDT relay 5 A @ 250 Vac	PNP (3-wire)	NPN (3-wire)
<b>Load Current</b>	500 mA	—	500 mA	500 mA
<b>Electrical Connection</b>	Cable gland or ½ NPT	Cable gland or ½ NPT	DIN 43650 plug	DIN 43650 plug
<b>Time Delay</b>	1 to 20 sec adjustable	1 to 20 sec adjustable	1 sec	1 sec
<b>Enclosure</b>	Glass filled nylon	Glass filled nylon	316 SS DIN 43650	316 SS DIN 43650
<b>Operating Ambient</b>	-10 to 80°C (14 to 176°F)	-10 to 80°C (14 to 176°F)	-10 to 120°C (14 to 248°F)	-10 to 120°C (14 to 248°F)
<b>Protection</b>	NEMA 4 (IP65)	NEMA 4 (IP65)	NEMA 6 (IP67)	NEMA 6 (IP67)

## SPECIFICATIONS

**Viscosity:** 10,000 cSt maximum  
**Power Consumption:** ±3 mA  
**Switching Point:** 12 mm from tip  
**Accuracy:** ±0.1%  
**Repeatability:** ±0.5 mm  
**Wetted Parts:** 316 SS  
**Max Pressure:** 50 bar (725 psi)

## Dimensions:

**DIN 43650 Plug (LTUM Models Only):** 27 Dia x 80 mm H (1.0625 x 3.125")  
**Nylon Head:** 88 W x 80 mm H (3.5 x 3.125")\*\*  
**Aluminum Head:** 89 Dia x 126 mm H (3.5 x 5")\*\*

## Insertion Length, "D" Dimension:

80 mm (3.15") standard; measure from bottom of hex to tip of fork  
 \*\* Available on LTUR and LTUP models only.

## Standard Configurations

To Order	
Model No.	Description
LTUP-2011	Tuning fork level switch, 20 to 60 Vdc power, PNP output, 316 SS, 3/4 NPT connection, nylon enclosure, standard 80 mm (3.15") insertion depth
LTUR-2011	Tuning fork level switch, 20 to 264 Vac/20 to 60 Vdc power, 5 A SPDT relay output, 316 SS, 3/4 NPT connection, nylon enclosure, standard 80 mm (3.15") insertion depth
LTUR-2041	Tuning fork level switch, 20 to 264 Vac/20 to 60 Vdc power, 5 A SPDT relay output, 316 SS, 1.5" tri-clamp connection, nylon enclosure, standard 80 mm (3.15") insertion depth
LTUR-2012	Tuning fork level switch, 20 to 264 Vac/20 to 60 Vdc power, 5 A SPDT relay output, 316 SS, 3/4 NPT connection, aluminum enclosure with 1/2 NPT conduit, standard 80 mm (3.15") insertion depth
LTUM1-2014	Tuning fork level switch, 20 to 60 Vdc power, PNP output, 316 SS, 3/4 NPT connection, DIN 43650 plug, standard 80 mm (3.15") insertion depth
LTUM2-2014	Tuning fork level switch, 85 to 264 Vac power, NPN output, 316 SS, 3/4 NPT connection, DIN 43650 plug, standard 80 mm (3.15") insertion depth

Model No.	Description
LTUP-2(A)(B)(C)-(D)	Custom tuning fork point level switch; PNP output; Select wetted material (A), process connection (B), enclosure (C) and insertion length in inches (D)
LTUR-2(A)(B)(C)-(D)	Custom tuning fork point level switch; relay output; Select wetted material (A), process connection (B), enclosure (C) and insertion length in inches (D)
LTUM1-2(A)(B)(4)-(D)	Custom tuning fork point level switch; PNP output, with miniature plug; Select wetted material (A), process connection (B), enclosure (4) and insertion length in inches (D)
LTUM2-2(A)(B)(4)-(D)	Custom tuning fork point level switch; SSR output, with miniature plug; Select wetted material (A), process connection (B), enclosure (4) and insertion length in inches (D)

## Options Ordering

Ordering Suffix Description	
<b>A-Wetted Materials</b>	
0	316 SS
1	ECTFE/ETFE coating; flange connections recommended
<b>B-Process Connection</b>	
1	3/4 NPT thread
2	1 NPT thread
3	1 1/2 NPT thread
4	1.5" Tri-Grip™, sanitary*
5	2" flange, ANSI, 150# 316 SS
Others	Consult Engineering with details
<b>C-Enclosure</b>	
1	Glass filled nylon with 1/2 NPT conduit with cable gland**
2	Aluminum die cast with 1/2 NPT conduit entry**
3	Aluminum die cast with cable gland entry
4	316 SS DIN 43650; for LTUM units only
<b>D-Insertion Length</b>	
D (in)	Rod length (in); 1.5 m (60") maximum

\* Tri-Grip™ (Tri-Clamp® compatible).

Comes complete with operator's manual.

**Ordering Examples:** **LTUP-2011**, tuning fork level switch, 20 to 60 Vdc power, PNP output, 316 SS, 3/4 NPT connection, nylon enclosure, 80 mm insertion depth.

**LTUM2-2014**, tuning fork level switch, 85 to 264 Vac power, SSR output, 316 SS, 3/4 NPT connection, DIN 43650 plug, 80 mm insertion depth.

