DATASHEET

HTF1742

H SERIES SENSORS

Highlights

- Ideal for monitoring high level conditions of liquids, fine grained solids, and powders
- Unaffected by turbulence, flow, foam/bubbles, vibration, liquid properties, product variations, coating products, and solids content
- Fork material: 316 or 316L stainless steel
- Process temperature: -40 to 150 °C (-40 to 302 °F)
- Max pressure: 2900 PSI (200 BAR)
- Compact form factor allows for ease of installation
- 2" and 4" to 60" probe lengths in 1" increments
- Signal Output: Dual Relay SPDT (NO and NC)
- Supports 0.5 g/cm^3 or 0.7 g/cm^3 fluid density
- Selectable alarm high or low option
- Debounce delay option
- Built-in relay function tester
- Support for wide power supply range
- NEMA 4X, IP66, Explosion-proof

Cost-Effective Point Level Detection Solution

Low Maintenance, High Reliability

The HTF1742 Compact Tuning Fork Level Switch by OleumTech is part of the H Series line of high quality instruments delivering unrivaled performance, reliability, and accuracy in the most demanding environments, including hazardous locations.

The HTF1742 is designed based on the tuning fork principle for providing point level detection for alarm, monitoring, and control applications. When in air, the tuning fork vibrates at its natural frequency, but when immersed in a particular medium, the frequency drops and provides an output state change.

The H Series Tuning Forks provide exceptional performance for overflow (high) or dry run (low) detection of liquids such as oil, petroleum, corrosive liquid, and water as well as many other mediums such as powders, granular plastics, and gravel. This Tuning Fork provides dual relay SPDT signal outputs.

Designed for Hazardous Locations

The HTF1742 provides local LED indication for facilitating the installation process and running diagnostics. The Green LED is for power while the Red LED provides alarm indication. When operating in the FailSafe mode, the Red LED is turned on when the instrument is in the alarm state. Whereas, when operating in the Output mode, the Red LED is turned on when the instrument is in the normal state.

The Tuning Fork can be set to 0.5 g/cm^3 or 0.7 g/cm^3 fluid density. The switching point is located 0.51" (13 mm) from the tip of the tuning fork. The instrument can detect the state change instantly or users can use a 5 second delay (debounce) option to trigger a state change.

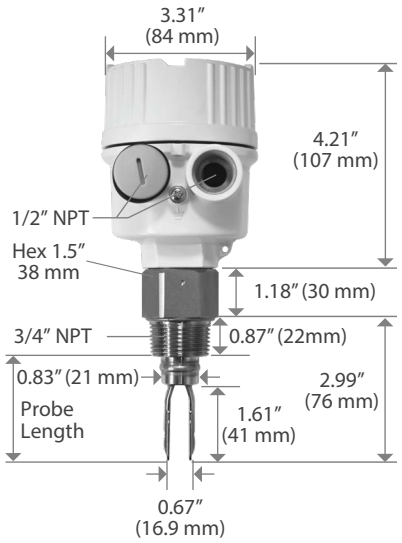
The H Series HTF1742 Tuning Fork comes standard with a 316 SS fork material and 3/4" NPT connection. 316L SS and 1" NPT connection are optional when ordering. It also features a built-in relay function tester so that an external testing device is not required.

Technical Specifications

HARDWARE FEATURES	
Device Functionality	· Point Level Detection Switch using Vibrating Tuning Fork Technology
Interface (Signal Output)	· Dual Relay (Normally Open and Normally Closed)
CERTIFICATION & COMPLIANCE	
Safety	· Explosion-proof for Use in Hazardous Environments · Ex db IIC T6...T2 GA/Gb (Zone 0/1)
MECHANICAL SPECIFICATIONS	
Dimensions (Housing)	· 3.31" (W) x 4.21" (H) x 3.31" (D) / 84 mm (W) x 107 mm (H) x 84 mm (D)
Tuning Fork Length (Thread to Tip)	· Top of Thread to Tip: 2.99" (76 mm) / Bottom of Thread to Tip: 2.12" (54 mm)
Package Dimensions	· Depends on Probe Length (Please ask Sales for Details)
Package Weight	· Depends on Probe Length (Please ask Sales for Details)
Ports	· Two 1/2" NPT
Connection Fitting (Standard)	· 3/4" NPT, 1" NPT (Optional)
Enclosure Casing Material	· Type 4X Aluminum; IP66
Fork Trigger Point	· 0.51" (13 mm) From Tip of the Fork
Tuning Fork Material	· Stainless Steel 316 or 316L Option
Repeatability	· 0.02" (0.5 mm)
Hysteresis Band	· ~0.08 (2 mm)
Process Pressure	· 2900 PSI (200 BAR) Max
Minimum Density	· 0.5 g/cm^3 or 0.7 g/cm^3
Liquid Viscosity	· Max 10000 mm^2/S, 10000 cSt
Normal Switching Delay	· Covered by Material: 0.5s | Not Covered by Material: ~1s
Optional Debounce Switching Time	· Covered by Material: 5s | Not Covered by Material: 5s
Selectable Alarm Mode	· High (Overflow) or Low (Dry Run)
LED Status Indicators	· Green (Power): On = Normal, Off = Power Failure; Red (Signal): On or Off Based on Mode Setting
ELECTRICAL SPECIFICATIONS	
Signal Output Options	· Relay Contact (SPDT): 3 A / 250 Vac / 250 Vdc
Output Modes	· Relay Type: Normally Open and Normally Closed
Power Supply	· 19-253 Vac 50/60Hz or 20-72 Vdc
Power Consumption	· 1.3 W (DC) Max.
Overvoltage Protection	· Overvoltage Category III
Contact Capacity	· 6 A / 250 Vac, 6 A / 28 Vdc
GENERAL SPECIFICATIONS	
Operating Conditions	· Tuning Fork: Process Temperature: -40 to 150 °C (-40 to 302 °F) · Housing: Ambient Temperature: -40 to 70 °C (-40 to 158 °F) · Operating Humidity: 20 to 80 %, Non-Condensing
Warranty	· 2-Year Parts and Labor
ORDERING INFORMATION	
Model Numbers	· HTF1742Rxxx

Dimensions

HTF1742



H T F 1 7 4 2 R 6 C 0 0 2

- Material (Wetted Part)
  - 6 = 316 SS (Default)
  - L = 316L SS
- Connection Size
  - C = 3/4″ NPT (Default)
  - D = 1″ NPT
- Probe Length
  - 002 = 2″ (Default)
  - 0XX = 4″ to 60″ (Extension Type)

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