Vibrating Fork Point Switch for Liquids - VFSL

Techtrol
Innovating Level Controls Since 1984

VFSL is a point level switch based on piezo driven vibrating fork technology. It is suitable for detection of liquids in tanks.

Salient Features :-

- No moving parts. Minimum maintenance.
- Fail safe design.
- Unaffected by environmental changes e.g. temperature, pressure & humidity.
- Ex-proof version Gr IIB for hazardous applications.
- The vibration has a self cleaning effect.

Integral

Construction & Operation :

The system is available in two versions - Integral (Standalone) & Two Part. In the integral system, the controller is integral with the sensing probe. In two part system, the controller is separate from the probe and can be mounted remotely. The sensing probe is of rugged construction. The sensing probe is fitted with an enclosure at its top end, which holds the control electronics and its lower end holds a SS tuning fork, which vibrates at its mechanical resonance frequency of 400 Hz, created through a piezo crystal when in air. However, when the tuning fork is covered with liquid / slurry, its vibrations get damped. This is sensed by the control electronics, which changes the status of output relay contacts.

Specifications :

System : Integral (I) or Two Part (T)

Sensing probe

Enclosure x Conduit Conn : Cast Al. WP IP66 x PG 13.5 Cable Gland
: Cast Al. Exd Gr.IIB T6, IP66 x 1/2" NPT DC Cable Gland

Process Connection : SS304 x 1"BSP (M) Screwed or 1-1/2" NB ASME 150# Flange (Std. Length)
: SS304 x 1-1/2" BSP (M) Screwed or 1-1/2" NB ASME Flange (Extended Length)

Fork MOC : SS316/316L or PTFE coated SS316 (for corrosive liquids)

Extension pipe MOC : SS304/316/316L

Insertion Length (L) : 125 mm (Std), Extended Insertion Length from 175 to 2500 mm

Resonance Frequency : 400 Hz

Max Optg Temperature : 150 ºC (SS), 120 ºC (PTFE ctd SS)

Max Pressure : 10 kg/cm2

Viscosity : 1000 cst

Controller

Enclosure x Conduit Conn : Cast Al. IP66 x PG 13.5 Cable Gland (Sys-I & T)
Cast Al. Exd Gr. IIB T6, IP66 x 1/2"NPT DC Cable Gland (Sys-I & T)

Supply : 230VAC or 110 VAC or 24 VDC ± 10 %

Relay Contacts : 1 DPDT x 5A, 230 VAC (resistive load)

Signal Delay : Fork covered to free 2-3 secs. Fork free to covered 2 secs

Switching Delay : Adjustable from 1 to 255 secs for fork free or covered

Safety Operation : Field selectable fail safe high & low

LED Status Display : Power On- Yellow; Normal- Green; Alarm- RED

Power Consumption : 2 VA

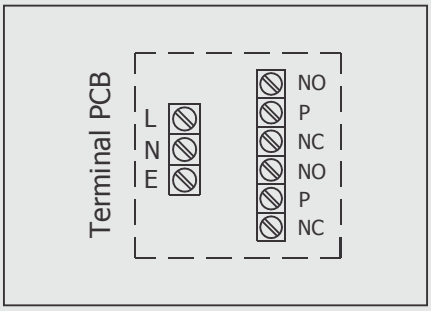
Amb Temperature : 60ºC

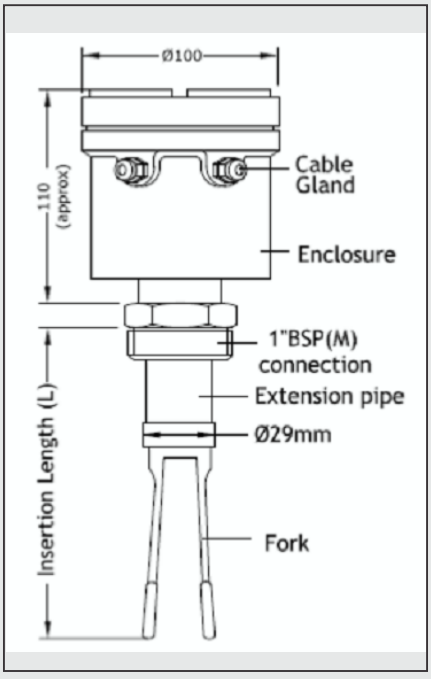
Humidity : 95% Rh non-condensing

Interconnecting Cable (for two part system) : 3 core x 1.5mm2 PVC Insulated (Buyer's Scope)

Encl. Dimensions (Two Part):Ø115 x 140 ht, Wall Mtd. (IP66, Sys T) or 150 Sq x 122 H mm, Wall Mtd. (Exd, Sys T)

Integral System :





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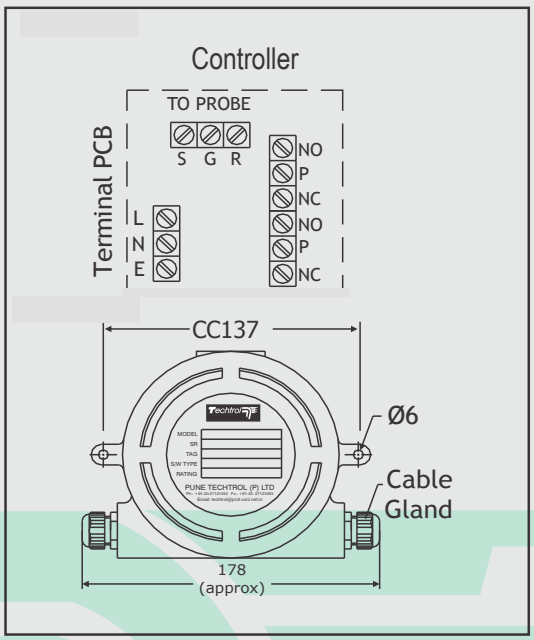
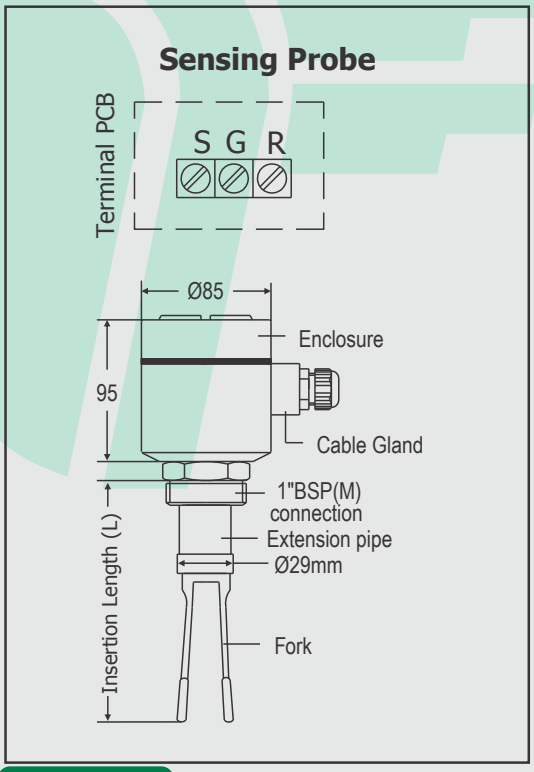
Two Part System :



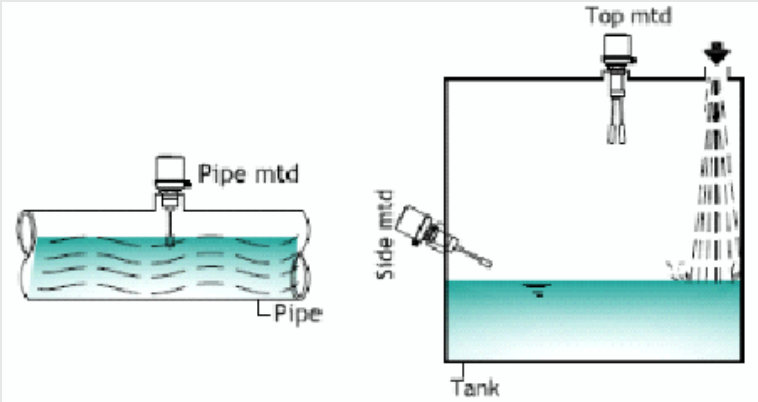


Services :

Oil, Milk, Water / Effluent Water.

Installation :

The sensing probe can be top or side mtd. on the vessel or pipe to suit your application.



Model Identification

VFSL-						
1. System						
Integral (Probe with Inbuilt Controller)	I					
Two Part (Fork Probe + Remote Controller)	T					
2. Probe Enclosure x Conduit Connection						
Cast Al. IP66 (Sys-I or Sys-T) x PG13.5 Cable Gland		J				
Cast Al. IP66 (Sys-I or Sys-T) x ½" NPT DC Cable Gland		K				
Cast Al. Ex d Gr. IIB (Sys- I or Sys-T) x ½" NPT DC Cable Gland		E				
Others		O				
3. Fork MOC						
SS316			S			
SS316L			L			
PTFE coated SS316 (for corrosive liquids)			T			
Others			O			
4. Process Connection						
SS304 x 1" BSP (M) Screwed				S		
SS304 x 1-1/2" BSP (M) Screwed				P		
SS304 x 1-1/2" ASME 150# Flange				F		
Others				O		
5. Remote Controller Enclosure x Conduit Connection						
Without (Sys-I)					W	
Cast Al. IP66 (Sys-T) x PG 13.5 Cable Gland					J	
Cast Al. IP66 (Sys-T) x ½" NPT DC Cable Gland					K	
Cast Al. Exd Gr. IIB (Sys-T) x ½" NPT DC Cable Gland					E	
Others					O	
6. Supply						
230 VAC						1
110 VAC						2
24 VDC						3

Ordering Information

Specify Model No. x Insertion Length (mm) x Liquid x Viscosity x Operating Temperature and Pressure

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