

Vibrating Fork Point Switch for Solids - VFSS

VFSS is a point level switch based on piezo driven vibrating fork technology. It is designed to detect all kinds of free flowing powders, grains and granular solids in Bins, Silos or Hoppers.

Salient Features :

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

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 & available in two designs-standard & high temperature. 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 120 Hz, created through a piezo crystal, when in air. However, when the tuning fork is covered with solid, 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. IP66 x PG 13.5 Cable Gland (Sys-I & Sys-T)
Cast Al. Exd Gr.IIB x 1/2" NPT DC Cable Gland (Sys-T)

Mounting : SS304 x 1 1/2" BSP (M) screwed

Fork MOC : SS316

Extension Pipe MOC : SS304 or SS316

Std Insertion Length (L) : 250 mm

Max Insertion Length (L) : 2500 mm

Resonance Frequency : 120 Hz

Max Optg Temperature : 150°C/ 200°C (with temp standoff)

Max Pressure : 10 kg/cm²

Particle Size : Max 10 mm

Controller

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

Supply : 85 to 265 VAC 50-60 Hz or 24 VDC ±10%

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

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

Switching Delay : Adjustable from 2 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 : 60°C

Amb Humidity : 95% Rh non condensing

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

(For Two Part System)

Encl. Dimensions (Two Part): Ø122 x 150 height, Wall Mtd. (IP66, Sys T)

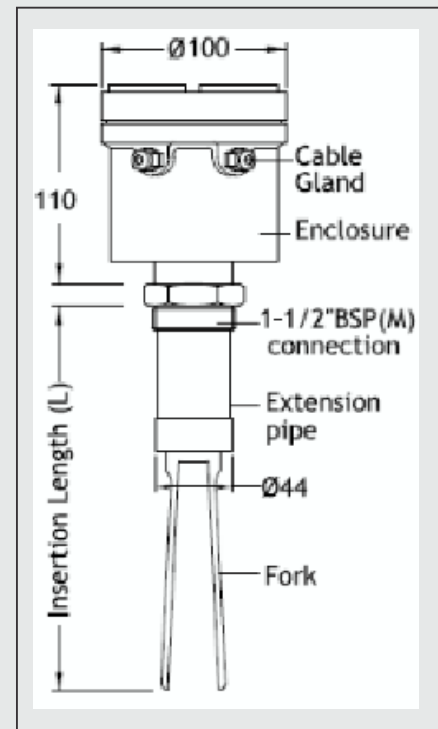
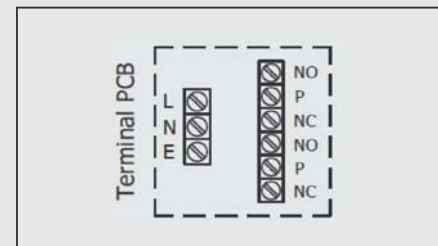
150 Sq x 122 H mm, Wall Mtd. (Exd, Sys T)



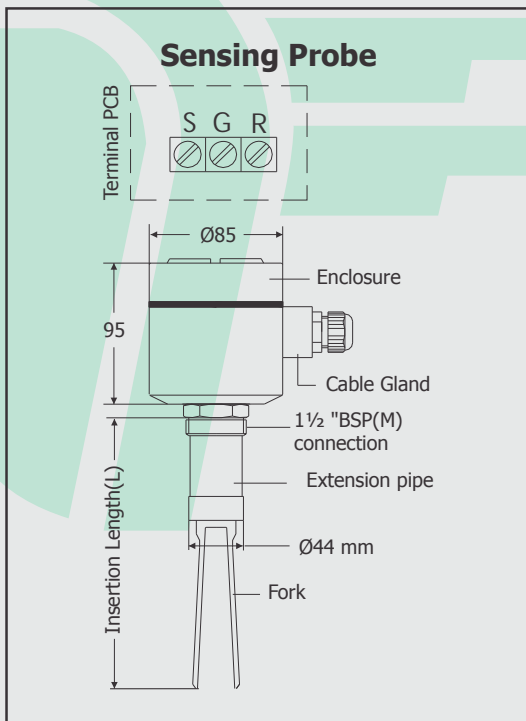
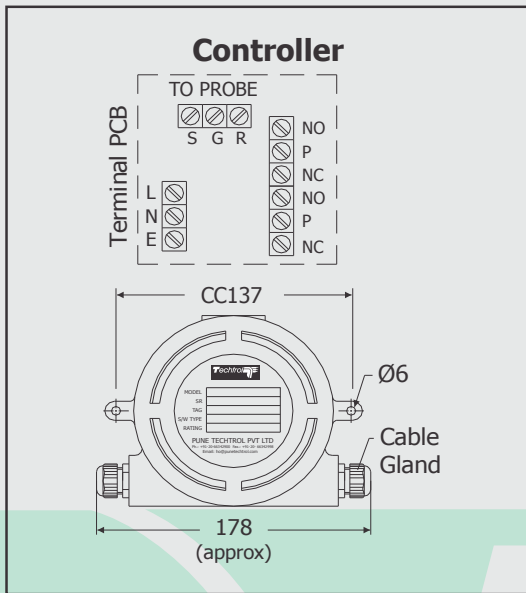
Integral

Two Part

Integral System :



Two Part System :



Services :

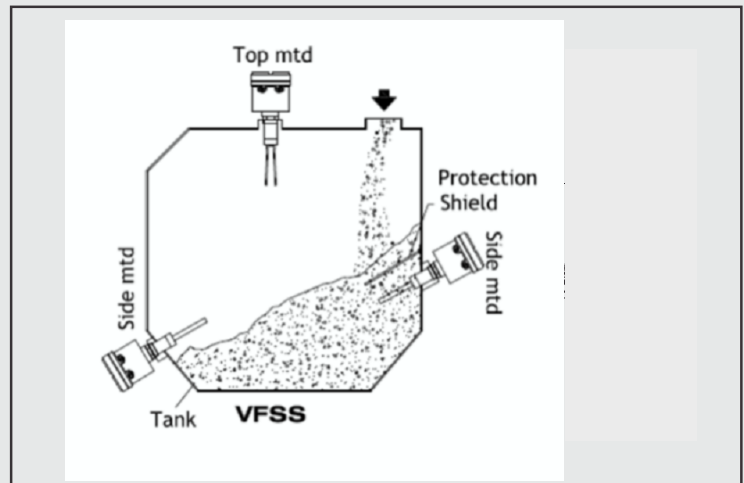
Food Grains, Coffee -Beans, Soya granules, Sugar, Zinc Sulphate / Pesticide Powder, Powder dyes, Bentonite /Plastic Granuals, Cement, Sand & Lime. (Particle size max 10 mm.)

Ordering Information :

Specify Model No x Insertion Length (mm) x Optg. Temp & Pressure, Particle Size & Bulk Density

Installation :

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



*All dimensions in mm, except specified.

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Custom built specs./options available on demand.

We reserve the right to modify design and specifications without prior notice.

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Model Identification

VFSS -						
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. Exd Gr. IIB (Sys-T) x ½" NPT DC Cable Gland	E					
Others	O					
3. Temperature						
150 °C Standard		S				
200 °C High Temperature		H				
4. Process Connection						
SS304 x 1-1/2" BSP (M) Screwed			S			
SS304 x 2" ANSI 150# Flanged			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						
85 to 265 VAC						1
24 VDC						2

