



## Level Measurement & Control Solutions VIBRATING FORK TYPE LEVEL SWITCH SERIES 135 VS

Vibrating Fork Type Level Switch, series 135VS, is used for detecting both high & low level of free flowing solids such as powder, cement, raw meal, sugar, nylon / PVC chips and pellets, food grains, chemical powders, fertilizers etc.

The switch consists of vibrating fork, piezoelectric element and switching electronics integrated into a weatherproof housing suitable for installing directly on the vessel, minimizing the cost of installation.

### FEATURES

- No calibration required, simplified installation and commissioning
- Performance independent of material characteristics i.e. change in conductivity, moisture contents, dielectric constant etc.
- No moving parts, hence no mechanical wear tear
- Weatherproof enclosure
- Adjustable time delay / sensitivity
- All wetted parts are in SS316, hence suitable for use in food industry

### PRINCIPLE OF OPERATION

The switch uses a tuning fork as a sensing probe. A piezoelectric crystal vibrates the tuning fork at its resonant frequency (85 Hz approx.). When material level increases and covers the tines of fork, the vibrations are damped. This is detected, processed and converted into switching signal i.e. relay contact changeover. Since amplitude of the vibrations is maximum at the tips and minimum at the base of the vibrating fork, it is more sensitive at the tips and less sensitive at the base. Build-up of material on tank / silo wall i.e. at the base of the vibrating fork does not affect the performance of the switch. However, the vibrating tines have a self-cleaning effect, which prevent excessive build-up formation.

### SPECIFICATIONS

- Vibrating frequency : 85 Hz approximately
- Material size : 10 mm maximum
- Material bulk density : 0.05 Kg/dm<sup>3</sup> minimum
- Operating pressure : 10 Kg/cm<sup>2</sup> maximum
- Operating temperature : 0 to 80° C
- Fork length : 271 mm
- Switching delay : 2 to 7 seconds (Adjustable)



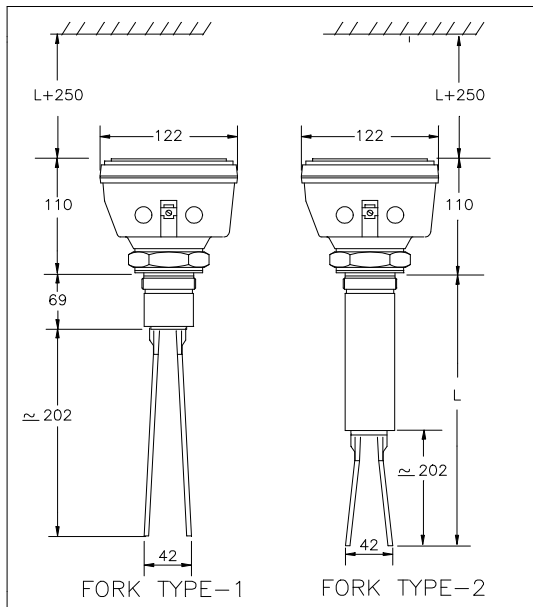
- Relay contacts : 2 C/O, 5A @ 230 VAC / 28 VDC (resistive)
- Fail-safe Features : fail-safe High (FSH) or fail-safe Low (FSL)  
- Selectable through DIP switch on electronic insert
- "Mains ON" & "ALARM" : Bright, bi-colour. LED colour changes from Green to Red under Alarm condition
- Main supply : 230/115 VAC ± 10%, 50 Hz, 1 Phase (<5VA) or 24 V DC ±10%
- Ambient conditions : Temperature -0 to 55°C Relative humidity - 95% max (non condensing)
- Termination : Suitable for 2.5 mm<sup>2</sup> conductor size
- Enclosure : Weatherproof, cast Aluminum Polyurethane painted, conforming to IP-67 as per IS:2147-1962
- Weight : 3 kgs. (Approx.)

# ORDERING CODE

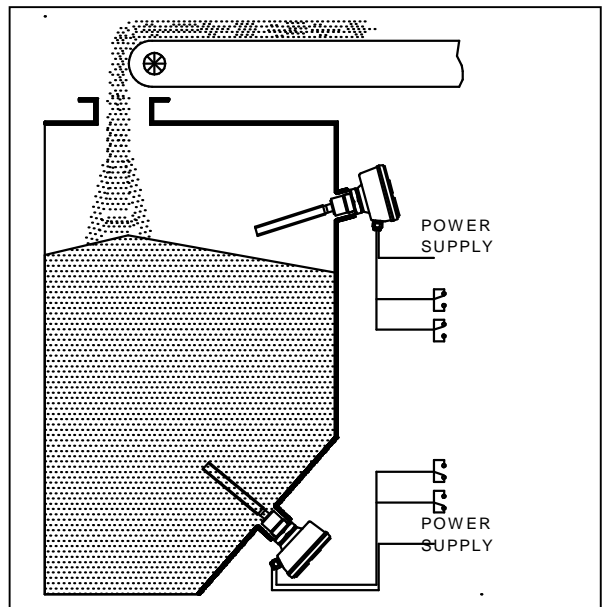
1	3	5	V	S	H	1	2					6	L =				mm.																												
<b>SAFETY CLASS</b> H - Non Intrinsically Safe								<b>PROCESS CONNECTION TYPE</b> T - Threaded F - Flanged *C - Collet				STD. L = 0271 mm EXT. L = (pl. specify) Max. 3 Mtr.																																	
<b>ENCLOSURE</b> 1 - Weatherproof								<b>PROCESS CONNECTION SIZE</b> 01 - 1½" BSP (M) 02 - 1½" NPT (M) *05 - 2" BSP Collet *06 - 2" NPT Collet XX - Flange as per flange table				<b>FORK MATERIAL</b> 6 - SS 316																																	
<b>POWER SUPPLY</b> 1 - 115VAC ±10%, 50Hz, 1 φ 2 - 230VAC ±10%, 50Hz, 1 φ 3 - 24 VDC								<b>Flange table :PRESSURE RATING 150 # (10 kg/cm<sup>2</sup>)</b> <table border="1"> <thead> <tr> <th></th> <th>ANSI</th> <th>BS</th> <th>DIN</th> <th>IS</th> </tr> </thead> <tbody> <tr> <td>2½"</td> <td>26</td> <td>27</td> <td>28</td> <td>29</td> </tr> <tr> <td>3"</td> <td>31</td> <td>32</td> <td>33</td> <td>34</td> </tr> <tr> <td>4"</td> <td>41</td> <td>42</td> <td>43</td> <td>44</td> </tr> <tr> <td>5"</td> <td>51</td> <td>52</td> <td>53</td> <td>54</td> </tr> <tr> <td>6"</td> <td>61</td> <td>62</td> <td>63</td> <td>64</td> </tr> </tbody> </table>					ANSI	BS	DIN	IS	2½"	26	27	28	29	3"	31	32	33	34	4"	41	42	43	44	5"	51	52	53	54	6"	61	62	63	64	<b>FORK TYPE</b> 1 - Standard 2 - Extended			
	ANSI	BS	DIN	IS																																									
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4"	41	42	43	44																																									
5"	51	52	53	54																																									
6"	61	62	63	64																																									
<b>OUTPUT</b> 2 - 2 c/o relay								<b>PROCESS CONNECTION MATERIAL</b> 2 - CS (for flange only) 4 - SS304 (Plate flange) 6 - SS316 (Plate flange)																																					
<b>CABLE ENTRIES (2 NOS.)</b> F - 3/4" UNF T - 1/2" NPT																																													

NOTE : 1. \* Collet process connection available for length >300 mm for top mounted atmospheric use only.  
 2. When used for materials of low bulk density. Please ensure tines are vertical.

## DIMENSIONS



## APPLICATION



\*\*\* Continuous developments may necessitate changes without notice.

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