



Grown...to meet challenges

30+ years in Process Control Instrumentation

## ELIXIR - Microcontroller based Vibrating Fork Liquid Level Limit Switch

Version 2.1

Elixir vibrating fork is a level switch for liquids and is used in tanks, containers and pipelines. As a sturdy replacement of conventional float switch, Elixir offers a variety of built-in features non-existent in floats and other switches, e.g. where materials are sticky, corrosive, agitated, splashing, foaming and having uncertain electrical properties. Elixir vibrating fork is suitable for hazardous areas, available with explosion-proof housings certified by CMRI, Dhanbad.

### Principle

A specially shaped tuning fork is kept vibrating using piezo-electric elements. Typically, the fork vibrates at its natural frequency. The frequency of oscillation for the tuning fork changes when immersed in liquids. The change in frequency is detected by the microprocessor leading to a switching decision.

**Approvals** CE Marking, RoHS Compliance, IP-67 Marking



### Features

- Less Power Consumption: Less Heat, Long Life
- Universal Power Supply: 18 to 55 V DC, 90 to 265 V AC on same terminals
- Application Temperature Range : up to 200° C
- Suitable up to 10,000 cP (Detects all Industrial Fluids)
- Compact Size: Less Inventory
- Extendable probe length from 68 to 3000 mm
- ECTFE coated, polished & hygienic fork
- Output: 8.2V Namur, SPDT & DPDT Relay type current output
- Calibration Free, independent of material's dielectric properties

### Applications

- |                   |              |
|-------------------|--------------|
| • Pharmaceuticals | • Brewery    |
| • Dairy           | • Textile    |
| • Pesticides      | • Chemicals  |
| • Petrochemicals  | • Cosmetics  |
| • Confectionary   | • Edible Oil |
| • Distillery      | • FMCG       |
| • Packaging       | • Sugar      |
| • Power           |              |

### Parts

The parts of Elixir is explained in Figure 1.

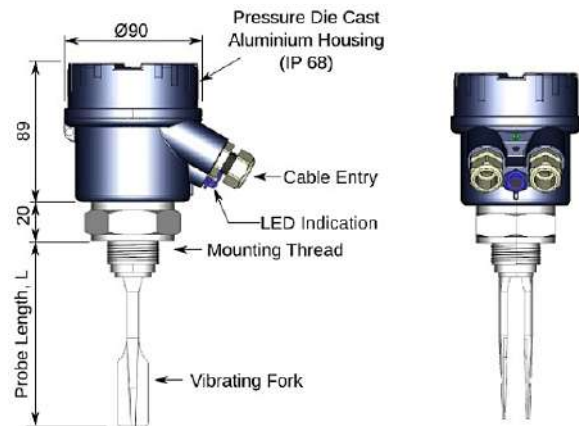


Figure 1

Manufacturing Level Instruments & Speed Monitoring Systems

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## Technical Specifications

### Mechanical Specifications

#### Housing :

- SCUTE: Pressure Die Cast Aluminium weather proof (IP-68)
- FP2C: Cast Aluminium weather & flame proof stoving enamel painted suitable for Gas Group IIC

**Type :** Integral with Fork

**Cable Entry :** Double Compression Gland / PG 13.5

**Resonant Frequency :** From 400Hz to 600Hz (1.2KHz to 1.4KHz)

**Sensing :** Resonating Fork, SS-316

#### Mounting :

- Screwed: 1/2" to 1" BSP/NPT (M)
- Flanged: As per order
- Material: SS 304 / SS 316 / SS 316L

**Extension :** SS 304 / SS 316 / SS 316L

**Probe Length :** Extension Length + Fork Length (44mm/100mm)

#### Wetted Parts :

- S4: SS-304
- S6: SS-316
- HL: Halar Coated

**Material Temperature :** Up to 200°C

### Electrical Specifications

**Output :** SPDT Relay output 1NO, 1NC (Relay rated at 6 A, 230 V AC for non-inductive load) and PNP output (only for supply voltage 18V to 35V DC)

**Power Consumption :** 400 milli-Watt maximum

#### Fail-safe Setting :

Field selectable (Min : Failsafe Low, Max : Failsafe High)

**Response Time :** 0.5 seconds

**Time Delay Settings :** Cover & Uncover Delay : 1 - 20 sec through DIP switches

**Sensitivity Setting :** Field Selectable (through toggle switches)

**Mains :** 90 to 265 V AC at 50/60Hz & 18 to 55 V DC

**Switching Indication :** Bi-color LED, Red: Alarm, Green: Normal

**Minimum Fluid Density :** 0.7 gm/cc

**Maximum Fluid Viscosity :** 10,000 cP

**Switching Hysterisis :** 5mm (approximate)

**Dimensions :** Refer Drawings/Customer Support

## Product Variant

### ELIXIR

#### TYPE

- Integral

#### HOUSING

- Pressure die-cast aluminium
- Cast aluminium weather & flameproof

#### OUTPUT

- SPDT Relay output
- DPDT Relay output
- Namur type current output at 8.2V
- Two-wire loop powered 8/16mA

#### POWER SUPPLY

- Universal (18-55 V DC & 90-265 V AC)
- 24 V DC
- 8.2V supplied by Namur isolator

#### INSULATION

- HALAR (ECTFE)

#### MOUNTING

- Screwed Thread, BSP/NPT 1/2" - 1", SS 304/SS 316
- Flange, 1" - 2 1/2", SS 304/SS 316

#### VIBRATING FORK

- Tines 44mm, SS 316
- Tines 100mm, SS 316

#### FINISH

- Standard
- Fully Buffed

#### EXTENSION MATERIAL

- SS 304
- SS 316

#### STANDOFF MATERIAL

- SS 304
- SS 316

#### TEMPERATURE

- Up to 100°C
- Up to 150°C
- Up to 200°C

#### PROBE LENGTH

- 68mm
- 105mm
- 130mm
- 175mm
- 125 to 1000mm
- 200 to 3000mm

## Connect to us

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