BROTEK

Vibrating Fork Switch

BROTEK Smart Vibrating fork switch available with inbuilt programming display to set switching point against Piezoelectric crystal frequency, fork body is excited by a piezoelectric crystal, so that the fork body is in a resonance state. When the fork contacts the material, the resonance frequency will change significantly. The internal electronic unit detects the frequency of the fork body and after processing, converts it into a relay or a PNP. It is a new generation Vibrating Fork Switch with full independent property rights developed by Brotek after many years of hard work.

BT-TFS-XXXX

Technical Details

Power supply : 12 ~ 30VDC / 110 ~ 220VAC
Output : Relay DPDT 8A 250VAC / PNP
Working Temperature : Short fork body: -30 ～ 150 ℃,
Long fork body: -30 ~ 250 ℃
Density range : Liquid ≥600 kg / m3,
Solid powder: ≥100 kg / m3
Liquid viscosity : 0.2 ～ 10000cp
Switching delay : adjustable from 0 to 30 seconds
Switch mode : upper or lower limit alarm (user set)
Hysteresis (water) : ± 1mm
Maximum operating pressure : ≤1Mpa
Connection method : Thread/Flange (user specified)
Enclosure Material : die-cast aluminum alloy (IP 66)
(EX d II CT6)
Fork body material : 316 stainless steel / Teflon coated Fork
body vibration frequency : Short fork body: 1400 ± 50HZ/
Long fork body: 330 ± 50HZ
Environmental vibration level : acceleration is not greater than 1g

Features

- Real-time display of fork frequency value.
- Supports both long and short tuning fork shapes for a wide range of applications.
- No need for on-site calibration,
- Self-diagnostic function.
- Easy to set: Sensitivity and alarm delay.
- The "quick dripping" shape design for faster response.
- Not affected by flow,foam,turbulence,floating foam,vibration,solid content,hanging materials,liquid characteristics and media changes

Applications

Vibrating fork switches are commonly used in industrial and process control applications to detect the presence or absence of liquids or bulk solids in pipes, tanks, or vessels. These switches are often used in applications where other types of sensors, such as capacitance or ultrasonic level sensors, may not work well due to factors such as conductivity, dielectric constant, or buildup of material on the sensor surface. Some examples are Chemical and petrochemical processing plants and refineries, Food and beverage processing, Water treatment plants, Pharmaceutical manufacturing, Wastewater treatment plants, Mining and material handling.

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