

# DuraVibe™

Newest Generation

## Model VibraRod™ Vibratory Level Sensor

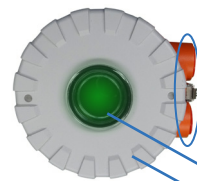
### FEATURES & ADVANTAGES

- ▼ **Durability for powders and bulk solids**
  - ▼ Stainless steel probe construction for durable, maintenance-free performance.
- ▼ **Versatility**
  - ▼ Varying moisture, temperature, material composition? No problem!
  - ▼ Detects light (10 lbs/ft<sup>3</sup>) to heavy, dense materials with protective baffling.
  - ▼ Pipe extension units are available.
- ▼ **Peace-of-mind Reliability**
  - ▼ Self-cleaning, single probe design eliminates false signals found with “tuning fork” designs.
  - ▼ Probe is tip-sensitive and unaffected by material build-up near mounting base.
  - ▼ Reduced probe diameter and overall length to make it less vulnerable to bending and less susceptible to material build-up.
  - ▼ Fail safe feature provides alarm in case of a power failure.
- ▼ **“Set it and forget it”**
  - ▼ No calibration required! Easy installation and commissioning.
  - ▼ Three sensitivity settings for optimum performance.
  - ▼ External status LED provides visual indication. (Ord. Loc. units only)
- ▼ **Superior third party approval compliance**
  - ▼ Ordinary and Hazardous location approvals.
  - ▼ Intrinsically safe probe for ultimate hazardous location protection.



  
Single Probe Design

*Practical Tip*  
Ideal level probe for materials, like powders, that may normally get packed in a “tuning fork” style probe which could cause false signalling.



- Two Conduit Openings
- Bi-color LED Indication
- Die-Cast Aluminum Housing

### PRINCIPLE OF OPERATION

The VibraRod™ point level sensor is a mechanical resonance system that is excited at a resonance by an electrical circuit. Two piezoelectric crystals are mounted internally at the probe's base. The electronic module generates an electrical signal that has an equivalent frequency to the probe's resonant frequency; this signal is applied to one crystal, which causes the probe to vibrate. The vibration is monitored by the second crystal which provides an electrical signal back to the electronic module. When material contacts and surrounds the probe, the vibration is dampened and the signal from the second crystal is reduced. This signal reduction is detected by the electronic module, which reacts by providing a signal out of the module through the relay contacts. The sensitivity for the VibraRod is selectable. The single probe design prevents material bridging, which is common with the dual-blade (“tuning fork”) design.

### PRACTICAL APPLICATIONS

- ▼ Versatile, yet economical, vibratory solution.
- ▼ Ideal for reliable detection of materials whose physical characteristics are variable, such as, changes in moisture, temperature, composition or geometric shape.
- ▼ Excellent for a variety of materials with densities as low as 10 lbs/ft<sup>3</sup> (160 kg/m<sup>3</sup>); with a maximum particle size of about 1 inch (25 mm).
- ▼ Acceptable for installations where material clings to sidewall as probe is tip-sensitive and unaffected by material build-up near mounting base.
- ▼ Level detection / back-up protection for dust collection hoppers.
- ▼ Successful applications include: sugar, flour, whole or ground coffee beans, rice, peanuts, grain, feed pellets/ crumbles, tobacco, sawdust, wood shavings, plastic pellets, powdered clay, sand, cement, lime, chemicals/ pharmaceuticals, carbon black and more.



### OPTIONS

- ▼ **Pipe Extensions**
  - ▼ For high and low level applications that extend beyond the length of a standard probe.
  - ▼ Top-mount is intended for high-level applications only and is suitable for lengths up to 6' (1.8m).
  - ▼ Side-mount is acceptable for short lengths and where probe is properly supported.
- ▼ Variety of Approvals for ordinary locations and hazardous locations
- ▼ Reducer Fittings:
  - ▼ 1-1/2" NPT x 1-1/4" NPT to attach VibraRod to a 1-1/2" ANSI pipe thread opening (Part #9-0101)
  - ▼ R 1-1/2" [BSPT] x 1-1/4" NPT to attach VibraRod to a 1-1/2" BSP/ISO pipe thread opening (Part #9-0102)

