MODEL VP11 *VIBRATION PROXIMITY LEVEL SENSORS*

Features

- Low-cost piezoelectric vibratory level sensor
- Easy to use 26mm proximity style housing
- Not affected by moisture, humidity, or temperature variations
- Standard transistor output
- Relay output optional with PR2100/2200

General Description

The VP 11N is a single point level sensor designed for low-cost, solids state indication and control of powder levels in a small hopper or bin. The VP works best in granular and powdered materials of medium to high bulk density. It is especially useful in applications for detection of high and low level. The VP is an excellent replacement of mechanical rotary paddle level controls that are prone to failure. An example is the high level control in a plastic resin feed hopper used in injection molding. The sensor must not be exposed to high temperatures or excessive abrasion.

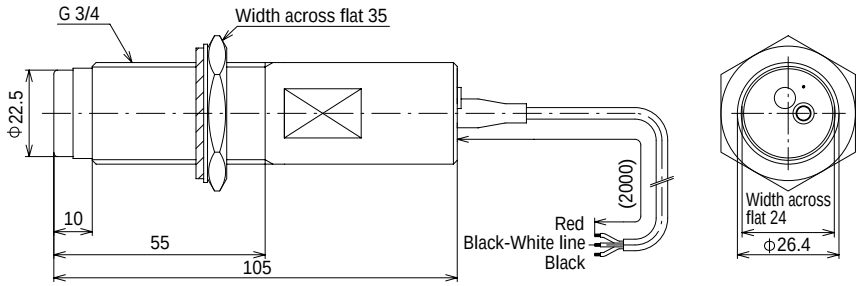
Operational Description

The sensor utilizes a piezoelectric vibration element to create a specific vibration frequency. If the vibration diaphragm is vibrated for pulse vibration frequency, the reverberant vibration is occurred. When the material covers the sensor, more reverberant vibration is dampened for a given length of time. The damping of reverberant vibration is detected by a piezoelectric element, and processed through a comparator circuit. The sensitivity is set by the volume of damping for a given length of time.

Technical Note

AC voltage with relay output is optionally available by using our power reply unit, Model PR2100 or PR2200.

Specifications

Model		VP11N	VP11F
Drawing Drawing shows N type.			
Mounting		G3/4	ISO 1-1/2S
Supply Power		24V DC	
Current Consumption		Approx. 20mA DC Max.	
Relay Output		NPN open collector100mA DC Max. Residual voltage 1V Max.	
Detection Time Delay		Approx. 3 seconds	
Operating Temperature		-10˚C to 60˚C	
Maximum Pressure		500kPa / 5bar	
Maximum Humidity		95% RH	
Sensitivity		Bulk density of 0.2g/cm^3 Min.	
Material Body	Body	304SS	
	Diaphragm	316SS	
	Fastener	Brass	
Cable		Φ3 × 2000mm (3 × 0.2mm^2), PVC	
Protection		IP55 (Equivalent)	
Indication		Green LED for Power status Red LED for Relay status Orange LED for Detected recovery	

Wiring