

MODEL VH10, 20 VIBRATION LEVEL SENSOR



Features

- For very low bulk density 0.02g/cm³ to 0.20g/cm³
- Uses solid state piezoelectric vibration principle for detecting material level
- Provides relay output when material contacts probe and dampens vibration

General description

The VH series are designed for using very low density powder or material such as fibers, perlite, diatomaceous earth, toner, carbon black, white carbon, expanded polystyrene, etc. VH10 is a compact version used for high and low level detection. VH20 is suitable for high alarm in large silos. Pipe Extension up to 2500mm for N model and 4000mm for F model are available.

Operational Description

The vibration reed is welded on two sustention pipes in order to stabilize the vibration mode. Two piezo-electric elements are mounted on the vibration reed. One provides vibration and the other detects damping of vibration. When the vibration reed is covered by material, the piezo-electric element detects damping of vibration. The electronic circuit detects the damping and converts into relay output.

Ordering Information

VH10	Standard	
VH20	Pipe Extension	
	NH	Plug mounting
	FH	Flange mounting
	0	Flat-face flange
	1	Raised-face flange
	4	Plug mounting
	J	JIS flange
	A	ANSI flange
	D	DIN flange
	G	G plug
	R	R plug
	T	NPT plug
	S	304 stainless steel
	S6	316 stainless steel
	A	90-132/180-264V AC, 50/60Hz
	G	G3/4
	T	NPT3/4 socket

VH10	NH	4	R	S	A	G	= VH10NH-4RSAG
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* The mounting size should be specified when you order.

* The length of probe should be specified in mm if required.

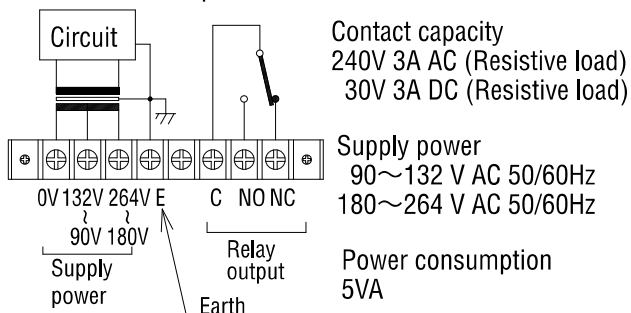
Specifications

Model	VH10NH	VH10FH	VH20NH	VH20FH
Description	Standard		Extension tube	
Drawing				
Mounting size	R1	JIS5K50A	R1-1/4	JIS5K50A
Supply Power	90 to 132V AC, 180 to 264V AC 50/60Hz			
Power Consumption	Approx. 5VA Max.			
Relay Output	1 SPDT, 240V 3A AC, 30V 3A DC (Resistive) C-NO: Normally Open contact C-NC: Normally Closed contact			
Detection Time Delay	Approx. 1 second for covered Approx. 5 seconds for free			
Operating Temperature	Housing	0 to 60°C		
	Vibration rod	-20 to 80°C		
Maximum Pressure	1 MPa			
Maximum Humidity	95% RH			
Sensitivity	Apparent density of 0.02g/cm ³ Min.			
Vibration Frequency	Approx. 550 Hz			
Material	Housing	ADC12		
	Vibration rod	304SS*		
	Extension	304SS*		
Cable Entry	G3/4			
Protection	Housing	IP65		
	Vibration rod	IP68		
Indication	Green LED for Power status Red LED for Relay status			

*Other materials are available.

Wiring

Connections and Specification



Example of powder with low apparent density

Medium	Apparent density
Pelite	0.02 to 0.5
White carbon	0.03 to 0.05
Ultrafine particle of anhydrous silica	0.04 to 0.06
Fluorite	0.08 to 0.12
Micro titanium dioxide	0.08
Silicon nitride whisker	0.1
Diatomaceous earth	0.1 to 0.15