MODEL VL12, 22, 32 NEW VIBRATION LEVEL SENSOR

Feature

- New principle of operation and probe construction (Patent pending)
- Fail safe switch is provided
- Withstand up to 150˚C (180˚C in option)
- Less subject to build up and dead stock

Operational Description (Patent Pending Principle and Construction)

The vibration rod of new VL series is constructed by using the electro magnet and the permanent magnet. When the electro magnet is energized, the electro magnet and permanent magnet are attracted and repulsed. This movement makes vibration.

The construction of vibration probe is similar to the motor. When the motor is energized by the battery, the back electromotive current is generated by the influence of permanent magnet and coil. When the vibration rod is covered with solids or powdered material, the current flowing to the lead wire is increased by damping of the back electromotive current. The amplifier detects the shifting of current level, and converts to output signal.

General Description

Model VL is designed to detect powders, solids, granular material including such very light powders as instant coffee, powdered milk, iron oxide, and toner for use in medium and/or large sized hopper. There are several versions available to meet a variety of hopper/silo operations. Model VL12, standard type, is used for high and low level detection. For low level detection in large silos, model VL12-G is available with a protected shield to protect from the lateral load on the probe. Model VL22, pipe extension type, is suitable for high or low alarm in large silos with top mounting. Pipe extension up to 2500mm for Plug mounting and 4000mm for Flange mounting are available. Model VL32, cable extension type, is also suitable for high or low alarm with a flexible PVC coated cable available in length up to 6000mm.

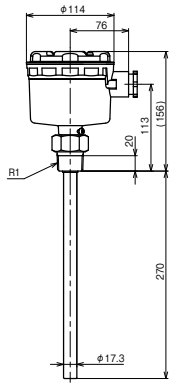
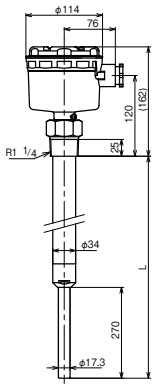
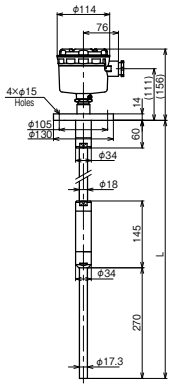
Ordering Information

VL12	Standard	
VL22	Pipe Extension	
VL32	Cable Extension	
N	Plug mounting	
F	Flange mounting	
G	Flange with protective shield, only availabe VL12G	
(Null)	Standard: Max. 150C˚	
T	High temperature Max. 180C˚ for VL12 & VL22	
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	100-120/200-240V AC, 50/60Hz	
D	24V (20 to 30V) DC	
G	(G3/4)	
T	with NPT 3/4 socket	

VL12	N		4	R	S	A	G	= VL12N-4RSAG

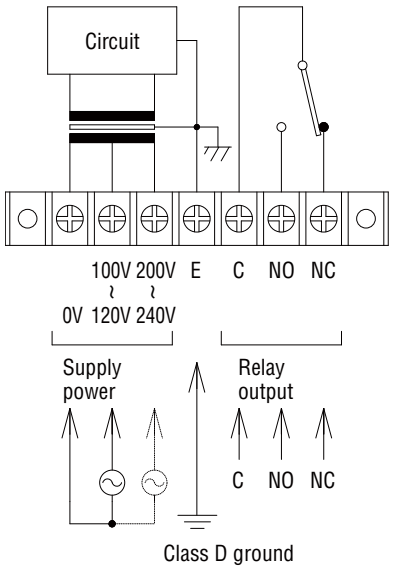
* The mounting size should be specified when you order.
* The length of probe should be specified in mm if required.

Specifications

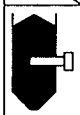
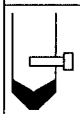
Model		VL12N	VL12F	VL22N	VL22F	VL32F
Description		Standard		Pipe Extension		Cable Extension
Drawing						
Mounting	Standard	R1	JIS5K50A	R1-1/4	JIS5K50A	JIS5K50A
	Option	from 3/4	from 25A	from 1-1/4	from 32A	from 50A
Supply Power		100 to 120/200 to 240V AC 50/60Hz or 24V DC option				
Power Consumption		Approx. 5VA or 3W Max.				
Relay Output		1 SPDT, 250V 3A AC, 30V 3A DC (Resistive) C-NO: Normally Open contact C-NC: Normally Closed contact				
Detection Time Delay		Approx. 3 to 5 seconds for covered Approx. 3 to 5 seconds for free				
Operating Temperature	Housing	-20˚C to 60˚C (Get rid of dew)				
	Vibration rod	-20˚C to 150˚C (180˚C option)				-20˚C to 70˚C
Maximum Pressure		2MPa / 20bar				1kPa / 0.01bar
Maximum Humidity		95% RH				
Sensitivity		Bulk density of 0.2g/cm^3 Min.				
Vibration Frequency		Approx. 300 to 500Hz				
Material	Housing	ADC12				
	Vibration rod	304SS*				
	Extension			304SS*		PVC
Cable Entry		(G3/4)				
Protection		IP65				
Fail safe		High or Low by switch				
Indication		Green LED for Power status Red LED for Relay status				

*The material of 316SS is optionally available.

Wiring



Description of Fail-safe Function

	Fail-safe mode	LAMP DETECTION	LAMP POWER	Relay contact
	H.ON	☼	☼	C NO NC
	L.ON	●	☼	C NO NC
	H.ON	●	☼	C NO NC
	L.ON	☼	☼	C NO NC
POWER OFF		●	●	C NO NC