

# MODEL VL612,622 & VL6200

**INTRINSIC SAFETY VIBRATION LEVEL SENSOR**



## Operational Description

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 controller detects the shifting of current level, and converts to output signal.

## Feature

- Ex ia II CT5
- Self-diagnostic function
- 200m Max. separation distance
- New principle of operation and vibration rod construction

## General Description

VL612, 622 and VL6200 are intrinsic safety version of vibration sensor. Model VL6200 amplifier can be mounted up to 200 meter away from the sensor Models VL612, 622. All field adjustments are made at the VL6200 amplifier. VL612 is a standard type with length of 270mm fixed. VL622 is a pipe extension version up to 2500mm for plug mounting and 4000mm for flange mounting. Safety barrier is required to connect between sensor and amplifier.

## Ordering Information

VL612	Standard
VL622	Pipe Extension
	N Plug mounting
	F 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
VL612	N 4 R S = VL612N-4RS

\* The mounting size should be specified when you order.

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

## Amplifier

VL6200	0 100-120/200-240V AC
VL6200	0 = VL6200-0

## Specifications

### Sensor

Model	VL612N	VL612F	VL622N	VL622F
Description	Standard		Pipe Extension	
Drawing				
Measuring Object	Powder, Granular material, Pellets and Underwater sediments			
Mounting	R1	JIS5K50A	R1-1/4	JIS5K50A
Operating Temperature	Housing	-20 to 60°C		
	Vibration rod	-20 to 60°C		
Maximum Pressure	2 MPa (Except a mounting part)			
Concentrated load	0.55 kN Max. (at the tip of detection pipe)			
Maximum Humidity	95% RH			
Sensitivity	Bulk density of 0.2g/cm <sup>3</sup> Min.			
Vibration Frequency	Approx. 300 to 500Hz			
Material	Housing	ADC12		
	Vibration rod	304SS*		
	Extension	304SS*		
Cable Entry	G3/4			
Protection	IP65			
	IP68			

\*The material of 316SS is optionally available.

### Amplifier

Model	VL6200
Drawing	
Supply Power	100 to 120V AC/200 to 240V AC 50/60Hz
Power Consumption	Approx. 5VA 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
Environmental Temperature	-20 to 60°C
Maximum Humidity	95% RH
Material	ADC12
Cable Entries	G1/2 with two of I.D. 9 bushing and one of I.D. 10 bushing
Protection	IP54
Fail Safe	High or Low by switch
Indication	Green LED for Power status Red LED for Relay status Yellow LED for Detection status

#### Note:

1. The specification as below is based on combination of sensor and amplifier, not include safety barrier.
2. The safety barrier must be connected between sensor and amplifier for Intrinsically Safe.
3. MTL 728+(Cooper Industries plc) is recommended, prepared in locally.