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

<table>
<thead>
<tr>
<th>VL612</th>
<th>Standard</th>
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<tbody>
<tr>
<td>VL622</td>
<td>Pipe Extension</td>
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<table>
<thead>
<tr>
<th>N</th>
<th>Plug mounting</th>
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<tbody>
<tr>
<td>F</td>
<td>Flange mounting</td>
</tr>
<tr>
<td>0</td>
<td>Flat-face flange</td>
</tr>
<tr>
<td>1</td>
<td>Raised-face flange</td>
</tr>
<tr>
<td>4</td>
<td>Plug mounting</td>
</tr>
<tr>
<td>J</td>
<td>JIS flange</td>
</tr>
<tr>
<td>A</td>
<td>ANSI flange</td>
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<tr>
<td>D</td>
<td>DIN flange</td>
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<tr>
<td>G</td>
<td>G plug</td>
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<td>R</td>
<td>R plug</td>
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<tr>
<td>T</td>
<td>NPT plug</td>
</tr>
<tr>
<td>S 304 stainless steel</td>
<td></td>
</tr>
<tr>
<td>S6 316 stainless steel</td>
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VL612 [4] 0 [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

<table>
<thead>
<tr>
<th>Model</th>
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<th>VL612F</th>
<th>VL622N</th>
<th>VL622F</th>
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<tr>
<td>Description</td>
<td>Standard</td>
<td>Pipe Extension</td>
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<td>Drawing</td>
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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/cm³ 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

<table>
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<tr>
<th>Model</th>
<th>VL6200</th>
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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.