

Point level detection for fine powder, powder and particle

Vibrating Level Switch

MVL Series




Industry highest class detection sensor

Features

- Stable detection for various kinds of fine powder, powder and particles.
- No bad influence from temp., humidity, pressure, dust and electric characteristics.
- Easy adjustment and superior durability because of no drive part.

POINT 1


Density **0.02g/cm³** detectable



Detectable from **0.02g/cm³** density light fine powder

POINT 2


Max. **150degC** applicable



Applicable to **Max.150degC** with standard model

POINT 3

SUS316L



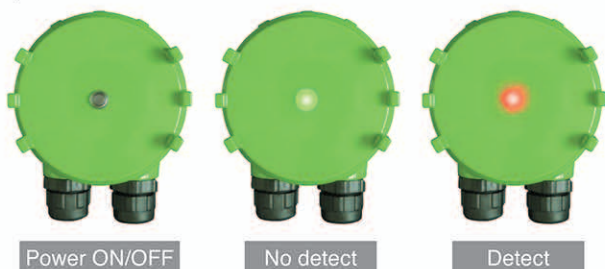
SUS316L standard probe allows to detect corrosive material

Usabilities

Plus1 Two-color LED indication

Sensor status visible by two-color LED.

Power ON/OFF, Detect or No-detect status visible by Two-color LED variations.



Plus2 Up-screw type terminal block

Up-screw type terminal block prevents drop and loss of screw, furthermore, can save time for wiring work because no need to remove screws.



Plus3 Housing swiveling mechanism

Housing can swivel in the range of 310 deg so it's possible to set the position of cable entry after installation.


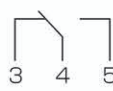
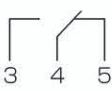
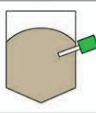
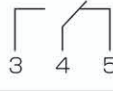
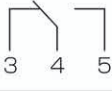
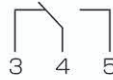
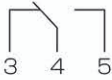


Plus5 Free voltage

AC/DC22 - 264C. Applicable to various areas and countries.

Plus4 Switching mode selection

Mode selectable by switch (H/L) according to applications.

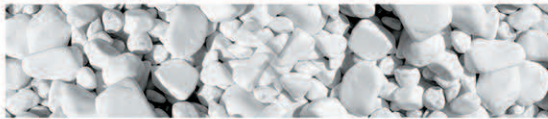
| Measurement status | H-mode | | L-mode | |
|---|---------------|---|---------------|---|
| | Operation LED | Switching status | Operation LED | Switching status |
|  | GREEN |  | RED |  |
|  | RED |  | GREEN |  |
| Failure of the supply voltage | CLEAR |  | CLEAR |  |

sitivity! Detectable from 0.02g/cm³!

Application examples

CASE 1

Low bulk density materials



Pearlite



Fumed silica



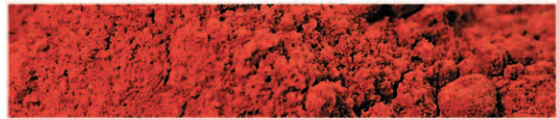
Carbon black



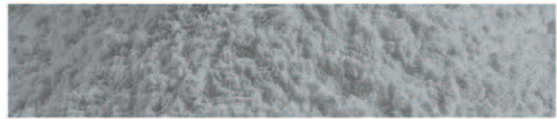
Firing beads

CASE 2

Low dielectric constant material



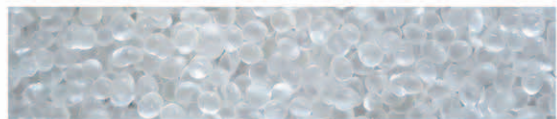
Ferric oxide



Fly ash



Wheat bran



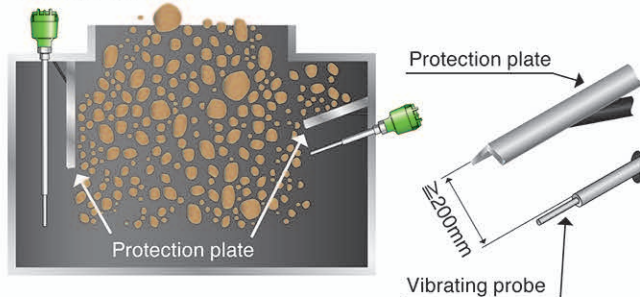
Plastic pellete

Precautions for installation

Protection for vibrating probe

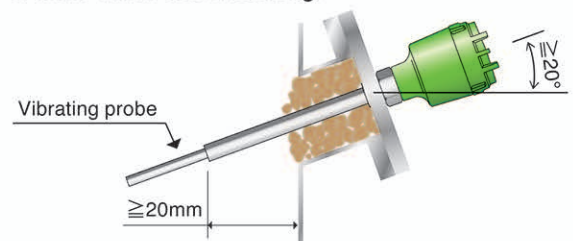
Make sure to take measure that charging material do not directly hit the probe.

* Distance between probe and protection plate should be 200mm or over.



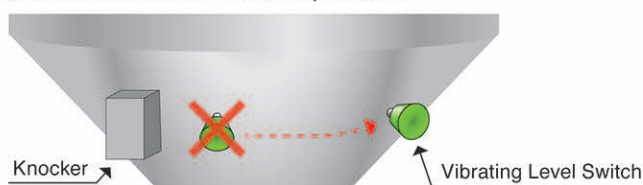
Probe length and mounting angle

Tip of vibrating probe must be projected inside the tank at least 20mm or over. Mounting angle should be 20 deg or more when side mounting.



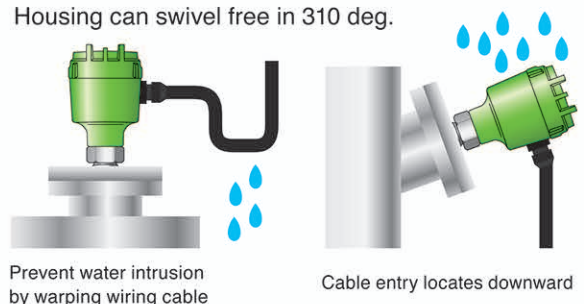
Installation for facility having vibration

Mount the Vibrating Level Switch away from the facility vibration source as much as possible.



Counter-measure for water intrusion

Consider proper mounting to prevent water intrusion. Housing can swivel free in 310 deg.



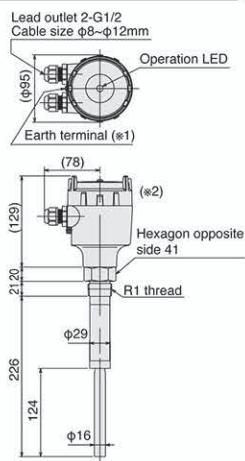
Standard Specification

| | | | |
|---------------------------------|--|---------------------------------------|---|
| Type | MVL-110 | MVL-120 | MVL-130 |
| Product Type | Standard | Cable hanging | Pipe |
| Power supply | AC/DC22~264V 50/60Hz | | |
| Power consumption | 4.7W (AC) 1.8W (DC) | | |
| Material | Housing : ADC12 (Aluminum diecasting) Probe : SUS316L Pipe : SUS316L | | Boss : SUS316L Cable : PE (only MVL-120) |
| Length | 232mm | 600mm~2000mm | 350mm~2000mm |
| Mounting | R1 thread (Flange mounting available as option) | | |
| Lead outlet | 2-G1/2 | | |
| Vibrating frequency | Approx. 310Hz | | |
| Bulk density | $\geq 0.02\text{g/cm}^3$ | | |
| Teansverse load | Max. 450N | - | Max. 450N |
| Tensile load | - | Max.3000N | - |
| Permissible pressure | Max. 1.5MPa | Max. 1.0MPa | Max. 1.5MPa |
| Signal output | SPDTx1 Contact capacity : AC250V, 5A / DC30V, 5A | | |
| Operation LED | Detecting ly. : Green / Detection : Red | | |
| Permissible ambient temperature | -20°C~+60°C (No freezing) | | |
| Detection part temperature | -40°C~+150°C (No freezing) | -20°C~+85°C (No freezing) | -40°C~+150°C (No freezing) |
| Protection | IP67 (Cover, cable entrance tightened condition) | | |
| Mass | Approx. 1.8kg | Approx. 2.5kg (L=600mm) (0.15kg/m) | Approx. 4.8kg (L=2000mm) (1.6kg/m) |

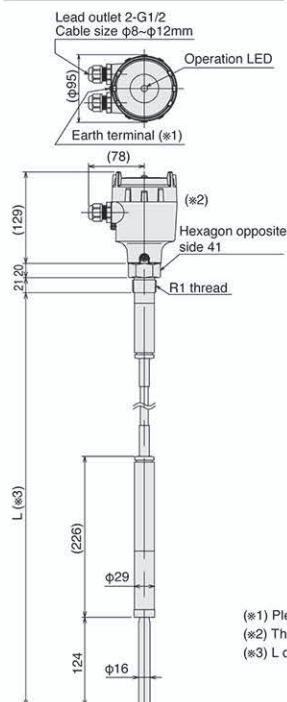
* Probe length extension possible in 100mm pitch

Dimension (mm)

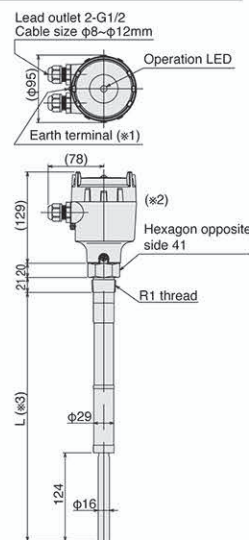
MVL-110



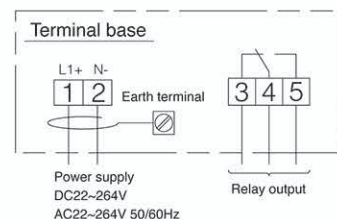
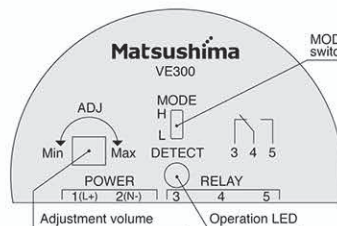
MVL-120



MVL-130



Panel part



- (※1) Please insure connection to earth.
- (※2) The housing can be rotated by 310° without the use of any tools.
- (※3) L dimension is described in specification.



Caution
 • Read the instructions to ensure correct and suitable application of products.
 • Contact our nearest sales office when using our products for any systems used in situations which may be life threatening.

Specifications are subject to change without notice.

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