

# Vibration Type Level Switch

Model : SVL

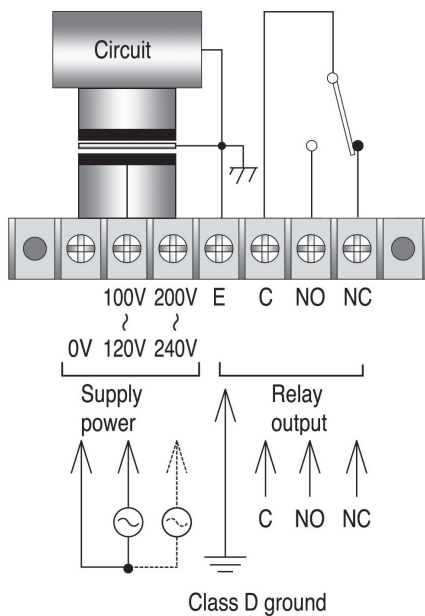
# SVL

## Vibration Type Level Switch

### Features Description

- 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

### Wiring



### Principle

The vibration rod of new SVL 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 attached 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.

### Description

Model SVL 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 SVL15, standard type, is used for high and low level detection.

For low level detection in large silos, model SVL15-G is available with a protected shield to protect from the lateral load on the probe. Model SVL25, 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 SVL35, cable extension type, is also suitable for high or low alarm with a flexible PVC coated cable available in length up to 6000mm.

### Fail-safe Function

	Fail-safe mode	LAMP		Relay contact
		DETECTION	Power	
	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

#### ● Powder

Powdered coffee, Dry milk, Chocolate, Powdered coal, Level detection in pressure vessel, etc.

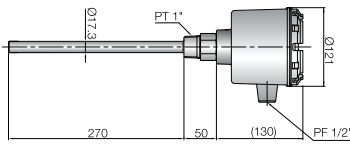
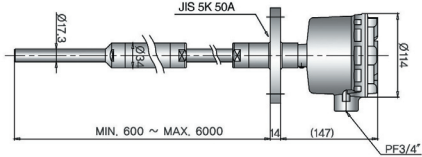
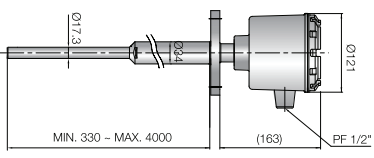
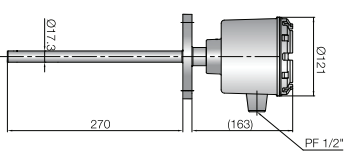
#### ● Dry Bulk

Sugar, Salt, Wheat, Grains, Glass material, Plastic pellet, Cement

#### ● Special Application

Sludge level detection in waste water

## Overall Dimensions

Model	Dimensions(mm)	Model	Dimensions(mm)
SVL -15	Standard 	SVL -35 Flexible cable type (Nohken Product) 	
	Extension pipe type 		Explosion Proof Ex d IIC T6, IP65 

\* Preparing

\* Minimum insertion length in 270mm

\* Install at a 15° or more where a mounting nozzle in longer than 70mm

## Specifications

DESCRIPTION		SVL - 15(Standard)	SVL - 25 (Extension)	SVL - 35 (Flexible)
Supply Power		100 to 120/200 to 240V AC 50/60Hz or 24V DC option (only Nohken Products)		
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 /only Nohken Products)	-20°C to 70°C	
Maximum Pressure (kgf/cm <sup>2</sup> )		20		
Maximum Humidity		95% RH		
Sensitivity		Bulk density of 0.2g/cm <sup>3</sup> Min.		
Vibration Frequency		Approx. 300 to 500Hz		
Material	Housing	ADC		
	Vibration rod	304SS or 316LSS		
	Extension	304SS or 316LSS	304SS or 316LSS with PVC	
Cable Entry		PF 3/4" & PF 1/2"		
Enclosure		Weather Proof, Explosion Proof (Exd IIC T6, IP65), Dust ignition protection(Ex tD A21 T100°C)		
Fail Safe		High or Low by Switch		
Indication		Green LED for Power status Red LED for Relay status		
Mounting	Nipple	PT1", 1 1/2", 2"	PT 1 1/2", 2"	-
	Flange	JIS 5K 50A Flange (Others are Option)		
Measuring Range	Side(mm)	270	330 ~ 1,000	-
	Top(mm)	270	330 ~ 4,000	600 ~ 6,000

## Ordering Information

### ■ Vibration Type Level Switch

SVL - 15 A 1 A 1 A 1

#### DETECTION PARTS MATERIAL

1 = 304SS  
2 = 316LSS

#### CONDUIT CONNECTION

A = PF 1/2" (Std.)  
B = PT 1/2"  
C = PF 3/4" (Explosion Proof Type)  
D = PT 3/4"  
E = NPT1/2"  
F = NPT3/4"  
OP = etc.

#### ENCLOSURE

1 = Weather Proof (Std.)  
2 = Explosion Proof (Ex d IIC T6, IP65)  
3 = Dust Ignition Proof (Ex tD A21 T100°C)

#### LENGTH EXTENSION

A = 270mm (SVL-15 STD)  
B = Less than 500mm (SVL-25)  
C = Less than 1,000mm (SVL-25)  
D = Less than 2,000mm (SVL-25)  
E = Less than 3,000mm (SVL-25)  
F = Less than 4,000mm (SVL-25)  
OP = etc.

#### OPERATING TEMPERATURE

1 = -20 ~ +150°C (Max.)  
2 = -20 ~ +180°C (Max.)

#### MOUNTING SIZE

A = PT 1" (Std.)  
B = PT 1½"  
C = PT 2"  
D = JIS 5K 50A FF Flange  
E = JIS 10K 50A FF Flange  
OP = etc.

#### PROBE TYPE

15 = Standard Type (270mm, Std.)  
25 = Probe Extension Type (330 ~ 4,000mm)  
35 = Flexible Tube Extension Type (600 ~ 6,000mm)  
(Nohken Product)

■ When placing an order, selected ordering number should be indicated on the purchase order sheet.

■ DC Power (24V DC) Specifications are also available. (Please contact the sales department before ordering.)

■ Pat. KR100311298, KR100477491, KR100528776

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2018 Edition Rev.0 (printed by Daoom)

■ Specifications subject to change without notice