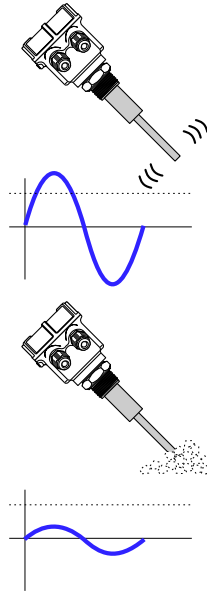


# Vibrating Rod Point Level Switch for Solids & Powders



## Operating Principle



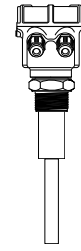
Electronics of LSV-R excites the piezo-electric-crystals inside tuning rod, which makes the rod vibrate at it's natural resonance frequency in free air.

Amplitudes of vibration are above threshold when rod is free to vibrate.

When material touches rod, vibration stops as resonance gets disturbed.

Amplitudes of vibration, as seen by electronics falls below the threshold-strength, material presence is thus detected.

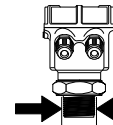
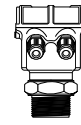
## Immune to Material Properties



Works Independent of Material's ~

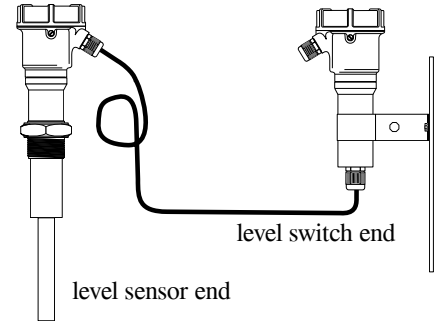
- ~ Dielectric Constant
- ~ Conductivity
- ~ Stickiness

## Compact Process Connection



starting from:-  
1" & M30

## Remote Electronics



Compact Size

Durable Construction

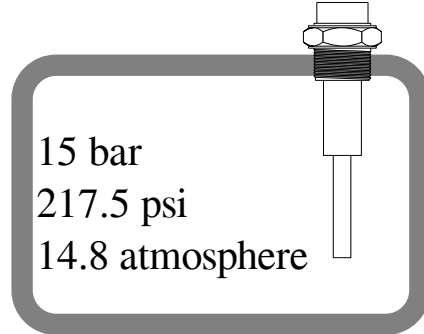
Immune to External Vibrations

No Calibration Required

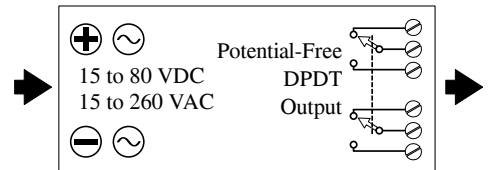
Easy Installation

Order Code

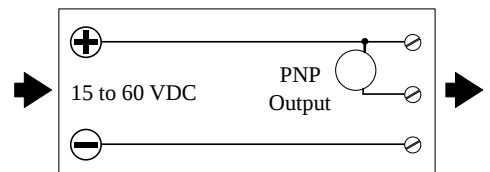
## High Pressure Resistant Rods



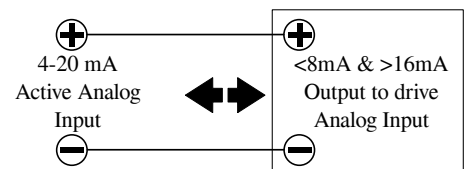
## Universal In DPDT Output



## PNP with DC Supply



## Two wire 8/16 mA Signal



- LSVR Vibrating Rod Level Switch for Solids & Powders
- Hxx Enclosure: HAN: Aluminum Non-Hazardous IP-66/68, HAX: Aluminum Flameproof IIA, IIB and IIC, HSN: Stainless steel, HPN: Polycarbonate (Plastic), HES: Specially designed as per customer requirement
- Tx Material Temperature (T1: max 80°C, T2: max 200°C, TS: Customer specified - Special designed )
- Sx Sensing Surface Material (S4: SS-304, S6:SS-316, SL, SS-316L, SS: Special surface)
- Gx Sensor Extension Material (G4: SS-304, G6: SS-316, GL: SS-316-L, GS: Special surface)
- Px Process Connection Type (PFL: Flanged Type – description of flange - FL -at the end of order code) (PB1: BSP 1", PB2: BSP 1½", PB4: BSP 1¼", PB5: BSP 2") (PN1: NPT 1", PN2: NPT 1½", PN4: NPT 1¼", PN5: NPT 2") (PT1: Triclover/Triclamp 1½", PT2: Triclover/Triclamp 2")(PCS: Special Process Connection)
- Cx Process Connection Material (C4: SS-304, C6: SS-316, CL: SS-316L, CT: PTFE coated, CF: PFA coated, CS: Special material)
- Electronic Power Supply and Outputs:-
- EIUD Integral Electronics with Universal supply (15-80V DC & 15-260V AC) & 1 DPDT potential-free relay output
- EIDP Integral Electronics with DC power supply (15-80V DC ) & one short circuit safe PNP output
- EIDL Integral Electronics with Two wire DC supply with 8/16mA current output suitable for 4-20mA analog inputs
- EIFS Integral Electronics Specially designed with special output
- ERUD Remote electronics IP 68 wall/pipe mounted with universal power supply (15-80V DC & 15-260V AC) & 1 DPDT potential-free relay output, using 10 meter special interconnection cable for driving sensor
- ERFS Specially Designed Remote Electronics
- Lxxx Insertion length (230mm to 3000mm)
- FLxx Flange type and bore size specified for ASA/ANSI/JIS/DIN/Custom

# LSVR: Vibrating Rod Level Switch for Solids & Powders

## Features

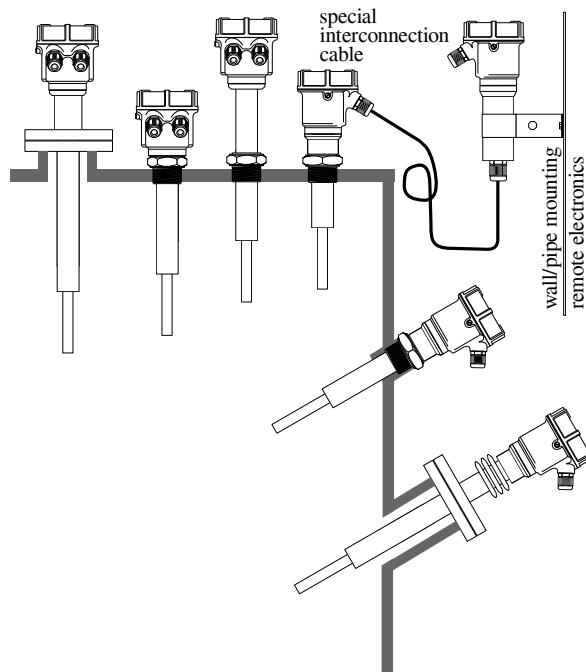
1. Suitable up-to 25mm grainule size
2. Fast Switching Response
3. 1" threaded process connection available
4. High pressure 15 bar
5. High Temperature up-to 250 °C available
6. Calibration-less operation
7. Remote electronics with std 10 meters cable length
8. Tropicalized & potted electronics module
9. Threaded & Flanged Mountings
10. Electronic Inserts support all requirements
11. Ingress protection : IP 68/66 (as per IS-13947)
12. Ex-proof (Ex d T6 IP-66 IIC )
  - Flameproof as per IS/IEC 60079-1:2007
  - Weatherproof (IP-66) as per IS/IEC 60529:2001
  - Suitable for Gas Group : IIC
  - Suitable for Zone 1 & 2 atmospheres

## Applications

Vibrating rod level limit switch used as a full, empty and demand alarm in containers, hoppers, silos containing bulks and powders of various types.

Typical applications: cereals, beans, edible oil process, sugar, animal feed, rice plants, detergents, dye powder, chalk, gypsum, fly-ash, cement, sand, plastic granules, spices, milk powder etc.

## Typical Mountings



## Specifications

<b>EIUD</b> Supply & Output	Integral Electronics Universal Power Supply, DPDT Relay Output 15 to 80 VDC and 15 to 260 VAC 50/60Hz
Relay Type and Rating	Potential Free DPDT Relay Output 5 A each @ 24VDC or 220VAC
<b>EIDL</b> Supply & Output Output Limit	Integral Electronics for PNP Output 15 to 60 VDC, PNP 250mA max. Short Circuit Safe.
<b>EIDL</b> Supply & Output Output Limit	Integral Electronics 4-20mA Loop Powered Two Wire DC 8 / 16 mA 15 to 60 VDC 8mA (-1mA max) / 16mA (+1mA max)
<b>ERUD</b> Supply & Output Relay Type and Rating	Remote Electronics Universal Supply DPDT relay output 15 to 80 VDC 15 to 260 VAC 50/60Hz Potential Free DPDT Relay Output 5 A each @ 24VDC or 220VAC
Sensor Cable	Remote electronics require special cable from fork to controller. 10 meter standard length more available on demand
Min. Density	>=500 gram/liter (0.5 gm/cm <sup>3</sup> )
Ambient Temp.	-20°C ... 60°C (-4°F ... 140 °F)
Process Temp.	-20°C ... 80°C (-4°F ... 176 °F)
Extended Process Temperature	-30°C ... 250°C (-22°F ... 482 °F) (extensions & heat sinks required)
Process Pressure	absolute / max. 15 bar
Wetted Parts	SS 316 or SS 316L
Mountings	NPT / BSP 1", 1¼", 1½", 2" etc Flanged : ANSI/JIS/DIN/ASA/custom
Extensions Tube Material & Length	SS 304, SS 316, SS 316L 250mm to 3,000mm

Specifications are subject to change without prior notice