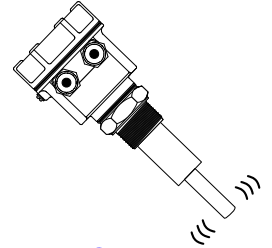


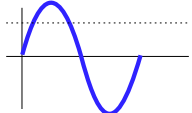
Vibrating Rod Point Level Switch for Solids & Powders



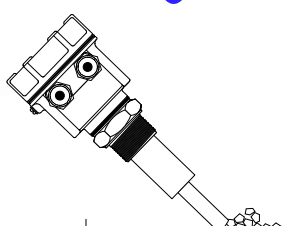
Operating Principle



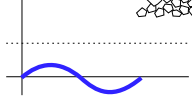
Electronics of LSV-R excites the piezo-electric-crystals inside tuning rod, which makes the rod vibrate at it's natural resonance frequency in free air.



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

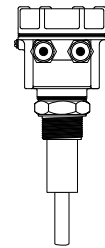


When material touches rod, vibration stops as resonance gets disturbed.



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

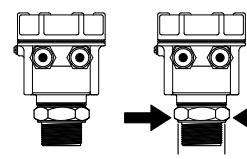
Immune to Material Properties



Works Independent of Material's ~

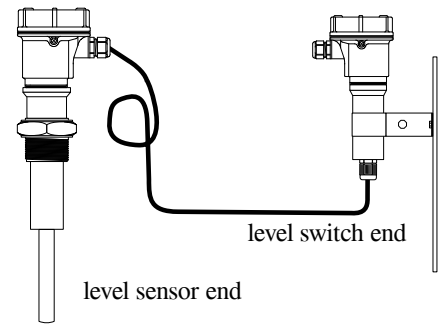
- ~ Dielectric Constant
- ~ Conductivity
- ~ Stickiness

Compact Process Connection



starting from:-
1" & M30

Remote Electronics



Compact Size

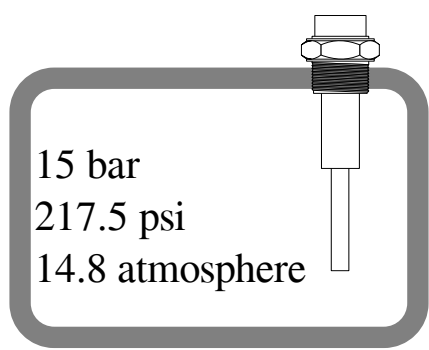
Durable Construction

Immune to External Vibrations

No Calibration Required

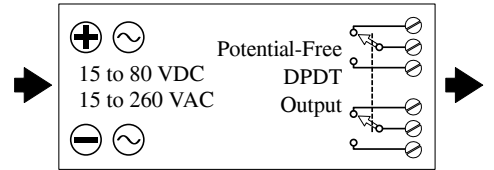
Easy Installation

High Pressure Resistant Rods

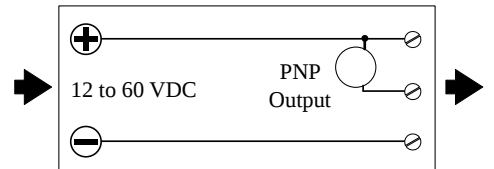


15 bar
217.5 psi
14.8 atmosphere

Universal In DPDT Output

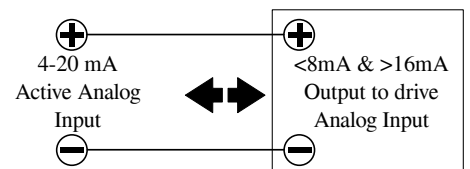


PNP with DC Supply



Two wire 8/16 mA Signal

(min supply voltage should be more than 16V)



Order Code

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, 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
EIUSP	Integral Electronics SPDT + PNP Output for SPDT Output 15 to 80 VDC, 15 to 260 VAC 50/60Hz
EIAR	Integral Electronics AC series relay Two Wire 18 to 260 VAC, Series Relay
EIDL	Integral Electronics with Two wire DC supply with 8/16mA current output suitable for 4-20mA analog inputs min supply voltage should be more than 16V in case of EIDL
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
Lxxxx	Insertion length (250mm to 3000mm)
FLxx	Flange type and bore size specified for ASA/ANSI/JIS/DIN/Custom

Technical Specification

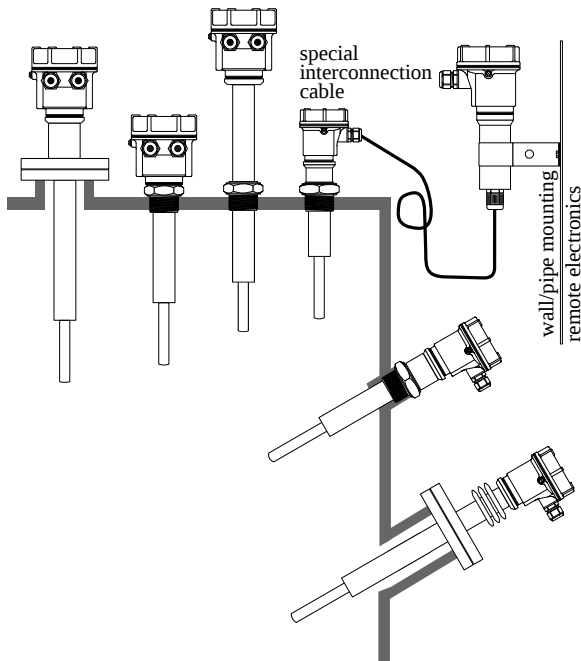
Features

1. Fast Switching Response
2. 1" screw mountings available
3. High pressure 15 bar
4. High Temperature up-to 250°C available
5. Calibration-less operation
6. Remote electronics with std 10 meters cable length
7. Tropicalized & potted electronics module
8. Threaded & Flanged Mountings
9. Electronic Inserts support all requirements
10. Ingress protection : IP 68/66 (as per IS-13947)
11. 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
12. Compact size
13. Low power consumption (0.5 to 0.7 VA)
14. Vibration complied as per IEC 60068 part 2-6
15. Settable switching delay as a standard feature

Applications

1. Free flowing powders and granules
2. Suitable for side as well as top mounting
3. Minimum and maximum failsafe field selectable
4. Process temperature max 200°C
5. Process pressure max. 15 bar

Typical Mountings



Specifications

EIUD / ERUD Supply & Output	Integral / Remote 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
EIDP / ERDP Supply & Output	Integral / Remote Electronics for PNP Output 12 to 60 VDC, PNP
Output Limit	250mA max. Short Circuit Safe
EIUSP / ERUSP Supply & Output	Integral / Remote Electronics SPDT + PNP Output Universal Supply for SPDT Output 15 to 80 VDC 15 to 260 VAC 50/60Hz DC Supply for PNP Output 15 to 60 VDC
Relay Type and Rating	Potential Free DPDT Relay Output 5 A each @ 24VDC or 220VAC 250mA max. Short Circuit Safe
EIAR Supply & Output	Integral Electronics AC series relay Two Wire 18 to 260 VAC, Series Relay not less than 4mA to release external relay maximum 150mA to magnetize relay Use relays/contactors will more than 4mA holding current
Output Limit	
EIDL Supply & Output	Integral Electronics 4-20mA Loop Powered Two Wire DC 8 / 16 mA 15 to 60 VDC
Output Limit	8mA (±1mA max) / 16mA (±1mA max)
Sensor Cable	Remote electronics require special cable from rod to controller. 10 meter standard length more available on demand
Min. Density	>=350 gram/litre, not fluidized
Ambient Temp.	-20°C ... 70°C (-4°F ... 158 °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	SS 304, SS 316, SS 316L
Vibration Test	As per IEC 60068 part 2-6 sinusoidal, 10-55Hz, 0.15mm
Material & Length	250mm to 3,000mm
Power Consumption	0.5 VA max.

Specifications are subject to change without prior notice