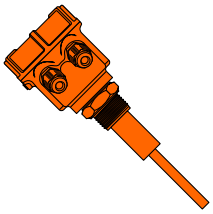


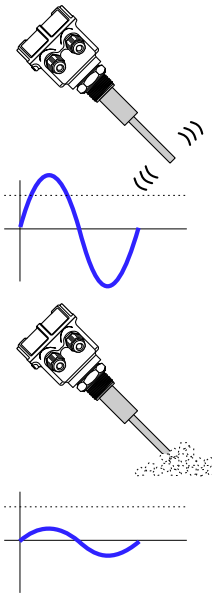
LSVR... Technical Specification Document

Vibrating Rod Point Level Switch for Solids & Powders

Approvals & Certifications:

Trumen sensing matters

Operating Principle



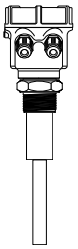
Electronics of LSV-R excites the piezo-electric-crystals inside tuning rod, which makes the rod vibrate at it's natural resonance frequency in free air.

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.

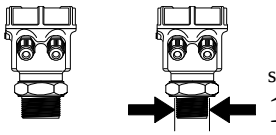
Immune to Material Properties



Works Independent of Material's ~

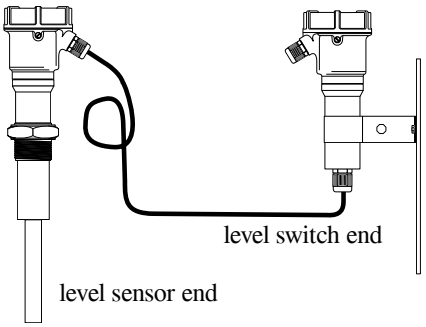
- ~ Dielectric Constant
- ~ Conductivity
- ~ Stickiness

Compact Process Connection



starting from:-
1" & M30

Remote Electronics



Compact Size

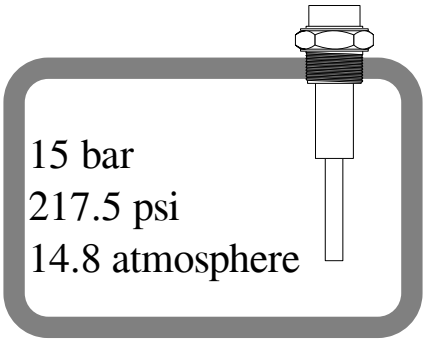
Durable Construction

Immune to External Vibrations

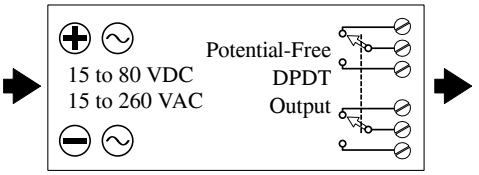
No Calibration Required

Easy Installation

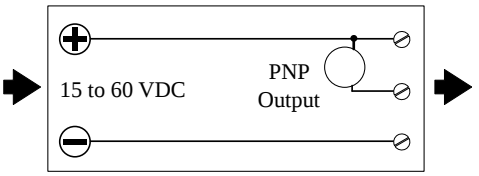
High Pressure Resistant Rods



Universal In DPDT Output

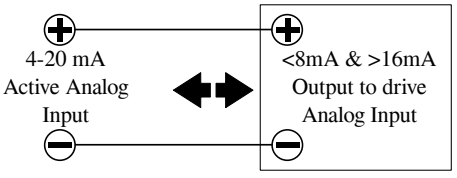


PNP with DC Supply



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
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

LSVR: Vibrating Rod Level Switch for Solids & Powders

Features

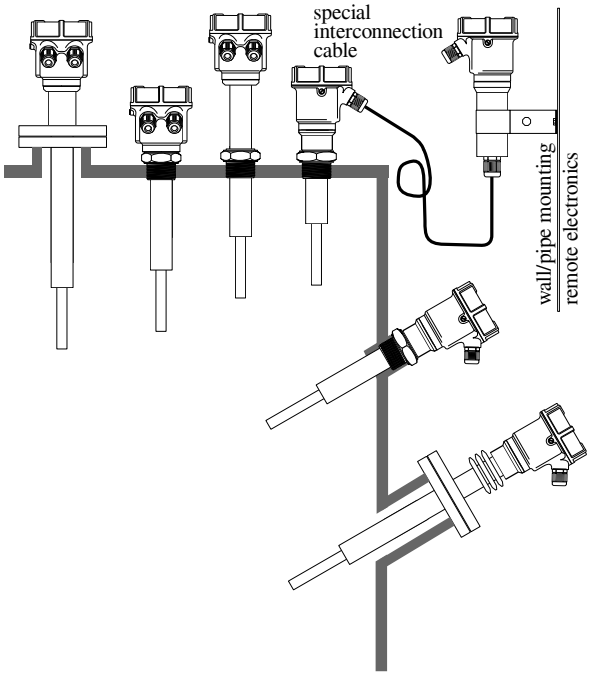
1. Suitable up-to 25mm grainule size
2. Fast Switching Response
3. 1" threaded process connection available
4. High pressure 15 bar
5. High Tempreture up-to 250 °C available
6. Calibration-less operation
7. Remote electronics with std 10 meters cable length
8. Tropicalized & potted electronics module
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

EIUD	Integral Electronics
Supply & Output	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	Integral Electronics for PNP Output
Supply & Output	15 to 60 VDC, PNP
Output Limit	250mA max. Short Circuit Safe.
EIDL	Integral Electronics 4-20mA Loop Powered
Supply & Output	Two Wire DC 8 / 16 mA 15 to 60 VDC
Output Limit	8mA (-1mA max) / 16mA (+1mA max)
ERUD	Remote Electronics
Supply & Output	Universal Supply DPDT relay output 15 to 80 VDC 15 to 260 VAC 50/60Hz
Relay Type and Rating	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	>=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 Material & Length	SS 304, SS 316, SS 316L 250mm to 3,000mm

Specifications are subject to change without prior notice

Trumen
sensing matters

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