

RF Admittance Level Switch FRFS series adopts advanced RF admittance technology and overcomes the defects that the capacitor level switch could not eliminate the effect by conductive hanging material. The instrument operates reliably and various technical indexes have archived the international level, which is widely used in control and alarm of liquid, pulp, powder, material level and two different liquid levels. In addition, this product have status indication at site, it is a high cost performance and stable level sensor.



FEATURES

- PP / PVC / PVDF / 316 SS
- Tank Measurement up to 10 ft High
- Excellent Chemical Resistance
- Easy Installation
- Two-wire 4-20mA Output
- Epoxy Coated Junction Box
- 2" NPT Connection
- Suitable for Corrosive Non-Coating Liquids

PODUCTS APPLICATION

- **Conductive and isolated liquid** - Oil field and chemical industry
- **Conductive and isolated pulp** - Paper making and metallurgy
- **Particles and Power** - Food, feedstuffs, power plant, cement, environment protection industry etc

SPECIFICATIONS

| | |
|--------------------------|---|
| Power Supply | 220VAC, 50/60Hz/ 24VDC, 100mA |
| Sensitivity | 0.3pF or smaller |
| Operating Temperature | -20~180° |
| Ambient Temperature | -40~80° |
| Working pressure | -0.1-2.5MPa |
| Output | DPDT Relay |
| Contact rating | 220VAC , SA non-inductive , 3A inductive |
| Response Time | Standard : 0.2 S |
| Delay Time | 0.2 - 90 S adjustable |
| Electric Interfac | eM20x 1.5 |
| Explosion-proof Grade | Explosion-proof : ExdIIBT4-T6, Intrinsical Safety : ExialICT4-T6 |
| Protection Grade | IP65 |
| Process Connection | Standard : 3/4"NPT thread / 1"NPT thread |
| Material Contacts Liquid | 304 / 316SS and PTFE |
| Junction Box Material | Aluminum Alloy |

Structure Principle

RF Admittance Level Sensor FRFS series consists of sensor unit and electronic unit. The sensor unit mainly includes three parts: measurement probe, shaded pole and ground terminal. The material level is reflected through the change of admittance between the probe and vessel wall. When the level reaches to the switch working point, the electronic unit makes response and driver replay acts, thus output switch signal. The shaded pole can prevent fault signal generated due to the handing on the electrode from occurring. Only when the level actually archives the set point can the switch control signal be output.

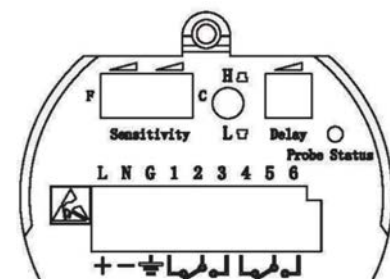


Diagram of terminal connections

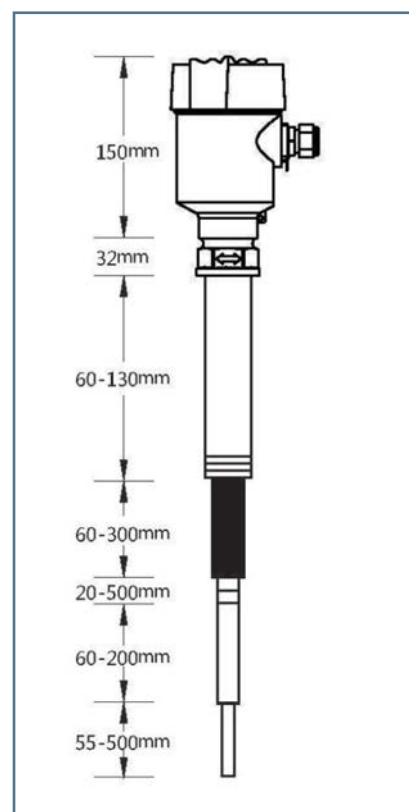
Selection Table

RF Admittance Level Sensor, Heavy hanging resistant, with switch status indication, independent terminal box

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|--|
| 1 : 24VDC ; 2 : 220VAC ; 3 : Universal Power supply 24VC/220VAC |
| 0 : Standard Sensitivity (for conductive medium) ; 2 : High Sensitivity (for isolated medium, $\Sigma > 3.0$) |
| 0 : Without Time Delay (standard circuit unit) ; 1 : With Time Delay (0.2-90 s adjustable) |
| 9 : Integral Type ; 0 : Split Type |
| 1 : Thread Connection ; 2 : Flange Connection |
| 0 : Common Type ; D : Explosion-proof Type ; E : Intrinsically Safe Type |
| 01 : Standard Type (<121°C) 11 : Heavy Hanging Type 21 : Moderate Temp. Type (<180°C) 31 : Anticorrosion Type 41 : Flat type |
| Unit (mm) |

| | | | | | | | | |
|-----------------|--------------|-------------|------------|-----------------|-------------------|--------------------------|----------------|-----------------|
| Products Series | Power Supply | Sensitivity | Time Delay | Instrument Type | Process Connector | Explosion - proof Option | Electrode Form | Insertion depth |
| FRFS | -□ | □ | □ | □ | □ | □ | □ | -□□□□ |

Dimensional



Electrode Model Selector

| Electrode No | Electrode form & Typical Application | Operating Temperature & Operating Pressure | Insertion depth | Material of electrode |
|--------------|--|--|-----------------|-----------------------|
| 01 | Used in liquid, light pulp, particles Heavy hanging type | 121°C / 1.38MPa | 150 ~ 10000mm | 316SS and PTFE |
| 11 | Used in stirred liquid, thick pulp, particles, high temperature type | 121°C / 1.38MPa | 150 ~ 10000mm | 316SS and PTFE |
| 21 | Used in liquid, light pulp, particles Anticorrosion type | 121°C / 1.38MPa | 150 ~ 10000mm | 316SS and PTFE |
| 31 | Used in liquid, light pulp, particles | 121°C / 1.38MPa | 150 ~ 5000mm | PTFE |