RETTAR

BEIJING RETTAR TECHNOLOGY CO., LTD

CRF312 Series RF Admittance Level Switch

Principle

The RF admittance level switch uses the probe (sensing electrode) and the container wall (ground electrode) as the two plates of a capacitor. Because the dielectric constants of the air and the measured medium between the two plates are different, the capacitance value changes as the level of the medium between the plates changes. When the capacitance value reaches the switch's set value, it outputs a switching signal for response control, enabling high and low level detection and alarms.

Features

1. Menu Operation: Discards traditional mechanical knob operation; digital commissioning allows easy setting even in complex conditions without prior experience, eliminating the risk of misoperation due to knobs.
2. Graphical Display: Intuitively displays the silo status; digital display shows measurement values and threshold values.
3. AC/DC Compatibility: The instrument offers maximum versatility, reducing the variety of spare parts required by customers.

4. Bluetooth Commissioning: Avoiding high-altitude work for employees reduces operational risks and enhances occupational health and safety management, aligning with ISO45001 standards.

5. Integrated Temperature Compensation Circuit: Internally integrated temperature compensation circuit corrects the effect of temperature changes on capacitance values.

6. Dual Output: Two relay output switching signals, providing dual assurance.

Specifications

Medium	Solid, liquid, powder, slurry
Dielectric Constant	ε≥1.6
Operating Voltage	15VAC~230VAC, 50Hz/60Hz, ±15%, 18VDC~320VDC ±15%
Power	< 1W
Output	2-channel switching signals, DPDT relay output (AC220V/5A, DC 30V/5A)
Delay Time	0~999 seconds (adjustable)
Response Time	1 second
Sensitivity	0.3PF
Operating Pressure	-0.1...64 bar
Operating Temperature	Sensor: -50°C ... +200°C; Electronic unit: -40°C ... +80°C
Ingress Protection	IP67
Electrical Interface	M20*1.5 / NPT 1/2"
Process Connection	Threads from G3/4, NPT3/4 and flanges from DN50, 2"
Process Seal	Fluororubber seal
Wetted Materials	Stainless steel 304+PTFE/Stainless steel 316L+PTFE/Stainless steel 304+FEP/ Stainless steel 316L+FEP

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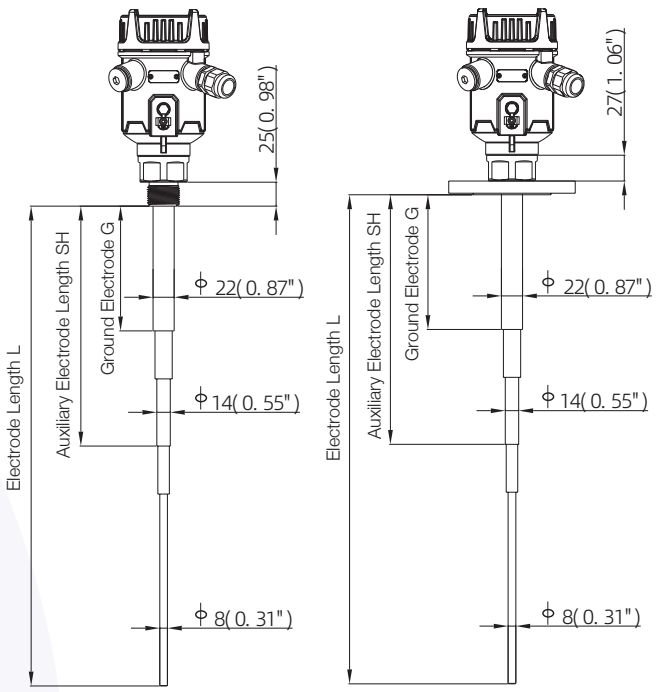
Selection Guide

Product Name: CRF312 RF Admittance Level Switch

CRF312-											
	1	2	3	4	5	6	7	8	9	10	11

Selection Code

1: License	
XX	No
FX	Explosion-proof: Ex db IIC T6 Gb
GX	Dust： Ex tb IIIC T80℃ Db
T	Special Customization
2: Sensor Type / Process Temperature / Process Pressure	
A	Standard Type (Process Temperature: -40℃ to 80℃ / Process Pressure: Vacuum to 10 bar)
B	High-Temperature Type (Process Temperature: -40℃ to 150℃ / Process Pressure: Vacuum to 10 bar)
T	Special Customization
3: Sensor Rod Material	
1	304+PTFE
2	316L+PTFE
T	Special Customization
4: Effective Sensor Rod Length L1 (Unit: mm)	
Axxxx	0100~4000
T0000	Special Customization
5: Total Sensor Rod Length L (Unit: mm)	
Lxxxx	0250~6000 available (must be ⩾ the height of the riser + thickness of the silo top + L1; it is recommended to add an additional 50mm to this base length)
T000	Special Customization
6: Process Connection	
A	G 3/4" Thread
B	NPT 3/4" Thread
C	G 1" Thread
D	NPT 1" Thread
E	DN25 Flange
F	DN50 Flange
G	NPS 1" Flange

H	NPS 2" Flange
I	1" PT
T	Special Customization
	7: Output
A	2-channel Switch Output, DPDT Relay Output (220V AC/5A, 30V DC/5A)
T	Special Customization
	8: Power Supply
0	15VAC~230VAC， 50HZ/60HZ，±15%；18VDC~320VDC±15%
T	Special Customization
	9: Cable Entry
1	1*M20*1.5 Cable Gland, 1*NPT 1/2'' Cable Gland
2	1*M20*1.5 Cable Gland, 1*NPT 1/2" Solid Plug
3	1*NPT 1/2'' Cable Gland, 1*M20*1.5Solid Plug
	10: Sensor Housing Material and Type
1	Aluminum Alloy ADC12, Large Housing (Purple Housing)
2	Stainless Steel 304, Large Housing (Natural Stainless Steel)
T	Special Customization
	11: Industry Code
XX	Non-Specific Industry Code

- Length deviation for L and L1: < 1 m: ±5 mm; 1...3 m: ±10 mm; 3...6 m: ±15 mm; 6...12 m: ±20 mm;
- We reserve the right to adjust product characteristics and dimensions as needed without prior notice;
- For detailed technical information, please contact our company or authorized agents directly.