

## CROSS SMART SENSOR

# RG7 Radar Level Gauge

DIGITAL TECHNOLOGY FOR OPTIMIZED MEASURES



### FEATURES & BENEFITS

- Non-contact measuring
- Non-mechanical moving parts
- High accuracy:  $\pm 2\text{mm}$
- High reliability, Easy maintenance
- High sensitivity
- Density, Pressure and Temperature less affected
- Ex-proof mode is optional
- Up to 30m Max. by 4" Cone Antenna
- Integral mode RG7 with display is optional
- Internal Signal Conditioning, RS485 Modbus Digital signals allow up to 300-meters long communication between the Sensor and the GDC.

## DESCRIPTIONS

RG7 measures the level by transmitting radar pulses towards the object and receiving its echoes. The level is decided by the pulses travel time that is proportional to the distance between the sensor and the object surface.

Upon reception, the microprocessor that runs the intelligent software in the sensor head analyzes the echoes, transforms them into the surface level values, and outputs the data. Since the radar pulses are hardly affected by the tank content and its environment like temperature and pressure, radar measurement is proven to be the most reliable gauging method in most applications.

Additionally, because of the fact that the radar sensor is not physically contacting with the measured object, there is almost no maintenance required for the sensor.



## APPLICATIONS

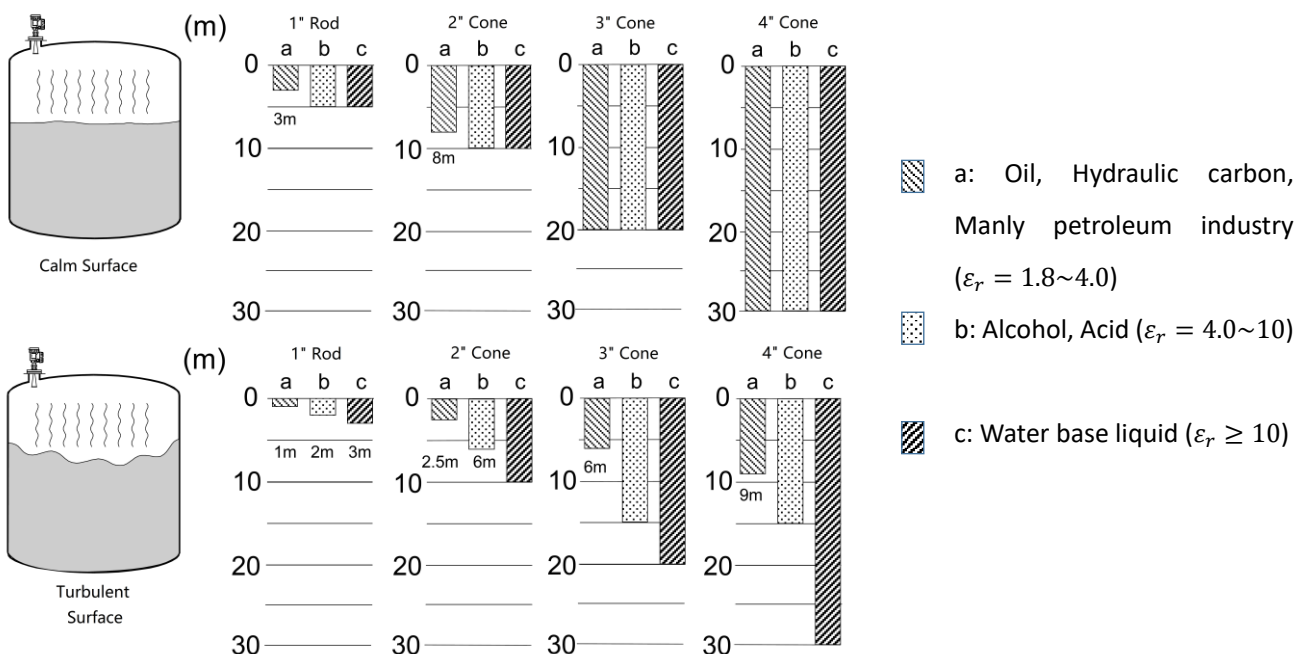
RG7 is available to measure both of calm surface liquid such as storage tanks or buffer tanks and ruffled surface liquid such as reactor tanks.

- Chemical and petrochemical
- Refinery
- Pharmacy
- Food and beverage

Also, it will be available in water industrial such as:

- River intake gate
- Process in waterworks
- Water reservoir
- Waste water treatment plant
- Hydraulic power station
- River and dam
- Coolant pit in steel process

## ANTENNA MEASURING DISTANCE (REFERENCE)



## SPECIFICATIONS

Radar Level		
Principle	Transit-Time between transmitting and receiving radar pules	
Measurement Object	Liquid    Relative permittivity $\epsilon_r \geq 1.8$ Granular Solid Powder	
Max. Range	4" Cone Antenna	30m
	3" Cone Antenna	20m
	2" Cone Antenna	10m
	Rod Antenna	10m, Suitable for corrosive (strong conductive) medium
Accuracy	Cone Antenna	±2mm
	Rod Antenna	±3mm
Half-power Beam Angle	Cone Antenna	8°
	Rod Antenna	25°
Microwave	26GHz	
Power Consumption	<5μW	
Respond Time	1s	
Process Pressure	-0.1MPa to 1.5MPa	
Storage Temperature	-40°C to 85°C	
Process Temperature	Cone Antenna	-60°C to 250°C
	Rod Antenna	-40°C to 150°C
Display (Optional)	Level, Distance, %, mA, Signal Strength, Temperature	
Ex-proof (Optional)	Ex-ia	Ex ia IIC T6 Ga
	Ex-d+ia	Ex d ia IIC T6 Ga
Waterproof	NEMA4X, IP66	
Wiring Port	M20×1.5(2), cable gland, Blind plug for Ex-proof	

## ORDER CODE

RG7 Radar Level Gauge			
	-L	Liquid	
	-S	Granular Solid or Powder	
	<b>02H</b>	2" Cone Antenna	
	<b>03H</b>	3" Cone Antenna	
	<b>04H</b>	4" Cone Antenna	
	<b>01R</b>	Rod Antenna, Suitable for corrosive (strong conductive) medium	
	<b>N</b>	Remote Type without Display	
	<b>A</b>	Integrated Type with LCD Display	
	<b>R</b>	RS485 Modbus to GDC	
	<b>A</b>	4~20mA with HART for Integrated Type	
<b>RG7</b>	<b>-L</b>	<b>04H</b>	<b>A A</b>