

# RADAR Level Transmitter

## RLT6100



Measuring range upto 30m



Quick Response Time < 2s



Process Pressure: (-)1 ~ 3bar



Sensor Housing: IP67protection

**Product  
Datasheet**

# ROCKSENSOR AT A GLANCE (ABOUT US)

Rocksensor is one of the global leaders specializing in Process Instrumentation, Research and Development and Designing of Industrial Automation Equipment. We provide highly precise pressure sensors and transmitters, flow metres, level transmitters and temperature transmitters with a prime focus to help our clients efficiently, safely and economically run complex industrial processes.

Rocksensor, headquartered in Switzerland, has its footprint in various geographical regions such as the US, Russia, South Korea, Italy, Germany, Singapore, Malaysia, Morocco, China, Taiwan, Australia, UAE, Brazil and India. Our clients come from some of the major industries such as Oil and Gas, Petrochemicals, Pharmaceuticals, FMCG, Automobiles, Water, Cement, Metal & Mining, and mainly from the Power Industry like Nuclear, Thermal, Hydro, and Solar.

Rocksensor deals in a wide range of highly accurate industrial automation instruments ensuring that even the complex industrial processes happen efficiently.

To fulfill the needs of our clients we make sure that our instruments work in even the harsh environmental conditions offering accurate recordings and communication.

We, at Rocksensor, believe in creating bonds that last a lifetime and create a success story for each and every client. Rocksensor aims to achieve a perfect fit in the global market landscape and establish our footprints across the globe.



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## KEY APPLICATION INDUSTRIES

- Oil and Gas sector
- Cement
- Metal
- Pulp and Paper
- Agriculture
- Textiles
- Chemicals
- Power
- Water
- Pharmaceutical
- Fertilizer
- Plastics and HVAC

## 1. Introduction

4 ~ 20mA/ HART ~ 2 wire/ 4 wire Radar sensor for continuous level measurement of aggressive liquids under simple processing condition

## 2. Area of application

The RLT6100 is a radar sensor for continuous level measurement of aggressive liquids. The small process fittings offer particular advantages in small tanks or tight mounting spaces. The excellent signal focusing ensures the use in vessels with many installations such as stirrers and heating spirals.

## 3. Feature and Benefit

- Twin-chips: With two chips, RLT6100 achieves higher processing ability.
- Multi-Track: Due to new Multi-Track wave tracking algorithm, RLT6100 gets highest reliability.
- Waves Memo: With wave management function. To help understand abnormal output, RLT6100 storages wave automatically.

## 4. Function

Measuring system operates based on the time-of-flight method (ToF). It measures the distance from the reference point (process connection) to the product surface. Radar impulses are emitted by an antenna, reflected off the product surface and received again by the radar system. The time from emission to reception of the signals is proportional to the level in the vessels. A special time stretching procedure allows reliable and precise measurement of the extremely short signal running times.

## 5. Technical Specifications

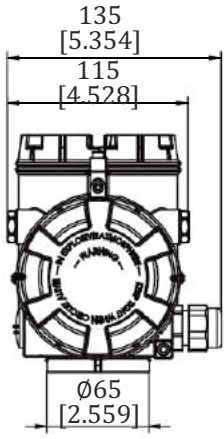
<b>Measuring Range</b>	0 ~ 30m
<b>Sample Frequency</b>	54Hz
<b>Response Time</b>	<2s
<b>Resolution</b>	1mm
<b>Deviation</b>	±3mm
<b>Repeatability</b>	±1.5mm
<b>Frequency</b>	26GHz
<b>Ambient Temperature</b>	(-)40°C ~ 70°C
<b>Process Temperature</b>	(-)40°C ~ 150°C
<b>Process Pressure</b>	(-)1 ~ 3bar
<b>Protect Level</b>	IP67

## 6. Material

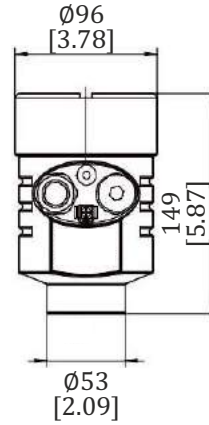
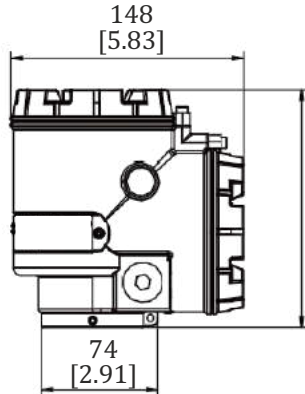
Two antenna versions are available for RLT6100. One version is encapsulated rod antenna made of PTFE. One version is horn antenna made of plastic.

## 7. Housing Version

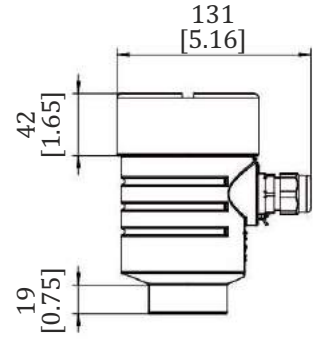
The housings are available as single chamber version and double chamber version in stainless steel or aluminum. They are available with protection ratings up to IP 67 (1 bar).



Double Chamber Housing

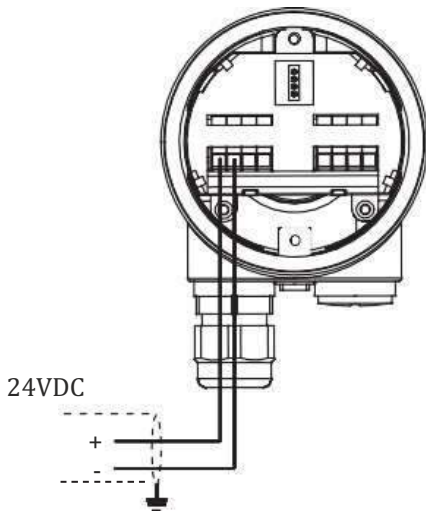


Single Chamber Housing

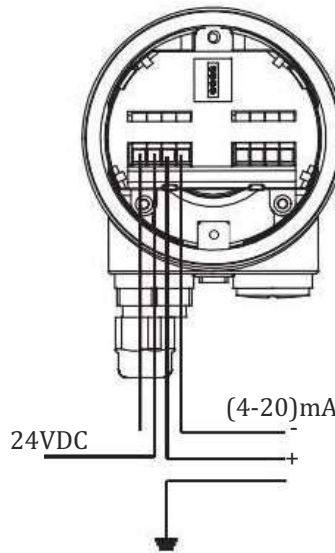


## 8. Electrical Connection

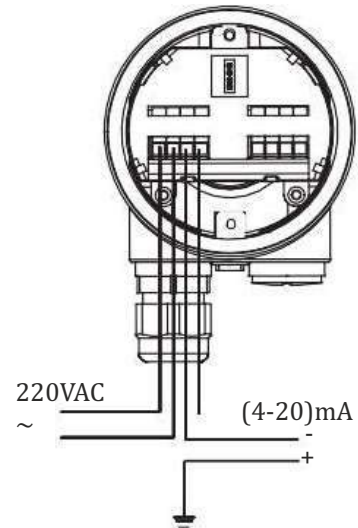
The instruments are available in different electronics versions. 4 ~ 20 mA/HART in two and four-wire version with 24 VDC and four-wire with 220VAC.



24V DC.Two-wire



24V DC.Four-wire

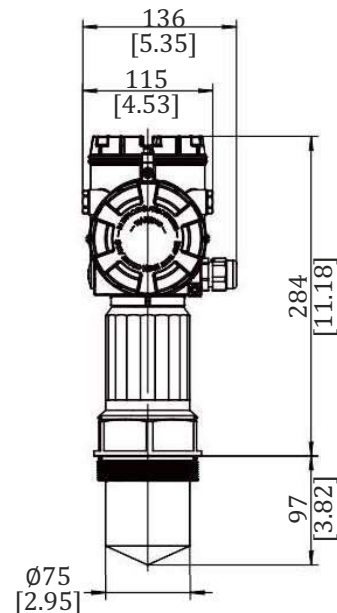
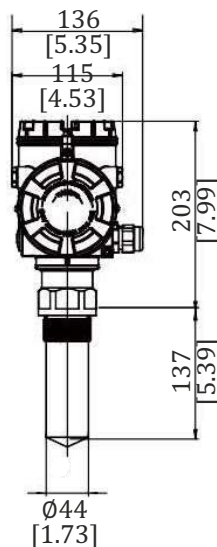
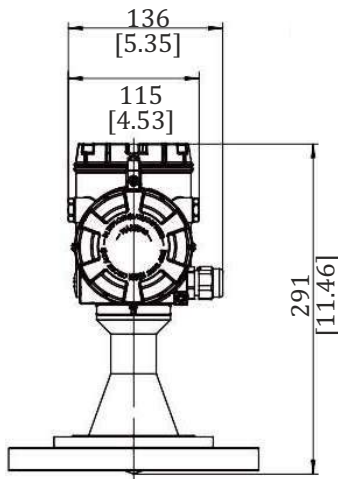


220V AC.Four-wire

## 9. Operation

The adjustment of the instrument is carried out via the LCD display, tank side display, tank side hub and HART communicator.

## 10. Dimensions



## 11. Model Selection Table

RLT6100		Radar Level Transmitter								
Code		1	2	3	4	5	6	7	8	
<b>Language</b>		English		A						
<b>Approval</b>		Standard		XX						
		Ex la TIC 16 Ga		CX						
		Ex dia [iaGa]IIC T6/ T2 Gb		DX						
		Customized		TT						
<b>Antenna Version/ Material/ Process Temperature/ Pressure</b>		With encapsulated horn antenna ø45 mm/ PTFE/ (-)40 ~ 150°C/ (-)1 ~ 3bar		A						
		With encapsulated horn antenna ø75mm/ PTFE/ (-)40 ~ 150°C/ (-)1 ~ 3bar		B						
		With PP horn antenna ø80mm/ (-)40 ~ 80°C/ (-)1 ~ 0.2bar		C						
		Customized		T						
<b>Process Fitting</b>		Without fastening flange		XX						
		Thread G1½A		GP						
		Thread 1½NPT		NP						
		Thread G3A		HP						
		Tri-Clamp 2"		CA						
		Tri-Clamp 3"		CB						
		Adapter flange DN50		AC						
		Adapter flange DN80		AD						
		Adapter flange DN100		AE						
		Adapter flange DN150		AH						
		Customized		TT						
										<b>LCD Display</b>
										X Without display
										A With display
										<b>Cable Entry / Cable Gland/ Connecting Cable</b>
										M M20x1.5/ with/ without
										N ½NPT/ without/ without
										<b>Housing/ Protection</b>
										A Single chamber/ Aluminum/ IP67
										B Double chamber/ Aluminum/ IP67
										W Double chamber/ 316LSS/ IP67
										<b>Electronics</b>
										H Two-wire 4-20mA/HART; 24VDC
										B Four wire 4-20mA/HART; 220VAC
										I Four wire 4-20mA/HART; 24VDC
										W Wireless; GPRS; Wireless C Mesh
										T Customized

**Example:** RLT6100-AXXCGPWANA

A - Language: English

XX - Approval: Standard

C - Antenna Version/ Material/ Process Temperature/ Pressure: With PP Horn Antenna Ø80mm/(-)40°C~80°C/(-)1~0.2bar

GP - Process Fitting: Thread G1½A

W - Electronics: Wireless; GPRS; Wireless C Mesh

A - Housing/ Protection: Single Chamber/ Aluminum / IP67

N - Cable Entry / Cable Gland/ Connecting Cable : ½NPT/ Without/ Without

A - LCD Display: With Display

\*For any customisation, contact our sales team

## Field Instrumentation Range



### Pressure Measurement

- Smart Differential Pressure Transmitter
- Smart Gauge Pressure Transmitter
- Smart Absolute Pressure Transmitter
- Miniature Pressure Transducer without display
- Sanitary Gauge/ Absolute Pressure Transmitter

- Submersible Pressure Transmitter
- Remote Seal Differential P.T. with capillary
- Remote Seal Differential P.T. Direct Mount
- Remote Seal Gauge/Absolute P.T. with capillary
- Remote Seal Gauge/Absolute P.T. Direct Mount



### Flow Measurement

- Coriolis Mass Flowmeter
- Thermal Gas Mass Flowmeter
- Positive Displacement Flowmeter
- Electromagnetic Flowmeter
- Vortex Flowmeter

- Turbine Flowmeter
- Variable Area Flowmeter
- Clamp On Ultrasonic Flowmeter
- Inline Ultrasonic Flowmeter
- Portable Ultrasonic Flowmeter



### Level Measurement

- RADAR Level Transmitter Horn Antenna
- Compact RADAR Level Transmitter
- RADAR Level Transmitter Sanitary
- RADAR Level Transmitter
- Guided Wave RADAR Level Transmitter
- Guided Wave RADAR Level Transmitter
- RADAR Level Transmitter Lens Antenna

- RADAR Level Transmitter Rod Antenna
- Ultrasonic Level Transmitter
- Microwave Barrier Level Switch
- Admittance Level Switch Series
- Vibrating Rod Level Switch Series
- Tuning Fork Level Switch Series



### Temperature Measurement

- Head Mount Temperature Transmitter
- Temperature Transmitter for Sanitary Applications

- DIN Rail Temperature Transmitter
- Field Mount Temperature Transmitter

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