

# Guided Wave RADAR Level Transmitter

## RLT8100



Measuring range upto 30m



Quick Response Time



Process Pressure: (-)1 ~ 40bar



Sensor Housing: IP67 protection

**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 non-aggressive liquids.

## 2. Area of application

The RLT8100 is a radar sensor for continuous level measurement of non-aggressive liquids. The sensor delivers precise and reliable measured values even in applications with steam, buildup, foam generation or condensation. It is a truly cost-effective level and interface sensor for your measuring task.

## 3. Feature and Benefit

- With two chips, RLT8100 achieves higher processing ability.
- Due to new Multi-Track wave tracking algorithm, RLT8100 gets highest reliability.
- With wave management function. To help understand abnormal output, RLT8100 stores wave automatically.

## 4. Function

The RLT8100 guided radar transmitter is designed for continuous level measuring of conductive or nonconductive liquids. The RLT8100 is a "downward-looking" measuring system that functions according to the TDR principle (Time Domain Reflectometry). High frequency microwave impulses are guided along a steel cable or rod. When they reach the product surface, the microwave pulses are reflected and received by the processing electronics. Level distance is directly proportional to the flight time of the pulse.

## 5. Technical Specifications

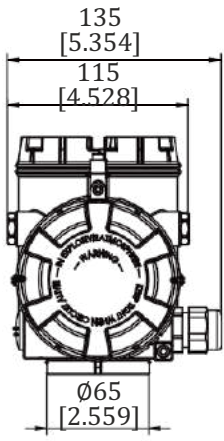
<b>Measuring Range (-Cable Probe/ -Rod Probe/ -Coax Probe)</b>	0 ~ 30m/ 0 ~ 6m/ 0 ~ 3m
<b>Sample Frequency</b>	16Hz
<b>Response Time</b>	<2s
<b>Resolution</b>	1mm
<b>Deviation</b>	±3mm
<b>Repeatability</b>	±1.5mm
<b>Frequency</b>	100MHz ~ 1.8GHz
<b>Ambient Temperature</b>	(-)40°C ~ 70°C
<b>Process Temperature</b>	(-)40°C ~ 200°C
<b>Process Pressure</b>	(-)1 ~ 40bar
<b>Protect Level</b>	IP67

## 6. Material

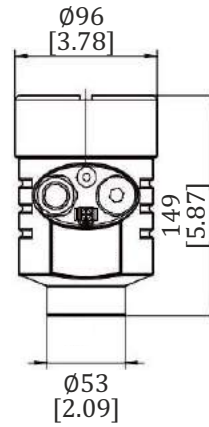
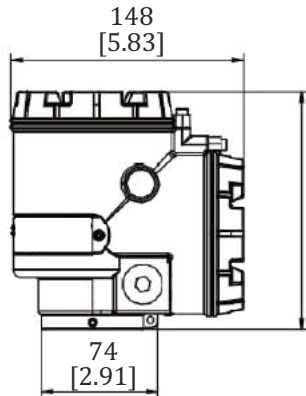
The wetted parts of the instrument are made of stainless steel SS316L and PTFE. The process seal is made of FKM.

## 7. Housing Version

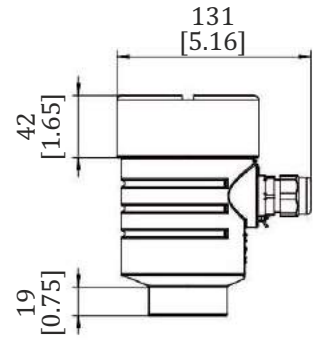
The housings are available as single chamber version and double chamber version in stainless steel or aluminium. They are available with protection ratings up to IP67 (1 bar).



Double Chamber Housing

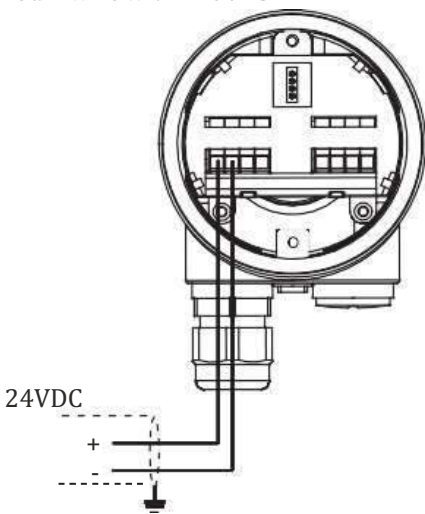


Single Chamber Housing

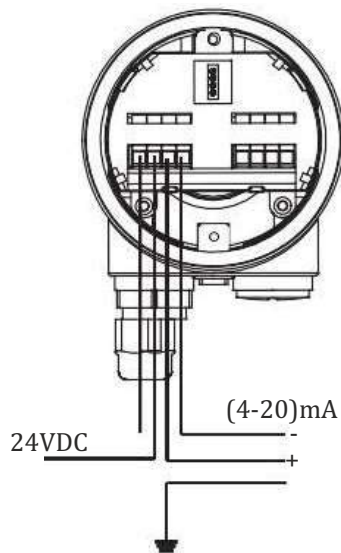


## 8. Electrical Connection

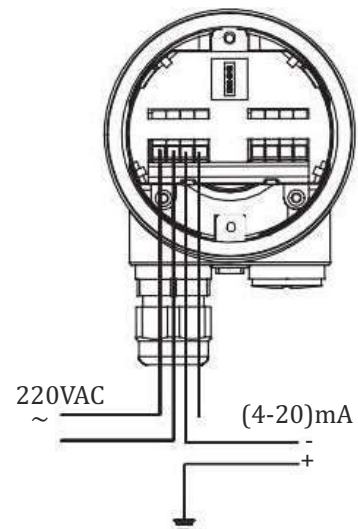
The instruments are available in different electronics versions. 4 ~ 20 mA/HART in two and four-wire version with 24 VDC and four-wire with 220VAC.



24V DC Two-wire



24V DC Four-wire

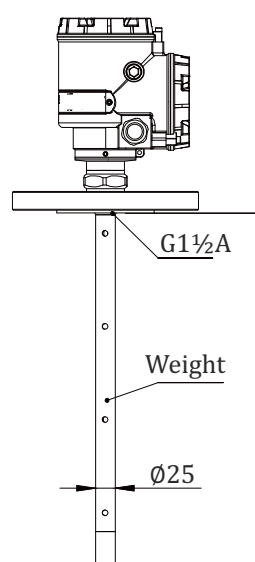
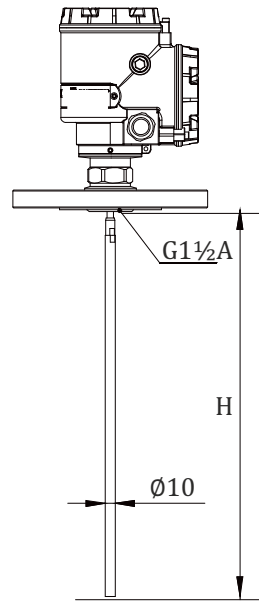
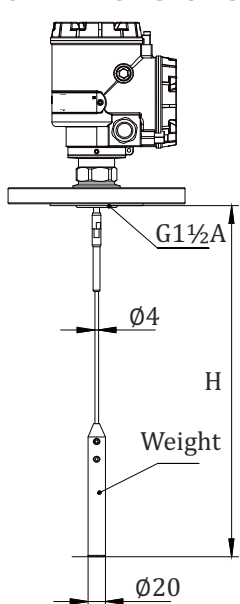


220V AC Four-wire

## 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



- 1 Single cable probe version
- 2 Single rod probe version
- 3 Coax probe version.

## 11. Model Selection Table

RLT8100		Radar Level Transmitter									
Code		1	2	3	4	5	6	7	8	9	10
<b>Language</b>											
English	A										
<b>Approval</b>											
Standard	XX										
Ex Ia TIC 16 Ga	CX										
Ex dia [iaGa] IIC T6/ T2 Gb	DX										
Ex iaD tD A21 IP67 T80/T290°C	EX										
<b>Antenna Version/ Material</b>											
Ø2mm probe cable+weight/SS316	B										
Ø4mm probe cable+weight/SS316	A										
Ø10mm probe rod/ SS316	E										
Ø16mm probe rod/ SS316	F										
Ø4mm double SS probe cable + weight/ SS316	G										
Coaxial waveguide Ø22mm/SS316	L										
Coaxial waveguide Ø42mm/SS316	P										
Customized	T										
<b>Process Fitting</b>											
Thread G¾	TA										
Thread ¾ NPT	TS										
Thread G1½A	TI										
Thread 1½ NPT	NP										
Flange DN25	DA										
Flange DN50	DD										
Flange DN80	DF										
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										
U	Single chamber/ SS316L/ IP67										
W	Double chamber/ SS316L/ IP67										
<b>Auxiliary Accessories</b>											
X	Without										
T	Tank side entry										
<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										
<b>Process Seal /Temperature</b>											
A	VITON Fluorine rubber/ (-)40 ~ 80°C										
F	VITON Fluorine rubber/ (-)40 ~ 150°C										
L	KALREZ fluoroether rubber/ (-)20 ~ 200°C										
T	Customized										

**Example:** RLT8100-AXXBTTIAWTANA

A - Language: English

XX - Approval: Standard

B - Antenna Version/ Material: Ø2mm probe cable+weight/ 316SS

TI - Process Fitting: Thread G1½A

A - Process Seal/ Temperature: VITON Fluorine rubber/ (-)40 ~ 80°C

W - Electronics: Wireless; GPRS; Wireless C Mesh

T - Auxiliary Accessories: Tank Side Monitor Entry

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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