

## Compact RADAR Level Transmitter

### RLT6400C



Measuring range upto 35m



With Bluetooth connectivity



Output: 4~20 mADC/ HART/RS485/Bluetooth



Sensor Housing (IP67/ IP68 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

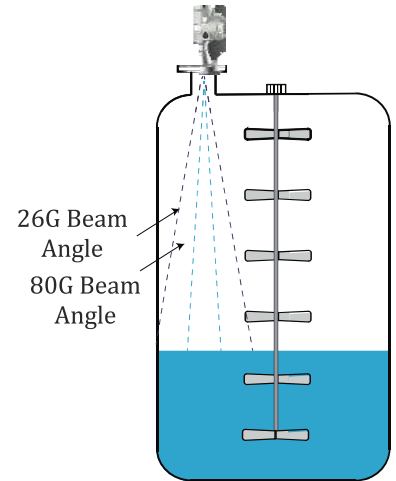
It is based on Frequency Modulated Continuous Wave (FMCW) technology, which transmits a continuous radar signal with the frequency increasing over time to create a signal sweep. The signal is then reflected back to the antenna, to calculate the level.

## 2. Typical Application

Continuous level measurement of liquids in simple applications with lower demands on pressure and temperature ranges.

## 3. Measuring Principle

The radar uses 80GHz Frequency Modulated Continuous Wave. The FMCW radar emits a high frequency signal whose frequency increases linearly during the measurement phase (called the frequency sweep). The signal is emitted, reflected from the measuring surface & received with a time delay,  $t$ . Delay time,  $t=2d/c$ , where  $d$  is the distance to the product surface &  $c$  is the speed of light in the gas above the product. For further signal processing the difference  $\Delta f$  is calculated from the actual transmit frequency & the receive frequency. The difference is directly proportional to the distance.



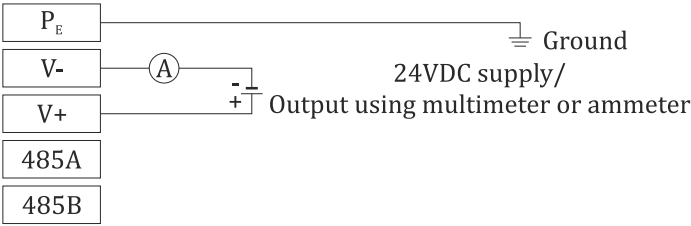
## 4. Advantages and Features

- With Zero Dead Zone: Isolated emitting & receiving signal enable full range measurement without dead zone. Unaffected by buildup or condensation near sensor.
- EverCheck: Real time self-monitoring on voltage, current and chip. Output warning when abnormality present.
- WavesMemo: Wave management concept. To help understand abnormal output, the RLT6400C stores echo automatically.
- MultiTrack: Due to new MultiTrack wave tracking algorithm, RLT6400C get highest reliability.

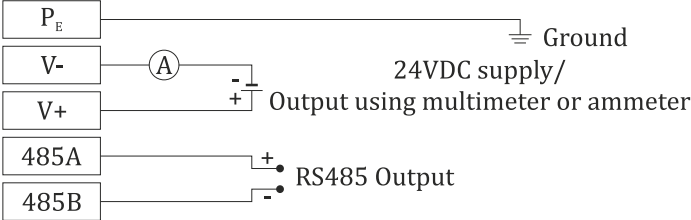
## 5. Technical Specifications

<b>Measuring Range</b>	0 ~ 35m
<b>Process Fitting &amp; Beam Angle</b>	Thread G1½, Mounting strap, Beam angle: 8°
<b>Power</b>	<0.5W
<b>Response Time</b>	<2s
<b>Frequency</b>	76 ~ 81GHz
<b>Media-contracting Materials</b>	Antenna: PP/ Seal: PP
<b>Process Temperature</b>	-40°C ~ +100°C
<b>Process Pressure</b>	(-)1bar ~ 3bar
<b>Resolution</b>	1mm
<b>Accuracy</b>	±2mm
<b>Repeatability</b>	±1mm
<b>Signal Output</b>	4-20 mA/ HART/ RS485
<b>Display &amp; Adjustment</b>	With/ Without Display (Optional: Bluetooth or HART)
<b>Protect Level</b>	IP67/ IP68
<b>Electrical Connection</b>	Thread G11/2
<b>Explosion Proof Grade</b>	EX ia IIC T6 Ga

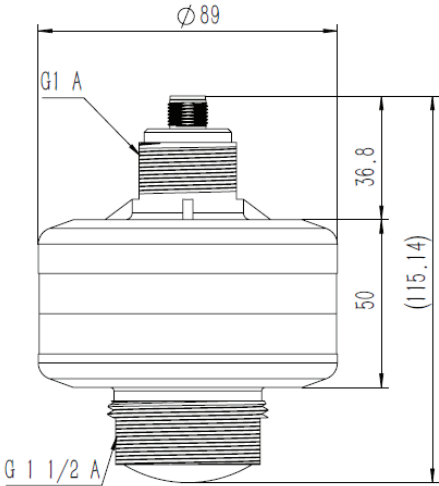
6. Wiring & Dimensions



For 4 ~ 20 mA Output



For RS485 Output



Dimensional Diagram

7. Model Selection Table

RLT6400C Compact Radar Level Transmitter									
Code		1	2	3	4	5	6	7	8
Version									
Max. 8m	D								
Max. 15m	R								
Max. 30m	U								
Max. 35m(Customized)	T								
Approval									
Standard	XX								
Ex ia IIC T6 Ga	CX								
Customized	TT								
Antenna Material									
PP	Z								
Electronics									
18~36VDC/4...20mA, 2-wire	H								
18~36VDC/4...20mA, 4-wire	U								
Customized	T								
Display									
N	None								
R	Remote Display								
Protection.									
R	IP67								
S	IP68								
Cable Length									
M	5M								
N	10M								
T	Customized								
Communication									
A	RS485								
B	HART/ Bluetooth/ GSM/ Wifi								
T	Customized								

Example: RLT6400-C-DXXZTAMRR

RLT6400-C - Compact Radar Level Transmitter

D - Version : Max. 8m

XX - Approval : Standard

Z - Antenna Material : PP

T - Electronics : Customized

A - Communication : RS485

M - Cable Length : 5M

R - Protection : IP67

R - Display : Remote 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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