

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 & temperature transmitters with a prime focus to help our clients efficiently, safely and economically run complex industrial processes.

Rocksensor headquartered in Germany (originated in Switzerland), has its footprint in various geographical regions such as the US, Russia, South Korea, Italy, Germany, Singapore, Malaysia, 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 global market landscape and establish our footprints across the globe.



CONTENTS

1. Introduction 3

2. Area of Application 3

3. Feature and Benefit 3

4. Function 3

5. Technical Specifications 3

6. Material 3

7. Housing Version 3

8. Electrical Connections 4

9. Operation 4

10. Dimensions 4

11. Model Selection Table 5

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

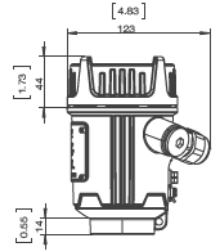
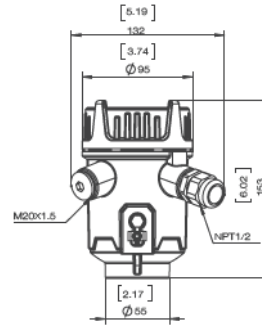
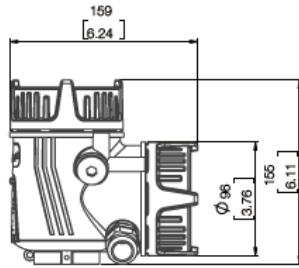
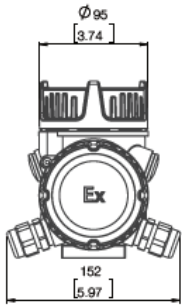
Measuring Range	0 ~ 35m
Sample Frequency	54Hz
Response Time	<2s
Resolution	1mm
Deviation	±3mm
Repeatability	±1.5mm
Frequency	26GHz
Ambient Temperature	(-)40°C ~ 70°C
Process Temperature	(-)40°C ~ 130°C
Process Pressure	(-)1 ~ 3bar
Protect Level	IP67
Antenna Material	Rod Antenna; PP/PTFE/ special case
Signal Output	4~20mA, RS-485/ HART

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).

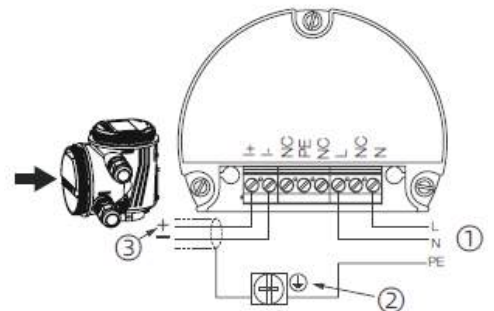
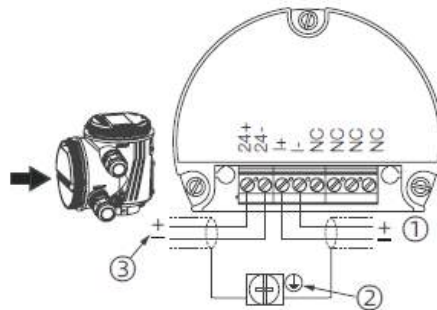
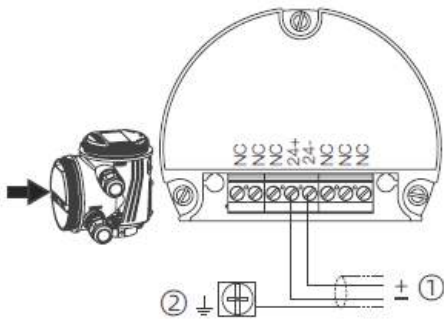


Double Chamber Housing

Single Chamber Housing

8. Electrical Connection

The instruments are available in different electronics versions. 4~20mA, HART/ RS-485 in two & four-wire version 24VDC & for-wire with 220VAC. Below electrical connection is for Dual chamber housing.



Wiring for two-wire, 24VDC

1. 24V power supply line
2. Grounding screw inside the case

Wiring for four-wire, 24VDC

1. Current signal line
2. Grounding screw inside the case
3. 24V power supply line

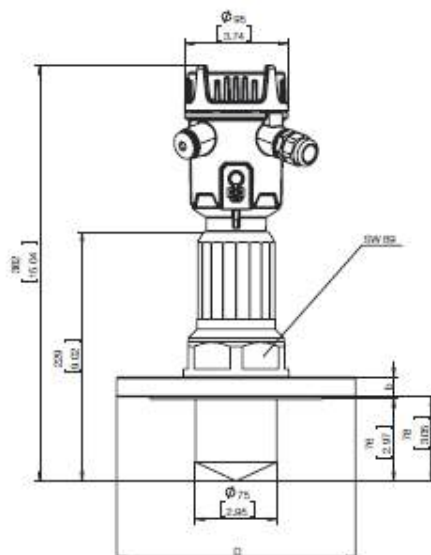
Wiring for four-wire, 220VAC

1. Current signal line
2. Grounding screw inside the case
3. 220V power supply line

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
Accuracy		←	←	←	←	←	←	←	←
±2mm	A								
Approval		←	←	←	←	←	←	←	←
Standard	XX								
Ex ia IIC T2/T6 Ga	CX								
Ex db IIC T6 Gb	DX								
Thread Antenna material/ Sensor material		←	←	←	←	←	←	←	←
Anti-corrosion Rod Antenna ø45 / PTFE / -40℃ ~ 130℃ / -1 ~ 3bar	A								
Anti-corrosion Rod Antenna ø75 / PVDF / -40℃ ~ 130℃ / -1 ~ 3bar	B								
Anti-corrosion Rod Antenna ø80 / -40℃ ~ 80℃ / -1 ~ 0.2bar	C								
Customization	T								
Process Connection		←	←	←	←	←	←	←	←
Thread G1½A	GP								
Thread 1½NPT	NP								
Thread G3A	HP								
Tri-Clamp 2"	CA								
Tri-Clamp 3"	CB								
Flange Connection DN50	AC								
Flange Connection DN80	AD								
Flange Connection DN100	AE								
Flange Connection DN150	AH								
Customization	TT								
LCD Display		←	←	←	←	←	←	←	←
X	Without display								
A	With display								
B	Remote Display	←	←	←	←	←	←	←	←
Cable Entry/ Cable Gland									
M	M20×1.5/ with	←	←	←	←	←	←	←	←
N	½NPT/ without								
Housing Material / Protection Rating		←	←	←	←	←	←	←	←
A	Single chamber/ Aluminum/ IP67								
B	Double chamber/ Aluminum/ IP67								
W	Double chamber/ Stainless Steel/ IP67	←	←	←	←	←	←	←	←
Electronics									
H	Two-Wire 4...20mA/RS-485; 24 VDC								
U	Two-Wire 4...20mA/HART; 24 VDC								
B	Four-Wire 4...20mA /RS-485; 220 VAC								
S	Four-Wire 4...20mA/HART; 220 VAC								
I	Four-Wire 4...20mA/RS-485; 24 VDC								
P	Four-Wire 4...20mA/HART; 24 VDC								
T	Customization								

Example: RLT6100-C-AXXCGPPWNA

RLT6100 - Radar Level Transmitter

A - Accuracy : ±2mm

XX - Approval : Standard

C - Thread Antenna material/ Sensor material : Anti-corrosion Rod Antenna ø80 / -40°C ~ 80°C / -1 ~ 0.2bar

GP - Process Connection : Thread G1½A

P - Electronics : Four-Wire 4...20mA/HART; 24 VDC

W - Housing Material/ Protection Rating : Double Chamber/ Stainless Steel/ IP67

N - Cable Entry/ Cable Gland/ Connection 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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