

Guided wave Radar Level Transmitter

RLT8300



-  Measuring Range : upto 30 m
-  Quick Response time: <2s
-  Process Pressure : (-)1 ~ 16 bar
-  Protection level: IP67

**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

RLT8300 Radar Level Transmitter is suitable for continuous Level measurement of Aggressive liquids.

2. Area of application

With RLT8300 you can measure aggressive liquids essentially maintenance free. The sensor delivers precise and reliable measured values even in applications with steam, buildup, foam generation or condensation. RLT8300 is a truly cost-effective and perfectly adapted solution for your measuring task.

3. Feature & Benefit

- **Twin-chips**

With two chips, RLT8300 achieves higher processing ability.

- **Multi-Track**

Due to new Multi-Track wave tracking algorithm, RLT8300 gets highest reliability.

- **Waves Memo**

With wave management function. To help understand abnormal output, RLT8300 stores wave automatically.

4. Function

The RLT8300 guided radar transmitter is designed for continuous level measuring of conductive or nonconductive liquids. The RLT8300 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 data

| Parameters | | Details |
|---------------------|-------------|--------------------------------|
| Measuring range | Cable probe | 0 ~ 30 m |
| | Rod probe | 0 ~ 6 m |
| Antenna Material | | SS316+PFA (Std.) |
| Sample frequency | | 16Hz |
| Response time | | <2s |
| Resolution | | 1mm |
| Deviation | | ±3mm |
| Repeatability | | ±1.5mm |
| Frequency | | 100MHz ~ 1.8GHz |
| Ambient temperature | | (-)40°C ~ 70°C |
| Process temperature | | (-)40°C ~ 150°C |
| Process pressure | | -1 ~ 16 bar |
| Protect level | | IP67 |
| Transmitter Housing | | Single Chamber/ Double Chamber |

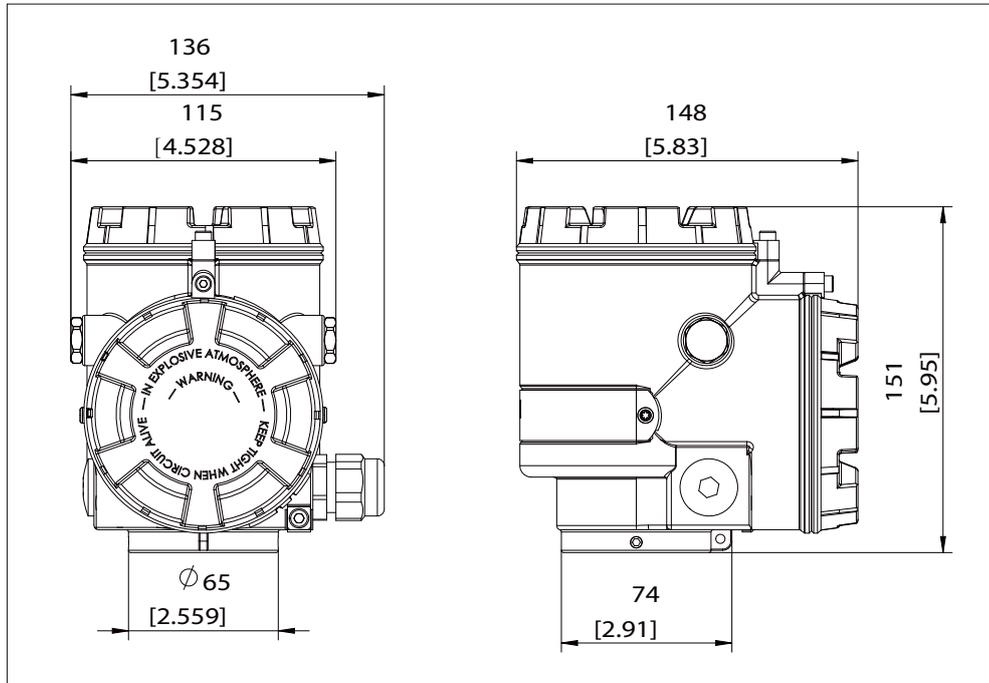
6. Material

The wetted parts of the instrument are made of SS316+PFA coating. The process seal is made of FKM.

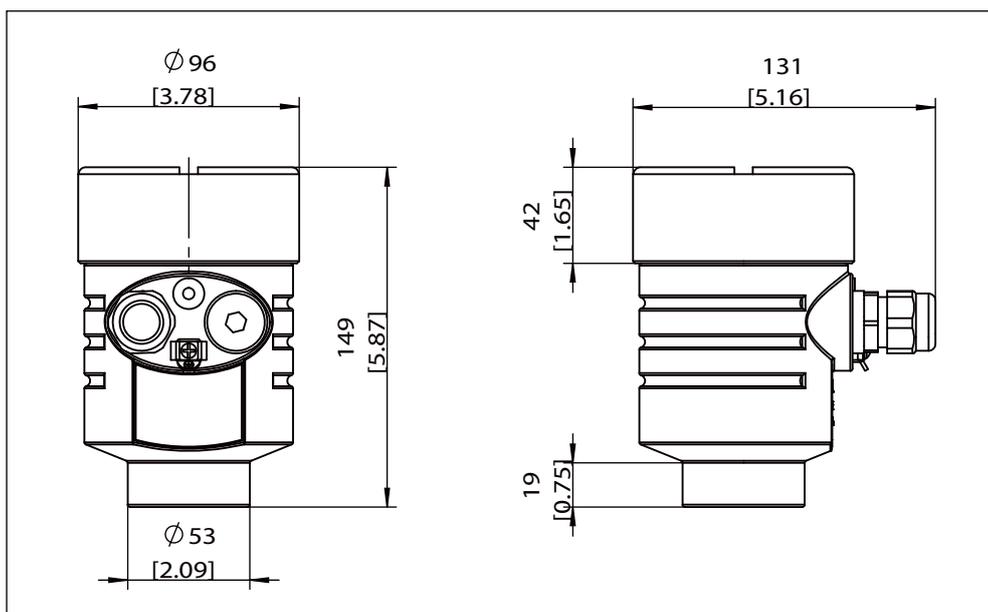
7. Housing version

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



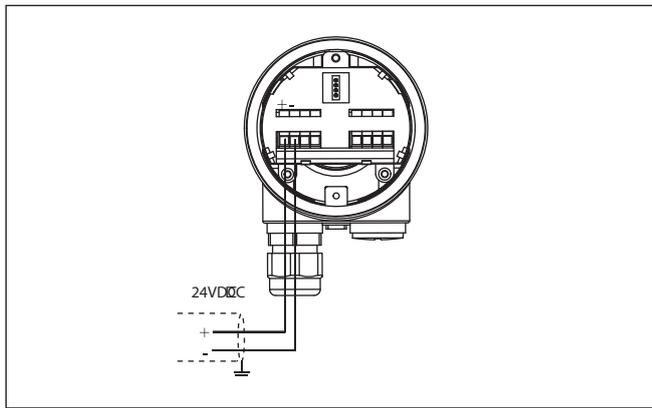
Single Chamber Housing



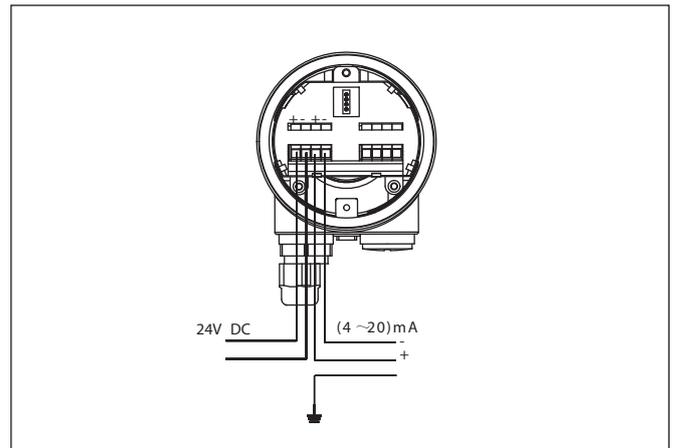
8. Electrical Connection

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

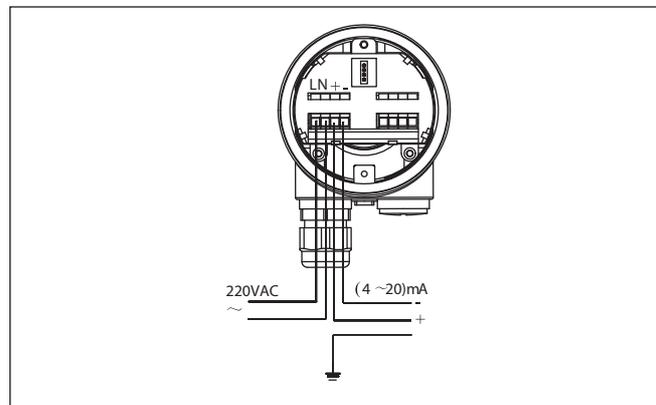
24V DC.Two-wire



24V DC.Four-wire



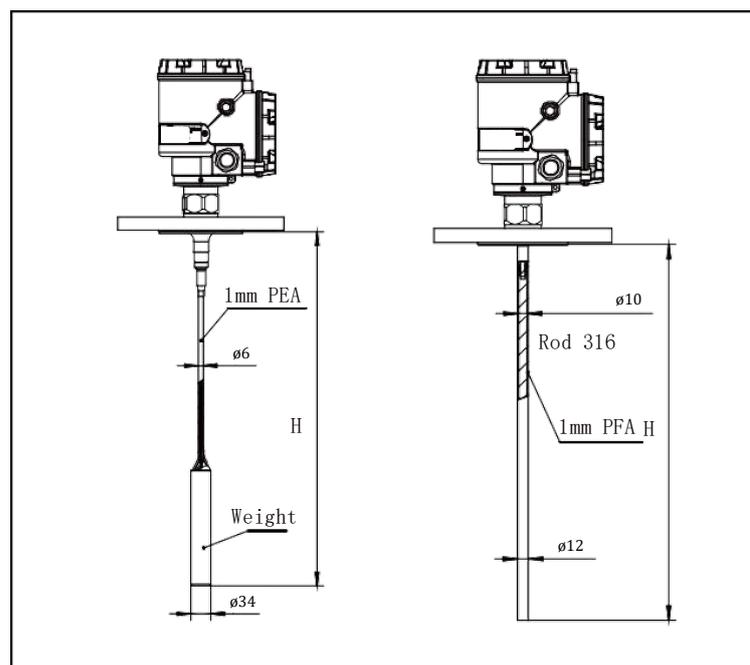
220V AC.Four-wire



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

2 Single rod probe

11. Model Selection Table

| RLT8300 Guided wave Radar Level Transmitter | |
|--|----------------------------------|
| Code | 1 2 3 4 5 6 7 8 9 10 |
| LANGUAGE | |
| English | A |
| APPROVAL | |
| Standard | XX |
| Ex ia IIC T6 Ga | CX |
| Ex d ia (iaGa) IIC T6/T2 Gb | DX |
| Ex iaD tD A21 IP67T80°C/T290°C | EX |
| ANTENNA VERSION / MATERIAL | |
| Ø4mm probe cable+ weight/ SS316+PFA coating | A |
| Ø10mm probe rod/SS316+PFA coating | F |
| Customized | T |
| PROCESS FITTING | |
| 2" sanitary tri-clamp | LA |
| 3" sanitary tri-clamp | PA |
| Flange DN50 | DA |
| Flange DN80 | DD |
| Flange DN100 | DF |
| Customized | TT |
| PROCESS SEAL / TEMPERATURE | |
| VITON Fluorine rubber/(-)40°C ~80°C | A |
| VITON Fluorine rubber/(-)40°C ~150°C | F |
| KALREZ fluoroether rubber/(-)20°C ~200°C | L |
| Customized | T |
| LCD DISPLAY | |
| X | Without display |
| A | With display |
| CABLE ENTRY / CABLE GLAND/ CONNECTING CABLE | |
| M | M20x1.5 / with/ without |
| N | ½NPT/ without/ without |
| HOUSING/PROTECTION | |
| A | Single chamber/ Aluminum /IP67 |
| B | Double chamber/ Aluminum /IP67 |
| W | Double chamber/ SS316/ IP67 |
| AUXILIARY ACCESSORIES | |
| X | Without |
| T | Tank side monitor entry |
| ELECTRONICS | |
| H | Two-wire 4...20mA/HART; 24 VDC |
| B | Four wire 4...20mA/HART; 220 VAC |
| I | Four wire 4...20mA/HART; 24 VDC |
| W | Wireless; GPRS; Wireless C Mesh |
| T | Customized |

Example: RLT8300 - ACXFLALHTWMA

RLT8300 - Guided Wave Radar Level Transmitter

A - Language : English

CX - Approval : Ex ia IIC T6 Ga

F - Antenna Version / Material : Ø10mm probe rod/SS316+PFA coating

LA - Process Fitting : 2" Sanitary Tri-clamp

L - Process Seal / Temperature : KALREZ fluoroether rubber/(-)20°C ~200°C

H - Electronics : Two-wire 4...20mA/HART; 24 VDC

T - Auxiliary Accessories : Tank Side Monitor Entry

W - Housing / Protection : Double chamber/ SS316/ IP67

M - Cable Entry / Cable Gland / Connecting Cable : M20x1.5 / With / Without

A - LCD Display : With Display

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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