

Radar Level Transmitter With Thread Cone Antenna

RLT6400-T



FMCW 80GHz Radar



Range 0 ~ 30m



Beam Angle 3°



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 & 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.



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1. Typical application

Continuous level measurement of liquids with slightly aggressiveness under high pressure and temperature.

2. Advantages and features

- Isolated emitting and receiving signal enable full range measurement without dead zone. Uneffected by buildup near sensor.
- Real time self-monitoring on voltage, current and chip. Output warning when abnormality present.
- Wave management concept. To help understand abnormal output, the RLT6400T stores echo automatically.

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 and received with a time delay, t . Delay time, $t=2d/c$, where d is the distance to the product surface and c is the speed of light in the gas above the product. For further signal processing the difference Δf is calculated from the actual transmit frequency and the receive frequency. The difference is directly proportional to the distance.

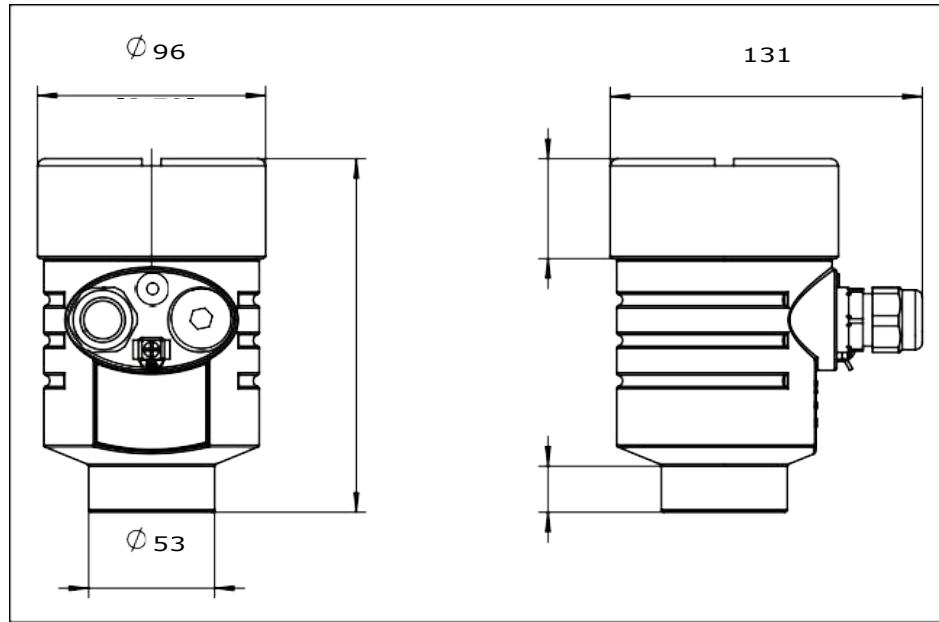
4. Technical data

Parameters	Details
Measuring range	0 ~ 30m
Process fitting and beam angle	Thread G $\frac{3}{4}$; Beam angle 14° Thread G $1\frac{1}{2}$; Beam angle 7° Thread G3; Beam angle 3°
Power	< 0.5 W
Response time	< 2 S
Frequency	76~81 GHz
Media-contacting materials	Process fittings: Sensor part SS304 Cone Antenna: PTFE Seal: FKM, EPDM
Process temperature	-40°C ~ +200°C
Process pressure	-1 bar ~ 20 bar
Resolution	1 mm
Accuracy	± 2mm
Repeatability	± 1 mm
Signal output	4 ~ 20 mA/HART
Display and Adjustment	LCD display, tank side display, tank side hub, smartphone via Bluetooth
Protect level	IP67
Electrical connection	2 × M20*1.5(Cable diameter 9 ~ 13 mm) 1/2NPT
Ex information	EX ia IIC T6 Ga Exd ia [iaGa]IIC T6/T2 Gb

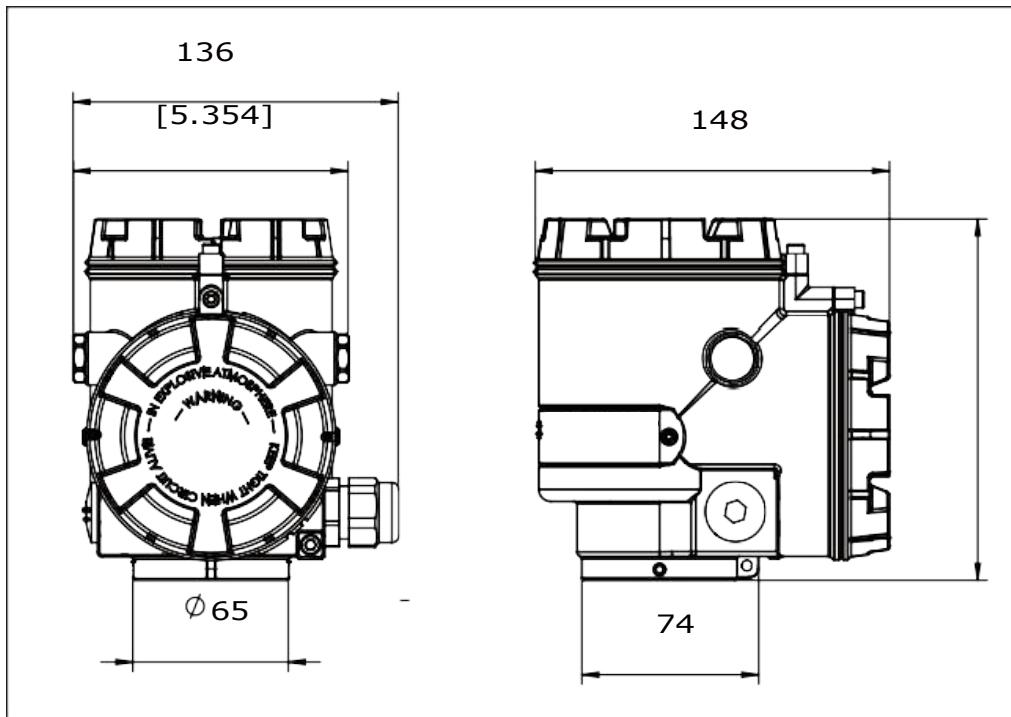
5. Housing

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

{I} Single Chamber Housing:-



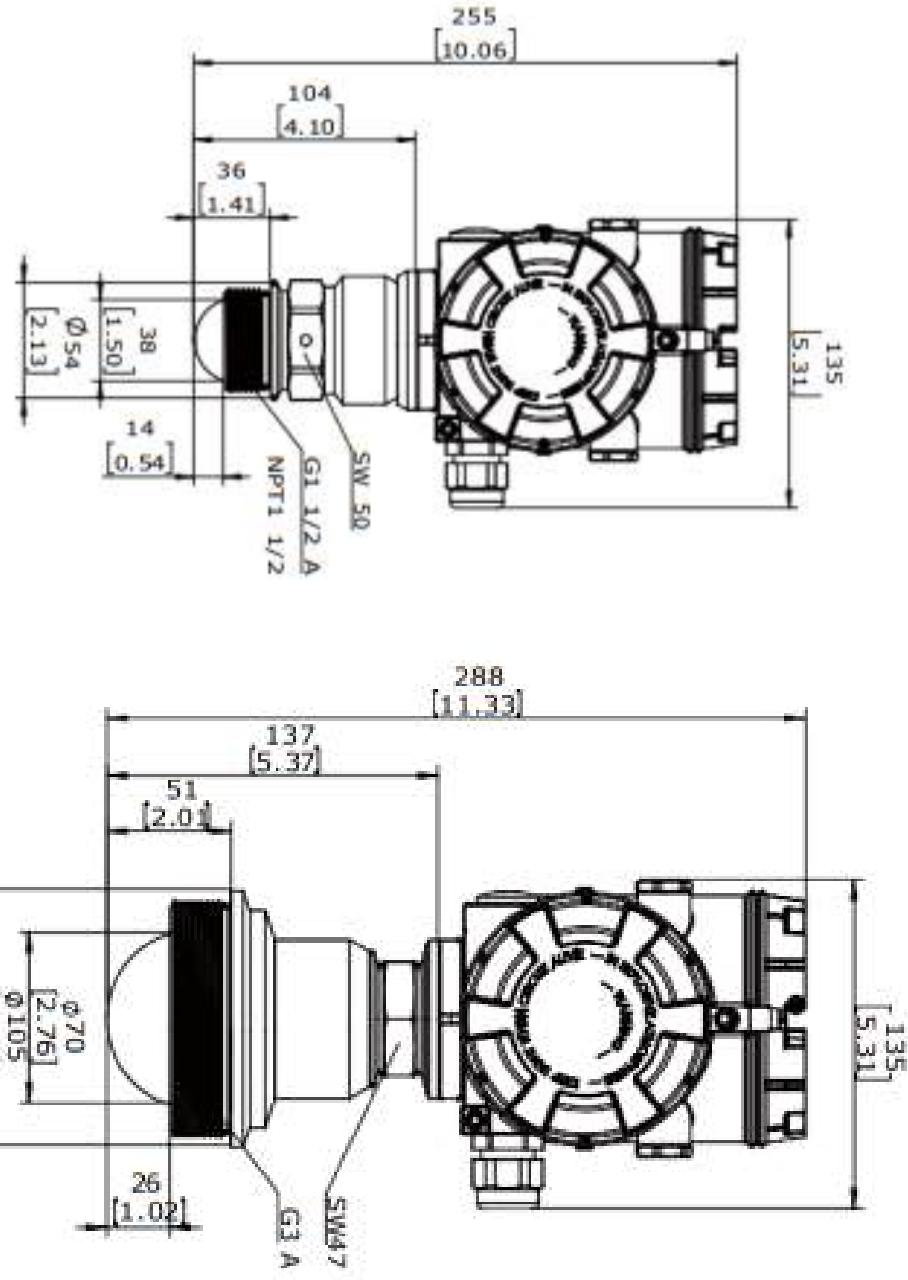
{II} Double Chamber Housing:-



6. Operations

The sensor can be adjusted via LCD display, tank side display, tank side hub and HART communicator.

7. Dimensions



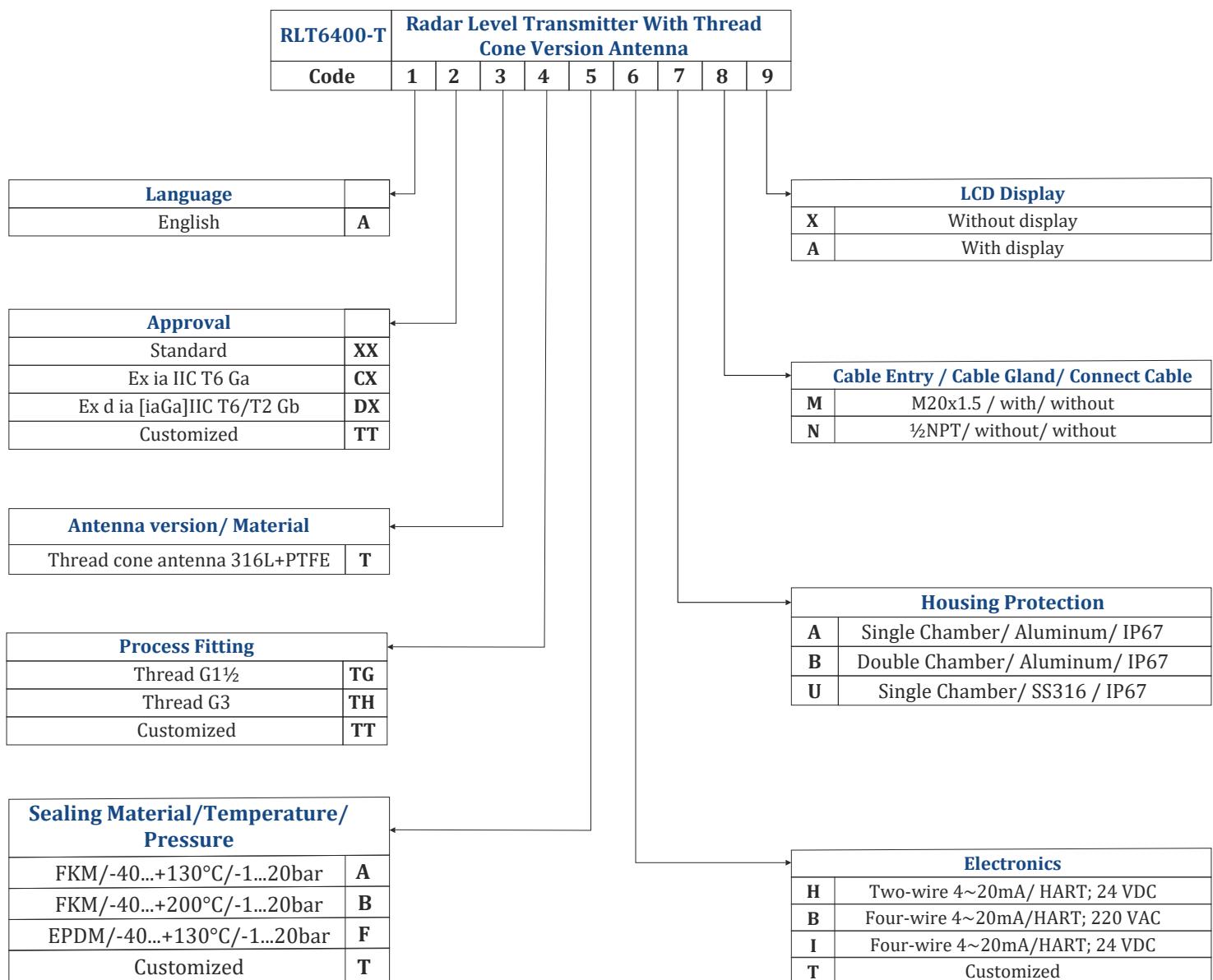
8. Sensor Material

The wetted part of sensor is made of 316L and PEEK. The process sealing is made of FKM or FKM/EPDM.

9. Electrical Connection

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

5. Model Selection Table



Example: RLT6400T - AXXTTGAHBMA

RLT6400-T - Radar Level Transmitter With Thread Cone Antenna

A - Language : English

XX - Approval : Standard

T - Antenna Version/ Material : Thread version antenna 316L+PTFE

TG - Process Fitting : Thread G1½

A - Sealing Material/Temperature/Pressure : FKM/-40...+130°C/-1...20bar

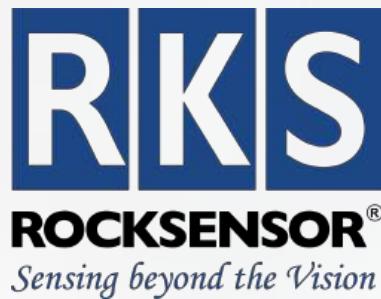
H - Electronics : Two-wire 4~20mA/ HART; 24 VDC

B - Housing Protection : Double Chamber/ Aluminum/ IP67

M - Cable Entry/ Cable land/ Connect Cable : M20x1.5/ with/ 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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