

Quick Setup Instruction



ROHEVEL-GRT Series

Guided wave radar for liquid and solid level measurement
4~20mA/HART-Two wire

1. Warning

1.1 Electrostatic protection methods

The instrument contains component that is easily to be damaged by static. Hence, the suitable electrostatic protection is required when you disassemble or operate the inside circuit board or components. Please operate in following way:

- (1) Cut off the power.
- (2) Wear the antistatic ring or take other reliable way to make the part grounded when operate the circuit and component.
- (3) The printed circuit board must be put in the conductive bag during deliver or store. You can take it out from the conductive bag when it's to be installed. The dismantling PCB should be put in electrostatic protection container immediately.

1.2 Transport

The instrument should be protected by cartoon or wooden package during transport. The handling must be carried out carefully. The instrument must be stored under standard environment where is dry, no machinery vibration, no dust and no corrosive media.

1.3 Check completeness

When receiving the package you must check the completeness or damage. Please contact our company or local agent once there is mistake or damage.

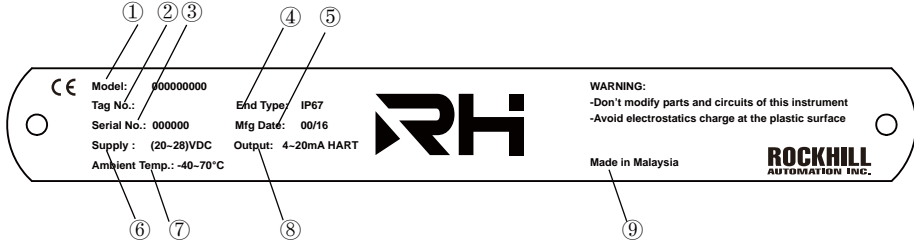
1.4 Instrument configuration

- (1) Follow the instruction of the manual
- (2) Have the instrument grounded
- (3) Make sure no water in the conduit after cable connection.
- (4) Tighten the instrument cover after configuration

1.5 Package

The package is recyclable. Please dispose the package through the specialized recycling company and deliver the electronic unit to related specialized company when it's scrapped.

2.Product description



Nameplate description

- ① Instrument model
- ② Instrument tag number
- ③ Serial number
- ④ Housing protect level
- ⑤ Date of manufacturer
- ⑥ Voltage supply
- ⑦ Ambient temperature
- ⑧ Output signal
- ⑨ Country of origin

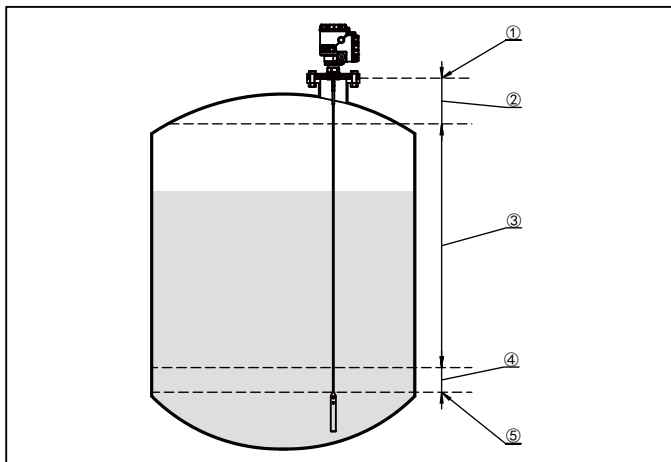
3. Mounting instruction

3.1 General mounting rules

- The probe must not touch the vessel inner wall.
- Keep the probe away from the limit switch, ladder, heating equipment, brackets.
- Max. level doesn't enter the measuring dead zone.
- Keep the probe away from the liquid or solid entrance.
- Keep the probe vertical to medium surface.
- If necessary, fasten the probe end in case of moving.
- For hazardous environment installation keep in mind that the instrument must be grounded.

In vessel with conical bottom it can be advantageous to mount the transmitter in the center of the vessel because the transmitter can measure down to the lowest point of the bottom. But it may not be possible to measure down to the tip top of the probe and lower dead zone.

Measuring range



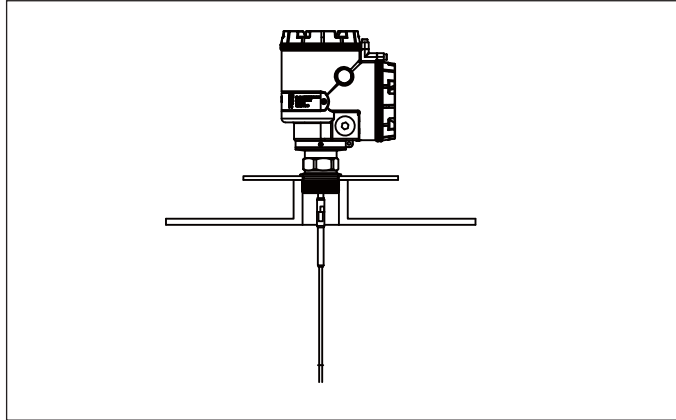
- ① Upper reference point
- ② Upper dead zone
- ③ Effective measuring range
- ④ Lower dead zone
- ⑤ Lower reference point

Note:

- The measuring base level is the thread sealing level.
- When the liquid(solid) level enter the dead zone the instrument can't measure level effectively.
- The hammer at the probe end is not taken into account of measuring range.

3.2 Mounting instruction

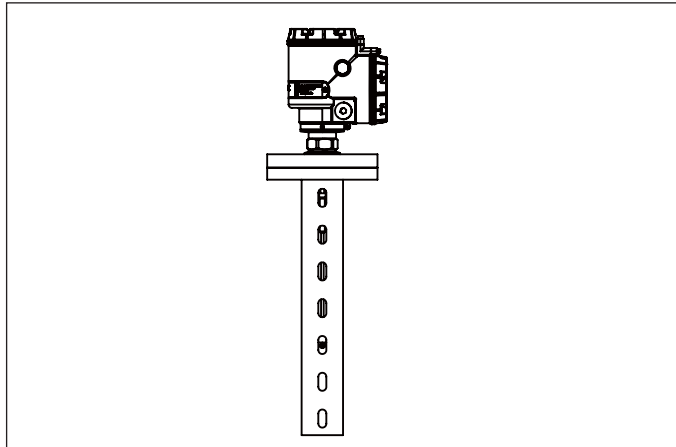
Non-metal vessel mounting



- ① Metal plate or metal flange
- ② Non-metal vessel

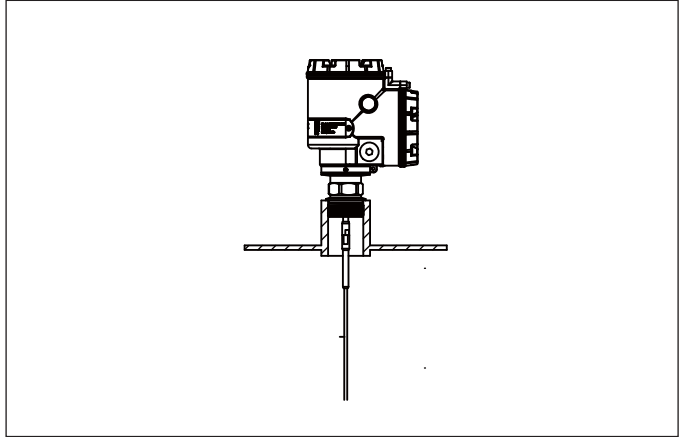
For non-metal vessel or low dielectric constant medium you should mount sensor with metal flange or metal plate to enhance the pulse signal. The metal flange or metal plate should be placed on the process fitting spot of probe and keep it vertical to probe.

Waveguide tube mounting



For the conditions with influence of vessel installation and turbulence you can mount the ensor by waveguide tube.

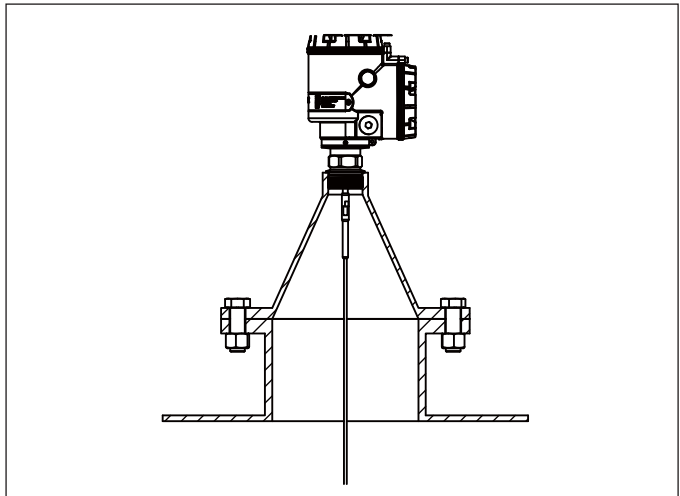
Welding thread mounting



- ① Mounting nozzle height is less than 100mm
- ② Mounting nozzle inner thread G1½A

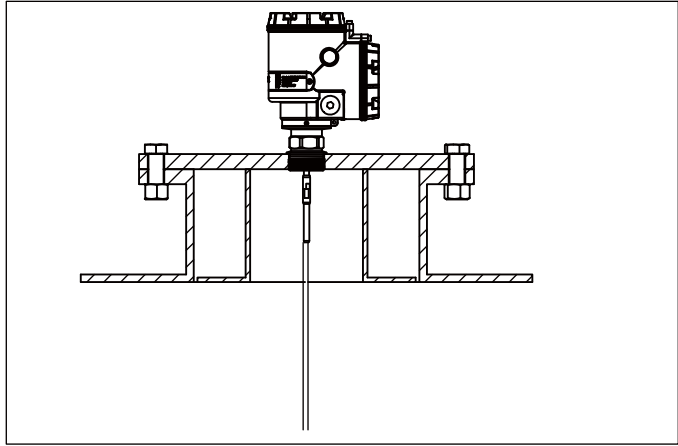
This is the simplest and the most economic mounting method.

Horn type flange mounting



You can mount the sensor up with horn type metal flange for mounting nozzle with diameter between 200mm to 250mm to match field conditions.

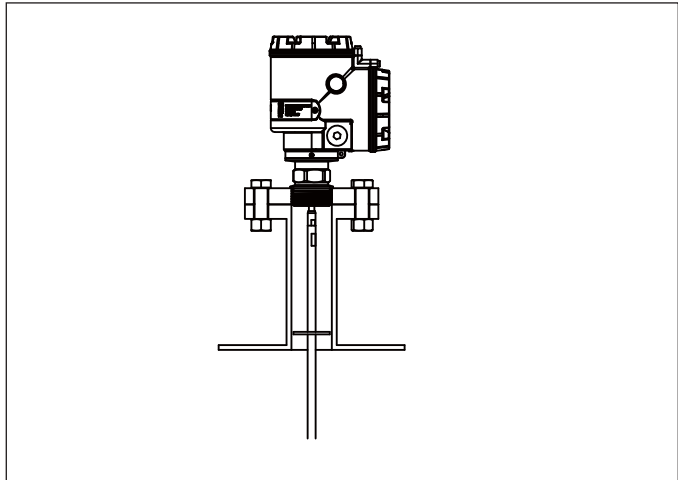
Auxiliary signal plate mounting in nozzle with big diameter



- ① Auxiliary signal plate diameter between 100 to 150mm
- ② Auxiliary signal plate
- ③ The mounting nozzle end face should be flush with auxiliary signal plate end face.

For the mounting nozzle inner diameter >300mm, you must mount the sensor as above sketch to enhance the pulse signal.

Mounting with extend rod and limit ring



- ① Extended rod
- ② Limit ring

For the long mounting nozzle you should extend the probe or cable antenna to protrude into vessel and fix the antenna to avoid moving.

4. Connecting to power supply

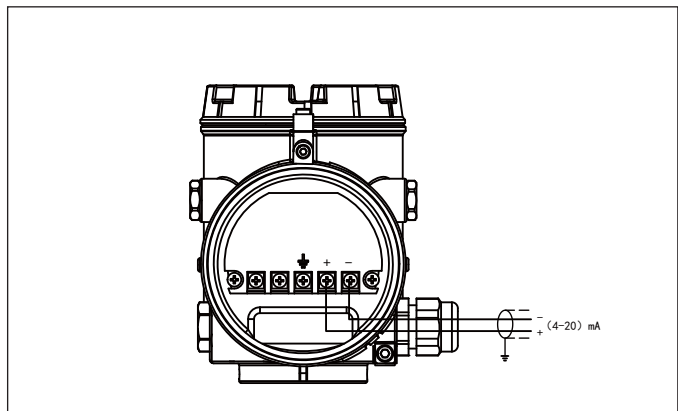
4.1 Power supply connection

- (1) Unscrew the housing cover
- (2) Loosen compression nut of the cable entry gland
- (3) Remove approximate 15 cm of the cable mantle, strip approximate 1.5 cm of insulation from the ends of the individual wires
- (4) Insert the cable into the transmitter through the cable entry
- (5) Insert the wire ends into the terminals according to the wiring plan



4~20mA , two wires

4.2 Wiring plan



0802-0005-01MINI17040610

5. Display and adjustment module setup

Install display and adjustment module as following instruction

- (1) Unscrew the housing cover
- (2) Place the display and adjustment module in the target position
- (3) Screw housing cover





6. Parameter adjustment-quick setup

The instrument can work probably after finishing “Quick setup” for most of the field conditions.

The quick setup contains min. adjustment, max. adjustment and current level adjustment. You can press “OK” on the main menu then the display shows as follow.

Select “Quick setup” and enter the next menu.

<p>▶ Quick setup Basic setup Display System</p>	<p>Min 0.00% 20.000 m </p>
<p>Max 100% 0.0000 m </p>	<p>Level confirm</p>

(1) Min. level

Distance from the surface of instrument flange (or end face of thread) to the surface of material for the empty vessel.

(2) Max. level

Distance from the surface of instrument flange (or end face of thread) to the surface of material for the full vessel.

(3) Level confirm (Echo curve)

Select "echo curve" and press "OK". You can observe echo curve.

Press "OK" on current menu to enter next sub menu.

Echo curve is displayed as follows.

