

TEK-WAVE 4300C *Free Space Radar Level Transmitter*



Quick Start Guide

1. Before you begin

This guide provides basic guidelines to assist you in quickly getting started.



Installation of the device must be carried out by trained, qualified specialists authorized to perform such work by the facility's owner operator. The specialist must have read and understood these Operating Instructions and must follow the instructions they contain.



When using the measuring device in hazardous areas, installation must comply with the corresponding national standards and regulations.

2. Unpack

Tek-Wave 4300C Free Space Radar Level Transmitter

3. Dimensional Drawing

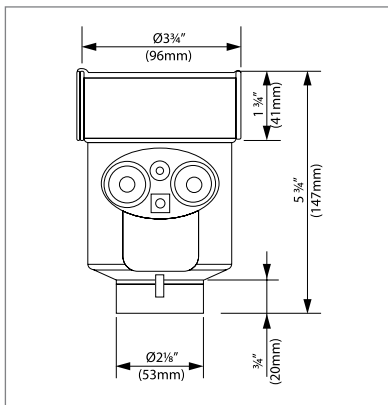


Fig 1: Front view

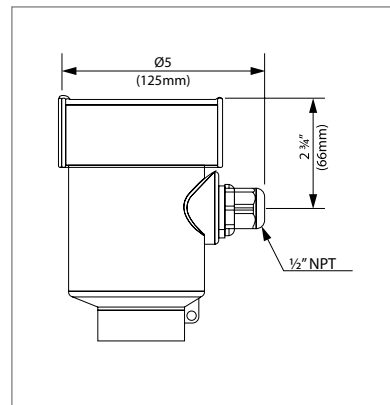


Fig 2: Side View

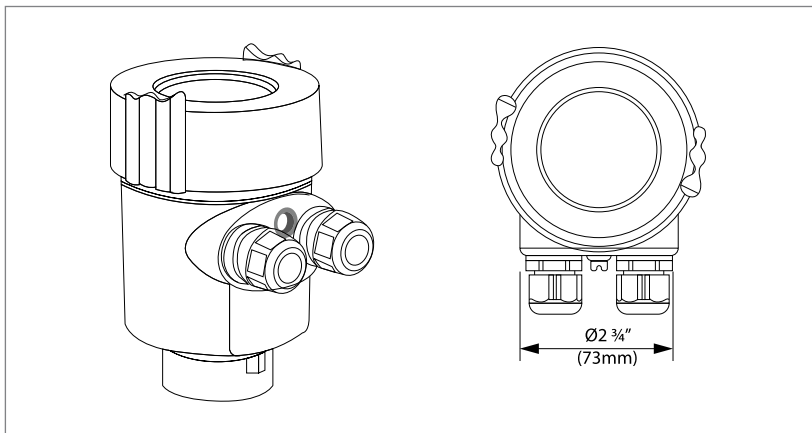


Fig 3: Top View

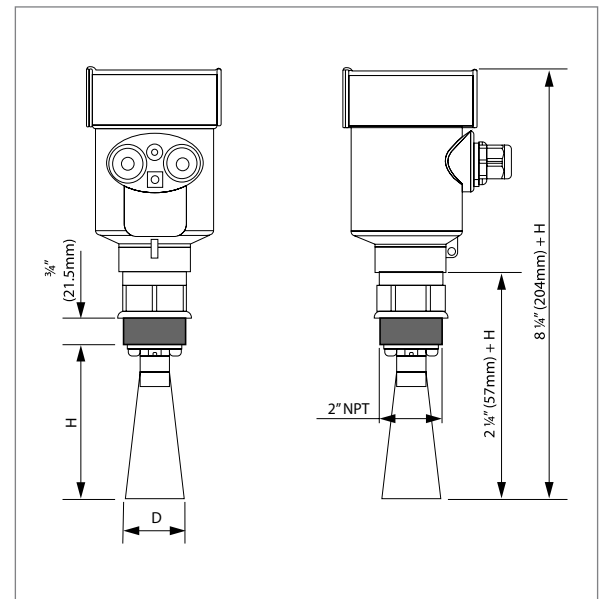


Fig 4: Tek-Wave 4300C Free Space Radar Level Transmitter

| Line Size in (mm) | D in (mm) | H in (mm) |
|----------------------|--------------|--------------|
| 2" (50) | 1 3/4" (φ46) | 5 1/2" (140) |

4. Display

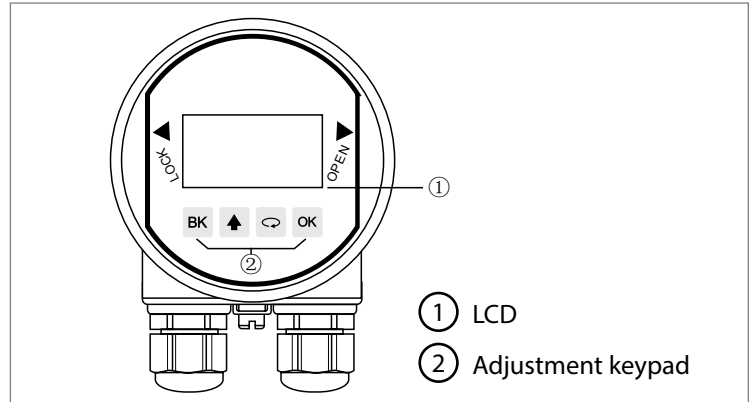


Fig 5: Display of Tek-Wave 4300C

Table 1: Display Keys and its function

| Display Key | Function |
|-------------|---|
| | Enter programming mode; Confirm programming options and modifications to parameters |
| | Modify parameter values and select display mode |
| | Select programming options and digit of parameters to edit; Display the contents of parameters |
| | Exit programming mode and return to higher menu level; Display Echo Wave |

5. Power Supply

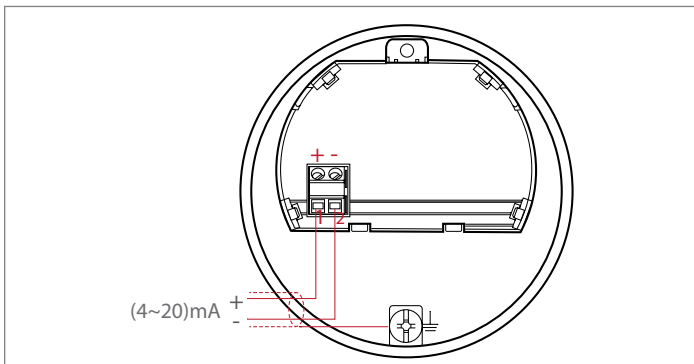


Fig 6: Two-Wire System Wiring Diagram

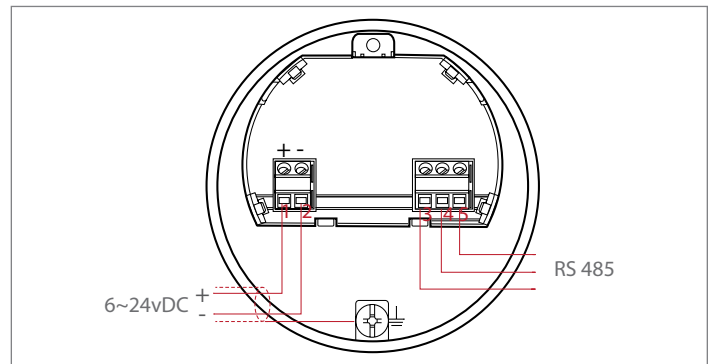


Fig 7: 24V RS485/Modbus Wiring Diagram

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6. Communication

- *Display or Key*

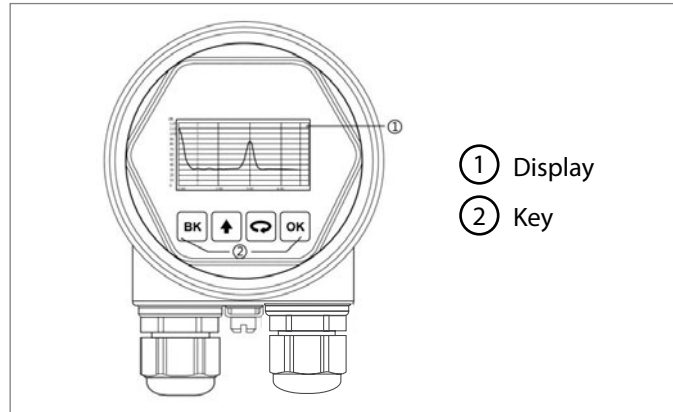


Fig 8: Display or Key

- *Upper Computer Debugging*

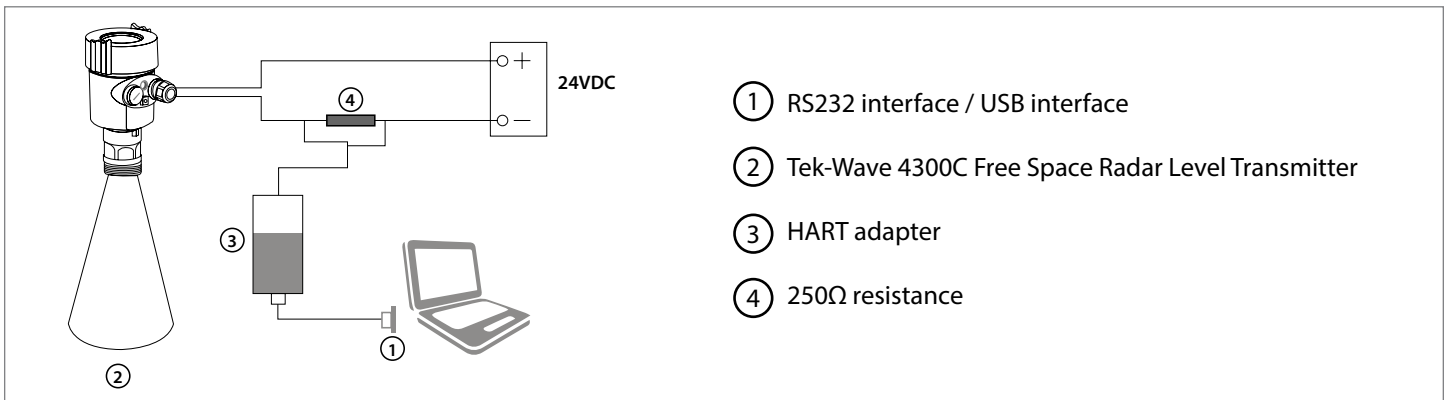


Fig 9: Connection to the computer through HART

- *HART Handheld Programmer Programming*

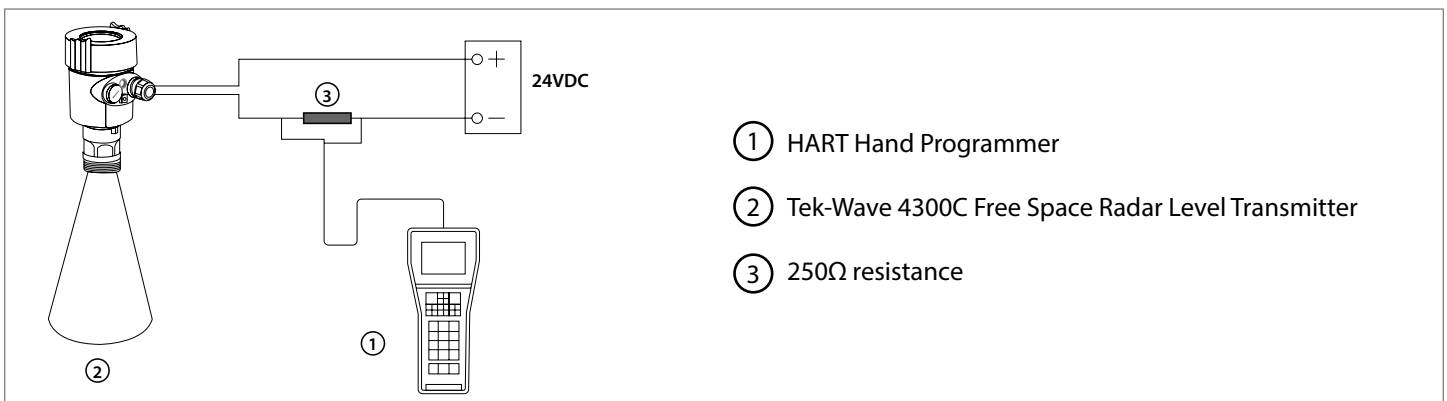


Fig 10: HART Handheld Programmer

7. Installation

- **Mounting Position**

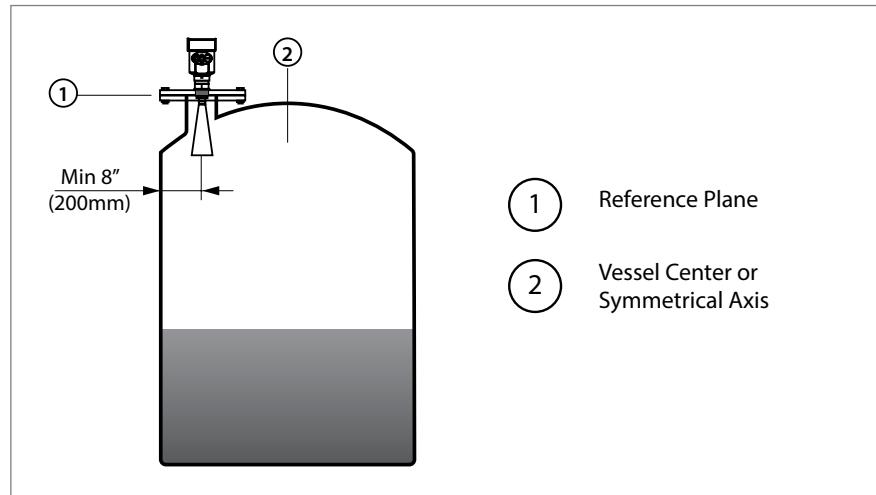


Fig 11: Installation at 1/4 or 1/6 of Diameter

- o Install at 1/4 or 1/6 of the diameter.
- o During installation minimum distance of 8" (200mm) between instrument and vessel is maintained.

- **Installation on Conical Tank**

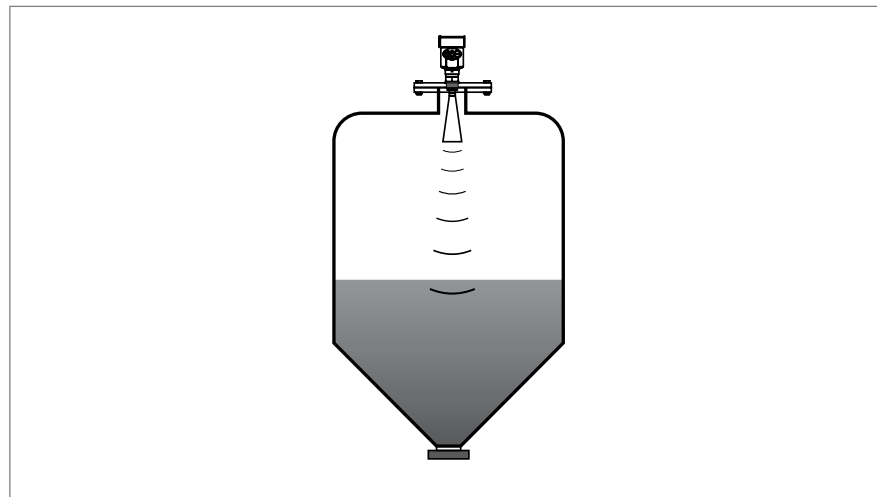


Fig 12: Installation at Conical Tank in Top Plane

- o In order to ensure the cone bottom measurement, conical tank's top plane can be installed in the middle of the tank top.

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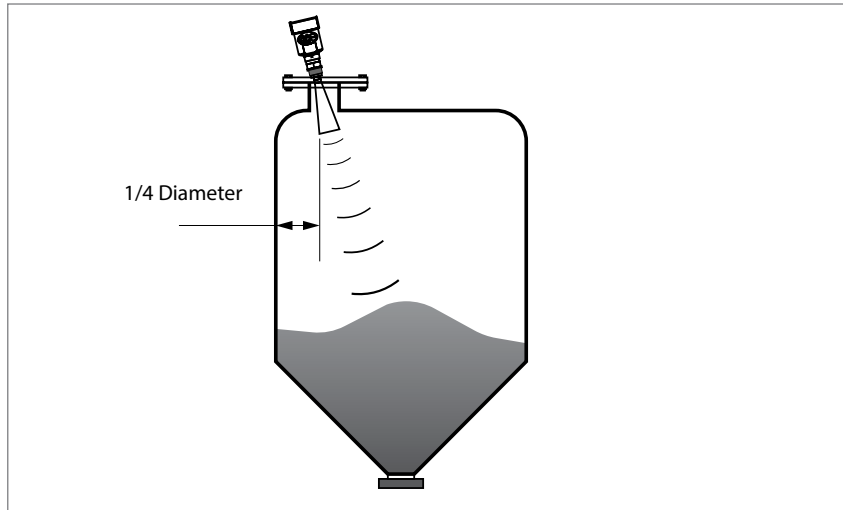


Fig 13: Installation at Conical Tank in inclined Plane

- o When there is a material pile, the antenna must be vertically aligned with the material surface.
- o If the material surface is uneven, the angle of the horn must be adjusted by the universal flange to align the horn with the material surface as much as possible (because the inclined solid surface may cause echo attenuation or even signal loss).

• *Incorrect Installations*

- o The conical tank cannot be installed above the feed port.

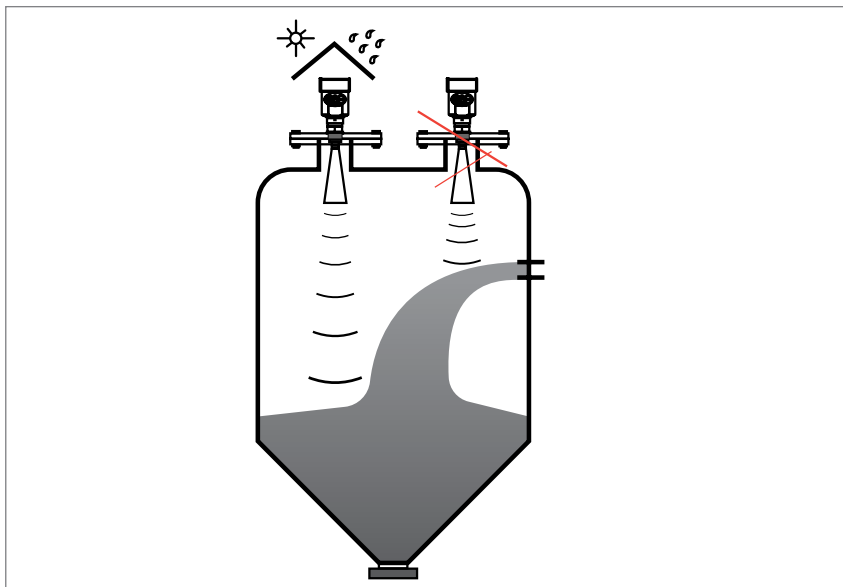


Fig 14: Installation at Conical Tank

- o When there is an obstacle in the tank that affects the measurement, installing a reflection plate for normal measurement is necessary.

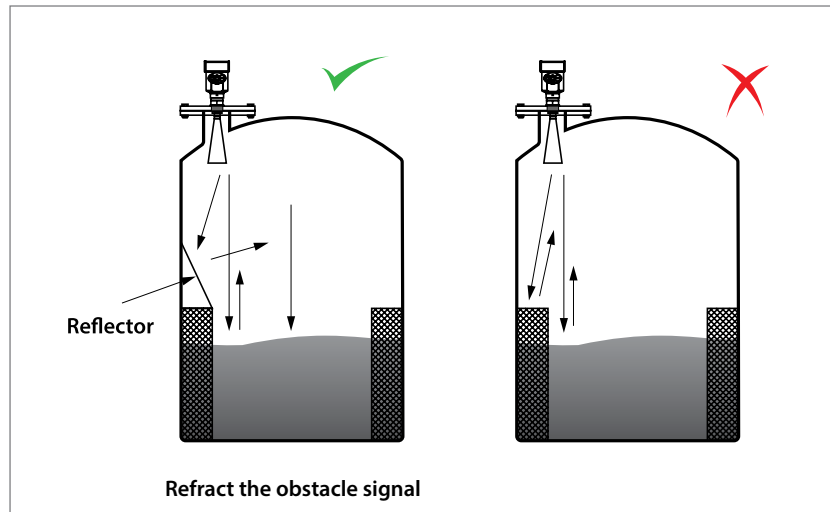


Fig 15: Installation of Reflection Plate

- o The instrument shall not be installed in the middle of the arch or round tank top.
- o Indirect echo will be affected by multiple echoes.
- o Multiple echoes may have a larger signal threshold than real echoes because multiple echoes can be concentrated through the top. Therefore, it cannot be installed in the center position.

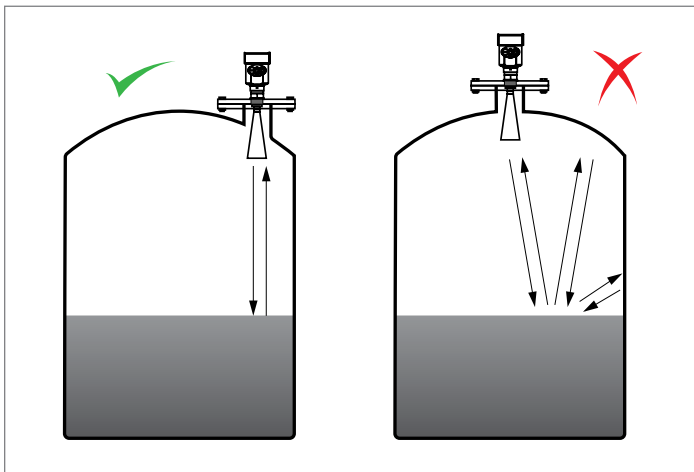


Fig 16: Installation at Round Tank

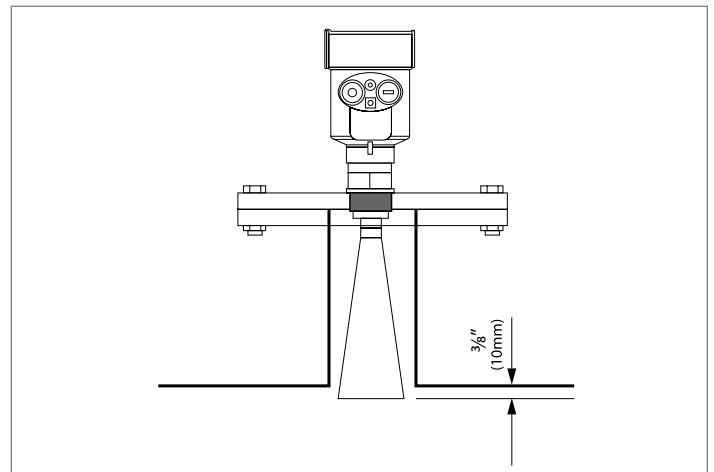
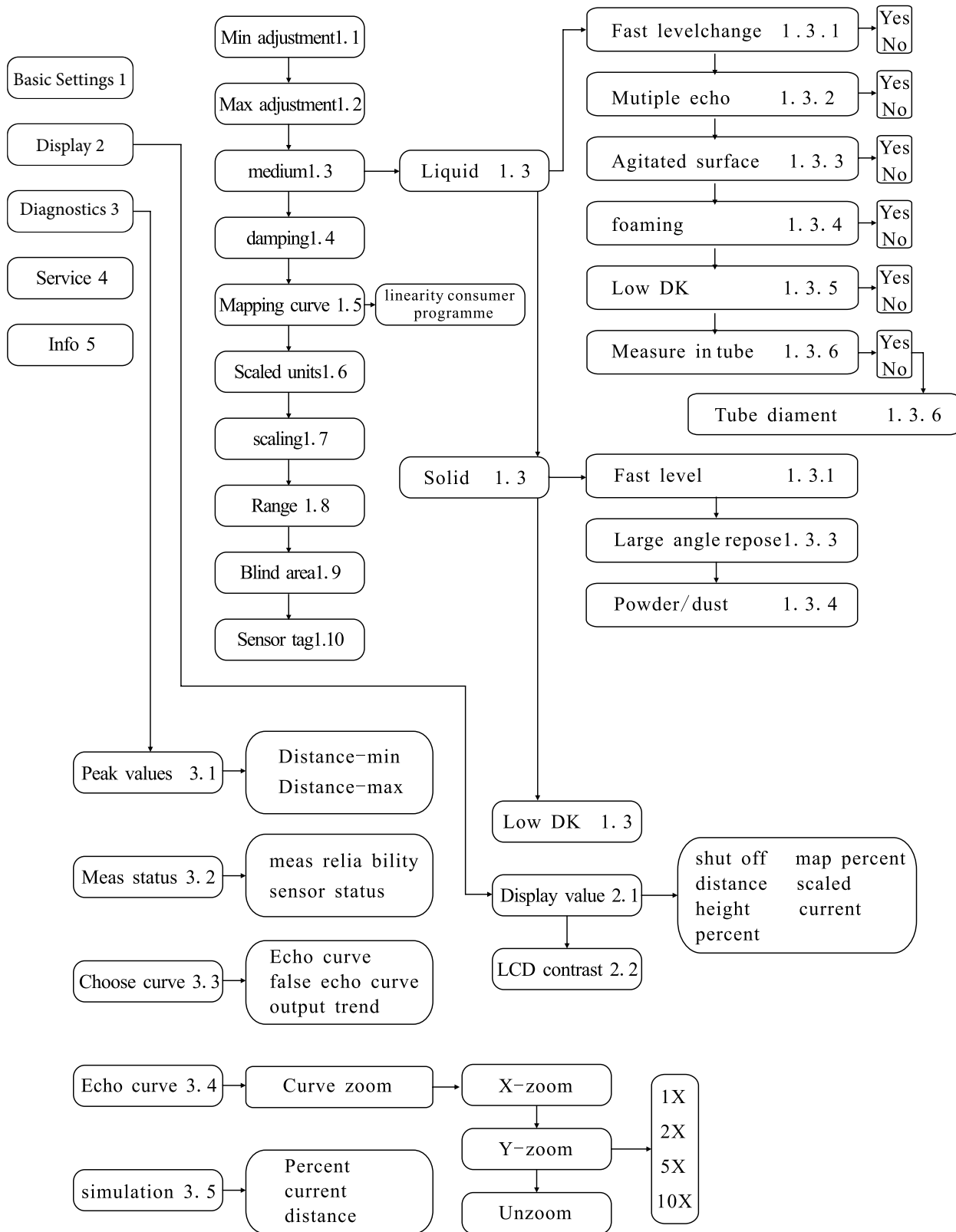
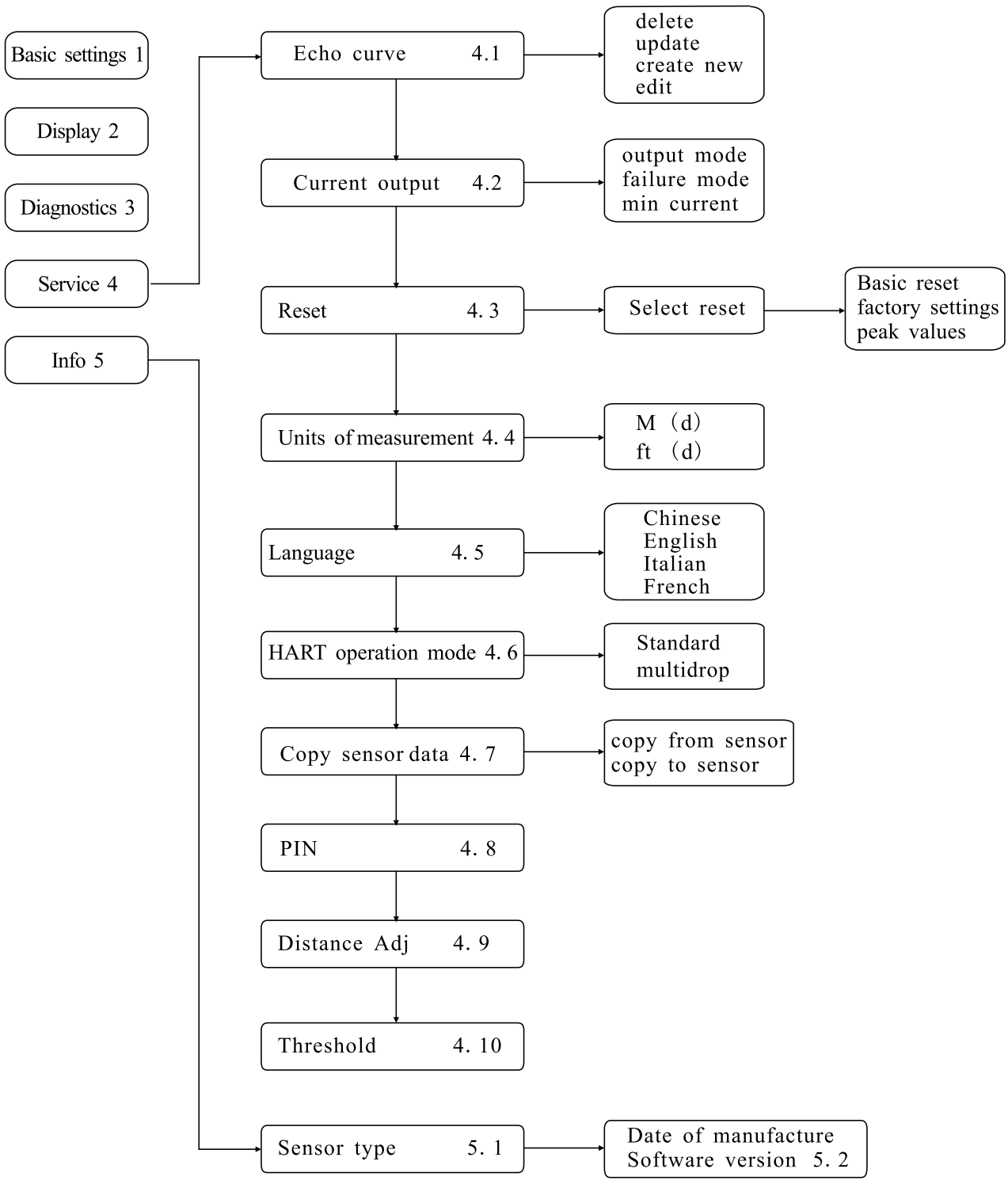


Fig 17: Installation with Height Requirement

- o Height requirement of connecting pipe: The antenna must extend at least $\frac{3}{8}$ " (10mm) into the tank.

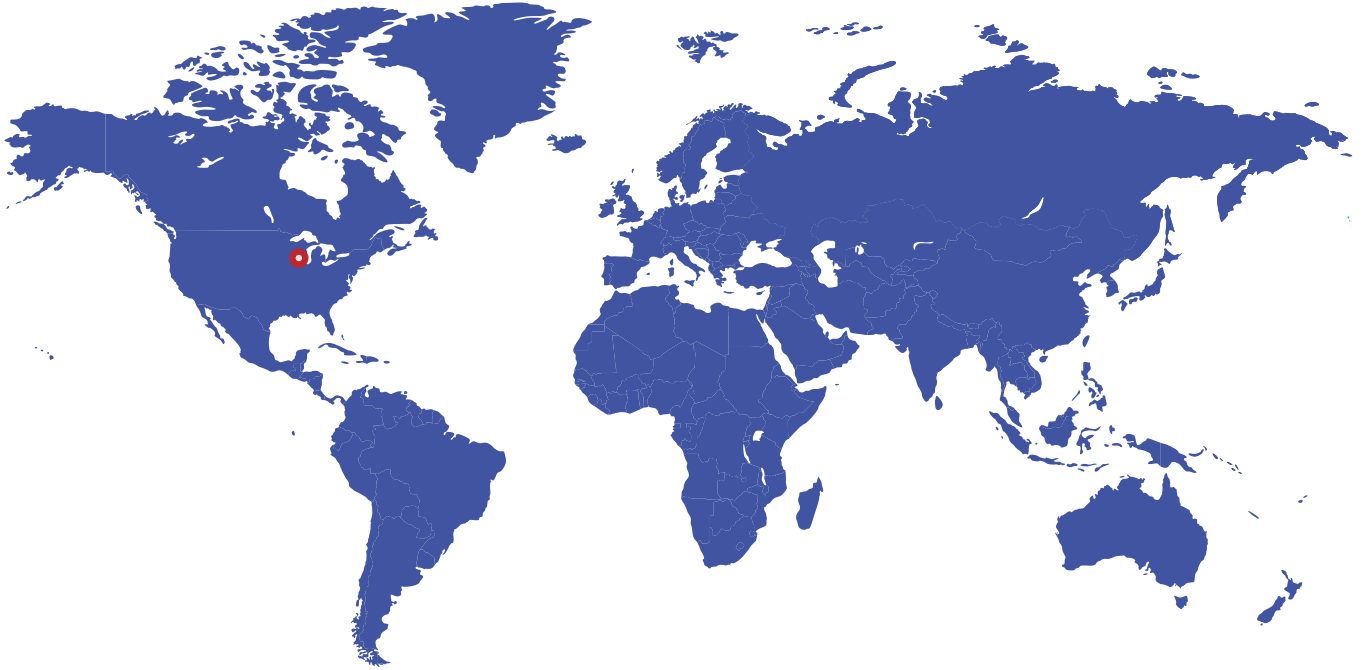
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