

Tek-Sound 4200B


Two Wire Ultrasonic Level Transmitter With Display



Quick Start Guide

1. Before You Begin

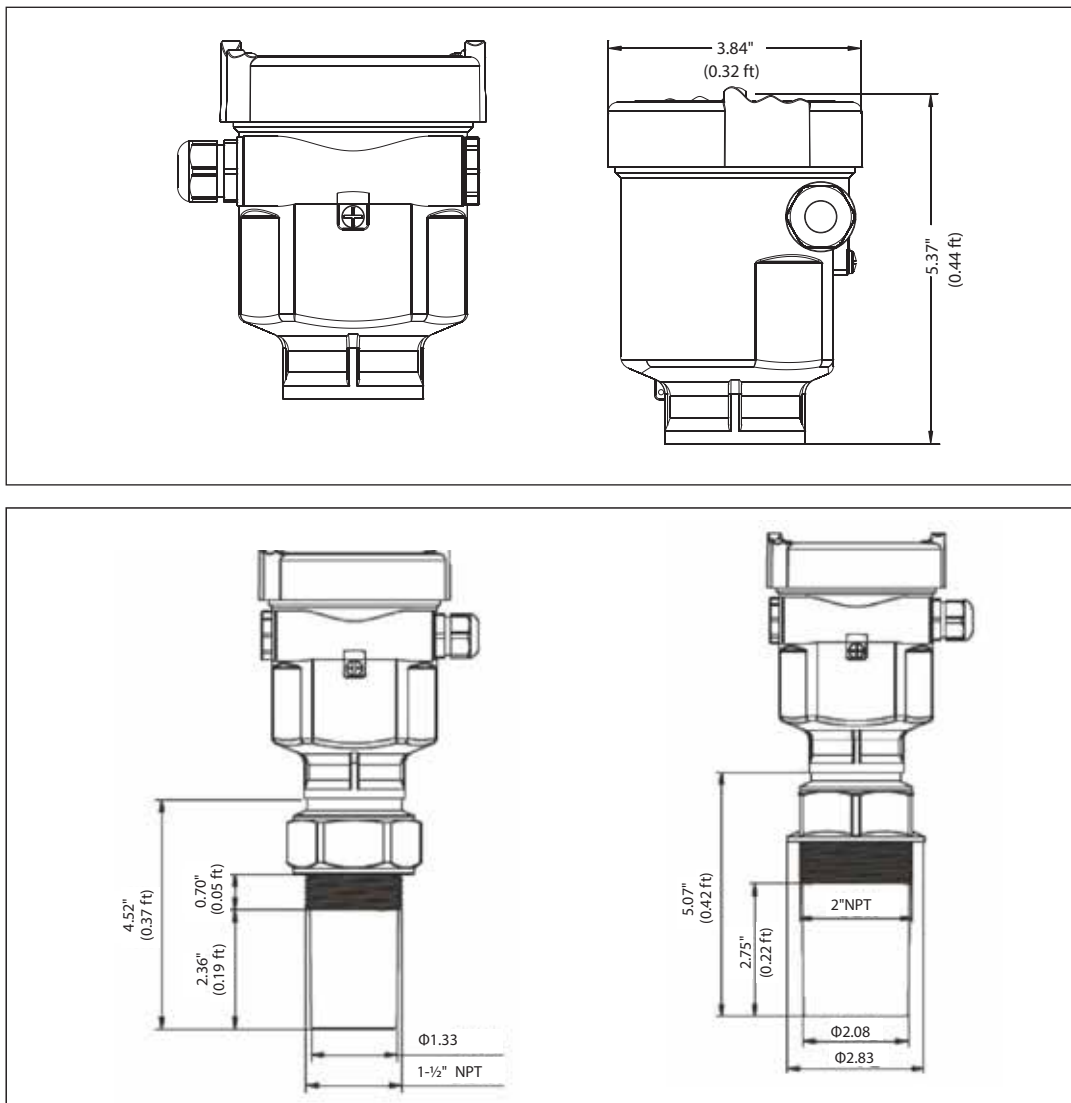
This guide provides basic guidelines to assist you in quickly getting started. Go to our website to download the full User Guide for detailed installation, maintenance, troubleshooting and safety precautions.

-  The user must take note of the safety instructions in this operating instructions manual, the country specific installation standards as well as all prevailing safety regulations and accident prevention rules. The instrument must only be operated in a technically flawless and reliable condition. The operator is responsible for trouble-free operation of the instrument. During the entire duration of use, the user is obliged to determine the compliance of the required occupational safety measures with the current valid rules and regulations and also take note of new regulations.

2. Unpack

Tek-Sound 4200B Two-Wire Ultrasonic Level Transmitter With Display

3. Dimensional Drawing

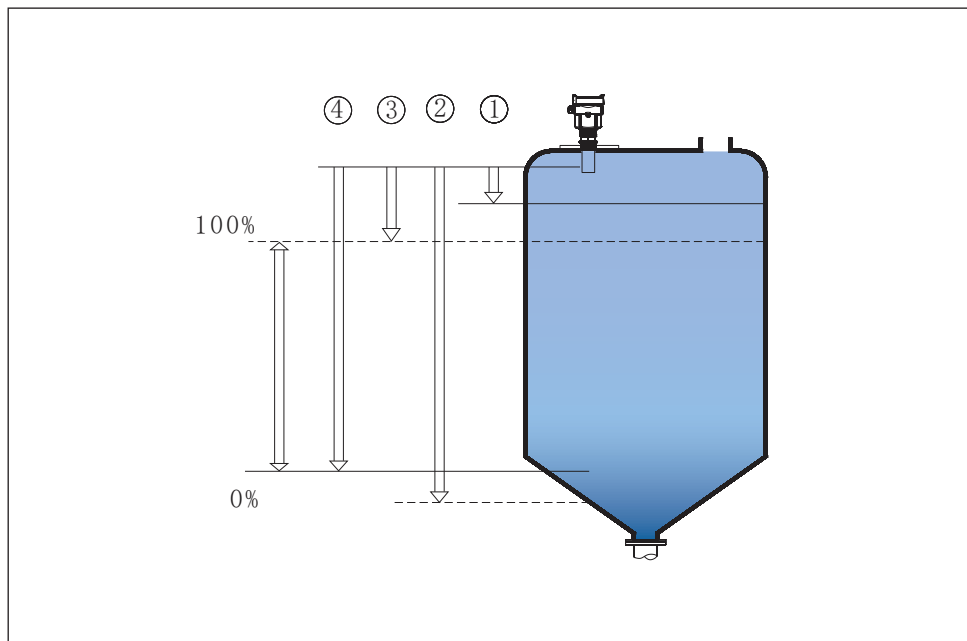


4. Mounting Requirement

Illustration

The lower edge of the probe is the reference plane for measurement.

1. Blanking Zone
2. Empty
3. Max. Adjustment
4. Min. Adjustment

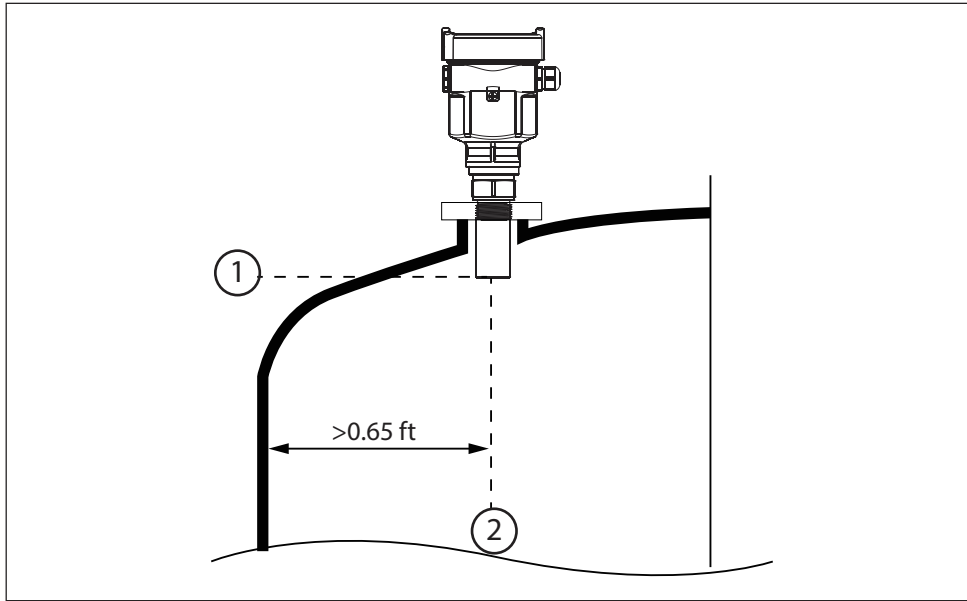


Note: The highest level of measured medium must not enter into the blanking zone while ultrasonic level instrument is in operation.

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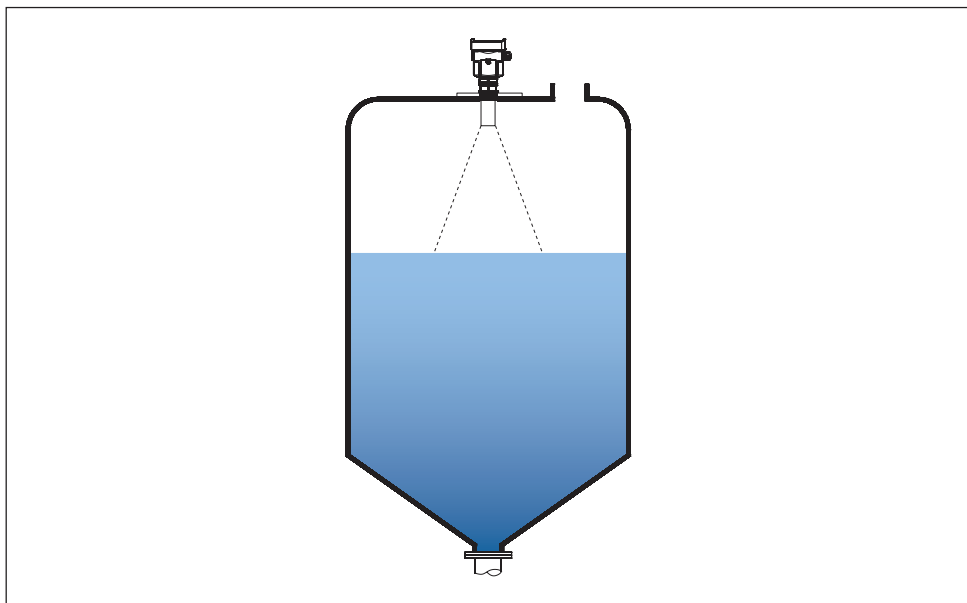
Mounting Position

A minimum distance of 0.65 ft must be maintained between the device and vessel wall, when mounting the device.



1. Reference Plane
2. Centre of Vessel or Symmetrical Axis

The best mounting position for a conical vessel with flat top is the centre of its top, as the effective measurement can reach the bottom of the vessel.

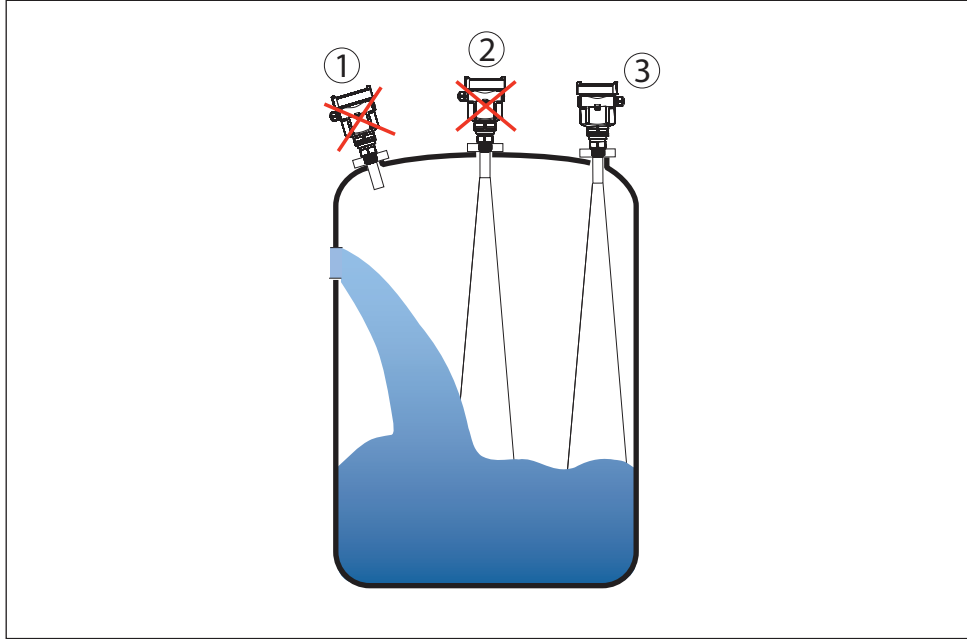


Illustrative Diagram on Installation

1 Incorrect: Device's Antenna is not perpendicular to the surface of the target medium

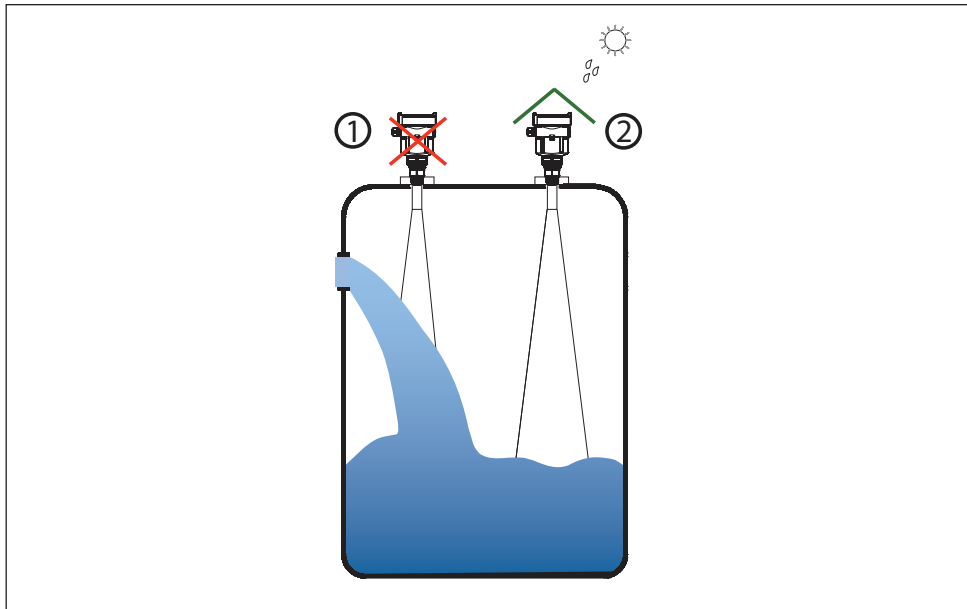
2 Incorrect: Device's Antenna is mounted in the centre of concave or arched vessel tops, resulting in multiple echoes.

3 Correct Installations



1 Incorrect: Device is mounted directly above the filling stream. This results in a measurement of the filling stream, and not the target medium

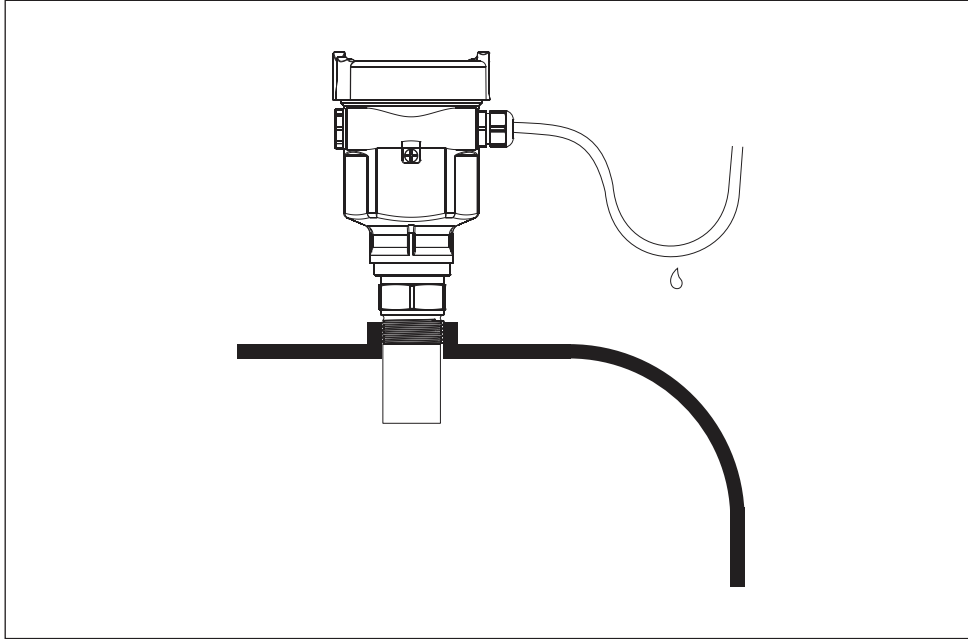
2 Correct Installation



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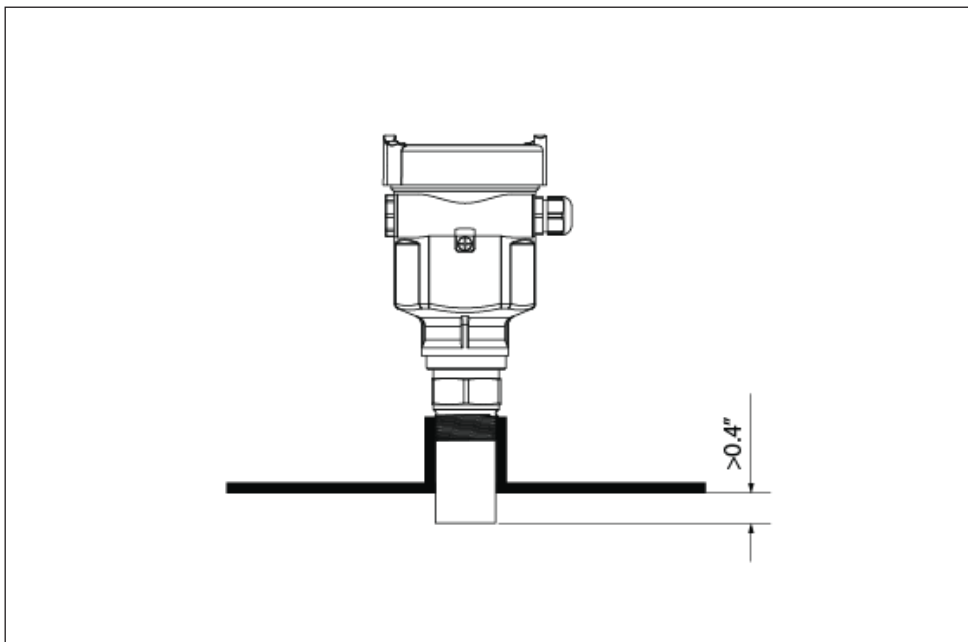
Moisture

In order to avoid Moisture under humid outdoor/indoor conditions, or instruments mounted on cooling/heating vessels, the seal rings used on cables should be screwed tight. The cable must also be bent downward outside the cable entry, as shown on the diagram below:

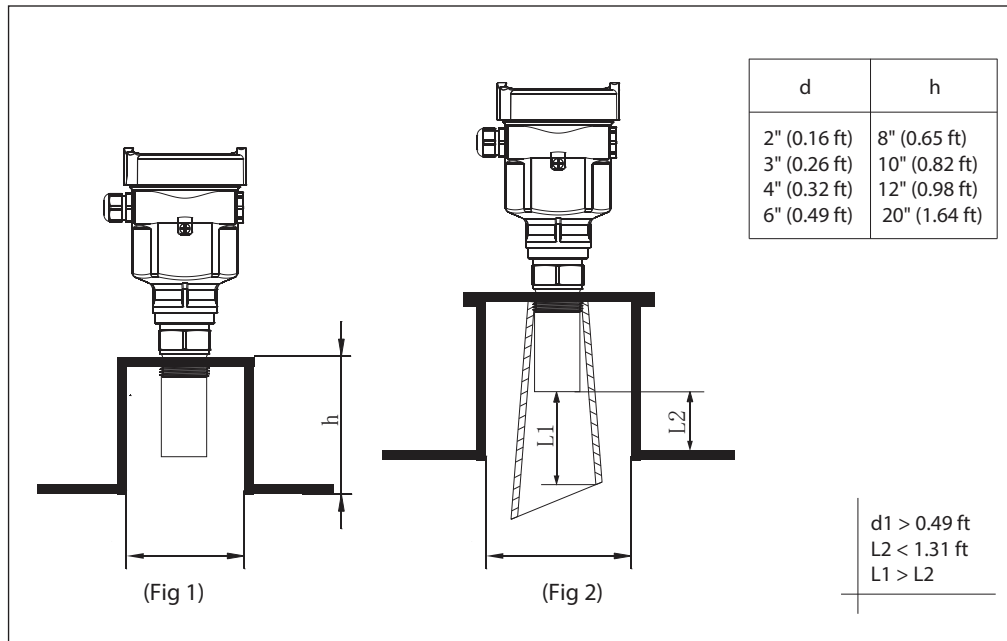


Socket

The antenna's end must protrude at least 0.4 ft out of socket.

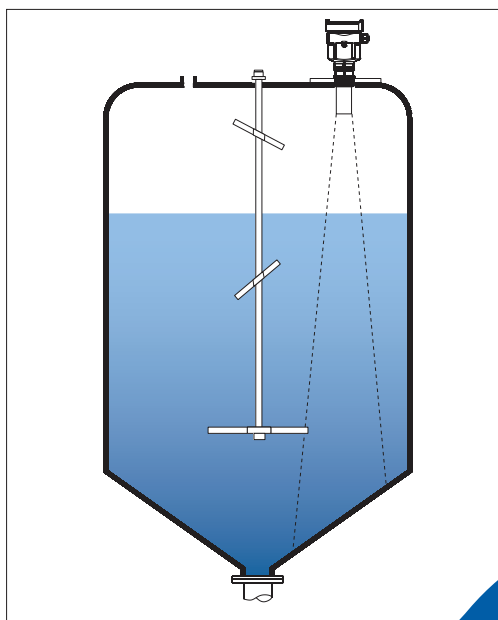


In case of strong reflective properties of target medium (Fig 1) and big socket diameter, you can mount instruments on sockets higher than the antenna length. The recommended values for socket heights are shown in the illustration below. The socket end should be smooth and burr-free, if possible also rounded. Moreover, false echo storage must be carried out afterwards. On the contrary, if the reflective properties of medium are weak (Fig 2), you are advised to heighten the mounting position of instruments and also use a standpipe (optional) to reduce the influence caused by socket.



Agitator

If there are agitators in vessels, instrument must be mounted as far away from agitators as possible. Once installation completed, a false echo storage should be carried out while agitators in motion to eliminate negative influence caused by false echo of agitators. You are advised to opt for installation with standpipe if foam or wave is generated due to the action of agitators.

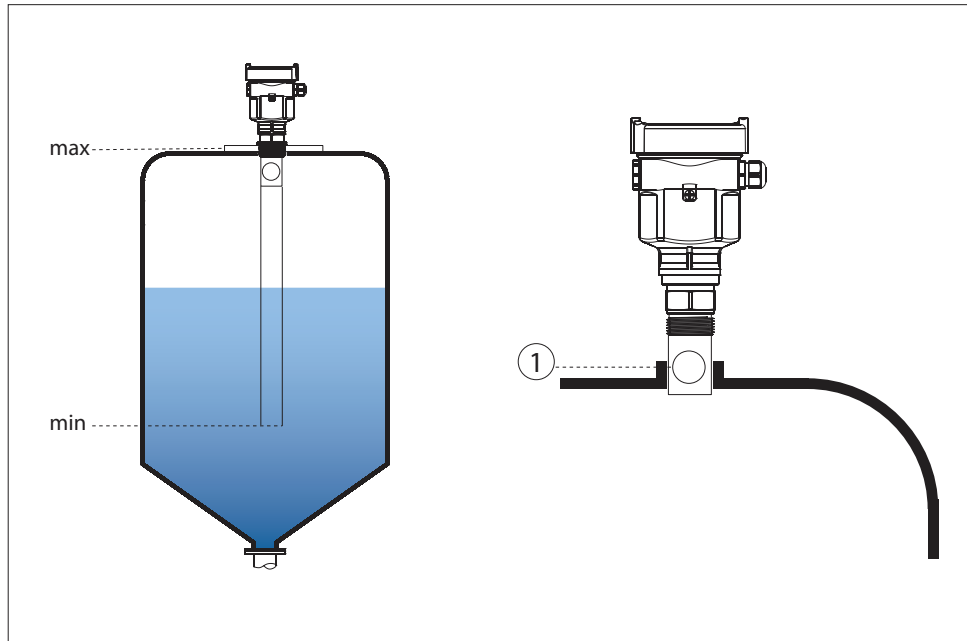


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Installation with Standpipe

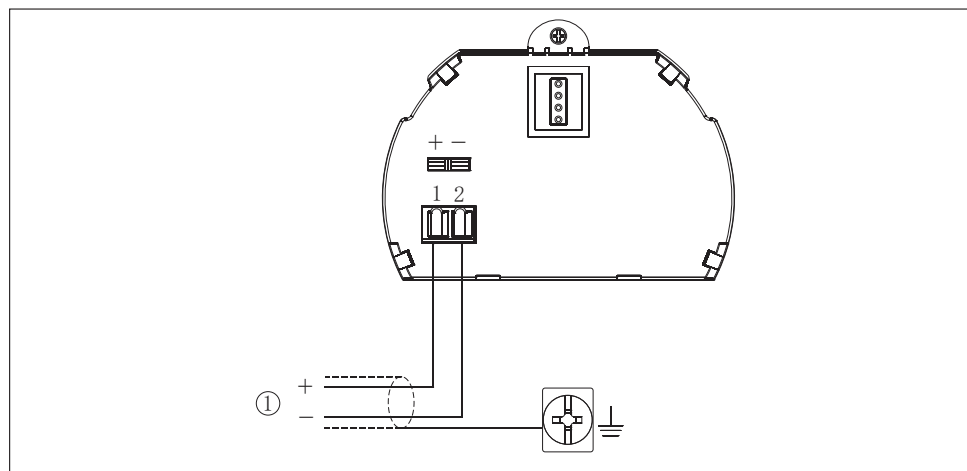
1 Vent hole of diameter (0.19" to 0.39")

You are advised to opt for installation with standpipe (or bypass tube) to avoid the influence on measurement caused by barriers inside vessels, foam generation or air vortex. If the measurement is undertaken by Tek-Sound 4200B inside the standpipe the inner diameter of standpipe should be at least bigger than the outside diameter of transducer. Please see Dimensional Drawings for actual sizes. Avoid large cracks or welding seam when connecting standpipe. False echo storage must be carried out as well in this case.



5. Power Supply

2-Wire

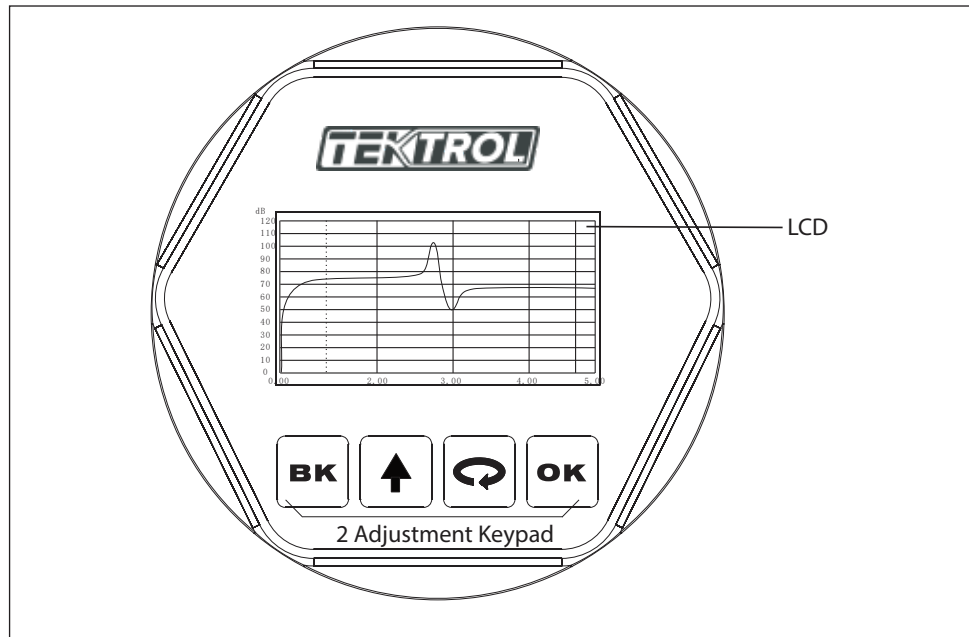


2-wire wiring used for HART
1) Power Supply and Signal Output

6. Adjustment Instructions

Use the operation panel of the transmitter to set the configuration parameters such as the zero calibration, cut-off value of low flow and output range of current frequency, etc.

Display/Adjustment Module



[OK] Keypad

- Enter programming mode
- Confirm programming options
- Confirm modifications to parameters

[↻] Keypad

- Choose programming options
- Choose the digit of parameters to edit
- Display the contents of parameters

[↑] Keypad

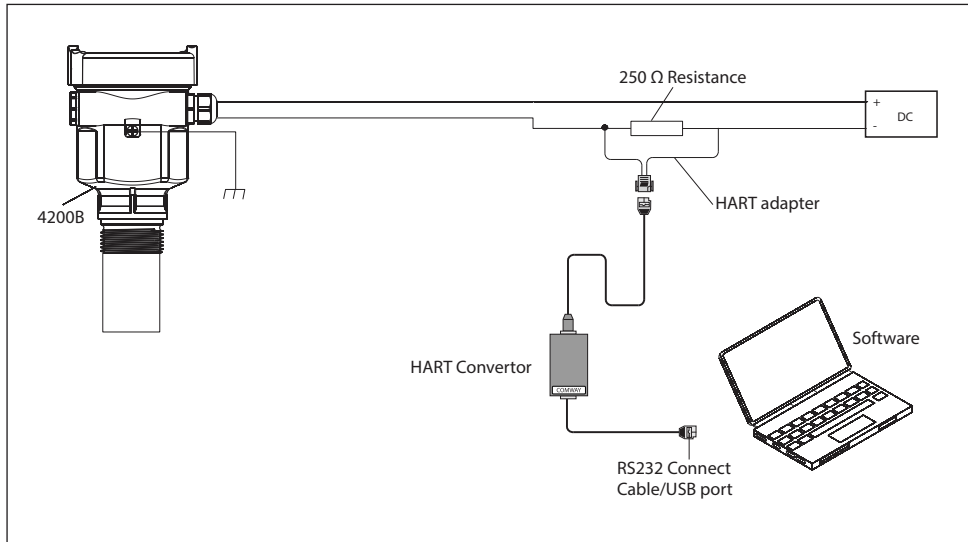
- Modify parameter values

[BK] Keypad

- Programming mode exit
- Return to higher menu level

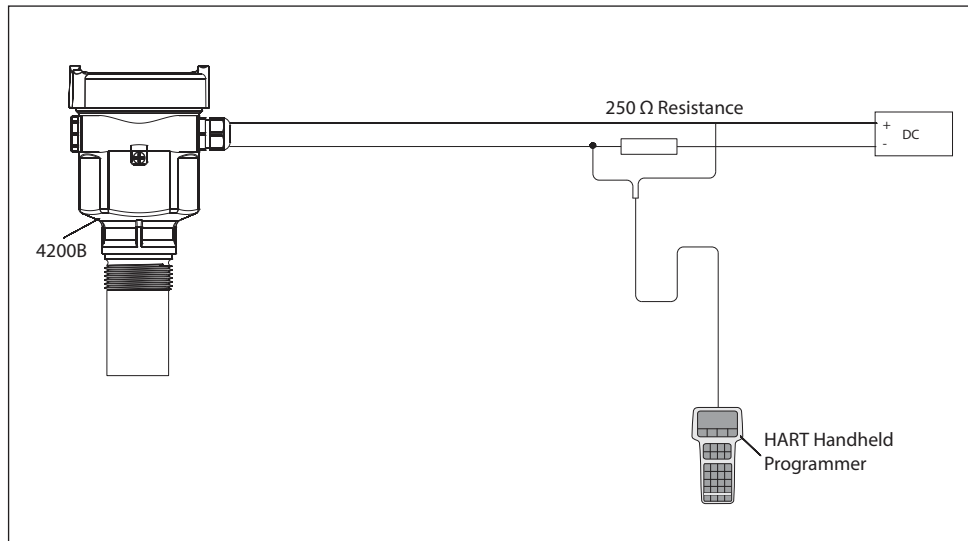
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Connect with Another Unit Through HART



HART Handheld Programmer

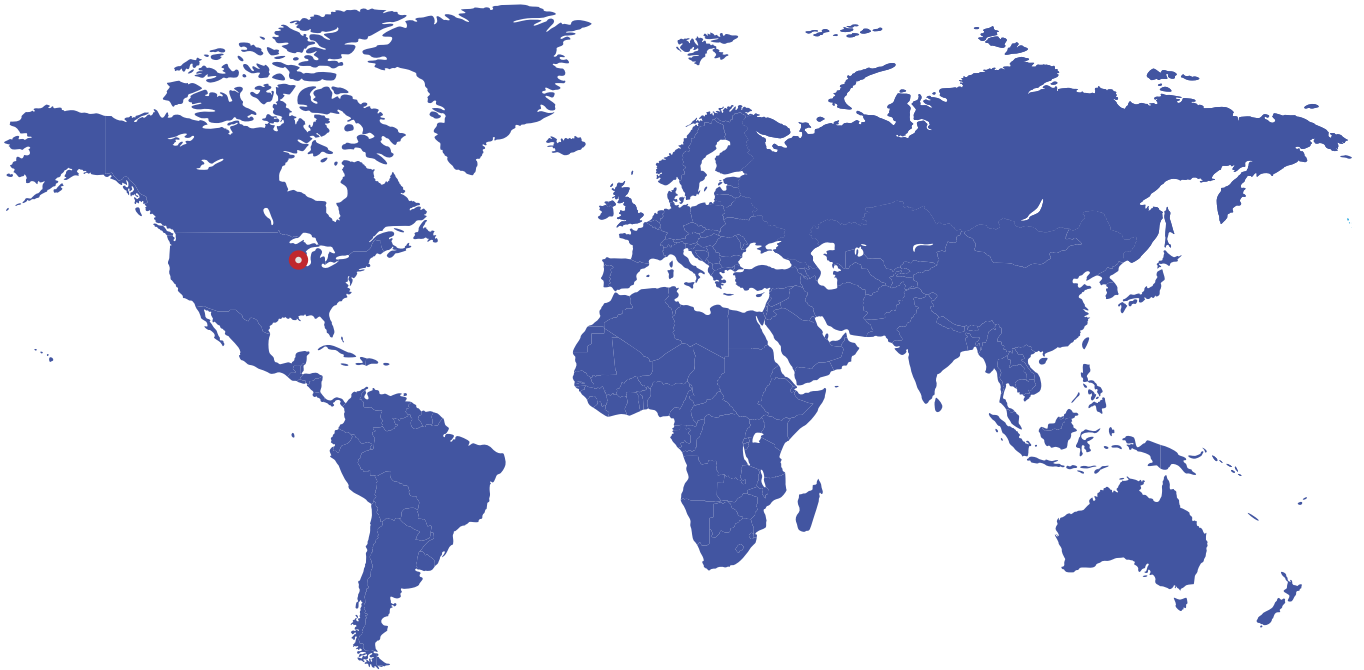
Adjust Tek-Sound 4200B with HART Handheld Programmer



7. Menu Tree



Technology Solutions




796 Tek Drive
Crystal Lake, IL 60014
USA

Fax: +1 847 655 6147

Email: tektrol@tek-trol.com

www.tek-trol.com

 +1 847-857-6076

 tektrol@tek-trol.com

 www.tek-trol.com

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