TEK-SOUND 4200B

Two Wire Ultrasonic Level Transmitter With Display

LEVEL

Introduction

The Tek-Sound 4200B Two Wire Ultrasonic Level Transmitter With Display utilizes enhanced ultrasonic technology to measure liquid level in various applications with superior accuracy and reliability.

Measuring Principle

Ultrasonic pulses generated by the transducer (antenna) system travel at the speed of sound toward the target medium. These pulses are reflected by the surface of the medium and received by the transducer system again. Due to the fact that the measurable time lapse between pulse emission and reception by antenna is proportional to the distance between antenna and highest level of target medium, the principle of ultrasonic level instrument can be illustrated as the following equation:

$S = C \times T/2$, S: distance, C: velocity of sound, T: time lapse.

Features

- The advanced microprocessor and unique Echo Discovery processing technology, the ultrasonic level instruments can be used under various complex conditions.

- The false echo storage function assures that the instrument can detect the right echo even with the presence of multiple false echoes and present accurate measurement results eventually.

- The built-in temperature sensor inside the transducer can complete temperature compensation for measurement results.

- Ultrasonic transducer has adopted patented sonic matching technology, which helps it strengthen its emission power, enhance the signal intensity and eventually achieve accurate measurement.
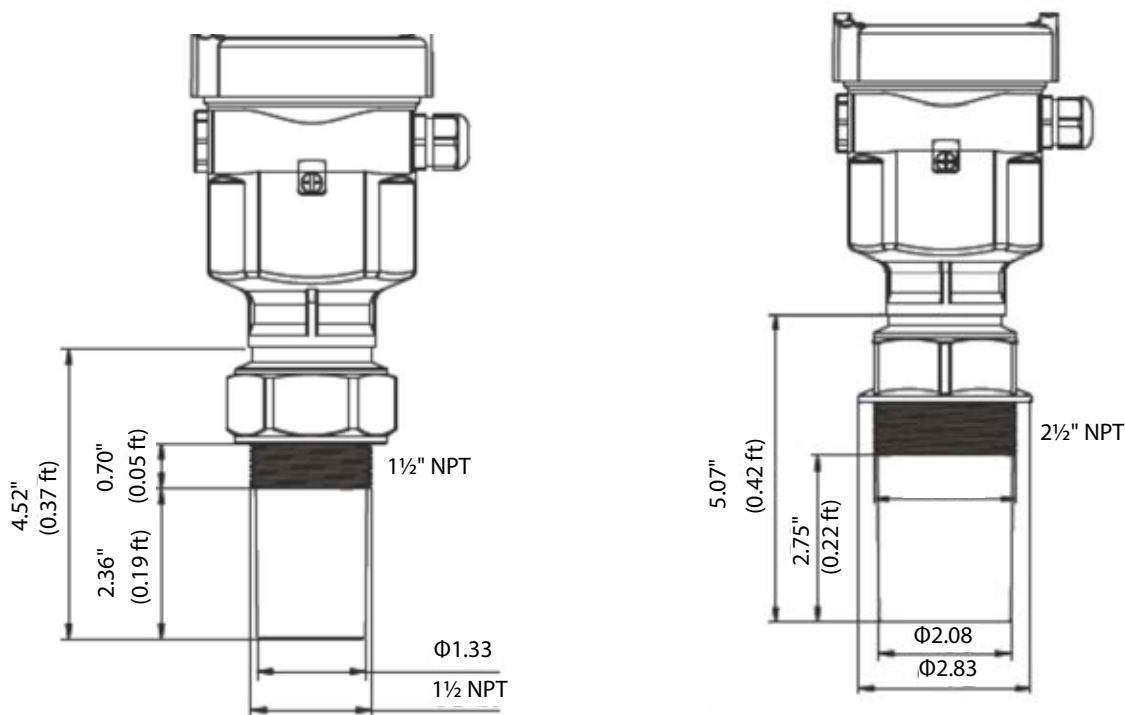
Applications

- Water and Wastewater industry
- Pharmaceutical industry
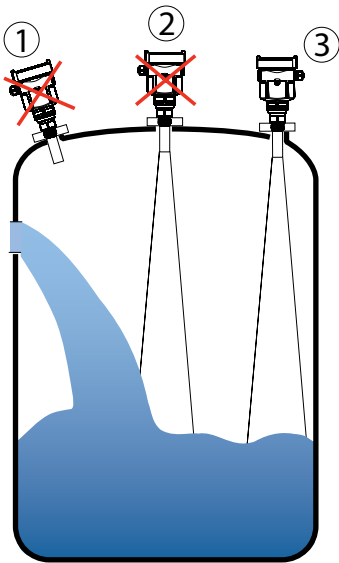- Chemical industry
- Beverage industry

Specifications

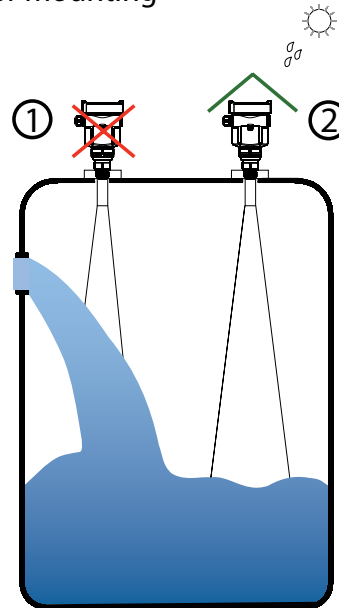|	
Measuring Range	4200B-1: 0.5 to 12 feet; 4200B-2: 1 to 25 feet
Accuracy	±0.25% of range
Resolution	4200B-1 : 0.019", 4200B-2 : 0.039"
Blanking Zone	4200B: 6" (10cm): 4200B-2 : 12" (20cm)
Beam width	4200B-1 : 2" (5cm): 4200B-2 : 3" (7.6cm)
Configuration	Push button and HART
Memory	Non-volatile
Display type	LCD, 6-digit
Display units	Inch, cm, feet, meters, and mA percentage
Supply voltage	12-28VDC
Loop resist	500Ohms @ 24VDC
Signal invert	4-20mA, 20-4mA
Temp. comp	Automatic
Ambient temp	-40°F to 160°F (-40°C to 71°C)
Pressure	30psi (2bar)
Enclosure rating	NEMA 4X (IP65)
Encl. material	Power Coated Aluminum
Conduit entrance	Two, ½" NPT
Trans. material	PTFE
Process mount	4200B-1: 1.5" NPT, 4200B-2: 2" NPT
Classification	General purpose

Dimensional Drawing

Installation

1) Incorrect: Failure to turn the antenna perpendicular to the surface of the target medium.
2) Incorrect: Instruments are mounted in the centre of concave or arched vessel tops, which results in multiple echoes.
3) Correct

1) Incorrect: Mount the instrument in/above filling stream, which results in the measurement of filling stream not the target medium
2) Correct
Note: Sun shield or rain-proof is required for outdoor mounting

Model Chart

Example	Tek-Sound 4200B	P	B	B	A	N	1	Tek-Sound 4200B-P-B-B-A-N-1
Series	Tek-Sound 4200B							Two Wire Ultrasonic Level Transmitter with Display
Approval		P						Standard (Without approval)
Material			B					PTFE
Electronic				B				4-20mA/HART 2-Wire
Housing/Protection					A			Aluminum /IP67
Cable Entry						N		½ NPT
Display/Programming							1	LCD, 6 Digit

Popular Model

Model	Description
4200B-P-B-B-A-N-1	0.5' to 13' Range, 1.5" NPT Process Connection
4200B-P-B-B-A-N-1	1' to 25' Range, 2" NPT Process Connection

Customer Service & Support

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Flow | Level | Temperature | Pressure | Valves | Analyzers | Accessories | TekValSy