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Fafeicy Fafeicyhnr42fgdeq-11

Fafeicy Ultrasonic Level Gauge (Model Fafeicyhnr42fgdeq-11) User Manual

Comprehensive guide for installation, operation, and maintenance.

1. Introduction

The Fafeicy Ultrasonic Level Gauge, model Fafeicyhnr42fgdeq-11, is a digital ultrasonic level meter designed for precise material or liquid level measurement and control. It features full digitalization, humanized design, data transmission, and man-machine communication functions. This instrument is suitable for various applications including water and wastewater treatment, electric power, and mining.

Constructed with an engineering plastic ABS waterproof shell, the device is robust and durable. Its modular circuit design, military-grade multi-layer PCB board, and integrated industrial-grade microcontroller ensure rigorous hardware structure, reasonable layout, and accurate measurements. Key features include digital temperature compensation, super wide voltage input, and voltage stabilization.



Image 1: Overview of the Ultrasonic Water Level Sensor, highlighting its wide application range, 0.5 level accuracy, small blind area, and field display capability.



Image 2: Illustration of the temperature compensation feature, ensuring measurement accuracy to standard specifications.

2. Specifications

The following table details the technical specifications of the Fafeicy Ultrasonic Level Gauge:

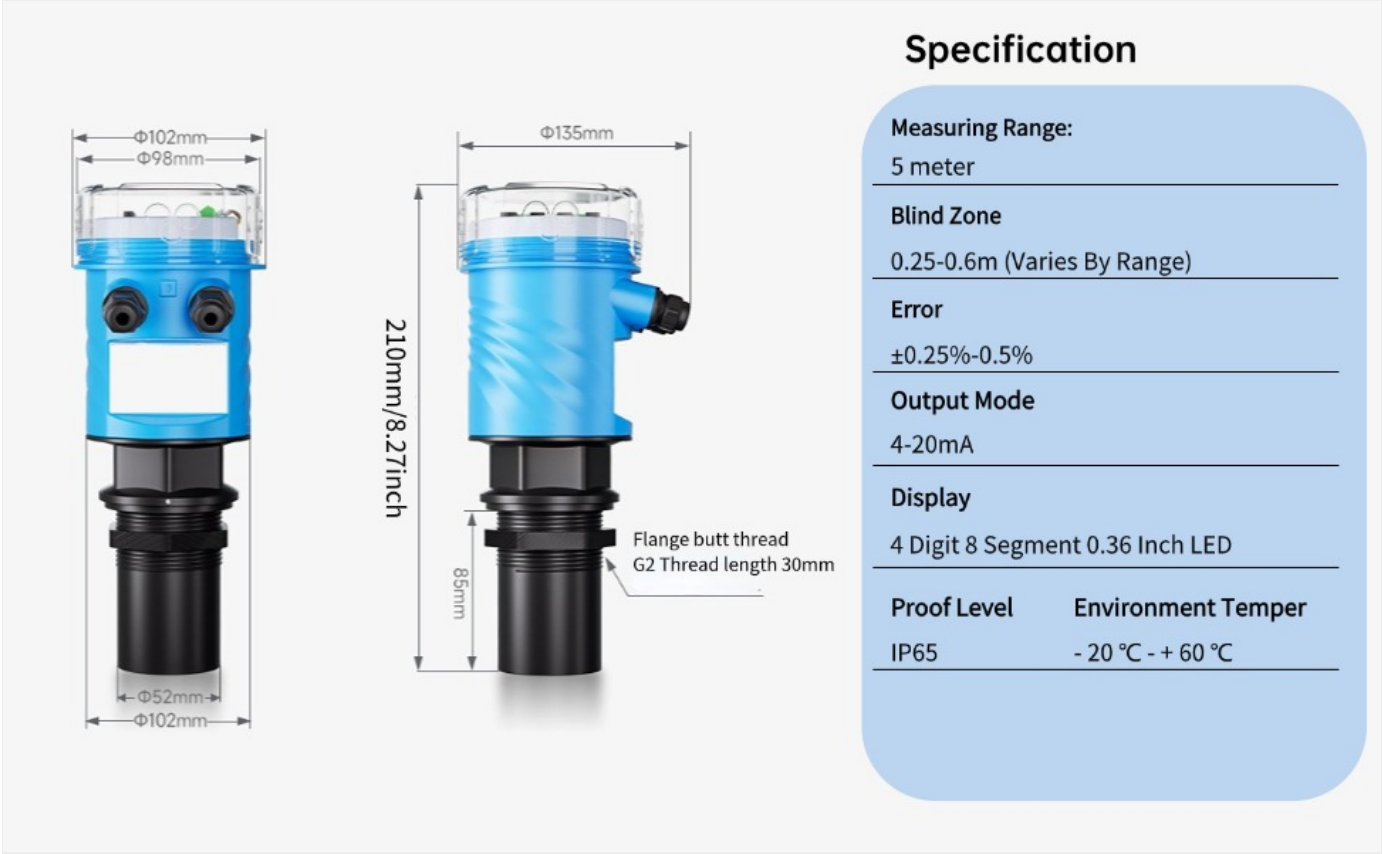


Image 3: Detailed specifications and physical dimensions of the ultrasonic level gauge.

Parameter	Value
Model Number	Fafeicyhnr42fgdeq-11
Measuring Range	0-5 meters
Blind Zone	0.25-0.6 meters (varies by range)
Measurement Error	±0.25% - 0.5%
Output Mode	4-20mA
Display Type	4 Digit 8 Segment 0.36 Inch LED
Proof Level (Waterproof/Dustproof)	IP65 (device), IP68 (probe)
Environment Temperature	-20°C to +60°C
Power Source	AC/DC (DC24V recommended)
Item Weight	1.15 kg
Parcel Dimensions	31.6 x 18 x 16.6 cm

3. Setup and Installation

Proper installation is crucial for accurate and reliable performance of the ultrasonic level gauge.

3.1 Component Overview



Image 4: Exploded view showing key components including the detachable design, HD LED display, transparent protective shell, full range connector protection, fully enclosed casting probe, and shock-proof coil seal.

- **Detachable Design:** Facilitates easy installation and maintenance.
- **HD LED Display:** Provides clear readings.
- **Transparent Protective Shell:** Offers visibility of internal components while providing protection.
- **Full Range of Connector Protection:** Ensures secure and protected electrical connections.
- **Casting Probe Fully Enclosed:** Enhances durability and protection of the sensing element.
- **Shock Proof Coil Seal:** Adds an extra layer of protection against environmental factors and impacts.

3.2 Installation Diagram and Considerations

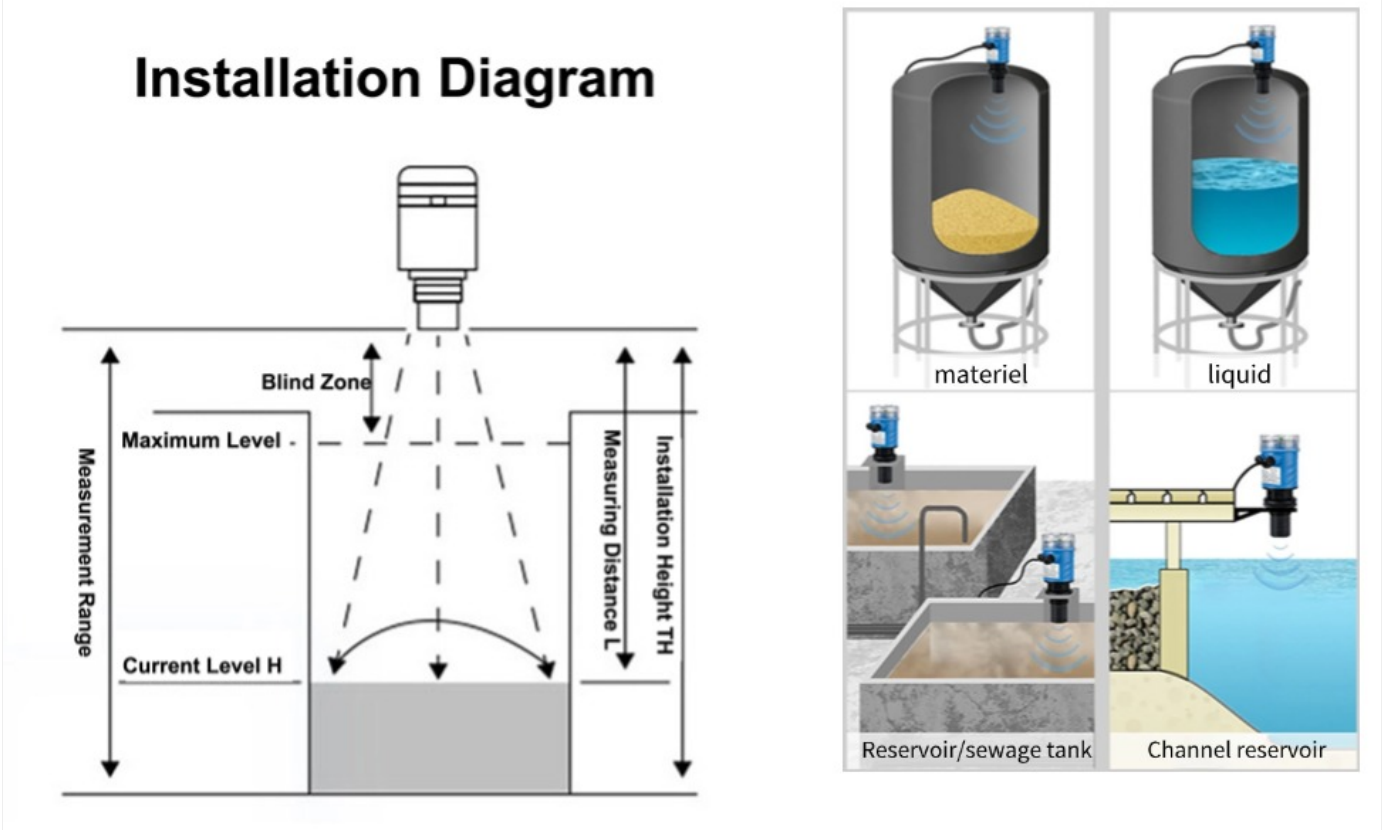


Image 5: Installation diagram illustrating the measurement range, blind zone, installation height (TH), and measuring distance (L) for both material and liquid level applications in tanks, reservoirs, and channels.

1. **Mounting Location:** Install the sensor vertically above the liquid or material surface. Ensure the sensor's face is parallel to the surface for optimal signal reflection.
2. **Blind Zone:** Be aware of the sensor's blind zone (0.25-0.6 meters). The sensor cannot accurately measure levels within this range directly below its face. Ensure the minimum liquid level is outside this blind zone.
3. **Installation Height (TH):** This is the total height from the sensor's face to the bottom of the tank or reservoir.
4. **Measuring Distance (L):** This is the distance from the sensor's face to the current liquid or material level.
5. **Current Level (H):** This is the actual level of the liquid or material from the bottom of the tank. H = TH - L.
6. **Avoid Obstructions:** Ensure there are no obstructions in the path of the ultrasonic beam, such as pipes, agitators, or tank walls, which could interfere with measurements.
7. **Power Connection:** Connect the device to a stable DC24V power supply. Refer to the wiring diagram on the device for correct polarity (P+, P-).
8. **Output Connection:** Connect the 4-20mA output to your control system or display unit.

3.3 Dimensions

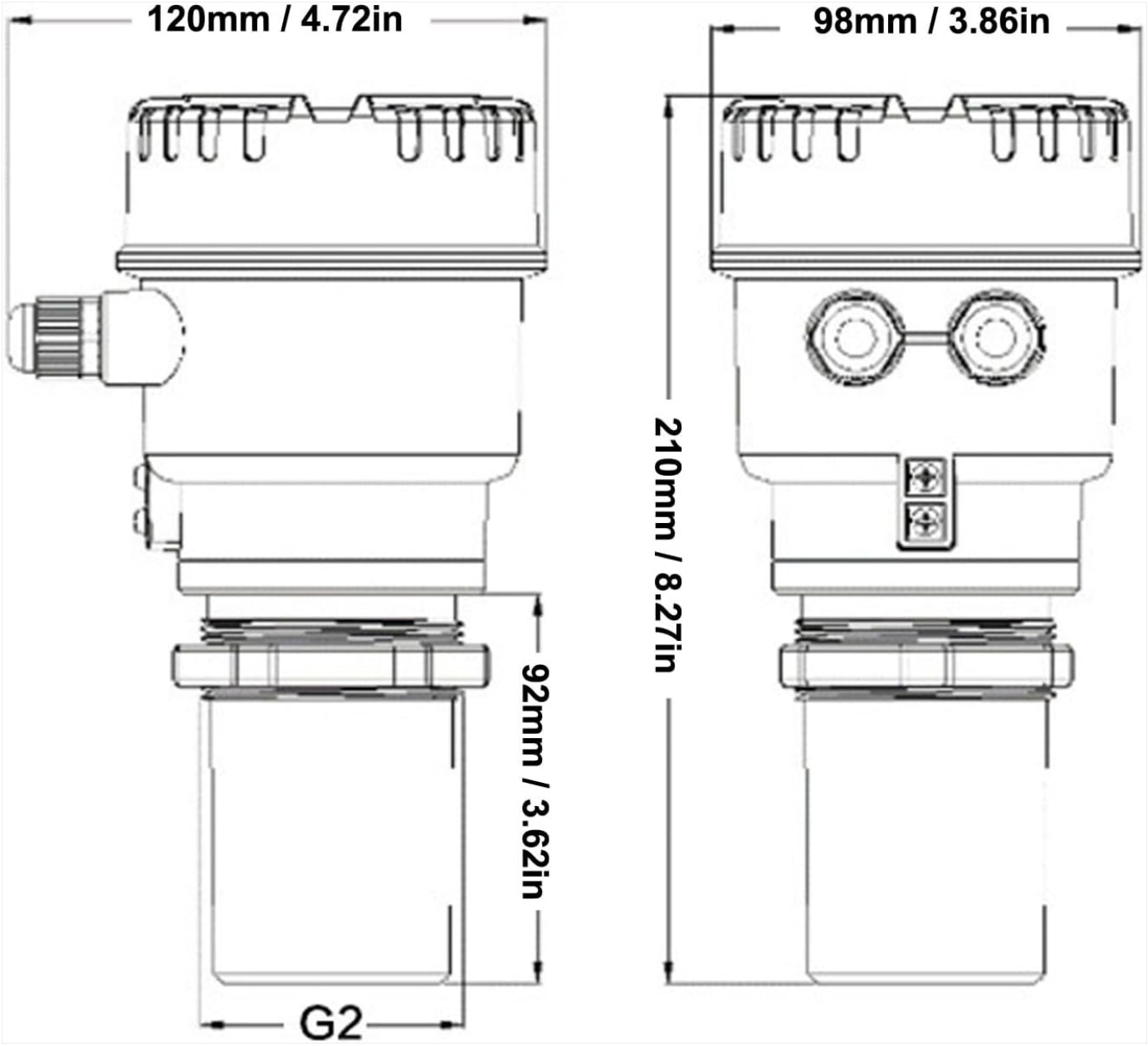


Image 6: Detailed dimensional drawing showing the overall height (210mm / 8.27in), width (120mm / 4.72in), and probe length (92mm / 3.62in) with G2 thread.

4. Operation

The Fafeicy Ultrasonic Level Gauge features an intuitive display for easy monitoring of liquid levels.

4.1 Reading the Display



Image 7: The LCD display showing current level (L) and installation height (H) readings in meters, along with signal strength indicators.

- The device features an HD LED/LCD display that shows both the level and liquid level simultaneously.
- Readings are typically displayed in meters (m).
- The display shows the current measuring distance (L) and the calculated current level (H) from the bottom of the tank.
- Signal strength indicators may also be present to confirm proper operation.

4.2 Configuration and Settings

The device includes buttons for configuration. While specific menu navigation details are not provided, typical settings may include:

- **SET Button:** Used to enter the configuration menu.
- **UP/DOWN Arrows:** Used to navigate through menu options and adjust values.
- **OK Button:** Used to confirm selections and save settings.

Refer to the detailed product manual (if provided separately by the manufacturer) for specific menu structures and parameter adjustments, such as setting the installation height (TH) or adjusting output scaling.

5. Maintenance

The Fafeicy Ultrasonic Level Gauge is designed for durability and requires minimal maintenance.

- **Cleaning:** Periodically inspect the sensor's face for any buildup of dirt, debris, or residue that could obstruct the ultrasonic signal. Clean gently with a soft, damp cloth. Avoid abrasive cleaners or tools that could scratch the surface.
- **Environmental Protection:** The instrument features an engineering plastic ABS waterproof shell and an IP65/IP68 rating, providing strong protection against water and dust. This allows for outdoor use.
- **Probe Integrity:** The casting probe is fully enclosed and features a shock-proof coil seal, enhancing its resistance to environmental factors. Avoid physical damage to the probe.
- **Connection Checks:** Ensure all electrical connections remain secure and free from corrosion.
- **Temperature Compensation:** The device includes digital temperature compensation for accurate measurements across varying temperatures. No user adjustment is typically required for this feature.



Image 8: The sensor's IP68 level of defense, indicating strong protection against water and dust for outdoor use.

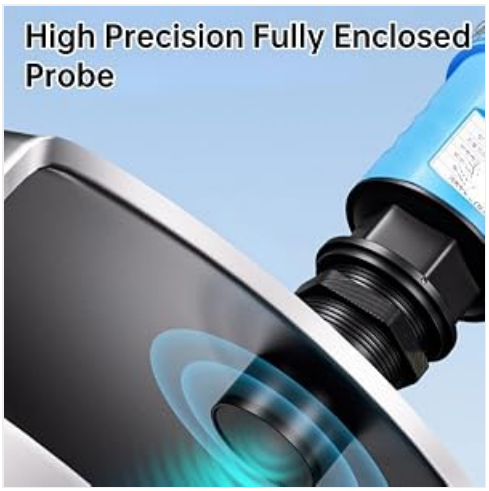


Image 9: Close-up view of the high precision fully enclosed probe, designed for durability and accurate measurement.

6. Troubleshooting

This section provides basic troubleshooting steps for common issues.

- **No Display/Power:**
  - Check power connections to ensure they are secure and correctly wired (DC24V).
  - Verify the power supply is functioning correctly and providing the specified voltage.
- **Inaccurate Readings:**
  - Ensure the sensor face is clean and free from obstructions.
  - Verify the sensor is installed vertically and parallel to the liquid surface.
  - Check if the liquid level is within the specified measuring range and outside the blind zone.
  - Confirm that the installation height (TH) setting in the device matches the actual physical installation.
  - Environmental factors like strong air currents or foam on the liquid surface can affect accuracy.
- **No Output Signal (4-20mA):**
  - Check the wiring of the 4-20mA output to the receiving device.
  - Ensure the receiving device is correctly configured to read a 4-20mA signal.
  - Verify the sensor is powered on and functioning.
- **Intermittent Readings:**
  - Check for intermittent power supply issues.
  - Inspect for any loose connections.
  - Ensure the environment is stable and free from excessive vibrations or acoustic noise that could interfere with ultrasonic signals.

If issues persist after performing these checks, contact customer support for further assistance.

7. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the manufacturer directly.
Manufacturer: Fafeicy
Model Number: Fafeicyhnr42fgdeq-11
ASIN: B0D3VDZ5R8
When contacting support, please have your model number and purchase details readily available.

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Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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