LIAMOS AMF-500

LIAMOS AMF Digital Force Gauge User Manual

Model: AMF-500

1. Overview

Digital display push-pull force meters are compact, versatile, and high-precision instruments designed for push and pull force testing. They are widely utilized across various industries including electronic appliances, construction hardware, light industrial textiles, automotive parts, lighters, fire equipment, pen manufacturing, and research institutions. These gauges are essential for testing push-pull loads, insertion forces, and conducting destructive tests. The AMF Digital Force Gauge features high resolution, fast sampling speed, and user-friendly operation, representing a modern solution for efficient and accurate force measurement.

2. Features

- **High Precision and High Resolution:** Ensures accurate and detailed measurements.
- **Three Measurement Modes:** Selectable modes include Real-time, Peak, and First Peak for diverse testing needs.
- **Multiple Units:** Supports N (Newton), Kg (Kilogram), Lb (Pound), and Oz (Ounce) with easy conversion.
- **Acceleration Setting Function:** Allows users to input the accurate acceleration value for the testing location, enhancing measurement and unit conversion accuracy.
- **Upper and Lower Limit Settings:** Enables statistical analysis with an audible buzzer alarm if limits are exceeded.
- **Minimum Force Value Shielding:** Data within a set minimum range can be ignored.
- **Automatic Shutdown:** Configurable auto-shutdown time to conserve battery power during prolonged inactivity.
- **Power Source:** Operates on 2 AAA batteries (1.5V*2).
- **Automatic Backlight and Buzzer Alarm:** Enhances visibility and provides alerts.

3. Product Components



Figure 3.1: The AMF Digital Force Gauge unit displayed with its standard set of attachments and the protective carrying case. This image shows the complete package as received by the user.



Figure 3.2: The AMF Digital Force Gauge and its various accessories, including different probes and an extension rod, securely placed within its custom-fitted carrying case. This illustrates the organized storage and portability of the device.



Figure 3.3: The AMF Digital Force Gauge unit shown alongside its array of interchangeable attachments, including flat, conical, chisel, and hook probes, as well as an extension rod. This view highlights the versatility provided by the different accessories for various testing applications.



Figure 3.4: A detailed view of the AMF Digital Force Gauge's front panel, showcasing its digital display and control buttons: SET, ZERO, PEAK, and UNIT. This image provides a clear look at the user interface for operation.

4. Setup

4.1 Battery Installation

1. Locate the battery compartment on the rear of the device.
2. Open the battery cover.
3. Insert 2 AAA (1.5V) batteries, ensuring correct polarity (+/-).
4. Close the battery cover securely.

4.2 Attaching Probes

1. Select the appropriate probe (e.g., flat, conical, chisel, hook) for your testing application.
2. Screw the chosen probe firmly into the threaded shaft at the top of the force gauge.
3. Ensure the probe is securely attached to prevent inaccurate readings or detachment during use.

5. Operating Instructions

5.1 Power On/Off

- To power on, press the **POWER** button (red circle with power symbol).
- To power off, press and hold the **POWER** button until the display turns off. The device also features an automatic shutdown function.

5.2 Unit Selection

- Press the **UNIT** button to cycle through available measurement units: N (Newton), Kg (Kilogram), Lb (Pound), and Oz (Ounce).
- The selected unit will be displayed on the screen.

5.3 Zeroing the Gauge

- Before taking a measurement, ensure no force is applied to the gauge.
- Press the **ZERO** button to reset the display to zero. This is crucial for accurate readings.

5.4 Measurement Modes

The AMF Digital Force Gauge offers three measurement modes:

- **Real-time Mode:** Displays the current force being applied.
- **Peak Mode:** Captures and holds the maximum force detected during a test.
- **First Peak Mode:** Captures and holds the first significant peak force detected.

To switch between modes, press the **PEAK** button. The active mode will be indicated on the display.

5.5 Setting Limits and Acceleration

- Press the **SET** button to enter the settings menu.
- Follow the on-screen prompts to adjust upper and lower force limits for statistical analysis. An audible alarm will sound if these limits are exceeded.
- Within the SET menu, you can also input the local acceleration value to improve measurement accuracy, especially for unit conversions.

6. Maintenance

- **Cleaning:** Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the force gauge and its accessories in the provided carrying case when not in use to protect it from dust, moisture, and physical damage.
- **Battery Replacement:** Replace batteries promptly when the low battery indicator appears to ensure continuous accurate operation. Remove batteries if the device will not be used for an extended period to prevent leakage.
- **Calibration:** For professional applications requiring certified accuracy, periodic calibration by a qualified service center is recommended.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Low or dead batteries; incorrect battery polarity.	Replace batteries with new ones, ensuring correct +/- orientation.
Inaccurate readings.	Gauge not zeroed; improper probe attachment; external interference.	Press ZERO button before measurement; ensure probe is securely attached; minimize vibrations or external forces.
Buzzer alarm sounds continuously.	Force applied exceeds set upper/lower limits.	Check the applied force; adjust upper/lower limits in SET menu if necessary.
Display is dim or flickering.	Low battery power.	Replace batteries.

8. Specifications

Parameter	Value
Max Load	500N
Display Type	Digital
Measurement Modes	Real time, Peak, First peak
Units	N (Newton), Kg (Kilogram), Lb (Pound), Oz (Ounce)
Power Source	2 x AAA batteries (1.5V)
Item Weight	0.353 ounces (approx. 10g)
Package Dimensions	1.18 x 0.79 x 0.39 inches (approx. 3 x 2 x 1 cm)
Model Number	AMF-500 (Internal: 1005007425207656)

Note: Specifications are subject to change without prior notice for product improvement.

9. Warranty and Support

LIAMOS products are manufactured to high quality standards. For warranty information, technical support, or service

inquiries, please refer to the contact information provided with your purchase or visit the official LIAMOS website. Please retain your proof of purchase for warranty claims.
For further assistance, please contact LIAMOS customer support through the retailer where the product was purchased or via the contact details available on the official LIAMOS brand website.

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