

BTMETER BT-189A

BTMETER BT-189A HVAC Gas Pressure Tester User Manual

Model: BT-189A | Brand: BTMETER

1. INTRODUCTION

The BTMETER BT-189A is a dual-port digital manometer designed for accurate measurement of static and differential gas pressure. It is an essential tool for diagnosing and maintaining HVAC (Heating, Ventilation, and Air Conditioning) systems, gas furnaces, and other applications requiring precise air pressure readings. This manual provides detailed instructions for the proper setup, operation, and maintenance of your device.

2. KEY FEATURES

- **High Accuracy:** Measures air pressure up to ± 13.79 kPa / ± 2.000 Psi with $\pm 0.3\%$ FS accuracy and $\pm 0.25\%$ FS repeatability.
- **Multiple Units:** Supports 11 gas measurement units: mmHg, inHg, ftH₂O, cmH₂O, KPa, Mbar, Bar, Psi, Kgcm², inH₂O, and Ozin².
- **Dual Port Design:** Equipped with two 3.18mm diameter tube connectors for measuring static (positive/negative) and differential gas pressure.
- **Data Functions:** Includes Max/Min/Average data record, data hold, and zero-out functions for precise measurements.
- **Backlit LCD:** Large backlit LCD screen for clear display in various lighting conditions.
- **Power Saving:** Automatic power-off after 25 minutes of inactivity to conserve battery life.
- **Portable Design:** Compact and handheld design (134g) with a protective cap for durability and ease of use.

3. PACKAGE CONTENTS

Verify that all items are present upon unpacking:

- 1 x BTMETER BT-189A Digital Manometer
- 4 x Flexible Tubes

- 1 x 1/8 Thread Adapter
- 1 x Portable Case
- 1 x User Manual



Image 3.1: Contents of the BTMETER BT-189A package, including the manometer, flexible tubes, thread adapter, portable case, and user manual.

4. SETUP

4.1 Battery Installation

1. Locate the battery compartment on the back of the device.
2. Open the battery cover.
3. Insert the required batteries (not included), ensuring correct polarity.
4. Close the battery cover securely.

4.2 Connecting Hoses

1. Identify the two tube connectors (+ and -) at the top of the manometer.
2. Attach the flexible tubes to the desired ports based on your measurement needs (static or differential

pressure).

3. If necessary, use the 1/8 thread adapter for specific connections.



Image 4.1: The dual-port design of the BT-189A manometer, showing where to connect the flexible tubes for pressure measurement.

5. OPERATING INSTRUCTIONS

5.1 Power On/Off

- Press the **Power** button to turn the device on.
- Press and hold the **Power** button to turn the device off. The device will also automatically power off after 25 minutes of inactivity.

5.2 Unit Selection

- Press the **UNIT** button to cycle through the 11 available pressure units (mmHg, inHg, ftH₂O, cmH₂O, KPa, Mbar, Bar, Psi, Kgcm², inH₂O, Ozin²).



Image 5.1: The BT-189A manometer showing the selection of 11 different gas pressure units for various applications.

5.3 Static and Differential Pressure Measurement

- For **static pressure**, connect one tube to the positive (+) port and the other end to the pressure source. The negative (-) port can be left open to ambient air or connected to a reference point.
- For **differential pressure**, connect one tube to the positive (+) port and the other to the negative (-) port, with each connected to a different pressure point. The display will show the pressure difference.

Your browser does not support the video tag.

Video 5.1: Demonstration of using the BTMETER 189A HVAC Gas Pressure Tester to measure pressure in a ventilation duct and differential pressure between two points.

5.4 Data Hold Function

- Short-press the **HOLD** button to freeze the current measurement on the display.
- Press **HOLD** again to release the data hold and resume live measurements.

5.5 Zero-Out Function

- Long-press the **HOLD** button for 5 seconds to clear any remaining data and zero out the reading, ensuring accuracy for subsequent measurements.



Image 5.2: The BT-189A manometer illustrating the data hold and zero-out features for managing measurement data.

5.6 Max/Min/Average Data Record

- Press the **REC** button to record and review the maximum, minimum, and average pressure data during a measurement session.

Your browser does not support the video tag.

Video 5.3: A general demonstration of a manometer's functions, including unit switching and the hold feature, which are applicable to the BT-189A.

6. MAINTENANCE

- **Cleaning:** Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the manometer in its portable case in a cool, dry place when not in use. Remove batteries if storing for extended periods to prevent leakage.
- **Hose Care:** Inspect flexible tubes regularly for cracks or blockages. Replace if damaged to ensure accurate readings.

7. TROUBLESHOOTING

- **Device does not power on:** Check battery installation and ensure batteries are not depleted. Replace if necessary.
- **Inaccurate readings:** Ensure the zero-out function has been performed before measurement. Check for leaks in the hose connections or blockages in the tubes.
- **Display is dim or unreadable:** Replace batteries. If the issue persists, contact support.
- **Over-range indication:** The device will indicate if the measured pressure exceeds its specified range. Reduce the pressure or ensure the application is within the device's capabilities.

8. SPECIFICATIONS

Feature	Specification
Model Number	BT-189A
Measurement Range	± 13.79 kPa / ± 2.000 Psi
Accuracy	$\pm 0.3\%$ FS
Repeatability	$\pm 0.25\%$ FS
Measurement Units	mmHg, inHg, ftH ₂ O, cmH ₂ O, KPa, Mbar, Bar, Psi, Kgcm ² , inH ₂ O, Ozin ²
Tube Connector Diameter	3.18mm
Auto Power-Off	25 minutes of inactivity
Item Weight	134g (device only) / 200g (with parcel)
Parcel Dimensions	18.6 x 8.9 x 4.7 cm
Batteries Required	Yes (not included)



Image 8.1: Visual representation of the BT-189A manometer's dimensions and included accessories like flexible tubes and the 1/8 thread adapter.

9. WARRANTY AND SUPPORT

9.1 Warranty Information

The BTMETER BT-189A comes with a **180-day quality warranty** from the date of purchase. This warranty covers manufacturing defects and malfunctions under normal use. It does not cover damage caused by misuse, accidents, unauthorized modifications, or improper maintenance.

9.2 Customer Support

For technical assistance, warranty claims, or any questions regarding your BTMETER BT-189A manometer, please contact BTMETER customer support through the retailer where the product was purchased or visit the official BTMETER website for contact information.