

TASI TA500A/TA500B/TA500C

TASI TA500 Series Digital Tachometer User Manual

Models: TA500A, TA500B, TA500C

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your TASI TA500 series digital tachometer. The TA500 series includes models TA500A, TA500B, and TA500C, designed for accurate measurement of rotational and linear speeds. This device features both non-contact (photoelectric) and contact measurement capabilities, automatic ranging, and a clear digital display. It is suitable for a wide range of applications in various industries, including electric motors, fans, washing machines, automobiles, and more. Please read this manual thoroughly before using the device and retain it for future reference.

2. PRODUCT OVERVIEW

The TASI TA500 series tachometer is a portable, handheld instrument engineered for precision. Its compact and lightweight design ensures ease of use and portability. Key features include a large LCD screen for clear readings, a memory function to store measurement data, and a dual-purpose design allowing for both non-contact and contact measurements.



Figure 2.1: Front view of the TASI TA500B Digital Tachometer, showing the display and control buttons.

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Figure 2.2: The TASI TA500B Digital Tachometer shown with its retail packaging and various contact measurement accessories.

3. SETUP

3.1 Battery Installation

The TA500 series tachometer requires two AA batteries for operation. Batteries are not included with the device.

1. Locate the battery compartment cover on the back of the device.
2. Slide or unclip the cover to open the compartment.
3. Insert two AA batteries, ensuring correct polarity (+ and -) as indicated inside the compartment.
4. Close the battery compartment cover securely.



Figure 3.1: Rear view of the tachometer, highlighting the battery compartment for installation of two AA batteries.

3.2 Attaching Contact Accessories (for TA500B/TA500C models)

For contact measurements, attach the appropriate contact wheel or cone to the shaft at the top of the tachometer. Ensure it is firmly seated to prevent inaccurate readings.

4. OPERATING INSTRUCTIONS

4.1 Power On/Off

Press the red power button (⏻) to turn the device on. Press and hold the power button to turn it off.

4.2 Selecting Measurement Mode and Units

The TA500 series supports different measurement modes and units. Press the "UNIT" button to cycle through available units and modes (e.g., RPM, ft/m/s, m/min). The selected mode will be displayed on the LCD screen.

4.3 Non-Contact (Photoelectric) Measurement (TA500A/TA500C)

This mode uses a semiconductor laser sensor to measure rotational speed without physical contact.

1. Ensure the tachometer is in a non-contact RPM mode (indicated by a specific icon on the display, typically a target symbol).
2. Attach a reflective tape (not included, but commonly used with such devices) to the rotating object.
3. Point the laser beam from the tachometer at the reflective tape on the rotating object. The effective measurement distance is 50-500 mm.
4. Press the "TEST" button. The measurement symbol on the display will flash, and the RPM reading will appear.
5. Release the "TEST" button to stop measurement.



Semiconductor laser sensor
Effective distance 50mm~500mm;
Sampling time: 0.8s (above 60 rpm).

Figure 4.1: Detail of the semiconductor laser sensor used for non-contact RPM measurements. The effective distance for measurement is between 50mm and 500mm.

4.4 Contact Measurement (TA500B/TA500C)

This mode uses physical contact with the rotating object via an attached accessory.

1. Attach the appropriate contact accessory (e.g., cone or wheel) to the tachometer's shaft.
2. Ensure the tachometer is in a contact measurement mode (indicated by a contact icon on the display, typically a 'T' or similar).
3. Gently press the contact accessory against the center of the rotating object or surface.
4. Press the "TEST" button. The measurement symbol on the display will flash, and the RPM or linear speed reading will appear.
5. Release the "TEST" button to stop measurement.



Contact measurement

Press the "UNIT" key to select the " ↑ ⚠ RPM " mode (default " ⚠ RPM " mode); Press the "TEST" button, the " ⚠ " symbol on the display screen flashes, and measurement begins.

Figure 4.2: The TASI TA500C tachometer demonstrating a contact measurement on a fan blade. The display shows the measured RPM.



Figure 4.3: A user holding the TASI TA500B tachometer, performing a contact measurement. The digital display shows a reading of 798.5 RPM.

4.5 MAX/MIN/HOLD Functions

- **HOLD:** Press the "HOLD" button to freeze the current reading on the display. Press it again to resume live measurement.
- **MAX/MIN:** During measurement, press the "MAX" button to display the maximum recorded value. Press "MAX" again to display the minimum recorded value. Press a third time to return to live measurement.



Max/ Min

*Press the "MAX" button to hold the maximum value;
Press the "MAX" button again to hold the minimum
value.*

Figure 4.4: The tachometer display indicating the MAX/MIN function is active, showing the maximum recorded RPM value.

5. MAINTENANCE

5.1 Cleaning

Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Keep the sensor lens clean for accurate non-contact measurements.

5.2 Storage

When not in use for extended periods, remove the batteries to prevent leakage. Store the tachometer in a cool, dry place, away from direct sunlight and extreme temperatures. The included cloth bag can be used for protection during storage and transport.

5.3 Battery Replacement

Replace batteries when the low battery indicator appears on the display to ensure continued accurate operation.

6. TROUBLESHOOTING

- **Device does not power on:** Check battery installation and ensure batteries are not depleted. Replace if necessary.
- **Inaccurate readings:**
 - For non-contact measurement, ensure the reflective tape is properly applied and the laser is aimed correctly. Verify the measurement distance is within 50-500 mm.
 - For contact measurement, ensure the contact accessory is firmly attached and making proper contact with the rotating object.
 - Ensure the correct measurement mode and units are selected.
- **Display is blank or flickering:** Low battery power may be the cause. Replace batteries.

7. SPECIFICATIONS

Feature	Specification
Model	TA500A / TA500B / TA500C
Color	Black
Material	ABS
Test Range (Photoelectric - TA500A/TA500C)	3-100000 RPM
Test Range (Contact RPM - TA500B/TA500C)	0.5-19999 RPM
Test Range (Contact Surface Speed - TA500B/TA500C)	0.05-1999.9 m/min
Accuracy	$\pm(0.05\%FS + 1 \text{ RPM})$
Range Selection	Automatic Switch
Sampling Time	0.8 seconds (for measurements > 60 RPM)
Effective Distance (Photoelectric)	50-500 mm
Power Supply	2 * AA Batteries (not included)
Tachometer Size (TA500A)	130 × 59 × 29 mm
Tachometer Size (TA500B/TA500C)	146 × 59 × 29 mm

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the retailer. Keep your purchase receipt as proof of purchase.