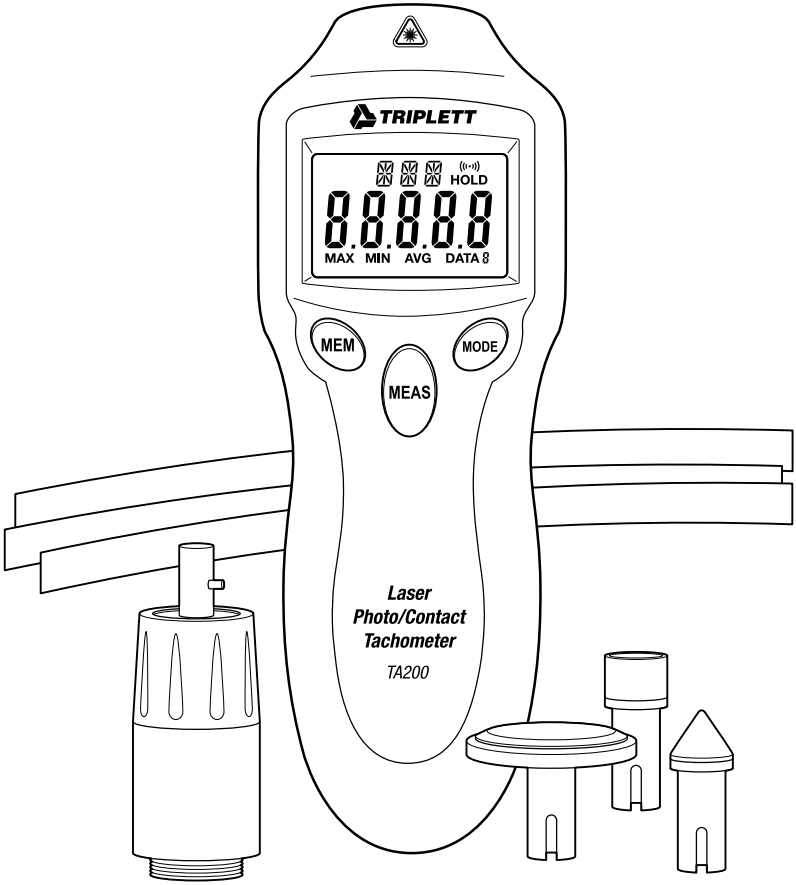
TRIPLETT

USER MANUAL

TA200

Laser Photo/Contact Tachometer



v.3.0-06/26

INTRODUCTION

Thank you for purchasing the Triplett TA200. Designed for fast, accurate, and versatile measurements, the Laser Photo/Contact Tachometer measures rotational speed (RPM), total revolutions (REV), frequency (Hz), surface speed, and length. The non-contact laser photo function allows you to safely measure the rotational speed of engines, fans, motors, generators, and other moving equipment without physically touching the target. This is ideal for objects that are difficult to reach or unsafe for physical contact. For accessible equipment, the contact measurement mode provides reliable readings of rotating machinery, while the included contact wheel, concave, and cone tips enable linear surface speed measurements on conveyor belts, elevator and escalator cables, fabrics, paper, and similar materials. Featuring a wide measurement range, high resolution, easy-to-read backlit LCD, MAX/MIN/AVG memory, and laser guided pointer, the TA200 is a valuable tool for maintenance, troubleshooting, process control, and quality assurance applications.

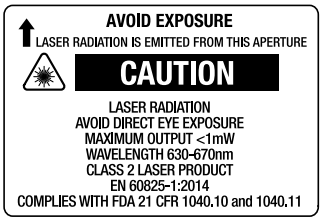
Please read this manual carefully before operation to ensure safe use and optimal performance.

What's in the box:		**Stay updated:**
• TA200 meter • Reflective Tape • Cone Contact Tip • Concave Contact Tip • Surface Wheel Tip	• Adapter Shaft • Extension Collar • 1 × 9V battery • User Manual • Soft case with belt loop	For the most recent version of this user manual, visit www.triplett.com and search for "TA200". You can also find the latest specifications, FAQs, and product datasheets on our website.

SAFETY

⚠ Use the meter only as specified in this manual; otherwise, the protection provided by the tester and its warranty may be voided.

WARNING: Use extreme caution when the laser pointer beam is on. Do not point the beam toward anyone's eye or allow the beam to strike the eye from a reflective surface. The Laser in this unit complies with: FDA 21 CFR 1040.10 and 1040.11



CAUTION: Rotating and moving parts can cause injury. Use extreme care.

Operating Environmental Conditions

- Altitude: ≤2000 meters
- Relative Humidity: 80%RH max
- Operating Temperature: 32 to 122°F (0 to 50°C)

Maintenance and Cleaning

- Servicing not covered in this manual should be performed only by qualified personnel. Visit www.triplett.com/support for support.
- Periodically wipe the housing with a dry cloth. Do not use abrasives or solvents.

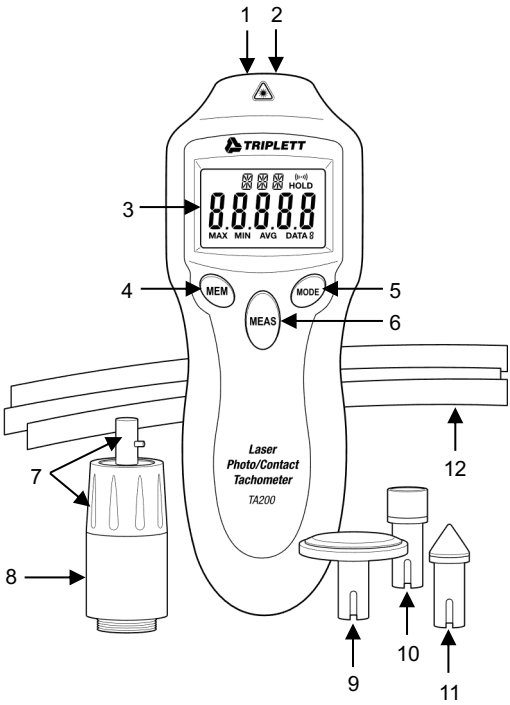
METER DESCRIPTION

1. Laser beam (top of meter shaft)
2. Photo sensor (top of meter shaft)
3. LCD Display
4. MEM (Memory) button
5. MODE button
6. MEASURE button

Battery compartment (rear of meter)

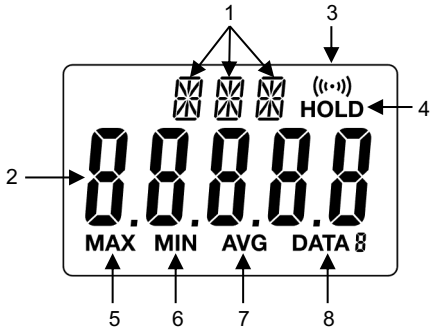
Accessories for Contact Mode

7. Adapter Shaft (connects the Wheel, Cone, or Concave Tip)
8. Extension Collar (removeable from Adapter Shaft)
9. Surface Wheel Tip
10. Concave Tip
11. Cone Tip
12. Reflective Tape



DISPLAY DESCRIPTION

1. Mode or Unit of Measure
2. Measurement Display
3. ((•)) Reflective Tape Detection Indicator
4. HOLD (freezes reading on display)
5. MAX – Maximum value
6. MIN – Minimum value
7. AVG – Average value
8. DATA – Reading Set Location (DATA 0 to 9)



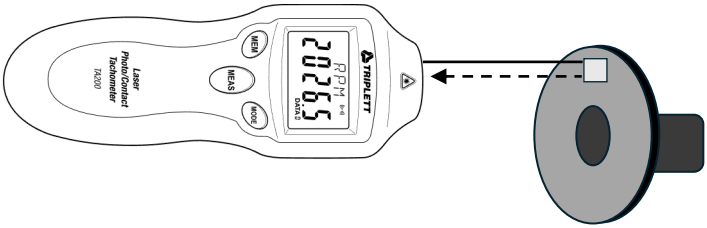
OPERATING INSTRUCTIONS

Install the battery first before operating. See Battery section.

Non-Contact Photo Tachometer Measurement

Always use extreme caution on rotating and moving parts before measuring.

1. Apply a square piece of reflective tape (~0.5"/12mm) to the outer edge surface of the object under test. See diagram below.



2. Press and hold the **MEAS** button until the meter powers ON. The display will turn ON and the Laser beam will appear. Use caution not to aim at anyone's eyes.
3. If RPM (rotations per minute) does not appear on the display, press and hold the **MODE** button until it appears.
4. Quick press of the **MODE** button scrolls through the available units. Only use RPM or Hz for non-contact photo measurements.

   Mode: RPM > rpm > **Hz** > M/M > I/M > F/M > Y/M

5. Once unit is selected, hold the **MEAS** button down for the duration of the measurement and release it to stop.
6. Point the meter toward the device under test at a distance of 2" to 20" (50 to 500mm). Align the laser beam with the reflective tape (shown on diagram above).
7. The symbol (((•))) will appear on the display to the right of RPM. This indicates the reflective tape passed through the light beam. Reading appears on the display.
8. When the **MEAS** button is released, the last reading and HOLD will be on the display. The meter will Auto Power OFF after <15 seconds.

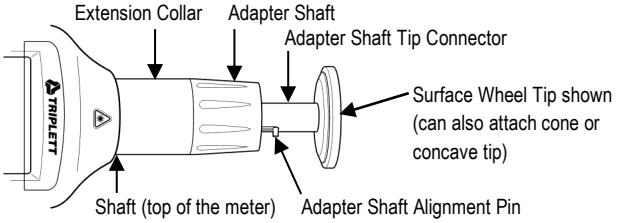
Non-Contact Photo Measurement Considerations

- Bright ambient light may interfere with the reflected light beam. Shading the target area may be necessary in some cases.
- The nonreflective area must always be larger than the reflective area.
- If the shaft or rotating object is normally reflective, it must be covered with black tape or paint before applying the reflective tape.
- To improve repeatability at low RPM, apply additional squares of reflective tape. Divide the displayed reading by the number of reflective tape squares to determine the actual RPM.

Contact Tachometer Measurement

Always use extreme caution on rotating and moving parts before measuring.

1. Attach the Extension Collar and Adapter Shaft to the meter shaft (on top) securely. If you prefer not to have the extension collar, unscrew it from the adapter shaft (they come attached). You will notice they are tightly attached to prevent any parts from coming off during contact measurement. Once the collar is removed, screw the adapter shaft onto the meter shaft securely.



2. Insert an accessory tip (wheel, cone, or concave tip) onto the Adapter Shaft Tip Connector by aligning the groove to the Adapter Shaft Alignment Pin. Press the tip all the way in to secure it from falling out during measurement.
3. To switch between the Surface Speed and the Length measurement modes, press and hold the MODE button for a few seconds until you see RPM or REV. See below bolded units for each measurement mode.

   Surface Speed Mode: RPM > rpm > Hz > **M/M** > **I/M** > **F/M** > **Y/M**
   M/M = Meters/Min, I/M = Inches/Min, F/M = Feet/Min, Y/M = Yards/Min

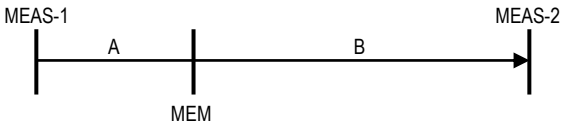
   Length Mode: REV > **M** > **In** > **FT** > **Yd**
   REV = Revolution, M = Meters, In = Inches, F = Feet, Y = Yards

4. Quick press of the **MODE** button scrolls through the available units. The Revolution (REV) mode is handy as a counter for use with custom-sized wheel attachments to count (tally) wheel rotations.
5. Once preferred unit is selected, press and hold the **MEAS** button. Position the contact tip (wheel, cone, or concave tip) onto the object under test. The tip will rotate at the speed of the object. Reading will be displayed.
6. When the **MEAS** button is released, the last reading and HOLD will be on the display. The meter will Auto Power OFF after <15 seconds.
7. To change the unit of measure, press the **MODE** button until you select your preferred unit before the meter auto powers off.
8. If the meter is off, press **MEAS** button to turn the meter back on and then press **MODE** to scroll through the available units. Long press the **MODE** button to change the measurement mode.

MEMORY/DATALOG FUNCTION

- The TA200 can log up to ten (10) Reading Sets for each measurement session (for each unit of measure). A Reading Set consists of four (4) values:
  1. **Initial Reading** - Reading recorded when the **MEM** button is pressed
  2. **MAX Reading** - Maximum value recorded during the measurement session (from when the **MEM** button was pressed to when **MEAS** button is released)
  3. **MIN Reading** - Minimum value recorded during the measurement session (from when the **MEM** button was pressed to when **MEAS** button is released)
  4. **AVG Reading** - Average value taken during the measurement session (from when the **MEM** button was pressed to when **MEAS** button is released)
- This totals 400 stored readings (4 values per Reading Set ×10 Reading Sets per measurement session ×10 units of measure displayed).
- A measurement session datalogging starts when the **MEAS** button is pressed and ends when it is released.
- The number shown on the LCD in the lower right-hand corner (**DATA 0 to 9**) indicates the current memory location. Remember to take notes of each data location number after you finish the measurement session so it can be easily associated with the logged data once you recall the values.

Example Time-line Diagram



1. Press and hold the **MEAS** button to begin a measurement session (**MEAS-1**). No logging takes place during this period (indicated as **A** in the diagram)
2. While **MEAS** remained pressed, quick press the **MEM** button to start the recording of the first Reading Set (indicated as **MEM** in the diagram).
3. The reading on the display at the time of when the **MEM** button was pressed (referred to as the Initial Reading) will be stored in the current Reading Set and the MAX/MIN/AVG value tracking will begin (indicated as **B** in the diagram).
4. When **MEAS** button is released, this ends the measurement/logging session (indicated as **MEAS-2** in the diagram).

5. The data set location is displayed on the lower righthand corner of the LCD. It will start with DATA 0, DATA 1, and so forth to DATA 9. After DATA 9, it will save over DATA 0 if you press MEM again, and so forth.
6. The MAX/MIN/AVG readings are calculated over the course of the measurement session (starting from when the **MEM** button was pressed and end when the **MEAS** button is released or if the **MEM** button is pressed again – see next section on Logging Multiple Reading Sets). MAX/MIN/AVG readings are stored in the same Reading Set as the Initial Reading.
7. To scroll through the logged data, release the **MEAS** button to end the measurement session and quick press the **MEM** button to scroll through the Initial Reading, MAX, MIN, and AVG readings stored in the current memory location. If the meter is OFF, press **MEAS** to turn ON and then press **MEM**.
8. Continue to quick press the **MEM** button to access the other stored Reading Sets indicated by **DATA 0 to 9**. Be sure to note the DATA location number when reviewing stored reading to avoid confusion.
9. To jump from one Reading Set to another, press and hold the **MEAS** button and then quick press the **MEM** button until you reach the DATA number you want to review. Release the **MEAS** button and then quick press **MEM** to scroll through the stored data of the selected Reading Set.

Logging Multiple Reading Sets per Measurement Session

1. Press and hold the **MEAS** button during the measurement session duration.
2. Quick press the **MEM** button to log the first Reading Set. It will log the 4 values as mentioned previously (Initial Reading and MAX, MIN, and AVG readings).
3. The **MEAS** button remains pressed. To log the next Reading Set from the same Measurement Session, quick press the **MEM** button again. It will log the next Reading Set of 4 values.
4. For each time **MEM** is pressed, a new Reading Set will be logged during the duration of the measurement session as long as **MEAS** remains pressed.
5. The MAX/MIN/AVG values logged in each Reading Set (indicated by DATA 0 to 9) represent the MAX/MIN/AVG values recorded between the **MEM** presses.

BATTERY INSTALLATION/REPLACEMENT & DISPOSAL

1. Unscrew battery cover from the rear of the meter and install the battery or replace out the old battery with a new one.
2. Observe correct polarity and snap on the new battery. Carefully slide in the battery wires and the battery into the battery compartment.
3. Align the battery cover in place and fasten the screw securely.

Battery Disposal

- Never dispose used or rechargeable batteries in household wastebin.
- As consumers, users are legally required to take used batteries to a collection site or stores that sell batteries.
- Never dispose of batteries in a fire. Batteries may explode or leak.
- Never mix battery types. Always install the same type.

Meter Disposal

Do not dispose of this instrument in household wastebin. The user is obligated to take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment.

SPECIFICATIONS

Function	Range	Resolution	Accuracy
Photo Tachometer			
RPM (Revolutions per Minute)	2 to 200,000 RPM	0.1 RPM (<10,000 RPM); 1 RPM (≥10,000 RPM)	±(0.05% of rdg + 1 digit)
Frequency	0 to 1,666 Hz	1 Hz	±(0.05% of rdg + 1 digit)
Contact Tachometer			
rpm (Revolutions per Minute)	2 to 19,999 rpm	0.001 rpm (<10,000 rpm); 1 rpm (≥10,000 rpm)	±(0.05% of rdg + 1 digit)
Frequency	0 to 1,666 Hz	1 Hz	±(0.05% of rdg + 1 digit)
Revolutions (Counter Mode)	0 to 999,999 REV	1 REV	±1 Count
Surface Speed			
meters/min	0 to 2,000 m/min	1 m/min	±(0.05% of rdg + 1 digit)
inches/min	0 to 78,740 in/min	1 in/min	±(0.05% of rdg + 1 digit)
feet/min	0 to 6,560 ft/min	1 ft/min	±(0.05% of rdg + 1 digit)
yards/min	0 to 2,186 yd/min	1 yd/min	±(0.05% of rdg + 1 digit)
Length Measurement (using Circumference Wheel Tip)			
Meter	0.1 to 1,000 m	0.1 m	±(0.05% of rdg + 1 digit)
Inch	3.9 to 39,370 in	0.1 in (<10,000 in); 1 in ((≥10,000 in)	±(0.05% of rdg + 1 digit)
Feet	0.3 to 3,280 ft	0.1 ft	±(0.05% of rdg + 1 digit)
Yard	0.1 to 1,093 yd	0.1 yd	±(0.05% of rdg + 1 digit)
General Specifications			
Time Base	Quartz Crystal		
Display	5-Digit LCD		
Laser Light Source	Class 2 Laser, <1mW Output Power, 630 to 670nm Wavelength		
Detecting Distance	52 to 20" (0 to 500mm)		
Sampling Time	0.5 seconds (>120 RPM)		
Tachometer Accuracy	±(0.05% of rdg + 1 digit)		
Memory	Stores up to 10 Reading Sets per Measurement Session (DATA 0 to DATA 9)		
Data Storage	Each Reading Set includes four sets of values: Initial Reading, Maximum, Minimum, and Average readings		
Operating Conditions	32°F to 122°F (0°C to 50°C), ≤80% RH		
Power	9V battery		
Power Consumption	~45mA DC		
Dimensions	6.2 × 2.3 × 1.6" (160 × 60 × 42mm)		
Weight	151g (5.3oz)		

CERTIFICATIONS

This product complies with applicable CE requirements, is RoHS compliant, and has been tested to applicable IEC standards.

WARRANTY

Triplett offers warranty to the original purchaser of its products. We guarantee that our products will be free from defects in workmanship and materials for two (2) years from the purchase date.

This warranty does not cover:

- Products purchased from unauthorized distributors.
- Items that have been repaired or altered by unauthorized individuals.
- Damage from misuse, abuse, misapplication, negligence, or accidents.
- Products with altered, defaced, or removed serial numbers.
- Accessories, including batteries.

For product support, registration, FAQs, or to request calibration or repair services, visit www.triplett.com/support.

Imagery is for reference and may be enhanced for clarity. Actual product appearance and screen content may vary slightly. Specifications are subject to change without notice. For the latest information, visit www.triplett.com.