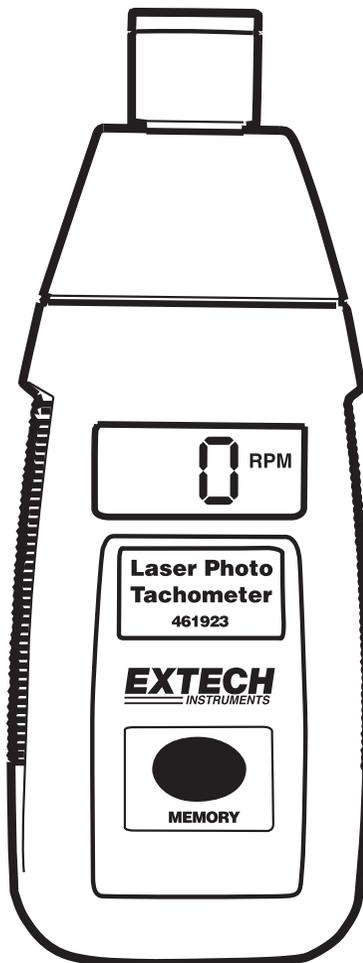


INSTRUCTION MANUAL



LASER PHOTO TACHOMETER

Model 461923



Introduction

Congratulations on your purchase of Extech's Laser Photo Tachometer, Model 461923. This Tachometer can measure the RPM of rotating objects and has a laser pointer beam for accurate long distance measurements. This meter, with proper care, will provide years of safe reliable service.

Safety



CAUTION



Laser Radiation



1. Use extreme caution when the laser beam is ON
2. Do not point the beam toward anyone's eye
3. Be careful not to let the beam strike the eye from a reflective surface.
4. Do not use the laser near explosive gases or in other potentially explosive areas

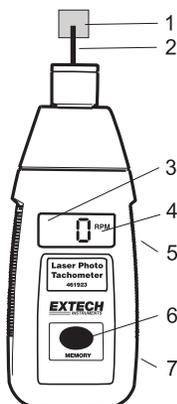
Specifications

General Specifications

Circuit	Custom LSI microprocessor circuit
Time base	Quartz crystal 4.194 MHz
Display	5 digit, 0.4" (10mm) LCD display with function indicators
Measurement range	5 to 99,999 RPM
Accuracy	$\pm(0.05\%$ reading + 1 digit)
Resolution	0.1 RPM (<1000 RPM); 1 (>1000 RPM)
Laser light source	Less than 1mW; Class 2 red laser diode (645nm approx.)
Detecting Distance	2 to 79" (50 to 2000 mm) with 10mm reflective tape and 1800rpm (ambient light, tape size and RPM will effect maximum distance)
Memory	Last reading and MIN/MAX readings
Operating Conditions	32 °F to 122 °F (0 °C to 50 °C); RH 80% Max
Power Supply	4 x 1.5 V AA (UM 3) batteries
Power Consumption	20mA DC approx.
Weight	0.55 lbs. (250g) including battery)
Size	7.5 x 2.8 x 1.5" (190 x 72 x 37 mm)
Accessories	4- 1.5V batteries, reflective tape 24" [600mm], and carrying case

Front Panel Description

1. Reflective tape
2. Laser light beam
3. Monitor indicator
4. LCD display
5. Measurement button
6. Memory recall button
7. Battery compartment



Meter Operation

Photo Tachometer Measurements

1. Apply a square piece of reflecting tape to the surface of the object under test.
2. Point the top of the meter toward the device under test at a distance of 2" to 79" (50 to 2000mm).
3. Press the Measure button (located on the right side of the meter) and align the laser pointer beam with the reflective tape.
4. Verify that the Monitor Indicator appears on the upper left hand section of the LCD when the object under test passes through the light beam
5. Release the Measure button when the RPM reading stabilizes on the LCD.
6. If the rpm is under 50, apply additional squares of reflective tape. Divide the reading shown on the display by the number of reflective squares to get the actual rpm.

NOTE: Bright ambient light may interfere with the reflected light beam. Shading the target area may be necessary in some cases.

CAUTION: Rotating objects can be dangerous. Use extreme care when holding the meter near any such object.

MIN/MAX and Last Reading Memory Recall

The 461923 can record Maximum, Minimum, and Last Reading for the period of time the Measure button is held. These stored values can then be read directly on the meter's display. Access the memory data immediately after the measurements have been taken.

1. Press once and hold: The Last Reading is displayed followed by the "LA" icon.
2. Press again and hold: The Maximum value is displayed followed by "UP" icon
3. Press again and hold: The Minimum value is displayed followed by "dn" icon

Battery Replacement

The low battery indication appears as "LO" on the display. Replace the batteries when this display appears. To replace the battery, slide the rear battery compartment cover off of the meter, replace the four 1.5V AA batteries, and replace cover.

Calibration and Repair Services

Extech offers complete repair and calibration services for all of the products we sell. For periodic calibration, NIST certification or repair of any Extech product, call customer service for details on services available. Extech recommends that calibration be performed on an annual basis to ensure calibration integrity.

Warranty

EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at www.extech.com (click on 'Contact Extech' and go to 'Service Department' to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

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