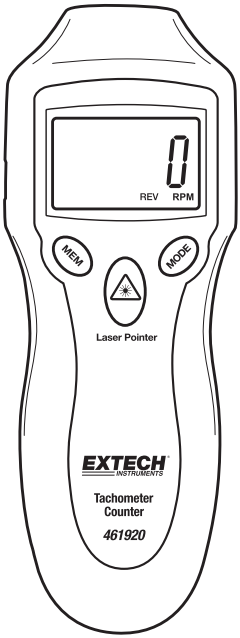
User's Guide

EXTECH INSTRUMENTS

Model 461920

Laser Photo Tachometer



Introduction

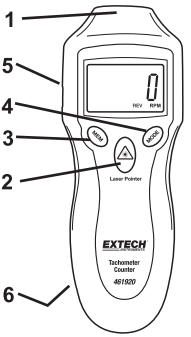
Congratulations on your purchase of Extech's Mini Laser Photo Tachometer, Model 461920. This Tachometer provides non-contact RPM and Revolution count measurements. The laser pointer beam provides accurate long distance measurements for photo tachometer measurements. This meter is shipped fully tested and calibrated and, with proper use, will provide years of reliable service.

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 to 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 www.extech.com for contact information. 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.*

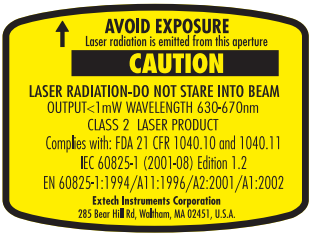
Meter Description

1. Photo Tachometer sensor and laser source
2. MEASURE button
3. MEMORY button
4. MODE button
5. AC Power Adaptor
6. Battery compartment (rear)



CAUTION: Rotating objects can be dangerous. Use extreme care.

WARNING: Do not directly view or direct the laser pointer at an eye. Low power visible lasers do not normally present a hazard, but may present some potential for hazard if viewed directly for extended periods of time.



Meter Operation

1. Apply an appropriately (0.5”/12mm) sized square piece of reflective tape to the surface of the object under test.
2. Point the meter toward the device under test at a distance of 2" to 20" (50 to 500mm).
3. Press the Measure button (MEAS) and align the laser light beam with the reflective tape.
4. Verify that the ((ı)) Monitor Indicator appears on the LCD when the reflective tape passes through the light beam.
5. To change units (RPM or REV), release the MEAS button and press the MODE button.
6. When the Measure button is released the last reading will remain in the display for 5 to 10 seconds before the Auto Power Off feature turns the meter off.
7. With the meter OFF, press the MEM (memory) button to recall the MAX, MIN and LAST rpm values or the last count (REV) from the last measurement period.

Measurement Notes

1. Bright ambient light may interfere with the reflected light beam. Shading the target area may be necessary in some cases.
2. The non-reflective are must always be larger than the reflective area.
3. If the shaft or rotating object is normally reflective, it must be covered with black tape or paint before the reflective tape is applied.
4. To improve repeatability of low rpm measurements, apply additional squares of reflective tape. Divide the reading shown on the display by the number of pieces of reflective tape squares to calculate the actual rpm.

Specifications

Time base	Quartz crystal
Display	5 digit LCD display
Laser light source	Class 2 laser < 1mW power; Wavelength is 630 to 670nm
Detecting Distance	2 to 20" (50 to 500 mm)
Sampling Time	0.5sec (over 120 rpm)
Memory	Last reading and MIN/MAX readings
Operating Conditions	32 °F to 122 °F (0 °C to 50 °C); RH 80% Max
Power Supply	Internal 9V battery or external AC Adaptor (6 to 9VDC)
Power Consumption	45mA DC approx.
Weight	5.3oz. (151g)
Size	6.3x2.3x1.6" (160x58x39 mm)
Accessories	(1) 9V battery, reflective tape 24" (600mm) and carrying case

Range Specifications

	Range	**Resolution**	**Accuracy (%rdg)**
Photo Tachometer	2 to 99,999 rpm	0.1 rpm (<1000rpm) 1 rpm (>1000 rpm)	± (0.05% + 1d)
Counter	1 to 99,999 REV	1 count	

Battery Replacement

The low battery indication appears as "□" on the display. To replace the batteries, loosen the two Philips head screws securing the rear battery cover and lift the cover off. Replace the 9V battery and replace cover.

Calibration and Repair Services

Extech offers repair and calibration services for the products we sell. Extech also provides NIST certification for most products. Call the Customer Service Department for information on calibration services available for this product. Extech recommends that annual calibrations be performed to verify meter performance and accuracy.

Support line (781) 890-7440

Technical support: Extension 200; E-mail: support@extech.com

Repair & Returns: Extension 210; E-mail: repair@extech.com

Product specifications subject to change without notice

For the latest version of this User Guide, Software updates, and other up-to-the-minute product information, visit our website: www.extech.com

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