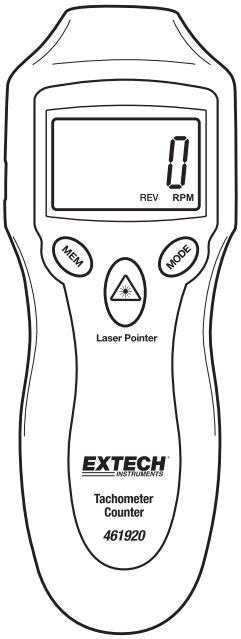
User's Guide

EXTECH INSTRUMENTS
A FLIR COMPANY

Model 461920

Laser Photo Tachometer



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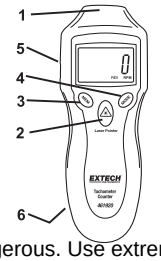
Introduction

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.

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.

Laser complies with:FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1 (2001-2008) Edition 1.2
EN 60825-1:1994/A11:1996/A2:2001/A1:2002

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)
Tachometer accuracy	± (0.05% + 1d)
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)

	Range	Resolution
Photo Tachometer	2 to 99,999 rpm	0.1 rpm (<1000rpm) 1 rpm (>1000 rpm)
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.

You, as the end user, are legally bound (Battery ordinance) to return all used batteries and accumulators; disposal in the household garbage is prohibited!

You can dispose of your used batteries / accumulators at collection points in your community or wherever batteries / accumulators are sold!

Disposal: Follow the valid legal reulations with respect to the disposal of the device at the end of its lifecycle

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