



MONARCH INSTRUMENT

Instruction Manual

Pocket Tachometer 99 (PT99) Noncontact Tachometer



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SAFEGUARDS AND PRECAUTIONS



WARNING - This product emits a visible beam of red LED light. Avoid exposure. The use of optical viewing aids (binoculars, for example) may increase the ocular hazard. (This is not a laser product.)

CAUTION - The red LED beam should not be intentionally aimed at people or animals.



Read and follow all instructions in this manual carefully, and retain this manual for future reference.

Do not use this instrument in any manner inconsistent with these operating instructions or under any conditions that exceed the environmental specifications stated.

This instrument is not user serviceable. For technical assistance, contact the sales organization from which you purchased the product.



To comply with worldwide regulations such as the U.S. Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) and EU Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), you must not discard this electrical/electronic product in domestic household waste. The electronic components in this device may contain environmentally harmful substances. **DO NOT DISPOSE** of this product as unsorted municipal waste. This product needs to be RECYCLED and disposed of in accordance with environmental regulations in the country of use; contact your local authorities for more information. This product may be returnable to your distributor for recycling; contact the distributor for details.

Monarch Instrument's Limited Warranty applies.

See www.monarchinstrument.com for details.

Warranty Registration and Extended Warranty Coverage information is available online at www.monarchinstrument.com.

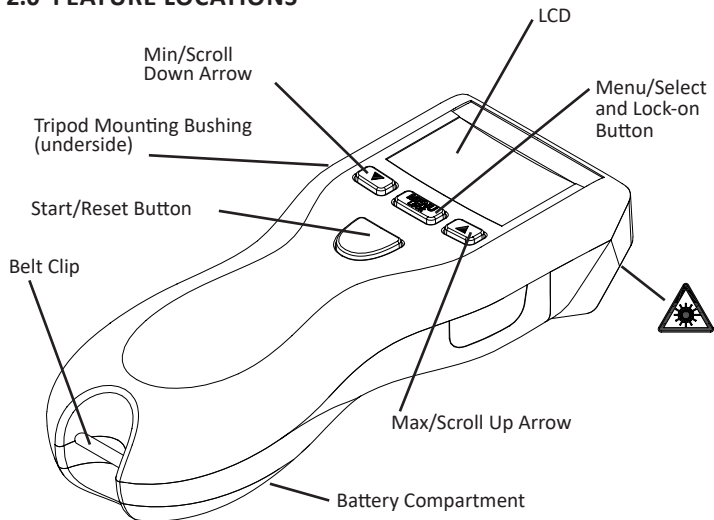
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1.0 DESCRIPTION

The Pocket Tach 99 is a handheld precision optical tachometer designed to make noncontact measurements of rotational speeds from 5 to 99,999 RPM at a distance of up to 36 inches [91.44 cm] from a reflective target and at an angle of up to 30° off perpendicular. The unit has the ability to recall maximum and minimum values. The unit can be tripod mounted and locked on for continuous measurements.

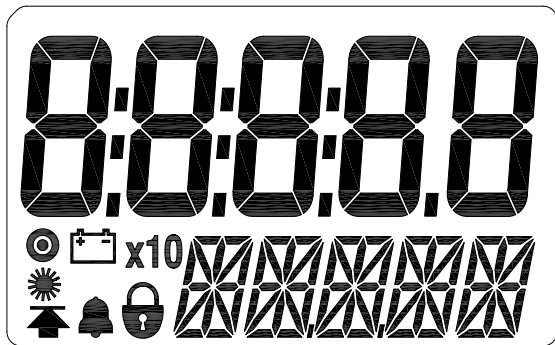
2.0 FEATURE LOCATIONS



CAUTION

Red LED light emitted from this aperture. (This is not a laser product.)

3.0 LCD SYMBOLS



On-Target Indicator — blinks on whenever there is an input signal; will appear to be solid on at higher frequencies



Low Battery icon — indicates that the batteries are low and need to be replaced



Times Ten icon — indicates that the value shown is ten times that which is displayed



LED Indicator — red LED is on when this indicator is illuminated

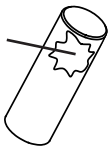


Lock icon — indicates that the unit is locked on and making continuous measurements (Lock-on mode)

4.0 NONCONTACT MEASUREMENTS

4.1 Preparation for Measurement

1. Clean shaft

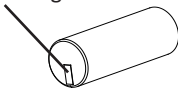
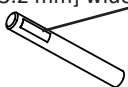


2. Apply 1/2 inch [12.7 mm] square T-5 Reflective tape



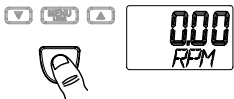
For Small Shafts:

As small as 1/8 inch [3.2 mm] wide on side or radius edge



4.2 Setup

1. Turn Power ON



- 1a. To toggle Lock On/Off



2. Enter Setup (decimal place selection)



3. Select decimal places



4. Save and exit;
ready to measure



RPM displayed with
selected number of
decimal places

Unit will remember these settings (including lock on/off) even if turned off and back on.

4.3 Operation

Measure:

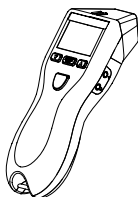


press and hold

OR

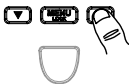


Lock on



aim LED

Recall Max:



Max Speed

Recall Min:



Min Speed

If unit Locked on:

resets Max/Min



Power OFF:



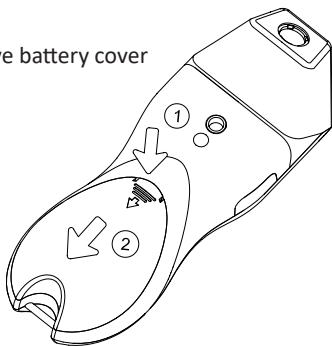
OR Automatic after 90 seconds
if unit not Locked on

5.0 BATTERIES

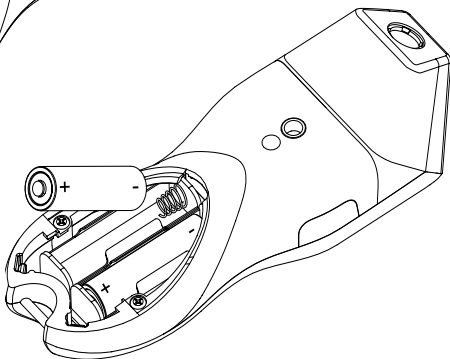
When Low Battery icon is displayed, replace batteries.



1. Remove battery cover



2. Install two 1.5 V AA
alkaline batteries



Note: Both batteries face the same direction.

5.1 Battery Disposal




The PT99 uses (2) 1.5V AA Alkaline batteries. Make sure you remove and dispose of used batteries in accordance with environmental regulations in the country of use.



To remove the (2) batteries, see previous section, 5.0 BATTERIES.

6.0 SPECIFICATIONS

Specifications*	PT99 Pocket Tachometer
Speed Range	5 to 99,999 RPM
Accuracy	±0.01% of reading or ±1 digit
Resolution	Auto-ranging: 0.001 RPM to 1.0 RPM
Operating Range	≤ 36 in. [91.44 cm] at ≤ 30° off perpendicular
Memory	Maximum, Minimum, and Last Reading
Display	5 digits, 5 alphanumeric LCD
Light Source	Red LED
Batteries	2 AA 1.5 V  (DC) alkaline (included) Note: batteries are not rechargeable
Battery Life	60 hours continuous typical with provided batteries
Dimensions (HxWxD)	6.92 in. x 2.4 in. x 1.6 in. [17.58 cm x 6.10 cm x 4.06 cm]

Specifications*	PT99 Pocket Tachometer
This product is designed to be safe for indoor use under the following conditions (per IEC61010-1):	
Installation Category II	Per IEC 664
Pollution Degree Level II	Per IEC 664
Temperature	40 °F to 105 °F (5 °C to 40 °C)
Humidity	Maximum relative humidity of 80% for temperatures up to 88 °F (31 °C) decreasing linearly to 50% relative humidity at 100 °F (40 °C); humidity non-condensing

*Specifications are subject to change without notice.

6.1 Compliance

CE Compliant

Please visit our website, www.monarchinstrument.com to download our Declaration of Conformity for this product.

7.0 OPTIONS/ACCESSORIES

Model	Part Number	Description
T-5 Reflective Tape	6180-070	5 feet [1.5 m] roll, ½ inch [13 mm] wide; *Additional options available, see below.
T-5WP Waterproof Reflective Tape	6180-079	Waterproof Reflective Tape with honeycomb pattern – 1-inch wide, 5-foot [1.5 m] roll
CC-11 Latching Carry Case	6180-048	Plastic case with foam die-cut inserts for tachometer and accessories
Mini Tripod	6180-040	Miniature tripod for use with Monarch tachometers and stroboscopes
CAL-NIST	6109-010-CAL	NIST Traceable Certificate of Calibration (include with order or obtain RMA#)

T-5 Reflective Tape*



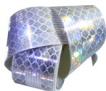
T-5 Single Pack
PN: 6180-070



T-5 2-Pack
PN: 6180-069



T-50 50 Ft.
6180-072



T-5WP
PN: 6180-079



Latching Carrying Case
PN: 6180-048



Mini Tripod
PN: 6180-040

Measure • Monitor • Maintain

Monarch Instrument is committed to excellence and quality in manufacturing, sales, and service.



*Portable
Tachometers*



Track-It™ Data Loggers



Panel Tachometers



*Fixed Mounted
Strobes*



Portable Strobes



*Frequency
Converters*



Speed Sensors



*DataChart™ Paperless
Recorders*



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