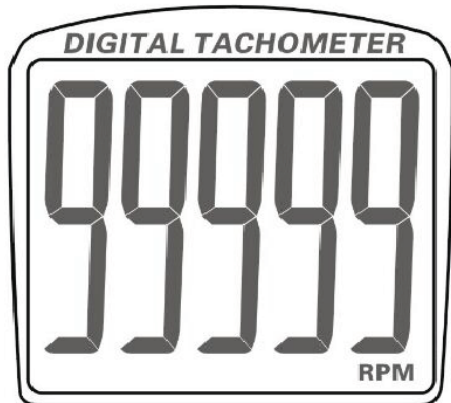


# DIGITAL TACHOMETER OPERATION MANUAL



## 1. FEATURES

- It uses microcomputer (CPU) technique and junction laser technique for one instrument to combine PHOTO TACH. (RPM) & CONTACT TACH. (rpm, m/min).
- Wide measuring range and high resolution.
- Low battery voltage indication.
- Contact part and photo part can be switched at any time.
- New surface speed sensor with flute vanes to measure speed and length of wire, cable, and rope conveniently.
- The instrument is delicate and rugged. It uses durable, long-lasting components and a strong, lightweight ABS plastic housing. The housing has been carefully shaped to fit comfortably in either hand.
- The max displayed value/min. Value/last Value may be automatically stored in memory and can be displayed by pressing the MEMORY CALL BUTTON.

## 2. SPECIFICATIONS

Display:	5 digits, 31mm LCD
Accuracy:	+(0.05% + 1 digit)
Range select:	Auto-Ranging
Sampling Time:	0.8 seconds (Over 60 RPM)
Memory:	The max. Value/ Min. Value/ Last Value. Displayed Value will be automatically stored in memory.
Time Base:	Quartz crystal
Dimension:	205 x 76 x 40 mm
Detecting Distance:	50 to 500 mm / 2 to 20 inches (photo)

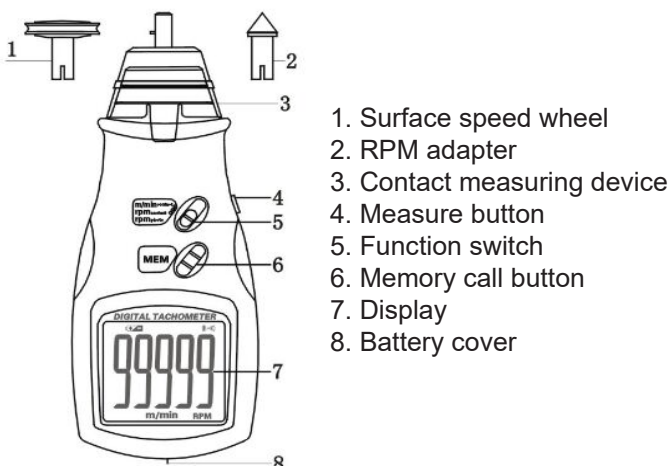
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Operation Temp.:	0 to 50° C (32 to 122° F)
Battery:	UM-3 AA 1.5V x4
Power Consumption:	Approx. 50mA

Test Range:	
PHOTO TACH	2.5 to 99,999RPM
CONTACT TACH	0.5 to 19,999RPM
SURFACE SPEED	0.05 to 1999.9m/min

Resolution:	
PHOTO TACH:	0.1RPM (2.5 to 999.9 RPM) 1RPM (over 1000 RPM)
CONTACT TACH:	0.1RPM (0.5 to 999.9 RPM) 1RPM (over 1000 RPM)
SURFACE SPEED:	0.01m/min (0.05 to 99.99m/min) 0.1m/min (over 100m/min)

## 3. FRONT PANEL DESCRIPTION



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## 4. MEASURING PROCEDURE

### (1) PHOTO MEASUREMENT

- Apply a reflective mark to the object being measured. Slide the function switch to "rpm photo" position.
- Depress the MEASURE BUTTON and align the visible light beam with the applied target. Verify that the MONITOR INDICATOR lights when the target aligns with the beam.

### (2) CONTACT TACH MEASUREMENT

- Slide the FUNCTION SWITCH to "rpm contact" position. Install the proper RPM ADAPTER on the SHAFT.
- Depress the MEASURING BUTTON and lightly pressing the RPM ADAPTER against the center hole of rotating shaft. Be certain to keep alignment straight. Release the MEASURING BUTTON when the display reading stabilizes.

### (3) SURFACE SPEED MEASUREMENT

- Slide the FUNCTION SWITCH to "m/min contact" position. Install the SURFACE SPEED WHEEL on the SHAFT instead of the RPM ADAPTER.
- Depress the MEASURING BUTTON and simply attaching the SURFACE SPEED WHEEL to the detector. Release the MEASURING BUTTON when the display reading stabilizes.

## 5. MEASURING CONSIDERATION

### 5-1 REFLECTIVE MARK

Cut and peel adhesive tape provided into approx.

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12mm (0.5") squares and apply one square to each rotation shaft.

- a. The non-reflective area must always be greater than the reflective area.
- b. If the shaft is normally reflective, it must be covered with black tape or black paint before attaching reflective tape.
- c. Shaft surface must be clean and smooth before applying reflective tape.

### 5-2 VERY LOW RPM MEASUREMENT

As it is easy to get high resolution and fast sampling time. If measuring the very low RPM values, suggest user to attach more "REFLECTIVE MARKS" averagely. Then divide the reading shown by the number of "REFLECTIVE MARKS" averagely. Then divide the reading shown by the number of "REFLECTIVE MARKS" to get the real RPM.

**5-3** Contact tachometer parts include large taper, small taper and pillar. Large taper and pillar rubberpart is suitable to low speed and but the small high speed.

**Note:** Because of the difference between the girth of outer surface and inner flute of line speed sensor. For contact line speed or length measurement. The displaying result is correct when outer surface of the sensor contacts with the measured object contact and but when Inner flute of the sensor and the measured object , that the reading multiply 0.9 is the real result (eg.: measure wire ,cable and rope etc.)

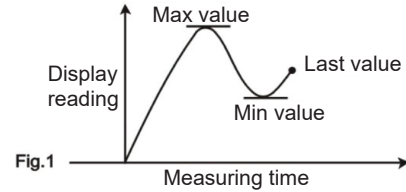
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## 6. MEMORY

6-1 Areadout ( the max. value, min. value, last value ) obtained immediately before turning off the MEASURE BUTTON is automatically memorized.

For example, please ref. following fig. 1.

6-2 That Memorized value can be displayed on the indicator by turn once depressing the memory button. The Symbol "UP" represents the Max. Value and "dn" the Min Value; "LA" the last Value.



## 7. BATTERY REPLACEMENT

- (1) If is necessary to replace battery, when left corner of LCD display show "⊕□".
- (2) Slide the battery cover ( 3-8 ) away from the instrument and remove the battery.
- (3) Install the batteries UM-3 correctly into the case.
- (4) If the instrument is not be used for any extended period, remove batteries.

### Accessories:

Carrying case	1 pc
Operation manual	1 pc
Reflecting tape marks (600mm)	
Contact speed measurement fitting	1 pc
Contact rotational speed measurement fitting	3pcs

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**CAUTION**  
**BEAM OF LIGHT - DO NOT**  
**STARE INTO EYE BEAM!**