



DIGITAL
PHOTO/CONTACT
TACHOMETER

MT 6000

OPERATION

MANUAL



DRUCK & TEMPERATUR

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DIGITAL PHOTO/CONTACT TACHOMETER

Your purchase of this DIGITAL TACHOMETER marks a step forward for you into the field of precision measurement. Although this TACHOMETER is a complex and delicate instrument, its ruggedness will allow many years of use if proper operating techniques are developed. Please read the following instructions carefully and always keep this manual within easy reach.

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1. FEATURES

- * Multi-function, one instrument combine PHOTO TACH. (RPM) & CONTACT TACH. (RPM, m/min., ft/min.).
- * Wide measuring range from 0.5 to 100,000 RPM.
- * The last value/max. value/min. value will be automatically stored in memory and can be obtained by pressing MEMORY CALL BUTTON.
- * High visible, insignificant zero suppression LCD display gives exact RPM with no guessing or errors and saves battery energy.
- * This tachometer used the exclusive one chip MICRO-COMPUTER LSI-circuit and crystal time base to accurately offer the high accuracy measurement & fast measuring time.
- * The use of durable, long-lasting components, including a strong, light weight ABS-plastic housing assures maintenance free performance for many years. The housing has been carefully shaped to fit comfortably in either hand.

2. SPECIFICATIONS

Display	: 5 digits, 10mm(0.4") LCD (Liquid Crystal Display), with function annunciation.
Measurement	: PHOTO TACH. - 5 to 99,999 RPM. CONTACT TACH. - 0.5 TO 19,999 RPM. SURFACE SPEED (m/min.) - 0.05 to 1,999.9 m/min. SURFACE SPEED (ft/min.) - 0.2 to 6,560 ft/min.
Resolution	: PHOTO TACH. -0.1 RPM (0.5 to 999.9 RPM).

- 1 RPM (over 1,000 RPM).
- CONTACT TACH.
 - 0.1 RPM (0.5 to 999.9 RPM).
 - 1 RPM (over 1,000 RPM).
- SURFACE SPEED (m/min.)
 - 0.01 m/min. (0.05 - 99.99 m/min.).
 - 0.1 m/min. (over 100 m/min.).
- SURFACE SPEED (ft/min.)
 - 0.1 ft/min. (0.1 to 999.9 ft/min.).
 - 1 ft/min. (over 1,000 ft/min.).
- Accuracy : $\pm (0.05\% + 1 \text{ digit})$.
- Sampling Time : PHOTO TACH. (1 sec. over 60 RPM).
CONTACT TACH. (1 sec. over 6 RPM).
- Photo Tach.
 - detecting distance: 50 to 150mm/2 to 6 inch. (typical max. 300mm/12 inch, depending upon ambient light).
- Test range select : Automation.
- Time base : Quartz crystal.
- Circuit : Exclusive one-chip of microcomputer LSI circuit.
- Battery : 4 x 1.5V AA (UM-3) battery.
- Operation temp. : 0 - 50°C (32-122°F).
- Size : 215 x 65 x 38 mm
(8.5 x 2.6 x 1.5 inch).
- Weight : 300g (0.66 lb)/including battery.
- Memory : Last value, Max. value, Min. value.
- Accessories : Carrying case 1 pc.
Reflecting tape marks (600mm) . . . 1 pc.
RPM adapter (CONE) 1 pc.
RPM adapter (FUNEL) 1 pc.
Surface speed test wheel 1 pc.
Operation manual 1 pc.

3. FRONT PANEL DESCRIPTIONS

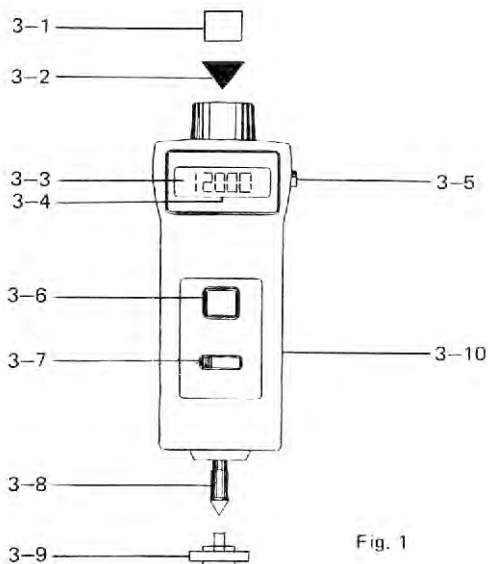


Fig. 1

- 3-1 Reflective mark
- 3-2 Signal light beam
- 3-3 Monitor indicator
- 3-4 Display
- 3-5 Measure button
- 3-6 Memory call button
- 3-7 Function switch
- 3-8 Rotating ring
- 3-9 Circumferential speed ring
- 3-10 Battery Compartment

4. PHOTO TACH. MEASURING PROCEDURE

- A. Slide the FUNCTION SWITCH to "RPM (PHOTO)" position.
- B. Apply a reflective mark to the object being measured. Depress the MEASURING BUTTON and align the visible light beam with the applied target. Verify that the MONITOR INDICATOR lights when the target passes thru the light beam. Release the MEASURING BUTTON when the reading stabilizes (about 2 seconds). If the test RPM less than 50 RPM, suggest to attach more "REFLECTING MARKS" averagely. Then divided the reading shown by the number of "REFLECTING MARKS" is the real RPM to get high resolution & stability on display reading.

5. CONTACT TACH. MEASURING PROCEDURE

5-1 RPM Measurement

- A. Slide the FUNCTION SWITCH to "RPM (CONTACT)" position.
- B. Depress the MEASURING BUTTON and lightly pressing the rotating ring (3-8) against the center hole on the rotating hole. Release the MEASURING BUTTON when the reading stabilizes (approx. 2 seconds).

5-2 Surface Speed Measurement

- A. Slide the FUNCTION SWITCH to "m/min. (SURFACE SPEED)" or "ft/min. (SURFACE SPEED)".
- B. Depress the MEASURING BUTTON and simply attaching the surface speed test wheel to the detector. Release the MEASURING BUTTON when the reading stabilizes.

6. MEMORY CALL BUTTON OPERATION

6-1 A readout (the last value, max. value, min. value) obtained immediately before turning off the MEASURING BUTTON is automatically memorized. For example, please ref. following fig. 2.

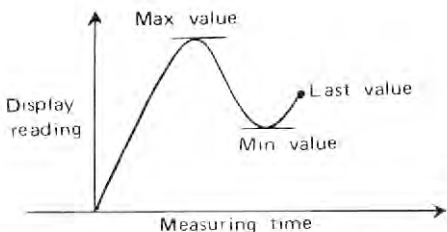


Fig. 2

6-2 That Memorized value can be displayed on the indicator whenever

- A. First push – To display the last value:
“LA” and “the last value” will be displayed by turn.
- B. Second push – To display the maximum value:
“UP” and “the max. value” will be displayed by turn.
- C. Third push – To display the minimum value:
“dn” and “the min. value” will be displayed by turn.

7. BATTERY REPLACEMENT

- (1) When it is necessary to replace the battery (battery voltage less than approx. 4.5V), “LO” will appear on the display.
- (2) To loose the screw of the battery cover 3-10 fig. 1 away from the instrument and remove the battery.

(3) Install the batteries correctly into the case. Permanent damage to the circuit may result from incorrect installation.

8. PATENT & PATENT PENDING

This exclusive TACHOMETER already get patent in GERMANY, U.S.A. TAIWAN R.O.C. and patent pending in JAPAN & other contries.