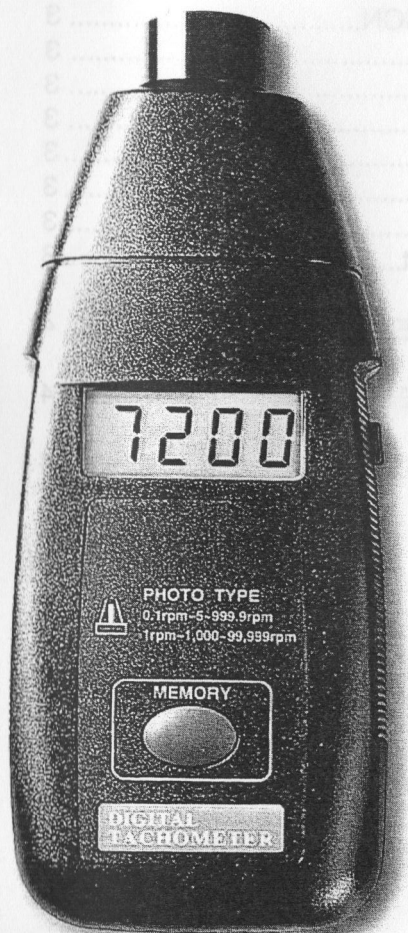


# LASER PHOTO TACHOMETER

**AKTAKOM**

**Model : ATE-6020**



Your purchase of this LASER PHOTO TACHOMETER marks a step forward for you into the field of precision measurement. Although this TACHOMETER is a complex and delicate instrument, its durable structure 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.

**OPERATION MANUAL**

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## 1. FEATURES

- \* Laser light detecting source, long measuring range up to 2 meters, it is useful in the RPM measurement application where the machine would be a risk to the operator or close access is difficult or not possible.
- \* Wide measuring range from 10 to 100,000 RPM, 0.1 RPM resolution for the measured value < 1000 RPM.
- \* Microprocessor based circuit, crystal time base, high precision with 0.05% accuracy.
- \* High visible LCD display gives RPM reading exactly with no guessing or errors & saves battery energy.
- \* Memory with recall function, the last value, max., value, min. value will be stored into the memory automatically.
- \* The use of durable, long lasting components, including a strong, light weight ABS plastic housing, assures almost maintenance free performance for many years.

## 2. SPECIFICATIONS

Display	5 digits, 10 mm ( 0.4" ) LCD , with function annunciation.
Measurement & Range	10 to 99,999 RPM.
Resolution	0.1 RPM ( < 1,000 RPM ). 1 RPM ( ≥ 1,000 RPM ).
Accuracy	± ( 0.05% + 1 digit ).

Detecting distance	50 – 2,000 mm typically. * Spec. of detecting distance are that under the size of reflecting tape is 10 mm square & the measuring RPM value is 1,800 PPM. The max. detecting distance may change under different environment, different reflecting tape or the measuring RPM beyond 1800 PRM.
Laser light source	* Less than 1 mW. * Class 2 laser diode. Red. Wave length is 645 nm approximately.
Time base	Quartz crystal, 4.194 MHz.
Circuit	Exclusive one – chip of microcomputer LSI circuit.
Operating Temp.	0 – 50 °C ( 32 – 122 °F).
Operating Humidity	Less than 80% R.H.
Memory	Last / Max. / Min. ... value.
Battery	4 x 1.5V AA ( UM–3 ) battery.
Power Consumption	Approx. DC 20 mA.
Size	190 x 72 x 37 mm ( 7.5 x 2.8 x 1.5 inch )
Weight	250g ( 0.55 lb )/including battery.
Accessories Included	Carrying case..... 1 PC Reflecting tape marks ( 600 mm )..... 1 PC Operation manual..... 1 PC

### 3. FRONT PANEL DESCRIPTION

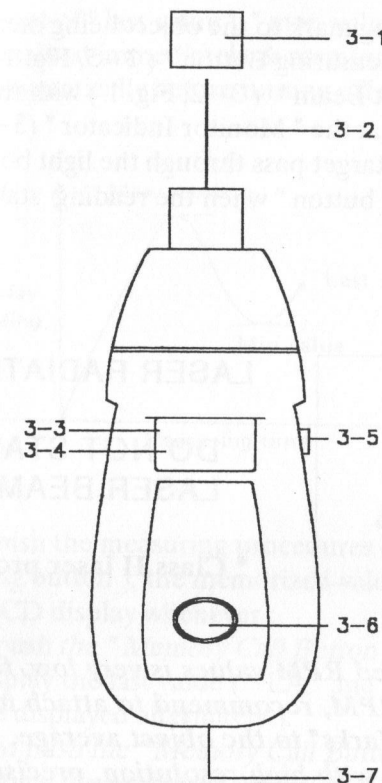


Fig. 1

- |                       |                         |
|-----------------------|-------------------------|
| 3-1 Reflecting Mark   | 3-5 Measuring Button    |
| 3-2 Laser Light Beam  | 3-6 Memory Call Button  |
| 3-3 Monitor indicator | 3-7 Battery Compartment |
| 3-4 Display           |                         |



#### 4. MEASURING PROCEDURE

Apply a reflecting mark to the object being measured. Depress the " Measuring Button " ( 3-5, Fig. 1 ) & align the " Laser Light Beam " ( 3-2, Fig. 1 ) with the applied target. Verify that the " Monitor Indicator " (3-3, Fig. 1) lights when the target pass through the light beam. Release the " Measuring button " when the reading stabilizes ( about 2 seconds ).

#### CAUTION :



**LASER RADIATION –**

**DO NOT STARE INTO  
LASER BEAM**

**\* Class II laser products.**

#### Note :

*If the measured RPM values is very low, for example less than 50 RPM, recommend to attach more "Reflecting Marks" to the object average. It will get the real RPM with high resolution, precisely & fast sampling time when divided the reading values by the no. of the " Marks ".*

#### 5. OPERATION PROCEDURE FOR MEMORY RECALL

- 1) The readout of " last value ", " max. value " & " min. value " can be obtained immediately & memorized into the circuit automatically before turning off the " Measuring Button ".

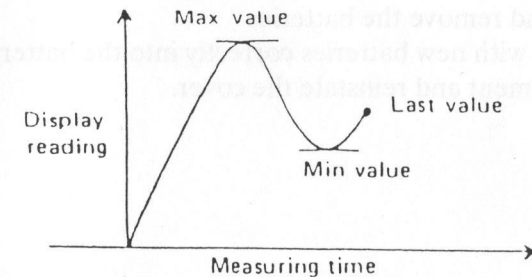


Fig. 2

- 2) When finish the measuring procedures ( after release the measuring button ), the memorized values can be displayed on the LCD display whenever :
  - a) *First push the " Memory Call Button " ( 3-6, Fig. 1 ) –*  
To display the last value ( " LA " and the " last value " will be displayed alternately ).
  - b) *Second push the " Memory Call Button " –*  
To display the maximum value ( " UP " and the " max. value " will be displayed alternately ).
  - c) *Third push the " Memory Call Button " –*  
To display the minimum value ( " dn " and the " min. value " will be displayed alternately ).

## 6. BATTERY REPLACEMENT

- 1) When the LCD display appear " LO ", it is necessary to replace the battery, However in-spec measurement may still be made for several hours after low battery indicator appears before the instrument become inaccurate.
- 2) Slide the " Battery Cover " ( 3-7. Fig 1 ) away from the meter and remove the batteries
- 3) Replace with new batteries correctly into the battery compartment and reinstate the cover.