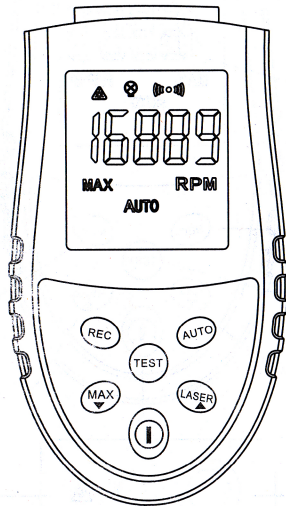


The Digital Tachometer Instruction Manual



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Thanks for choosing the product of our company, thank you very much. Before using our product, please read the instruction manual carefully, which will show you the correct way to operate. We wish that will help you experience the excellent performance of our product.

I. FEATURES

- MCU Embedded, and based on optoelectronic, semiconductor laser and other advanced technology, measuring RPM is accurate non-contact.
- Wide range of the measurement and high-resolution.
- Automatic measuring and manual measuring selection.
- The power of laser is of high and low selection to adapt the far and near distance.
- Automatic to record 50 sets of data, and the sampling interval time could be changed.
- Automatic to record the Max, Min and Average data.
- LCD light helping work in the dark.
- Auto shut off after 30 seconds without operation.

II. SPECIFICATIONS

- Display: 5 digits LCD, Max 99999
- Measuring Range: 2.5 RPM~99999 RPM
- Resolution: 2.5 RPM~999.9 RPM (0.1 RPM)
1000 RPM~99999 RPM (1 RPM)
- Accuracy: $\pm(0.05\% \text{ rdg} + 1 \text{ digital})$
- Available Distance: 50mm~500mm

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- F ----- The data of RPM
G ----- Unit RPM
H ----- Count of Automatic measurement
I ----- Continuous automatic measurement
J ----- Data record function
K ----- Average data of measuring
L ----- Minimum data of measuring
M ----- Maximum data of measuring
N ----- Sampling of the Data record

- 2. Power button:** Press button ① to turn it on. Long press ① more than 3 seconds to turn it off. Short press ① to light the LCD.
- 3. Manual measuring button:** Press button ② to start measuring. Point the laser to the object to get the data. Stop pressing the button and you get the data hold.
- 4. Automatic measuring button:** Press button ③ to start measuring and the sign "AUTO" will light. The meter will always keep measuring so you must press ③ again to stop measuring and get the data you need.
- 5. Automatic data record button:** First press button ④ to start Automatic measurement and then press button ⑤ to start to record 50 sets of data. The sign "REC" will flicker and the lower right LCD will display the count of sets (Like the Fig5). After the record was over, the sign "REC" will vanish.

If you want to check the record data, First press ⑥ to stop measuring, then press ⑤ and the sign "DATA" will display. On the lower right of LCD is the current count of the record data (from 1~50). (Fig. 6). You can just

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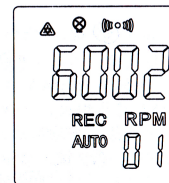


Fig.5

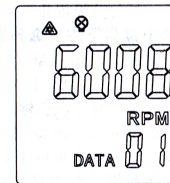


Fig.6

press ④ to check back and press ⑤ to check forward. When you finished checking, press ⑤ to exit.

The meter will react only if you have already recorded the data after you press ⑤. The data won't be lost after power off. But the data will lose if you move the batteries out, please be careful.

The record interval time can be set. Long press ⑥ more than 3 seconds, the sign "DATA" will light. On the lower right of LCD is the count flickering to be set. For example, if you set the count 10 (Max 99), the meter will record once after every 10 sampling, finally 500 sampling but only 50 to be recorded, which will help analysing the RPM during the measuring time. Press ④ to add the count and press ⑤ to reduce the count, because the sampling time is constant, the more that count set, the longer time the record takes. When you finished setting, press REC to exit.

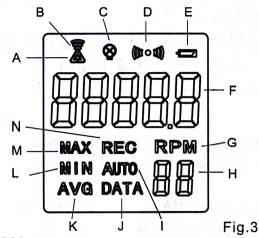
- 6. Max, Min and average data selection button:** Press ⑥, the sign "MAX" will light and display the maximum data of measuring. Press ⑥ again, the sign "MIN" will light and display the minimum data of measuring. Press ⑥ then again, the sign "AVG" will light and display the average data of

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- Sampling Time: 0.5s (over 120 RPM)
- Time base: Crystal Oscillator
- Operating Temperature: 0 °c ~50 °c
- Storage Temperature: -20 °c ~60 °c
- Battery: 2×AAA
- Power Consumption: Laser in Low power 25 mA
Laser in High power 40 mA
- Size: 108(L)×60(W)×32(H) mm
- Weight: 73g
- Enclosure: Instruction Manual, batteries, reflecting tape marks.

III. DESCRIPTION AND FUNCTION(Fig.2)

1. LCD: 5 digits (Fig.3)



- A ----- Laser
B ----- Laser power
C ----- LCD light
D ----- RPM measuring
E ----- Battery low power

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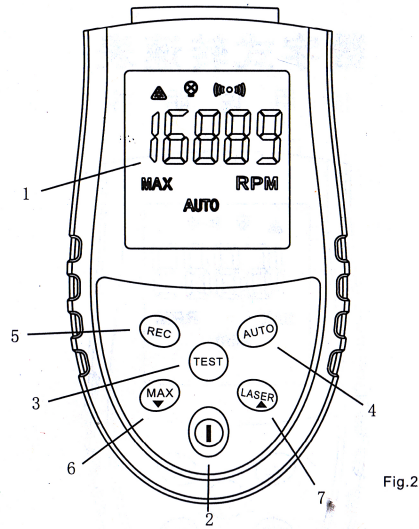


Fig.2

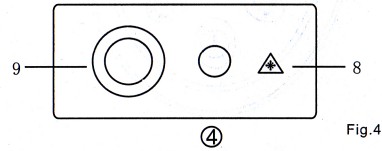


Fig.4

measuring (every 10 sets of data). Press the last time to exit.

- 7. Laser power selection:** 2 options - high / low. The default laser power is low, the sign " " displaying. Press to turn the high option. The sign " " displaying and laser power will get high.

The laser power could also be set while measuring. As the MCU is computing at the same time, the reaction of the button pressing might be slow, so please press a little longer if necessary.

Low laser power is the priority selection. You may only select the high power when the reflection is not enough. Please protect your eyes from the laser when measuring.

- 8. Laser hole:** The laser emitter, be careful and don't point the laser to people's eyes.
- 9. Reflection receiving hole:** To receive the reflected laser and process the data to get the RPM.

IV. MEASURING PROCEDURE

1. Paste the reflecting tape mark to the measuring object.
2. Press to power on.
3. Press to select manual mode, or press to select automatic mode.
4. Point the laser to the surface of the reflecting tape mark to get the data.
5. Press different function button to get other related data.
6. Measuring finished, power off.

V. MEASURING CONSIDERATION

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- 1. Reflecting tape mark:** cut down a piece of reflecting mark and paste it on every objects. Non reflective area must be bigger than the reflective area. If the object is over reflective itself. You need to paint or cover the black on it, then paste the reflecting mark. The object's surface must be clean and smooth.

- 2. Slow RPM measurement:** The meter can sample slow speed as 2.5 RPM directly, but sampling the slow RPM takes longer time, which suits the automatic measuring better.

VI. BATTERY CHECK-UP & REPLACEMENT

1. As the battery power is not sufficient, there would be a sign " " in the LCD indicating.
2. Open the battery cover, replace the two AAA batteries.
3. Put back the cover.

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