UNI-T®

Model UT371/372
OPERATING MANUAL

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Overview

This Operating Manual covers information on safety and cautions. Please read the relevant information carefully and observe all the **Warnings** and **Notes** strictly.

Model UT371 and UT372 is a stable, safe and reliable digital non-contact Tachometer. This Tachometer can measure RPM and counts. RPM range is 10 ~ 99999 while counts range is 0 ~ 99999.

Unpacking Inspection

Open the package case and take out the Meter. Check the following items carefully to see any missing or damaged part:

Item	Description	Qty
1	English Operating Manual	1 piece
2	Reflecting Tape	10 pieces
3	USB Interface Cable (UT372 only)	1piece
4	Software(UT372 only)	1 piece
5	1.5V Battery (LR6)	4 pieces

In the event you find any missing or damage, please contact your dealer immediately.

Safety Information

This Meter complies with the standards IEC61010-031, IEC61326, : in pollution degree 2

Use the Meter only as specified in this operating manual, otherwise the protection provided by the Meter may be impaired.

In this manual, a **Warning** identifies conditions and actions that pose hazards to the user, or may damage the Meter or the equipment under test.

A **Note** identifies the information that user should pay attention to.

International electrical symbols used on the Meter and in this Operating Manual are explained on page 6.

Rules For Safe Operation

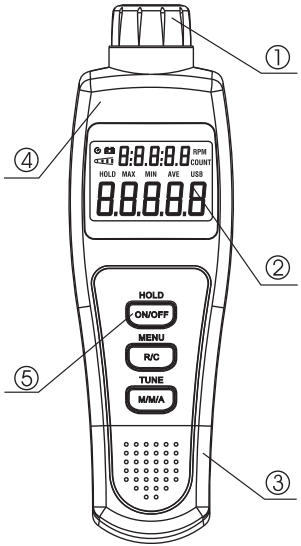
- **Before using the Meter inspect the case. Do not use the Meter if it is damaged or the case (or part of the case) is removed. Look for cracks or missing plastic.**
- **Do not use or store the Meter in an environment of high temperature, humidity, explosive, inflammable and strong magnetic field. The performance of the Meter may deteriorate after dampened.**
- **Do not point laser directly at eye.**
- **Replace the battery as soon as the battery indicator appears. When the battery is between 4.5V ~4.8V, the battery indicator appears. When the battery is between 4.3V ~ 4.5V, battery indicator blinking, the Meter will be turned off after 1 minute.**
- **When opening the battery door, must make sure the Meter is power off.**
- **When servicing the Meter, use only the same model number or identical electrical specifications replacement parts.**
- **The internal circuit of the Meter shall not be altered at will to avoid damage of the Meter and any accident.**

- **Soft cloth and mild detergent should be used to clean the surface of the Meter when servicing. No abrasive and solvent should be used to prevent the surface of the Meter from corrosion, damage and accident.**
- **Turn the Meter off when it is not in use and take out the battery when not using for a long time.**
- **Constantly check the battery as it may leak when it has been using for some time, replace the battery as soon as leaking appears. A leaking battery will damage the Meter.**

International Electrical Symbols

	Warning. Refer to the Operating Manual
	Deficiency of Built-In Battery
	Conforms to Standards of European Union

The Meter Structure (see figure 1)



① Tachometer Light Source.

② LCD Display.

③ USB Port (UT372 only)

④ Housing

⑤ Functional Buttons

Figure 1

Functional Buttons

Below table indicated for information about the functional button operations.

Button	Operation Performed
ON/OFF	l Press once to turn the meter on. l Press and hold for 1 minute to turn it off. l When measuring RPM and Counts, press once to enter the Hold mode. Press it again to exit hold mode.
R/C	l When measuring RPM and Counts, press it to toggle between RPM and Counts feature. l Press and hold for 1 minute to enter setup feature, the LCD displays USB. After that, each press to step through LED / SR / AOFF / CLK / exiting setup feature to enter RPM or Count. You could press **ON/OFF** button to exit setup mode and returning to normal measurement mode at any time.
M/M/A	l Press this button to choose maximum reading, minimum reading, average reading, zerong, Tune l Under Tach measurement mode, press **M/M/A** button to select MAX/MIN/AVE and normal value measurement, After entering USB/LED/SR/AOFF/CLK mode, press this button to setup 0 or 1 and time.

Setup

A. USB setup

Press **R/C** button to select USB feature after turning on the Meter. Then press **M/M/A** button to setup 0 or 1. 0 means turn the USB off. 1 means enable the USB feature.

B. LED setup

Press **R/C** button to select LED feature after turning on the Meter. Then press **M/M/A** button to setup 0 or 1. 0 means turn the LED laser off. 1 means enable the LED laser feature.

C. SR sampling rate setup

Press **R/C** button to select SR feature after turning on the Meter. Then press **M/M/A** button to setup 005 ~ 255. Press and hold **M/M/A button** to access quick setting**.**

D. AOFF setup

Press **R/C** button to select AOFF feature after turning on the Meter. Then press **M/M/A** button to setup 0 or 1. 0 is disable auto power off feature. 1 means enable auto power off feature,

After enable auto power off feature, the Meter will be auto power off after ten minutes

if you do not press any button for 10 minutes. You could press **ON/OFF** button to turn on the Meter again after the Meter is off.

E. CLK setup

Press **R/C** button to select CLK feature after turning on the Meter. Then press **M/M/A** button to setup 0 or 1. 0 is hours and minutes format. 1 is minutes and seconds format.

Display Symbols (see figure 2)

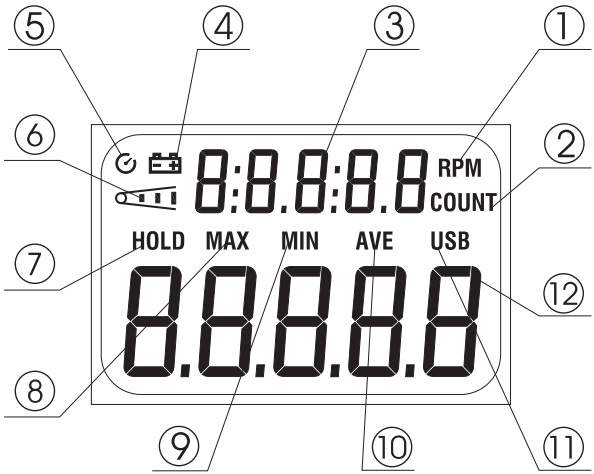


Figure 2

Number	Meaning
1	Unit of Tachometer
2	Unit of Counts
3	Time
4	The battery is low.
5	Indicator of Sleep Mode
6	Measurement of RPM and Counts
7	Data Hold is on
8	Display of Maximum reading
9	Display of Minimum reading
10	Display of Average reading
11	USB is on
12	Display of Measurement reading l

Measurement Operation

⚠ Warning

- **To reserve battery, the USB feature will be automatically off when the Meter is restarted. The other setting remains unchanged.**
- **The Time will be off after the HOLD feature is enabled. The time will be on again after existing HOLD mode.**

A. RPM Measurement (see figure 3)

⚠ Warning

- **Do not point laser directly at eye.**
- **When carrying out measurement, the distance must be more than 50mm.**
- **To avoid hurt yourself or damage to the meter, do not let speedy rotary object to touch the Meter.**

To carry out RPM measuremnet, follow the following procedure:

1. Apply a piece of reflecting tape to the object under test.
2. Position the Meter on a flat place. Hold the Meter 50~200mm from the Tachometer light source to the object under test.
3. Press **ON/OFF** button, the Meter is default to enter the RPM measurement mode. Point the Tachometer light source to reflective tape, the vertical angle of the reflecting tape is not greater than 30°.
4. The LCD displays the RPM reading.

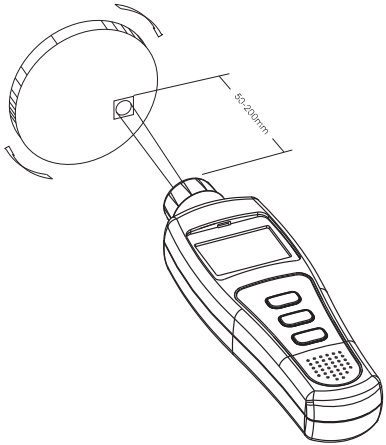


Figure 3

Note:

1. When measuring RPM, the LCD displays “0.0000” if there is no signal for continuous 7 seconds.
2. When the RPM reading is greater than 99999. the LCD displays OL.

B. Counts

Self-lighted Counts (see figure 4)

1. Position the Meter on a flat place. Hold the Meter 50~200mm and at the vertical angel not greater than 30° from the Tachometer light source to the object under test.

2. Press the **ON/OFF** button

3. Press the R/C button to select Count mode.

4. Point he Tachometer light source to the object under count

5. The LED scans the object under count, the Meter accumulates the counts and displays the quantity.

Note:
1.The object under count must be reflective, otherwise Counts feature cannot be used

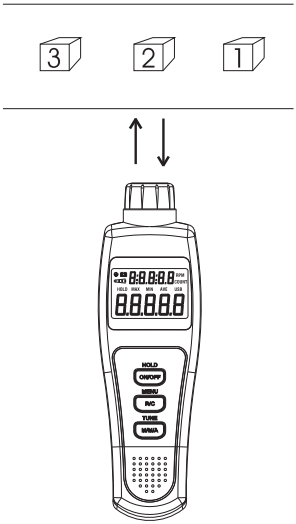


Figure 4

Receiving Light Source Outside (see figure 5)

1. Position the Meter on a flat place. Hold the Meter 50~200mm and at the vertical angel not greater than 30° from the Tachometer light source to the object under test.
2. Set up the Meter, object under counts and outside light source as figure 5
3. Press ON/OFF button
4. Turn the LED off, refer to page 9 point B.
5. Then press R/C button to select Counts mode.
6. The object under count passes through between the Meter and the outside light source, the Meter accumulates the counts and displays quantity.

Note:

1. Under the count mode, when the quantity is greater than 99999 RPM, the Meter displays OL and hold the data.
2. Press M/M/A button zeroing the Counts.
3. Press ON/OFF to re-start Counting.

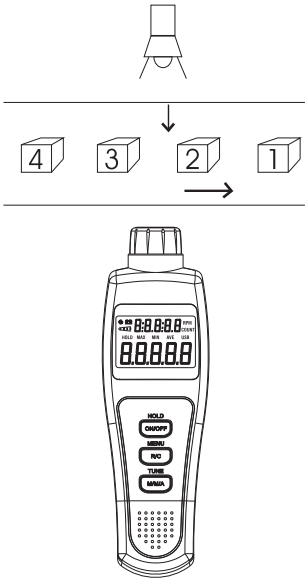


Figure 5

C. Data Transferring and USB (UT372 only, see figure 6)

Connect the USB interface cable, the Meter and the computer as per the figure 6.

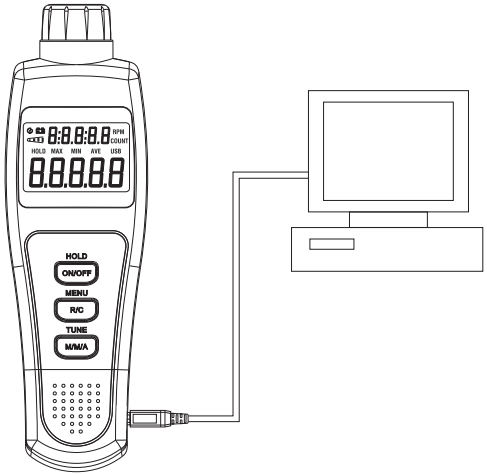


Figure 6

Specifications

A. General Specifications

- Display: 5 digits LCD display, Maximum display 99999.
- Overloading: Display **OL**.
- Battery Deficiency: Display .
- Sampling Rate: 5 mini-second to 255 mini seconds adjustable.
- Transducer Tyype: Photo Diode and Laser
- Measurement Distance: 50mm ~ 200mm
- Drop Test: one meter
- Power: 4pcs x 1.5V batteries (AA)
- Dimensions: 184 x 56 x 34mm
- Weight: Approximate 100g (excluding battery)

B. Environmental Requirements

- For indoor use only.
- Altitude: 2000m
- Temperature and humidity:
  - Operating:
    0°C~30°C(≤85%R.H)
    30°C~40°C (≤75%R.H)
    40°C~50°C (≤45%R.H)
  - Storage:
    -20°C~ +60°C(≤85%R.H)
- Safety/ Compliances: IEC61010-031, IEC61326, IEC 61010-1 pollution degree 2.
- Certification:CE

Accurate Specifications

Accuracy: ±(a% reading + b digits), guarantee for 1 year.
Operating temperature: 23°C±5°C
Operating humidity: ≤80%RH
Temperature Coefficient: 0.1 x (accuracy) /°C

A. RPM

Range	Resolution	Accuracy
10~99.999 r/min	0.001 r/min	±(0.04%+2)
100~999.99 r/min	0.01 r/min	
1000~9999.9 r/min	0.1 r/min	
10000~99999 r/min	1 r/min	

B. Counts

Range	Resolution	Maximum input frequency
0~ 99999	1 digits	10kHz, Pulse Width 5%

MAINTENANCE

This section provides basic maintenance information including battery replacement instruction.

⚠ Warning

Do not attempt to repair or service your Meter unless you are qualified to do so and have the relevant calibration, performance test, and service information.

Do not attempt to open the back housing to avoid damaging to the Meter or affecting accuracy.

A. General Service

- Periodically wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents.
- Turn the Meter power off when it is not in use.
- Take out the battery when it is not using for a long time.
- Do not use or store the Meter in a place of humidity, high temperature, explosive, inflammable and strong magnetic field.

B. Replacing the Battery (see figure 7)

1. Press **ON/OFF** to turn the Meter off.
2. Turn the Meter's front case down.
3. Remove the screw from the battery door, and separate the battery door from the case bottom.
4. Take out the old battery and replace with 4 x 1.5V battery (AA).
5. Rejoin the case bottom and the battery compartment, and reinstall the screw.

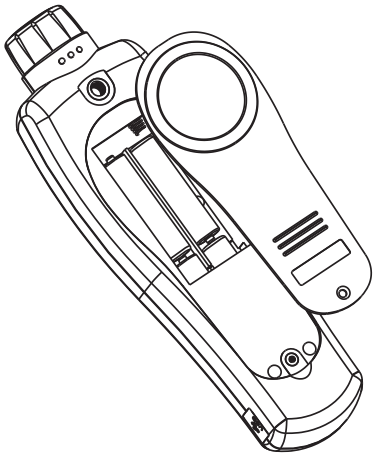


Figure 7

* END *

This operating manual is subject to change without notice.

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