

Instruction Manual for

Pocket Tachometer (Contact) Model MT-100



Congratulations on the purchase of our MT-100 contact tachometer. We trust you will enjoy many years of professional results from your product.

Please read the entire instruction manual thoroughly before initial set-up and operation; the information contained herein will aid you in operating your tachometer safely and with excellent results.

INSPECTION/STANDARD ACCESSORIES

If upon delivery shipping damage is detected, do not operate the tachometer. Notify shipping carrier immediately for damage claim instructions. Refer to nameplate and record the serial number for future reference.

Items included with the MT-100:

- Carrying case
- 3 manganese AA batteries
- Cone adapter
- Funnel adapter
- 6" circumference wheel
- NIST certificate
- Instruction manual

FEATURES AND BENEFITS

The MT-100 tachometer incorporates the latest microprocessor technology and offers:

- Multiple measurement types: total revolutions (rev); revolutions per minute (rpm); surface speed: m/min, y/min, in/min, ft/min; and length: meters, yards, feet and inches.
- Compact, pocket-size design
- 14 reading memory: minimum, maximum, final, 10 selectable measurements and an average of memory measurements, up to ten.
- Efficient design; long battery life and continuous operation.
- Automatic conversion of units.

IMPORTANT SAFETY INSTRUCTIONS

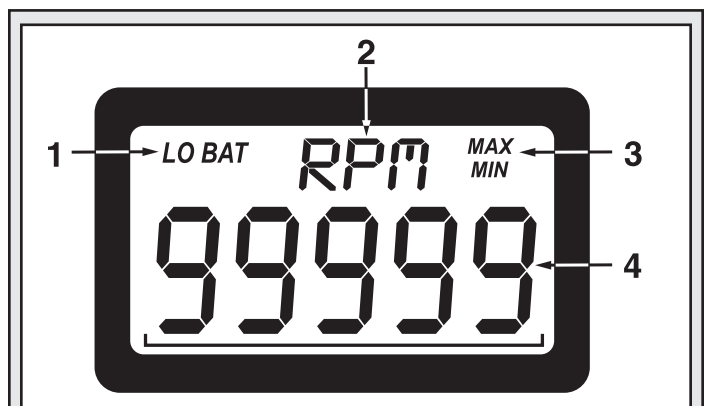


When using the master wheel, do not use an extension shaft as the wheel may come off of the shaft and cause damage or injury.



Although the tachometer is able to achieve higher measurements than what is listed, the master wheel has a maximum speed limitation of 5000 ft/min (for safety reasons).

DISPLAY



1. Low battery display
2. Tachometer's display
3. Max/Min display
4. Main display

OPERATION

Contact measurements

Measuring rotation speed using the cone or funnel-shaped contact probe:

1. Attach the cone or funnel adapter to the tachometer by placing on the adapter shaft. Align the shaft pin with the notch of the adapter stem.
2. Press the POWER button to turn the tachometer on.
3. Select RPM (revolutions per minute) or REV (total number of revolutions) by pressing the UNIT button.
4. Press and hold down the POWER button to start measuring.
5. Bring the contact probe into contact with the object to be measured by touching the contact probe slowly to the center of the rotating object. If the measuring range of the tachometer is exceeded, "OVR" will appear on the tachometer's display.
6. Press and hold the POWER button to take another measurement.
7. Press the UNIT button to convert between ranges.



When a high-speed rotating object is measured for hours using a cone or funnel-shaped contact probe the surface of the probe in contact with the object may become very hot.

Measuring surface speed and distance using the 6" circumference wheel.

1. Attach the 6" circumference wheel to the tachometer by placing the wheel on the adapter shaft. Align the shaft pin with the notch of the wheel stem.
2. Press the POWER button to turn the tachometer on.
3. Press the UNIT button to select measuring unit: meters/minute [m/M], yards/minute [Y/M], inches/minute [I/M], feet/minute [F/M], meters [m], yards [YRd], inch [IN], or feet [FT].
4. Bring the 6" circumference wheel into contact with the object to be measured by slowly touching the contact wheel to the moving object.
5. Press and hold down the POWER button to start measuring.
6. Press the UNIT button to convert between ranges.



When making surface speed or distance measurements, ensure that the 6" circumference wheel's perimeter is parallel to the object to be measured.

Note: When using the master wheel, accuracy can be affected as much as 0.3% of reading.

Memory Function

The tachometer's memory capabilities are as follows:

1. Minimum, maximum and last measurements are recorded automatically by the tachometer.
2. Ten selectable measurements can be programmed into memory by pressing the MEM button while the POWER button is fully depressed (M1, M2, M3, ... M10).
3. The average value of sequentially stored memory, up to ten, can be viewed by pressing the memory button.

Note: if the memory button (MEM) is not selected while the POWER button is pressed the measurement will not be recorded into its memory location, The memory will be recorded automatically into memory if the measurement made is the maximum, minimum or last measurement.

To delete stored memories do one of the following:

1. Press the MEM button for five seconds or more. All memory will be erased after [CCCCC] is displayed.
2. Changing the units of measurements and then making additional measurements.
3. Memory will be automatically erased if the TACHOMETER turns off automatically after five minutes.

Battery Replacement

When "LO BAT" flashes on the display, replace the batteries with new ones.

To replace the batteries:

1. Slide open the battery cover (located on the rear of the tachometer).
2. Remove old batteries and insert three fresh AA size batteries, observing proper polarity. Do not mix old and new batteries.
3. Slide the battery cover back into place.

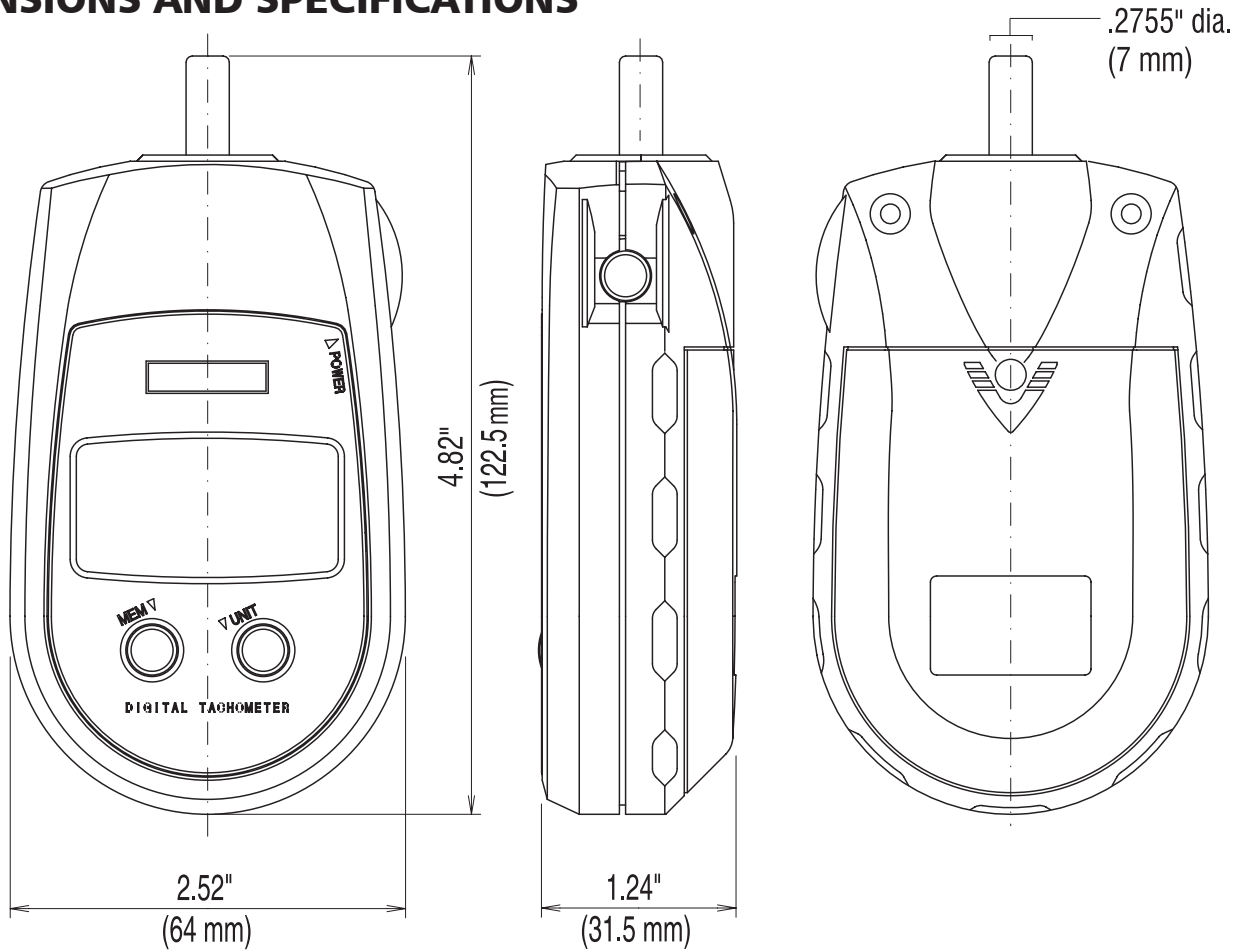
Note: Do not mix old and new batteries, and when replacing batteries, use AA batteries. The tachometer may be damaged if liquid leaks from the batteries. This may happen if the batteries are left inside the tachometer's enclosure for long periods of time. Remove the batteries after using the tachometer.

TROUBLESHOOTING

No Display:

- Confirm that the POWER button is operating properly.
- Confirm that the batteries are fresh. Install new batteries.
- Confirm that the batteries are inserted into the tachometer with correct polarity.

DIMENSIONS AND SPECIFICATIONS



SPECIFICATIONS	
MODEL	MT-100
Display	5 digit 0.47"(12 mm) height LCD
Revolutions per Minute (RPM)	1.0 - 25,000
Surface Speed (Using 6" Wheel)	m/min: 0.1 - 3,809.8 yards/min: 1.0 - 4,166.4 inch/min: 3 - 99,999 feet/min: 0.2 - 12,499
Length (Using 6" Wheel)	m: 0.01 - 99,999 yards: 0.01 - 99,999 feet: 0.1 - 99,999 inch: 1 - 99,999
Total number of revolutions (rev)	0.1 - 99,999
Measuring Accuracy	Revolution: 1.0 - 599.9 rpm: ±1 rpm, 600 - 25,000 rpm: ±0.006% and ±0.5 digit Surface Speed, Length: 0.4% and ±1 digit
Memory function	14 readings are stored in memory and retained for 5 minutes (Last, Max., Min., Average, and 10 selectable measurements)
Update Time	1 second
Detection	Optical coupler, 20 pulses per revolution
Auto POWER Off function	5 minutes
Batteries Included	3 AA 1.5V
Low Battery Indicator	Flashing "LO BAT" display
Over Range Indicator	Flashing "OVR" display
Operating Temperature	32-113°F (0 - 45°C)
Construction	ABS resin
Outside dimensions	4.83"L x 2.52"W x 1.24"H (122.5 mm x 64 mm x 31.5 mm)
Weight	0.37 lb (170 g)(including batteries)
Accessories	Carrying case, cone adapter, funnel adapter, master wheel (6" cir.), NIST certificate, operation instructions

WARRANTY

LIMITED EXPRESS WARRANTY: The manufacturer warrants, to the original purchaser of new products only, that this product shall be free from defects in workmanship and materials under normal use and proper maintenance for one year from the date of original purchase. This warranty shall not be effective if the product has been subject to overload, misuse, negligence, or accident, or if the product has been repaired or altered outside of the manufacturer's authorized control in any respect which in the manufacturer's judgment, adversely affects its condition or operation.

DISCLAIMER OF ALL OTHER WARRANTIES: The foregoing warranty constitutes the SOLE AND EXCLUSIVE WARRANTY, and the manufacturer hereby disclaims all other warranties, expressed, statutory or implied, applicable to the product, including, but not limited to all implied warranties of merchantability and fitness.

LIMITATION OF REMEDY: Under this warranty, the manufacturer's SOLE OBLIGATION SHALL BE TO REPAIR OR REPLACE the defective product or part, at the manufacturer's option. The manufacturer reserves the right to satisfy warranty obligation in full by reimbursing Buyer for all payments made to the manufacturer, whereupon, title shall pass to the manufacturer upon acceptance of return goods. To obtain warranty service, Purchaser must obtain the manufacturer's authorization before returning the product, properly repackaged, freight pre-paid to the manufacturer.

INDEMNIFICATION & LIMITATION OF DAMAGES: Buyer agrees to indemnify and hold the manufacturer harmless from and against all claims and damages imposed upon or incurred arising, directly or indirectly, from Buyer's failure to perform or satisfy any of the terms described herein. In no event shall the manufacturer be liable for injuries of any nature involving the product, including incidental or consequential damages to person or property, any economic loss or loss of use.

MERGER CLAUSE: Any statements made by the Seller's representative do not constitute warranties except to the extent that they also appear in writing. This writing constitutes the entire and final expression of the parties' agreement.

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