



# **TACH-10**

## **Contact / Non-Contact Tachometer**

# **Users Manual**



# **TACH-10**

## **Contact / Non-Contact Tachometer**

### **Users Manual**

**English**

May 2010, Rev.1  
©2010 Amprobe Test Tools.  
All rights reserved. Printed in China

### **Limitation of Liability**

Your Amprobe product will be free from defects in material and workmanship for 1 year from the date of purchase. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Amprobe's behalf. To obtain service during the warranty period, return the product with proof of purchase to an authorized Amprobe Test Tools Service Center or to an Amprobe dealer or distributor. See Repair Section for details. THIS WARRANTY IS YOUR ONLY REMEDY. ALL OTHER WARRANTIES - WHETHER EXPRESS, IMPLIED OR STATUTORY - INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE HEREBY DISCLAIMED. MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

### **Repair**

All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe® Test Tools.

### **In-Warranty Repairs and Replacement – All Countries**

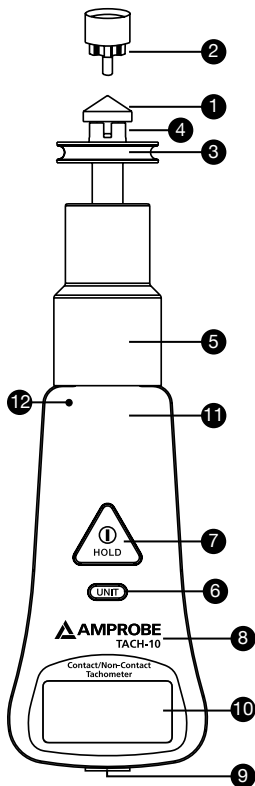
Please read the warranty statement and check your battery before requesting repair. During the warranty period any defective test tool can be returned to your Amprobe® Test Tools distributor for an exchange for the same or like product.

### **Non-Warranty Repairs and Replacement – US and Canada**

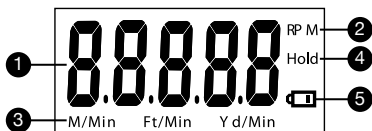
Non-warranty repairs in the United States and Canada should be sent to a Amprobe® Test Tools Service Center. Call Amprobe® Test Tools or inquire at your point of purchase for current repair and replacement rates.

## Tach-10 Contact / Non-Contact Tachometer

---



- 1). Cone (Convex) contact tip
- 2). Funnel (Concave) contact tip
- 3). Wheel (w/ O-ring) for linear Surface
- 4). Contact adaptor
- 5). Non-contact rotation speed sensor
- 6). Unit select key
- 7). Power & Hold key
- 8). Battery cover (rear side)
- 9). Power on/off (bottom)
- 10). Front Panel & LCD display
- 11). Junction screw (rear side)
- 12). Mode switch



- 1). Rotation/Surface speed display
- 2). Unit of rotation speed
- 3). Unit of surface speed
- 4). To freeze the latest display
- 5). Low battery indicator



#### POWER /HOLD KEY:

- To turn on the meter
- Push and hold for more than 3 seconds to turn off the meter.
- In normal mode, push to freeze the readings.



#### UNIT KEY:




- Activated only while in "Contact" rotation measure mode.
- In normal contact measure mode, push to display different unit in turns: RPM, M/Min, Ft/Min, Yd/Min.



#### POWER KEY:

- To turn on the meter
- Push more than 3 seconds to turn off the meter.



+  or  + 

- To disable the sleep mode, hold down POWER and UNIT keys simultaneously to turn on the meter. First, release POWER key, and it shows " n " on the LCD . Then release UNIT key and it enters measuring mode in non-sleep status.





# **Tach-10 Contact/Non-Contact Tachometer**

---

## **CONTENTS**

<b>SYMBOLS</b> .....	2
<b>Unpacking and Inspection</b> .....	2
<b>Introduction</b> .....	3
Features .....	3
<b>OPERATION</b> .....	3
Auto Power Off .....	6
<b>SPECIFICATION</b> .....	6
<b>Maintenance and Repair</b> .....	7
Battery Replacement .....	8
<b>Troubleshooting</b> .....	8

## SYMBOLS

	Caution! Refer to the explanation in this Manual
	Conforms to relevant Australian standards
	Complies with European Directives
	Do not dispose of this clamp meter as unsorted municipal waste. Contact a qualified recycler for disposal.

### **⚠ WARNING and PRECAUTIONS**

- *The meter is accurate at low and mid-range air speeds. Consistent use at very high speeds., ie, From the window of a fast-moving car will damage the impeller's bearing and cause in-accuracy*
- *When you program the meter and then restart the meter, it will default to the last mode and unit used.*
- *You can remove the transparent protection film of the LCD if you feel the display is blurred.*

## UNPACKING AND INSPECTION

---

Your shipping carton should include:

- 1 TACH-10 meter
- 1 9V battery
- 1 Cone & funnel contact tips
- 1 Reflective tape

If any of the items are damaged or missing, return the complete package to the place of purchase for an exchange.



## INTRODUCTION

---

Congratulations on your purchase of TACH-10 Contact / Non-Contact Tachometer. A convenient instrument to measure rotation or surface speed via contact or non-contact method.

### Features

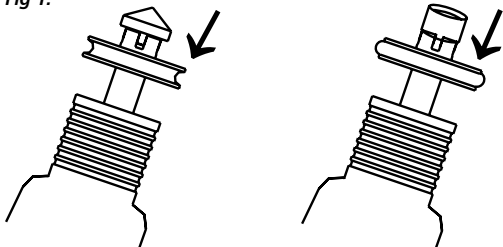
- Compact and handy size design
- 2 in 1 Contact and Non-contact measurement
- Three easy steps to switch measurement mode
- Two ways to power on/off
- Clear display with 4 selectable units for contact mode
- Auto power off
- Sleep mode can be disabled
- Low battery indicator

## OPERATION

---

1. Switch the measurement mode to contact or non-contact per demanding.
2. To take contact measurement, select the suitable contact tip (Convex or Concave) and mount it on the adaptor (**Fig.1**).

**Fig 1.**

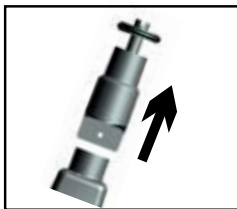


- Push either POWER key to turn on the meter.
  - Fit the tip into the rotating object and the readings are displayed on the LCD.
  - For rotating wheels or belts with flat surface, let the O-ring on the meter make contact with the surface.
  - Push HOLD/POWER key briefly to hold the last reading on the display.
  - Push UNIT button to switch from rotation speed(RPM) to surface speed M/Min or Ft/Min or Yd/Min.
3. Push POWER key for more than 3 seconds to turn the meter off.
  4. To take non-contact measurement, follow the following steps:

**Step 1:** Unscrew the junction.



**Step 2:** Remove the contact part.



**Step 3:** Attach the reflective tape to the surface of the rotating object.

**Step 4:** Push and hold the MODE SWITCH key to set the meter to RPM.



**Step 5:** Hold the meter and point it toward the rotating object targeting the reflective tape. Keep the targeting distance within 5 to 30 cm (2 to 13 inch).

NB> Readings in M/Min, Ft/Min, Yd/Min are not available in non-contact mode

## Auto Power Off

The meter turns OFF automatically after 20 minutes of inactivity. To disable the sleep mode, hold down POWER and UNIT keys simultaneously to turn on the meter. First, release POWER key, and it shows " n " on the LCD (**Fig. 3**). Then release UNIT key and it enters measuring mode in non-sleep status.



*Fig 3.*

## SPECIFICATIONS

---

### MEASURING RANGES:

Rotation (non-contact)	10.0~99999RPM
Rotation (contact)	10.0~19999RPM
Surface speed (contact)	1.0000~9999.9M/Min 3.0000~30000Ft/Min 1.0000~10000Yd/Min

### RESOLUTION:

RPM unit	0.001/0.01/0.1/1
M/Min unit	0.0001/0.001/0.01/0.1
Ft/Min unit	0.0001/0.001/0.01/0.1
Yd/Min unit	0.0001/0.001/0.01/0.1

### ACCURACY:

Operating temp.	+/- (0.1% of rdg.+2 digit) 0 to 50°C (32° to 122°F)
Operating RH%	Humidity < 80%
Storage temp.	-10 to 50°C (14° to 122°F)
Storage RH%	Humidity < 90%
Dimension	165(L)x51(W)x32(H)mm (6.5 x 2 x 1.26 IN)

<b>Weight</b>	~90g (0.2 lb)
<b>Battery</b>	9V battery
<b>LCD size</b>	15(H)x33(W)mm (0.6 x 1.3 IN)
<b>Power consumption</b>	5uA(Idle), 18mA(measurement)
<b>Time base</b>	4.0Mhz Quartz Crystal
<b>Sampling time</b>	1 second (>60RPM), >1 second (10~60RPM)
<b>Measure distance</b>	5~30cm / 2~13 IN (non-contact)

**CE** - EMC: Conforms to EN61326-1.

This product complies with requirements of the following European Community Directives: 89/ 336/ EEC (Electromagnetic Compatibility) and 73/ 23/ EEC (Low Voltage) as amended by 93/ 68/ EEC (CE Marking). However, electrical noise or intense electromagnetic fields in the vicinity of the equipment may disturb the measurement circuit. Measuring instruments will also respond to unwanted signals that may be present within the measurement circuit. Users should exercise care and take appropriate precautions to avoid misleading results when making measurements in the presence of electronic interference.

## **MAINTENANCE AND REPAIR**

---

Make sure the electrode is clean! Between measurements, rinse the electrode with deionised water. If the electrode has been exposed to a solvent immiscible with water, clean it with a solvent miscible with water e.g. ethanol or acetone and rinse carefully with water. Store the electrode carefully! Before storing, rinse it carefully in deionized water and store **WET**. Do not contact measure rotating speed exceeds the measuring ranges. It may cause physical injury or meter damage.

## **Battery Replacement**

Replace your battery when low battery icon appears on LCD. To replace the battery:

1. Open the battery compartment cover
2. Remove the old battery and replace it with a new 9V battery
3. Close the battery compartment cover

## **TROUBLESHOOTING**

---

### **1. Power on but no display**

- a) Make sure the time of pressing power key is  $> 0.2$  second.
- b) Check the battery is in place with good contact & correct polarity.
- c) Replace battery or move away the battery for one minute and re-install.

### **2. Display disappear**

- a) Replace a new battery.
- b) Disable the auto power off function before power on for long time using.