



**TMA40**

**Airflow Anemometer**

**Users Manual**



# TMA40

## Airflow Anemometer

### Users Manual

TMA40\_Rev001  
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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.

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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. Please check the "Where to Buy" section on [www.amprobe.com](http://www.amprobe.com) for a list of distributors near you. Additionally, in the United States and Canada In-Warranty repair and replacement units can also be sent to a Amprobe® Test Tools Service Center (see address below).

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

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### **In USA**

Amprobe Test Tools  
Everett, WA 98203  
Tel: 877-AMPROBE (267-7623)

### **In Canada**

Amprobe Test Tools  
Mississauga, ON L4Z 1X9  
Tel: 905-890-7600

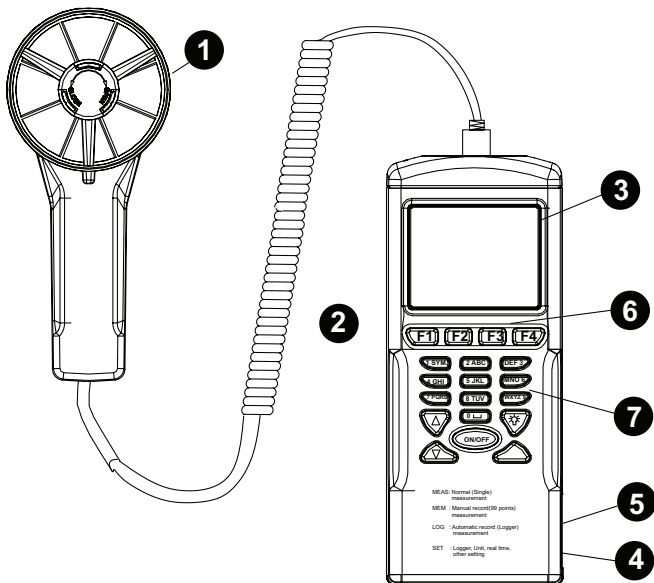
## **Non-Warranty Repairs and Replacement – Europe**

European non-warranty units can be replaced by your Amprobe® Test Tools distributor for a nominal charge. Please check the "Where to Buy" section on [www.amprobe.com](http://www.amprobe.com) for a list of distributors near you.

### **European Correspondence Address\***

Amprobe® Test Tools Europe  
Beha-Amprobe GmbH  
In den Engematten 14  
79286 Glottertal, Germany  
Tel.: +49 (0) 7684 8009 - 0

\*(Correspondence only – no repair or replacement available from this address. European customers please contact your distributor.)



**1** Fan probe with built-in temperature and humidity sensors

**2** Tripod mounting screw

**3** LCD display

**4** DC adaptor jack

**5** RS232 port

**6** Function Keys

**F1:** Press for measurement mode

**F2:** Press to access the memory

**F3:** Press to access the log files

**F4:** Press to enable/disable auto power off, set data and time, and set parameters to record.

**7** Keypad

**1SYM** stands for "1,\*,.,:,\$,+,-,="

**2ABC** stands for "2,a,b,c,A,B,C"

**3DEF** stands for "3,d,e,f,D,E,F"

**4GHI** stands for "4,g,h,i,G,H,I"

**5JKL** stands for "5,j,k,l,J,K,L"

**6MNO** stands for "6,m,n,o,M,N,O"

**7PQRS** stands for "7,p,q,r,s,P,Q,R,S"

**8TUV** stands for "8,t,u,v,T,U,V"

**9WXYZ** stands for "9,w,x,y,z,W,X,Y,Z"

**0 [ ]** stands for "0 and space"

**☀:** Press to turn on and off the backlight

**△:** Press to shift the cursor to previous

**▽:** Press to shift the cursor to next

**ON/OFF:** Press to turn the unit on and off

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## INTRODUCTION

This meter is designed with three measurement modes:

1. Single point measurement
2. Multiple points measurement (Manual record)
3. Automatic Logging
  - Measuring/programming anywhere at any time
  - User friendly interface
  - RS232 cable and software enable to link with PC for downloading and uploading
  - Backlight function
  - Tripod mountable for long time use
  - Power off time selectable
  - Big Dot matrix LCD
  - Powered by 4-pcs AAA batteries or 9V adaptor (not included) (Plug: outer:5.5mm; Inner:2.1mm; Center positive) 0.05mA minimum

## UNPACKING AND INSPECTION

Your shipping carton should include:

- 1 X TMA40 Airflow Anemometer
- 4 X AAA Battery
- 1 X RS232 Cable
- 1 X CD Download Suite
- 1 X Carrying case

## OPERATION

### Meter setting: SET (See Fig.2)

- Press F4 to enter the meter setting
- Press ▽ or △ key to shift the cursor
- Press EDIT to enter modification mode
- Press NEXT/BACK to enter the next or previous page.
- Press EXIT to return to main menu.

### Meter Screen Description (See Figs 2&3)

1. LCD Cont.(1-5): LCD brightness. From darkest 1 to brightest 5.
2. Auto Off: Selectable 1 to 20 minutes.
3. Set clock: Choose date and time. Press EDIT to enter the month. Press NEXT to accept or ABORT to cancel. Repeat for day, year, hour, minute and second.
4. Set ID: Press EDIT to enable or disable ID.

5. ID: Press EDIT to enter the user id. Use the keypad to enter the information.

**Note:** To calculate air volume, first enter the value of the air source area. Three choices are available: length X width (rectangle); Diameter(Circle); and Area.

Range from 0~300cm (Rectangle and Circle and 0~90000sq.cm for area.

#### **Single Measurement: MEAS (See Fig. 3)**

- Press F1 to enter the single measurement mode.
- Press F2 to select the type of input
- Press ESC to return to previous menu

#### **Multiple Measurement: MEM (See Fig. 4)**

In this mode, you can manually record what you measure in real time and attach a file name with the recording. There is a total of 99 memory locations in this mode.

- Press F2 to enter the multiple measurement mode.
- Press F2(MEAS) to start a measurement.
- Press ABORT(F1) to cancel the measurement .
- Press SAVE(F4) to save the recording.
- Press F3(EDIT) to edit the file name of the recorded value. Use the keys to enter the name. Press and hold to move from one character to another. Release the key to select the desired character.
- Press CLR(F2) to delete a selected character.
- Press and hold CLR(F2) for over 2 seconds to delete the whole memory.

#### **Automatic Logging: LOG (See Fig. 5)**

In this mode, you can automatically record what you have set up before a real time measurement.

- Press F3(LOG) to enter the LOG mode.
- Press SET(F3) to set up the parameters for the recording.
- Press  $\nabla$   $\triangle$  keys to select a parameter.
- Press EDIT to modify begin date, start time, End date, suspend time, and the rate ( 1 to 200 seconds).
- Expect is 2400 points(total memory) and remain (remaining memory) will be calculated according to your setting.
- Press NEXT
- Press START to begin the logging session
- Press VIEW to see the recording data
- Press MEAS to see the real time data measurement.
- Press ESC to return to previous screen.
- Press STOP to suspend the logging session.

- Press NEXT
- Press P-PG(previous page) or N-PG (next page) to see the previous or the next 100 points.
- Press BACK
- Press EXIT to return to the main screen

## COMPARISON TABLE

Measurement	Description	Memory Point
Single point	Single point measurement	No Memory
Multi-Point	File name editable Multi-point measurement	99 points
Automatic Logging	Programmable Data logging function	2400 points

	Multi-point measurement	Data Logging
Record	99 points	2400 points
File Name	Editable or Default with date and time (Note 1)	Default (Note 2)
Measuring/Sampling	Press MEAS Key to measure and store	Automatically measure and store according to preset parameters (Note 3)

**Note 1:** The recording file name will show current date and time as file name if the user doesn't edit any.

Example: "05-06 09:21:51" means the recording was made on May 6th at 09:21:51 or June 5th at 09:21:51 depending on your date mode setting.

**Note 2:** Each recording file will take the current date and time as file name.

**Note 3:** The meter will start and stop recording at the preset dates and times. If the preset time is less than 24-hour and the end date is in the future, the meter will stop at the ending time and restart again the next day until the ending date or until the memory is full.

a) Set the date and start time

b) Set the date and stop time

c) Set the sample rate

d) In order to record 24-hour a day, you must set START for 00:00:00 and SUSPEND for 23:59:59



## TECHNICAL SPECIFICATIONS

Temperature range	-20°C to 70°C (-4°F to 158°F)
Temperature accuracy	± 0.6°C (± 1°F)
Temperature resolution	0.1°C (0.1°F)
Temperature response	30 seconds
Relative Humidity range	0 to 100%
RH accuracy	± 3% at 10% to 99%; ± 5% at all others
RH resolution	0.1%
RH response time	15 seconds
Wet Bulb range	-22 to 70°C (-7.6°F to 158°F)
Wet Bulb resolution	0.1
Air Velocity range	0.4 to 32 m/s ( 1.3 to 105 ft/s)
Air Velocity accuracy	± 3%
Air Velocity Resolution	0.1 m/s (0.1 ft/s)
Air Velocity response time	1 second
Air Volume range	0 to 99999 (CFM or CMM)
Air Volume accuracy	± 3%
Air Volume resolution	0.1
Measurement with memory	99 points
Datalogging measurement	2400 points
Dimensions	165 X 70 X 53 mm ( 6.5 X 2.57 X 2.1 in)

## INSTRUMENT CONNECTION

1. Plug the RS232 cable to the meter to turn it ON.
2. Connect the meter with the PC using the RS232 provided
3. Start the Download Suite software program

## RS232 PC INTERFACE CAPABILITIES

The RS232 cable and the Download Suite software are required to transfer data to a PC. The RS232 port is located on the right side of the instrument. There is an optional USB converter kit (RS-USB) available for PCs with no available RS232 port.

### Download Suite Software installation:

1. Insert the Download Suite CD into the CD-ROM drive.
2. To install the software, follow the on-screen instructions.

### Operation

Open the program, double-click the Download Suite icon.

1. Click on work "with instrument" and then "next"

2. Select TMA40 and click on “next”
3. Click on “next” and then “next” to download information from the device
4. Click “next”, then “yes”, and then “finish” to complete the downloading
5. Click on “Visualizations” to select measurement table
6. Select the parameters you want to visualize and click OK (See Fig.6)

**NB.** Refer to help menu for more details on how to use the Download Suite.

## **TROUBLESHOOTING**

### **Power on but no display**

- Make sure the time of pressing “ON/OFF” key is more than 0.2 seconds.
- Check the batteries are in place and make sure they are at good contact and correct polarity.
- Replace the batteries and try again .

### **Display disappear**

- Check whether the low battery indicator is displayed on or before display disappears. If yes, replace the batteries .

### **Error code:**

- E2. Problem : Meter value is underflow .
- E3. Problem : Meter value is overflow.
- E4. Problem: Calculated source value occurs error.

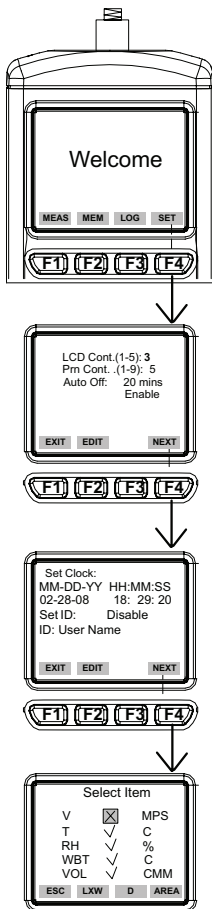


Fig. 2

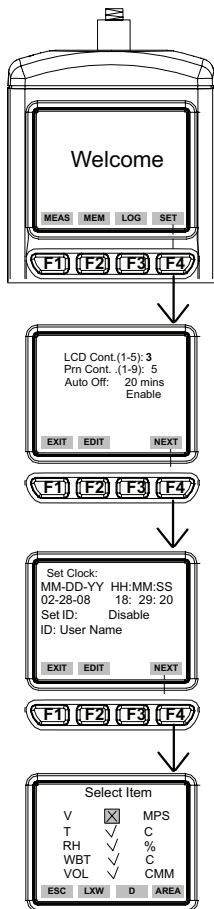


Fig. 3

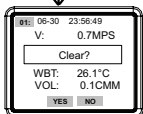
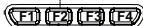
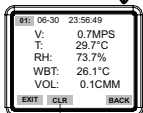
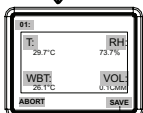
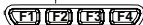
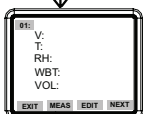
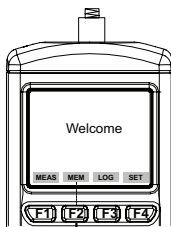
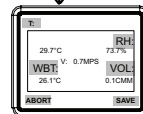
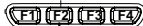
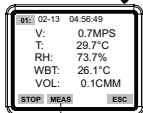
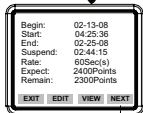
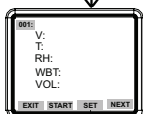
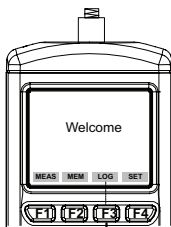


Fig. 4



Press START to begin

Fig. 5

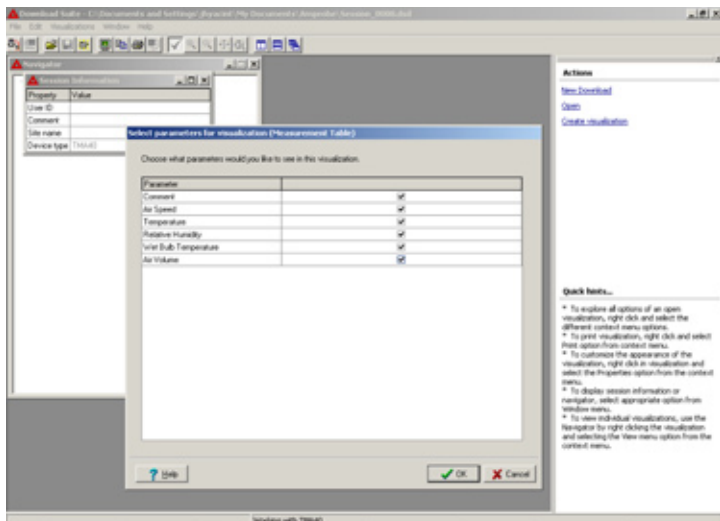


Fig.6

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