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## CFM/ CMM Thermo Anemometer

Model AN100

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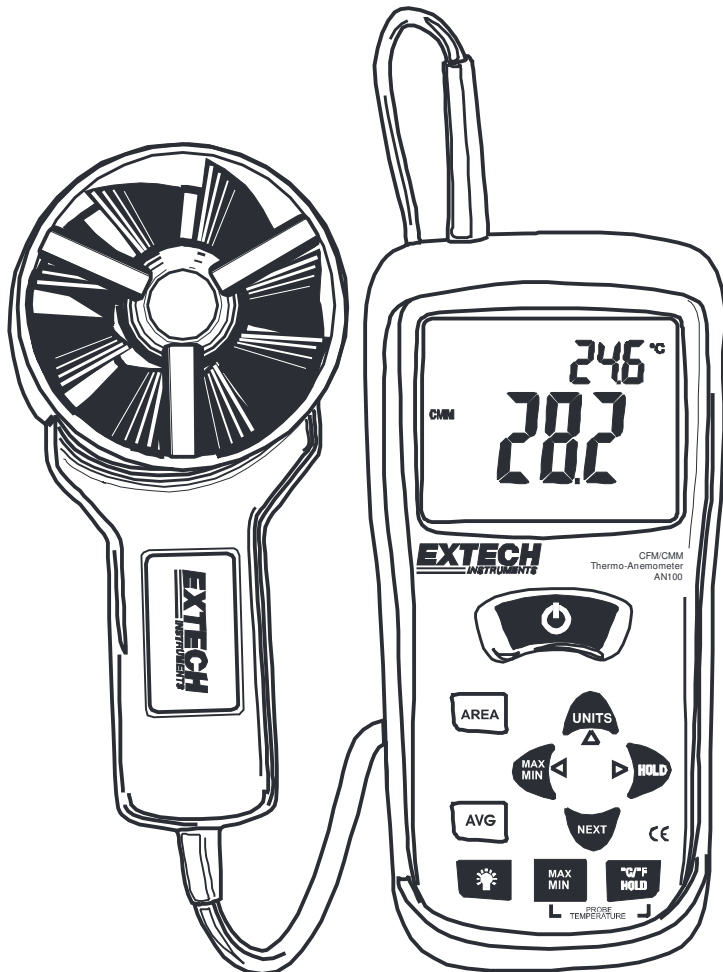
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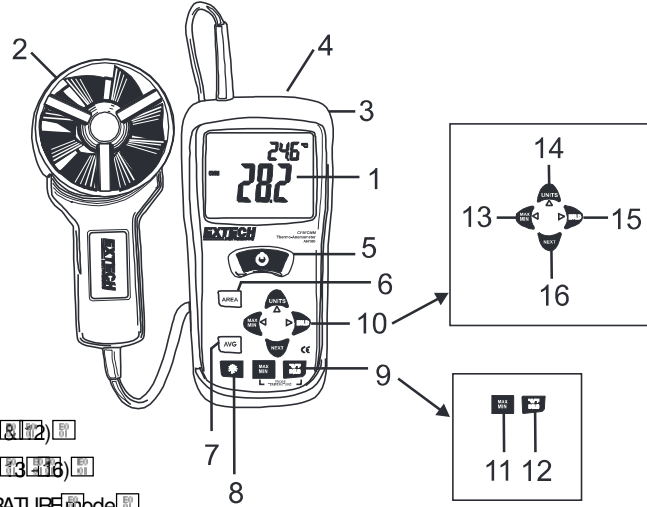
# Introduction

Congratulations on your purchase of the Extech AN100 CMM/CMM Therm Anemometer. This instrument measures Air Velocity, Air Flow (volume) and Temperature. The large, easy-to-read backlit LCD includes primary and secondary displays plus numerous status indicators. The meter is shipped fully tested and calibrated and with proper use will provide years of reliable service.

# Descriptions

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1. LCD Display
2. Vane Probe
3. Rubber Meter Jacket
4. Meter
5. Power On/Off Button
6. Area Button
7. AVG (Average) Button
8. Backlight Button
9. Temperature Buttons (see 11 & 12)
10. Airflow/Velocity Buttons (see 13 & 14)



11. MAX-MIN button for TEMPERATURE mode
12. °C Units and HOLD for TEMPERATURE functions
13. MAX-MIN button for AIR VELOCITY/AIR FLOW (also used as left arrow button)
14. UNITS for AIR VELOCITY/AIR FLOW mode (also used as up arrow button)
15. HOLD for AIR VELOCITY/AIR FLOW mode (also used as right arrow button)
16. NEXT button for AIR VELOCITY/AIR FLOW mode

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See next section for additional keypad description information.

Battery compartment is located on rear of instrument, rubber meter jacket must be removed to access battery compartment.

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

























# Keypad

-  **AUTO POWER OFF** Press to turn the meter ON or OFF.
  -  **MAX/MIN** (for Airflow/Air Velocity) Used to record and store the highest, lowest and average airflow or velocity readings.
    -  **(LEFT)** also serves as change decimal point button in AREA mode.
  -  **UNITS** Press to select the mode of operation. In FLOW mode, the meter displays air volume. In VELOCITY mode, the meter displays air speed.
    -  **(UP)** also serves as increase number button in AREA mode.
  -  **AVG** Used to Average multiple readings in FLOW or VELOCITY mode. Up to 20 readings can be averaged.
  -  **HOLD** Press to freeze the displayed reading. Press again to unlock display. This button also functions as the  **RIGHT** scroll button in AREA mode and **RECALL** mode.
  -  **AREA** Press and hold to manually enter the area of a duct in CFM or QMM mode.
  -  **NEXT** in AREA mode, used to select memory locations 1-8.
  -  **Backlight** Press to turn the backlight on/off.
  -  **MAX/MIN** (Temperature) Used to record and store the highest, lowest readings for air temperature.
  -  **HOLD** (Temperature) Press to freeze the displayed temperature reading. Press again to unlock the display. Press and hold for 3 seconds to switch between °C and °F. Meter will beep twice to indicate change.
- The Battery compartment is located on the back of the instrument. The rubber protective jacket must be removed from the meter to access the compartment.

# Display

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-  MAX (top of LCD): Max Hold function engaged for the Air Temperature function 
-  HOLD (top of LCD): Data Hold function engaged for the Air Temperature function 
-  VEL: indicates that meter is in air velocity mode 
-  FLOW: indicates that meter is in air flow mode 
-  MAX (bottom of LCD): Max Hold for the IR Temperature and RH function 
-  HOLD (bottom of LCD): Data Hold for the IR Temperature function and RH function 
-  °C/°F: Temperature units of measure 
-  CFM/ CMM: air flow units of measure 
-  Ft<sup>2</sup>, m<sup>2</sup>: units for area dimensions 
-  m/s, ft/min, km/h, MPH, knots: air velocity units of measure 
-  X10, X100: multipliers for air flow readings 
-  AVG: air averaging mode 
-  RECORD: indicates that min/max function is running (top for temp, bottom for air) 
-  Large LCD digits at center of display for Relative Humidity and IR Temperature 
-  Smaller LCD digits at top, right of display for Probe Temperature 
-   Low battery indicator 

## Connecting the Vane

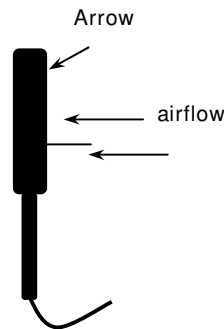
1. The vane plug is inserted in the meter's sensor jack at the top of the meter. The plug and jack are keyed so that the plug can only fit in the jack one way.
2. Turn the plug carefully until it lines up with the jack and then firmly push the plug in place. Do not apply undue force or try to twist the plug side-to-side.
3. If the vane is not connected to the meter or if the sensor is defective, the LCD display will indicate OL in place of a temperature reading.

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## Air Velocity Measurements (Single Point)

Side view of Vane

1. Turn on the meter using the ON/OFF button.
2. Press UNITS button to select the desired unit of measure.  
NOTE: Air power up the meter will display the last unit of measure previously entered.
3. Place the sensor in the air stream. Ensure that the air enters the vane as indicated by the arrow sticker placed inside the vane.
4. View the readings on the LCD Display. The large main LCD display shows the Air Velocity reading. The upper right LCD sub-display shows the temperature reading.



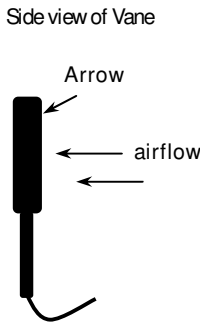
## Air Velocity Averaging Mode

1. To enter 20 Point Averaging Mode, press and hold the AVG button until it beeps twice. The AVG icon will be displayed.
2. Take a measurement and press the AVG button. A single beep will sound and the HOLD icon will appear in the display.
3. The average reading will be displayed and number of readings measured will appear in the upper right hand corner of the display. After 5 seconds, the display will return to the current reading.
4. Repeat steps 2-3 until the desired number of points have been measured.
5. To return to standard velocity measuring mode, press and hold AVG button until meter beeps twice.

Note: In the standard velocity measuring mode, press the AVG button once to recall the previous average. The average will be cleared when you enter the Averaging Mode again.

## Air Flow Measurements (CFM/CMM)

1. Turn on the meter using the **ON/OFF** button.
2. Press the **UNITS** button to select the desired air flow units: **CMM** (cubic meters per minute) or **CFM** (cubic feet per minute).  
NOTE: At power up the meter will display the last unit of measure previously entered.
3. To begin entering the area in m<sup>2</sup> or ft<sup>2</sup>, press and hold the **AREA** button until it beeps twice. The left most digit of the bottom display will begin to flash.
4. Use the **▲ (UP)** button to change the flashing digit.  
Use the **◀ (LEFT)** button to move the decimal.  
Use the **▶ (RIGHT)** button to select the other digits.



After all of the digits are entered, press and hold the **AREA** button (until meter beeps twice) to save the area in memory and return to CFM or CMM measuring mode.

5. Place the sensor in the air stream. Ensure that the air enters the vane as indicated by the arrow sticker placed inside the vane. Refer to the diagram. The large main LCD display shows the Air Velocity reading. The upper right LCD sub-display shows the temperature reading.

The meter has 16 memory locations (8 for CFM and 8 for CMM) that can be used to store commonly used area sizes that you can recall at any time.

1. Press the **AREA** button until meter beeps twice. A memory location number will appear in the top right of the display indicating the memory location.
2. Push the **NEXT** button to scroll thru and select the desired location. Once you have selected the desired memory location enter your dimension.  
Use the **▲ (UP)** button to change the flashing digit.  
Use the **◀ (LEFT)** button to move the decimal.  
Use the **▶ (RIGHT)** button to select the other digits. After all of the digits are entered, press and hold the **AREA** button (until it beeps twice) to save the area in memory and return to CFM or CMM measuring mode.

To select and use a previously stored dimension, press and hold the **AREA** button until it beeps twice.

Press **NEXT** to scroll thru the 8 memory locations. Press and hold the **AREA** button until it beeps twice to return to CFM or CMM measuring mode.



## Air Flow Averaging Mode

1. To enter 20 Point Averaging Mode, press and hold the AVG button until it beeps twice. The AVG icon will be displayed.
2. Take a measurement and press the AVG button. A single beep will sound and the HOLD icon will appear in the display.
3. The average reading will be displayed and number of readings measured will appear in the upper right hand corner of the display. After 5 seconds, the display will return to the current reading.
4. Repeat steps 2-3 until the desired number of points have been measured.
5. To return to standard airflow measuring mode, press and hold AVG button until meter beeps twice.

Note: In the standard velocity measuring mode, press the AVG button once to recall the previous average. The average will be cleared when you enter the Averaging Mode again.

## Data Hold (Air Velocity/ Air Flow)

1. While taking measurements, press the HOLD button to freeze the air velocity/air flow reading.
2. The HOLD indicator will appear in the bottom of the LCD display.
3. Press HOLD again to return to normal operation.

## MAX/MIN/AVG Record (Air Velocity/ Air Flow)

This allows the user to record and view the highest (MAX), lowest (MIN) and average (AVG) readings.

1. Press the Airflow/Velocity MAX/MIN button. The MAX indicator and RECORD indicator along with the Max reading will appear on the LCD display and the meter will begin keeping track of the MAX, MIN and Average values.
2. Press the MAX/MIN button again to view the minimum reading. The MIN indicator along with the minimum reading will appear on the LCD display.
3. Press the MAX/MIN button again to view the average reading. The AVG indicator along with the average reading will appear on the LCD display.
4. Press the MAX/MIN button again to display current readings. NOTE: the meter will keep recording MAX/MIN/AVG readings.
5. To clear and stop MAX/MIN/AVG recording and return to normal operation, press and hold the MAX/MIN button until the meter beeps twice.

## Automatic Power Off

The meter automatically turns off after 20 minutes. To defeat this feature:

1. Turn the meter OFF.
2. Press and hold the ON (Backlight) key while turning the meter ON.
3. "disAPO" will appear in the display. The AUTO POWER OFF feature will now be disabled.
4. Note that AUTO POWER OFF is re-enabled each time the meter is turned on.
5. Also note that AUTO POWER OFF is disabled in CFM/ CMM or Average mode.

## Battery Replacement

When **LO** appears on the LCD, the 9V battery must be replaced.

1. Disconnect the sensor.
2. Remove the meter's rubber protective jacket.
3. Use a Phillips screwdriver to open the rear battery compartment.
4. Replace the 9V battery.
5. Close the battery compartment and replace the meter's protective jacket.

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You, as the end user, are legally bound (EU Battery ordinance) to return all used batteries, disposal in the household garbage is prohibited! You can hand over your used batteries / accumulators at collection points in your community or wherever batteries / accumulators are sold!

Disposal: Follow the valid legal stipulations in respect of the disposal of the device at the end of its lifecycle

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**WARNING:** To avoid electric shock, do not operate the meter until the battery cover is in place and fastened securely.

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