EXTECH®

MODEL 45158   USER MANUAL
Mini Hygro Thermo-Anemometer

Introduction

Congratulations on your purchase of the Extech 45158 Mini Hygro Thermo-Anemometer. The dual display indicates Air Velocity and Humidity, Dew Point, Ambient Temperature, or Temperature with wind-chill factor. With careful use, this meter will provide years of reliable service.

Operation

Switching the meter ON/OFF
- Short press the ON/OFF/HOLD button to switch ON.
- Long press the ON/OFF/HOLD button to switch OFF.
- The meter switches OFF automatically after 20 minutes of inactivity.

Changing the lower display parameter
- With the meter ON, press and hold the ON/OFF/HOLD button.
- While continuing to hold the button, press the UNITS/MODE button repeatedly to step through Temperature (F/C), Humidity (RH%), Dew Point (TD), & Temperature with wind-chill factor (WCI) units. Note that the center display indicates Air Velocity.

Changing the Air Velocity unit of measure
- Switch the meter OFF. Long press both buttons until the display switches ON and begins blinking, and then release both buttons.
- Press the UNITS/MODE button repeatedly to step through the units.
- After 5 seconds the meter automatically switches back to normal operation.

Select temperature units (C/F)
- Switch the meter OFF and then long press both buttons until the display switches ON and begins blinking, and then release the buttons.
- Short press both buttons to change the temperature units.
- After 5 seconds the meter automatically returns to normal operation.

Taking measurements
- Position the meter so that the measured airflow enters the vane from the back of the meter. A tripod mount is located on the bottom of the meter.

MAX (Maximum) Hold
- Press the UNITS/MODE button to display the maximum reading captured since the meter was switched ON. Note that the MAX icon appears.
- Press the UNITS/MODE button repeatedly until the meter returns to the normal operating mode. The MAX icon will switch OFF.
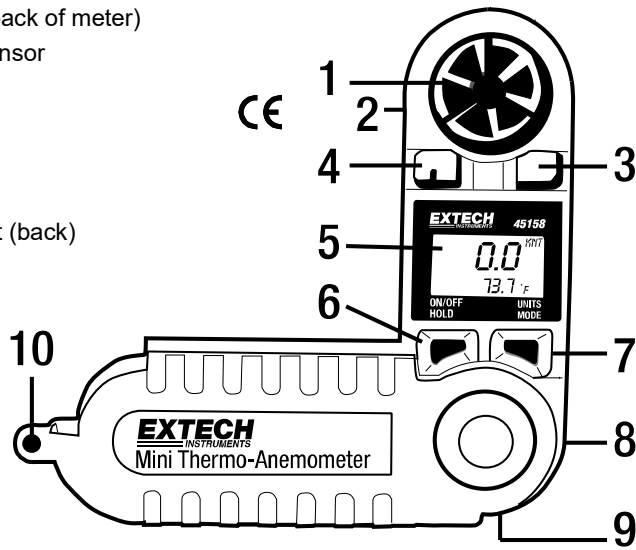
Average mode
- The meter averages 2 readings, by default. To change to a 5- or a 10-reading average, follow the steps below.
- Press the UNITS/MODE button 3 times to select the 5-reading average mode or 4 times to select the 10-reading average mode.
- To exit, press the UNITS/MODE button repeatedly, until the display icons on the left side switch OFF.

Data Hold
- Press and hold the ON/OFF/HOLD button to freeze the displayed readings.
- Release the button to return to normal operation.

Meter Description

1. Vane impeller
2. Impeller set screw (back of meter)
3. Relative Humidity sensor
4. Temperature sensor
5. LCD
6. ON/OFF, HOLD key
7. UNITS, MODE key
8. Battery compartment (back)
9. Tripod mount
10. Lanyard (neck strap)

Specifications

Measurement	Range	Resolution	Accuracy (% of reading)
MPH (Miles per hour)	2.5 to 44.7 MPH	0.2 MPH	± (3% + 0.4 mph)
km/hr (kilometers per hour)	4.0 to 72.0 km/h	0.7 km/h	± (3% + 1.4 km/hr)
Knots (nautical miles/hour)	2.1 to 38.9 knots	0.3 knots	± (3% + 0.6 knots)
m/sec (meters per second)	1.1 to 20.0 m/s	0.1 m/s	± (3% + 0.2 m/s)
ft/min (feet per minute)	216 to 3936 ft/min	20 ft/min	± (3% + 40 ft/min)
Beaufort force	1 to 8 BF	1 BF	± 1
Temperature	0 to 122°F (-18 to 50°C)	0.1°F/C	± 1.8°F (± 1°C)
Relative Humidity	10 to 95%	1%	± 5% RH
Dew Point	32 to 122°F (0 to 50°C)	0.1°F/C	± 3.6°F (2°C)

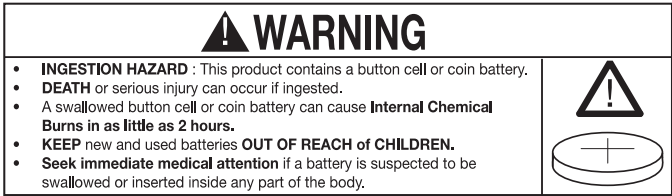|	
Display	Dual LCD with low battery and multifunction indicators
Sensors	Sapphire bearing, non-corrosive vane for air velocity; Precision thermistor for temperature measurements
Average Mode	Choice of 5 or 10 reading averaging (2 second factory default)
MAX and Data Hold	MAX recalls the highest reading; Data Hold freezes the display
Sample time	1 reading per second for air velocity and temperature (1 reading every 15 seconds for humidity with 2-second updates)
Water-resistant	To 3 ft. (1 m)
Operating conditions	5 to 122°F (-15 to 50°C); < 80% RH
Power supply	Lithium battery (CR2032 or equivalent); 400-hour battery life, typical
Dimensions and Weight	Instrument: 5.25 x 2.75 x 0.75 in. (133 x 70 x 19 mm); Vane: 1 in. (24 mm) diameter. 3 oz. (95 g)

Maintenance

Battery Replacement

The 45158 has a low battery indicator (battery symbol).
Important: Turn the meter off before opening the battery compartment.
Using a coin, rotate the battery compartment cover CLOCKWISE to remove it. Once opened, observe the position of the existing battery, placing the new one in the same position. Secure the battery compartment cover and dispose of the lithium battery in accordance with local, state, and national disposal codes.

All EU users are legally bound by the Battery Ordinance to return all used batteries to community collection points or wherever batteries / accumulators are sold.
Disposal in household trash or refuse is prohibited.
Disposal: Follow the valid legal stipulations in respect of the disposal of the device at the end of its lifecycle

Impeller Replacement
- Remove the set screw next to the impeller assembly (back of meter).
- Twist the impeller assembly counterclockwise, to the OPEN position, and remove it.
- Install impeller by inserting and twisting the new impeller assembly clockwise.
- Tighten the set screw.
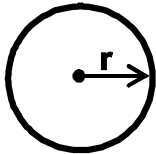
CFM/CMM Air Volume Measurements

First measure the area (A) of the duct, using the diagrams below, for rectangular and circular ducts. If the duct measurements are made in inches, divide by 144 (to convert to square feet). Air Volume is calculated by multiplying the duct area by the air velocity measurement, per the equations below.

$$A = w * h \qquad A = \pi r^2$$

CFM (ft^3/min) = Air Velocity (ft/min) x Area (ft^2)

CMM (m^3/min) = Air Velocity (m/sec) x Area (m^2) x 60

Two-year Warranty

Teledyne FLIR warrants this Extech brand instrument to be free of defects in parts and workmanship for two years from date of shipment. To view the full warranty text please visit: https://www.flir.com/support-center/warranty/instruments/extech-product-warranty/

Calibration and Repair Services

Teledyne FLIR offers calibration and repair services for the Extech brand products we sell. We offer NIST traceable calibration for most of our products.

Customer Support

Local Telephone Support List: *https://support.flir.com/contact*
Return Material Authorization (RMA): *https://customer.flir.com/Home*
Customer Service: *https://support.flir.com/ContactService*
Technical Support: *https://support.flir.com*