Measure wind speed, temperature, and windchill accurately with the Model 45118 Pocket Wind Meter. The rotating vane anemometer is constructed with a light weight, sturdy plastic impeller which spins on high precision jewel bearings. The impeller assembly is easily replaceable in the event of damage or wear. Wind speed, average wind speed, maximum wind speed, temperature, and windchill can quickly be viewed on the 4 digit LCD display in user selectable measuring units. The 45118 also features automatic shut-off, data hold, detailed instruction manual, protective plastic housing, tripod-mounting connection, and a water resistant housing that floats. Accessories include a spare battery and a 43” lanyard.

FRONT PANEL DESCRIPTION

1. Vane impeller
2. Precision thermistor
3. LCD display
4. POWER and HOLD key
5. UNITS and MODE key
6. Battery compartment (on rear)
7. Swivel handle and storage case
8. Lanyard holder
9. Impeller set screw (on rear of meter)

SPECIFICATIONS

Air Velocity Range: 100 to 5500 ft/min, 0.5 to 28 m/s, 2 to 100 km/h, 1 to 62 mph, 1 to 54.3 knots, 1 to 17 Beaufort.

Temperature/Windchill Ranges: 0 to 122°F (0.1°)/-18 to 50°C (0.1°).

Accuracy:
- Wind speed: ±3% of reading.
- Temperature: ±1.8°F/±1°C.
- Relative Humidity: ±5% RH.

Air Velocity Units: m/s; mph; knots; km/hr; ft/min; Beaufort.

Resolution:
- 0.2 mph.

Sample Time: 1 reading per second.

Averaging: 5, 10, or 13 second intervals.

Water-resistant: to 3 ft (1 meter).

Wind Speed: Limits: 0.5 to 89 mph.

Power: Lithium battery (CR-2032 or equivalent) 400 hour life expectancy, replaceable.

Auto-off: 30 minutes after last key is pressed.

Impeller: Plastic, replaceable.

Case: Plastic.

Weight: 3 oz (95 g).

Agency Approval: CE.
OPERATION
Select the desired units for air velocity and temperature by momentarily pressing the UNITS/MODE key from a powered down condition. The LCD will show temperature units (°C or °F) and Air Velocity units. Press the UNITS/MODE key repeatedly until the desired units are displayed. When finished, press the ON/OFF/HOLD key momentarily to restart the meter with desired units.

Power the meter by pressing the ON/OFF/HOLD key momentarily while taking measurements. Activate Data Hold (to freeze the most recent display), by pressing and holding the ON/OFF/HOLD key while taking measurements. To return to normal operation, release the key and restart the meter.

Maximum Operation:
After a measurement session, press and hold the UNITS/MODE key until the MAX icon appears on the lower left-hand side of the LCD. Both the Air Velocity and Temperature indication will represent the highest readings measured since the meter was last powered.

Average Mode Operation:
Normally the meter averages readings every 2 seconds. To select 5, 10 or 13 second averaging, first press and hold the UNITS/MODE key until the MAX icon appears. Next, press the key again momentarily and the AVG icon will appear. The 13 second average mode is selected. Now press the key again and the number 5 will appear. Leave it there if an average of 5 seconds is desired. Press the key once more for a 10 second average mode. To return to normal operation press the UNITS/MODE key repeatedly until all lower left-hand icons disappear.

Auto Power Off:
After approximately 20 minutes, if meter keys are not touched, the meter automatically shuts down to preserve battery life.

BATTERY REPLACEMENT
If the meter does not power up or the display contrast becomes weak and difficult to read, replace the lithium battery. To do so, turn the battery compartment cover in a CLOCKWISE direction to remove it. The battery will be visible in the battery compartment, observe the position of the battery and replace the new one in the same position. Affix the battery compartment cover by turning it in a COUNTER-CLOCKWISE direction. Dispose of the lithium battery in accordance with local, state, or national waste disposal codes.

VANE IMPELLER REPLACEMENT
Note: The anemometer is very accurate at low and mid-range air speeds. Constant use at very high speeds may damage the impeller's bearing and reduce overall accuracy. To replace impeller, remove the set screw next to the impeller assembly (on the rear or the meter). Twist the impeller assembly counter-clockwise to the “O” (open) position and remove it.

MAINTENANCE
Upon final installation of the Model 45118 Mini Thermo-Anemometer and the companion receiver, no routine maintenance is required. A periodic check of the system calibration is recommended. The Model 45118 is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number before shipping.

USEFUL EQUATIONS AND CONVERSIONS

Area Equations

Rectangular Duct

\[ A = W \times H \]

Circular Duct

\[ A = \pi \times R^2 \]

Cubic Equations

\[ \text{CFM (ft}^3/\text{min)} = \text{Air Velocity (ft/min)} \times \text{Area (ft}^2) \]

\[ \text{CMM (m}^3/\text{min)} = \text{Air Velocity (m/sec)} \times \text{Area (m}^2) \times 60 \]

Units Conversion Table

<table>
<thead>
<tr>
<th>Metric</th>
<th>m/s</th>
<th>ft/min</th>
<th>knots</th>
<th>km/h</th>
<th>mph</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 m/s</td>
<td>1</td>
<td>196.87</td>
<td>1.944</td>
<td>0.6</td>
<td>0.24</td>
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<tr>
<td>1 ft/min</td>
<td>0.00968</td>
<td>0.00304</td>
<td>0.001829</td>
<td>0.01138</td>
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</tr>
<tr>
<td>1 knot</td>
<td>0.54</td>
<td>101.27</td>
<td>1</td>
<td>1.8519</td>
<td>1.1523</td>
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<tr>
<td>1 km/h</td>
<td>0.2778</td>
<td>54.69</td>
<td>0.54</td>
<td>1</td>
<td>0.6224</td>
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<tr>
<td>1 MPH</td>
<td>0.4464</td>
<td>87.89</td>
<td>0.8679</td>
<td>1.6071</td>
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Beaufort Conversion Table

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<tr>
<th>Beaufort</th>
<th>Km/h</th>
<th>mph</th>
<th>Knots</th>
<th>Meter/Sec</th>
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<tr>
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<td>&lt;1</td>
<td>0-0.2</td>
<td>0-0.2</td>
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<tr>
<td>1</td>
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<td>1-3</td>
<td>0.3-1.5</td>
<td>0.3-1.5</td>
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<td>2</td>
<td>6-11</td>
<td>4-7</td>
<td>0-1.3</td>
<td>0-1.3</td>
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<tr>
<td>3</td>
<td>12-19</td>
<td>8-12</td>
<td>1-10</td>
<td>0.3-5.4</td>
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<td>4</td>
<td>20-28</td>
<td>13-18</td>
<td>1-16</td>
<td>5-7.9</td>
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<tr>
<td>5</td>
<td>29-38</td>
<td>19-24</td>
<td>17-21</td>
<td>8-10.7</td>
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<tr>
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<td>39-49</td>
<td>25-31</td>
<td>22-27</td>
<td>10.8-13.8</td>
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<td>7</td>
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<td>32-38</td>
<td>28-33</td>
<td>13.9-17.1</td>
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<td>62-74</td>
<td>39-46</td>
<td>34-40</td>
<td>17.2-20.7</td>
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<td>9</td>
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<td>41-47</td>
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<td>64-72</td>
<td>56-63</td>
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<td>above 72</td>
<td>above 63</td>
<td>above 32.6</td>
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