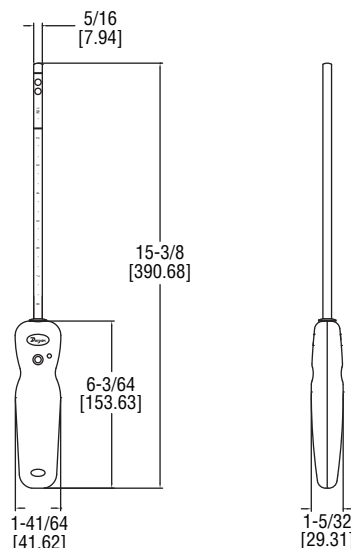




Model AP2 Wireless Thermo-Anemometer Probe for UHH

Specifications - Installation and Operating Instructions



The Model AP2 Wireless Thermo-Anemometer Probe measures air velocity, air flow, and temperature when combined with the Model UHH Universal Handheld. In order to prevent damage to the sensing element, the probe has a protective sleeve that slides over the sensor when it is not in use. Markings on the probe allow users to know the insertion depth to obtain better accuracy when traversing the duct.

Wireless probes can take measurements up to 50 feet away from the UHH. A bi-color LED flashes on the handle of the probe to indicate communication status with the UHH. The battery is rechargeable via the mini-USB connector on the bottom of the probe.

NOTICE

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à des règlements d'Industrie Canada exempts de licence standard RSS (s). Son fonctionnement est soumis aux deux conditions suivantes: (1) Ce dispositif ne doit pas causer d'interférences nuisibles, et (2) cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant entraîner un fonctionnement indésirable.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

CHARGING BATTERY

NOTICE

It is required prior to the initial usage to charge the battery for 12 hours.

When the charge of the battery is almost used up, the LED on the handle of the wireless probe will turn solid red. There is approximately 5 minutes of battery life left at this point. If the probe is not already paired to the UHH, it will not pair while in low battery condition.

- Step 1: Open the USB cover on the bottom of the probe handle.
- Step 2: Plug the mini-USB connector end of the cable into the probe handle.
- Step 3: Plug the USB connector end of the cable into the port on the charger or PC.
- Step 4: Plug the charger into either an electrical outlet or car charging port (LED on the charger and the handle should both light up).
- Step 5: The LED on the handle will turn off when fully charged.
- Step 6: Remove charger from electrical outlet.
- Step 7: Remove USB connectors from the handle and the charger.
- Step 8: Replace the USB cover on the bottom of the probe handle.

SPECIFICATIONS

Service: Dry, clean air.

Temperature Limits:

- Process: -20 to 200°F (-29 to 93°C);
- Ambient: -20 to 140°F (-29 to 60°C);
- Battery Charging: 32 to 113°F (0 to 45°C).

Range:

- Air Velocity: 0 to 6000 FPM (0 to 30 m/s);
- Volumetric Air: 999,999 in selected flow units;
- Temperature: -40 to 212°F (-40 to 100°C).

Accuracy:

- Air Velocity: ±3% FS within temperature range of 40 to 90°F (4 to 32°C);
- Temperature: ±0.5°F (±0.28°C).

Response Time: 1 s.

Probe Length: 8" (203 mm) insertion.

Power Requirements: 3.7 V YT562447 Lithium ion battery, installed functional, user replaceable.

Maximum Wireless Distance: 50' (15 m).

Handle Enclosure: Thermoplastic elastomer over polycarbonate.

Supplied With: Wrist strap.

Weight: 11.2 oz (331.22 g).

Agency Approvals: CE (not while charging), RoHS, FCC compliant.

WARNING

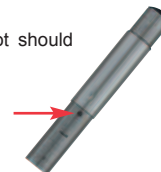
Lithium ion polymer batteries are very volatile and can cause a fire if punctured or severely damaged. Only use a Dwyer Instruments, Inc. approved charging device in a well ventilated area away from any flammable materials or gases. Do not incinerate the battery. Only charge between 32 to 113°F (0 to 45°C).

NOTICE







If desired, can be operated with USB cables less than 3 m in length when connected to the charger or PC.

NOTICE

The side of the probe with the dot should face the flow.






PAIRING WIRELESS PROBES



1. Turn on Model UHH Universal Handheld by pressing the  button.
2. Press the  and  buttons to scroll through the menu headings at the top of the display.
3. When **PROBE** is highlighted, hit the  button to access the probe menu.
4. Press the  directional arrow to scroll through the sub-menu headings. The current selected parameter will be highlighted in yellow.
5. When **PAIRING MODE** is highlighted, hit the  button to access the pairing mode.
6. Turn on the wireless probe(s) to be paired. After a period of up to 15 to 20 seconds, the UHH screen will update with the information about the wireless probe(s) just turned on.

NOTICE

If a probe does not appear, power the probe down, then power it back on.





7. Press the  button to scroll through the available probes. The current selected probe will be highlighted in yellow.
8. When the desired probe to be paired is highlighted, hit the  button to pair the probe. Once it is paired, it will be removed from the list automatically.
9. Once all the desired probes are paired, press  button.
10. Repeat step 9 to go back to the home screen and begin readings.

SELECTING A PROBE







In order to cycle through the probes that are paired to the Model UHH Universal Handheld, press the  or  button while in the view data mode.

SETTINGS







When using the Model AP2 Wireless Thermo-Anemometer Probe, the base unit can display velocity or air flow along with temperature. The settings allow users to select velocity or air flow, engineering units, measurement range, and which parameters to show on the display. To access the settings menus:

1. Press the  or  directional arrows to scroll through the menu headings at the top of the display.
2. When **PROBE** is highlighted, hit the  button to access the probe menu.
3. Press the  directional arrow to scroll through the sub-menu headings. The currently selected parameter will be highlighted in yellow.










Flow / Velocity Selection

1. When sub-menu **TYPE** (next to Anemometer) is highlighted, hit the  button to access the settings for the sub-menu.
2. Press the  directional arrow to scroll through the parameters. The currently selected parameter will be highlighted in yellow.
3. When **DISPLAY** is highlighted, press the  button and velocity or vol. flow will be highlighted.
4. Pressing the  or  buttons will alternate between velocity and vol. flow.
5. Once the desired selection is made, press  button.







Units Selection

1. When sub-menu **TYPE** (next to Anemometer or Temperature) is highlighted, hit the  button to access the settings sub-menu.
2. Press the  directional arrow to scroll through the parameter headings. The currently selected parameter will be highlighted in yellow.
3. When **UNITS** is highlighted, press the  button and the current units will be highlighted.
4. Pressing the  or  buttons will cycle through the available units.
5. Once the desired selection is made, press  button.

Area Adjustment (Only when Display is set to Volumetric Flow)

1. When sub-menu **TYPE** (next to Anemometer) is highlighted, hit the  button to access the settings sub-menu.
2. Press the  directional arrow to scroll through the parameter headings. The currently selected parameter will be highlighted in yellow.
3. When **AREA** is highlighted, press the  button to enter a new submenu that allows selection of the shape of the duct, engineering units in which the duct is measured, and the dimensions of the duct.
4. Press the  directional arrow to scroll through the parameter headings. The currently selected parameter will be highlighted in yellow.
5. When the desired menu is highlighted, press the  button and the current value of the parameter will be highlighted.
6. Pressing the  or  buttons will cycle through the available options for each parameter.
7. Once the desired selection is made, press  button.
8. After all of the area parameters are adjusted, press  button.













Range Adjustment

1. When sub-menu **TYPE** (next to Anemometer) is highlighted, hit the  button to access the settings sub-menu.
2. Press the  directional arrow to scroll through the parameter headings. The currently selected parameter will be highlighted in yellow.
3. When **RANGE** is highlighted, press the  button and the current minimum and maximum of the range will be highlighted.
4. Pressing the  or  buttons will cycle through the available ranges.
5. Once the desired selection is entered, press  button.

Display Measurements

NOTICE

The measurements on the main display will always be displayed, but the measurements on the secondary displays can be turned off.

1. When **SOURCE** is highlighted, press the  button and the measurement type selected will be highlighted.
2. Pressing the  or  buttons will cycle through the available parameters.
3. Once the desired selection is made, press  button.
4. In order to turn off the secondary displays, use the  and  to select the measurement type that is not selected for the **SOURCE**.
5. When the desired sub-menu **TYPE** is highlighted, hit the  button to access the settings sub-menu.
6. Press the  directional arrow to scroll through the parameter headings. The currently selected parameter will be highlighted in yellow.
7. When **VISIBLE** is highlighted, press the  button and either ON or OFF will be highlighted. The measurement will be displayed when set to ON and not displayed when set to OFF.
8. Pressing the  or  buttons will alternate between ON and OFF.
9. Once the desired selection is made, press  button.

LOGGING MEASUREMENTS

The UHH series can log the data being measured either a single point at a time or by continuously logging at a user defined sample rate. When the trigger is selected to be a single point at a time, pressing the power button on the probe handle or the store button on the handheld will store a reading into the currently open file until the user creates a new file. If there is not a file open, the handheld will ask to create one. For manual trigger, the power button on the probe handle or the store button on the base unit will start the logging, and the logging will end after a user selected duration or when the power button on the probe handle or stop button on the handheld is depressed. When the trigger is set for event, the user will select the upper and lower limit of a range and select whether the logging should take place while the measurements are within or outside of the range. The handheld can also record up to 2 minutes before the event (pre-trigger) and up to 24 hours after the event (post-trigger). If the measurements don't match the trigger event, a minimum elapsed data capture time can be set.

Accessing Log Settings

1. Press the ◀ or ▶ arrows to scroll through the menu headings at the top of the display
2. When LOG is highlighted, hit the ⏏ button to access the log menu.
3. Press the ▲ or ▼ arrows to scroll through the sub-menu headings. The currently selected parameter will be highlighted in yellow.
4. When the sub-menu RATE is highlighted, hit the ▶ arrow button to set the sampling rate.
5. Use the ▲ and ▼ arrows to select the desired sampling rate.
6. Once the desired sampling rate is selected, press the ◀ arrow.
7. When the sub-menu FILE FORMAT is highlighted, hit the ▶ arrow button to choose the file type.
8. Use the ▲ and ▼ arrows to toggle between CSV and TSV file formats.
9. Once the desired file format is selected, press the ◀ arrow.
10. When the sub-menu Media is highlighted, hit the ▶ arrow button to choose where to save the files.
11. Use the ▲ and ▼ arrows to toggle between internal memory and the SD card, if present.
12. Once the desired location is selected, press the ◀ arrow.
13. When the sub-menu TRIGGER is highlighted, hit the ⏏ button to access the trigger settings sub-menu.
14. Press the ▼ arrow to scroll through the parameter headings. The currently selected parameter will be highlighted in yellow.

Selecting Trigger Source

1. When SOURCE is highlighted, press the ▶ arrow and the currently selected parameter for the trigger source will be highlighted.
2. Press the ▲ or ▼ arrows to cycle through the available sources.
3. Once the desired selection is made press the ◀ arrow.

Selecting Trigger Type

1. When the sub-menu TRIGGER is highlighted, hit the ▶ arrow and the currently selected trigger type will be highlighted
2. Press the ▲ or ▼ arrows to cycle through the available trigger types.
3. Once the desired selection is made press the ◀ arrow.

Viewing Stored Files

1. Press the ◀ or ▶ arrows to scroll through the menu headings at the top of the display.
2. When LOG is highlighted, hit the ⏏ button to access the log menu.
3. Press the ▲ or ▼ arrow to scroll through the sub-menu headings. The currently selected parameter will be highlighted in yellow.
4. When the sub-menu LOG FILES is highlighted, hit the ▶ arrow button to access the log files.
5. Use the ▲ and ▼ arrows to select the desired log file.
6. Pressing the VIEW soft key will allow the user to view the first data point. The units, sensor, time, and date will be shown for each data point.
7. Pressing the ▲ and ▼ arrows will cycle through all of the data points in the selected file.
8. Data points can be deleted by pressing the DEL soft key.
9. Pressing the BACK soft key will exit out of the file.
10. Pressing the STAT soft key will show the average, peak, and valley statistics for the data in the selected log file.
11. Pressing the BACK soft key will exit out of the file.
12. An entire file can be deleted by pressing the DELETE soft key.
13. To exit the LOG FILE sub-menu, press the ◀ arrow.

WIRELESS GUIDELINES IN ACCORDANCE WITH FCC:

Changes not expressly approved by Dwyer Instruments, Inc. could void the user's authority to operate the equipment.

This product complies with FCC OET Bulletin 65 radiation exposure limits set forth for an uncontrolled environment.

Pursuant to FCC 15.21 of the FCC rules, changes not expressly approved by Dwyer Instruments, Inc. might cause harmful interference and void the FCC authorization to operate this product.

Canadian Government Guidelines:

Operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

INFORMATION TO THE USER

Power Output: 6 mW
Operating Frequency: 2.4 GHz
Operating Channel: 11
Operating Mode: IEEE 802.15.4, Zigbee, Direct Sequence Spread Spectrum
Data Rate: Up to 250 kbps
Intended Use: Industrial/commercial HVAC
Antenna Connection: Internal only, non-tunable

Battery Removal:

If, for some reason, the wireless probe needs to be returned to Dwyer Instruments, Inc. for maintenance or repair, the rechargeable lithium ion battery needs to be removed prior to shipping the unit. Before attempting to remove the battery ensure the probe has been powered down. To remove the battery, set the wireless probe face down on a non-abrasive surface. There are four Phillips head screws that secure the two halves of the handle together. Two are located under the serial number label at the top of the probe and two are located at the bottom of the unit. When lifting the ends of the serial label to access the screws be careful to not damage the label such that the serial number cannot be read. Remove the four screws with a suitable Phillips screw driver and set aside the back half of the housing. Remove the battery by grasping the black plastic connector on the battery wire harness and pull straight out while securing the black plastic connector on the circuit board with the other hand. Be careful to not puncture the battery as this may cause a fire. Remove the battery and set aside. Securely replace the four screws to hold the handle of the probe together. The unit may now be packaged for shipping back to Dwyer Instruments, Inc.

MAINTENANCE/REPAIR

Upon final installation of the Model AP2, no routine maintenance is required. The Model AP2 is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty.

WARRANTY/RETURN

Refer to "Terms and Conditions of Sales" in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem, plus any additional application notes.

