



UPAS users, this quick start guide can help you understand the basic functions of the device and how to start collecting samples. See the full UPAS user manual for detailed operation instructions. It can be downloaded on our website, www.accsensors.com/airsampling/

Download the mobile device application for IOS or Android

● Android users, visit the Google Play Store and search for “CSU UPAS” then install the App to your device



CSU UPAS

Volckens Research Group Education
Everyone



● IOS users, visit the Apple App Store and search for “CSU UPAS” then install the App to your device



CSU UPAS
Colorado State University
Free



Enable Bluetooth on your mobile device

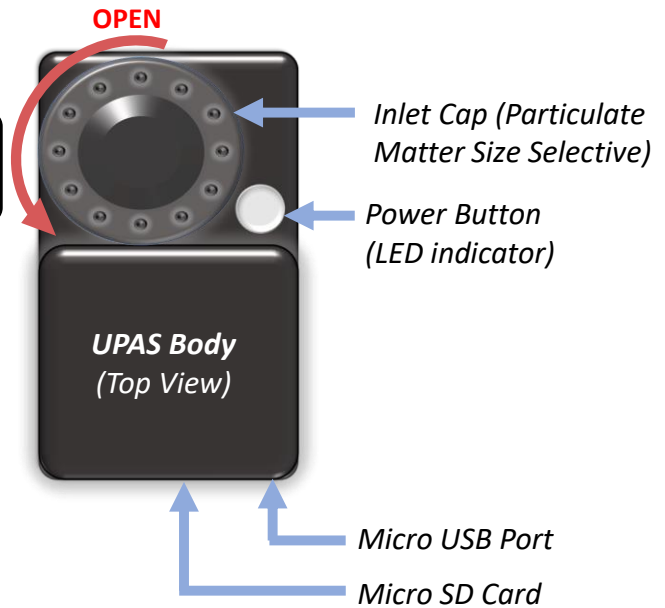
Get to know your UPAS

Remove the Inlet Cap by turning counter clockwise



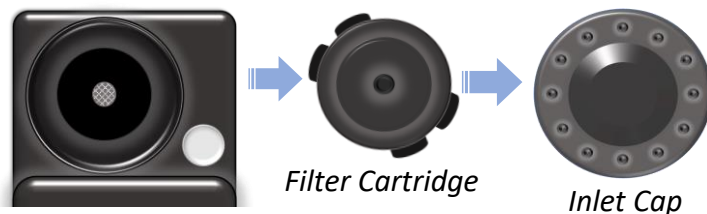
IMPORTANT NOTE:

Before first time use, please fully charge the UPAS via the Micro USB port (~4 hours, see page 20-21 in the full UPAS user manual). Failure to do so could lead to inaccurate battery percent state of charge (%SOC) readings

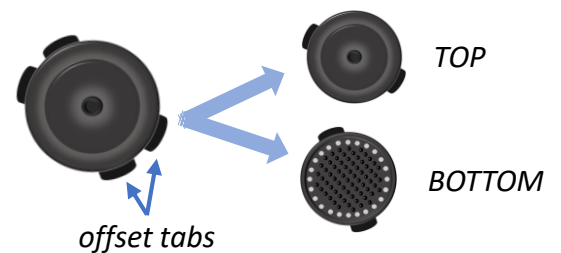


Installing a filter into the Filter Cartridge

1 Remove the Inlet Cap then remove the Filter Cartridge from the UPAS body



2 Opening the Filter Cartridge: Separate the offset tabs on the TOP and BOTTOM halves of the Filter Cartridge

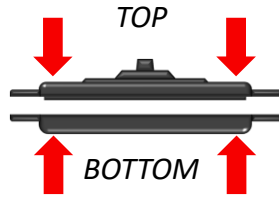


3 Loading the Filter Cartridge:

37 mm diameter filter*



BOTTOM



Side View

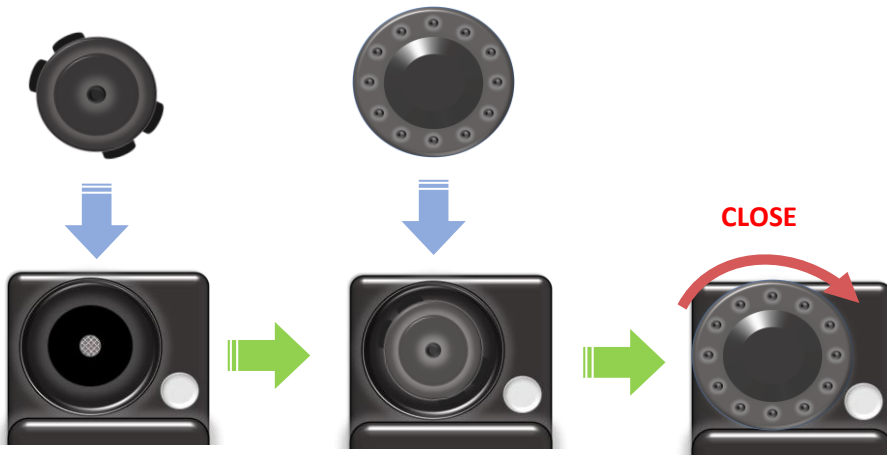
With tweezers, carefully place a 37 mm diameter filter into the BOTTOM of the Filter Cartridge and replace the TOP. Firmly squeeze both halves together around the edges of the Filter Cartridge.

IMPORTANT NOTE:



Avoid touching the filter media with your fingers or anything that could damage or contaminate the filter media

*For details on recommended filters that have been tested with the UPAS, see Table 1 on Page 6 of the full UPAS user manual



Place the closed filter cartridge into the center of the inlet socket on the UPAS body. Install the Inlet Cap by turning clockwise

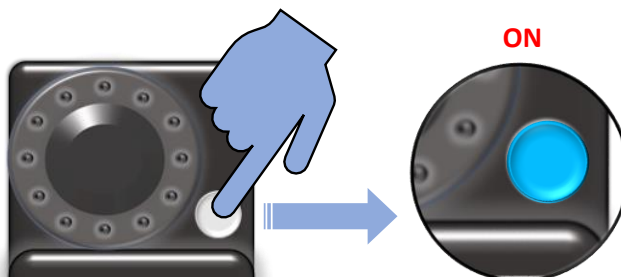
Turning the UPAS ON

IMPORTANT NOTE:












make sure the filter, Filter Cartridge, and Inlet Cap are installed into the UPAS before starting a sample. Running the pumps without these parts installed could cause damage to the UPAS.

Press and hold the Power Button for 5 seconds to turn ON the UPAS. The Power Button will show a BLUE (B) LED, indicating the UPAS is turning ON.



Interpreting the Power Button LED Indicator

Become familiar with the Power Button LED(1) indicator. When first powered on, the UPAS will go through a sequence of checks before the user can connect to the UPAS with the mobile device application. *For the full LED indicator table, see Table 2, 3, 4, 5 on pages 10, 20, 20, and 38 respectively, in the full UPAS user manual.*

Start Sequence	LED Indicator	Significance
a. UPAS turning ON	 (B, G)	Firmware is initiating
b. Battery State of Charge (%SOC) check	 (B, B, B, B, G)	100% (SOC)
	 (B, B, B, B)	~70% (SOC)
	 (B, B, B)	~40% (SOC)
	 (B, B)	~20% (SOC)*
c. Micro SD card installation check	 (Solid R) <i>OR</i>	SD card is properly installed
	 (Blinking R)	SD card is <i>NOT</i> installed
d. GPS status check	 (Solid B, Solid P) <i>OR</i>	GPS signal is available
	 (Blinking P)	GPS signal is NOT available
		** Place your UPAS outside for 2-5 minutes until LED is solid PINK

(1) LED Key: BLUE = (B), GREEN = (G), PINK = (P), RED = (R)

Connecting the UPAS to the mobile device App and starting a sample

Make sure the UPAS LED indicator is solid PINK then open the UPAS App.

1. Android Users, see Pages 4 and 5 of this guide
2. IOS Users, see Pages 6 and 7 of this guide



Solid PINK



UPAS



Once opened, the UPAS App will direct to the Main Menu which contains various settings that you can customize to fit your sampling needs. Below is a brief description of each App setting but please refer to Table 6 on Page 40 of the UPAS manual for additional information about the App settings. *Note: You do not have to change any of the settings to start a sample run.*

Main Menu (full screen):

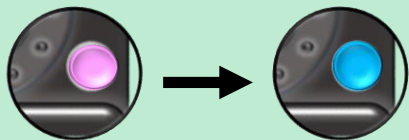
The screenshot shows the main menu of the UPAS 2.1.6 app. At the top, it displays the version number and a three-dot overflow menu icon. Below this, the connection status is shown as 'Disconnected'. Battery information, including charge percentage and voltage, is also displayed. The menu includes input fields for 'SAMPLE NAME' and 'CARTRIDGE ID'. A section containing 'GPS ON', 'LED ON', and 'NORMAL LOG' buttons is highlighted with a dashed box, with an annotation pointing to 'See the user manual'. Below this are buttons for 'MICROENVIRONMENT (ME) DETECTION OFF' and 'ME COORDINATES'. The lower half of the screen features several settings: 'FLOW RATE' (X.X LPM), 'FLOW OFFSET' (X.X %), 'DUTY CYCLE' (000%), 'LOG INTERVAL' (XX Seconds), 'START TIME' (Now), 'SAMPLE DURATION' (Indefinite), and 'START WITH SET TIME'. At the bottom, there are two large buttons: 'BEGIN FILE DOWNLOAD' and 'START'. Dotted lines connect each of these elements to descriptive text on the right side of the page.

- Select the overflow menu icon to navigate to the Connection Window
- The connection status will update to show the UPAS ID when connected
- The battery state of charge percentage and battery voltage will update when connected to a UPAS
- Enter a sample name to help identify each sample
- Enter the filter cartridge ID found on the sticker of the bottom half of the cartridge
- See the user manual
- Set the desired flow rate (1.0, 1.5, 1.7, or 2.0 LPM)
- Set the desired flow offset to fine tune your UPAS flow (-9% to +9% options)
- Use the Duty Cycle to sample a fraction of the log interval (13% to 100% options)
- This will change how often your UPAS collects data in the log file
- Set an immediate start time or delay the start time ()
- Set the UPAS to run indefinitely or set a fixed number of hours and minutes for the UPAS to sample before powering off
- Use this to start the UPAS at a set time that does not require the user to be present
- After a sample run has been started, a log file will be created that can be downloaded using the App (see user manual for downloading instructions)
- Select this when you are ready to start a UPAS sample



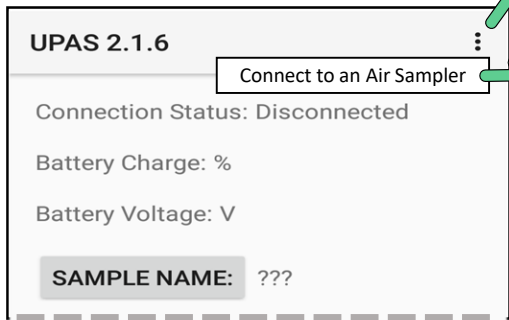
INSTRUCTIONS

- A. Select the overflow icon in the top right corner of the main menu
- B. Select "Connect to an Air Sampler" to navigate to the connection window
- C. Select "SCAN FOR DEVICES" to look for a UPAS (i.e. PS0591)
- D. To connect, select the Bluetooth device with the serial ID matching the sticker on the back of the UPAS.
- E. Wait a few moments, the app will ask permission to pair with the UPAS device. Select "Pair"
- F. When the UPAS connects successfully, the LED indicator will change from solid PINK to solid BLUE and the Connection Status will update.
- G. Press "Start" at the bottom of the Main Menu to start a UPAS Sample.
- H. The App will ask you to confirm the sample start. Select "OK"

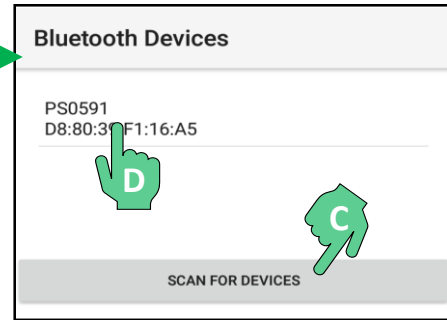


★ If the app fields do not update and the LED does not turn BLUE, select the "Sample Name" field and enter "RESET#" then return to the main menu.

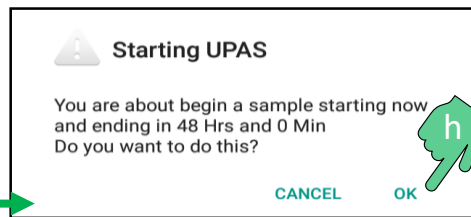
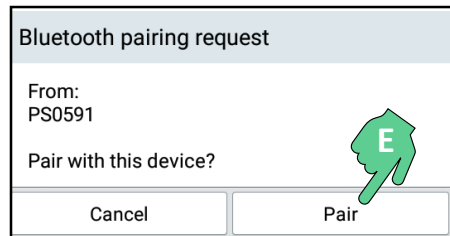
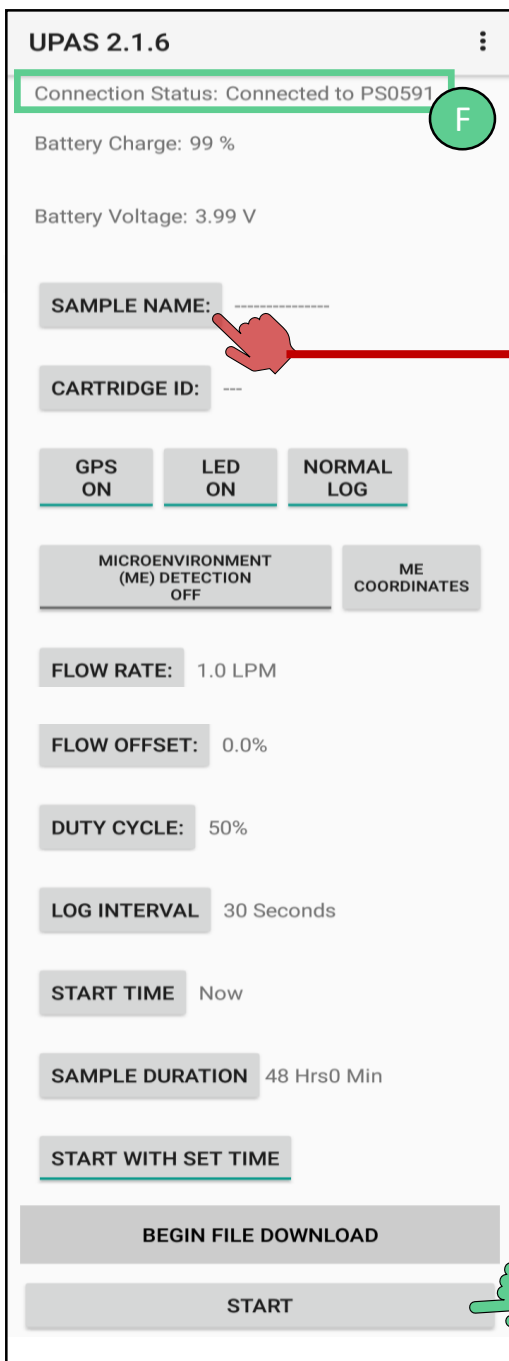
Main Menu (top of screen):



Connection Window:



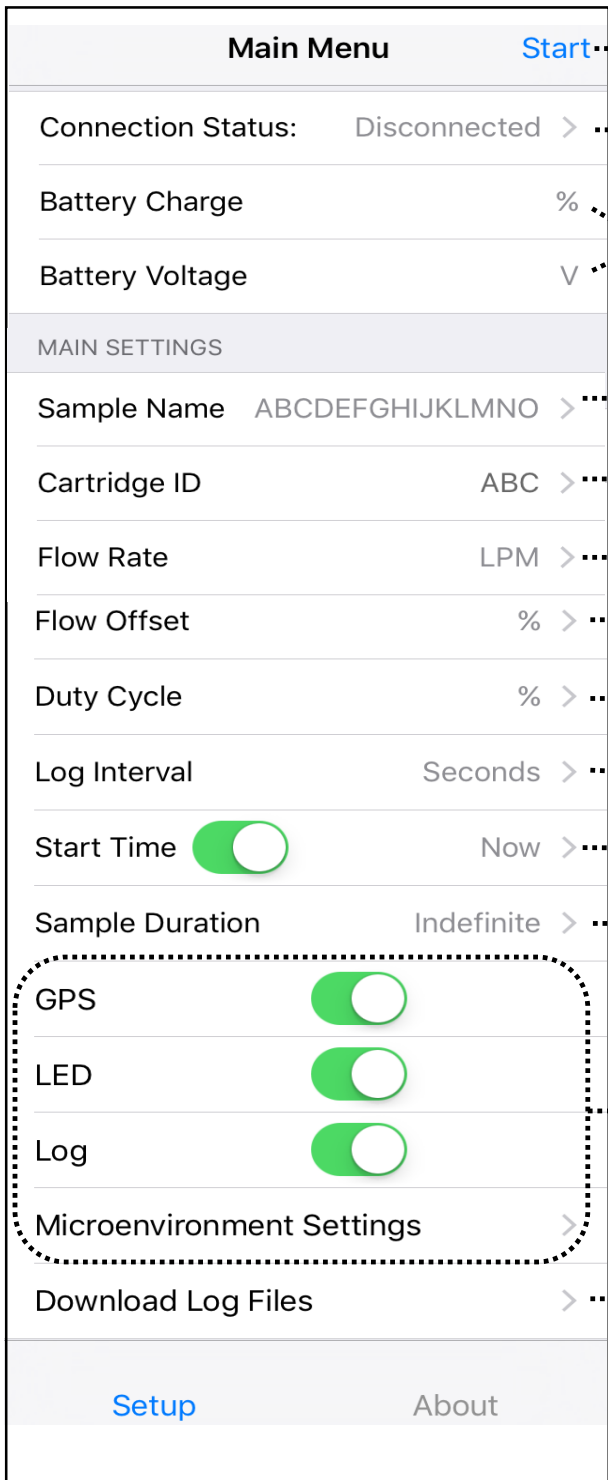
Main Menu (full screen):





Once opened, the UPAS App will direct to the Main Menu which contains various settings that you can customize to fit your sampling needs. Below is a brief description of each App setting but please refer to Table 6 on Page 40 of the UPAS manual for additional information about the App Setting. *Note: You do not have to change any of the app settings to start a sample run.*

Main Menu (full screen):

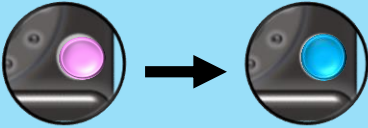


- Start** Select "Start" when you are ready to start a UPAS sample
- Connection Status: Disconnected** > The connection status will update to show the UPAS ID when connected
- Battery Charge** % The battery state of charge percentage and battery voltage will update when connected to a UPAS
- Battery Voltage** V
- MAIN SETTINGS**
- Sample Name** ABCDEFGHIJKLMNO > Enter a sample name to help identify each sample
- Cartridge ID** ABC > Enter the filter cartridge ID found on the sticker of the bottom half of the cartridge
- Flow Rate** LPM > Set the desired flow rate (1.0, 1.5, 1.7, or 2.0 LPM)
- Flow Offset** % > Set the desired flow offset to fine tune your UPAS flow (-9% to +9% options)
- Duty Cycle** % > Use the Duty Cycle to sample a fraction of the log interval (13% to 100% options)
- Log Interval** Seconds > This will change how often your UPAS collects data in the log file
- Start Time** Now > Set an immediate start time or delay the start time ()
- Sample Duration** Indefinite > Set the UPAS to run indefinitely or set a fixed number of hours and minutes for the UPAS to sample before powering off
- GPS**
- LED**
- Log** See the user manual
- Microenvironment Settings** >
- Download Log Files** > After a sample run has been started, a log file will be created that can be downloaded using the App (see user manual for downloading instructions)



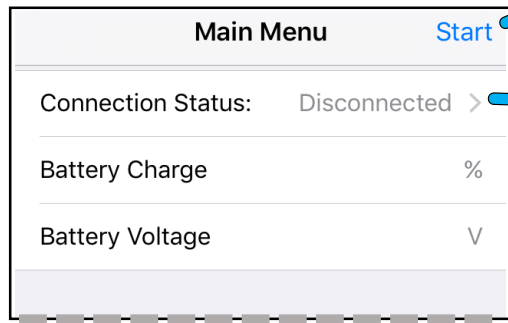
INSTRUCTIONS:

- A. Select "Disconnected" at the top of the main menu to navigate to the connection window
- B. Select "Scan" in the top right corner of the connection window to look for a UPAS (i.e. PS0591)
- C. To connect, select the Bluetooth device with the serial ID matching the sticker on the back of the UPAS.
- D. When the UPAS connects successfully, the LED indicator will change from solid PINK to solid BLUE and the Connection Status will update as well as the other app fields.
- E. Press "Start" at the bottom of the Main Menu to start a UPAS Sample.
- F. The App will ask you to confirm the sample start. Select "OK"

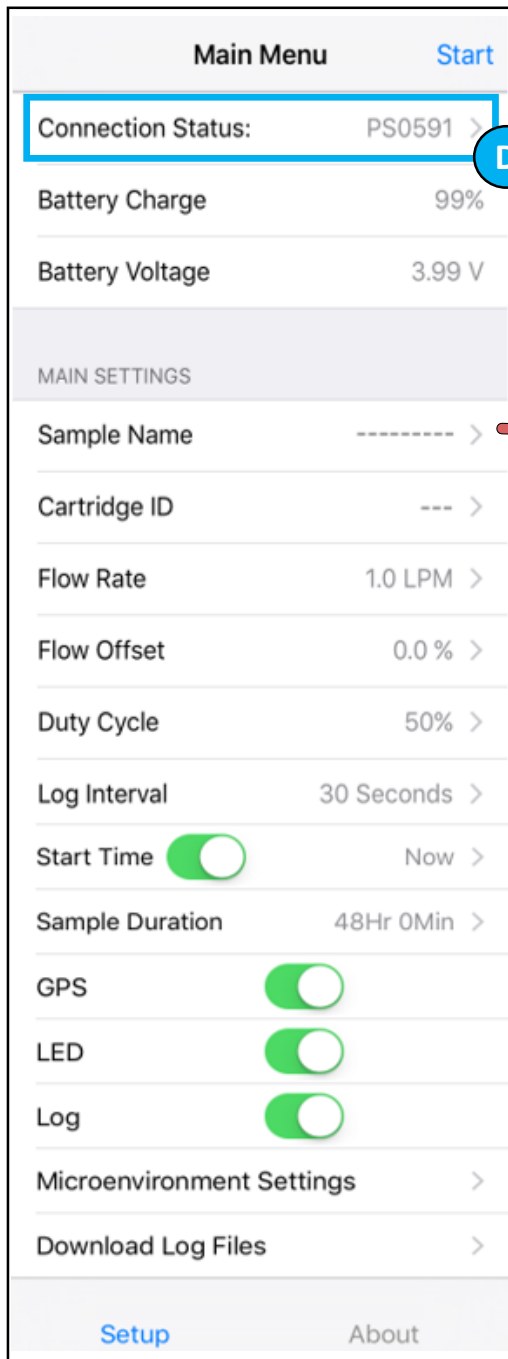


★ If the app fields do not update and the LED does not turn BLUE, select the "Sample Name" field and enter "RESET#" then return to the main menu.

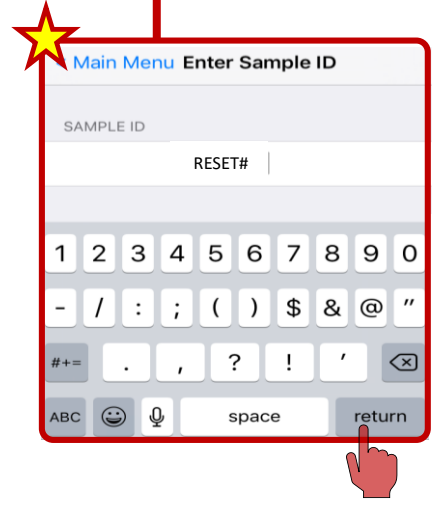
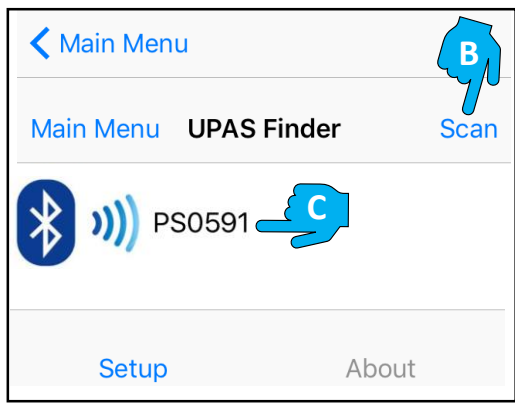
Main Menu (top of screen):



Main Menu (full screen):



Connection Window:

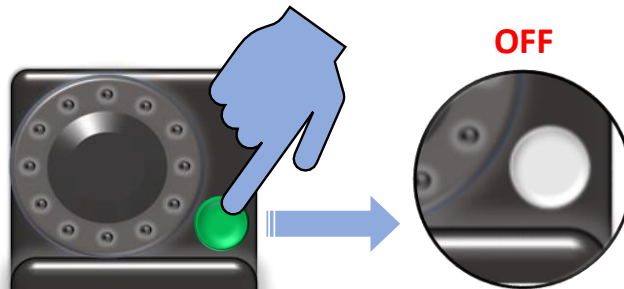


➤➤ During a UPAS sample and ending a UPAS sample

After starting a sample run with the UPAS app the LED indicator will turn solid PINK and then solid RED for a few moments while the pumps initialize. When the UPAS reaches the programmed flow rate, the LED indicator will turn solid GREEN.



The UPAS will automatically shut off after the set Sample Duration has reached completion or you can manually end a UPAS sample by holding down the power button for 5 seconds until the LED indicator turns off.



➤➤ Acquiring the log file from a completed UPAS sample

After turning the UPAS off or completing the set sample duration, the easiest way to view the log file is by removing the micro SD card from the bottom of the UPAS Body and inserting it into a PC or MAC computer. To remove the SD card, gently press and release the SD card using a coin, paperclip or finger nail. For more advanced data retrieval methods, see Pages 47-53 in the full UPAS manual.

➤➤ Contacting AST:

If you have any questions or need help with UPAS operation, please don't hesitate to contact our team at AST, we are always happy to help! Your feedback is greatly appreciated, let us know if this guide was helpful and suggestions for how we can improve are always welcome.

Website: www.accsensors.com

Email: Support@Accsensors.com

Phone: 970-818-7520