Canāree I-Series

Full Installation Guide

Installing Canaree AQM

Canāree should be installed in the location which you wish to measure indoor air quality such as an office, family room, kitchen, bathroom or bedroom.

Canāree should **not** be installed near any heat or moisture sources such as wall heaters, stoves or humidifiers

Install away from doorways or windows or HVAC Outlets which may cause inaccurate readings of indoor air quality due to airflow or breeze.

The following guidance is provided for installing Canāree in a variety of environments and many options for powering the device are available.

If you find your readings fluctuate in a particular location, try moving Canāree to another location (away from airflow)

⚠️ Do not obstruct the air inlet and outlet during operation.

⚠️ Do not operate in a heavily contaminated environments

⚠️ This product should not be considered as a replacement for existing smoke alarms.

Wall-Mounted to USB Charger

Canāree can be installed and powered using a typical 5W USB Charger such as those from Apple or Samsung devices. Depending on the desired location a side-output USB Charger may be used.

⚠ Use a dedicated USB Adapters capable of 5W Output, not shared with other devices!

Laptop or PC Powered

Canāree can be powered by your Laptop or PCs USB Port, and requires only a USB 2.0 capable port

When connected to a PC running SenseiAQ it will record and log per-second measurement data for scientific analysis while sending data to the Cloud for Remote Monitoring.

⚠️ If multiple devices are powered by your PCs USB Port, use of a powered USB hub is recommended for stable operation of the Canāree device

USB Hub Powered

A ***powered*** USB Hub is recommended for stable and continuous operation when connected to a PC. Especially when other USB Devices are used, or when you wish the Canāree I-Series to continue to operate with your PC Shutdown over Wifi.

Powered USB Hubs use an external AC/DC Power supply to deliver up to 30W across all USB Ports

⚠️ Ensure you are not exceeding the current rating of your USB Hub if multiple devices are connected and powered.

https://www.amazon.com/dp/B07Q3TYF15
https://www.amazon.com/dp/B07DW646GY

USB Power Strip

Some Power Strips provide high-power to USB Ports and can be used as well as USB Wall-plates common in new homes and offices.

USB Battery Pack

Canāree can be made portable by being powered by a 5V USB Battery Pack. This 3000mAh can power the device for over 30 hours

This solution can also allow for backup power from the Grid when the USB Battery pack is connected to a wall charger.
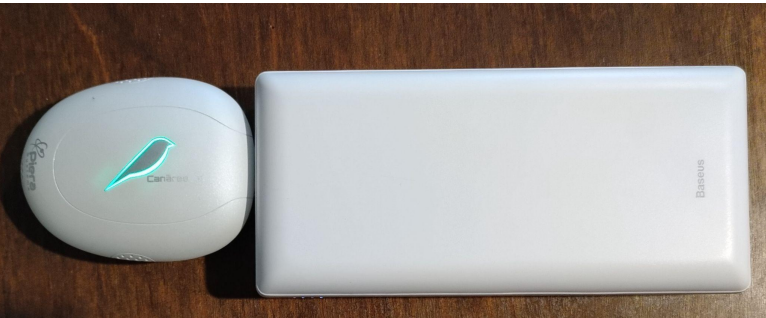
USB Solar Chargers

In remote applications Canāree can be powered by a USB Battery / Solar Charger solution - however the Canaree should be kept out of direct sunlight!
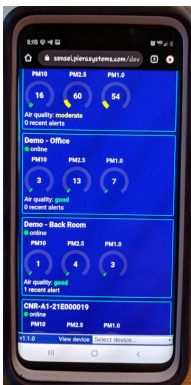

https://www.amazon.com/Benfiss-20000mAh-Waterproof-Portable-Emergency/dp/B087RGSRY7/

https://www.amazon.com/Goal-Zero-Portable-19200mAH-Flashlight/dp/B095FCY299/

USB Phone Powered

Canāree can powered by mobile devices that support USB Charging via an "OTG Cable" with a female USB Connector for Android (Left) or Apple's "Lightning to USB-A Adapter" (Right)

Android
USB-C to USB-A OTG Adapter $20

Apple
Lightning to USB-A
(Camera Adapter) $30

Access Point Powered

If the environment has Wireless APs deployed with Side-Mounted USB Connectors (Such as the newer 300 and 500 Series from Aruba) The Canāree can be powered and managed directly from the AP.

The AP Itself is typically powered by 48V PoE+ Ethernet, or its own 12V Wall charger if PoE is not available.

PoE to USB Power Supply

In environments where PoE Power over existing CATx Ethernet is desired, a PoE to USB Power Supply may be used that provides up to 5W of Power to a USB-A Port such as this unit we tested from XYZ which allows you to still use the Ethernet port for other uses.

https://www.amazon.com/DSLRKIT-Active-Splitter-Female-802-3af/dp/B073P7J1KR/
$10/each

USB Extension Cables

A USB-Extension Cable (up to 10') may be used to remotely-mount the device farther from the power source.

⚠️ Use of a high quality extension cable is recommended to minimize voltage drop!

Use of USB Adapters

USB Adapters can be used to orient the Canaree in its desired position depending on your USB Power Source such as these 90* Adapters and Side-Mount adapters.

Rotatable adapters are also available which provide greater flexibility in positioning the device.

https://www.amazon.com/gp/product/B0793NQRYZ
https://www.amazon.com/gp/product/B07C1Z552Z/

https://www.sfcable.com/usb-a-male-to-female-360-degree.html

Using a USB Tester

A USB Tester can be used to validate proper current is available for your Canāree device and that you are not experiencing voltage drop across your USB Bus or extension cables

If you experience zero or excessive random spikes in AQM data a low voltage issue maybe the cause.

Ensure the minimum voltage delivered to your Canāree device is at least 4.8v DC and stable. Under normal operation the current draw should be 150-200mA.

https://www.amazon.com/dp/B0811WVPCD
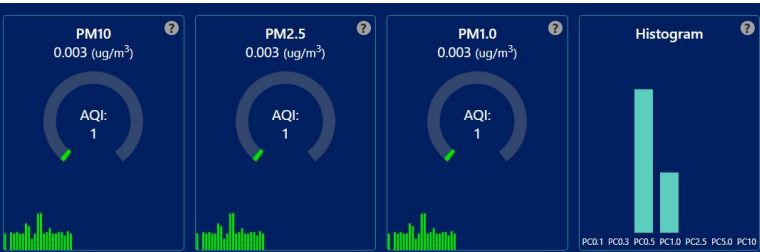
Canāree Specifications

Technical Data	
USB-Serial Driver	Silicon Labs CP2102 UART Bridge
Power Consumption *	100mA @ 5.5v (Continuous Operation)
USB Connector Type	Type A - USB 2.0, (max 10' cable extension)
Physical Dimensions	9cm x 7cm x 2cm (3.54" x 2.76" x 0.79")
Weight *	50g (1.76 oz)
Software Supported	SenseiAQ (Windows / MacOS) Application
Cloud Reporting Support	Microsoft Azure IoT Hub
MTBF (24-hour operation)	8 Years[1]
Power Saving and Cleaning Mode	Supported (through SenseiAQ)
Storage Temperature Range	-40°C to +80°C

Basic UART Commands

Command	Usage	Default
$Wreset=1	Soft Reset	
$Wfactory=	Factory Defaults	
$Werase=1	1 Erase Config	
$Wssid=	Set SSID	\<none\>
$Wpwd=	Set Password	\<none\>
$WAPRadio=	0 Disable Wifi 1 Enable Wifi	1 - Enabled
$Wupdate=1	OTA Update	
$WVerbose=	0 Normal 1 Debug Mode	Disabled
$WSoftAP=	0 Disabled 1 Enabled	Disabled*