OpenGo by MOTICON

Sync Box

Specification

Effective March 18th, 2024

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Overview

Model
SyncBox2

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Moticon's OpenGo Sync Box serves to timeline-align sensor data generated by the OpenGo Sensor Insoles with data generated by other sensors and motion capture systems. Therefore, an integrated ESP32-C3 multi-protocol processing module transforms and sends or receives signals either via cable or wirelessly. The device is capable to provide standardized output synchronization signals and to receive input synchronization signals of various kinds.[1]

In Output Sync mode, the device converts beep audio signals played by the OpenGo App when starting and stopping a measurement into a standard rectangular TTL output sync signal.

In Input Sync mode, the device receives standard rectangular TTL input sync signals and transmits the signal to the OpenGo Sensor Insoles to be stored along with sensor data as a separate data channel.[1]

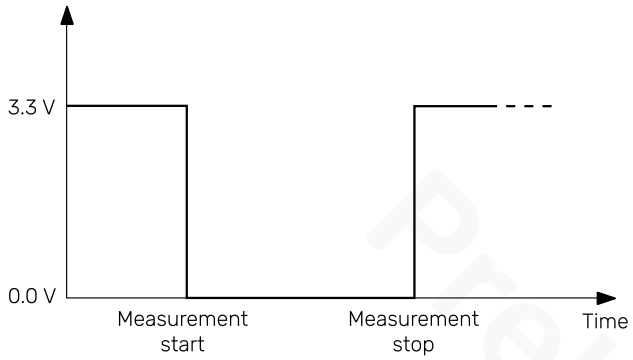
Feature	Basic Specification
Output Sync	3.3 V TTL rising edge on start, falling edge on stop, can be inverted
Input Sync	n.a. (functionality will be updated via software update)[1]
Power Supply	5.0 V USB-C, Li-Ion battery 500 mAh for standalone operation
Connectors	3.5 mm audio connectors for input and output

[1] Release of wireless synchronization functions and receiving input signals are pending

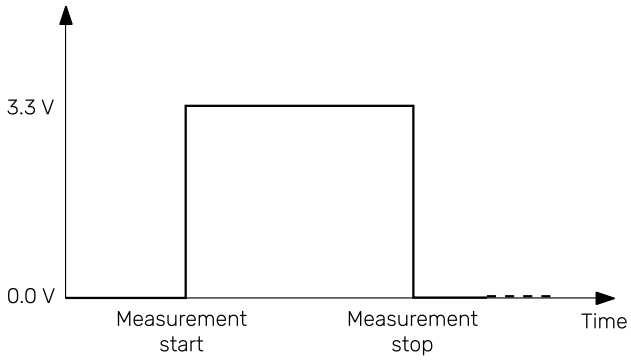
Output Sync

Type	Levels	Description
TTL	0 V 3.3 V	The TTL level switches to high or low when a measurement is started or stopped via the OpenGo App. By default, the level is high. The high/low level can be inverted using the control button.

Default Operation Mode



Toggled Operation Mode



Notes

The diagram shows the rectangular TTL voltage output signal of the OpenGo Sync Box when turned on and a measurement is started and stopped, respectively.

The diagram shows the rectangular TTL voltage output signal of the OpenGo Sync Box when inverted via the central mode button and a measurement is started and stopped, respectively.

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Operation	Description
Power on	Turn on the OpenGo Sync Box using the Off/On side switch. Connect the device to a USB source via USB-C cable for external supply via Power input or use device in standalone mode powered by the internal battery. Blue LED light indicates power on status.
Enable app/insoles	First, go to app settings and enable function Beep on start/stop in section Synchronization Settings. Connect OpenGo App to OpenGo Sensor Insoles and make sure no measurement is ongoing. Turn audio volume to 100% (media volume).
Connect input	Connect mobile phone/tablet audio output to 3.5 mm Phone In connector via audio patch cable (included). If no audio output is available, use the USB to audio adapter (included).
Connect output	Connect 3.5 mm TTL Out connector to target system via audio-RCA output cable (included). Use the red RCA connector for the output sync signal. Use the RCA-BNC adapter (included) if you need to connect your target device via BNC.
Signal check	Start and stop a measurement via OpenGo App and check if the output sync signal is correctly toggled. Orange LED light shows TTL level "high".
Reset (optional)	Press Reset for 5 seconds for resetting the device. This may be required on empty battery or after software updates.

Input Sync

No information available[1]

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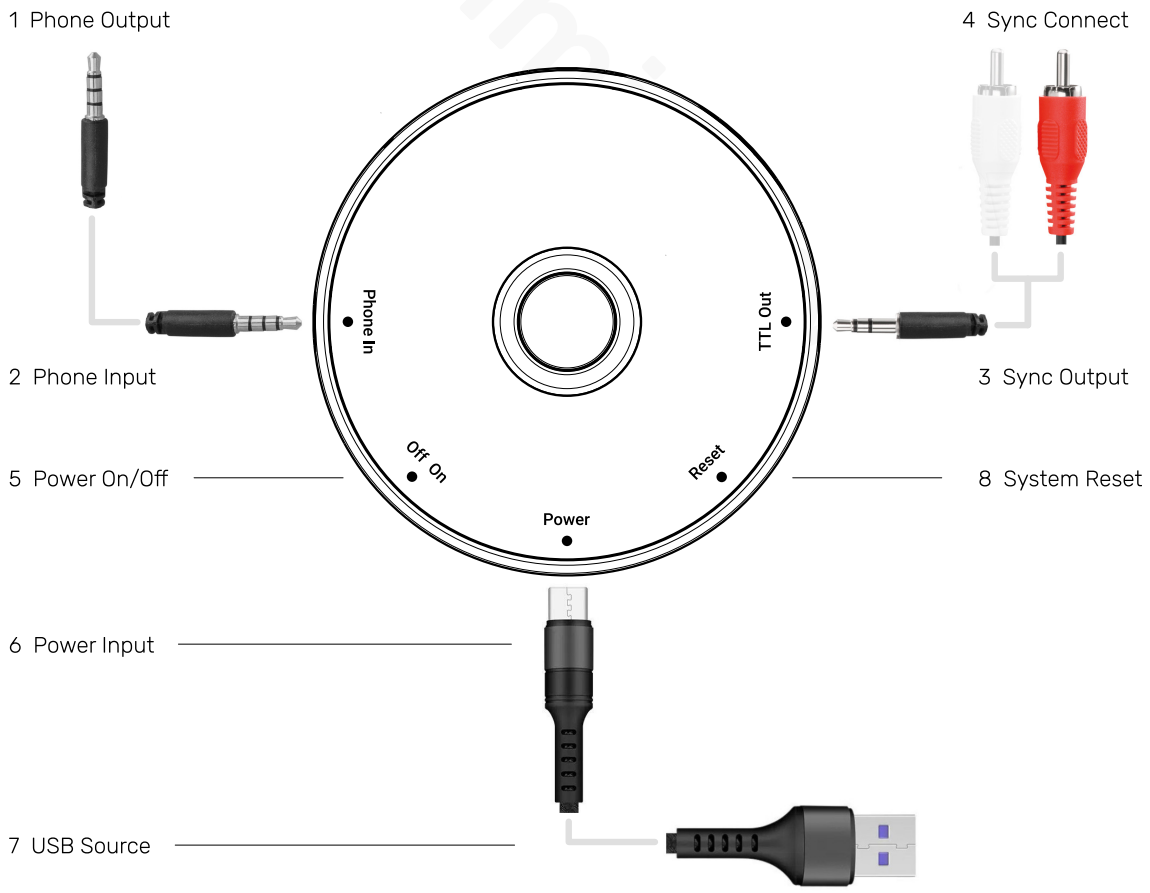
[1] Release of wireless synchronization functions and receiving input signals are pending

Interfaces

No.	Interface	Description
1	Phone Output	3.5 mm 4-pole audio patch cable plugged to phone audio output
2	Phone Input	3.5 mm 4-pole audio patch cable plugged to OpenGo Sync Box Phone In
3	Sync Output	3.5 mm audio split cable plugged to OpenGo Sync Box TTL Out
4	Sync Connect	Red RCA cable connected to target system for sync output (to target system) White RCA cable connected to target system for sync input (from target system)
5	Power On/Off	Switch to turn device Off/On
6	Power Input	USB-C cable connected to OpenGo Sync Box Power
7	USB Source	USB-C cable plugged to USB 5.0 V source
8	System Reset	Reset switch for resetting operating system



Notes:
All shown cables are included. For adapters, see list of shipped content on page 10.

Wireless Interfaces

No information available[1]

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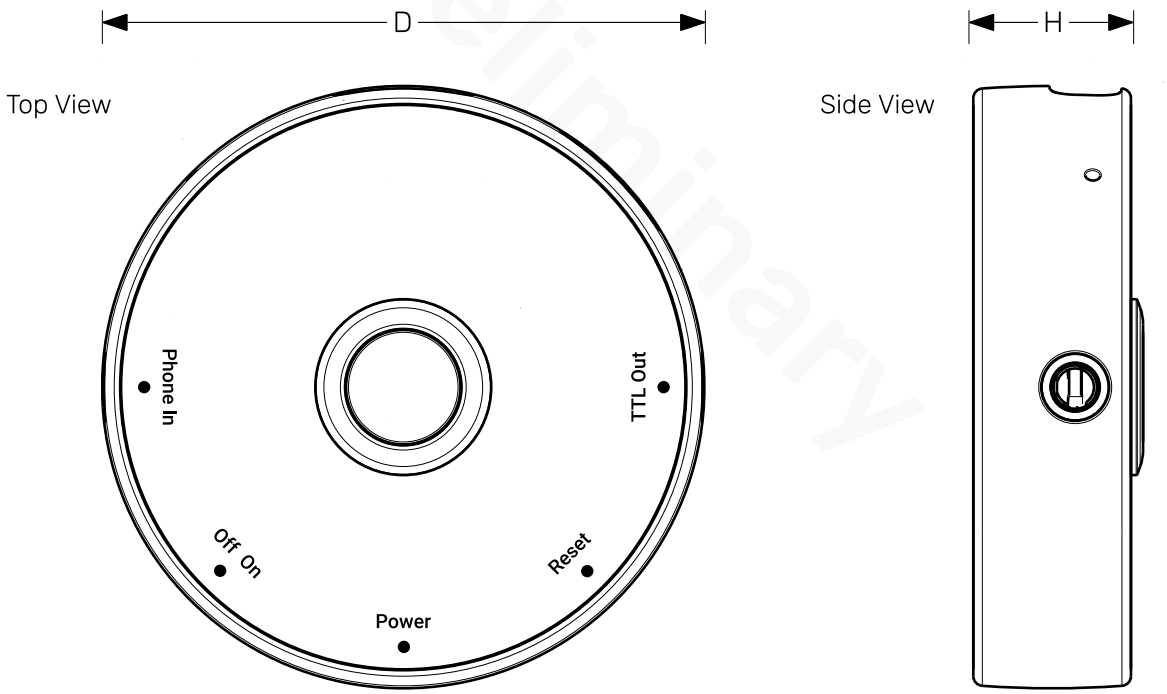
[1] Release of wireless synchronization functions and receiving input signals are pending

Dimensions

Diameter D	Height H	
50.0	13.0	mm



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Notes
Dimensions may vary ± 0.5 mm due to production tolerances.

Power Supply

Source	Supply Voltage	Power Consumption	Battery Type	Battery Capacity	Battery Technology
USB type C (external)	5.0 V	varies based on operation mode	n/a	n/a	n/a
Battery rechargeable (internal)	3.8 V	varies based on operation mode	Pouch cell FLPB493535R	500 mAh	Lithium Ion

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Shipped Content

No.	Product	Description
1	Sync Box	Bidirectional trigger signal processing device
2	Audio Patch Cable	3.5 mm 4-pole audio patch cable, length = 3.0m
3	USB/Audio Adapter	USB-C to 3.5 mm audio adapter, conversion chip
4	Audio/RCA Split Cable	3.5 mm audio to 2x RCA split cable, length = 0.5m
5	RCA/BNC Adapter	RCA to BNC adapter
6	USB Power Cable	USB Type A/C cable, length = 1.0m

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Legal Notes

Errors and omissions excepted.
Prices may change without prior notice.
Prices are net prices and local VAT applies.
The Moticon General Terms and Conditions apply: moticon.com/terms-and-conditions

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Product Information
moticon.com/opengo

Sensor Insole Information
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