OpenGo by MOTICON

Sync Box

Specification

Effective September 1st, 2023

Content

Overview

Model
SyncBox2

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]

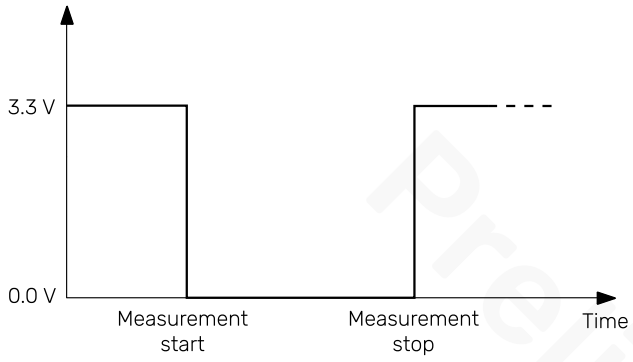
Feature	Basic Specification
Output Sync	3.3 V TTL rising edge on start, falling edge on stop, can be inverted
Input Sync	n.a. (functionality will be updated via software update)[1]
Power Supply	5.0 V USB-C, Li-Ion battery 500 mAh for standalone operation
Connectors	3.5 mm audio connectors for input and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

[1] Release of wireless synchronization functions and receiving input signals are expected end of 2023

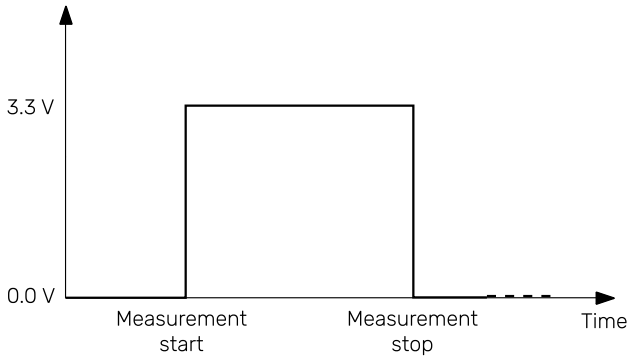
Output Sync

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.

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. Blue LED light indicates power on status.
Check app/phone	No measurements ongoing on connected OpenGo Sensor Insoles. Audio volume tuned to 100%.
Connect input	Connect mobile phone/tablet to 3.5 mm Phone In connector via audio patch cable (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". Use Reset for resetting the device.

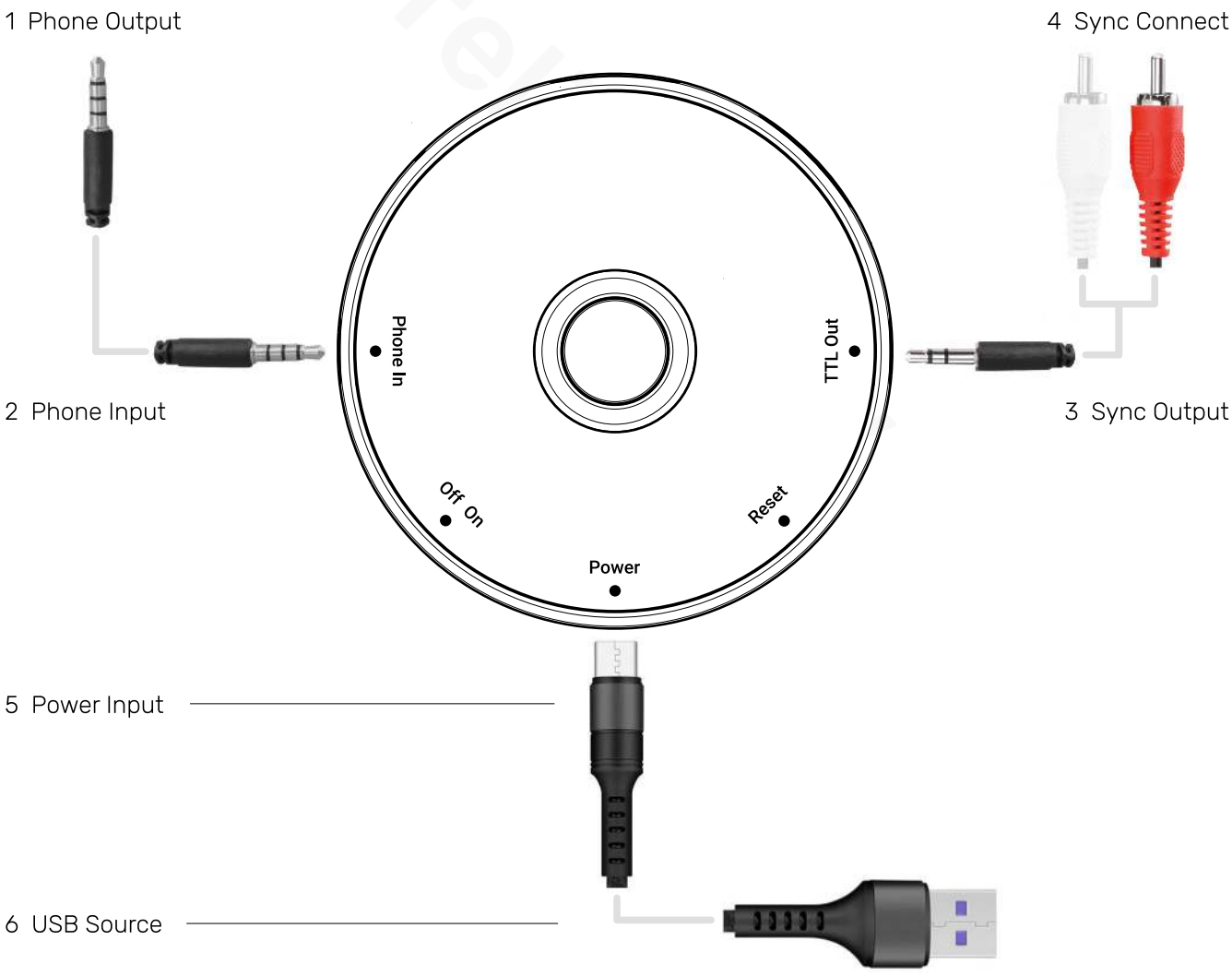
Input Sync

No information available[1]

[1] Release of wireless synchronization functions and receiving input signals are expected end of 2023

Cable Interfaces

No.	Interface	Description
1	Phone Output	3.5 mm 4-pol audio patch cable plugged to phone audio output.
2	Phone Input	3.5 mm 4-pol 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	RCA (red) split cable plugged to target system for sync input. RCA (white) is not connected.
5	Power Input	USB-C cable connected to OpenGo Sync Box Power.
6	USB Source	USB-C cable plugged to USB 5.0 V source.



Notes:
All shown cables are included.

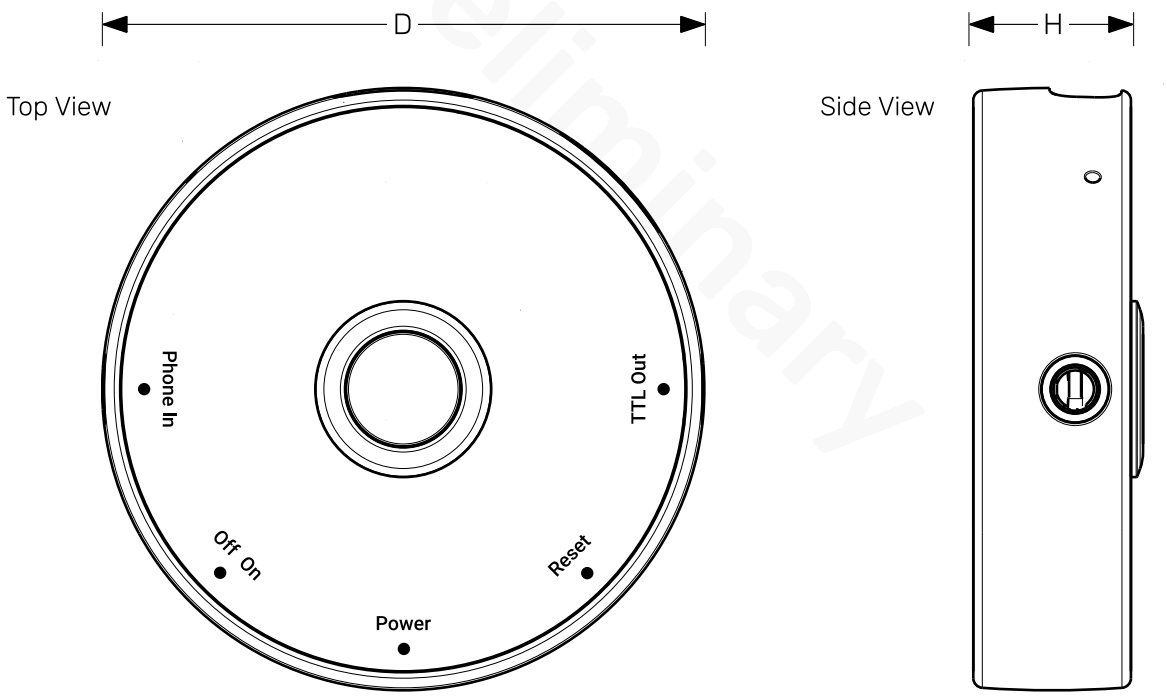
Wireless Interfaces

No information available[1]

[1] Release of wireless synchronization functions and receiving input signals are expected end of 2023

Dimensions

Diameter D	Height H	
50.0	13.0	mm



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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