INOGENI


# INOGENI U-BRIDGE 3

## User guide

Version 1.1

October 18, 2024

## VERSION HISTORY

| Version | Date | Description |
|---|---|---|
| 1.0 | October 11, 2024 | Preliminary user guide for device launch. |
| 1.1 | October 18, 2024 | Updated package content. |

## CONTENTS

## INTRODUCTION

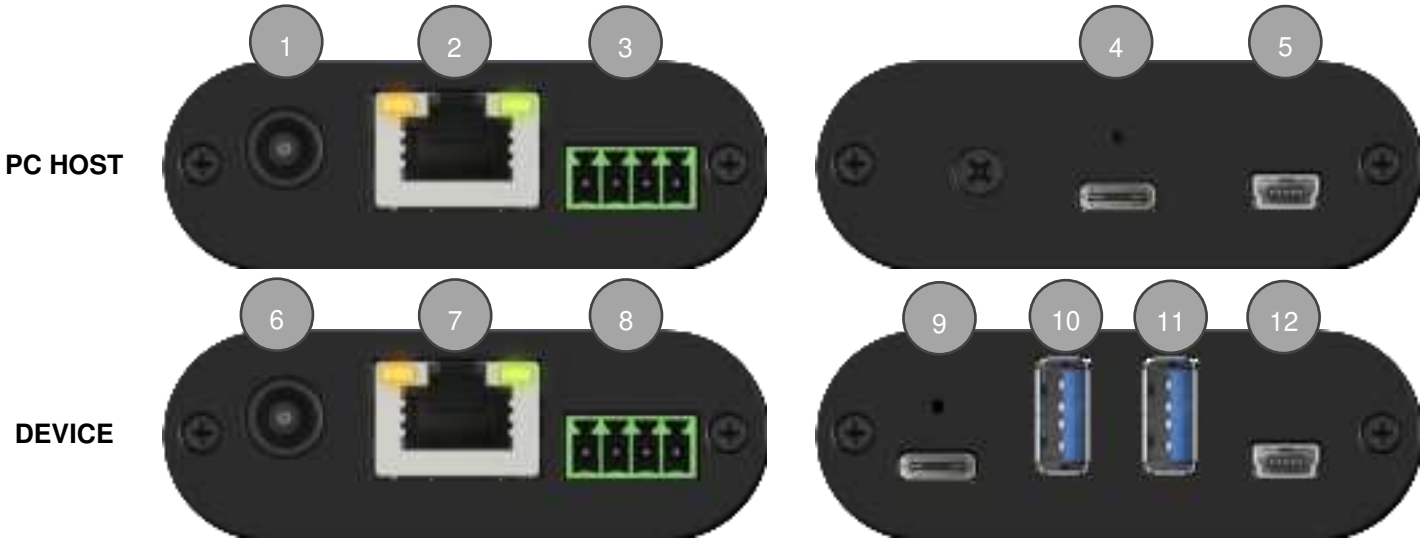
The U-BRIDGE 3 is a USB 3.2 Gen 1 extension over CAT6A that can extend a 5Gbps signal between a host and devices. This is a two-boxes solution, which are called PCHOST and DEVICE modules.

## CONNECTIVITY DIAGRAM

Here is a simple U-BRIDGE 3 connectivity diagram. You can plug the power supply to any module to power up the whole system.

## DEVICE INTERFACES

Here are the devices interfaces.




| | | Items |
|---|---|---|
| **PC HOST** | **1** | +24VDC power input.<br>**If power supply is connected here, the DEVICE side will be powered using PoC through the HDBaseT link.** |
| | **2** | HDBaseT link. |
| | **3** | RS232 connection. |
| | **4** | USB-C host connection. |
| | **5** | USB-mini management connection. |
| **DEVICE** | **6** | +24VDC power input.<br>**If power supply is connected here, the DEVICE will be powered locally.** |
| | **7** | HDBaseT link. |
| | **8** | RS232 connection. |
| | **9** | USB-C device connection. |
| | **10** | USB-A device connection. |
| | **11** | USB-A device connection. |
| | **12** | USB-mini management connection. |

## LEDS BEHAVIOR

Here are the LEDs behavior on the HDBaseT link connection:

| | |
|---|---|
| **GREEN LED** | |
| **OFF** | No power. |
| **SOLID** | System powered with USB connection detected. |
| **BLINK** | System powered with no USB connection detected. |
| **ORANGE LED** | |
| **OFF** | No HDBaseT connection detected. |
| **SOLID** | HDBaseT connection detected. |

## SPECIFICATIONS

Here is the complete specification.

| Main feature | |
|---|---|
| **Description** | The U-BRIDGE 3 USB 3.2 Gen 1 extender enables superspeed USB 3.0 connection of up to 100m/330ft. over a single CAT6A |
| **Range** | Direct connect up to 100m (330ft) over CAT6A U/FTP |
| **USB speeds** | USB 3.2 Gen1 / USB 3.1 Gen1 / USB 3.0: up to 5 Gbps<br>USB 2.0: up to 480 Mbps |
| **USB transfers support** | Bulk, isochronous, interrupt and control types<br>Built-in hardware acceleration for isochronous and bulk transfers |

| PC Host extender | |
|---|---|
| **USB connector** | 1 x USB Type-C receptacle with mounting screw hole |
| **Link connector** | 1 x RJ45 |
| **Dimensions (W x L x H)** | 7.0 cm x 9. 7 cm x 2.3 cm<br>2.76″ x 3.82″ x 0.90″ |
| **Weight** | 170 g (0.37 lb) |
| **Mounting** | Bracket provided |
| **Enclosure material** | Black anodized aluminum case |
| **RS232 connector** | Passthrough serial connection<br>By default, I/O pin is an input.<br>+1.8V logic (maximum) |

| Device extender | |
|---|---|
| **USB connector** | 2 x USB-A receptables<br>1 x USB-C receptacle with mounting screw hole |
| **Link connector** | 1 x RJ45 |
| **Available current** | Up to 1.8A shared between ports |
| **Dimensions (W x L x H)** | 7.0 cm x 13.7 cm x 2.3 cm<br>2.76″ x 5.39″ x 0.90″ |
| **Weight** | 210 g (0.46 lb) |
| **Mounting** | Bracket provided |
| **Enclosure material** | Black anodized aluminum case |
| **RS232 connector** | Passthrough serial connection.<br>By default, I/O pin is an output.<br>GND or OPEN |

| Physical details | |
|---|---|
| **Package dimensions** | 24.5 cm x 25 cm x 7.9 cm<br>9.69″ x 9.84″ x 3.11″ |
| **Power supply** | 100-240V AC Input, 24V 1.5A DC output.<br>Apply at either PC HOST or DEVICE modules |
| **Package weight** | 1200 g (2.65 lbs) |
| **Package contents** | 1x PC Host extender module<br>1x Device extender module<br>1x USB 3.0 Type-C to Type-C cable<br>1x Quick Start Guide<br>2x mounting brackets (power supply)<br>2x mounting clips<br>2x terminal blocks<br>4x black wooden screws<br>1x power supply 100-240V AC Input, 24V 1.5A DC output<br>International power adapter with country-specific cord (North America, EU, UK, Australia/NZ, or Japan) |
| **Operating temperature** | 0°C to 50°C<br>32°F to 122°F |
| **Storage temperature** | -20°C to 70°C<br>-4°F to 158°F |
| **Operating humidity** | 20% to 80% relative humidity, non-condensing |
| **Storage humidity** | 10% to 90% relative humidity, non-condensing |

| Information | |
|---|---|
| **UPC code** | 051497429522 |
| **Origin** | Canada |
| **Warranty** | 5 years |

## SERIAL CONNECTION

Here is the serial connection of the U-BRIDGE 3. A serial port from a DUT can be extended when using our device.

This is the pinout of the serial connection:


Pin 1: Receive
Pin 2: GND
Pin 3: Transmit
Pin 4: I/O

The direction of the I/O pin can be configured through the Maestro software.

**NOTE:** By default, the PC HOST I/O pin is an **input** and DEVICE I/O pin is an **output**.

## INOGENI MAESTRO APPLICATION

You can use our INOGENI Maestro application to monitor firmware information, link status and upgrade your units.

**NOTE:** You can use our Maestro software when the kit (PCHOST / CAT6A cable / DEVICE) is connected to your computer using the USB-C connection on PCHOST module. You can also use the USB-mini connector to upgrade the modules.

**This is a preview of the upcoming Maestro application. More detailed configurations will be added to an updated version of the user guide.**

## MECHANICAL SPECIFICATION

You can find the mechanical specification of the device. All dimensions are in **mm [in]**.

### PCHOST MODULE

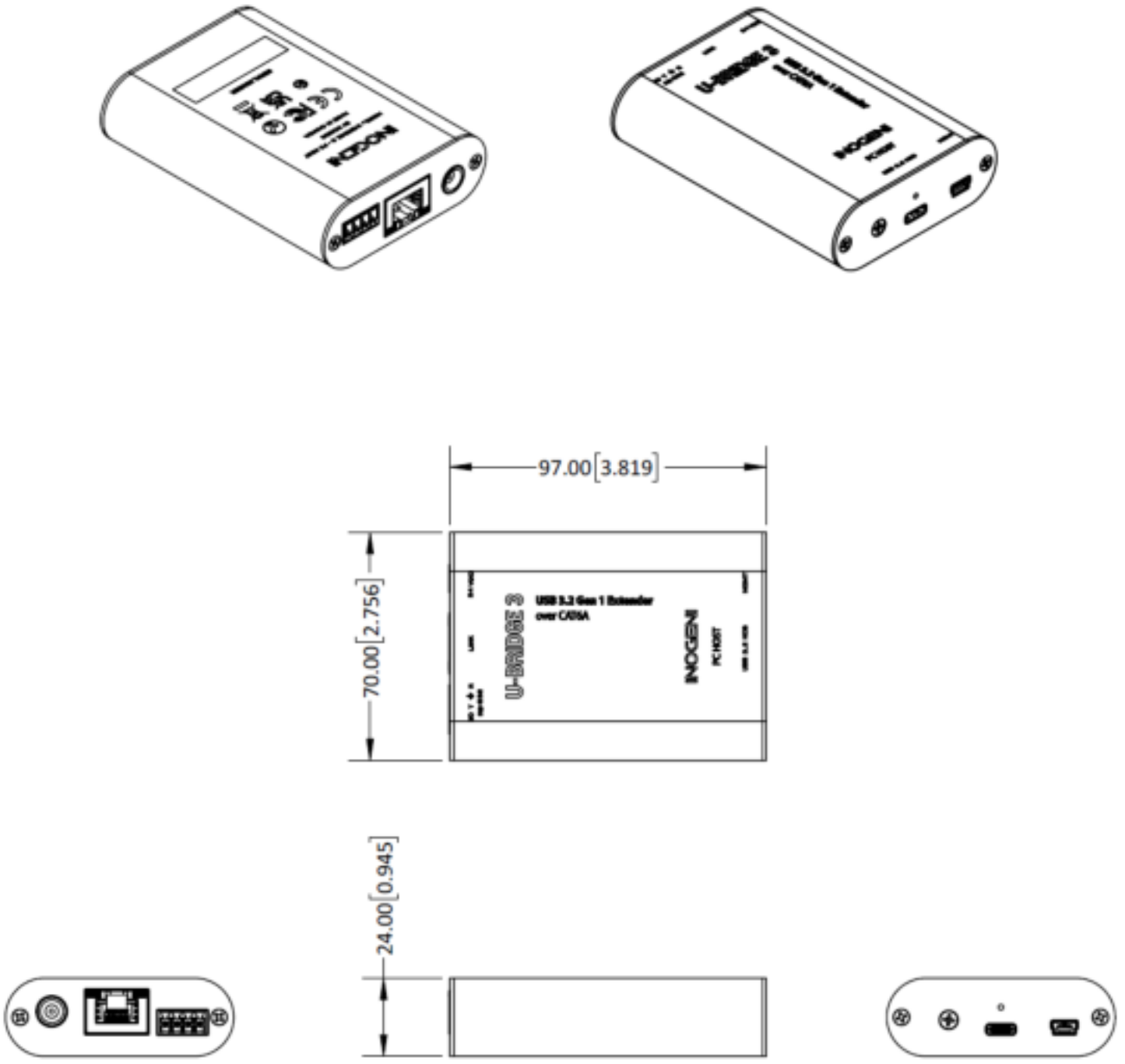



**Figure 1: PC HOST module dimensions**

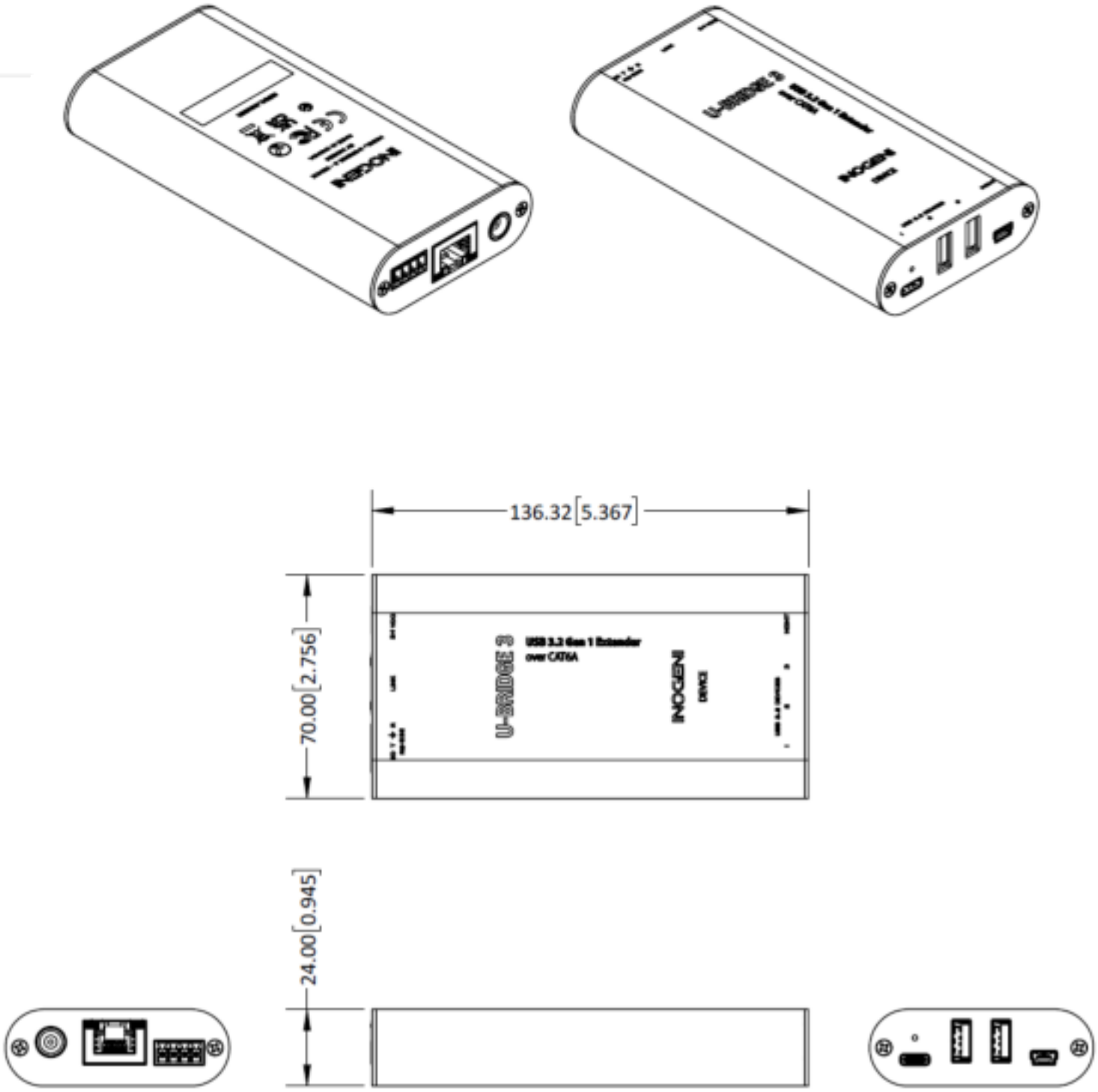



**Figure 2: DEVICE module dimensions**

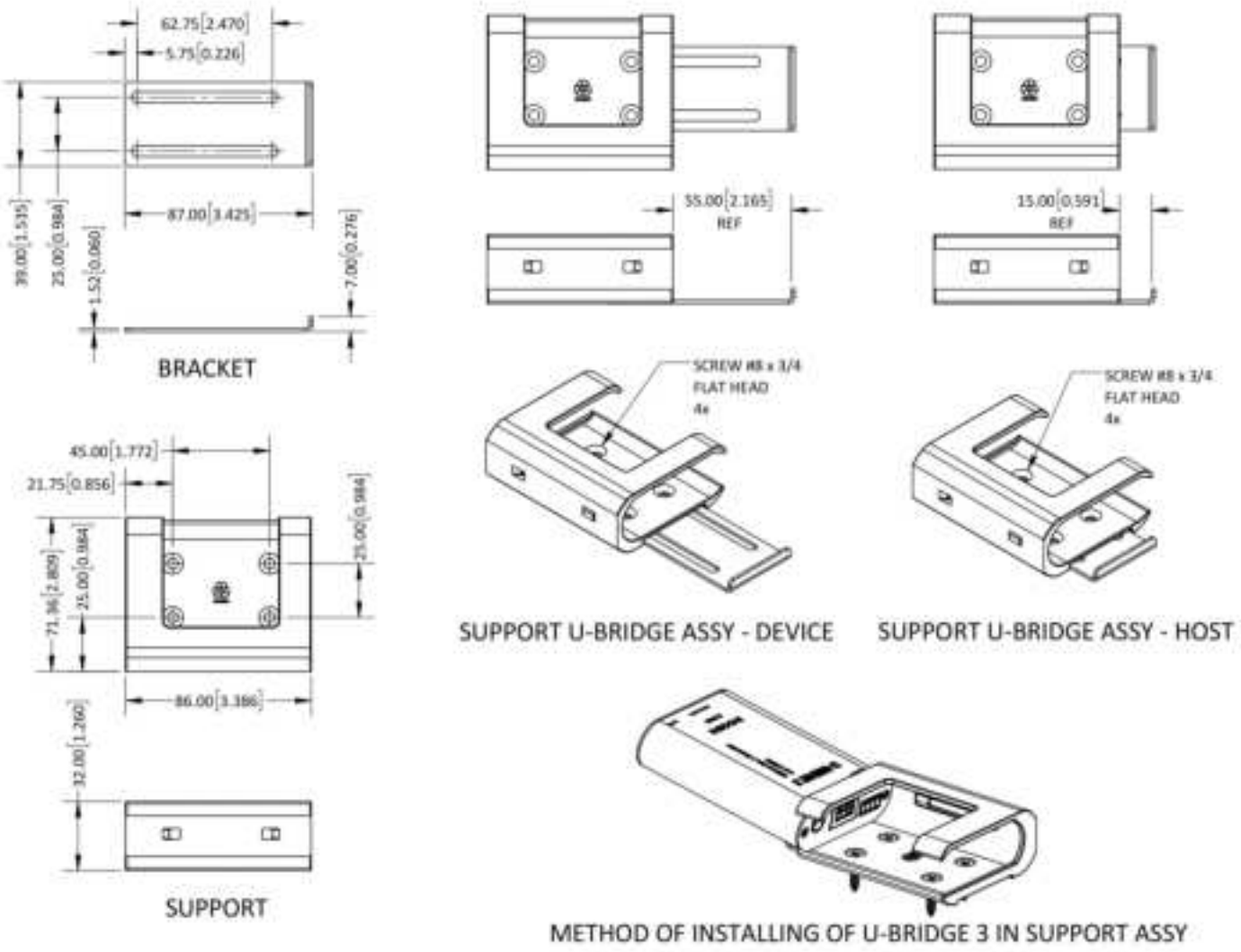
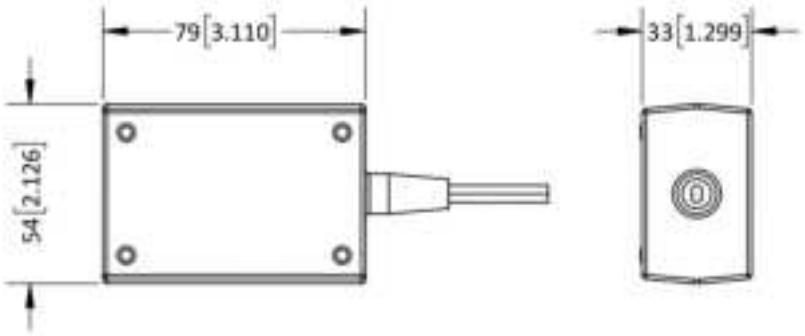
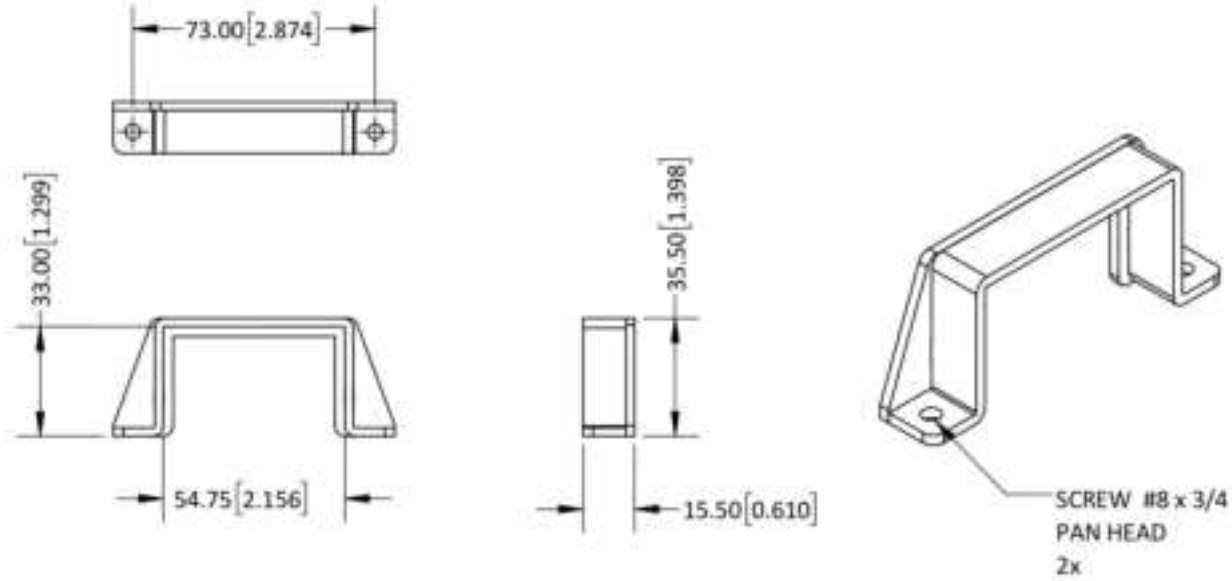



**Figure 3: Bracket dimensions**




POWER SUPPLY




MOUNTING BRACKET for POWER SUPPLY

**Figure 4: Power supply bracket dimensions**

## TROUBLESHOOTING SECTION

Here is the troubleshooting section for the device.

| Problem | Resolution |
|---|---|
| **Green LED is blinking slow**<br>**Orange LED is OFF** | PC HOST side is not connected to a PC or HDBaseT cable is not working properly. |
| **Green LED is blinking slow**<br>**Orange LED is ON** | PC HOST side is not connected to a PC. |
| **Green LED is blinking fast** | There is a firmware problem, connect the USB-C PC HOST port and mini-USB management port to a PC running Maestro for firmware upgrade. |
| **Green LED is OFF**<br>**Orange LED is OFF** | PC HOST side: No power from the USB-C port of the host PC.<br>DEVICE side: No power to the 24VDC port on either HOST side (via PoC) or DEVICE side (direct), or HDBaseT cable is not connect or not working properly if using PoC. |
| **Unstable USB 3.0 connection** | HDBaseT cable is too long or not working properly.<br>USB cables are too long or not working properly. |
| **USB 3.0 ports are shutting down** | Too much power drawn on USB ports, the maximum current consumption is 1.8A total for the 3 ports. |
| **Using a USB-C to USB-A adapter, my USB 3.0 devices are detected in USB2.0 mode only on my computer.** | Most of passive USB-C to USB-A adapters support USB3.0 on one side of the USB-C connection. Flip by 180 degrees the USB-C connection next to the adapter to see if this resolves the issue. |

## SUPPORT

Engineered by video professionals, for video professionals, it is your most compatible USB 3.0 device. INOGENI expertise at your fingertips:

- **Expert Technical Support team** at support@inogeni.com for immediate help or if you have any technical question about our products.
- Extensive **Knowledge Base** to learn from other customers' experiences.



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## CERTIFICATIONS

**FCC Radio Frequency Interference Statement Warning**
This device complies with Part 15 of the FCC rules. 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.

**IC Statement**
This Class A digital apparatus complies with Canadian CAN ICES-3(A)/NMB-3(A).

**CE Statement**
We, INOGENI Inc., declare under our sole responsibility that the Toggle Rooms, to which this declaration relates, is in conformity with European Standards EN 55032, EN 55035, and RoHS Directive 2011/65/EU + 2015/863/EU.

**UKCA Statement**
This device is compliant with the Electromagnetic Compatibility Regulations 2016 No. 1091 as part of the requirements leading to the UKCA marking.

**WEEE Statement**
The European Union has established regulations for the collection and recycling of all waste electrical and electronic equipment (WEEE). Implementation of WEEE regulations may vary slightly by individual EU member states. Please check with your local and state government guidelines for safe disposal and recycling or contact your national WEEE recycling agency for more information.

**RCM Statement**
This device is compliant with Regulator Compliance Mark (RCM) certification.