

ModIT-Boss

User Manual



1. Table of Contents

1. Table of Contents	2
2. Safety	4
2.1. Signal word panel	4
2.2. Safety alert symbol	5
2.3. Pictograms	5
2.4. Product modification	5
2.5. Power supply	6
2.6. Storage and Installation	7
3. Getting Started	9
3.1. Unpacking your product	9
3.2. What's Included	9
3.3. Consumables and Placing Orders	9
3.4. Connecting to the mains	10
3.5. Connecting devices to your ModIT-Boss	10
3.6. Charging	10
3.7. Registration	11
4.8. Cleaning your ModIT-Boss	12
4.9. Help and Support	12
4. Installing Host System	14
5. Product Specifications	17
5.1. Hub Specifications	17
5.2. RFID Card Types	18


5.3. Power Specifications	19
5.4. Drawings	20
5.5. Product Label	21
6. Returns and Damaged Products	22
6.1. What if my order arrives with an issue?	22
6.2. What happens after I have requested a Return?	22
7. Compliance and Standards	24
7.1. EU RoHS Compliance	25
7.2. Waste Electrical and Electronic Equipment (WEEE)	26

2. Safety

This user manual is for informational purposes only, it contains information for the start-up and operation of this product. Note: the contents and the product described are subject to change without notice. To avoid injuries and damage, observe the safety instructions in the user manual.

This manual has been arranged to follow the IEC/ICEE 82079-1 standard. This is to facilitate the easier understanding and location of information relating to the ModIT-Boss. Any errors or omissions can be reported using our support ticket system (see [Help and Support](#)). This way, any issues that are discovered can be acted on quickly and we can update the documentation to reflect this.

Understanding and observing the instructions in this user manual are prerequisites for hazard-free use and safety during operation. This user manual cannot cover all possible applications. If you would like additional information or if problems arise that are not sufficiently addressed in this manual, please ask your distributor or contact us directly using the means preferred, which are located on the back cover of this manual.

	⚠ CAUTION
	<p style="text-align: center; color: blue;">Personal Injury and Damage to the product</p> <p style="text-align: center;">Always observe the safety instructions in this user manual</p>


2.1. Signal word panel

Depending on the probability of serious consequences, potential dangers are identified with a signal word, the corresponding safety colour, and if appropriate, the safety alert symbol.

⚠ CAUTION
<p style="text-align: center;">Indicates a potentially hazardous situation that, if not avoided, may result in moderate or minor (reversible) injury.</p>



CAUTION
<p style="text-align: center;">Indicates a potentially hazardous situation which, if not avoided, may result in damage to the product and its functions, or to property in its proximity.</p>



2.2. Safety alert symbol

	<p>Use of the safety alert symbol indicates a risk of injury.</p> <p>Observe all measures that are marked with the safety alert symbol in order to avoid injury</p>
---	---

2.3. Pictograms


These symbols will be used throughout this documentation to alert to any potential dangers or any actions that must be taken.


Warning Signs	
 <p>Electrical hazard</p>	 <p>Fire Hazard</p>


Mandatory action signs	
 <p>Read operating instructions</p>	 <p>Mandatory regulation</p>

2.4. Product modification

Cambrionix products are designed and manufactured to meet the requirements of UK and international safety regulations. Modifications to the product could affect safety and render the product non-compliant with relevant safety standards, resulting in injury or damage to the product.


	⚠ CAUTION
	<p style="text-align: center; color: blue;">An electric shock or personal injury may occur</p> <p style="text-align: center;">Do not modify the product in any way.</p> <p style="text-align: center;">Do not dismantle the product.</p>


	⚠ CAUTION
	<p style="text-align: center; color: blue;">Fire, or personal injury may occur</p> <p style="text-align: center;">Do not obstruct air vents on the product.</p> <p style="text-align: center;">Do not cover the product in or place near combustible material.</p>

	CAUTION
	<p style="text-align: center; color: blue;">Damage to your product may occur</p> <p style="text-align: center;">Do not bend or compress any part of the product.</p>

2.5. Power supply


This section describes the safety precautions you must follow when using the external power supply.


	⚠ CAUTION
	<p style="text-align: center; color: blue;">An electric shock or personal injury may occur</p> <p style="text-align: center;">Do not use a damaged power cord or plug, or a loose power socket.</p> <p style="text-align: center;">Do not touch the power plug with wet hands.</p> <p style="text-align: center;">Do not allow liquids to come into contact with the unit or power supply.</p>


	CAUTION
	<p>Damage to your product may occur</p> <p>Do not short circuit the Power Supply Unit (PSU) supplied with your product.</p> <p>Do not disconnect the power cord while the product is being used.</p> <p>Do not bend or pull the power cord with excessive force.</p> <p>Do not use a power supply that exceeds the power supply specifications within this manual</p>


2.6. Storage and Installation

This section describes safety precautions you must follow when installing and storing your ModIT-Boss.

	⚠ CAUTION
	<p>An electric shock or personal injury may occur</p> <p>Do not place the power cord near heat sources.</p> <p>Connect the plug only to an earthed socket.</p>

	CAUTION
	<p>Damage to your Cambrionix product may occur</p> <p>Operate the product only in an environment where the ambient temperature is inside the operating temperature range.</p> <p>Operate the product only in an environment where the relative humidity is inside the operating range.</p> <p>Be careful not to leave the power cord underneath a heavy object.</p>

	⚠ CAUTION
	<p style="text-align: center; color: blue;">Overheated power sockets may cause a fire</p> <p>Do not overload the power socket that your hub is connected to. Insert the power plug all the way into the socket so that it is not loose.</p>

	CAUTION
	<p style="text-align: center; color: blue;">Overloading the brackets may cause failure</p> <p>The rack brackets for all our products are not designed to be used in a mobile application, bracket failure could occur if the units are not supported fully e.g Shock during road transport.</p>

3. Getting Started


This manual provides a reference for end-users installing for the first time and using their hub afterwards. As well as a guide for product safety-related information.

The ModIT-Boss is intended to be used in an indoor static environment in which the environment falls within the tested specifications to provide charge, sync and management functionality. Please see the [Product Specifications](#) section of this manual for information on the environment specifications.

3.1. Unpacking your product

When you have received your product, please check the packing slip inside the box to ensure all contents and quantities are correct before opening. This is to avoid retesting and repackaging any items that are not required.

When opening the packaging, use a suitable method to open the box i.e, do not use a knife. This is to ensure the product is not damaged.

	⚠ CAUTION
	<p style="text-align: center; color: blue;">Personal Injury and Damage to the product</p> <p style="text-align: center;">There will be a label on the hub advising you to read the User manual before use. This will need to be removed before use as it may be covering host ports, vents etc.</p>

3.2. What's Included

- ModIT-Boss Hub
- 2m Mains power cable (Country specified on order including fuse for the UK plugs)

3.3. Consumables and Placing Orders

If you require any spare parts, such as cables, these can be ordered by quoting the product part number listed in the [Product Specifications](#).

These can be ordered from the reseller or solution partner you purchased your ModIT-Boss from, or from Cambrionix directly.

To find one of our partners local to you please visit www.cambrionix.com/about-cambrionix/partners-distributors where you can learn about the local vendors and distributors that can assist you and find their contact information.

3.4. Connecting to the mains

Connect the Power Supply Unit (PSU) to the hub using the C14 plug. Connect the power cable to the PSU. Making sure you adhere to local safety regulations, connect the power cable to the 100 – 250 VAC mains power outlet and switch the hub on using. When the device is switched on, a LED next to the power input will be illuminated. The hub is now ready to charge attached devices.

Please note that USB specifications require a minimum 100 mA charge current to be available during data transfer. As indicated in above, if the attached device has a BC1.2 compliant CDP port, the device can draw up to Vbus Output Current Max (A)A whilst transferring data.

3.5. Connecting devices to your ModIT-Boss

Throughout this manual we will refer to "devices" this relates to the device you are connecting to the ModIT-Boss this could be any USB device such as a phone, tablet, USB drive or any other USB connected device.

Once you have your hub setup the next thing is to connect your devices to start using the ModIT-Boss. We would always recommend using the OEM cable supplied by the manufacturer of the device, so whatever cable is provided with the device use that cable to connect to the hub.

If your device has a USB plug (male connector) on it already then you can connect the device directly into the hub.

If the cable (or plug fitted to device) is not the same USB type as the socket (female connectors) on the ModIT-Boss then you will require an adaptor or a different cable.

Cables

Some USB cables are data transfer only, and some are power delivery only. There are also options that can handle both tasks. Be sure to verify a cable's abilities before purchasing it and select a cable which can handle the speeds and power transfer that you require.

3.6. Charging

Your ModIT-Boss will allow your device to charge at the maximum rate possible up to Vbus Output Current Max (A)A. The way that charging takes place is the ModIT-Boss will provide the device with a capability to charge and the devices USB charging controller will determine the maximum amount of charge it wants to draw down.


Although a maximum charge rate of Vbus Output Current Max (A)A is possible, the device itself determines the exact rate and as such you may not see the maximum amount of charging on every device type that is connected.

3.7. Registration

You may register your product at www.cambrionix.com/product-registration

4.8. Cleaning your ModIT-Boss

Cleaning the product is generally not required, although in some instances it may be necessary if excess dirt/ dust/ hair has accumulated, or if minor liquid spillages have occurred on the module during operation or storage.

	⚠ CAUTION
	<p style="text-align: center; color: blue;">Electric shock or personal injury may occur</p> <p>If there is a dirt/ spillage over a ventilation slot, external data/ power connector or product aperture, please remove power from the unit without touching the liquid and seek advice before reapplying power</p>

- Ensure that the product is switched off and the power cord is removed from the product. Hold the power cable by the plug and do not touch either the plug or the power cord with wet or damp hands as an electrical shock may result
- Wipe the product with a clean, dry and soft cloth. Do not use detergents which contain alcohol, solvent or surface-active agents. Do not spray water or detergent directly onto the product
- Mildly dampen a soft and dry cloth in water and wring thoroughly to clean the product as required
- Dry the product thoroughly once the cleaning has finished
- Reconnect the power cord and use your product as advised once cleaning is complete

Antimicrobial additive

Our integrated antimicrobial technology within ModIT (made by Clariant) works to continuously minimise the presence of microbes (bacteria, algae and fungi) throughout the entire life-cycle of the product. This works by having a surface where microbes cannot grow which in turn reduces the spread of the microbes, this will help minimise contact points and reduce the risk of passing on infections/ diseases throughout your work environment.

4.9. Help and Support

FAQs and help can be found on the Help page here

- https://www.cambrionix.com/help_pages/help.

You can raise a support ticket for more in depth support here

- <https://support.cambrionix.com>

You can also download any of our manuals and keep up to date at the link here

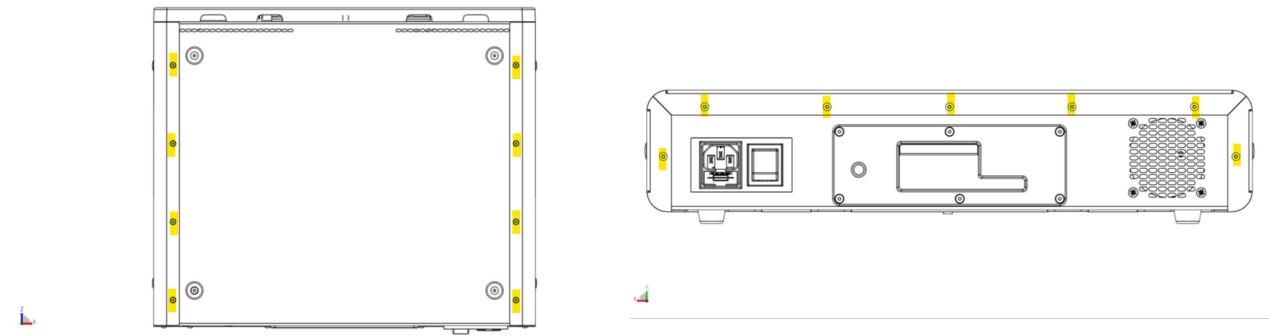
- www.cambrionix.com/product-user-manuals

When contacting support, please supply the product information for the hub in question. This can be found on the Device Information Plate which is either on the underside or back of the unit.

Providing serial and Purchase order numbers, can help identify your specific product and speed up the process.

4. Installing Host System

One of the features of the Boss Module is the ability to install a Mac mini inside. This provides different levels of sophistication to the ability of your device.

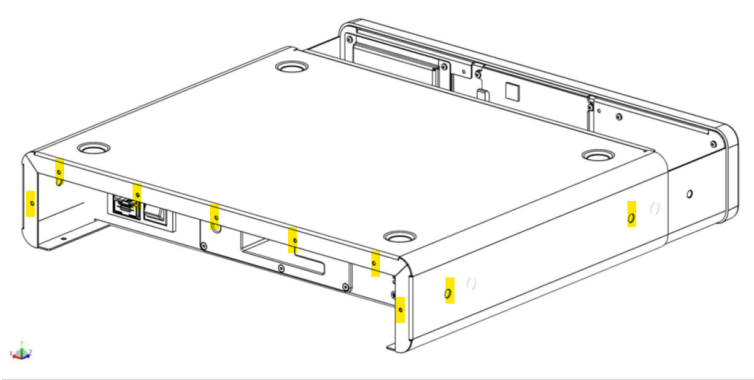


There are eight screws on the underside of the case and seven on the rear that need to be removed there are also two pins on each side of the boss unit that will need to be removed.

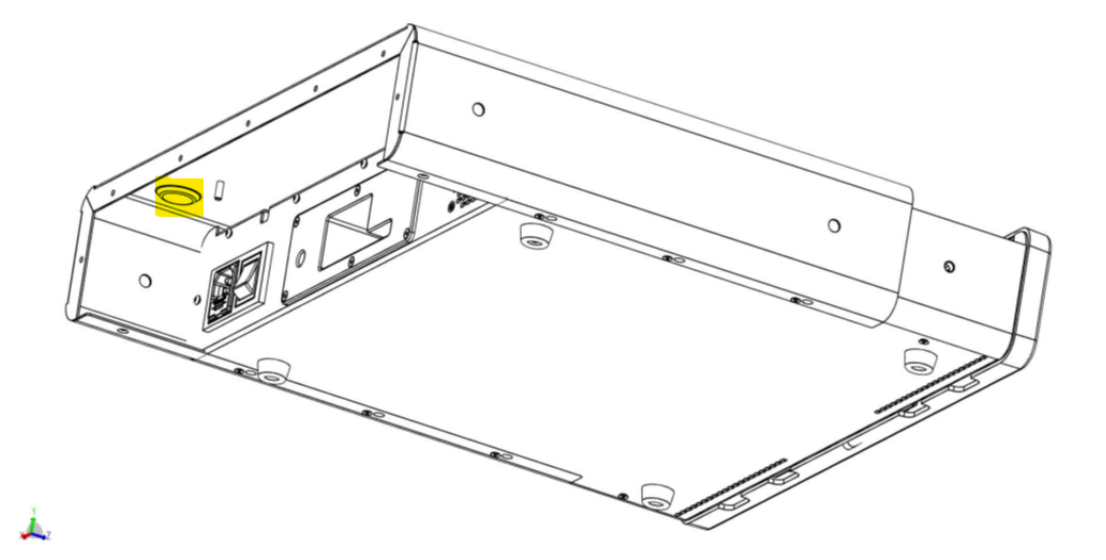
Remove these using a screwdriver and slide the top of the Boss Module four inches, as demonstrated in the image below.



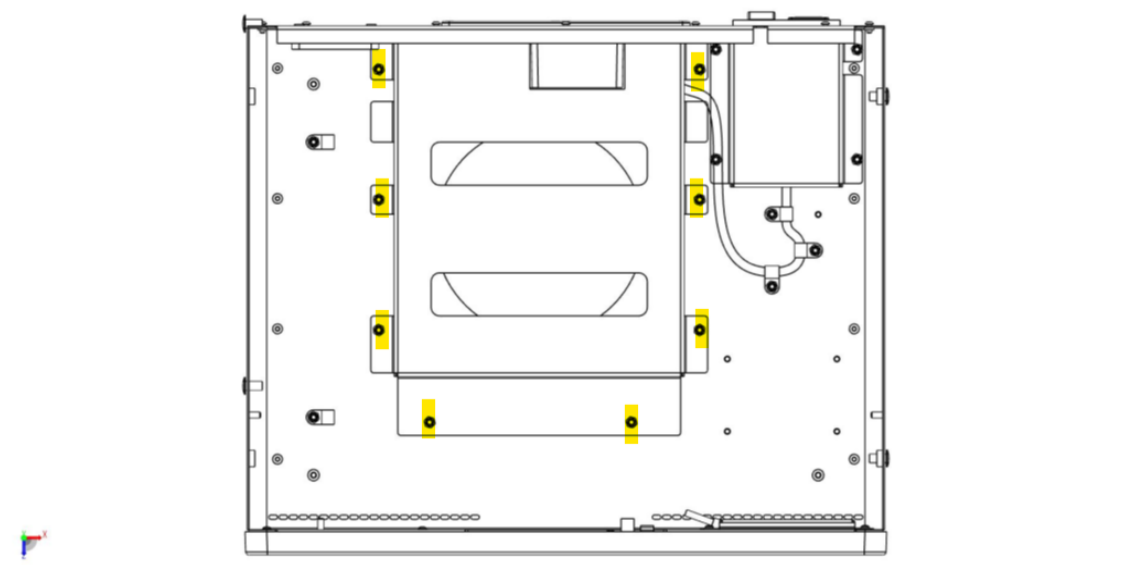
The image below demonstrates how the product should look at this stage. Notice the highlighted yellow screws, which should all have been removed at this point



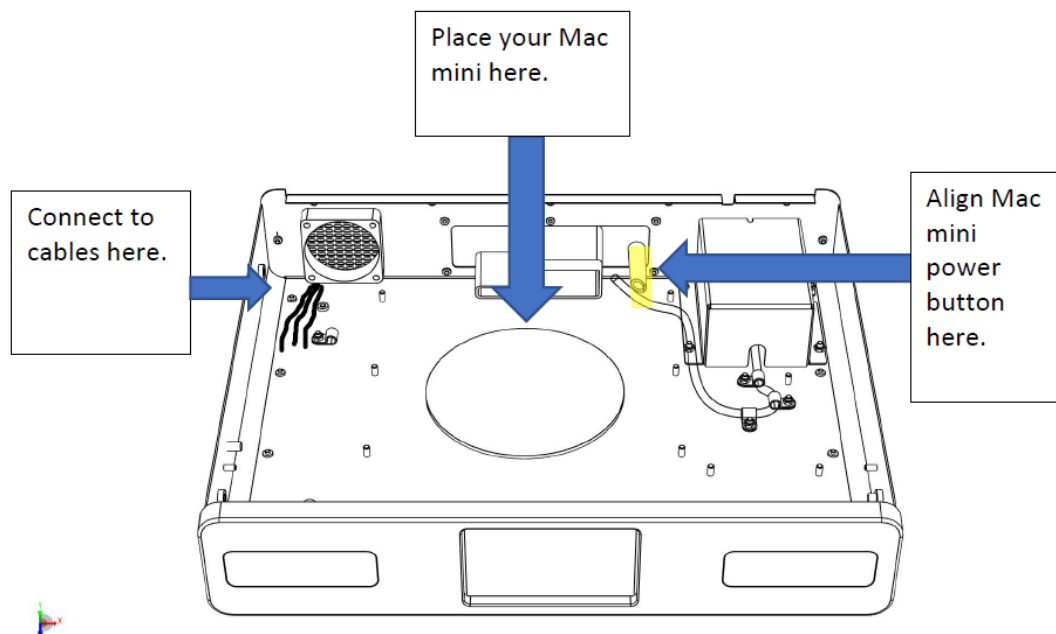
With a spanner, undo the highlighted nut below. Once removed, it will allow you to slide the lid off fully.



Once the lid is completely removed, it will reveal the inside of the product. Next, remove the screws (highlighted in yellow), to remove the Mac mini chassis.



Once you have removed the Mac mini chassis place your Mac mini on the circular mat (outsides highlighted below). You can then attach the Mac mini to the three wires on the left.



Once the Mac mini is secure, reattach the Mac mini chassis, and the side panels in the same order that they were removed.

5. Product Specifications

Boss Features	
Compatible with Mac Mini	yes
Inbuilt Display	yes
19-inch Rack Mountable	yes
Inbuilt RFID Reader	yes

Table 5-1

RFID Features	
Beeper Indicator	yes
Compatible with Linux	yes
Compatible with macOS	yes
Compatible with Windows	yes

Table 5-2

5.1. Hub Specifications

ModIT-Boss Properties		
Colour	Nom	Blue
Dimensions Depth (mm)	Nom	367
Dimensions Height (mm)	Nom	97
Dimensions Width (mm)	Nom	445
Electrostatic Discharge, air (kV)	Max	-
Electrostatic Discharge, Vesd (kV)	Max	-
Enclosure Material	Nom	Steel
Form Factor	Nom	Rackmount
Fuse Type	Nom	T3.15A 250
Manufacturing Origin	Nom	UK
Mass (kg)	Nom	5.8
Model Number	Nom	Model Number
Part Number	Nom	200097
Power Type	Nom	AC
Product Name	Nom	ModIT-Boss

Table 5-3

Boxed Properties		
Dimensions, Depth (cm)	Nom	19
Dimensions, Height (cm)	Nom	57
Dimensions, Width (cm)	Nom	57
Mass (kg)	Nom	8.5

Table 5-4

ModIT-Boss Environmental Properties		
Ambient Operating Temperature (°C)	Min	0
	Max	35
Relative Humidity Range (%)	Min	20
	Max	80
Storage Relative Humidity Range (%)	Min	5
	Max	95
Storage Temperature (°C)	Min	-20
	Max	60

Boxed Properties

ModIT-Boss Environmental Properties		
Operating Altitude Max (m)	Max	2000

Table 5-5

RFID Reader Properties		
Connector Type	Nom	USB-A
Read Range (mm)	Nom	25

Table 5-6

Display Properties		
Bit Depth	Nom	24
Contrast Ratio	Nom	400
Height (mm)	Nom	86
Height in Pixels	Nom	480
Luminance (cd/m2)	Nom	660
Response Time (ms)	Nom	25
Viewing Angle (°)	Nom	70
Width (mm)	Nom	156
Width in Pixels	Nom	800

Table 5-7

5.2. RFID Card Types

For a list of compatible RFID card types we recommend using the cards below, this list is not exhaustive and others may work that are not listed below.

Card Type 125 kHz	Card Type 13.56 MHz
Awid	CEPAS
Bosh ReadyKey Pro UID	etag
Cardax UID	HID iCLASS
Corbin Russwin UID	I-Code
Cotag	Infineon my-d™
Deister UID	ISO14443A
DIGITAG	ISO14443B
EM 410x (EM 4102, EM 4105)	ISO15693
Farpointe Data Pyramid PSC-1	i-tag (IBM)
GProx-II UID	MIFARE® Classic
HID™ Prox	MIFARE® DESFire
HiTag 1, 2, S	MIFARE® DESFire® EV1
Honeywell Nexwatch	MIFARE® DESFire® EV2
ID Teck	MIFARE® Plus
Indala 26 bit (Motorola)	MIFARE® Ultralight
Kantech ioProx	Sony FeliCa Idm

Card Type 125 kHz	Card Type 13.56 MHz
ISONAS™	Sony FeliCa Lite Idm
Keri KC-10x/26x	Texas Instruments Tag-It
RF Logics	Topaz (NFC 1)

Table 5-8

5.3. Power Specifications

ModIT-Boss Power Input Properties		
Connector Type	Nom	C14
Voltage, Vsupply (V)	Min	-
	Nom	-
	Max	-
	Max	-
Voltage Measurement Rate (Hz)	Nom	-
Voltage Measurement Accuracy, Vsupply (%FSR)	Nom	-
Power, Psupply (W)	Min	-
	Max	-
Power, no devices attached (W)	Min	-
	Nom	-
	Max	-

Table 5-9

AC Power Input Properties		
Operating Curent @ 115VAC (A)	Min	-
	Max	-
Operating Current @ 230VAC (A)	Min	-
	Max	-
Operating Voltage, Vsupply (VAC)	Min	100
	Max	250
Under Voltage Threshold (VAC)	Min	-
	Nom	-
	Max	-
Over Voltage Threshold (VAC)	Min	-
	Nom	-
	Max	-
Voltage Measurement Resolution, Vsupply (mVAC)	Nom	-
Frequency Range (Hz)	Min	-
	Max	-

Table 5-10

5.4. Drawings

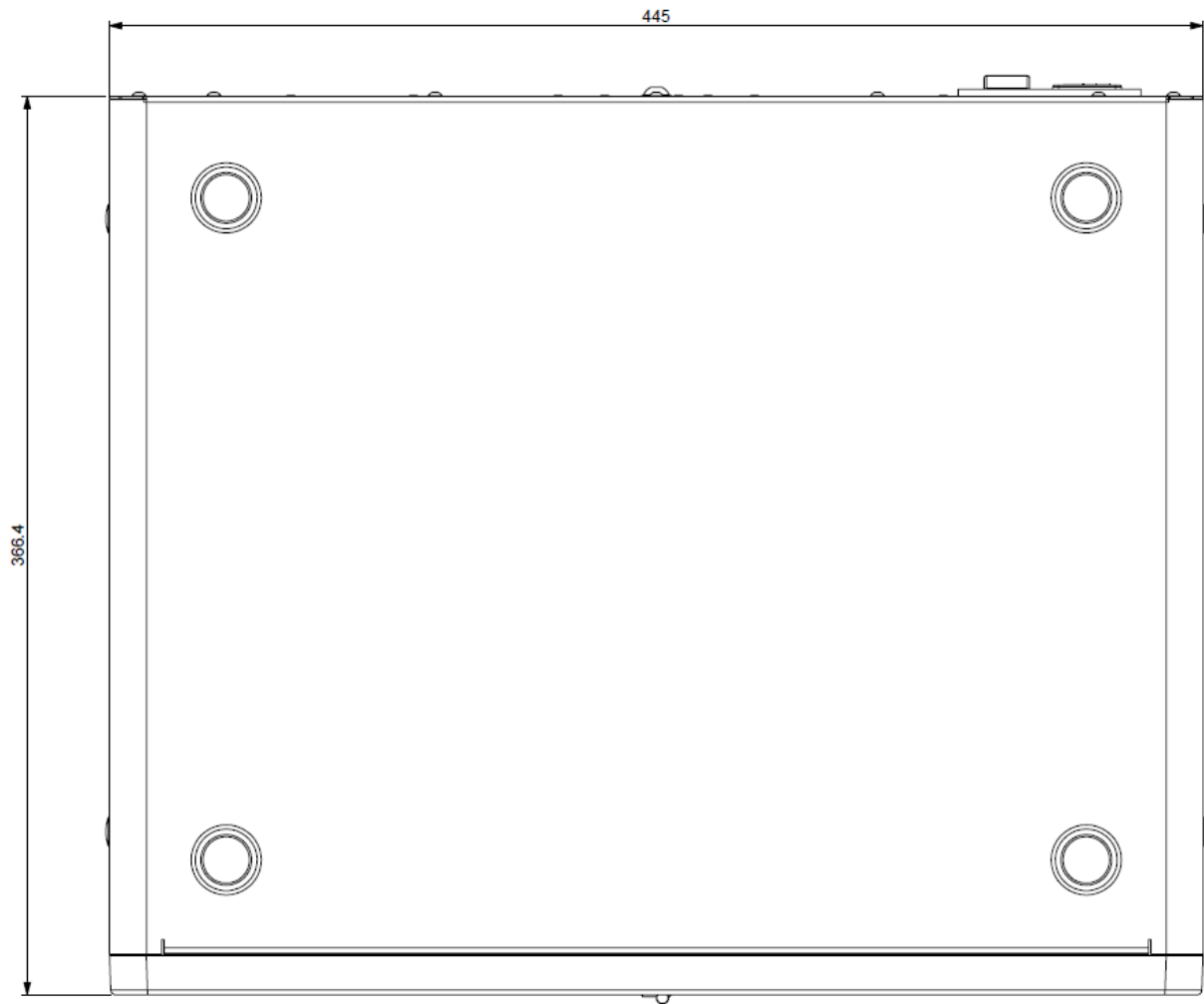


Figure 5.1

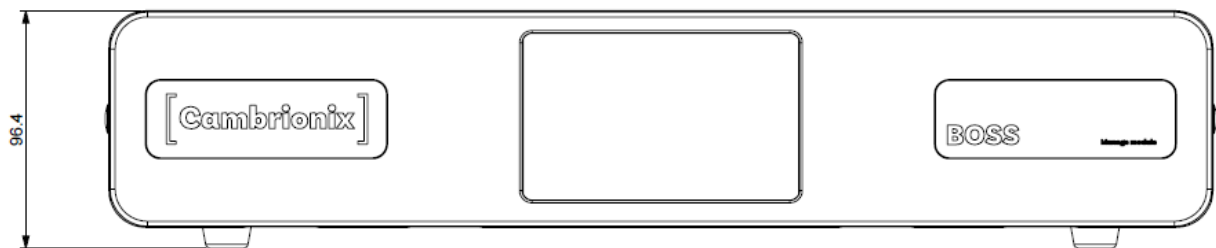


Figure 5.2

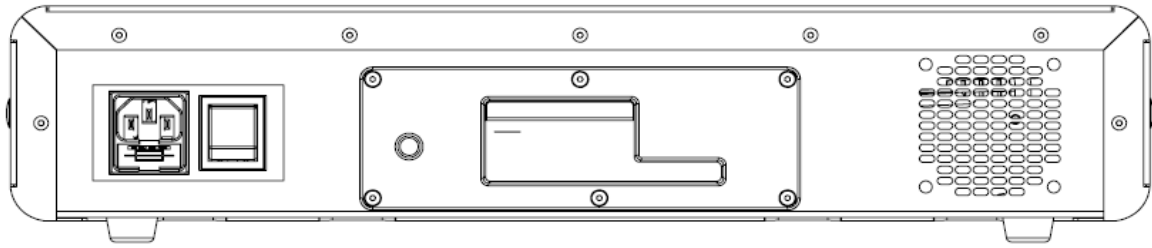


Figure 5.3

5.5. Product Label

The following label can be found on the ModIT-Boss. This is where you can find the information such as the part number and Logos for Compliance and Standards applicable to the ModIT-Boss

For more information please see the [Compliance and Standards](#) section.

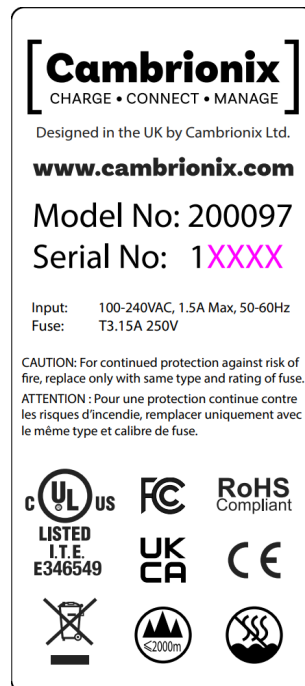


Figure 5.4

6. Returns and Damaged Products

If you wish to return or fix a damaged product first look at the terms on our website

www.cambrionix.com/terms-conditions

Before a product is returned please contact support using the methods detailed in the [Help and Support](#) section.

6.1. What if my order arrives with an issue?

- If you have received your order in a damaged box and/or the product has physical damage please contact Cambrionix Customer Support or your distribution partner. Please provide photos of the damaged box and/or product when contacting Customer support.
- If an item in your order does not have physical damage but is not functioning properly or will not power on, please contact Customer Support or your distribution partner and provide as much information as possible and including any steps followed to troubleshoot internally.
- Please include photos of the damaged box and product when contacting Customer Support.

Note: If you have received your order in a damaged box and the damage was indicated to the courier, please provide us with a copy of the delivery note detailing this.






6.2. What happens after I have requested a Return?

- If you have not purchased the Product(s) direct from Cambrionix please contact the vendor the item was originally purchased from for their returns process.
- Once you have notified Cambrionix of your return, Cambrionix will arrange for the collection of the product(s), or provide instructions and details for you to return the product direct.
- When returning your product(s), please only send back the items that were advised through the support process.
- Return your product(s) in the original packaging where you can. Where original packaging is not available, use suitable packing methods, which will ensure that the product cannot be subject to impact damage. i.e. double-walled cardboard box with 50mm of soft material.
- Product(s) not returned in their original condition may result in additional costs, please refer to the warranty and terms section on our [website](#).


- Where Cambrionix arranges collection, return shipping will be free, unless Cambrionix notified you otherwise.
- When contacting us about returning a product please provide the following information.
 - Collection Address
 - Weights and Dimensions WxDxH (m) of shipment
 - Preferred collection date and time.
 - Product serial number(s) (this can be found on a label on the rear or underside of the unit)
 - Purchase order number(s)

7. Compliance and Standards

The ModIT-Boss has secured official certification in strict compliance with established industry standards that are widely recognized. Below, you will find information relating to these certifications:

FCC Declaration of Conformity	
Declaration of RoHS Compliance	
CE Declaration of Conformity	
UL Certification	
Waste Electrical and Electronic Equipment (WEEE)	

7.1. EU RoHS Compliance

	<p>We declare that the ModIT-Boss comply with The European RoHS Directive 2011/65/EU (Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment), which restricts substances in electrical and electronic equipment:</p>
---	--

With Exemptions


<input checked="" type="checkbox"/>	7c-1	<p>Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectronic devices) or in a glass or ceramic matrix compound.</p>
-------------------------------------	------	---

You can access and download the complete EU RoHS Declaration of Conformity by following the provided link:

<https://downloads.cambrionix.com/documentation/en/ModIT-Boss-EU-RoHS-DOC.pdf>

7.2. Waste Electrical and Electronic Equipment (WEEE)

Disposal of Old Electrical & Electrical Equipment (Applicable in the European Union and other European countries with separate collection systems)

	<p>This product is subject to Directive 2012/19/EU of the European Parliament and the Council of the European Union on the waste electrical and electronic equipment (WEEE), and in jurisdictions adopting that Directive, is marked as being put on the market after August 12, 2005, and should not be disposed of as unsorted municipal waste. Please utilize your local WEEE collection facilities in the disposition of this product and otherwise observe all applicable requirements.</p>
---	--

Cambrionix PRN (Producer Registration Number) For the UK is "WEE/BH191TT".

Use of Trademarks, Registered Trademarks, and other Protected Names and Symbols

This manual may make reference to trademarks, registered trademarks, and other protected names and or symbols of third-party companies not related in any way to Cambrionix. Where they occur these references are for illustrative purposes only and do not represent an endorsement of a product or service by Cambrionix, or an endorsement of the product(s) to which this manual applies by the third-party company in question.

Cambrionix hereby acknowledges that all trademarks, registered trademarks, service marks, and other protected names and /or symbols contained in this manual and related documents are the property of their respective holders

"Mac® and macOS® are trademarks of Apple Inc., registered in the U.S. and other countries and regions."

"Intel® and the Intel logo are trademarks of Intel Corporation or its subsidiaries."

"Thunderbolt™ and the Thunderbolt logo are trademarks of Intel Corporation or its subsidiaries."

"Android™ is a trademark of Google LLC"

"Chromebook™ is a trademark of Google LLC."

"iOS™ is a trademark or registered trademark of Apple Inc, in the US and other countries and is used under license."

"Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries"

"Microsoft™ and Microsoft Windows™ are trademarks of the Microsoft group of companies."

"Cambrionix® and the logo are trademarks of Cambrionix Limited."

All trademarks and registered trademarks mentioned are acknowledged and respected as the property of their respective holders.

Important Notice on Protected Information

Please note that certain components of Cambrionix technology are considered protected intellectual property (IP) of Cambrionix. Specifically:

- Source Code: The source code of our software is proprietary and cannot be provided.
- Proprietary Methods: Detailed descriptions and implementations of our proprietary methods are also protected.

As such, requests for access to the source code or other protected information will be respectfully declined. We appreciate your understanding and cooperation.

Cambrionix Patents

Title	Link	Application Number	Grant Number
Syncing and Charging Port	GB2489429	1105081.2	2489429
CAMBRIONIX	UK00002646615	2646615	00002646615
CAMBRIONIX VERY INTELLIGENT...	UK00002646617	2646617	00002646617

Terms and Conditions

The use of Cambrionix hubs is subject to the Cambrionix Terms and Conditions, the document can be downloaded and viewed using the following link.

<https://downloads.cambrionix.com/documentation/en/Cambrionix-Terms-and-Conditions.pdf>

Cambrionix Limited
The Maurice Wilkes Building
Cowley Road
Cambridge CB4 0DS
United Kingdom

+44 (0) 1223 755520
<https://www.cambrionix.com>

Cambrionix Ltd is a company registered in England and Wales
with the company number 06210854