



Bump Device Manual

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A - Introduction

A.1. Intention of Use

WARNING: The Bump Device and associated equipment are to promote safe behaviour only. They CAN NOT and WILL NOT prevent the wearer / user from contracting or passing on COVID-19 or other such airborne germs and viruses.

The Bump Device is designed to work exclusively with the Tharsus Bump Hub.

The Tharsus Bump Device is a wearable device which promotes social distancing.

Warnings are generated as wearers approach one another. These escalating warnings consist of different colouration of LEDs when personnel are at a critical distance.

The Hub plays no part in individual Bump interactions. But provides the means to download the individual Bump interaction data and upload to a cloud-based server for later analysis.

The data captured can be displayed to show items of personal interest within a facility.

The data could identify isolated large-scale incidents where social distancing measures were not being observed.

The Device is intended for indoor use only. Typical locations include offices, commercial premises, and locations such as shops and other retail outlets. The product is not intended for outside use or within facilities such as direct medical, airports or use within the presence of explosive atmospheres.

Please retain this user manual for future reference.

A.2. Device Technical Specification

A.2.1. Physical Parameters

Depth	20mm / 0.8'
Diameter, including soft case	70mm / 2.75'
Weight, device + lanyard	38g + 60g / 1.27oz + 2.1oz

A.2.2. Electrical Parameters

Charging Voltage (VDC)	5.0V, via USB, micro-B
Battery Type	Li – Polymer
Voltage	3.7V Nominal
Power (mAh)	280
Charging Lead Length	1m/ 3.3ft

A.2.3 Environmental Parameters

Operating Ambient Temperature	5–40°C (41-104°F)
Relative Humidity	50% @ 40°C/ 104°F) (80% Maximum < 31°C/ 88°F))
Ingress Protection (Designed)	IP 67 / NEMA 4. Design rated, untested

A.2.4. Frequencies and Data Transmission

The Bump Device is a combination of BLE and UWB technologies, details of frequencies used are shown below.

Model - CE	BUMP
Model - FCC	BUMP-718-F. (FCC ID 2AYMM-BUMP-718-F)
Operating Frequencies	BLE: 2.4 GHz ISM Band 2.400 to 2.485 GHz UWB Channel 5 6240 – 6739.2 MHz
Bluetooth	Version 5

A.3. Safety Warnings

Do not operate this equipment until the safety information and instructions in this user manual have been read and understood by all personnel concerned.

USER RESPONSIBILITY

When installing or operating this equipment, personnel must observe warnings below as well as local regulations, health & safety procedures, and legal requirements for safety.

Tharsus cannot anticipate every possible circumstance which may represent a potential hazard. The warnings in this manual cover the most likely potential hazards but cannot be all-inclusive. If the user employs an operating procedure, item of equipment or a method of working which is not specifically recommended, the user must satisfy themselves that the equipment will not be damaged or become hazardous to persons or property.

Before each use of your Device, please follow the safety considerations below:

WARNING: The Device is intended for indoor use only. Typical locations include offices and commercial premises such as shops and other retail outlets.

WARNING: It is intended that the Bump Device is worn around the neck using the included Lanyard, or alternative attachment. DO NOT use any method of attachment that is not supplied by BUMP.

WARNING: The Bump Device contains an emitter which transmits RF signals when it is powered. There is potential for radio interference when it is near televisions, radios, computers, or other electronic devices.

WARNING: If you have an implanted medical device (e.g. Pacemaker), seek medical advice before using the Bump.

WARNING: Do not use the equipment if it appears to be damaged.

WARNING: Only charge by using the supplied charging lead. Check the USB port for foreign bodies before inserting the charging cable.

WARNING: Disconnect from the electrical supply before cleaning.

WARNING: Don't let your battery completely drain. Do not leave a Lithium Ion Polymer battery on prolonged charge when not in use. When possible, charge your device in small amounts to keep the battery from depleting.

WARNING: If you see the Bump case is swollen or swelling, immediately stop charging it. Place it up in a safe, sealed container for a minimum of 15 minutes.

WARNING: Dispose of the unit in accordance with local environmental regulations or use an authorised disposal expert.



FCC SPECIFIC WARNING - changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC SPECIFIC WARNING - The device has been evaluated to meet general RF exposure requirements. The device can be used in portable exposure condition without restriction.

FCC SPECIFIC WARNING

The Bump device has been designated as a Class B digital device or peripheral. The instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to

correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

A.4. Warranty Statement

This warranty applies to the Bump Device as manufactured and supplied by Tharsus.

Should the equipment be defective as to materials or workmanship, the company warrants that it will remedy such defects. The warranty period will be 12 months from date of commissioning or 18 months from date of manufacture, whichever comes first.

Should any defect occur during the warranty period and be notified in writing to the company, the company will, as its sole option, remedy such defect by repair or provision of a replacement part, provided that the equipment has been used strictly in accordance with the instructions provided and has been stored, installed, commissioned, operated and maintained in accordance with such instructions and with good practice. The company shall not

be under any liability whatsoever under the warranty, if, before giving notification in writing to the company as aforesaid, the Customer or any third party alters, interferes, tampers with or carries out modification whatsoever in relation to the equipment or any part thereof.

Any accessories, parts and equipment supplied by the company but not manufactured by the company shall carry whatever warranty the manufacturer has given the company providing it is possible for the company to pass on such warranty to the customer.

To claim under the warranty, the goods must have been installed and used in the manner specified in the User Manual. Contact numbers are present in Section E for product help, advice and warranty discussion should a unit fail in service.

B – Getting Started

B.1. Bump Package

The device will be supplied assembled with the necessary firmware already pre-installed and configured for use. Contents should include:

- Bump Device x 1
- USB Charging lead x 1
- Quick start guide x 1
- Lanyard x 1
- Lanyard Union x 2

Please report any missing or damaged items immediately. Do not use the equipment if it is damaged or incomplete.

B.2. Bump Device Features

1	Bump Device	5	USB Charging Connector
2	Soft Case	6	USB Charging Lead
3	Lanyard	7	Rating Plate
4	Lanyard Union		



6 - Not shown in this image. See Figure 2 for detail.

Figure 1: Bump device features

B.3. Charging

WARNING: Don't let your battery completely drain. Do not leave a Lithium Ion Polymer battery on prolonged charge when not in use. When possible, charge your device in small amounts to keep the battery from depleting. With the device not being worn, the charging cable supplied can be connected and the device charged as shown in Figure 2.

WARNING: Prior to charging, always check whether any foreign objects are in the connector or plug, as they may prevent charging or cause the charging accessories to overheat

WARNING: If you see the Bump case is swollen or swelling, immediately stop charging it. Place it up in a safe, sealed container for a minimum of 15 minutes.

When the green LED's are showing, the device is fully charged and can be disconnected from the power supply. If not being worn, lie the device on its back. This will put into 'sleep' mode to conserve battery power.

Your battery level will be shown when connected to a Hub.



Figure 2: Bump device being charged

B.4. Approvals – Safety and Electromagnetic Compatibility

	<p>Safety - only relevant to the Bump model</p> <p>BS EN IEC 62368-1:2014+A11:2017 Audio/video, information and communication technology equipment. Safety requirements</p> <p>Bluetooth Radio is tested to: EN 300 328 V2.2.2</p> <p>UWB radio is tested to: EN 302 065-2 V2.1.1</p> <p>EMC: EN 301 489-17</p>
	<p>Waste Electrical and Electronic Equipment Directive (WEEE Directive) 2012/19/EU - Only relevant to the Bump model</p> <p>Do not dispose of the Bump Device in domestic waste. Please use a specialist disposal company or contact Tharsus on the best disposal method</p>
	<p>Restriction of Hazardous Substances Directive (RoHS Directive) 2002/95/EC - Only relevant to the Bump model</p> <p>Based on the information available to us from our raw material suppliers, the BUMP Device complies with the substance restriction requirements of the RoHS Recast Directive 2011/65/EU including the amendment to Annex II described in Commission Delegated Directive (EU) 2015/863</p>
	<p>FCC - only relevant to the Bump-718-F model</p> <p>Bump 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</p>
	<p>Met Lab Approval - only relevant to the Bump-718-F model</p> <p>Listing number: E115220</p> <p>Safety standards: CSA/UL62368-1:2019; Audio/video, information and communication technology equipment</p>

C. Set up and operation

C.1. Register your Bump

You will need email access and a Bump device.

Your Bump admin will provide you with a Bump pack and send you an email with your 'My Bump' sign up link.

Once you've received your pack, go to the registration link, enter your personal details, type in the Bump ID number (found on the back of the device) and sign up.

You will need to charge your Bump Device at the end of every day, use the supplied USB charging lead. Any USB adapter will be suitable.

Your Bump will Flash red when charging, then it will glow solid green when fully charged.

C.2. Understanding Bump

When Bump is in use, it gathers data on how many and the type of alerts the user has encountered throughout the working day.

Introducing the hub. The hub is used to send your Bump data to the 'My Bump' cloud.

It is a white structure with a screen and will be located at a point you pass at least once daily. When you pass the hub it will show you your current near misses and potential transmissions.

You will also be able to see your data for the day (and for the last 7 days) on my.bump-space.com

C.3. Using your Device

Just keep wearing the Bump device, if you have any issues please tell your admin. Each Bump device has its own unique ID and each should be owned by one wearer throughout to ensure data accuracy. Bumps have their unique ID code on the back of the device and all wearers can check their code when they log onto My Bump. If not being worn, lie the device on its back. This will put it into 'sleep' mode to conserve battery power.

C.4. Alert types, and what they mean

Bump alerts you whenever you begin to get close to another Bump wearer and again when you get too close.

A pale white light pulses every 10 seconds whenever you're more than 2 metres away from other wearers. This is to let you know your Bump is active and no action is needed.

There are two alerts you need to watch out for.

Alert 1. A deep blue constant light pulse - and a single short chirp - tells you that you're within 2 metres of another Bump wearer and you should move apart. We call this a "near miss".

Alert 2. A constant red light pulse - and a sing alarm - tells you that you're now less than 1.2 metres away from another Bump wearer and you must immediately move away. You'll see these called "potential transmissions".

D – Cleaning

D.1. Cleaning Overview

For the intended environments of use and limited potential for user interaction, it is not expected for the Device to become heavily soiled in use.

Before cleaning, remove the electrical supply and note there are reasonable (<3mm) openings in the rear of the unit. During cleaning avoid ingress with the cloth or cleaning agents used.

Using a lint-free, non-abrasive cloth, to wipe the surface dust off. Move the cloth in slow, circular motions.

Do not apply pressure to the casing, as this may damage the unit.

Do not submerge the unit in any cleaning or sanitising liquid.

Suggested cloths are non-abrasive cloths include microfiber or cotton, do not use paper towels or facial tissues as these may scratch the display surface.

Should debris remain, avoid using ammonia-based cleaners. Use a proprietary PC screen cleaner. Apply a small amount to moisten the cloth, do not saturate. Work the cloth across the problem areas as above to remove.

E - Support

The Bump Device has been designed to be as simple as possible to install and operate with a minimum of technical support.

All data pertinent to logging onto the website is present within this manual.

Should an issue arise, please attempt to resolve using the fault-finding table on the website.

If this does not satisfactorily resolve the issue, Tharsus have a helpline specific for

the Bump Device product.

Please have ready, the product serial number (found on the rating plate) and the detail of any Hub on screen messages which will assist with the fault-finding process.

For more information, please visit bump-space.com

tharsus

EC DECLARATION OF CONFORMITY

Name of Manufacturer: Tharsus

Address:

Coniston Road
Blyth
Northumberland
NE24 4RF
United Kingdom

Description of product: RF Proximity Device

Model No: Bump

This declaration of conformity is issued under the sole responsibility of the manufacturer. The equipment described above described above is in conformity with the EU Radio Equipment Directive 2014/53/EU by the application of the following standards:

EN 300 328 V2.2.2

EN 302 065-2 V2.1.1

EN IEC 62368-1:2018 - Audio/video, information and communication technology equipment - Part 1: Safety requirements

The equipment has been assessed by EU Notified Body 1574 stated below and have issued certificate no: CH-11093-M1.

Eurofins
Three Lane Ends Business Centre
Methley Road
West Yorkshire
Castleford
WF10 1PN
United Kingdom

Name	Dave Swan	Position	Technical Director
Signature		Date	

tharsus

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NE24 4RF
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Description of product: RF Proximity Device
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This declaration of conformity is issued under the sole responsibility of the manufacturer. The equipment described above described above is in conformity with the • Restriction of Use of Hazardous Substances (RoHS2) Directive 2011/65/EU by the application standard EN IEC 63000:2018.

Name	Dave Swan	Position	Technical Director
Signature		Date	

bump™

