


white bream

Panel-mounted USB hub



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I Preface

I.1 Disclaimer

White Bream products are not authorized for use in, or in connection with surgical implants, or as critical components in any medical or nuclear, or aircraft, or other transportation devices or systems where failure to perform can reasonably be expected to cause significant injury to the user, without the express written approval of an executive officer of White Bream. Such use is at buyer's sole risk, and buyer is responsible for verification and validation of the suitability of products incorporated in any such devices or systems. Buyer agrees that White Bream is not liable, in whole or in part, for any claim or damage arising from such use and shall have no obligation to warranty such products. Buyer agrees to indemnify, defend and hold White Bream harmless from and against any and all claims, damages losses, costs, expenses and liabilities arising out of or in connection with buyer's use of White Bream products in such applications to the extent buyer has not obtained the express written approval of an executive officer of White Bream.

I.2 Trademarks

Throughout this manual, the trade names and trademarks of various companies and products may have been used, and no such uses are intended to convey endorsement of or other affiliations with this manual or product. Any brand names or product names used within this manual are trademarks or registered trademarks of their respective holders.

I.3 Warranty

This product is warranted to be in good working order for a period of two years from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

I.4 Liability

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party.

1.5 Technical support

White Bream technicians and engineers are committed to providing the best possible technical support for our customers so that our products can be easily used and implemented. We request that you first visit our website at www.whitebream.com for the latest documentation, utilities and drivers, which have been made available to assist you. If you still require assistance after visiting our website then contact our technical support department by email at support@whitebream.com.



Warning

Warning messages in the manual may contain important information against product malfunction or safety information for the (end-)user.



Caution

Notices regarding proper use of the product and to warn the user about how to prevent damage to hardware or loss of data.



Information

Tips, tricks and suggestions regarding the use or installation of the product.



Antistatic Precautions

The internals of the product are made of static sensitive components. When disassembling the product, it is strongly recommended to use an antistatic benchmat and wriststrap. If this is not possible, at least make sure you always touch an exposed metal part, such as the shield of an USB connector, each time before you touch anything else inside.



ROHS - WEEE

White Bream products are manufactured using lead-free components and assembly processes. Please dispose of products according local waste regulations.



2 Introduction

This bus powered 4-port USB hub is designed to be installed into tester fixtures or similar applications, that need multiple USB connections in and around the fixture / enclosure.

2.1 Specifications

- 4-port USB2.0, 480mbps, multiple TT
- Two downstream USB A sockets facing panel
- Downstream internal USB A socket
- Downstream USB connection on JST 4-way XH connector
- Upstream USB B socket facing panel
- Mounting poles for panel mount and holes for regular mounting
- Dimensions 50x40mm, panel area ~50x17mm

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3 Connections and controls

Core function of the module is the USB HUB controller. This controller arranges for the connection of up to four high-speed USB 2.0 downstream devices to an USB host port. It implements multiple transaction translator (TT) architecture that provide dedicated TT to each downstream port, which guarantee full-speed data passing bandwidth when multiple full-speed devices perform heavy loading operations.

3.1 Suspend

One of the features of USB which is an essential part of today's emphasis of 'green' products is its ability to power down an unused device. It does this by suspending the device, which is achieved by not sending anything to the device for 3 ms.

When the HUB controller detects this suspend mode, it will switch off the LED indicator.

3.2 Configuration

The hub has no end-user configurable options or parameters.

3.2.1 Power mode

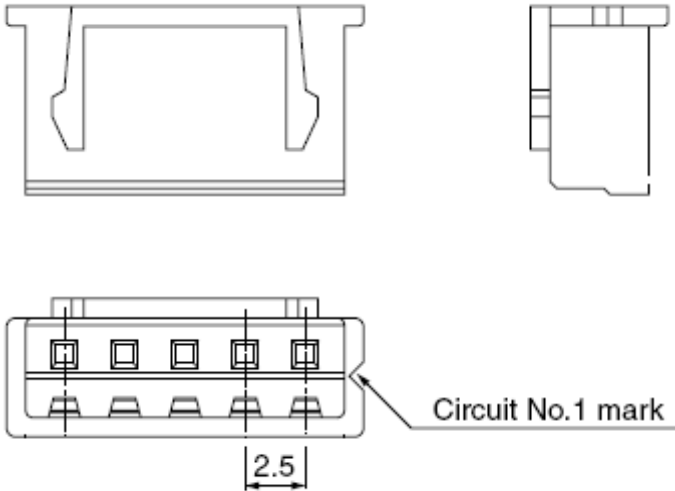
Power routing of this USB hub is done as a bus-powered hub without any downstream port power control. In other words, the 5V power signal from the upstream USB B port is connected directly to the power pins of the downstream ports.

However, the hub reports to the host that it is self-powered instead of bus-powered as it should do. This allows for using devices on the downstream ports that have current consumption beyond the 100mA limit. For example to use barcode scanners. It is user responsibility to limit the total current of all connected devices to less than 500mA.

3.3 Ports

3.3.1 Downstream JST

Pin	Signal	Wire color	Description
1	VBUS	red	Power 5V
2	DM	white	Negative USB signalling
3	DP	green	Positive USB signalling
4	GND	black	Ground



4 Specifications

4.1 Electrical

Parameter	Min	Typ	Max	Unit
Vbus	4.25	5	5.25	VDC
Operating current			88	mA
Suspend current		0.6	0.7	mA

4.2 Environmental

Parameter	Min	Max	Unit
Operating temperature range	0	+70	°C
Non-operating temperature range	-40	+100	°C
Humidity (non condensing)	5	95	%

4.3 Compliance

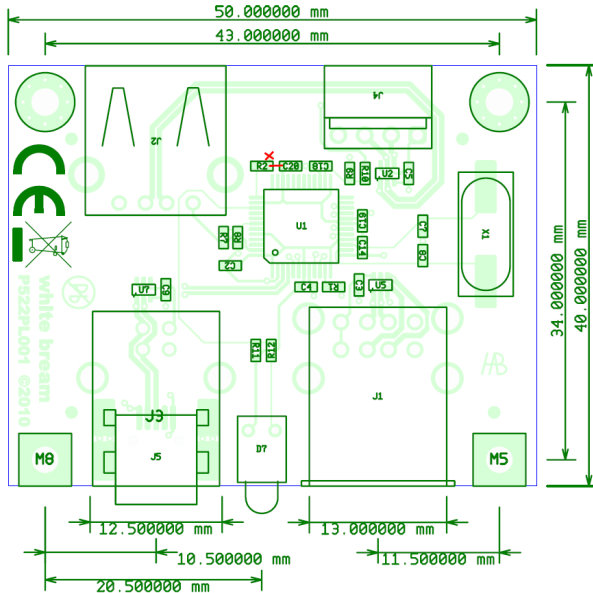
Please refer to annex C

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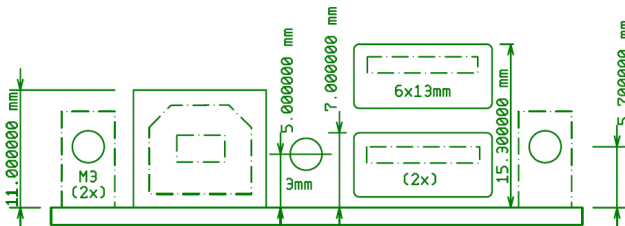
5 Installation

This USB HUB module is intended for fixed installation.

5.1 Dimensions



5.2 Panel holes



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6 Drivers

All reasonably recent operating systems come with the USB HUB class drivers pre-installed. No additional driver installation is required.

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Annex A: Certifications

A.1 CE Declaration of Conformity

We, White Bream, hereby certify that the product complies with the CE requirements as laid out in directive 2004/108/EC

A.2 FCC Declaration of Conformity

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. 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.3 Underwriter Laboratories

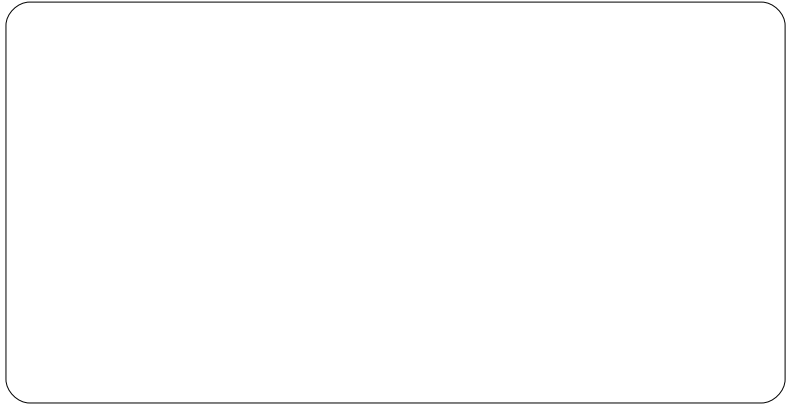
Our products are designed to be compliant with UL requirements for product safety. However, no testing or validation has been done to access this compliance.

A.4 ROHS

White Bream products are created using lead-free components and assembled accordingly.

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1.0	Mar 8, 2014	Initial document	



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