INNES

DMB400

Installation guide

INNES

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Product information

The conception and specifications of the product may change without prior notice, and this applies to hardware, embedded software and this guide. Consumable items accessories may slightly differ than herein described as INNES is depending on the evolutions of its suppliers.

This document contains confidential information; it can't be disclosed to any third parties without prior written authorization of INNES.

Safety instructions

Please read carefully the following instructions before switching the product on:

- WARNING! Correct fitting and installation is of the utmost importance. Incorrect fitting and/or installation may result in personal injury or loss. INNES disclaims all liability, of whatever kind, if the product is assembled, fitted and/or installed in an incorrect manner.
- Do not use the product near a water supply.
- Do not pour anything on the product, like flammable liquids or material.
- Do not expose the product to direct sun, near a heating source or a dust nor vibrations.
- Do not obstruct holes, to be sure that air flows freely around the product.
- Switch off the product during a storm.
- Do not open the product in any circumstances.

Keep this guide, preciously.

Safety instructions, guarantee terms

INNES products are eligible for a warranty to cover genuine manufacturing defect for 3 years.

Product failure occurring as the result of factors that do not constitute genuine manufacturing defect are not covered under the terms of the warranty and any repairs of this nature would be chargeable.

For example:

Inappropriate maintenance action, a non-authorized modification, a not specified environment utilization (see 'Safety instructions'), or if the product has been damaged after an impact, a fall, a bad manipulation or a storm consequence, an insufficient protection against heat, moisture or frost.

This warranty is not transferrable. In addition, any repairs carried out by non-authorized personnel will invalidate the warranty.

This symbol means that your end of life equipment must not be disposed of with household waste but must be deposited at a collection point for waste electrical and electronic equipment. This will benefit the environment. In this context, a system for collecting and recycling has been implemented by the European Union

1 Getting started

1.1 Documentation

This installation guide explains how to install DMB400 device on your computer network. The guide related to the settings for your DMB400 device with Screen composer, PlugnCast Studio or PlugnCast G3 is available on the CD-ROM (delivered with the device) or on http://www.innes.pro

• For PlugnCast G3, read the documentation: **plugncast-g3-getting-started-manual-with-gekkota-elinux-<xxxx>_en.pdf**
• For PlugnCast G2, read the documentation: **plugncast-studio–user-manual-<xxxx>_en.pdf**
• For Screen Composer, read the documentation: **screen-composer-with-gekkota-eLinux-g3-getting-started-manual-<xxxx>_en.pdf**

1.2 Packing list

Articles	Model – function
Device	DMB400 with gekkota_os embedded software
Power supply	12V power supply (with 1.5m cable)
CD-R	Contains gekkota_os and all the documentation
PSN	Product Serial Number is both on shipping packing and on the DMB400

Remark:

This product must be used only with its power supply. The power supply must be connected to a socket-outlet compliant to the standard NF C 15-100.
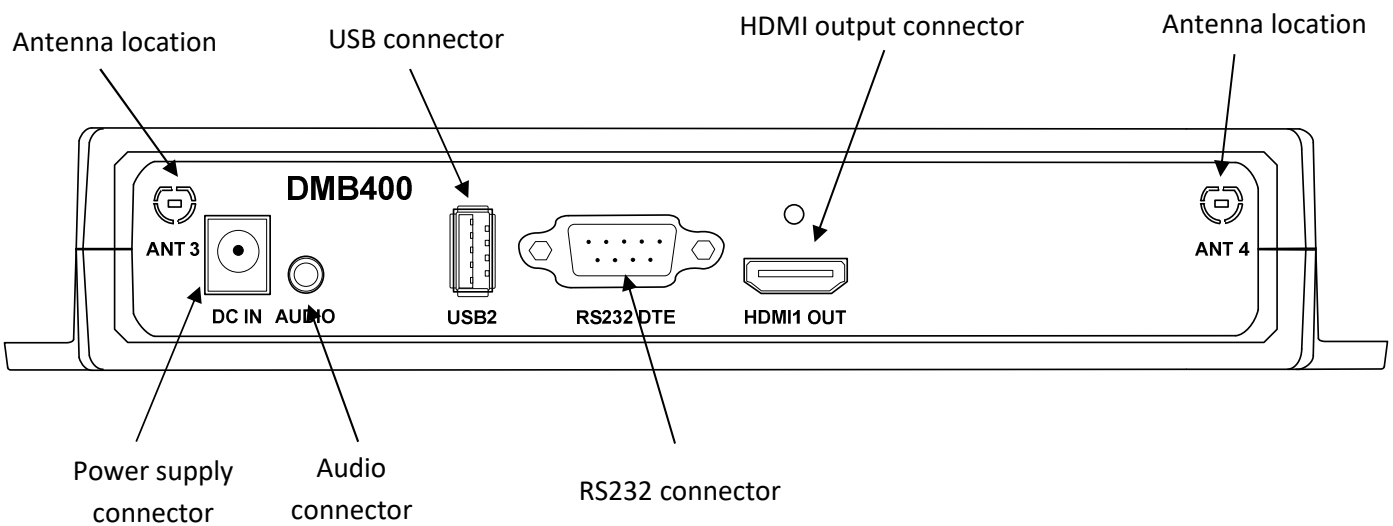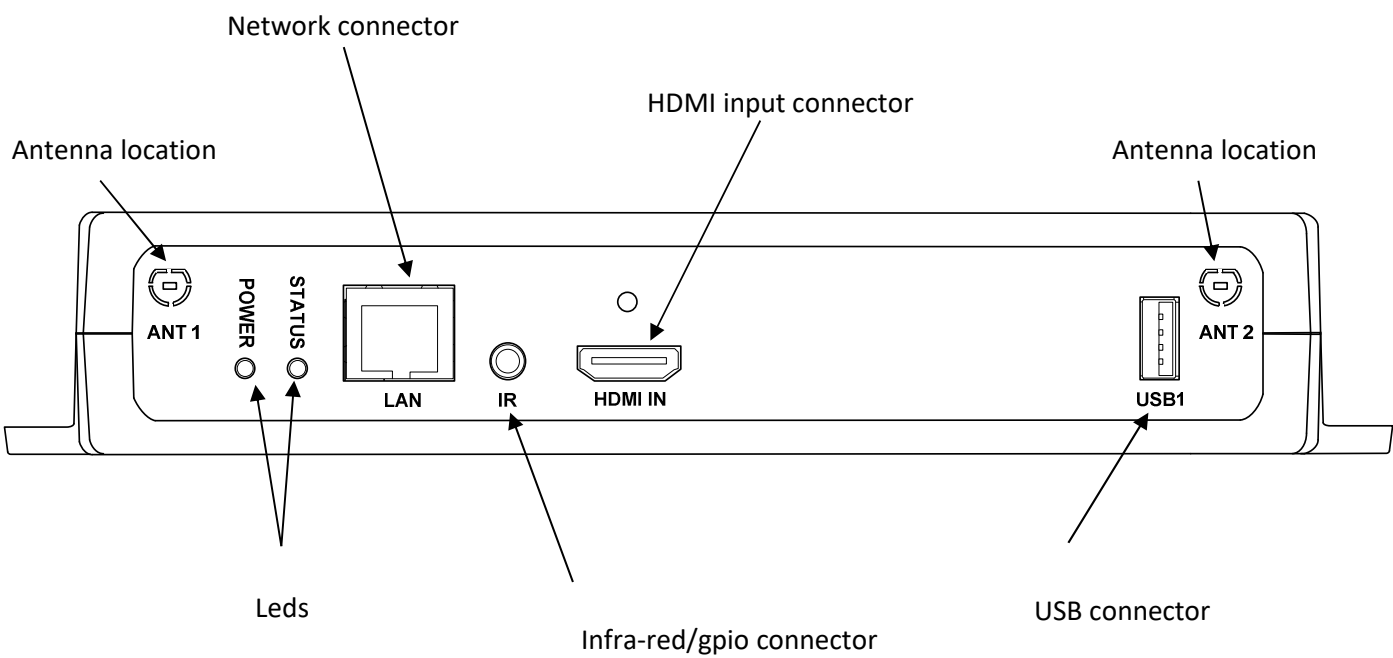If the power supply cable is damaged, it must be replaced. You can order such a product to INNES.

DMB400 is a class A product. In a residential environment, this product can provoke radio electrical issues. In this case, user must take appropriate measures.

1.3 Installation

DMB400 must be used indoor.

1.4 Block diagram

Network connector

HDMI input connector

Antenna location

Antenna location

POWER   STATUS

ANT 1

LAN   IR   HDMI IN

ANT 2

USB1

Leds

Infra-red/gpio connector

USB connector

Antenna location

USB connector

HDMI output connector

Antenna location

DMB400

ANT 3

DC IN   AUDIO   USB2   RS232 DTE   HDMI1 OUT

ANT 4

Power supply
connector

Audio
connector

RS232 connector

1.5 Brackets

DMB400 device has 4 brackets integrated in VESA 200x100 format:
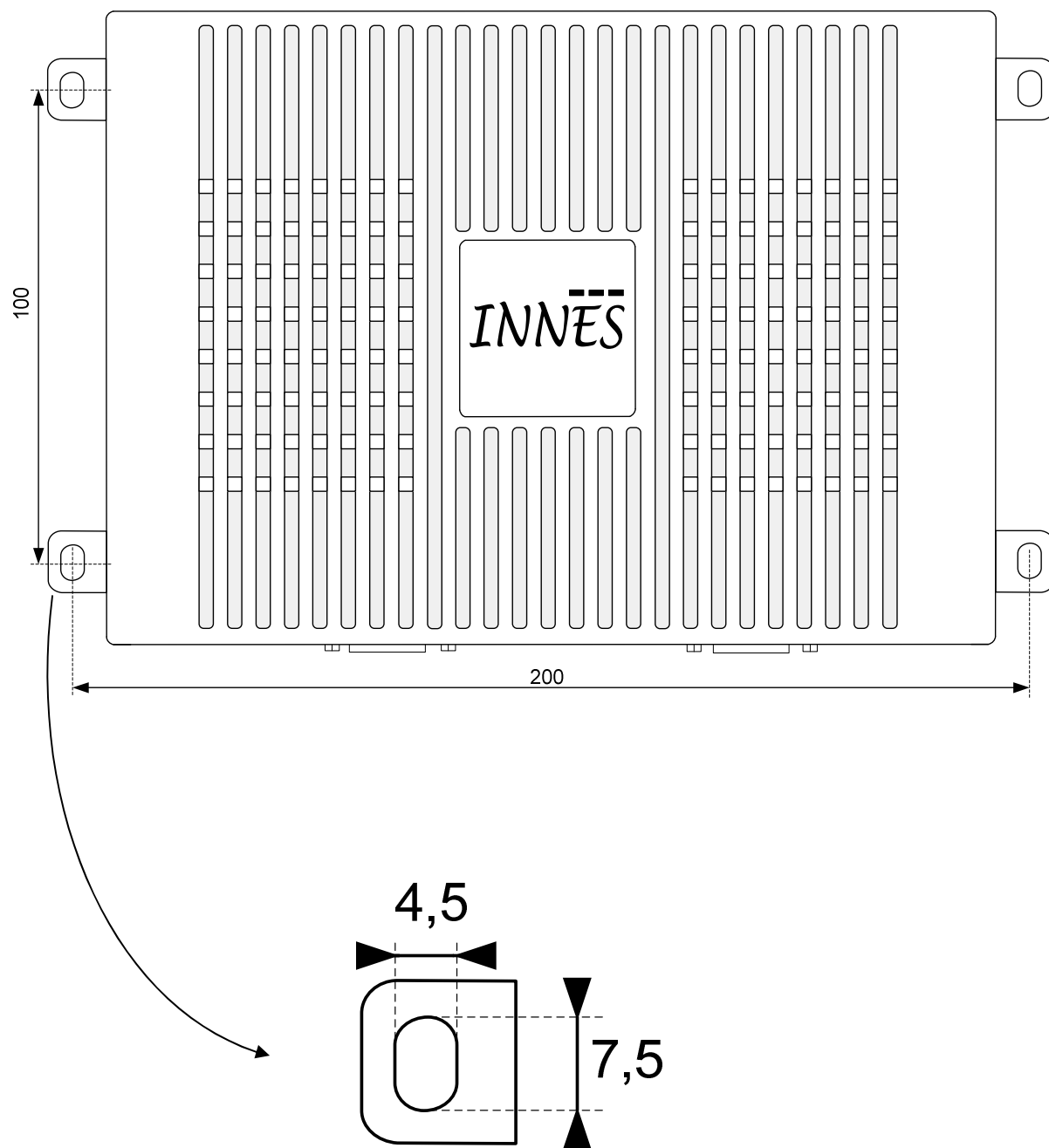
2 Identification with serial number

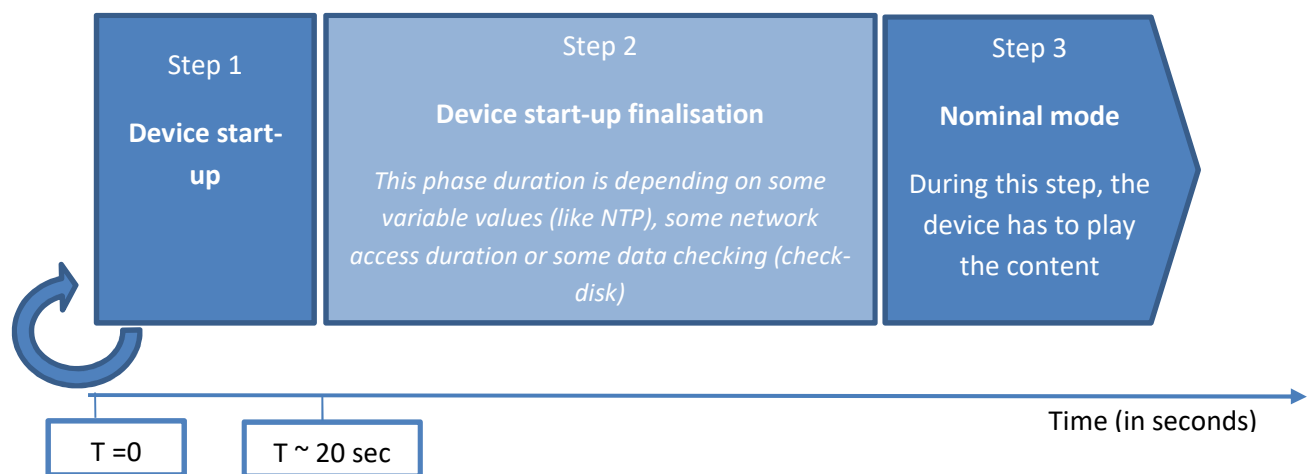The DMB400 device embeds « gekkota_os » software.

A serial number stamp permits to identify the device.

Note: In case technical support is requested, this serial number could be required to go ahead on technical analysis.

Sticker example at the back of the device

3 Different device phases at start-up

Time to reboot	in case DNS valid & NTP server inactivated	in case DNS valid & NTP server valid activated
DMB400	31 sec.	41 sec.

We consider that the time to reboot is the duration when the monitor is displaying nothing (generally black screen during reboot)

Additional time in case firmware upgrade	in case DNS valid & NTP server inactive
DMB400	2 min. and 10 sec.

We consider that the additional time for firmware upgrade is the duration when the monitor is displaying nothing (generally black screen during the installation of the version on the device). Do never unplug electrically the device in this phase (the device is displaying the green led continuously for 2 min. and 10 seconds.

4 LED behaviour

(version gekkota_os 4.10.11 or above)

- LED POWER behaviour (power on device):

LED « POWER »	State/behaviour	Information
Power	Red	OK : power supplied
	Off	Error : power supply issue (*1)

- LED LAN behaviour (power on device) :

LED « LAN »	State/behaviour	Information
LAN Activity	Off	There is no network traffic on the Ethernet connector
	Orange blinking	The blinking frequency is indicating the data rate on Ethernet connector

- LED STATUS behaviour depending on device start-up steps:
  - Step 1 : Device start-up
  - Step 2 : Device start-up finalisation
  - Step 3 : Nominal mode

LED « STATUS »	State/behaviour	Information
Step 1 Device start-up	Green : continuous	✔ OK
	Always Off	**Error : power supply issue** (*1)

LED « STATUS »	State/behaviour	Information
Step 2 Start-up finalization	Off	✔ OK: this step duration can be from several seconds to several minutes
	Green blinking - 1 second duration flash - Periodicity: every 2 seconds	**Error: boot issue**. Does not go into nominal state (*1)

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LED « STATUS »	State/behaviour	Information
3 – Nominal mode	Green blinking • **1** very short flash (150 ms) • Periodicity: every 4 seconds	✔ OK
	Green blinking • **2** very short and consecutive flashs (150 ms) • Periodicity : every 4 seconds	**Warning: Fail Soft Mode Level 1** - Frequent device reboot detected (for example 4 times in less than ½ hour) - Message is displayed on screen «Fail Soft Mode: waiting for new content » The instability has been caused probably by a content media not supported yet by system. Consequently, to prevent any further reboot, the content has been invalided. The message displayed on screen indicates that a new publication is needed to go ahead (*2)
	Green blinking • **3** very short and consecutive flashs (150 ms) • Periodicity: every 4 seconds	**Warning: Fail Soft Mode Level 2** - Frequent device reboot detected (for example 4 times in less than ½ hour) - Content is purged - Message is displayed on screen «Fail Soft Mode: waiting for new content » The instability has been caused probably by: - a content media not supported yet by system - a user preference which has been modified Consequently, to prevent any further reboot, the content has been invalidated and user preferences (saved before unexpected reboot) have been restored. The message displayed on screen indicates that a new publication is needed to go ahead (*2)
	Green blinking • **4** very short and consecutive flashs (150 ms) • Periodicity: every 4 seconds	**Warning: Check-Disk** - The device has detected memory corruption on content storage (SD card or SSD). The media storage is being repaired. This repair step is called Check-Disk and its duration can be several minutes During this step, a message "checking the file system of data partition in progress" is displayed on screen (*1)
	Green blinking • **5** very short and consecutive flashs (150 ms)	**Warning: Some error noticed on system data partition.** The user has to launch a partition format since the device WebUI (*3)

	- Periodicity: every 4 seconds	
	Green blinking - 6 very short and consecutive flashs (150 ms) - Periodicity: every 4 seconds	**Warning: A release firmware is in progress.** During this step, the content can not be played. Do not unplug power supply during this step.
	Green blinking - 7 very short and consecutive flashs (150 ms) - Periodicity: every 4 seconds	**Error: SSD failure** Not possible to write on SSD storage anymore. If this behaviour is persistent, contact support@innes.fr
	Off	**Error** (*1)

(*1) If the problem persists despite of appropriate power-supply, contact INNES technical support.
(*2) If the problem persists, it is advised to find out the media not supported yet by the system and remove it from content.
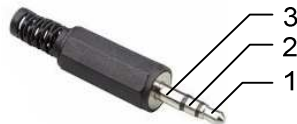(*3) If the problem persists after a partition repairing, contact INNES technical support.

5 Connectors pin-out and electrical features

5.1 Pin-out

Network connector: Ethernet RJ-45. 10/100/1000 BaseT. It is recommended to use shielded cables.	

Jack cable connector 3.5mm for rear panel :

Connector pin-out:

N#	Function
1	3.3V
2	GPIO1/IR
3	GND

HDMI Connectors: HDMI connector. Audio embedded. It is recommended to use shielded cables.
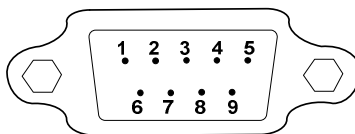
Power supply connector: 12VDC-1.2A.

Pin-out:

Audio cable connector: stereo jack 3.5mm L+R. It is recommended to use cables of less than 3 meters.

RS232 DTE connector: It is recommended to use cables of less than 3 meters.

Connector pin-out:

N#	Function
1	CD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

5.2 Electrical characteristics

	Vin min	Vin max	VOH min	VOL max	VIH min	VIL max
GPIO1	-0.5V	3.6V	2.9V	0.4V	2.0V	0.8V

Electrical characteristics:
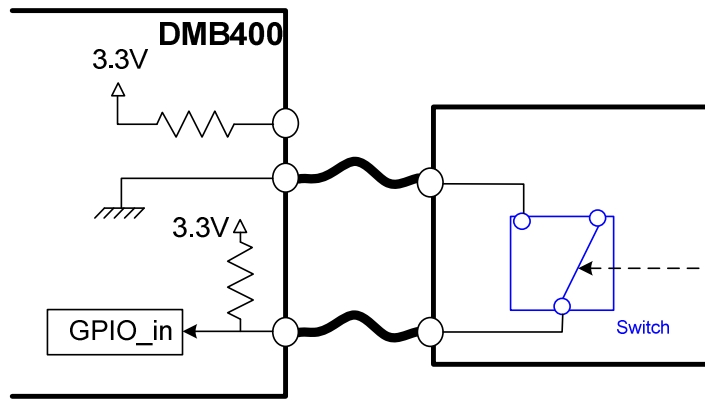
Other characteristics:

- The 3.3V pin must not serve has power supply, but rather of a reference voltage.
- It is not recommended to hotplug/unplug GPIO1 connector, it could provoke a failure of DMB400.
- During boot, the GPIO is configured in input during some seconds. And then after the system startup, the GPIOs is operational.
- The GPIO has a weak pull-up.

5.3 Principle schematics

Principle of GPIO use schematics, in input and in output:
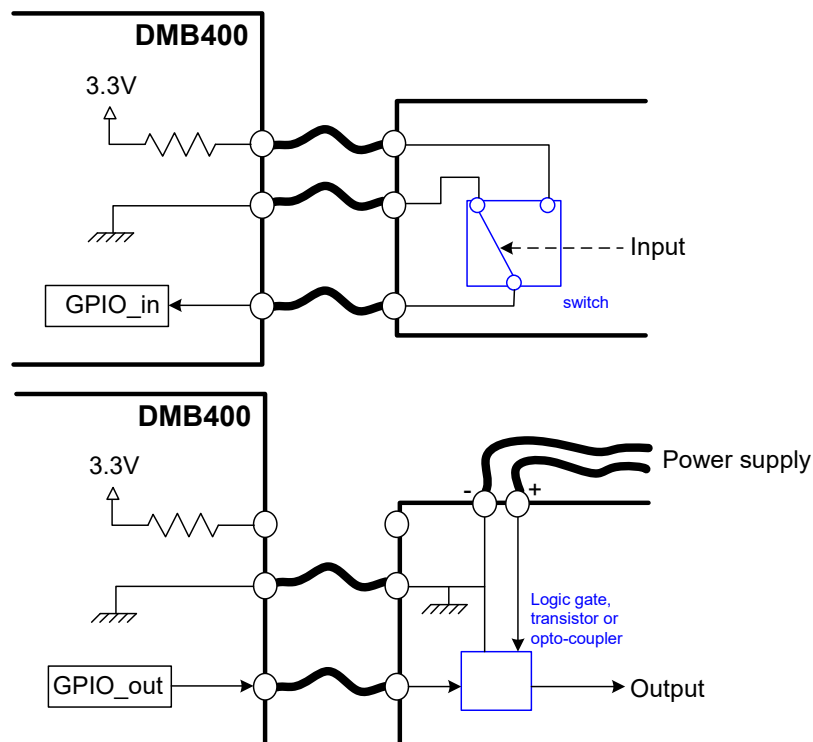
Other possible schematics, for GPIO input with 2 wires:

DMB400

3.3V

GPIO_in

Switch

6 Technical specifications

Characteristic	Specifications
Model	DMB400
Supported formats	The complete list of supported medias is given on the website www.innes.pro
Processor	CPU : STMicroelectronics STIH418, quad core cortex-A9, 1.2GHz GPU3D : MALI-400
Peripherals	1x USB2 Host (Low/Full/High Speed) 1x USB3 Host (Low/Full/High/Super Speed) 1x Jack 3.5 for GPIO or infra-red 1x RS232 DTE
Storage	SSD mSata
System	eLinux Board Support Package V3.50.10+, Middleware gekkota_os V4.10.10+
Software compatibility	INNES PlugnCast G2, INNES Plugncast G3 and INNES Screen Composer with Playzilla V4
Manufacturer	INNES
Display resolution	16/9 : 1024x576~3840x2160 4/3 : 800x600~1024x768
Audio output	Jack 3.5 R+L stereo, analog or embedded with HDMI output
Video output	1x HDMI 2.0
Video input	1x HDMI 1.4bss
Network	1x Ethernet 10/100/1000 BaseT Option WIFI 802.11 b/g Option GPRS/EDGE/HSDPA Modem
Power supply	12V DC
Environment	Working temperature : +0°C à +40°C Working humidity: <80% Storage temperature : -20°C to +60°C Storage humidity : <85%
Dimensions (WxHxD)	191 x 139 x 40 mm
Weight	0,7 kg
Conformity	In conformity with the following European directives: - LVD 2014/35/EU - EMC 2014/30/EU