



Revision 1.3 - April 19, 2019



DOO
BOLT

The logo features a pink hand icon on the left, followed by the word "DOO" in large, bold, black capital letters. Below "DOO" is the word "BOLT" in a bold, italicized, black font.

GET STARTED AND
SAFETY INSTRUCTION MANUAL



PACKAGE CONTENTS

Here are the items you'll find inside the UDOO BOLT Package:

- 1 x UDOO BOLT*
- 1 x SHIELDING BAG



* Beware of the warm and moving parts (like the fan) when using UDOO BOLT

SAFETY INFORMATION

- CE certification retained using only the UDOO BOLT qualified Power Supply. When not using UDOO BOLT qualified Power Supply, use 19VDC (min 60W power) PSUs certified for your country (make sure that the power cable is less than 3 mt. long).
- This product should be operated in a well-ventilated environment and, if used inside a case, the case should not be covered.
- This product should be elevated on a stable, flat, electrically non-conductive surface whilst in operation, and clear from any object that can induce a short-circuit.
- Do not expose it to water, moisture or heat from any source; UDOO BOLT is designed for reliable operation at normal ambient room temperatures.
- Avoid handling the warm and moving parts (like the fan) and generally the printed circuit board while it is powered.
- Only handle by the edges to minimise the risk of electrostatic discharge damage.
- Take care whilst handling to avoid mechanical or electrical damage to the printed circuit board and connectors. Also use a grounded wrist strap or touch a safely grounded object before you handle components.

BOARDS	UDOO BOLT V3	UDOO BOLT V8
FEATURES	 	 
Processor	AMD RYZEN™ EMBEDDED V1202B	AMD RYZEN™ EMBEDDED V1605B
CPU Core	DUAL CORE/QUAD THREAD @ 2.3GHZ (3.2 BOOST)	QUAD CORE/EIGHT THREAD @ 2.0GHZ (3.6 BOOST)
Graphics	AMD RADEON™ VEGA 3 GRAPHICS (3 GPU CU)	AMD RADEON™ VEGA 8 GRAPHICS (8 GPU CU)
Multimedia	DIRECTX® 12 TECHNOLOGY OPENCL, OPENGL, THE VULKAN® API H.265 DECODE & (8-BIT) ENCODE, VP9 DECODE	
Memory	2X SLOT SO-DIMM DUAL-CHANNEL 64-BIT DDR4 2400 MT/S WITH ECC SUPPORT UP TO 32GB	
Mass Storage	32GB EMMC 5.0 HIGH SPEED DRIVE SSD SATA MODULE'S SLOT M.2 SOCKET 2 KEY B 2260 (FEATURED ALSO PCI-E X2) NVME MODULES SLOT M.2 SOCKET 3 KEY M 2280 (PCI-E X4 GEN 3 INTERFACE) SATA III 6 GBIT/S STANDARD CONNECTOR	
Networking	GIGABIT ETHERNET REALTEK RTL8111G SLOT M.2 SOCKET 1 KEY E 2230 FOR OPTIONAL WIFI/BT COMBO	
USB	2X USB 3 TYPE-A 2X USB TYPE-C : - USB 3.1 GEN 2 - DISPLAYPORT ALTERNATE MODE - DUAL ROLE PORT (DRP) USB POWER DELIVERY (USB-PD) 3.0	
Video Interfaces	2 X HDMI 1.4 / 2.0A 2 X DP ALTERNATE MODE ON USB TYPE-C	
Audio Interfaces	HD AUDIO CODEC REALTEK ALC888S MICROPHONE + HEADPHONE COMBO CONNECTOR (TRRS) PRE-AMPLIFIED STEREO SPEAKER CONNECTORS (UP TO 3W) DIGITAL OPTICAL AUDIO S/PDIF AND ANALOG STEREO OUTPUT COMBO JACK 3.5MM CONNECTOR	
Other Interfaces	FRONT PANEL HEADERS, IR RECEIVER, FAN CONTROLLER, RTC BATTERY INCLUDED	
I/O	ARDUINO LEONARDO COMPATIBLE: - 12X ANALOG INPUTS - UP TO 23X DIGITAL INPUT/OUTPUT (7 PWM) - 1X UART 1X I2C 1X SPI - 3X GROVE CONNECTORS: - 1X ANALOG INPUT, 1X UART OR DIGITAL I/O, 1X I2C OR DIGITAL I/O EMBEDDED CONTROLLER I/O : - 2X UART, 2X I2C, 1X SPI, 1X KEYBOARD SCAN, 1X FAN CONTROLLER, 10X GPIO	
OS 64bit	 	
Power In	DC IN JACK 19V USB TYPE-C POWER IN	
Dimensions	12CM X 12CM - 4.72" X 4.72"	

GETTING STARTED

Here's what you need to get started:

- 1 or 2 x DDR4 SO-DIMM Memory
- 1 x UDOO BOLT Power Supply* or other 19VDC (min 60W power) PSUs certified for your country (Make sure that the power cable is less than 3 mt. long)
- 1 x Bootable USB Drive with OS installation on it**;
- 1 x Monitor with HDMI or USB-C cable;
- 1 x Keyboard and Mouse.



* The UDOO BOLT Power Supply is purchased separately.



** This product comes without OS installed. To install it follow the get started you'll find in UDOO website: <http://www.udoo.org/get-started-bolt/>

RAM INSTALLATION

The UDOO BOLT has two 260-pin SO-DIMM sockets for DDR4 memory.

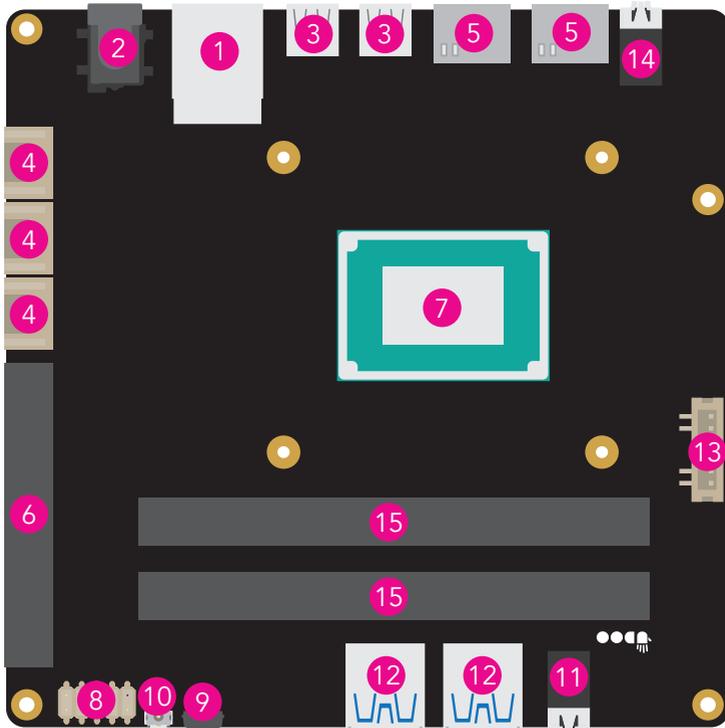
- Supports 4GB, 8GB and 16GB DDR4 SO-DIMMs up to 32GB.
- Supports 1.2V DDR4-2400 DIMMs with dual channel architecture.

In order to exploit the Dual-Channel mode make sure that you install memory modules of the same type and density in different channel DIMM slots.

Follow these steps to install the DIMM:

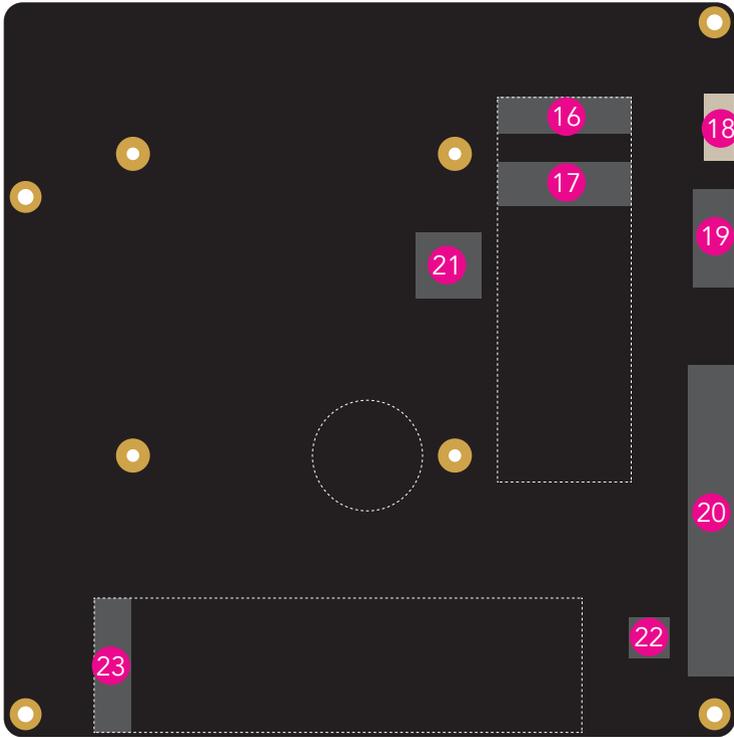
- 1: Pull both clips on either side of the slot outwards. Align the DIMM module with the slot.
- 2: Press the module straight down until the plastic clips tick and close. Ensure that the module fits tightly into the DIMM slot. Push the clips inwards to check.

TOP VIEW



- 1 Gigabit Ethernet
- 2 DC-IN 19V
- 3 2x USB Type-C
- 4 3x Grove Connectors
- 5 2x HDMI 2.0
- 6 Arduino™ - Compatible Pinout
- 7 AMD Ryzen™ Embedded V1000
- 8 Front Panel
- 9 IR receiver
- 10 Power Button
- 11 Audio Headset Jack
- 12 2x USB 3.1 Type-A
- 13 Pre-amplified Speakers
- 14 S/PDIF
- 15 2x SO-DIMM RAM

BOTTOM VIEW



- 16 SSD/PCI-e M.2 Socket 2 Key B
- 17 Connectivity M.2 Socket 1 Key E
- 18 SATA Power
- 19 SATA 3.0
- 20 Embedded Controller I/O
- 21 eMMC 5.0 32GB
- 22 AT Mega32U4 Arduino™- Compatible Microcontroller
- 23 NVMe M.2 Socket 3 Key M

NOTICES

Federal Communications Commission Interference Statement

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 to 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.



Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

WARRANTY

This product is subject to the Italian Law Decree 24/2002, acting European Directive 1999/44/CE on matters of sale and warranties to consumers.

The warranty on this product lasts for 2 years.

Under the warranty period, the Supplier guarantees the buyer assistance and service for repairing, replacing or credit of the item, at the Supplier's own discretion.

Items cannot be returned unless previously authorized by the supplier.

The authorization is released after completing the specific form available on the web-site <http://www.udoo.org/customer-care/> (Open a New Ticket -> Return Merchandise Application).

The RMA authorization number must be put both on the packaging and on the documents shipped with the items, which must include all the accessories in their original packaging, with no signs of damage to, or tampering with, any returned item.

The error analysis form identifying the fault type must be completed by the customer and has must accompany the returned item.

Following a technical analysis, the supplier will verify if all the requirements, for which a warranty service applies, are met. If the warranty cannot be applied, the Supplier will calculate the minimum cost of this initial analysis on the item and the repair costs. Costs for replaced components will be calculated separately.



All changes or modifications to the equipment not explicitly approved by SECO S.r.l. could impair the equipment's functionalities and could void the warranty



INFORMATION AND ASSISTANCE

What do I have to do if I'm experiencing problems with my product?

The following services are available:

- UDOO website: visit <http://www.udoo.org> to receive the latest information on the product. In most cases it is possible to find useful information to solve the problem.
- UDOO Forum: join to the community of UDOO users. In the forum, available at <http://www.udoo.org/forum/>, it is possible to search the multiple topics of the community, and look for other users that had the same kind of problem - and how they solved it. It is also possible to post new topics to ask for specific help.
- Repair centre: it is possible to send the faulty product to the SECO Repair Centre. In this case, follow this procedure:
 - Returned items must be accompanied by a RMA Number. Items sent without the RMA number will be not accepted.
 - Returned items must be shipped in an appropriate package. SECO is not responsible for damages caused by accidental drop, improper usage, or customer neglect.

Note: Please have the following information before asking for technical assistance:

- Name and serial number of the product;
- Description of Customer's peripheral connections;
- Description of Customer's software (operating system, version, application software, etc.);
- A complete description of the problem;
- The exact words of every kind of error message encountered.

RMA number request

To request a RMA number, please visit <http://www.udoo.org>. On the bottom of the page, please select "Customer Care", click on the "Open a New ticket" button and. A RMA Number will be sent within 1 working day (only for on-line RMA requests).