






Owner's Manual


Safety instructions

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that you have read the safety information that shipped with your computer.

 **WARNING:** Disconnect all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting to the power source.

 **CAUTION:** Some repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Compulab is not covered by your warranty. Read and follow the safety instructions that came with the product.

 **CAUTION:** To avoid electrostatic discharge and prevent internal components damage from electrostatic discharge when touching computer or its parts, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the computer.

 **CAUTION:** Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.


 **CAUTION:** When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

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For more information and to obtain the latest revision of this document, please visit: www.fit-iot.com

For technical support and product related questions, please email: support@fit-iot.com

Introduction

Thank you for purchasing **fitlet2**. It is a miniature PC designed to be tough, capable, versatile and user-friendly. With proper installation we expect fitlet2 to serve you for many years. The unique fanless design of fitlet2 eliminates the need for any maintenance after installation. Please consult this owner's manual for getting started with fitlet2. You are welcome to contact fitlet2 manufacturer – Compulab at www.fit-iot.com or support@fit-iot.com should you have any technical questions.

fitlet2 features

- Intel Apollo Lake CPU
- Up to 16 GB RAM
- eMMC | M.2 SATA | 2.5" storage*
- Dual head 4K display
- Up to 4 Gbit Ethernet ports* | WiFi* | cellular communication*
- USB 3.0, audio, serial port, SD card, indicator LEDs
- Supports Windows 10 and Linux
- Can be extended with **Function And Connectivity Extention T-Cards** (FACET Cards)
- All-metal fanless housing 112 mm X 84 mm X 34 mm
- Operating temperature range up to -40°C to 85°C (depending on ordered configuration)

* Feature may require an extension FACET card

Package contents

1. fitlet2 computer
2. Power supply: input 100-240VAC 50/60Hz, output 12VDC 3A with universal AC plugs
3. M.2 cooling plate with spacers and screws
4. RTC battery with cord
5. Owner's manual

Notes

- additional accessories can be purchased separately
- Some fitlet2 configurations come pre-installed with additional devices and accessories

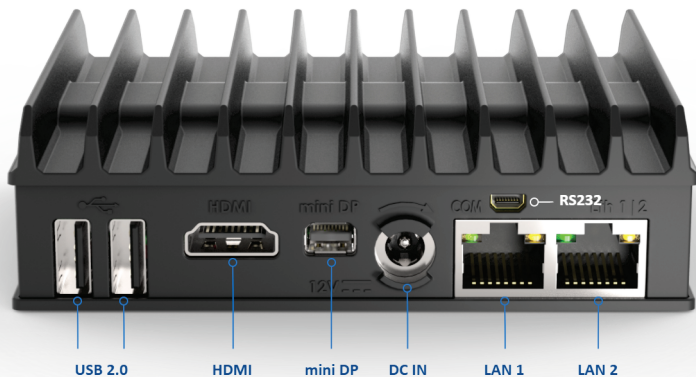
Hardware specifications

Processor / SoC	
Type	Intel Apollo Lake (Atom Celeron) Dual-core or quad-core
Memory	
Supported	1x SO-DIMM 204-pin DDR3L SDRAM Up to 16GB Non-ECC DDR3L-1866 (1.35V)
Storage	
Supported	1x M.2 M-key 2242 2260 Optional eMMC Optional 2.5" HDD SSD
Graphics	
Display Interface 1	HDMI 1.4b up to 3840 x 2160 @ 30Hz
Display Interface 2	DisplayPort 1.2 up to 4096 x 2160 @ 60 Hz (via Mini DP connector)
Audio	
Codec	Realtek ALC1150 HD audio codec
Audio Output	Analog stereo output Digital 7.1 channels S/PDIF output (3.5mm jack)
Audio Input	Analog stereo Microphone input (3.5mm jack)
Networking	
LAN	LAN1: Intel I211 GbE controller (RJ-45) LAN2: Intel I211 GbE controller (RJ-45)
Wireless	1x M.2 E-key 2230 slot WiFi adapter sold separately
Connectivity	
USB	2x USB 3.0 2x USB 2.0
Serial	1x Serial communication ports COM1: RS232 via mini serial connector
Expansion	FACET rev 2 slot (PCIe x2, USB2.0, eDP1.3, I2S, I2C, UART)
Operating System	
Supported	Windows 10 Linux
Operating Conditions	
Input Voltage	Unregulated 7 - 20VDC input
Power Consumption	5W to 15W depending on configuration and system load
Operating Temperature	Commercial: 0°C to 45°C Extended: -20°C to 70°C Industrial: -40°C to 85°C
Relative Humidity	5% to 95% (non-condensing)
Enclosure	
Material	Die Cast Aluminum
Cooling	Passive Cooling (fanless)
Dimensions	112 mm X 84 mm X 34 mm
Weight	350g
Warranty	5 years
Warranty notes	Storage device warranty in accordance with device manufacturer's warranty. Excludes battery.

For the latest specifications please visit:

www.fit-iot.com/web/products/fitlet2/fitlet2-specifications/

Connectors layout



Quick start guide

Minimum requirements

To use fitlet2 you will need:

- RAM and storage device (if not pre-installed)
- A display with HDMI or DisplayPort input + HDMI or mini-DisplayPort cable
- USB keyboard and mouse

Identifying fitlet2 configuration

fitlet2 configuration is detailed on the label attached to the bottom side of the computer.

Note

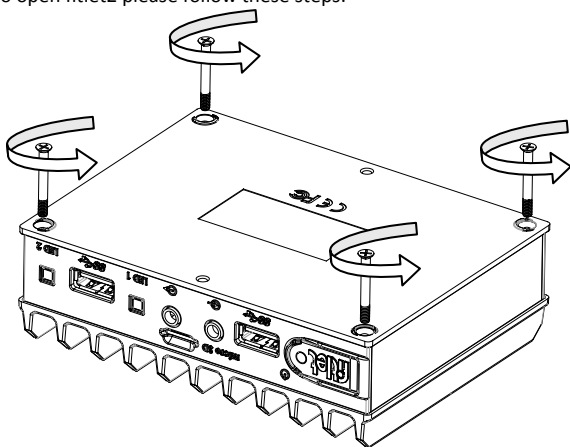
Pay attention to RAM and storage. If **not installed** fitlet2 will not boot. You will have to first install these devices.

Opening fitlet2

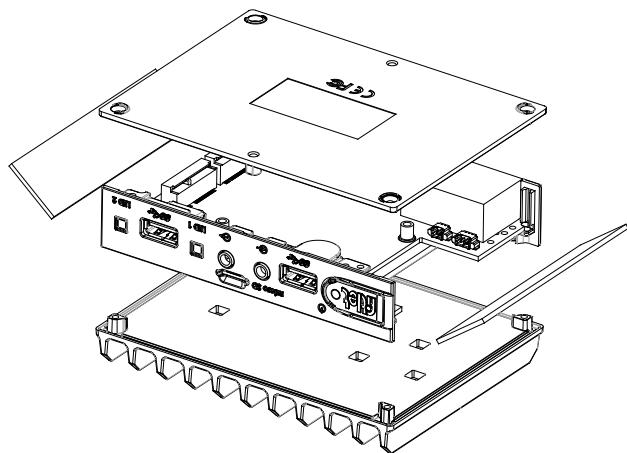
You will need to open fitlet2 in order to install RAM, storage and RTC battery.

Required tool: Phillips screwdriver.

To open fitlet2 please follow these steps:



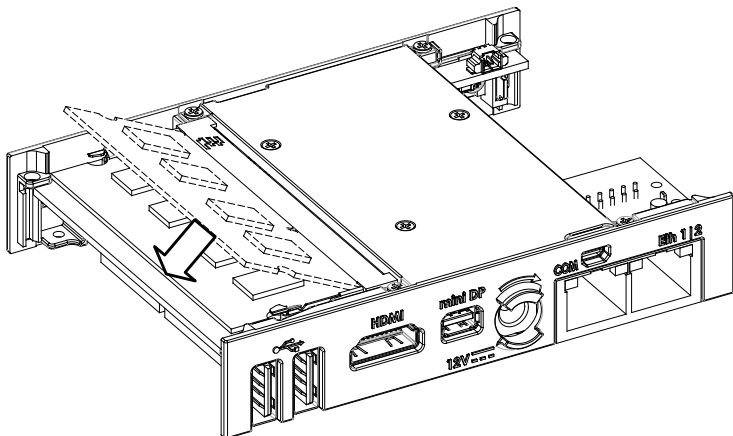
1. Place fitlet2 on a flat surface bottom-up.
2. Open the four screws using the Phillips screwdriver (counter clock-wise).



3. Lift the bottom cover to remove it. Side panels should fall-off.
4. Lift fitlet2 from the top cover.

Installing RAM

RAM socket is positioned on the top side of the motherboard.
 fitlet2 accepts a single SODIMM DDR3L (1.35V).



Insert DDR3L SODIMM module and press it down until it is latched firmly on both sides.

M.2 cooling plate and SSD

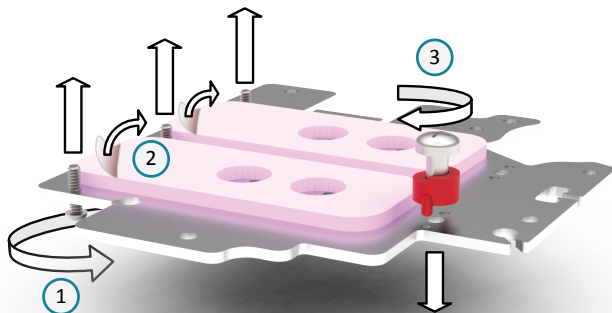
The M.2 cooling plate has several purposes:

- Allow installation of multiple form factor M.2 devices and FACET Cards
- Provide cooling to M.2 devices
- Assist in battery placement
- Provide proper cable management inside fitlet2

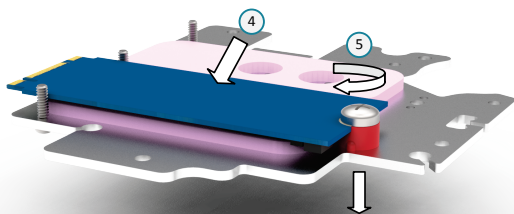
fitlet2 accepts M.2 M-key 2242 | 2260 SATA SSD.

The SSD has to be fastened to the M.2 cooling plate. Then the M.2 cooling plate is placed at the underside of the motherboard and fastened to the front and back panel.

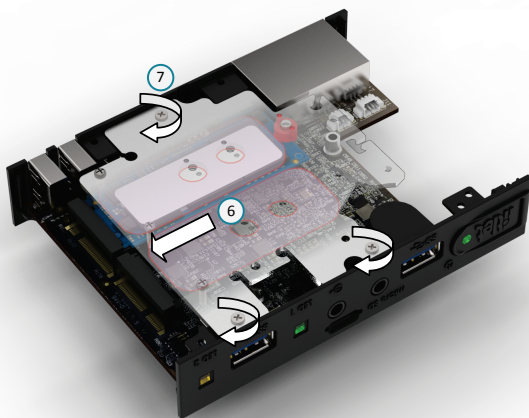
To install SSD onto M.2 cooling plate



1. Screw the 3 alignment screws into the marked holes. These screws are used to position the M.2 devices
2. Peel-off protective film from the two thermal pads.
3. Place the red M.2 spacer according to the length of the M.2 SSD as depicted below. Note orientation of the spacer: The recessed side should face the alignment screws. Insert M.2 fastening screw but **do not tighten**.



4. Place edge of M.2 SSD against the fastening screw and press the SSD firmly against the thermal pad until its connector edge is seated between the alignment screws. Once positioned correctly the connector edge should stick out above the edge of the M.2 cooling plate.
5. Tighten the fastening screw.

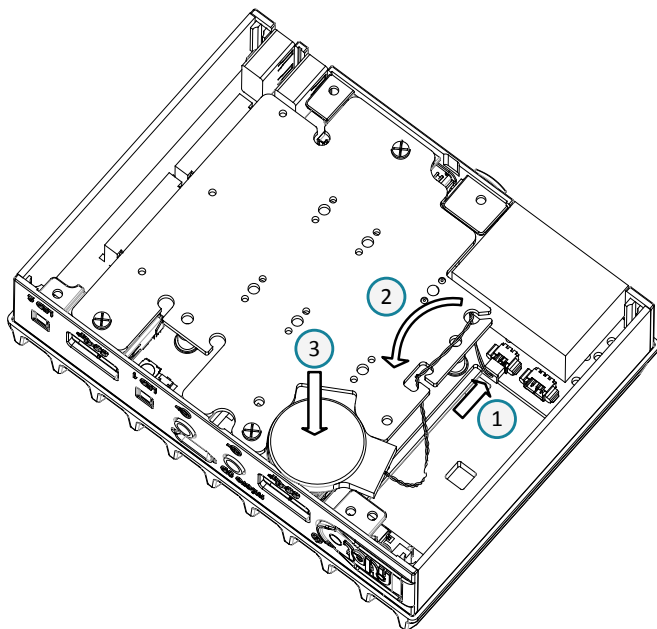


6. Turn over the M.2 cooling plate and push the M.2 SSD into its socket at the underside of the motherboard.
7. Push down the M.2 cooling plate and tighten the 3 panel screws

RTC battery

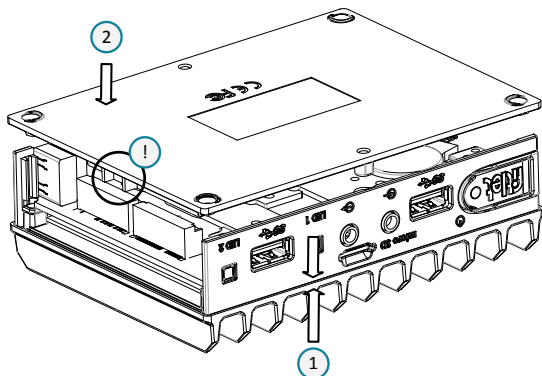
The RTC battery is used for keeping time and date while fitlet2 is disconnected from power. BIOS settings and power-up policy is independent of battery. fitlet2 normally ships with the battery unplugged to ensure that the battery is not discharged during warehousing. The battery can keep charge for approx. 5 years when fitlet2 is disconnected and significantly longer when fitlet2 is connected to power. Battery can be purchased separately to be replaced by the user.

Installing RTC battery

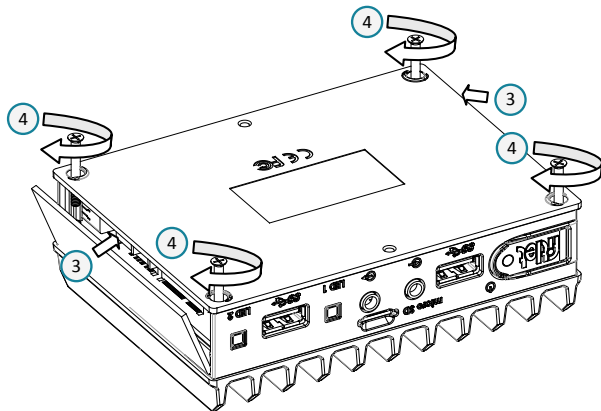


1. Connect the battery plug to the corresponding socket (see illustration).
2. Place the wire as shown inside the slots of the M.2 cooling plate to minimize clutter.
3. Place the battery in the marked pocket. Once fitlet2 bottom cover is assembled the battery is secured in place.

Re-assembling fitlet2



1. Place the fitlet2 onto the top cover.
 Note: The top cover is symmetric – direction does not matter.
2. Place the bottom cover onto the fitlet2.
Important note: The tall U-shaped boss has to be near the M.2 sockets. Otherwise the bottom cover will not fit!



3. Click both side panels into place
4. Tighten the 4 screws

Connecting fitlet2



1. Before connecting fitlet2 please ensure that RAM and storage device are installed as detailed in the above sections.
2. Connect the display to fitlet2 using HDMI or mini-DP cable.
3. Connect to fitlet2 USB keyboard and mouse.
4. Insert the DC plug into the fitlet2 DC-in jack. Rotate clockwise 90° to secure.
5. Slide into the power-supply the AC blade correct to your country and plug the power-supply into an AC-outlet. The power button on fitlet2 should turn green, in a few seconds an image should appear on the display.
6. Connect Ethernet cable as needed. When link is established the link LED on RJ45 should light.
7. If fitlet2 has WiFi adapter installed you will observe two SMA connectors (gold color screws) on the side panel. Connect the included antennas by screwing them clockwise onto the SMA connectors to enable WiFi communication.

Entering BIOS Setup

Turn off the fitlet2.

Turn on while holding down the Del key, until access into AMI Inc. BIOS utility.

See http://www.fit-pc.com/wiki/index.php/Main_Page.

Installing and booting operating system

Please consult <https://www.fit-iot.com/web/products/fitlet2/os> for instructions.

Service

Support

For technical support and product related questions, please email: support@fit-iot.com

For fitlet2 on support wiki please visit: <http://fit-pc.com/wiki/index.php/Fitlet2>

Warranty

- Compulab guarantees products against defects in workmanship and material for a period of 60 months from the date of shipment.
- Your sole remedy and Compulab's sole liability shall be for Compulab, at its sole discretion, to either repair or replace the defective product at no charge.
- This warranty is void if the product has been altered or damaged by accident, misuse or abuse.

RMA

- Keep the original package for shipping.
- Please contact the seller of that fitlet2.
- When issuing an RMA please provide the following required information:
 - fitlet2 serial number
 - Name and address of buyer
 - Invoice number
 - Problem description
- If fitlet2 was purchased directly from Compulab, please email: rma@fit-pc.com



fitlet2

Manufacturer: Compulab Ltd.

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.

Statement

Changes or modifications to this equipment not expressly approved by the party responsible for compliance (Compulab Ltd.) could void the user's authority to operate the equipment.

Statement

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.

WEEE



This symbol means that you must dispose of an electrical item AND/OR containing in it Li-Mn battery separately from general household waste when they reach the end of their useful life. Take your PC or the battery to your local waste collection point or center. This applies to all countries of the European Union, and to other countries with a separate waste collection system.