

UNO-247 V2 Intel® N97 Edge Intelligent Gateway for Automation Startup Manual

Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

1. UNO-247 V2 bare-bone system x 1
2. Startup manual EN\CN\TC for UNO-247 V2 1st Ed
P/N: 2041024700
3. Remote Power Connector
P/N: 1652007993-01

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

Note: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: get.adobe.com/reader (Acrobat is a trademark of Adobe)

For more information on this and other Advantech products, please visit our website at:
<http://www.advantech.com>



For technical support and service, please visit our support website for UNO-247 V2 at:



Register your products on our website and get 2 months extra warranty for Free at:

<http://www.register.advantech.com>



Part No. 2041024700
Printed in China

1st Edition
November 2024

Packing List (Cont.)

Caution: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

Attention: DANGER D'EXPLOSION SI LA BATTERIE EST INEXACTEMENT REMPLACÉE. REMPLACEZ SEULEMENT AVEC LA MÊME CHOSE OU LE TYPE ÉQUIVALENT RECOMMANDÉ PAR LE FABRICANT, JETTENT LES BATTERIES UTILISÉES INSTRUCTIONS DE S SELON FABRICANT DES'.

Specifications

Processor System

- Intel® N97 4 Core 6M Cache, up to 3.60 GHz 12W

Memory

- Supports dual channel DDR5 SODIMM-4800 MHz; Max. capacity is 16 GB

Graphics

- Intel® UHD Graphics

Serial Ports

- 2 x RS-232/422/485 (50 to 115.2Kbps)
- 4 x RS-485 DB9, (50bps ~ 115.2kbps)

Ethernet

- LAN A: 4 x RJ45, 10/100/1000 Mbps IEEE 802.3u

Storage

- 1 x mSATA (full size)
- Or 1 x drive bay for SATA 2.5" HDD

Expansion

- 1 x Full size mPCIe slot (SATA/ USB2.0 Signal)
- 1 x M.2 (3042/3052, B Key, PCIe/SATA/USB3.0)
- 1 x Nano SIM card slot

External I/O

- **Display:** 1 x VGA, 1 x HDMI
- **USB:** 2 x USB 3.2, 2 x USB 2.0
- **Serial:** 2 x RS232/422/485, 4 x RS485
- **Power Connector:** 1 x Terminal Block, 1 x Remote Switch

Specifications (Cont.)

Power Requirement

- **Power type:** ATX
- **Power Input Voltage:** 12-24V_{DC}
- **Power Connector:** 1 x Terminal block
- **Power Input:** 12-24V_{DC} 5A-2.5A

This product is intended to be supplied by a UL certified power supply or UL certified DC source rated 12V_{DC} 5A minimum, TMA 50°C minimum (Safety certificate operation temperature 40°C), if you need further assistance, please contact Advantech for further information.

Environment

- **Operation Temperature:**
0 ~ 50°C with 0.7m/s air flow
-20 ~ 60°C with 0.7m/s air flow
Note: With extended temperature peripherals, please choose RAM/SSD with wide temperature support.
- **Storage Temperature:** -40 ~ 85°C (-40 ~ 185°F)
- **Relative Humidity:** 95% @ 60°C (non-condensing)

Physical Characteristics

- **Dimensions (W x H x D):** 200 x 140 x 60 mm
- **Weight:** 1.2kg (2.6lbs)

Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application. The table below lists the function of each of the jumpers and connectors.

Connectors	
Label	Function
VGA	VGA Connector
HDMI1	HDMI connector
COM 1/2	RS-232/422/485
COM 3/4/5/6	RS-485
USB 1-4	USB3.2 x 2 (Upper) USB2.0 x 2 (Down)
RJ45 LAN	4 x RJ45, 10/100/1000 Mbps
Power	1 x Terminal Block, 1 x Remote Switch
iDoor	Reserved iDoor hole

Battery

The computer is supplied with a battery-powered realtime clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.

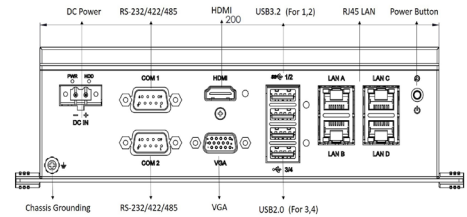
Declaration of Conformity

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

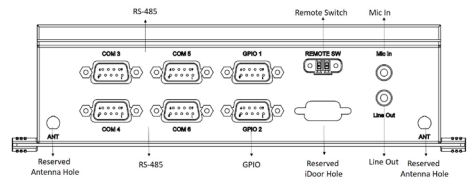
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

System I/O Interface

Front I/O View



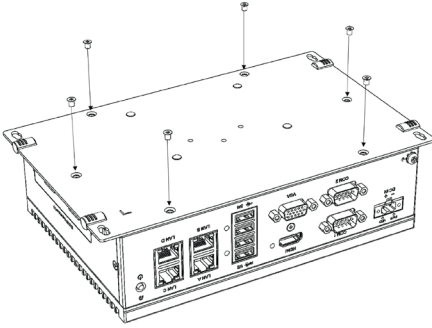
Rear I/O View



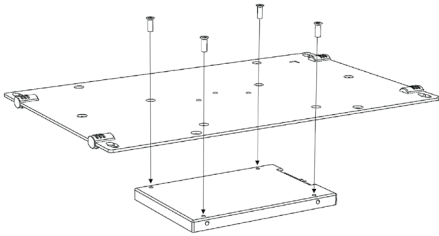
Simple Maintenance Process

HDD/SSD Installation

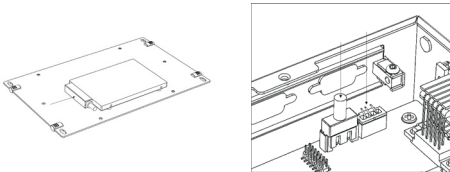
1. Remove the six screws to disassemble the bottom cover.



2. Install and screw the hard drive to the bottom plate.



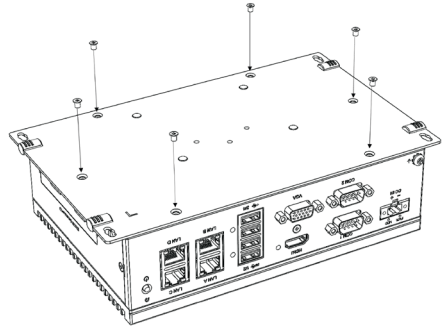
3. Insert SATA cable.



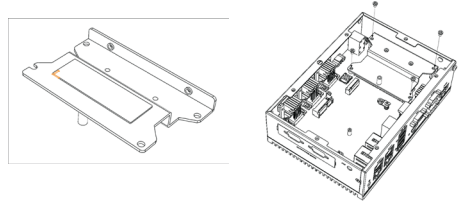
Simple Maintenance Process (Cont.)

Memory Installation

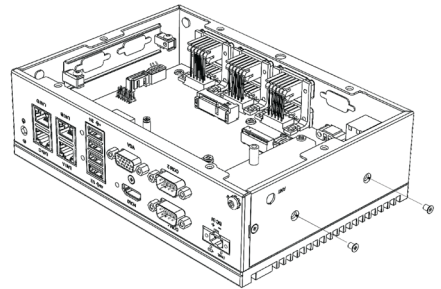
1. Remove the six screws to disassemble the bottom cover.



2. Plug in memory first, then attach the thermal pad and screw on the bracket.



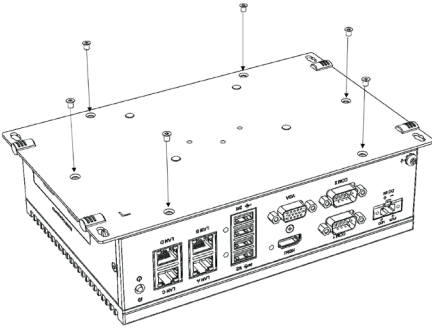
3. Tighten the external bracket screws.



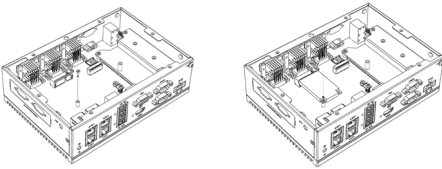
Simple Maintenance Process (Cont.)

mPCIe Installation

1. Remove the six screws to disassemble the bottom cover.

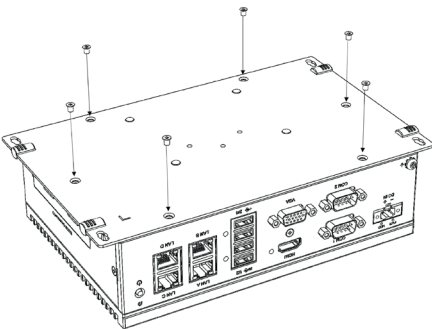


2. Remove the screws pre-assembled on the board, install mPCIe and then tighten the screws.



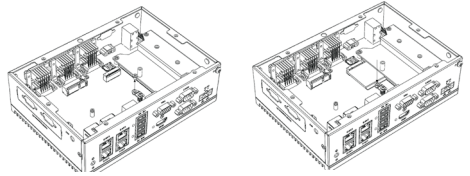
M.2 Installation

1. Remove the six screws to disassemble the bottom cover.



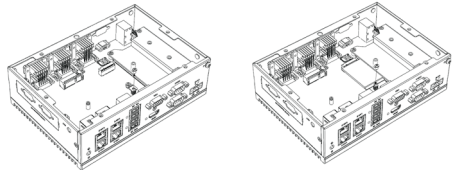
Simple Maintenance Process (Cont.)

2. Remove the screws pre-assembled on the adapter plate, install M.2 and then tighten the screws.



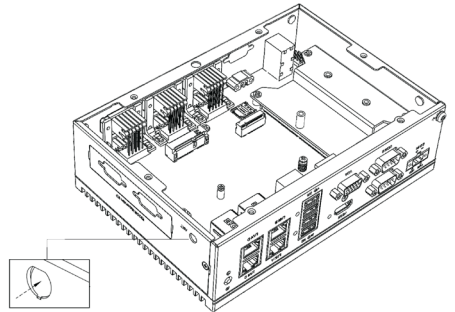
M.2 (3052) Installation

1. Remove the screws from the adapter plate, install the M.2(3052) and then lock the screws back.



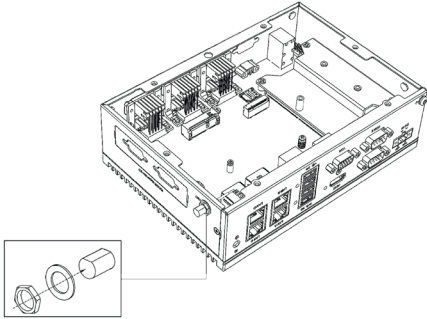
SMA Cable Installation

1. Press (fold) the pre-cut hole of ANT inside (outside) to remove it.



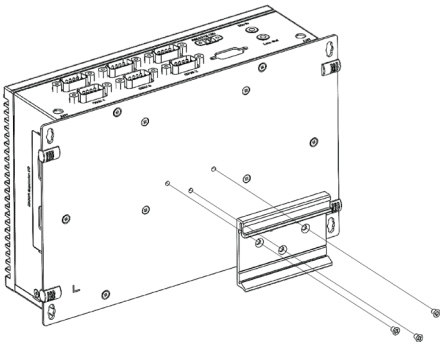
Simple Maintenance Process (Cont.)

2. Assemble the SMA Conn. in the pre-cut hole, and finally tighten the gasket and nut.

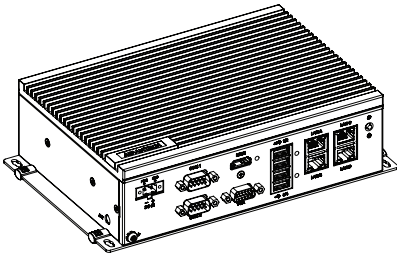


DIN-Rail Mount Installation

1. Take the mounting kit from the accessory box.
2. Secure with 3 x screws and install the bracket on the bottom cover.



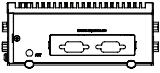
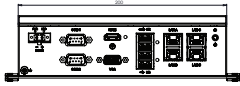
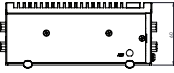
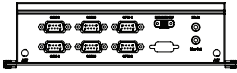
Wall Mount and Stand Mount



Safety Instructions

1. Read these safety instructions carefully.
2. Keep this Startup Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment does not work well, or you cannot get it to work according to the user's manual.
 - The equipment has been dropped and damaged.
 - The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -40°C (-40°F) OR ABOVE 85°C (185°F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
16. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**
17. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).
18. **RESTRICTED ACCESS AREA:** The equipment should only be installed in a Restricted Access Area.
19. **DISCLAIMER:** This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

System Dimensions



UNO-247 V2

搭载 Intel® N97 的边缘智能网关，适于自动化应用

快速入门手册

包装清单

安装系统之前，用户需确认包装中含有下面所列各项：

- UNO-247 V2 准系统 x 1
- UNO-247 V2 快速入门手册 x 1 P/N: 2041024700
- 远程电源接口 P/N: 1652007993-01

如果其中任何一项缺失或损坏，请立即与经销商或销售代表联系。

注：阅读 PDF 文件需要使用 Acrobat Reader。用户可从以下路径下载 Acrobat Reader: get.adobe.com/reader (Acrobat is a trademark of Adobe)

如需更多有关这款产品及其它研华产品的信息，请访问研华网站：

<http://www.advantech.com.cn>



如需技术支持和服务，请访问研华支持网站的 UNO-247 V2 页面：



请在研华网站注册您的产品，即可免费获得两个月额外保修服务：

<http://www.register.advantech.com>



本手册适用于 UNO-247 V2 系列 Rev. A1。

料号：2041024700
中国印刷

第一版
2024 年 11 月

产品规格

处理器系统

- Intel® N97 4 核 6M 缓存，高达 3.60 GHz 12W

内存

- 支持双通道 DDR5 SO-DIMM-4800 MHz，最大容量可达 16 GB

显示

- Intel® UHD Graphics

串行端口

- 2 x RS-232/422/485 (50 ~ 115.2Kbps)
- 4 x RS-485 DB9 (50 ~ 115.2kbps)

以太网

- LAN: 4 x RJ45, 10/100/1000 Mbps IEEE 802.3u

存储

- 1 x mSATA (全长)
- 或 1 x SATA 2.5" HDD 硬盘盒

扩展

- 1 x 全长 mPCIe 插槽 (SATA/ USB2.0)
- 1 x M.2 (3042/3052, B Key, PCIe/SATA/USB3.0)
- 1 x Nano SIM 卡槽

外部 I/O

- 显示：1 x VGA, 1 x HDMI (1920x1080 @60Hz)
- USB: 2 x USB 3.2, 2 x USB 2.0
- 串行端口：2 x RS232/422/485, 4 x RS485
- 电源接口：1 x 接线端子, 1 x 远程开关

电源要求

- 电源类型：ATX
- 输入电压：12-24 V_{DC}
- 电源接口：1 x 接线端子
- 电源输入：2-24V_{DC} 5A-2.5A

环境规格

- 工作温度：-20 ~ 60 °C (有气流，速度为 0.7 m/s)
- 注：有关可扩展的温度外设，请选择支持宽温范围的 RAM/SSD。

- 储存温度：-40 ~ 85 °C (-40 ~ 185 °F)
- 相对湿度：95% @ 60 °C (非凝结)

物理规格

- 尺寸 (W x H x D)：200 x 140 x 60 mm
- 重量：1.2kg (2.6lbs)

跳线和接口

主板上有很多跳线允许用户配置系统，满足各种不同应用需求。下表为每个跳线和接口的功能列表。

接口	
标签	功能
VGA	VGA 接口
HDMI1	HDMI 接口
COM 1/2	RS-232/422/485
COM 3/4/5/6	RS-485
USB 1-4	USB3.2 x 2 (Upper) USB2.0 x 2 (Down)
RJ45 LAN	4 x RJ45, 10/100/1000 Mbps
电源接口	1 x 接线端子, 1 x 远程开关
iDoor	iDoor 预留孔

电池

计算机配置了由电池供电的实时时钟电路，如果 电池更换不正确，将有爆炸的危险。因此，只可以使用制造商推荐的同一种或者同等型号的电池进行替换。请按照制造商的指示处理旧电池。

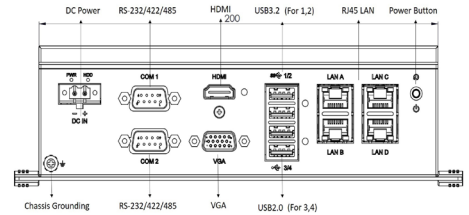
符合性声明

本品符合 FCC 规则第 15 款限制。操作符合下列两种情况：

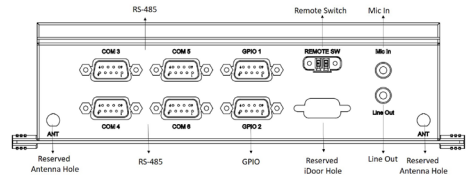
1. 此装置不可产生干扰，且
2. 此装置必须接受任何干扰，包括可能导致非预期造作的干扰。

系统 I/O 接口

前部 I/O



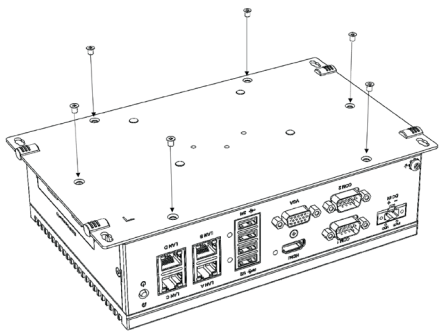
后部 I/O



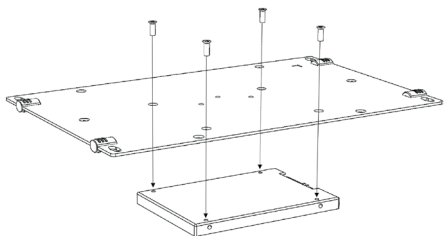
简单安装步骤

HDD/SSD 安装

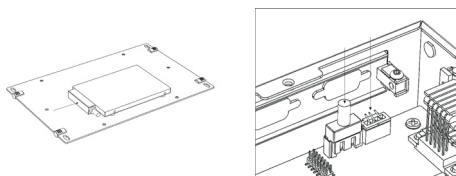
1. 先移除六颗螺丝即可拆卸底盖。



2. 把硬盘安装锁于底板上。



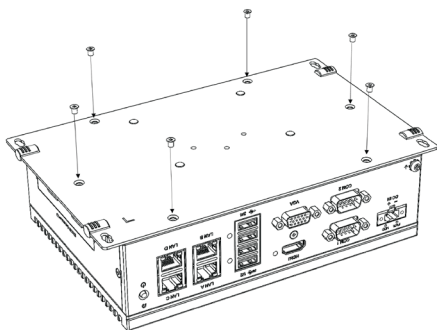
3. 插上 SATA Cable。



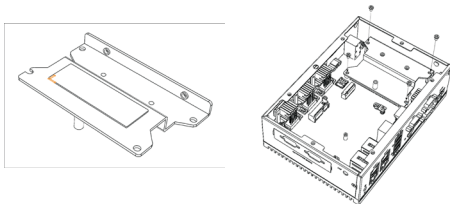
简单安装步骤 (续)

Memory 安装

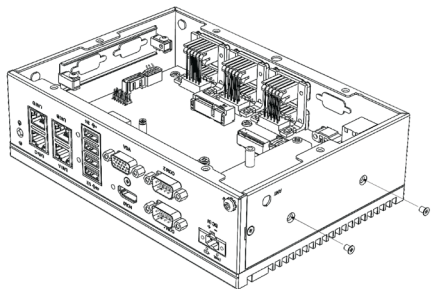
1. 先移除六颗螺丝即可拆卸底盖。



2. 先插上 Memory, 再贴上 Thermal Pad 并锁上 Bracket。



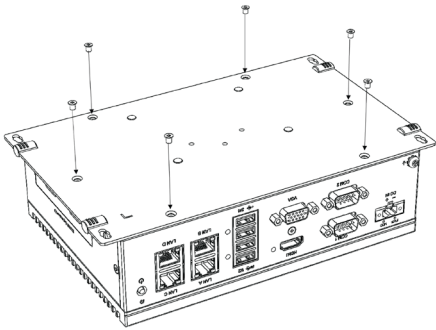
3. 最后再锁上外部 Bracket 螺丝。



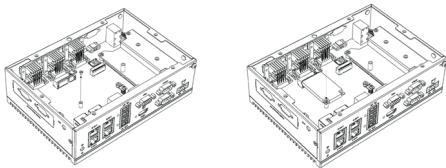
简单安装步骤（续）

mPCIe 安装

1. 先移除六颗螺丝即可拆卸底盖。

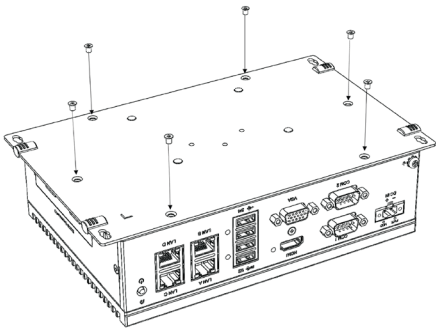


2. 先把锁于板上的螺丝卸除，装上 mPCIe 后再锁回螺丝。



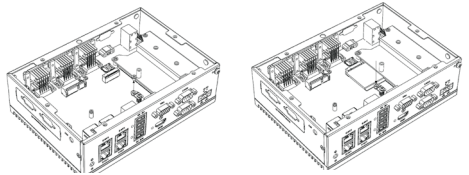
M.2 安装

1. 先移除六颗螺丝即可拆卸底盖。



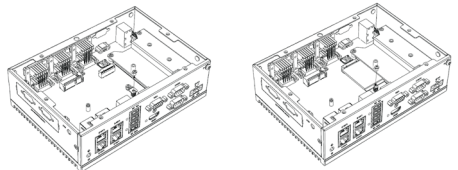
简单安装步骤（续）

2. 先把预锁于转接板上的螺丝卸除，装上 M.2 后再锁回螺丝。



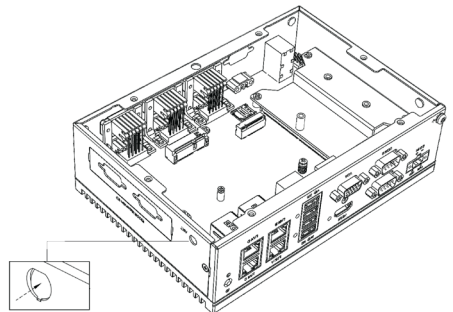
M.2 (3052) 安装

1. 先把锁于转接板卸除，装上 M.2(3052) 后再锁回螺丝。



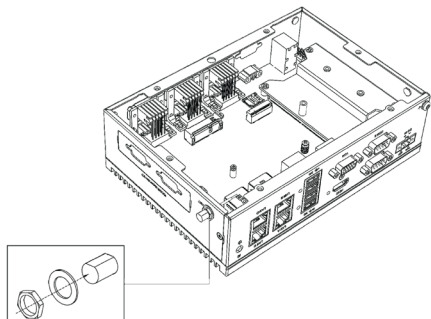
SMA 线缆安装

1. 将 ANT 的预断孔内(外)压(折)即可移除。



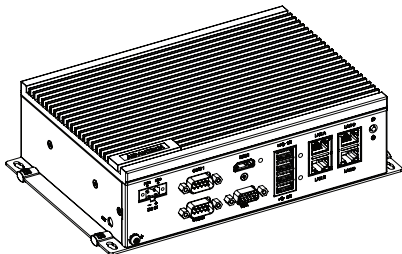
简单安装步骤 (续)

2. 将 SMA Conn. 组装于预断孔, 最后将垫片及螺母转紧即可。



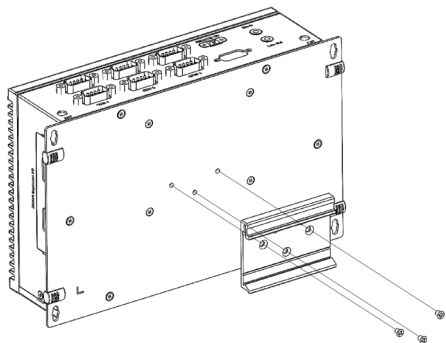
简单安装步骤 (续)

壁挂式安装和立式安装

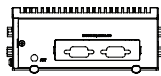
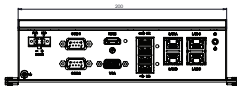
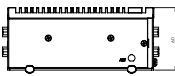
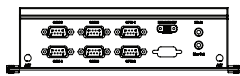
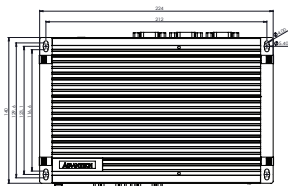


DIN 导轨安装

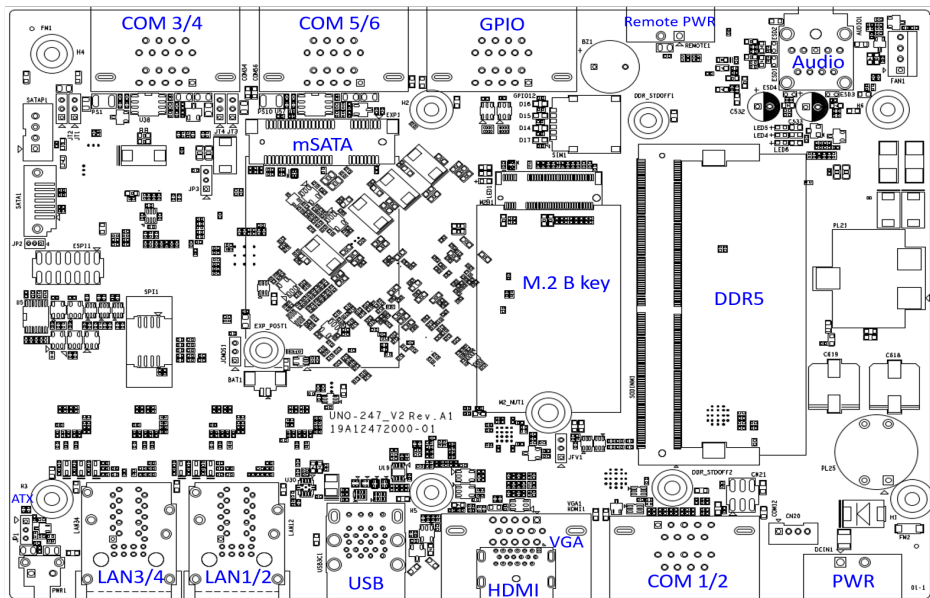
1. 从附件盒中取出安装套件。
2. 用 3 颗螺丝将支架固定在底盖上。



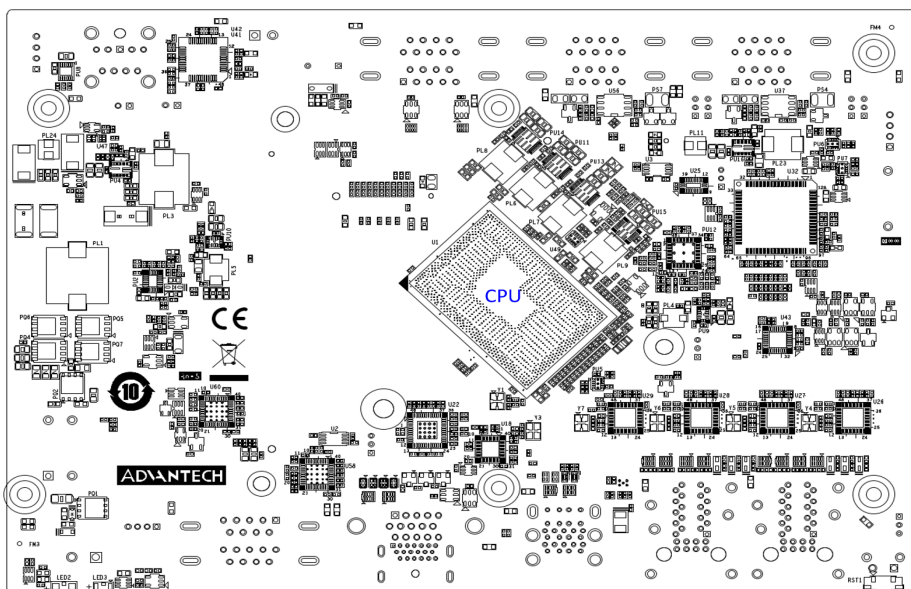
系统尺寸



顶视图



底视图



UNO-247 V2

搭載 Intel® N97 的邊緣智能網關，適于自動化應用

快速入門手冊

包裝清單

安裝系統之前，使用者需確認包裝中含有下面所列各項：

1. UNO-247 V2 準系統 x 1
2. UNO-247 V2 快速入門手冊 x 1 P/N: 2041024700
3. 遠程電源接口 P/N: 1652007993-01

如果其中任何一項缺失或損壞，請立即與經銷商或業務代表聯繫。

註： 閱讀 PDF 檔需要使用 Acrobat Reader。使用者可從以下路徑下載 Acrobat Reader: get.adobe.com/reader (Acrobat is a trademark of Adobe)

如需更多有關這款產品及其它研華產品的資訊，請訪問研華網站：

<http://www.advantech.tw>



如需技術支援和服務，請訪問研華支援網站的 UNO-247 V2 頁面：

<https://adv.t.ch/mic770spt>



請在研華網站註冊您的產品，即可免費獲得兩個月額外保修服務：

<http://www.register.advantech.com>



本手冊适用于 UNO-247 V2 系列 Rev.A1。

料號：2041024700
中國印刷

第一版
2024 年 11 月

產品規格

處理器

- Intel® N97 4 核 6M 緩存，高達 3.60 GHz 12W

記憶體

- 支援雙通道 DDR5 SODIMM-4800 MHz，最大容量可達 16 GB

顯示

- Intel® UHD Graphics

序列埠

- 2 x RS-232/422/485 (50~115.2Kbps)
- 4 x RS-485 DB9 (50 ~ 115.2kbps)

乙太網

- LAN: 4 x RJ45, 10/100/1000 Mbps IEEE 802.3u

存儲裝置

- 1 x mSATA (全長)
- 或 1 x SATA 2.5" HDD 硬碟盒

擴充

- 1 x 全長 mPCIe 插槽 (SATA/ USB2.0)
- 1 x M.2 (3042/3052, B Key, PCIe/SATA/USB3.0)
- 1 x Nano SIM 卡槽

外部 I/O

- 顯示：1 x VGA, 1 x HDMI/USB; 2 x USB 3.2, 2 x USB 2.0
- 串行端口：2 x RS232/422/485, 4 x RS485
- 電源接口：1 x 接線端子, 1 x 遠程開關

電源

- 電源類型：ATX
- 輸入電壓：12~24 V_{DC}
- 電源接口：1 x 接線端子
- 電源輸入：2~24V_{DC} 5A~2.5A

環境規格

- 工作溫度：0 ~ 50° C (有氣流，速度為 0.7m/s)
- -20 ~ 60° C (有氣流，速度為 0.7m/s)

注： 有關可擴展的溫度外設，請選擇支持寬溫度範圍的 RAM/SSD。

- 儲存溫度：-40 ~ 85° C (-40 ~ 185° F)
- 相對濕度：95% @ 60° C (非凝結)

物理規格

- 尺寸 (W x H x D)：200 x 140 x 60 mm
- 重量：1.2kg (2.6lbs)

跳線和接頭

主機板上有很多跳線允許使用者配置系統，滿足各種不同應用需求。下表為每個跳線和介面的功能清單。

接頭	
標籤	功能
VGA	VGA 接口
HDMI1	HDMI 接口
COM 1/2	RS-232/422/485
COM 3/4/5/6	RS-485
USB 1-4	USB3.2 x 2 (Upper) USB2.0 x 2 (Down)
RJ45 LAN	4 x RJ45, 10/100/1000 Mbps
電源接口	1 x 接線端子, 1 x 遠程開關
iDoor	iDoor 預留孔

電池

電腦配置了由電池供電的即時時鐘電路，如果電池更換不正確，將有爆炸的危險。因此，只可以使用製造商推薦的同一種或者同等型號的電池進行替換。請按照製造商的指示處理舊電池。

警告：

為避免電磁干擾，本產品不應安裝或使用於住宅環境。

產品於國內裝置使用時，其電源僅限使用機架電源模組所提供直流電源輸入，不得使用交流電源及附加其他電源轉換裝置提供電源，其電源輸入電壓及電流請依說明書規定使用。

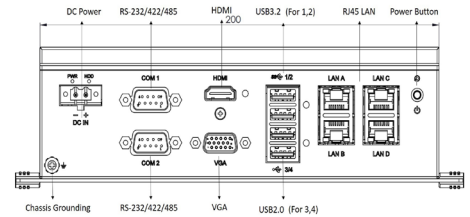
符合性聲明

本品符合 FCC 規則第 15 款限制。操作符合下列兩種情況：

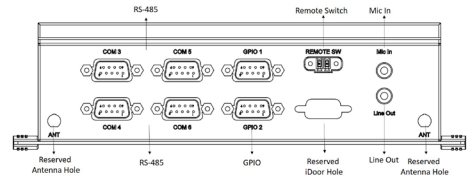
1. 此裝置不可產生干擾，且
2. 此裝置可以接受任何干擾，包括可能導致非預期操作的干擾。

系統 I/O 接頭

前部 I/O



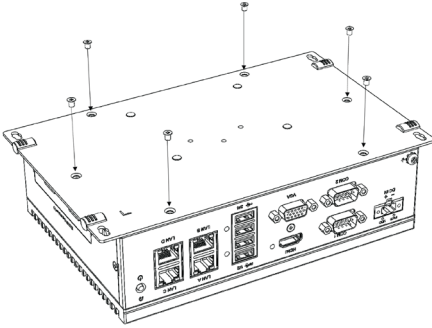
後部 I/O



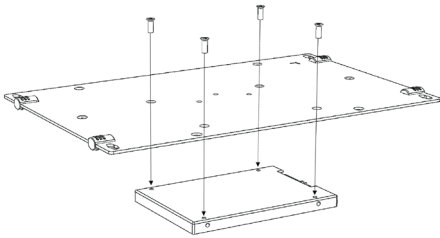
簡單安裝步驟

HDD/SSD 安裝

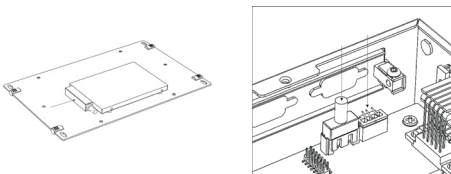
1. 先移除六顆螺絲即可拆卸底蓋。



2. 把硬碟安裝鎖於底板上。



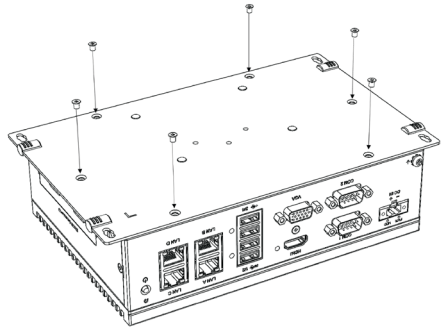
3. 插上 SATA Cable。



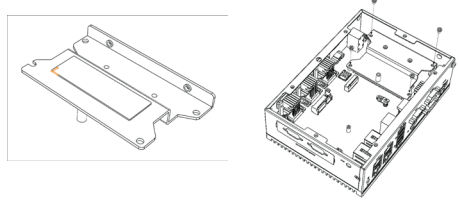
簡單安裝步驟 (續)

Memory 安裝

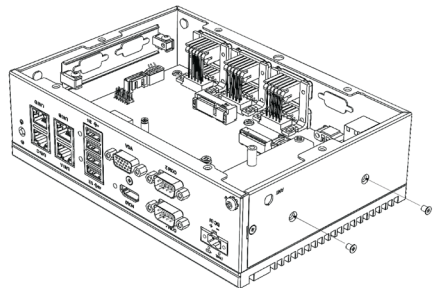
1. 先移除六顆螺絲即可拆卸底蓋。



2. 先插上Memory，再貼上Thermal Pad並鎖上Bracket。



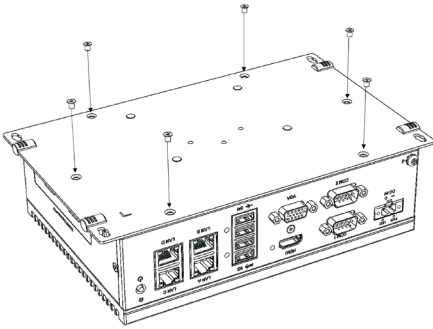
3. 最後再鎖上外部Bracket螺絲。



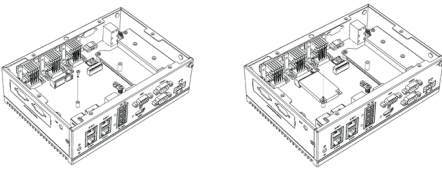
簡單安裝步驟 (續)

mPCIE 安裝

1. 先移除六顆螺絲即可拆卸底蓋。

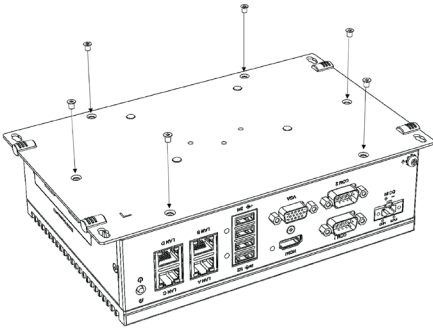


2. 先把預鎖於板上的螺絲卸除，裝上 mPCIE 後再鎖回螺絲。



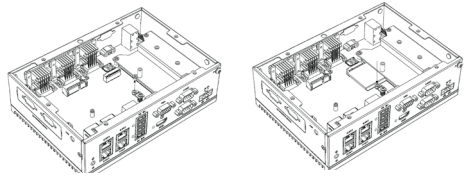
M.2 安裝

1. 先移除六顆螺絲即可拆卸底蓋。



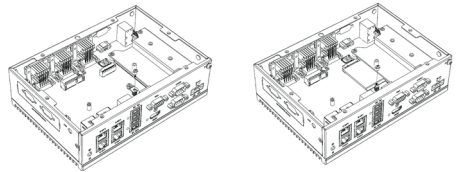
簡單安裝步驟 (續)

2. 先把預鎖於轉接板上的螺絲卸除，裝上 M.2 後再鎖回螺絲。



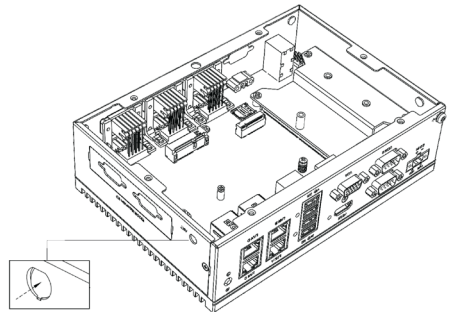
M.2 (3052) 安裝

1. 先把鎖於轉接板卸除，裝上 M.2(3052) 後再鎖回螺絲。



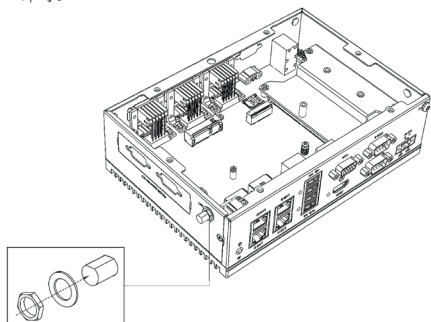
SMA 線纜安裝

1. 將 ANT 的預斷孔內(外)壓(折)即可移除。



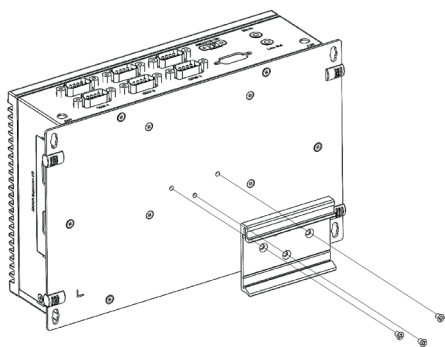
簡單安裝步驟 (續)

- 將 SMA Conn. 組裝於預斷孔，最後將墊片及螺母轉緊即可。



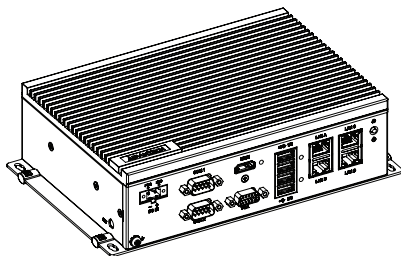
DIN 導軌安裝

- 從附件盒中取出安裝套件。
- 用 3 顆螺絲將支架固定在底蓋上。

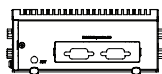
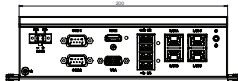
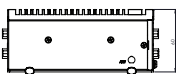
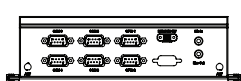
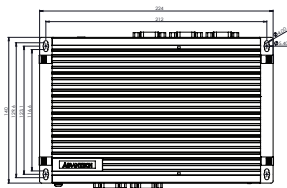


簡單安裝步驟 (續)

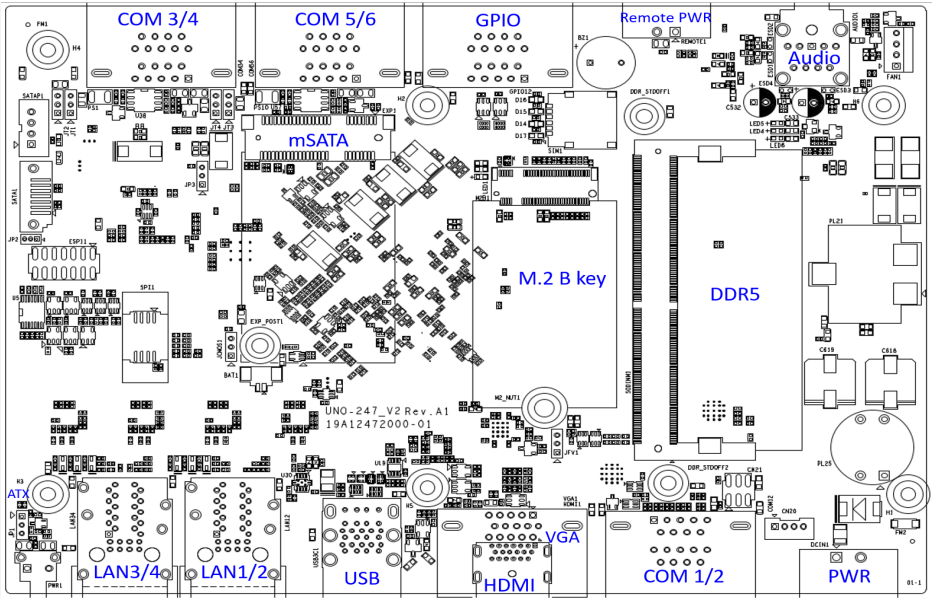
壁掛式安裝和立式安裝



系統尺寸



頂視圖



底視圖

