

# DIN Rail Box PC

## IRDRW500

Raptor Lake Core™ i5-1335U, up to 4.6GHz



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## Quick Start Guide



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# Preface

## Copyright Notice

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## Warranty

Our warranty guarantees that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, we will, at his/her option, repair or replace the defective product at no charge to the customer, provide it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service. If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December).

For example, the serial number 1W16Axxxxxxx means October of year 2016.

## Customer Service

We provide a service guide for any problem by the following steps: First, visit the website of our distributor to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance.

You may need the following information ready before you call:

- Product serial number
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

In addition, free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

## Advisory Conventions

Four types of advisories are used throughout the user manual to provide helpful information or to alert you to the potential for hardware damage or personal injury. These are Notes, Important, Cautions, and Warnings. The following is an example of each type of advisory.



### Note:

A note is used to emphasize helpful information



### Important:

An important note indicates information that is important for you to know.



**Caution** A Caution alert indicates potential damage to hardware and explains how to avoid the potential problem.

**Attention** Une alerte d'attention indique un dommage possible à l'équipement et explique comment éviter le problème potentiel.



**Warning!** An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.

**Avertissement!** Un Avertissement de Choc Électrique indique le potentiel de chocs sur des emplacements électriques et comment éviter ces problèmes.



**Alternating Current** The Protective Conductor Terminal (Earth Ground) symbol indicates the potential risk of serious electrical shock due to improper grounding.

**Mise à le terre !** Le symbole de Mise à Terre indique le risqué potentiel de choc électrique grave à la terre incorrecte.

## Safety Information



**Warning!** Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

**Avertissement!** Toujours débrancher le cordon d'alimentation du châssis lorsque vous travaillez sur celui-ci. Ne pas brancher de connexions lorsque l'alimentation est présente. Des composants électroniques sensibles peuvent être endommagés par des sauts d'alimentation. Seulement du personnel expérimenté devrait ouvrir ces châssis.



**Caution** Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

**Attention** Toujours vérifier votre mise à la terre afin d'éliminer toute charge statique avant de toucher la carte CPU. Les équipements électroniques modernes sont très sensibles aux décharges d'électricité statique. Toujours utiliser un bracelet de mise à la terre comme précaution. Placer toutes les composantes électroniques sur une surface conçue pour dissiper les charge, ou dans un sac anti-statique lorsqu'elles ne sont pas dans le châssis.

## Safety Precautions

For your safety carefully read all the safety instructions before using the device. Keep this user manual for future reference.

- Replacement of a battery with an incorrect type that can defeat a safeguard
- Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion
- Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas
- A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas
- Caution: Risk of fire or explosion if the battery is replaced by an incorrect type
- Always disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- The openings on the enclosure are for air convection and to protect the equipment from overheating.



**Caution** Do not cover the openings!

**Attention** Ne couvrez pas les ouvertures!

- Before connecting the equipment to the power outlet make sure the voltage of the power source is correct.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- All cautions and warnings on the equipment should be noted.

**Caution** Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.



**Attention** Mettez-vous toujours à la terre pour éliminer toute charge statique avant de toucher la carte. Les appareils électroniques modernes sont très sensibles aux charges électriques statiques. Par mesure de sécurité, utilisez en tout temps un bracelet antistatique. Placez tous les composants électroniques dans une surface antistatique ou dans un sac blindé antistatique lorsqu'ils ne sont pas dans le châssis.

### **General Guideline**

It is recommended to reboot the device when some functions are defect or inactive. If it still can't solve the problems, please contact your dealer or agent.



**Note:**

Some pictures in this guide are samples and can differ from actual product.

# Chapter 1: Introduction

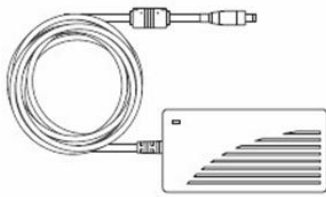
## 1.1 Product Features

### Highlights

- Intel® Raptor Lake Core™ i5-1335U 3.3GHz (up to 4.40 GHz)
- 1 x SO-DIMM DDR5 Memory, up to 32GB
- 4 x 2.5 Giga LAN, 4 x RS232/422/485
- 2 x USB 3.2 Gen 2x1, 1 x USB3.2 Gen1x1, 1 x USB2.0
- Isolated DIO (8-in/8-out)
- Wide Range 9V to 36V DC Power Input with Isolation
- Wide Operating Temperature range from -20°C to +60°C
- DIN-Rail Type Edge Computing

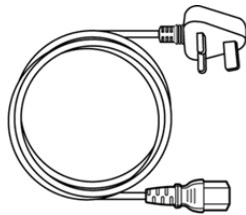
## 1.2 Accessories

### Accessories



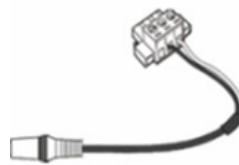
**AC to DC 12V 120W  
Power Adapter (For  
testing only)**

Part No. 90PO12120008



**Power Cord**

Varies by the country



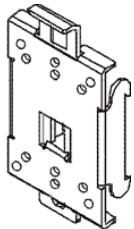
**Terminal Block 3 pin  
to 2.5 Ø Female  
Adapter Cable**

Part No. 94J602G030K0



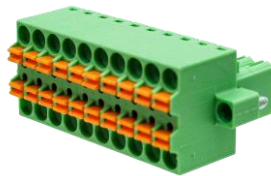
**Open Wire Power  
Cable**

Part No. 94EL02X020E0



**DIN Rail Mounting Clip**

Part No. 90ME01000000



**Terminal Block  
20- Pin Male  
Connector for DIDO**

Part No. 604530005001



**Terminal Block  
10-Pin Male  
Connector for COM**

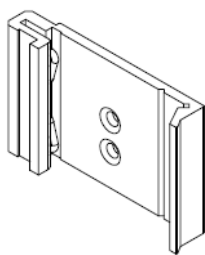
Part No. 604530805000



**Terminal Block  
3-Pin Male  
Connector for  
Power**

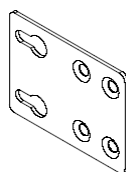
Part No. 604520105001

### Optional Accessories



**Mini Din Rail  
Mounting kits**

Part No. 821118551400



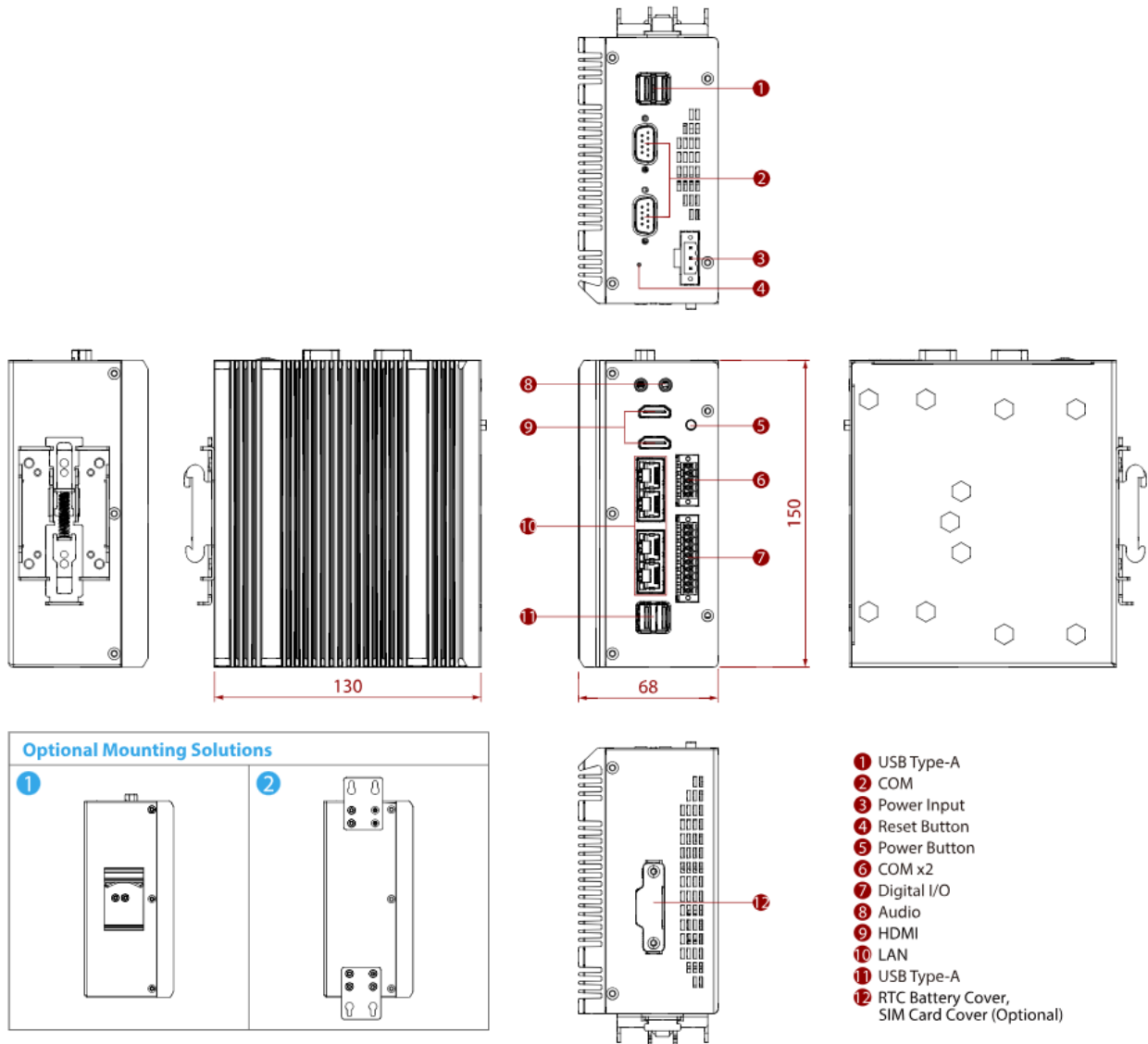
**Wall Mounting kits**

Part No. 821118561706



## 1.3 Chassis Dimensions and Description of Parts

Unit: mm



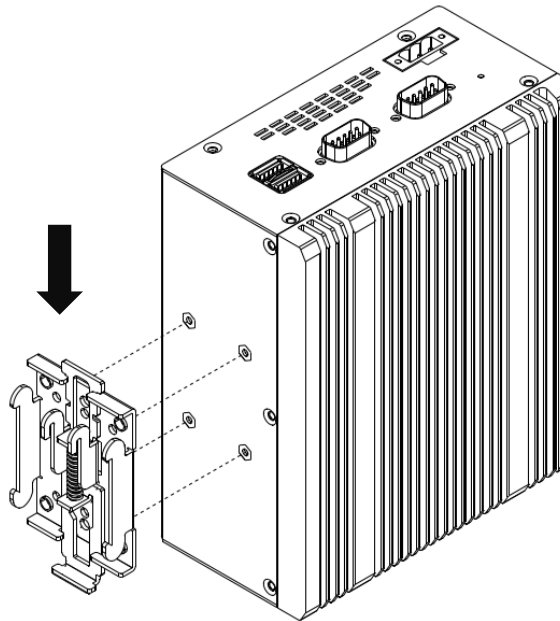
## Chapter 2: Initial Setup

### 2.1 DIN Rail Mounting Setup

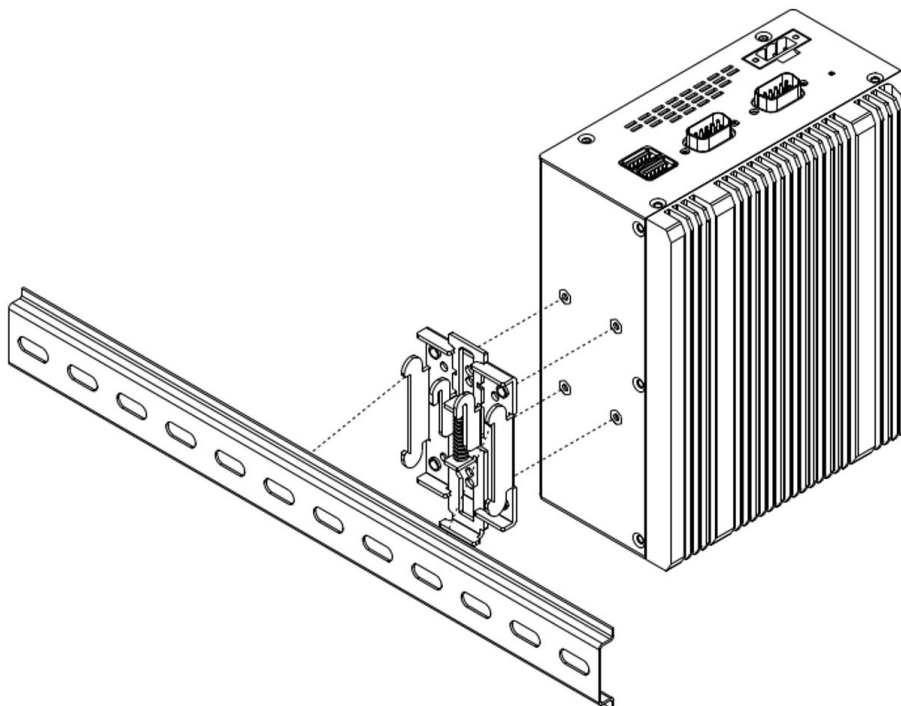
#### 2.1.1 DIN Rail Mounting

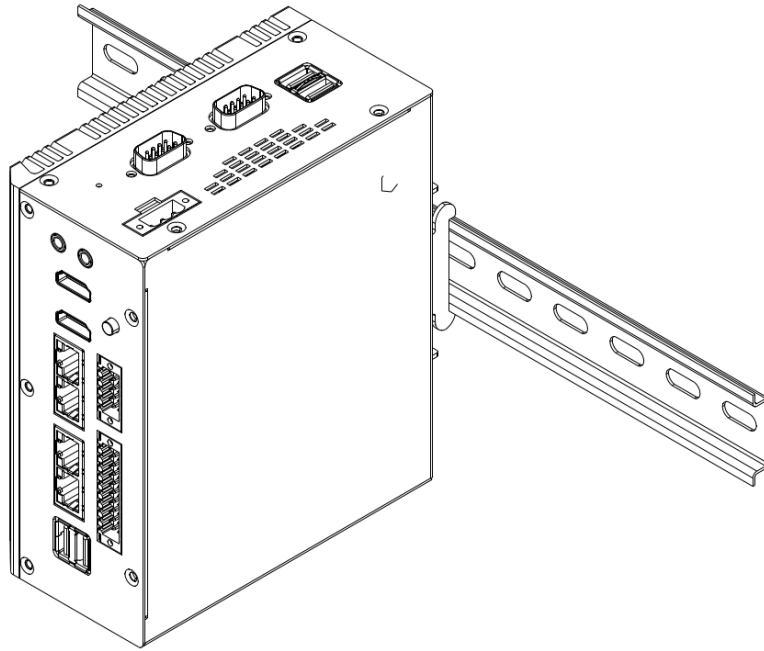
Please follow these steps to mount the IRDRW hook kit on a DIN rail

1. Screw the provided DIN-rail Kit on the rear side of the box as the diagram shown below.
2. Please make sure the stiff metal handle part is located on the top.



3. Press the stiff metal handle downward and insert the hook into the DIN-rail.
4. Release the handle so it can snap into place as shown below.

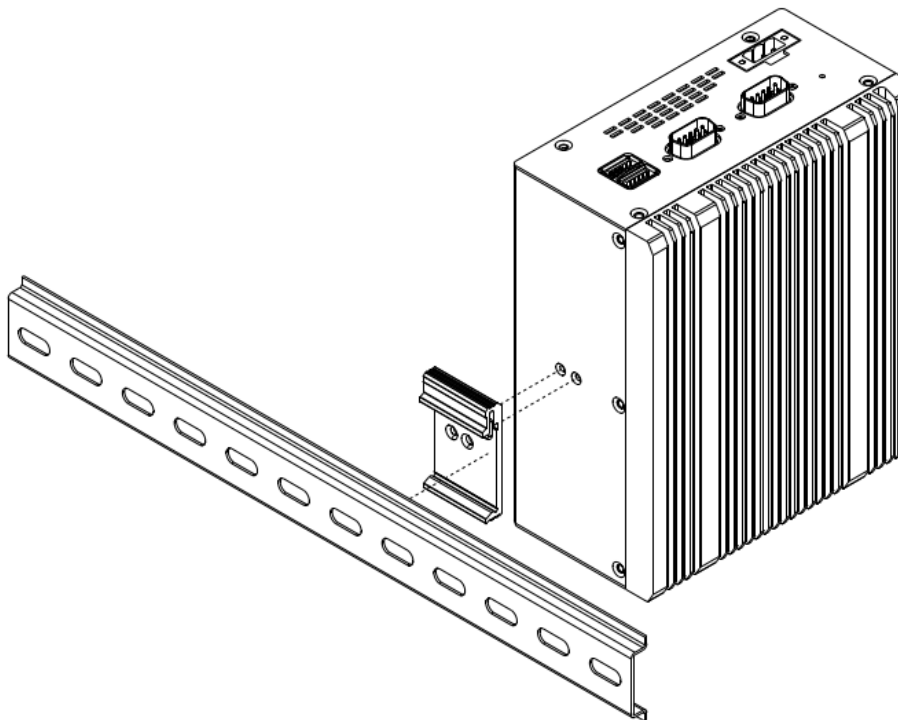


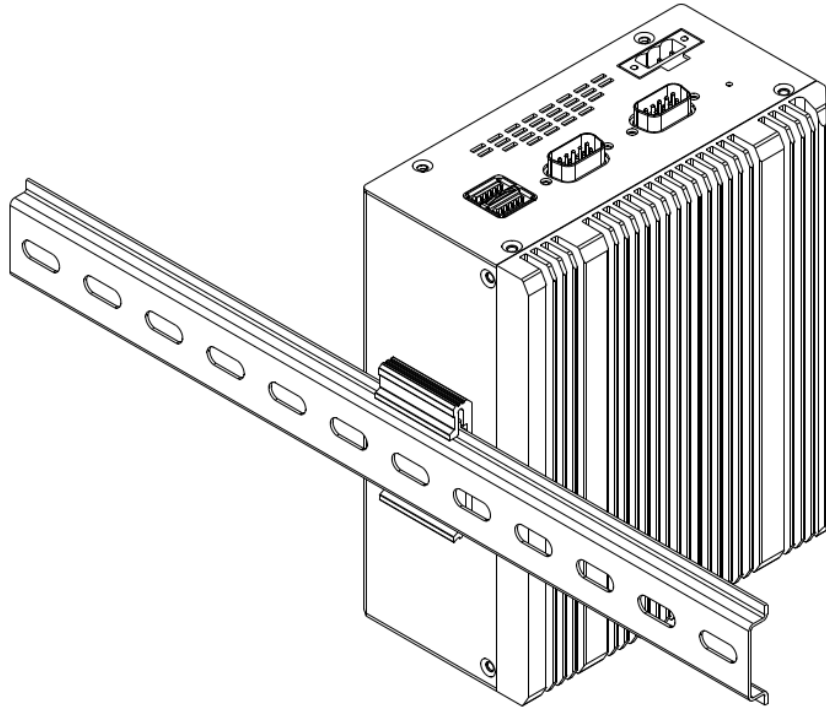


### 2.1.2 Mini DIN Rail Mounting (Optional)

Please follow these steps to mount the IRDRW hook kit on a mini DIN rail kit

1. Screw the provided mini DIN-rail Kit on the rear side of the box as the diagram shown below.

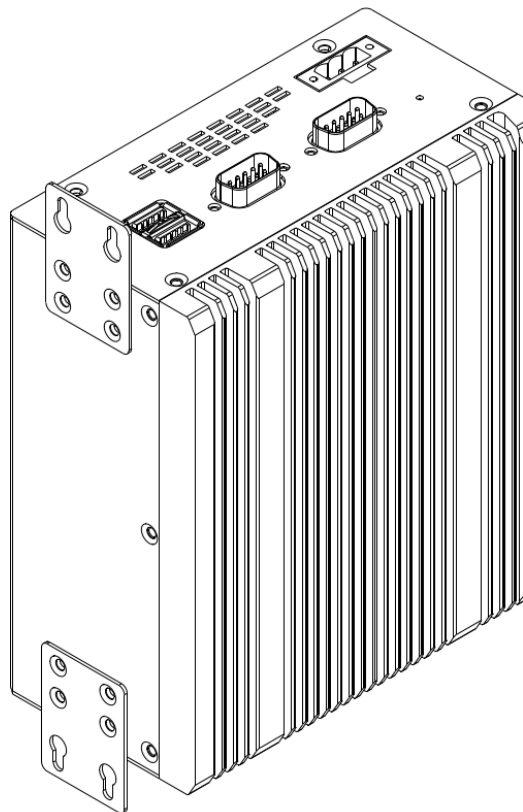
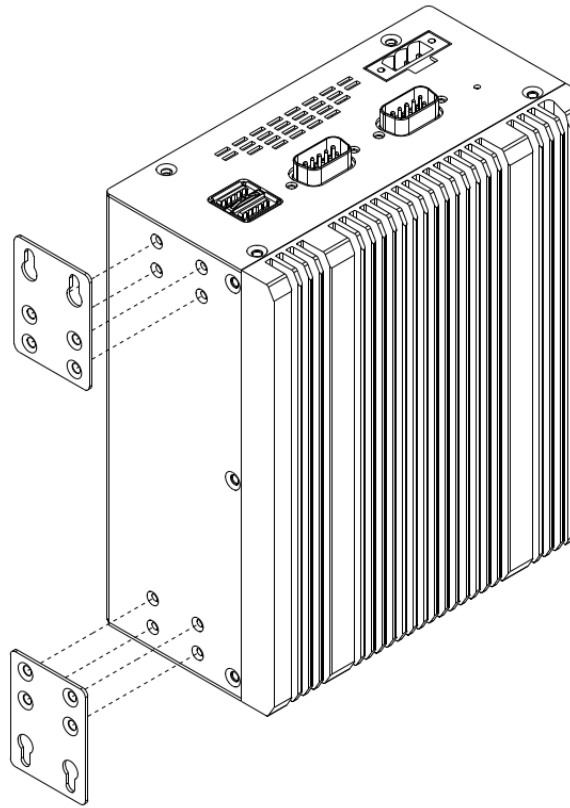




### 2.1.3 Wall Mounting (Optional)

Please follow these steps to mount the IRDRW hook kit on a wall mounting kit

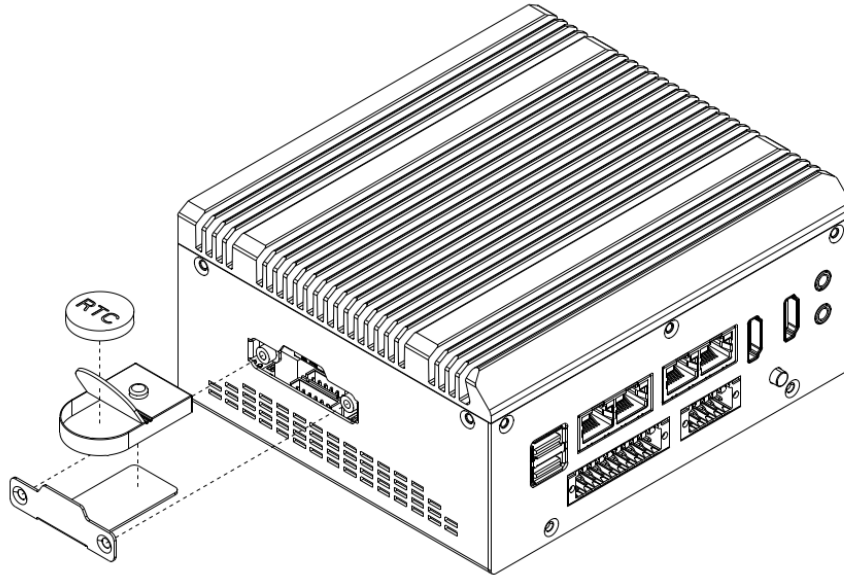
1. Screw the provided mini DIN-rail Kit on the rear side of the box as the diagram shown below.



## 2.2 RTC Battery Replacement

Please follow these steps to replace the RTC battery of DIN rail

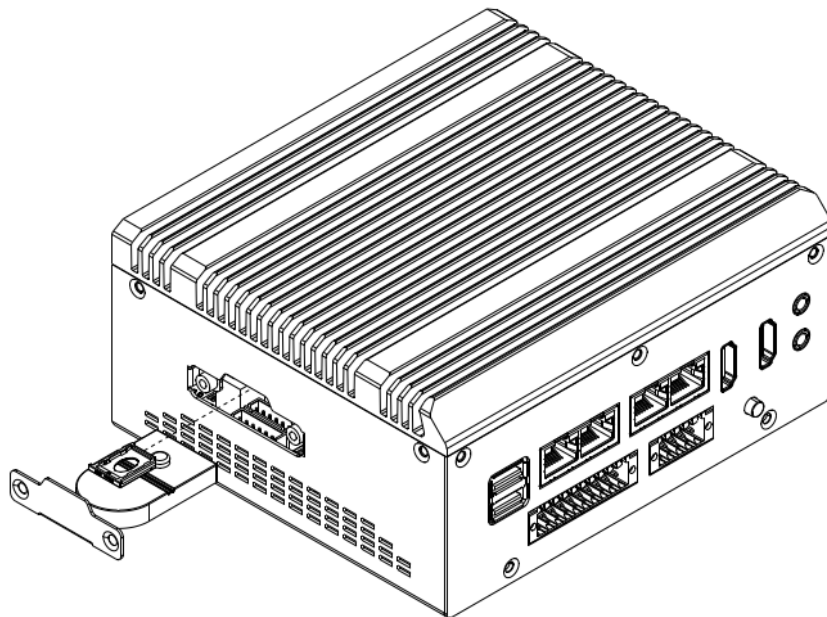
1. Loosen the screws on the RTC battery cover.
2. Take out the RTC battery from the case and replace it.



## 2.3 SIM Card insertion or removal

Please follow these steps to replace the SIM card of DIN rail

1. Loosen the screws on the SIM card cover.
2. Insert or remove SIM card.



# Appendix

## Appendix A: Hardware Specifications

Model Name	IRDRW500	
System Specification	CPU	Intel® Raptor Lake Core™ i5-1335U (12M Cache, up to 4.40 GHz)
	System Memory	1 x SO-DIMM socket DDR5-5200 Max. 32GB
	Storage	1 x M.2 2280 M-Key NVMe SSD, Max. 2TB
	BIOS	Insyde BIOS
	Graphics	Intel® Iris® Xe Graphics eligible
	LAN	4 x Intel® 2.5 Gigabit Ethernet Controller
	OS	Windows 11 IoT Enterprise (64 bit) (Optional) Windows 11 Pro 64 bit (Optional) Linux Ubuntu 22.04 (Optional)
Wireless Communications	WLAN/ BT	Support (Optional)
	WWAN	Support (Optional)
IO Ports	Power Input	1 x Isolated 9~36V DC with 3-Pin Terminal Block
	USB Port	2 x USB3.2 Gen2x1 (10Gbps, Type A) 1 x USB3.2 Gen1x1 (5Gbps, Type A) 1 x USB2.0 (Type A)
	Serial Port	2 x RS232/422/485 with DB9 connector (Default RS232, select thru BIOS) 2 x Isolated RS422/485 with 10-Pin Terminal Block (Default RS232, select thru jumper)
	LAN Port	4 x 2.5 Giga LAN RJ45 Connector
	Video	2 x HDMI 2.0b, Max resolution up to 4096 x 2160 at 60Hz
	Audio	Mic in Line out
	DIDO	Isolated 8-in/8-out DIO with 20-Pin Terminal Block: 8 x Digital input channels with 2500 VDC isolation protection - Wet contact: Logic 0: 0 ~ 1 VDC/ Logic 1: 2 ~ 30 VDC - Dry contact: Logic 0: Shorted to GND/ Logic 1: Open 8 x Digital output channels - Output voltage: 5 ~ 30 VDC - Output capability sink: 500 mA ax./channel
	SIM Slot	1 x nano SIM slot
	RTC Battery Slot	1 x RTC Battery Slot
	Expansion Port	1 x M.2 2230 E-key Slot for WiFi or Hailo8 AI Accelerator 1 x M.2 2280 M-key Slot for NVMe SSD 1 x M.2 3042/3052 B-key Slot for 4G/5G

<b>Button and Indicator</b>	Button	1 x Power Button 1 x Reset/Clear CMOS Button
	Indicator	1 x LED Indicator for Power
<b>Mechanical Specification</b>	Dimensions	130 x 68 x 150 mm
	Enclosure	Aluminum and Metal Housing
	Gross Weight	1.5 kg
	Mounting	Din-Rail Mount Mini Din-Rail Mount (Optional) Wall Mount (Optional)
<b>Power Management</b>	Power Input	9V to 36V DC (Isolation)
	Power Consumption	100W (max.)
	AC Adapter	12V / 120W
<b>Environment Specification</b>	Operating Temperature	-20°C to 60°C
	Storage Temperature	-40°C to 70°C
	Operating Humidity	10% to 90% RH, NonCondensing
	Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
	Vibration	Operating, MIL-STD-810G, Method 514.6, Procedure I
<b>Accessory</b>	Accessory	1 x 100~240V AC to DC Adapter 1 x Power Cord 1 x Open Wire Cable 1 x Terminal Block 3-Pin to 2.5Ø Female Adapter Cable 1 x Terminal Block 20-Pin connector for DIDO 1 x Terminal Block 10-Pin connector for COM 1 x Terminal Block 3-Pin connector for Power 1 x Din Rail Mounting kits
	Optional Accessory	1 x Mini Din-Rail Mounting kits (Optional) 1 x Wall Mounting kits (Optional)

**NOTE**

1. Total usable memory will be less dependent upon actual system configuration.
2. Length measurements do not include protrusions. Weight varies with options.
3. Measured at maximum backlight and high CPU load.
4. Accessories and integrated options may vary depending on your configuration
5. All specifications are subject to change without prior notice.
6. The product shown in this datasheet is a standard model. For diagrams that contain customized or optional I/O, please contact the Winmate Sales Team for more information.



## Appendix B: Approvals and Certifications

### European Union



This equipment is in conformity with the requirement of the following EU legislations and harmonized standards. Product also complies with the Council directions.

#### Electromagnetic Compatibility Directive (2014/30/EU)

- EN55035: 2017
  - IEC61000-4-2: 2008
  - IEC61000-4-3: 2006+A1: 2007+A2: 2010
  - IEC61000-4-4: 2012
  - IEC61000-4-5: 2014+A1: 2017
  - IEC61000-4-6: 2013/COR1:2015
  - IEC61000-4-8: 2009
  - IEC61000-4-11: 2004+A1: 2017
- EN55032: 2015
- EN61000-3-2:2014
- EN61000-3-3:2013

#### Low Voltage Directive (2014/35/EU)

- EN 62368-1:2014

### Federal Communications Commission on electromagnetic interference



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may cause harmful and (2) this device must accept any interference received, including that may cause undesired operation

## Appendix C: Wake on LAN Support Notice

- On Windows 10 and Windows 11, Wake on LAN is not supported in S3 (Modern Standby) state.
- On Windows 11, Wake on LAN is supported in S4 (Hibernate) state.







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