# IRDRW500

## AI DIN Rail Box PC with Intel® Core™ i5-1335U



CE

FC

## KEY FEATURES

- 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

## INTRODUCTION

Winmate DIN Rail Edge AI Computing empowers industries with advanced AIoT capabilities by combining powerful processors, integrated AI acceleration, and robust connectivity. Designed for diverse applications such as manufacturing, healthcare, and smart cities, it supports seamless cloud integration and AI-assisted analytics for real-time insights. With optional support for Intel®, Hailo AI chips, along with low-latency AI inferencing and rugged designs, Winmate's solutions offer scalability, efficiency, and adaptability, redefining performance standards for AI-driven industrial IoT.

## SPECIFICATIONS

### System Specification

| | | | |
|---|---|---|---|
| Processor | Intel® Core™ i5-1335U 3.3GHz(up to 4.40 GHz) | Memory | 1 x SO-DIMM, DDR5 4800 MHz, 8GB<br>16GB (Optional)<br>32GB (Optional) |
| Storage | 1 x M.2 2280 M-Key NVMe SSD 256GB<br>512GB (Optional)<br>1TB (Optional)<br>2TB (Optional) | Ethernet controller | 4 x Intel® 2.5 Gigabit Ethernet Controller |
| Security | TPM 2.0 | Operating System | Windows 11 IoT Enterprise (64 bit) (Optional)<br>Windows 11 Pro 64 bit (Optional)<br>Linux Ubuntu 22.04(Do not support Wake on Touch) (Optional) |
| WLAN | Support (Optional) | BT | Support (Optional) |
| WWAN | Support (Optional) | Expansion Port | 1 x M.2 2230 E-key Slot (for WiFi or Hailo8 AI Accelerator)<br>1 x M.2 3042/3052 B-key Slot (for 4G/5G) |
| AI Accelerator | Hailo 8™ AI accelerator module, up to 26 TOPS(When using this feature, WLAN will not be supported) (Optional) | | |

### Mechanical

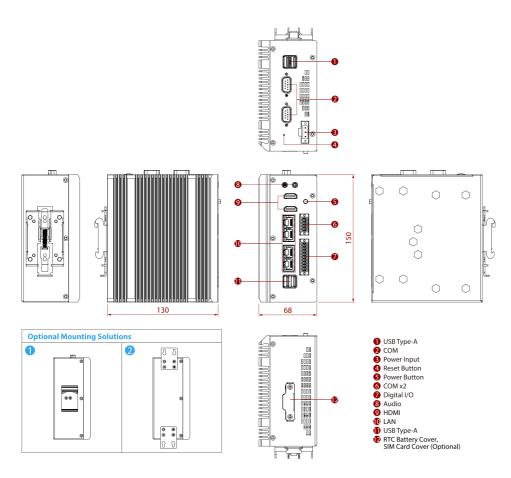| | | | |
|---|---|---|---|
| Dimension | 130 x 68 x 150 mm | Weight | 1.5 kg |
| Mounting | Din-Rail mount<br>Mini Din-Rail Mount (Optional)<br>Wall Mount (Optional) | Enclosure | Aluminum and Metal Housing |
| Cooling System | Fanless Design | | |

### Environment

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|---|---|---|---|
| **Operating Humidity** | 10% to 90% RH, Non-Condensing | **Operating Temperature** | -20°C to 60°C |
| **Storage Temperature** | -40°C to 70°C | **Shock** | MIL-STD-810G Method 516.6 Procedure I (Optional) |
| **Vibration** | MIL-STD-810G Method 514.6 Procedure I | | |

## Certification

| | |
|---|---|
| **Certification** | CE, FCC |

## IO Ports

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|---|---|---|---|
| **Power Input** | 1 x Isolated 9~36V DC with 3-Pin Terminal Block | **USB Port** | 2 x USB3.2 Gen2x1 (10Gbps, Type A)<br>1 x USB3.2 Gen1x1 (5Gbps,Type A)<br>1 x USB2.0 (Type A) |
| **Serial Port** | 2 x Isolated RS-232/422/485 (1 x 10 Pin terminal block, select thru jumper) (Default RS232)<br>2 x Isolated RS-232/422/485 (2 x DB9, select thru BIOS) (Default RS232) | **SIM Card Slot** | 1 x nano SIM Card slot (Optional) |
| **Video** | 2 x HDMI 2.0b , Max resolution up to 4096x2160@60Hz (Optional) | **Audio** | Mic in<br>Line out |
| **Expansion Port** | 1 x M.2 2230 E-key Slot (for WiFi or Hailo8 AI Accelerator)<br>1 x M.2 2280 M-key Slot (for NVMe SSD)<br>1 x M.2 3042/3052 B-key Slot (for 4G/5G) | **LAN** | 4 x 2.5 Giga LAN RJ45 Connector |
| **Indicator** | 1 x LED Indicator for power | **DIDO** | 1 x Isolated 8in/8out DIO with 20-Pin Terminal block :<br>8 x Digital input channels with 2500 VDC isolation protection<br>- Wet contact:<br>Logic 0: 10 ~ 30 VDC/ Logic 1: 0 ~ 3 VDC<br>- Dry contact:<br>Logic 0: Shorted to GND/ Logic 1: Open<br>8 x Digital output channels<br>- Output voltage: 5 ~ 30 VDC<br>- Output capability sink: 500 mA ax./channel |

## Control

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|---|---|
| **Button** | 1 x Power Button with LED Indicator |

## Accessory

| | | | |
|---|---|---|---|
| **Accessory** | 1 x 100~240V AC to DC Adapter<br>1 x Power Cord<br>1 x Terminal Block 20-pin connector for DIDO<br>1 x Terminal Block 3-pin connector for Power<br>1 x Terminal Block 10-pin connector for COM<br>1 x Open Wire Cable<br>1 x Terminal Block 3-pin to 2.5Ø Female Adapter Cable<br>1 x Din Rail Mount kits | **Optional Accessory** | 1 x Mini Din Rail Mount kits (Optional)<br>1 x Wall Mount kits (Optional) |

## Power

| | | | |
|---|---|---|---|
| **Power Rating** | 9V to 36V DC with isolation, 3-Pin Terminal Block | **Adapter** | 12V 120W |

## DIMENSIONS  UNIT:MM

**NOTE**

1.This is a simplified drawing and some

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components are not marked in detail.
2.Please contact our sales representative if you need further product information.
3.All specifications are subject to change without prior notice.
4.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.

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**Optional Mounting Solutions**

❶ USB Type-A
❷ COM
❸ Power Input
❹ Reset Button
❺ Power Button
❻ COM x2
❼ Digital I/O
❽ Audio
❾ HDMI
❿ LAN
⓫ USB Type-A
⓬ RTC Battery Cover,
    SIM Card Cover (Optional)