

ED-IPC2100 Series

Industrial Computer Based on Raspberry Pi CM4

- ◆ Broadcom BCM2711, quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
- ◆ Up to 8GB LPDDR4 RAM and 32GB eMMC storage
- ◆ Support Micro SD card and M.2 NVMe SSD storage expansion
- ◆ Dual Lans, 1 x Gigabit Ethernet and 1 x 100M Ethernet
- ◆ 4 x isolated RS232/485 with electrostatic and surge protection
- ◆ 2.4GHz and 5GHz dual-band Wi-Fi, Bluetooth and 4G LTE
- ◆ Wide voltage power input range of DC 9V~36V with reverse polarity protection, overvoltage protection and overcurrent protection
- ◆ Integrated super capacitor (backup power supply, optional) , RTC, Watch Dog, EEPROM and crypto authentication
- ◆ Wide temperature range of -25°C~60°C for working environment
- ◆ High-quality metal case, compatible with DIN-rail installation



Specifications

| System | |
|---------|--|
| CPU | Broadcom BCM2711, quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz |
| VPU | H.265(HEVC), up to 4Kp60 decode H.264, up to 1080p60 decode, 1080p30 encode |
| GPU | OpenGL ES 3.1 & Vulkan 1.0 |
| Memory | Options for 1GB, 2GB, 4GB, 8GB LPDDR4-3200 SDRAM |
| Storage | <ul style="list-style-type: none"> • Options for 8GB, 16GB, 32GB eMMC storage • Micro SD card (user storage expansion) • M.2 NVMe SSD (options for 128GB, 256GB, 512GB) |

| Software | |
|------------------|--|
| Operating System | <ul style="list-style-type: none"> • Raspberry Pi OS(Desktop) 32-bit • Raspberry Pi OS(Lite) 32-bit • Raspberry Pi OS(Desktop) 64-bit • Raspberry Pi OS(Lite) 64-bit |

| Front I/O | |
|---------------------|--|
| Power | 1 x DC IN, 2-Pin 3.5mm pitch phoenix terminals with screw holes. It supports 9V~36V input, the signal is defined as VIN+/GND. |
| Audio (optional) | 1 x Audio In/Stereo Out, 3.5mm audio jack connector. It can be used as MIC IN and LNE OUT. <ul style="list-style-type: none"> When a headphone is connected, the audio output switches to the headphone. When no headphone is connected, the audio output switches to the speaker. Note: Only ED-IPC2120 contains this interface. |
| RS485/232 | 12-Pin 3.5mm pitch phoenix terminals with IO isolator, which are equipped with electrostatic and surge protection. Different numbers of RS232 and RS485 ports can be selected according to actual application. The signal of RS485 is defined as IGND/A/B, and the signal of RS232 is defined as IGND/TX/RX. <ul style="list-style-type: none"> ED-IPC2110: 2 x RS485 + 2 x RS232 ED-IPC2120: 2 x RS485 + 2 x RS232 ED-IPC2130: 3 x RS485 + 1 x RS232 ED-IPC2140: 4 x RS485, without RS232 |
| 1000M Ethernet | 1 x adaptive 10/100/1000M ethernet port, RJ45 connector. It can be used to access the network. PoE can be supported through expansion module. |
| 100M Ethernet | 1 x adaptive 10/100M ethernet port, RJ45 connector. It can be used to access the network. |

| Rear I/O | |
|---------------|--|
| SD Card Slot | 1 x Micro SD card slot, using to install SD card for storing user data. |
| SIM Card Slot | 1 x Nano SIM card slot, using to install SIM card for getting 4G signal. |
| Micro USB | 1 x Micro USB port, supporting to flash to eMMC for the system. |

| Side I/O | |
|----------|--|
| HDMI | 1 x HDMI port, type A connector. It is compatible with HDMI 2.1 standard and supports 4K 60Hz. |
| USB2.0 | 2 x USB 2.0 ports, type A connector, supporting up to 480Mbps. |
| Antenna | 2 x SMA ports (optional), using to connect 4G antenna and Wi-Fi/BT antenna. |

| Buttons and Indicators | |
|------------------------|--|
| Reset | 1 x Reset button, which can reset the device. |
| PWR | 1 x red power indicator, uses to check the status of device power-on and power-off. |
| 4G | 1 x green 4G indicator, uses to check the status of 4G signal. |
| ACT | 1 x green system indicator, uses to check the working status of device. |
| USER | 1 x green user indicator, user can customize a status according to actual application. |
| COM1~COM4 | 4 x green UART indicators, uses to check the communication status of UART port. |

| Expansion I/O | |
|--------------------|--|
| 12V 1A | 3 x DC OUT, 2-Pin 2.0mm pitch connector, support 12V 1A output. These pins are defined as GND/12V, reserve to provide power supply for extended LCD. |
| 5V 1A | 1 x DC OUT, 3-Pin 2.0mm pitch connector, support 5V 1A output. These pins are defined as GND/5V/GND, reserve to provide power supply for extended LCD. |
| 40-Pin GPIO | 1 x GPIO Pin Header, 2x20-Pin 2.54mm pitch, uses to lead out the GPIO ports of CM4. <ul style="list-style-type: none"> • These pins are defined as GPIO1~GPIO27/3V3/5V2/GND • Compatibles with expansion modules, and reserves to connect expansion accessories. |
| 10-Pin GPIO | 1 x GPIO Pin Header, 2x5-Pin 2.54mm pitch, uses to lead out the expansion GPIO ports. User can customize the function according to actual application, these pins are defined as 8xGPIO/3V3/GND. |
| CSI (optional) | 1 x Pin Header, 2x15-Pin 0.4mm pitch connector, supports 2-Lane CSI signal. It can be used to connect 800M CSI camera. Note: Only ED-IPC2120 contains this interface. |
| HDMI (optional) | 1 x FPC HDMI, 40-Pin 0.5mm pitch FPC connector, which can be reserved to connect extended LCD, supports USB/I2C touch screen and backlight adjustment. Note: Only ED-IPC2120 contains this interface. |
| DSI (optional) | 1 x FPC DSI, 30-Pin 0.5mm pitch FPC connector, supports 4-Lane DSI signal. It can be reserved to connect extended LCD, supports USB/I2C touch screen and backlight adjustment. Note: Only ED-IPC2120 contains this interface. |
| USB | 1 x USB 2.0, 5-Pin 1.5mm pitch connector, supports to expand the USB 2.0 port. |
| M.2 B | 1 x M.2 B, M.2 B Key connector, supports to connect SSD. It compatibles with M.2 B 2230 and M.2 B 2242 SSD. |
| Speaker (optional) | 1 x PA output, 4-Pin 1.5mm pitch connector, dual channel stereo audio output. It can be extended to connect two 4Ω 3W stereo speakers, these pins are defined as R+/R-/L+/L-. Note: Only ED-IPC2120 contains this interface. |

| Expansion Performance | |
|-----------------------|---|
| EEPROM | Supports 4K byte storage and improves the ease of use of device. |
| Crypto Authentication | It can be matched to realize the required upper layer application and improves the security of device. |
| RTC | RTC with 1F SuperCAP backup, which can ensure that the system clock is not affected by device power-off. We also provide a battery base, and you can buy a CR1220 battery backup for RTC. |
| Buzzer | A tip or an abnormality can be configurated according to actual application, which realizes the alarm function. |
| Watch Dog* | This function has been reserved on hardware. But we need additional software to support it, which is under development. |

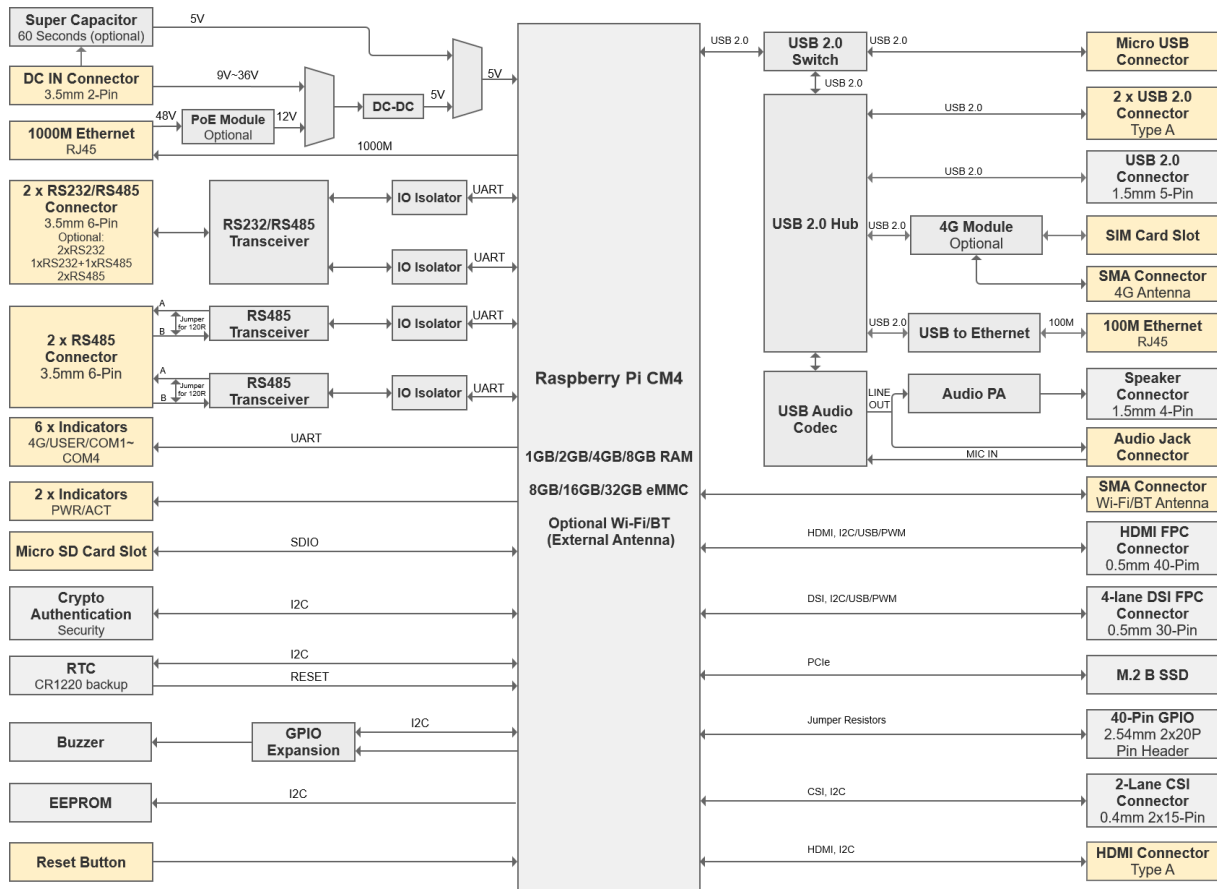
| Electrical Characteristics | |
|----------------------------|-------------|
| Input Voltage | 9V ~ 36V DC |
| Power Consumption | 24W (Max) |

| Mechanical Characteristics | |
|----------------------------|--|
| Dimensions | 143mm x 100mm x 35mm (WxDxH, DIN-rail bracket and antenna are not included.) |
| Weight | 750g |
| Installation | DIN-rail installation |

| Wireless | |
|----------------------------|---|
| Wi-Fi/Bluetooth (optional) | <p>2.4GHz & 5GHz dual-band Wi-Fi and Bluetooth with antenna.</p> <ul style="list-style-type: none"> • 2.4GHz Wi-Fi: Compatible with IEEE 802.11 b/g/n • 5GHz Wi-Fi: Compatible with IEEE 802.11 a/n/ac • The Bluetooth supports 2402MHz ~ 2480MHz frequency |
| 4G (optional) | <p>Connect with various 4G LTE modules through the Mini PCIe interface, with antenna.</p> <ul style="list-style-type: none"> • EC20-CN Module (China/India) LTE FDD: B1/B3 LTE TDD: B38/B39/B40/B41 TDSCDMA: B34/B39 WCDMA: B1 CDMA 1x/EVDO: BC0 GSM: 900/1800MH • EC25-AFX Module (North America) LTE-FDD: B2/B4/B5/B12/B13/B14/B66/B71 LTE-TDD WCDMA: B2/B4/B5 GSM/EDGE • EC25-AUX Module (Latin America/Australia/New Zealand) LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE-TDD: B40 WCDMA: B1/B2/B4/B5/B8 GSM/EDGE: B2/B3/B5/B8 • EC25-EUX Module (Europe/Middle East/Africa/Thailand) LTE-FDD: B1/B3/B7/B8/B20/B28A LTE-TDD: B38/B40/B41 WCDMA: B1/B8 GSM/EDGE: B3/B8 |

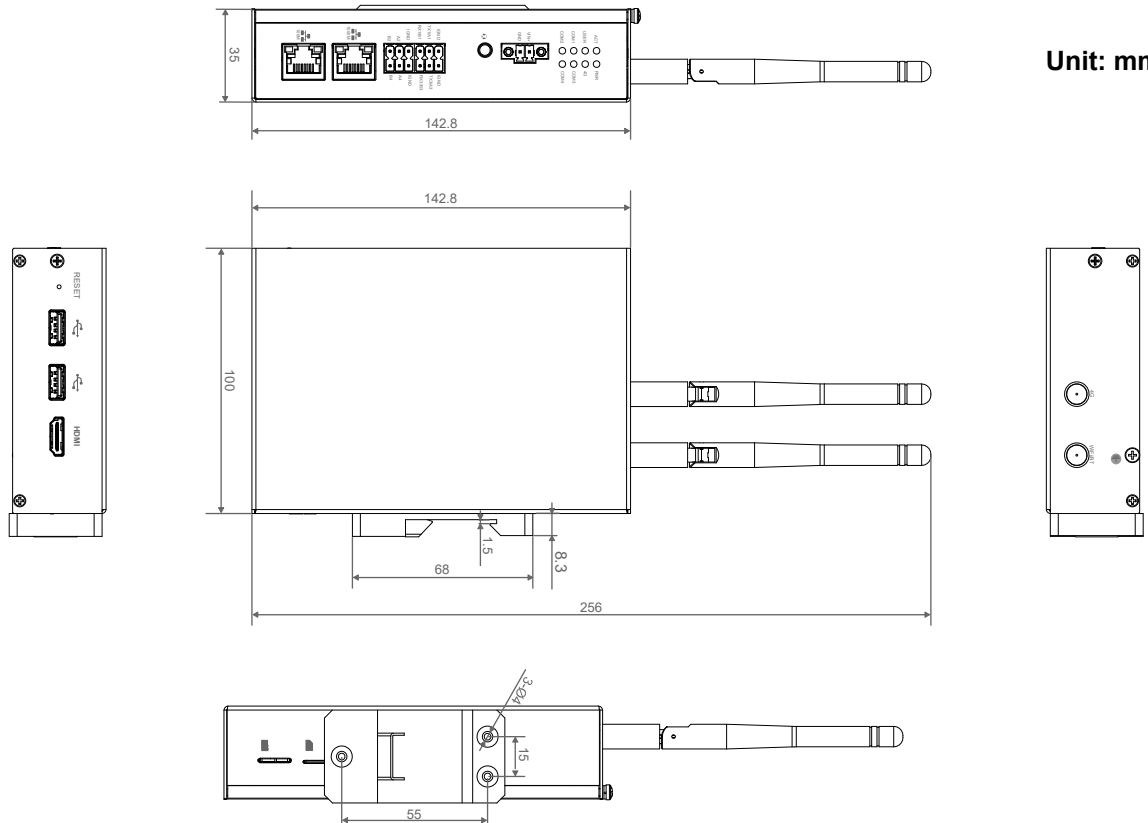
| Environmental & Regulatory | |
|----------------------------|---|
| Operating Temperature | -25°C ~ 60°C |
| Storage Temperature | -25°C ~ 60°C |
| Ambient humidity | 5% ~ 95% (non-condensing) |
| Certifications | <ul style="list-style-type: none"> • FCC FCC 47 CFR Part 15 Subpart B • CE EN IEC 62368-1/EN IEC 62311/EN IEC 61000-3-2/EN IEC 61000-3-3 EN 55032/EN 55035 EN 301 489-1/EN 301 489-3/EN 301 489-17/EN 301 489-52 EN 301 328/EN 301 440/EN 301 511/EN 301 908-1/EN 301 908-2 |

System Diagram



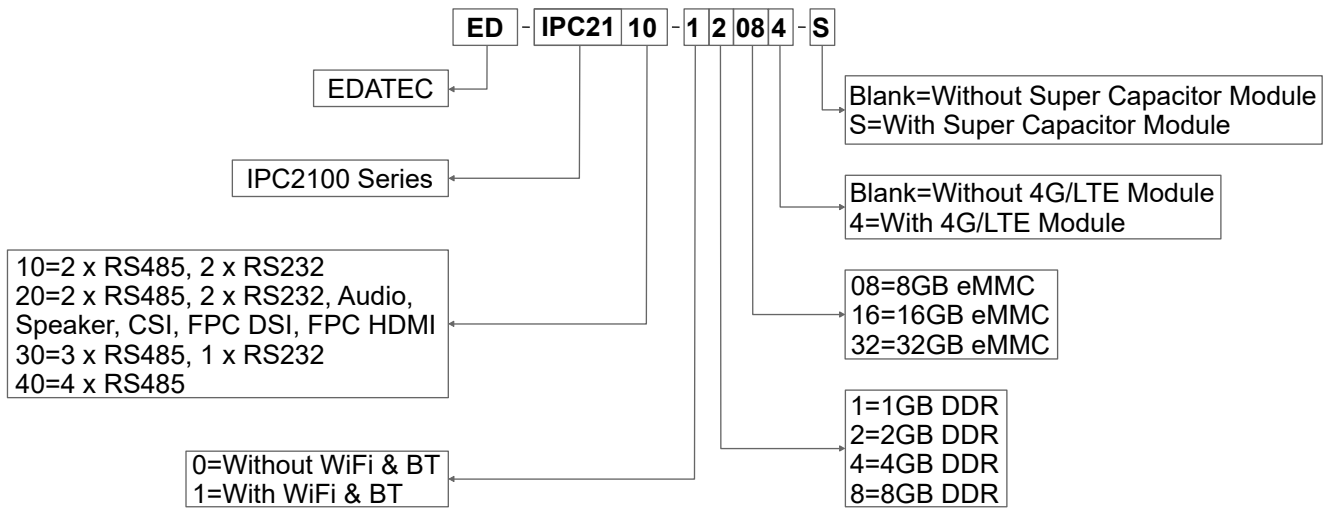
Dimensions

WiFi/BT, 4G (Optional)



Unit: mm

Ordering Code



Example

P/N: **ED-IPC2110-12084**

Configuration: Industrial Computer Based on Raspberry Pi CM4, with Wi-Fi & Bluetooth, 4G, 2GB DDR, 8GB eMMC, 2 x RS485 and 2 x RS232.

Optional Accessory

You can choose a power adapter according to actual needs.

| Model | Description | Picture |
|---------------------|---|---------|
| ED-PSU1202-UK-3.5PL | 100~240VAC to 12VDC/2A Adapter, with UK AC plug, 3.5mm pitch phoenix plug with lock | |
| ED-PSU1202-US-3.5PL | 100~240VAC to 12VDC/2A Adapter, with US AC plug, 3.5mm pitch phoenix plug with lock | |
| ED-PSU1202-AU-3.5PL | 100~240VAC to 12VDC/2A Adapter, with AU AC plug, 3.5mm pitch phoenix plug with lock | |
| ED-PSU1202-EU-3.5PL | 100~240VAC to 12VDC/2A Adapter, with EU AC plug, 3.5mm pitch phoenix plug with lock | |

NOTE: Each model contains only one of the UK, US, AU and EU plugs.

Packing List

- 1 x ED-IPC2100 Unit
- [WiFi/BT Version - optional] 1 x 2.4GHz/5GHz WiFi/BT Antenna
- [4G Version - optional] 1 x 4G/LTE Antenna