

ED-IPC2100 Series

High Reliability 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 (optional)

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 spacing 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	3.5mm spacing phoenix terminals with IO isolator, which equipes with electrostatic and surge protection. Different numbers of RS485 ports can be selected according to actual application, and the single signal is defined as IGND/A/B. <ul style="list-style-type: none"> ED-IPC2110: 2 x RS485 ED-IPC2120: 2 x RS485 ED-IPC2130: 3 x RS485 ED-IPC2140: 4 x RS485
RS232	3.5mm spacing phoenix terminals with IO isolator, which equipes with electrostatic and surge protection. Different numbers of RS232 ports can be selected according to actual application, and the single signal is defined as IGND/TX/RX. <ul style="list-style-type: none"> ED-IPC2110: 2 x RS232 ED-IPC2120: 2 x RS232 ED-IPC2130: 1 x RS232 ED-IPC2140: 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, uses to install SD card for storing user data.
SIM Card Slot	1 x Nano SIM card slot, uses to install SIM card for getting 4G signal.
Micro USB	1 x Micro USB port, supports to flash eMMC for the system.

Side I/O	
HDMI	1 x HDMI port, type A connector. It compatibles with HDMI 2.1 standard and supports 4K 60Hz.
USB2.0	2 x USB 2.0 ports, type A connector, support up to 480Mbps.
Antenna	2 x SMA ports, use 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 spacing 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 spacing 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 spacing, 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 spacing, 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 spacing 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 spacing 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 spacing 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 spacing 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 spacing 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	Ensure that the system clock is not affected by device power-off. Note: A CR1220 battery is provided by default in China.
Buzzer	A tip or an abnormality can be configured according to actual application, which realizes the alarm function.
Watch Dog	Realize the hardware Watch Dog based on the RTC alarm function to ensure the reliability of device.

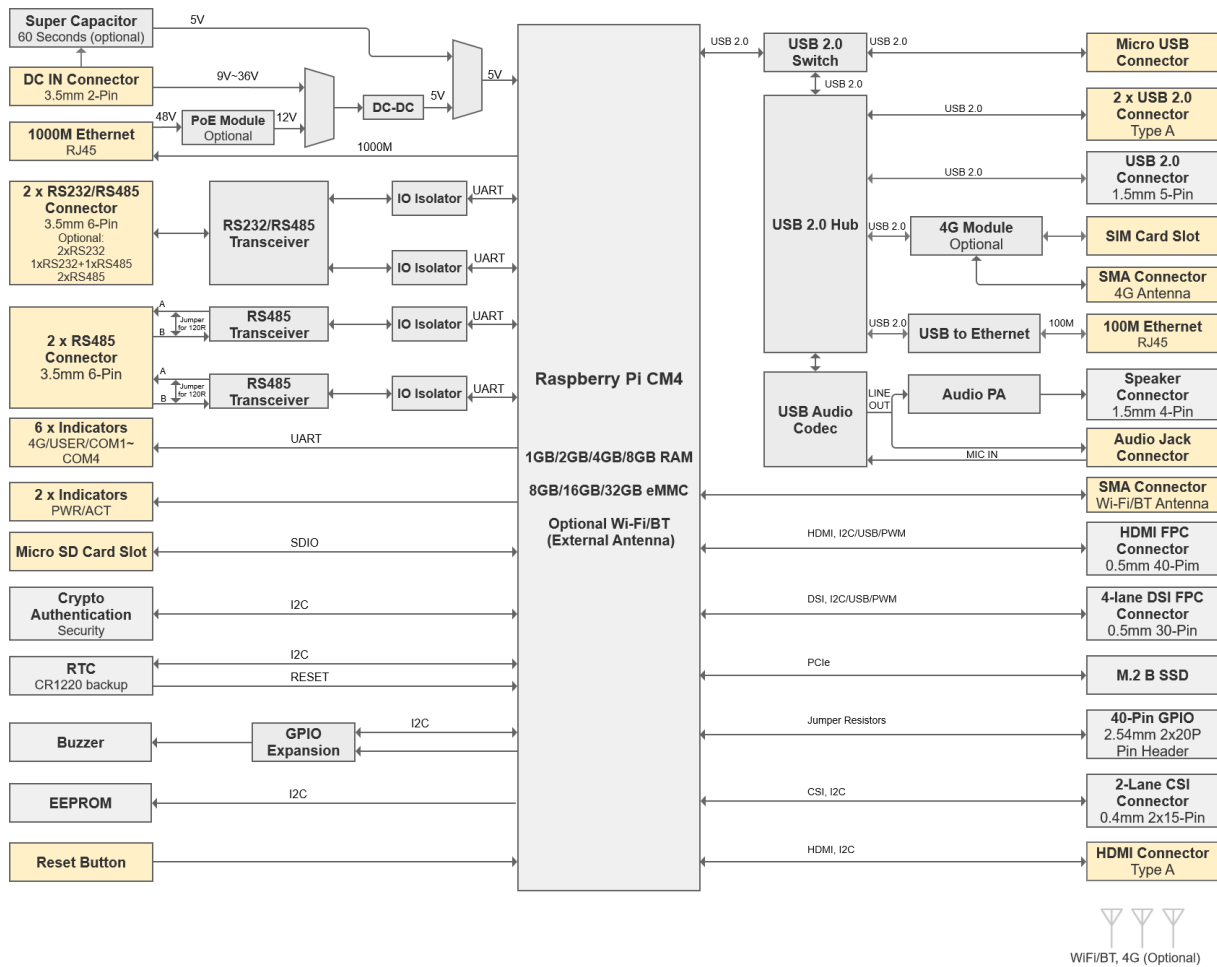
Electrical Characteristics	
Input Voltage	9V ~ 36V DC
Power Consumption	24W (Max)

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

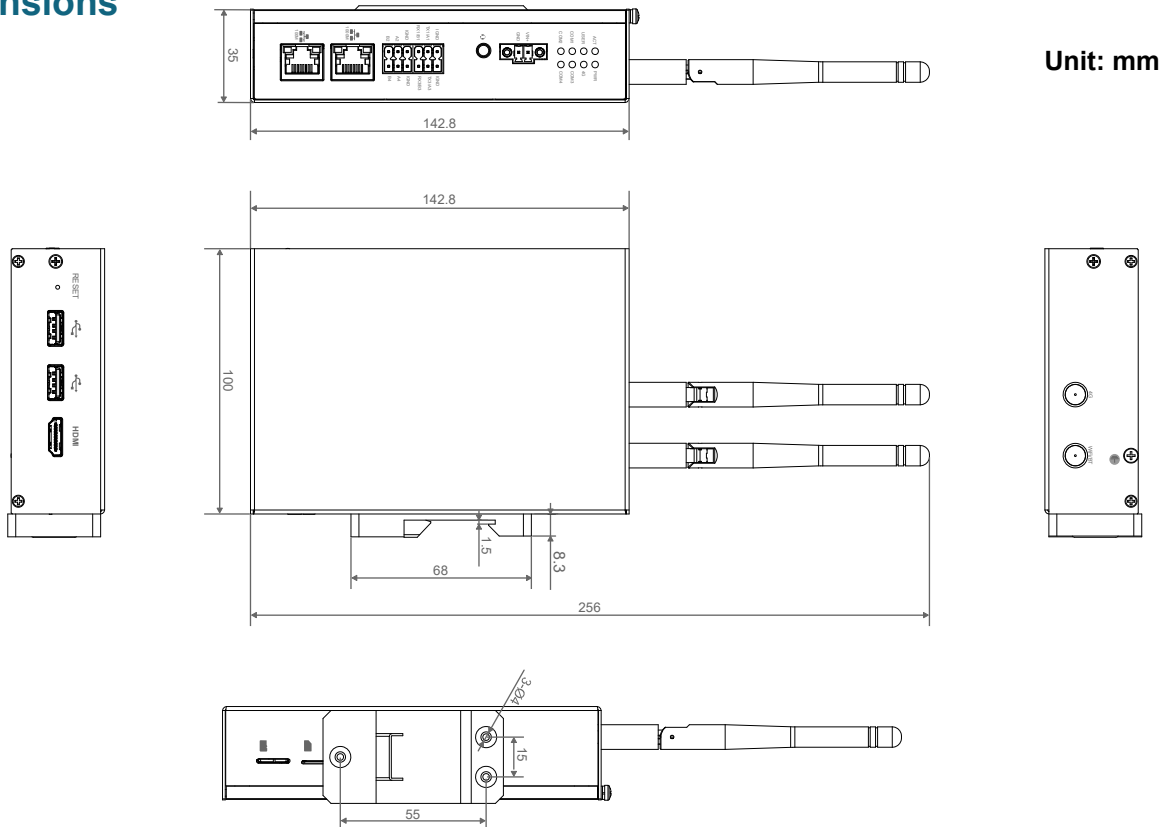
Wireless	
Wi-Fi (optional)	2.4GHz and 5GHz dual-band Wi-Fi with antenna <ul style="list-style-type: none"> • 2.4GHz Wi-Fi: Compatible with IEEE 802.11 b/g/n • 5GHz Wi-Fi: Compatible with IEEE 802.11 a/n/ac
Bluetooth (optional)	Bluetooth 5.0 with antenna, compatible with 2402MHz ~ 2480MHz frequency.
4G (optional)	Connect with various 4G LTE modules through the Mini PCIe interface, with antenna. <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	20% ~ 90% (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

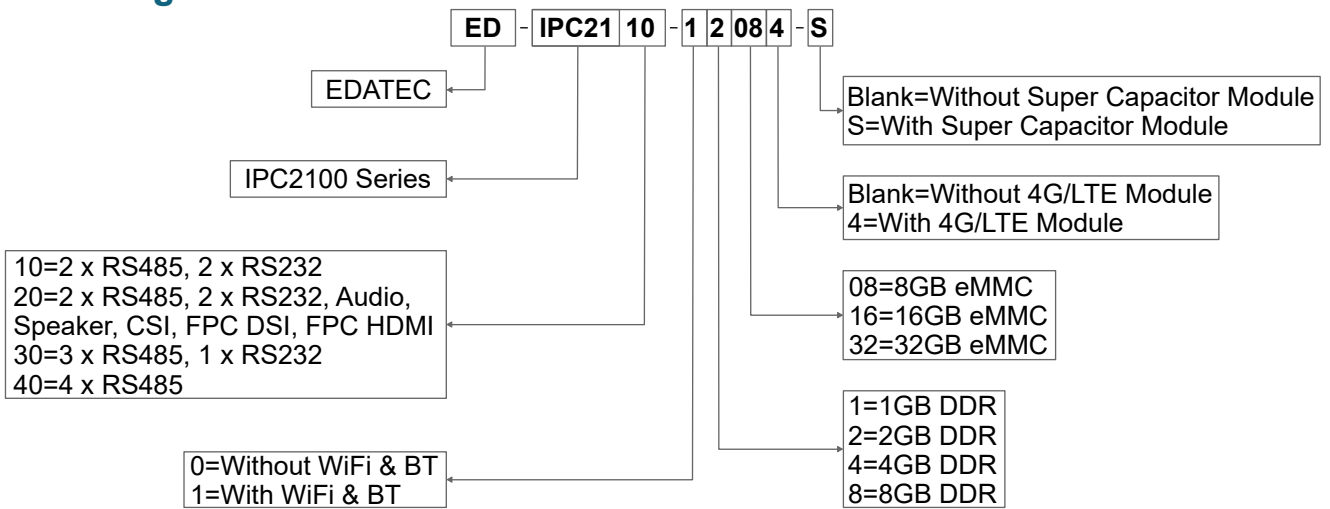


Dimensions



Unit: mm

Ordering Code



Example

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

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

Packing List

- 1 x ED-IPC2100 Unit(with a DIN-rail bracket)
- [WiFi/BT Version - optional] 1 x 2.4GHz/5GHz WiFi/BT Antenna
- [4G Version - optional] 1 x 4G/LTE Antenna