

ED-IPC2100

Datasheet

by EDA Technology Co., Ltd

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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 & 5GHz dual-band Wi-Fi, Bluetooth and 4G LTE
- Wide voltage power input range of DC 9V~36V with TVS transient voltage protection and reverse polarity protection
- Integrated super capacitor (backup power supply, optional), RTC, Watchdog, EEPROM and crypto authentication
- Wide temperature range of -25℃~60℃ for working environment
- High-quality metal case, supporting both DIN rail mounting and wall mounting



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	Options for 8GB, 16GB, 32GB eMMC storage Micro SD card slot (user storage expansion) M.2 NVMe SSD (options for 128GB, 256GB, 512GB)

Software	
Operating System	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.

Front I/O	
Audio (optional)	1 x Audio In/Stereo Out, 3.5mm audio jack connector. It can be used as MIC IN and LNE OUT. • When a headphone is connected, the audio output switches to the headphone. • When no headphone is connected, there is no audio output. 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. • 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.
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 2.0 standard and supports 4K 60Hz.
USB 2.0	2 x USB 2.0 ports, Type-A connector, supporting up to 480Mbps transmission rate.
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, using to check the status of device power-on and power-off.
4G	1 x green 4G indicator, using to check the status of 4G signal.
ACT	1 x green system indicator, using 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, using to check the communication status of UART port.

Internal I/O	
40-Pin GPIO	

Internal I/O	
	1 x GPIO Pin Header, 2x20-Pin 2.54mm pitch, using to lead out the GPIO ports of CM4. These pins are defined as GPIO1~GPIO27/3V3/5V2/GND. It is compatible with expansion modules, and reserves to connect expansion accessories.
M.2 B	1 x M.2 B, M.2 B Key connector, supporting to connect SSD. It is compatibles with M.2 B 2230 and M.2 B 2242 SSD.

Expansion Functions	
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 abnormity can be configurated according to actual application, which realizes the alarm function.
Watchdog	Enable Watchdog using RTC Alarm.

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

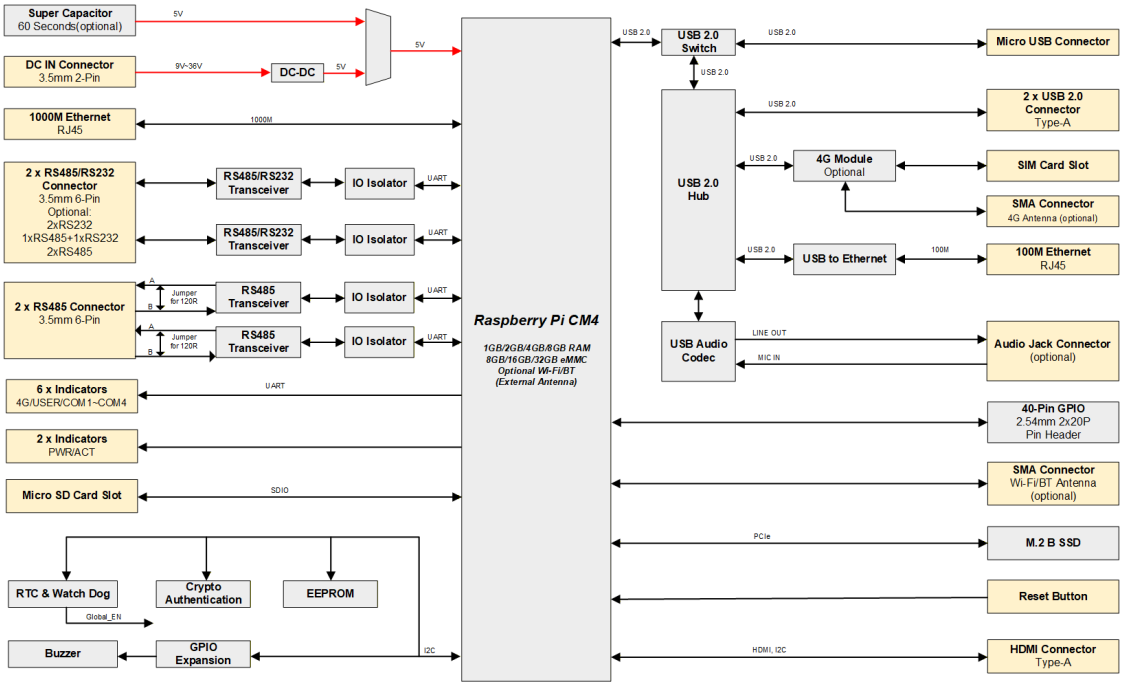
Mechanical Characteristics	
Dimensions	143mm x 100mm x 35mm (WxDxH, DIN-rail bracket and antenna are not included.)
Weight	About 750g
Installation	DIN rail mounting and wall mounting

Wireless	
Wi-Fi/Bluetooth (optional)	2.4GHz & 5GHz dual-band Wi-Fi and Bluetooth with antenna. • 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)	Connect with various 4G LTE modules through the Mini PCIe interface, with antenna. • EC20-CE Module (China/India) ◦ LTE FDD: B1/B3 ◦ LTE TDD: B38/B39/B40/B41 ◦ TDSCDMA: B34/B39 ◦ WCDMA: B1 ◦ CDMA 1x/EVDO: BC0

Wireless	
	◦ GSM: 900/1800MHz ◦ GPS/GLONASS/BDS/Galileo/QZSS (optional) • EC25-AFX Module (North America) ◦ LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71 ◦ LTE TDD ◦ WCDMA: B2/B4/B5 ◦ GSM/EDGE ◦ GPS/GLONASS/BDS/Galileo/QZSS • 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 ◦ GPS/GLONASS/BDS/Galileo/QZSS • 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 ◦ GPS/GLONASS/BDS/Galileo/QZSS • EC25-EFA Module (Europe/Middle East/Africa/South-East Asia) ◦ LTE FDD: B1/B3/B7/B8/B20/B28 ◦ LTE TDD: B38/B40/B41 ◦ WCDMA: B1/B5/B8 ◦ GSM/EDGE: B3/B8 ◦ GPS/GLONASS/BDS/Galileo/QZSS

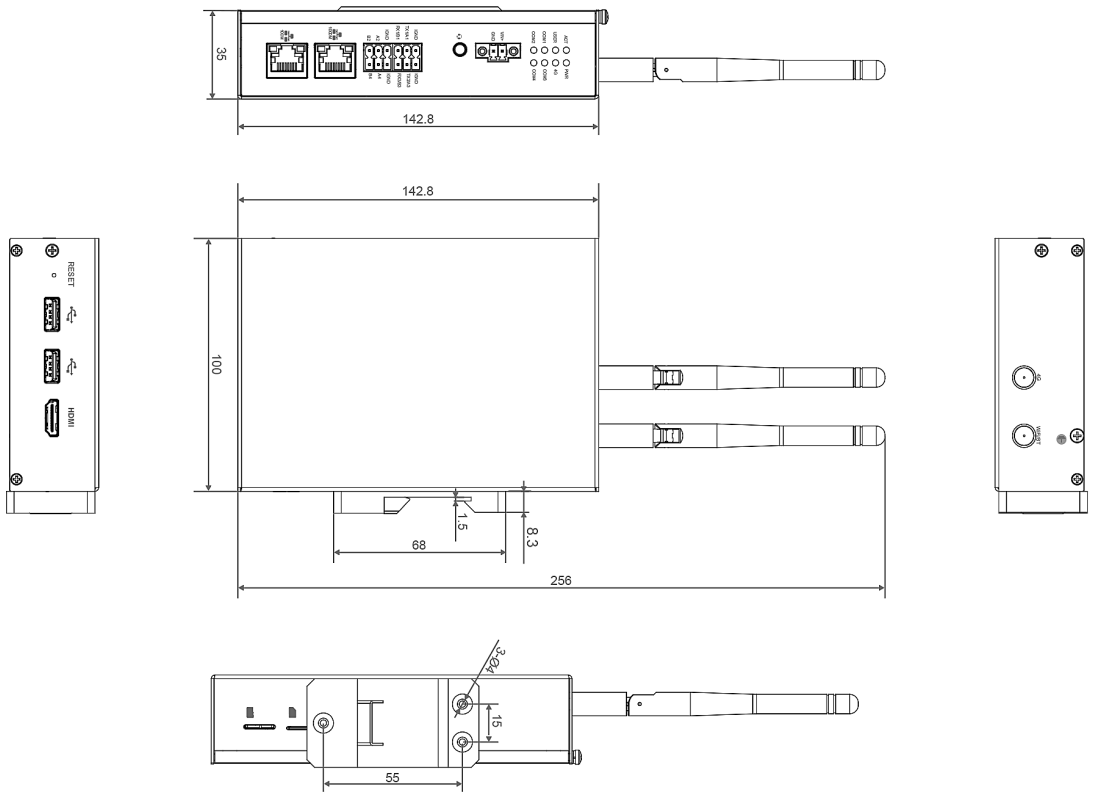
Environmental & Regulatory	
Operating Temperature	-25°C ~ 60°C
Storage Temperature	-25°C ~ 60°C
Ambient humidity	5% ~ 95% (non-condensing)
Certifications	• FCC ◦ FCC 47 CFR Part 15 Subpart B • CE ◦ EN IEC 62368-1:2020+A11:2020 ◦ EN IEC 62311:2020 ◦ ETSI EN 301 489-1 V2.2.3 (2019-11)/Draft ETSI EN 301 489-17 V3.2.6 (2023-06) ETSI EN 301 489-52 V1.2.1 (2021-11)/EN 55032:2015 + A1:2020 + A11:2020 EN 55035:2017 + A11:2020/EN IEC 61000-3-2:2019 + A1:2021 EN 61000-3-3:2013 + A1:2019 + A2:2021 ◦ ETSI EN 300 328 V2.2.2 (2019-07)/ETSI EN 301 893 V2.1.1 (2017-05) ETSI EN 301 908-1 V15.2.1 (2023-01)/ETSI EN 301 908-13 V13.2.1 (2022-02)

System Diagram

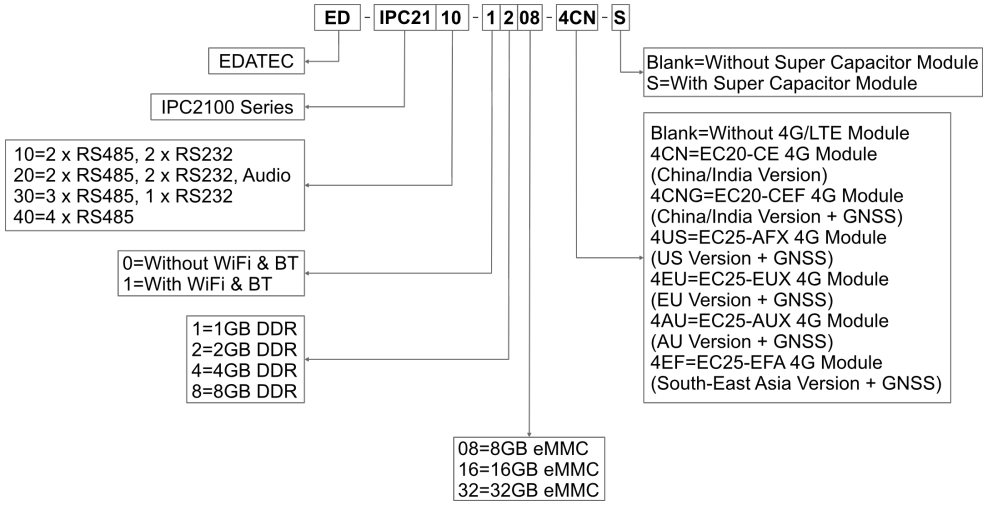


Dimensions

Unit: mm



Ordering Code



Example

P/N: **ED-IPC2110-1208-4CN**
Configuration: Industrial Computer Based on Raspberry Pi CM4, with Wi-Fi & Bluetooth, 4G (EC20-CE Module), 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.		

You can choose a wall-mounting bracket according to actual needs.

Model	Description	Picture
ED-BKT-LB	Wall-mounted bracket for Multiple ED-IPC Products	

Packing List

- 1 x ED-IPC2100 Unit
- [Wi-Fi/BT Version - optional] 1 x 2.4GHz/5GHz Wi-Fi/BT Antenna
- [4G Version - optional] 1 x 4G/LTE Antenna
- 1 x 2-Pin Phoenix Terminal with lock
- 2 x 6-Pin Phoenix Terminals