

CM4 Nano

The Industrial Raspberry Pi that You Expect

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2022-10-24



Highlight

- ◆ Powered by Raspberry Pi CM4 with mature software ecosystem
- ◆ Dual Storage with eMMC and SD Card for data storage
- ◆ Rich Interface with 1x Standard HDMI, 2x USB 3.0, 1x USB 2.0 and 40-PIN GPIO Expansion Interface
- ◆ Industrial Application Enhanced with 7 ~ 18V DC Input, External WiFi Antenna, RTC and Buzzer
- ◆ Compact, full meta case with excellent cooling system, Support DIN-rail mounting



Introduction

ED-CM4NANO is an embedded computer designed for industrial applications based on Raspberry Pi Compute Module 4 (CM4 for short). It makes full use of the structural flexibility of CM4 to solve the heat dissipation problem of CPU, wireless module and PMU. The BT antenna improves the reliability of wireless communication and provides flexible expansion capabilities.

The system can be configured into 1GB/2GB/4GB/8GB RAM and 8GB/16GB/32GB eMMC, 2.4/5.8G dual-band WiFi and Bluetooth (optional) according to different applications, and it supports external antenna.

For application scenarios that require large data storage capacity, user can use eMMC to install the operating system and store the application data, at the same time, user can use SD card to store large user data, compare to the built-in eMMC memory, SD card can offer larger capacity and its cost is more effective.

ED-CM4NANO provides alarm buzzer ,battery-powered real-time clock , supports Gigabit Ethernet port with POE function, which is compatible with the official Raspberry Pi PoE HAT.

The CSI and DSI interfaces of ED-CM4NANO are fully compatible with Raspberry Pi4 Model B. CSI supports Raspberry Pi official 8M and 12M Pixel HQ cameras, and DSI interface supports Raspberry Pi official 7" touch display. The Standard HDMI interface can output 4K HD video.



ED-CM4NANO provides 2 channels USB3.0 and 1 channel USB2.0 interfaces, and the USB2.0 interface can be used to update the system image.

ED-CM4NANO provides very strong expansion capabilities, supports a standard Raspberry Pi 40-pin expansion interface, and user can mechanical-easily expand a high speed equipment through on board USB3.0 Type C interface.

The system supports +12V~18VDC power input, the 40PIN socket provides 5V@2A and 3.3V@1.5A output power, and supports high-power expansion modules.

The dimension of ED-CM4NANO PCB is 95*58mm, which is slightly larger than Pi4 Model B. The connectors come out from front and back end, a 103*62mm*5mm heat sink provides excellent cooling performance for CPU, wireless module and PMU, the whole system can work reliably in a high temperature environment.

Based on our real testing in the lab, ED-CM4NANO can work reliably at ambient temperature of -25~60°C.

Four M2.5 screw holes are reserved at the case bottom of the ED-CM4NANO, which is convenient for users to install the ED-CM4NANO on other equipment. ED-CM4NANO also supports DIN rail mounting.

CPU

ARM Cortex-A72, Quad Core

DDR

LPDDR4, Up to 8GB

Storage

Up to 32GB eMMC, Support
micro SDCard for Data Storage

Dual-band WiFi

Support 2.4G and 5.8G,
Support External Antenna

Compatible with Pi4B

Support all the interfaces on Pi4B
Compatible with Raspberry Pi OS

Industrial Application Enhanced

12V ~ 18V DC In,
Support RTC and POE

Excellent Cooling System

A Whole Side Aluminum
Alloy Heat Sink, Full speed
running at -25 ~ 60°C

Small

Full metal body,
103(L) x 62(W) x 21.5(H) mm



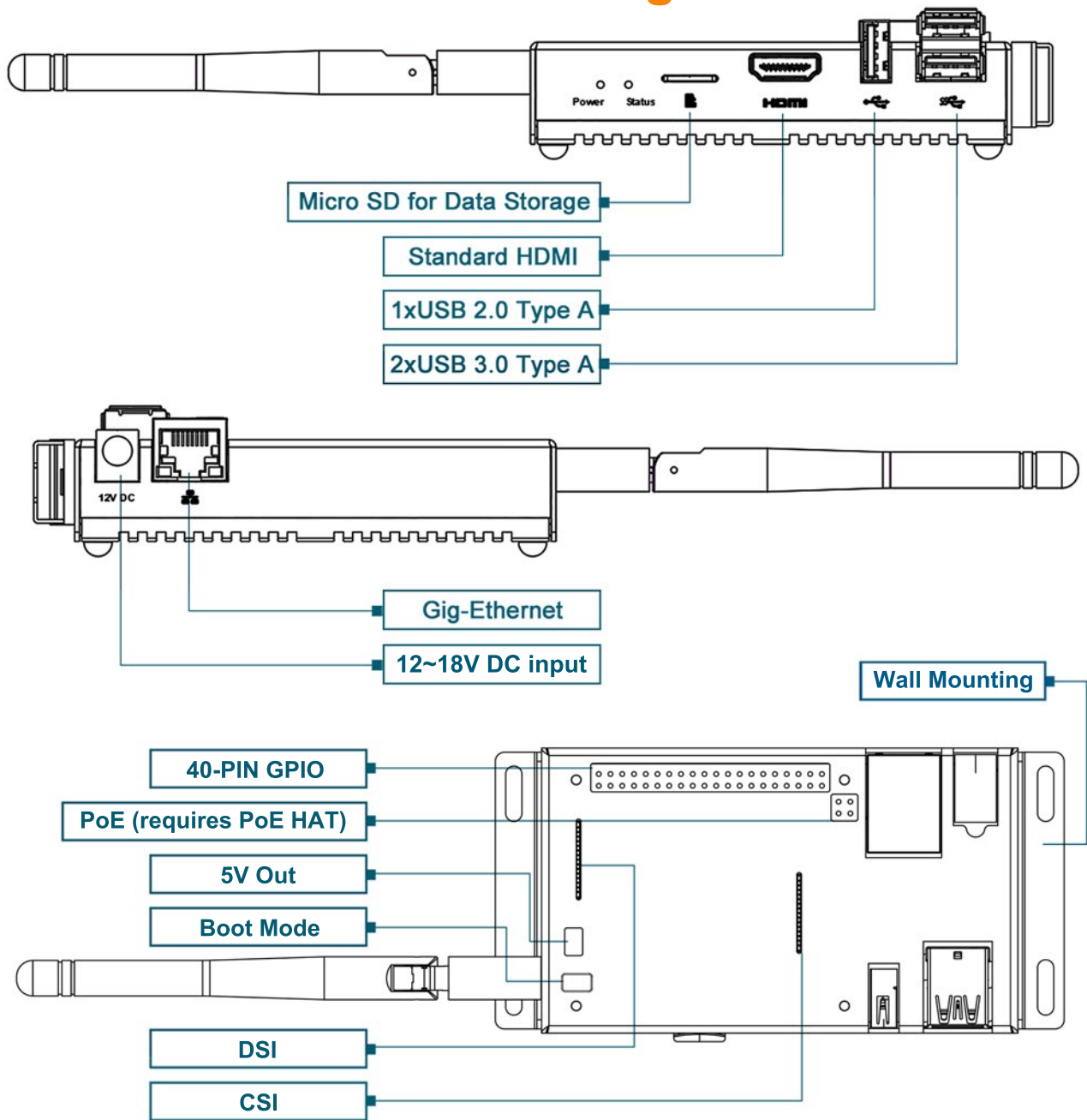
Specifications

Category	Feature
Processor	Broadcom BCM2711 quad-core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz H.265 (HEVC) (up to 4Kp60 decode), H.264 (up to 1080p60 decode, 1080p30 encode) OpenGL ES 3.1, Vulkan 1.0
RAM	1GB / 2GB / 4GB / 8GB LPDDR4-3200 SDRAM
Storage	Onboard 8GB / 16GB / 32GB eMMC for system boot 1x microSD Card for Data Storage, can work with eMMC together at the same time
Display	1x standard HDMI Out (Type A) 1x FPC HDMI Touch Display 1x FPC DSI Touch Display
Wired Interface	1x Gig-Ethernet (10/100/1000M), Support PoE (with Raspberry Pi PoE HAT) 2x USB 3.0 Type-A 1x USB 2.0 Type-A 1x USB 3.0 Type-C (Inside the case)
Wireless	Optional 2.4 GHz, 5.0 GHz IEEE 802.11 b/g/n/ac wireless and Bluetooth 5.0, BLE with external antenna
Industrial Interface	1x RTC with CR2232 backup 1x Buzzer
Expansion Interface	1x standard Raspberry Pi 40-PIN GPIO 1x 5V@1A DC Power output, 2-pin WTB connector, Could supply Raspberry Pi official 7" Touch Display 1x System Reset, 3-pin DIP connector 1x Boot Configuration, 2-pin DIP connector
Power In	12~18V DC voltage range input DC Jack
Indicator	1x Power Indicator with Red LED 1x Status Indicator with Green LED
Operating Temperature Range	-25 ~ 60°C
Operating Humidity	10% - 60%
Case	Metal Case with a whole side Aluminum Alloy Heat Sink, 1 Antenna Holes
Dimension	103(L) x 62(W) x 22(H) mm
Mounting Options	DIN-mount Wall-mount
OS	Pre-installed with 32-bit Raspberry Pi OS with Desktop in eMMC Compatible with Origin Raspberry Pi OS, support 32-bit and 64-bit OS, support Lite and Desktop versions Support BSP online install / upgrade with APT tool

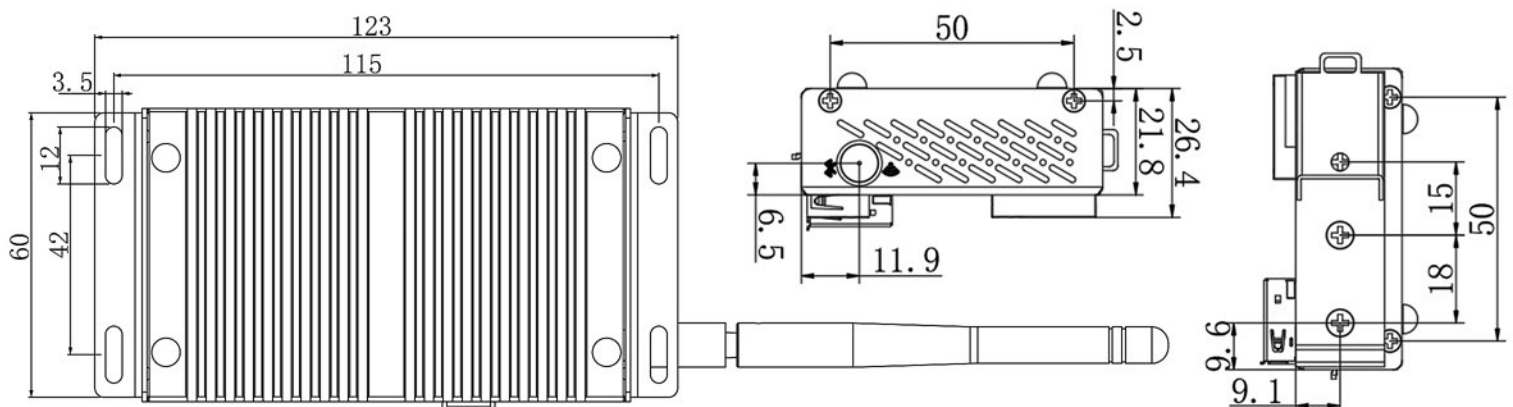
CM4 Nano vs Raspberry Pi 4B

Feature	CM4 NANO	Pi4B
CPU	Quad-core, Cortex-A72, 1.5GHz ARM v8 64-bit CPU	Quad-core, Cortex-A72, 1.5GHz ARM v8 64-bit CPU
RAM	1GB/2GB/4GB/8GB	1GB/2GB/4GB/8GB
eMMC	8GB/16GB/32GB	-
WiFi/BT	2.4G/5.8G WiFi, Bluetooth BLE5.0	2.4G/5.8G WiFi, Bluetooth BLE5.0
Ethernet	10/100/1000M, could support POE	10/100/1000M, could support POE
Storage	Support eMMC and SDCard at the same time	SDCard only
HDMI	1x HDMI A	1x micro HDMI
HDMI FPC Connector	1 x HDMI + 1 x USB Touch	-
USB3.0	3	2
USB2.0	1	2
DSI	1	1
CSI	1	1
RTC	Yes	-
Buzzer	Yes	-
40PIN Connector	Yes	Yes
4 Pin POE Connector	Yes	Yes
DC Output	5V	-
LED	Green(System Status) Red(Power indicator)	Green(System Status) Red(Power indicator)
Power Input	12~18V DC voltage range input	5V DC
Dimension	95mm(L) x 58mm(W) x 24mm(H)	89mm(L) x 56mm(W) x 24mm(H)
Enclosure	Full metal case with a whole side aluminum alloy heat sink	Plastic / Metal case with a small heat sink on CPU
Antenna	PCB Antenna / External Antenna	PCB Antenna
Temperature	-25~60°C	0~50°C
OS	Compatiable with Raspberry Pi OS	Raspberry Pi OS

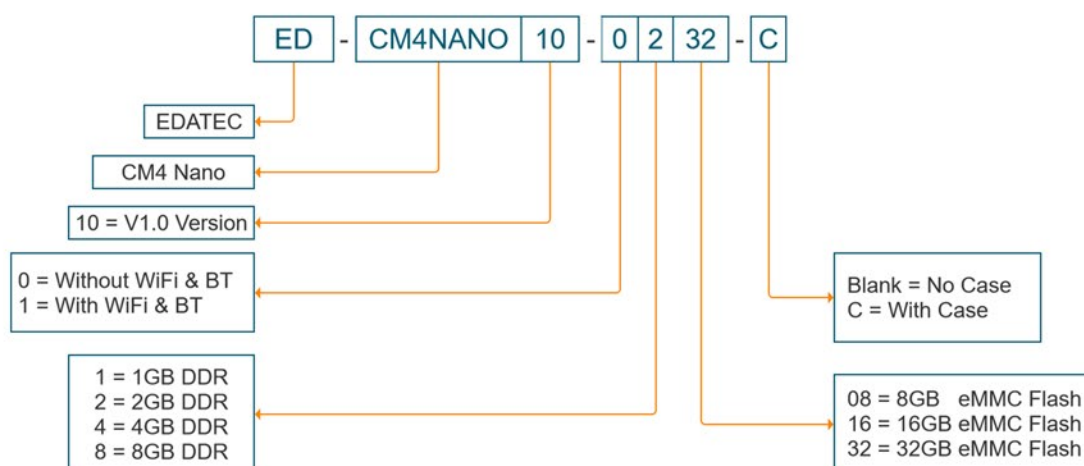
Interface Diagram



Dimension Unit:mm



Order Information



Example

Part#: ED-CM4NANO10-1208-C

Configuration: CM4 NANO Computer V1.0 version
 1pcs Raspberry Pi certified WiFi/Bluetooth Antenna
 2GB DDR & 8GB eMMC, WiFi & Bluetooth
 Assembled by a metal case

Contact Information

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