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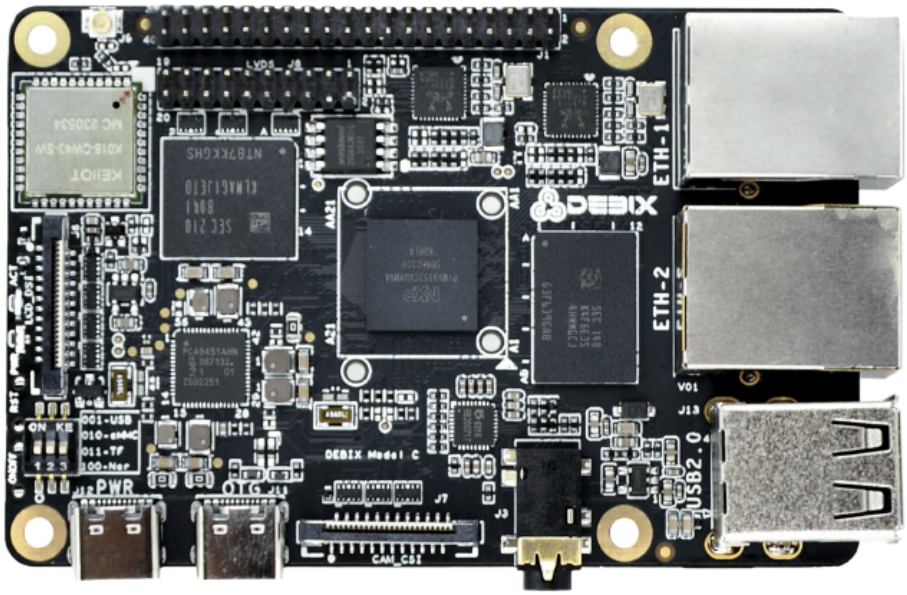
# DEBIX Model C




DEBIX Industrial Computer

# DEBIX Model C i.MX 93 Single Board Computer

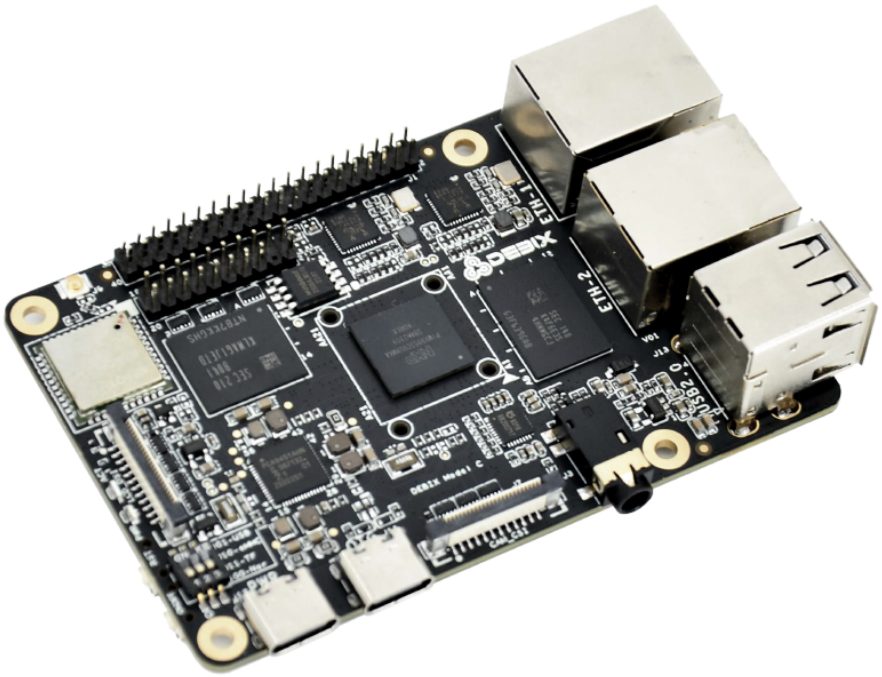
## Overview:

DEBIX Model C is the first DEBIX single board computer to feature the NXP i.MX 93, a power-optimized processor rating up to 1.7GHz with only 1 watt of power at full load consumption, and the Arm Ethos™-U65 microNPU enables developers to create more capable ML applications.

Engineered to deliver more energy-efficient and cost-effective solutions for intelligent edge computing, DEBIX Model C provides multiple extensible interfaces for IoT edge, contactless HMI, smart home, building control and industrial applications.

## Main Features:

- NXP i.MX 93 processor: 1.7GHz, 1W (extended industrial grade, industrial grade and consumer grade processors for options);
- Advanced security with integrated EdgeLock® secure enclave;
- Ethos-U65 microNPU to bring MCU-class ML efficiency;
- General-purpose Cortex-M33 up to 250MHz for real-time and low-power processing;
- Supports system switching between Ubuntu 22.04 Server, Yocto-L6.1.36, Debian 12 Server;
- Supports cooperative work on FreeRTOS and Linux dual systems.

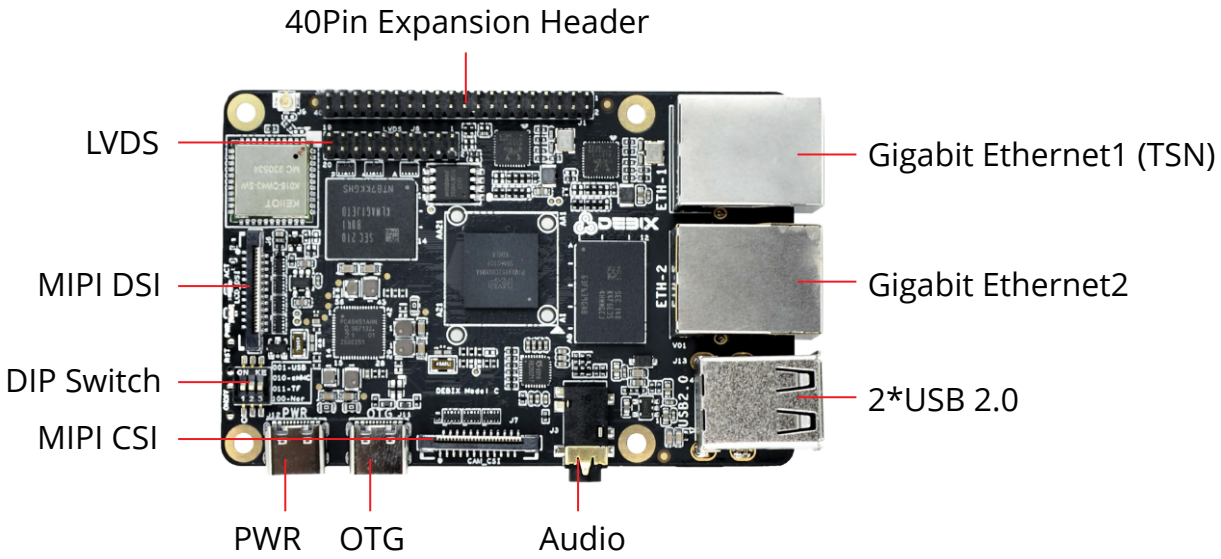


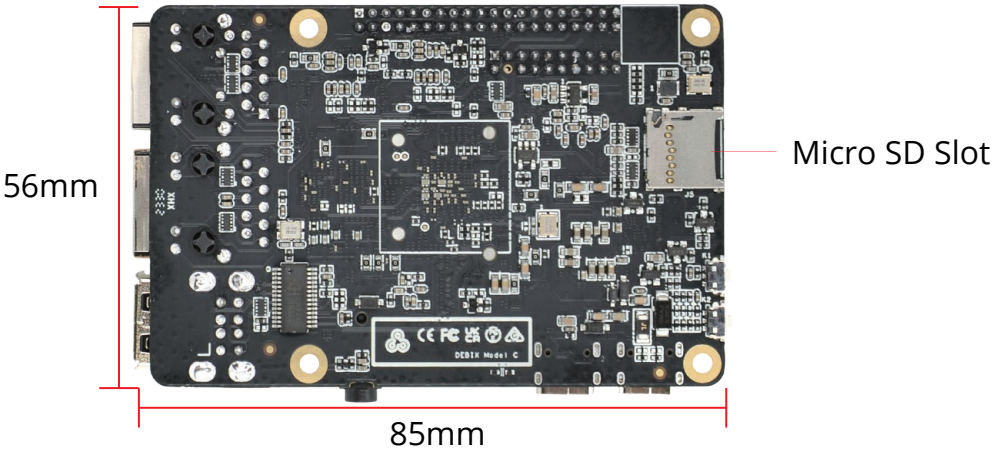
## Specification:

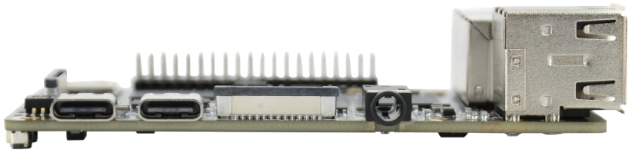
| | |
|---|---|
| **System** | |
| CPU | NXP i.MX9352, 2 x Arm® Cortex®-A55 @1.7 GHz, 1 x Arm® Cortex®-M33 @250MHz, 1 x Arm® Ethos™-U65 microNPU @0.5TOPS.<br>(i.MX 93 series CPU optional) |
| Memory | 1GB LPDDR4 (2GB optional) |
| Storage | Default: Micro SD card (8GB/16GB/32GB/64GB/128GB/256GB optional) and onboard 8MB Nor Flash<br>(Onboard 8GB/16GB/32GB/64GB/128GB/256GB eMMC optional) |
| OS | Ubuntu 22.04 Server, Yocto-L6.1.36, Debian 12 Server (also supports OpenWRT and FreeRTOS) |
| **I/O Interfaces** | |
| Gigabit Ethernet | 1 x Gigabit Ethernet port, support TSN and PoE power supply (need PoE power device module)<br>1 x Gigabit Ethernet port (POE power supply is not supported) |
| WIFI & BT | 2.4GHz & 5GHz WIFI IEEE 802.11a/b/g/n, BT5.2 |
| USB | 2 x USB 2.0 Host<br>1 x USB 2.0 OTG |
| Audio | 1 x Headphone and Mic combo port |
| Slot | 1 x Micro SD card slot |
| **Expansion** | |
| 40-Pin Double-Row Header | (1) 1 x I2C, 2 x USB 2.0 Host, 4 x 12bit ADC in, 1 x UART for system debug.<br>(2) 6 x GPIO for default, can be reused as PWM, UART, SPI, I2C and CAN through software configuration.<br>(3) 5V power supply in/out, 1.8V/3.3V@300mA power out, system reset, ON/OFF |
| LVDS | 1 x 720p60 LVDS, single channel 8bit |
| MIPI CSI | 1 x 1080p60 MIPI CSI (2-lane) |
| MIPI DSI | 1 x 1080p60 MIPI DSI (4-lane) |
| DIP Switch | 1 x 3-bit DIP Switch |
| **Power Supply** | |
| Power Supply | DC 5V/2A Type-C |
| **Mechanical & Environmental** | |
| Size | 85.0mm x 56.0mm (±0.5mm) |
| Operating Temp. | -20°C to 70°C (-40°C to 85°C optional) |
| Net Weight | 43g(±0.5g) |

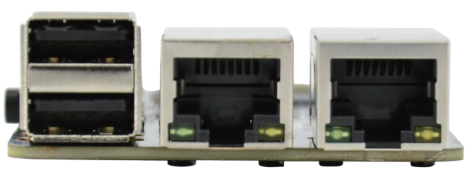
## Certificates:

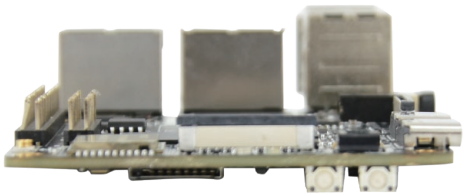
## I/O Interfaces:







## Ordering Codes:

| RAM LPDDR4 | eMMC Storage | PN for Model C -20℃~70℃ | PN for Model C -40℃~85℃ |
|---|---|---|---|
| 1GB DDR | N/A | | Model C-I-D1E0 |
| | 8GB | Model C-D1E8 | Model C-I-D1E8 |
| | 16GB | Model C-D1E16 | Model C-I-D1E16 |
| | 32GB | Model C-D1E32 | Model C-I-D1E32 |
| | 64GB | Model C-D1E64 | Model C-I-D1E64 |
| | | | |
| 2GB DDR | N/A | | Model C-I-D2E0 |
| | 8GB | Model C-D2E8 | Model C-I-D2E8 |
| | 16GB | Model C-D2E16 | Model C-I-D2E16 |
| | 32GB | Model C-D2E32 | Model C-I-D2E32 |
| | 64GB | Model C-D2E64 | Model C-I-D2E64 |

## Compatible with DEBIX's Accessories:

| Product | Model |
|---|---|
| DEBIX Fanless Aluminum Enclosure | EMC-7090B Model C |
| | |
| SBC POE Board | EMB-AS-06 |
| | |
| DEBIX Camera Module | Camera 200A |
| | Camera 500A |
| | |
| DEBIX Display Screen | DEBIX TD050A |
| | DEBIX TD070A |
| | DEBIX TD101A |

## Safety Instruction and Warnings:

***General:***

• Avoid exposure to water, moisture, and conductive surfaces while operating.
• Handle with care to avoid mechanical or electrical damage to the circuit board and connectors.
• Only handle the board by the edges when powered on to minimize the risk of electrostatic discharge damage.

***Power:***

• Use only a 5V/2A DC minimum external power supply that complies with relevant regulations and standards for your country.

***Environment:***

• Operate in a well-ventilated environment, even if using a case.
• Place on a stable, flat, non-conductive surface and avoid contact with conductive items.

***Connections:***

• Only connect compatible devices to the GPIO ports to avoid damage and warranty voiding.
• Use peripherals that comply with relevant standards for the country of use and ensure proper insulation and operation.

***Additional notes:***

• This summary is not exhaustive, please refer to the full User Manual for details.
• If you are unsure about any aspect of safety or operation, consult a qualified professional.

## Contact Us:

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