

DEBIX Infinity





DEBIX Infinity Industrial Single Board Computer

Overview:

DEBIX Infinity is an embedded board based on NXP i.MX 8M Plus Quad Lite, which provides a range of scalable interface options aimed at smart robots, Industry 4.0, edge computing, gateways, IoT, and security applications.

Main Features:

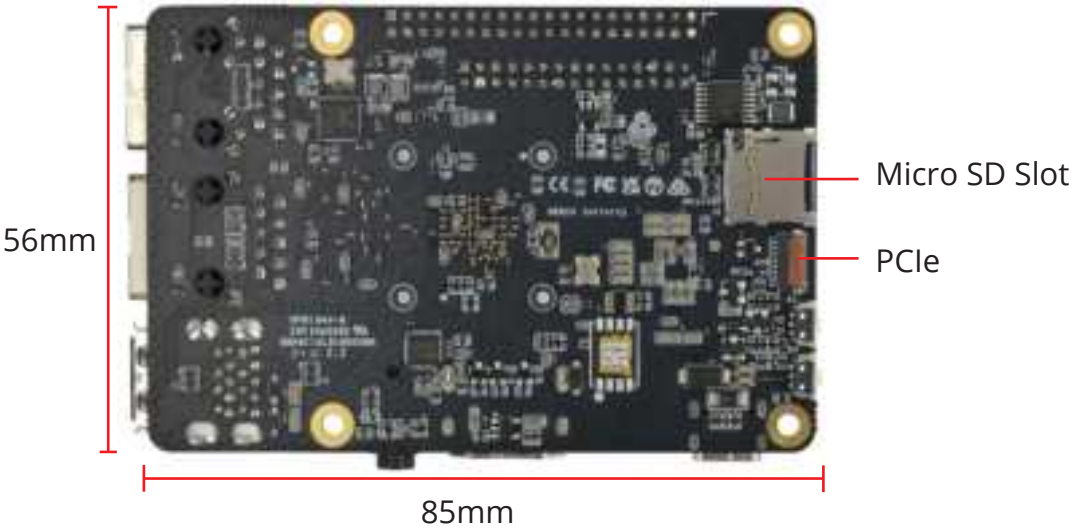
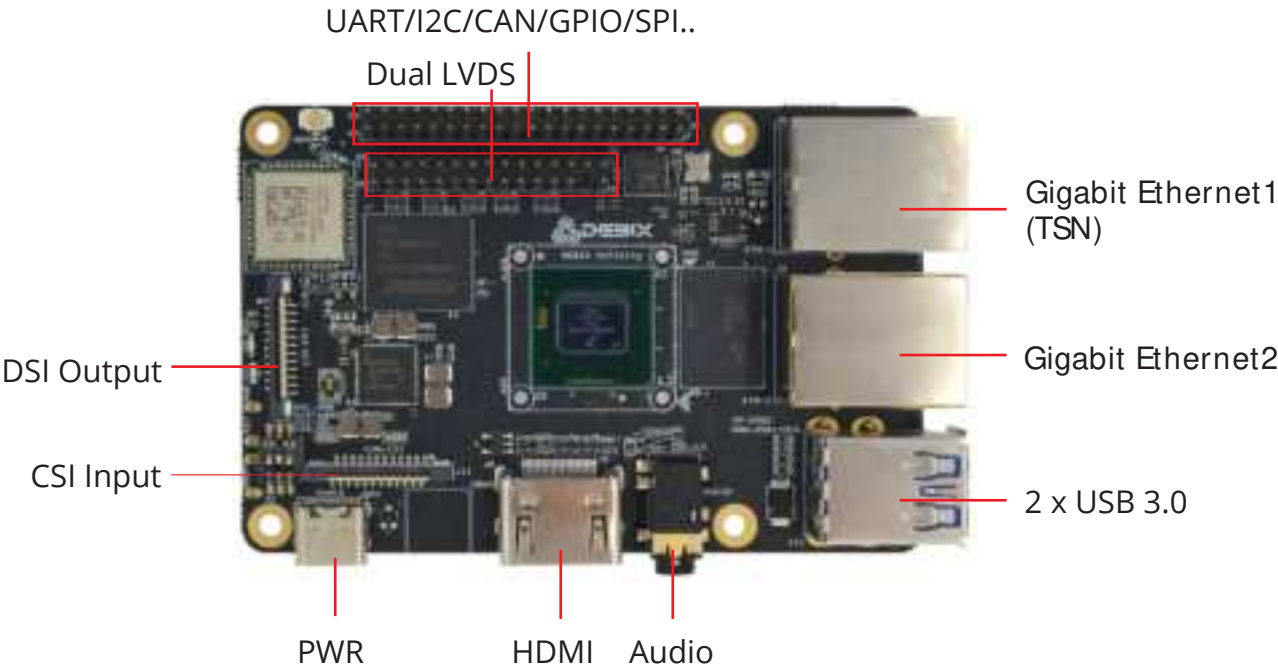
- **Performance:** Powerful quad-core Arm® Cortex®-A53 CPU at 1.6GHz indicates sufficient processing power for demanding industrial applications.
- **Real-time control:** Cortex-M7 core and robust control network interfaces like dual CAN FD and dual Gigabit Ethernet with one TSN support make it suitable for real-time applications with strict timing requirements.
- **Industrial reliability:** Designed for critical environment condition and temperature change, the wide CPU temperature range -40°C to 105°C make it can be used in critical industrial environment, transportation and industry control etc.
- **Rich Connectivity:** A comprehensive range of connectivity options, including Gigabit Ethernet, 2.4GHz & 5GHz Wi-Fi, Bluetooth 5.2, high-speed USB 3.0, and PCIe support. This allows for easy connection and control of various industrial peripherals.
- **Complete Software Support:** Includes Android11/ Yocto-L6.6.36/ Ubuntu22.04/ Debian12 / Windows 10 IoT Enterprise/ OpenWRT/ FreeRTOS operating system and basic software for fast and direct applications.



Specification:

System	
CPU	NXP i.MX 8M Plus Quad Lite, MIMX8ML4CVNKZAB, 4 x Cortex-A53 1.6GHz
Memory	2GB LPDDR4 (4GB optional, while 8GB is optional when operating temp. is -20°C to 70°C)
Storage	Micro SD card (Onboard 8GB/16GB/32GB/64GB/128GB/256GB eMMC optional)
OS	Android 11, Yocto-L6.6.36, Ubuntu 22.04, Debian 12, Win10 IoT Enterprise (also supports OpenWRT and FreeRTOS) Note: 4GB/8GB LPDDR4 supports Windows 10 IoT, recommend 8GB version.
I/O Interfaces	
Gigabit Ethernet	2x Gigabit Ethernet port, one supports TSN and PoE power supply (need PoE power device module)
Wi-Fi & BT	NXP 88W8987 SoC: 2.4GHz & 5GHz Wi-Fi + BT 5.2
USB	2 x USB 3.0 Host Type-A (DWN_USB1 can be configured as OTG via software)
Audio	1 x 3.5mm Headphone and Mic combo port
HDMI	1 x HDMI OUT
Expansion	
40-Pin Double-Row Header	(1) 3 x UART, 2 x I2C, 2 x SPI, 2 x CAN, 6 x GPIO for default, can be reused as I2S, PWM, SPDIF and GPIO through software configuration. (2) 5V power supply, system reset, ON/OFF
LVDS	1 x LVDS, single & dual channel 8bit
MIPI CSI	1 x MIPI CSI (4-lane)
MIPI DSI	1 x MIPI DSI (4-lane)
PCIe	1 x PCIe Gen3 1-lane
Slot	1 x Micro SD slot
Power Supply	
Power Supply	DC 5V/3A 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	46g(±0.5g)

I/O Interfaces:



Compatible with DEBIX's Accessories:

Product	Model
DEBIX Fanless Aluminum Enclosure	EMC-7090B Infinity
I/O Board	EMB-AS-E01
4G Board	EMB-AS-05
LoRa Board	EMB-AS-03
SBC POE Board	EMB-AS-06
DEBIX Camera Module	Camera 200A
	Camera 500A
DEBIX Display Screen	DEBIX TD050A
	DEBIX TD070A
	DEBIX TD101A
	DEBIX TD050H
	DEBIX TD070H
	DEBIX TD101H

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/3A 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.

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