BPC-iMX8MP-03 Industrial Computer

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Overview:

BPC-iMX8MP-03 Industrial Computer is a compact and durable box PC designed for industrial applications. It is composed of a DEBIX SOM A core board, a DEBIX SOM A I/O Board carrier board, and a steel and aluminum enclosure.

It's built to withstand harsh environments with a wide operating temperature range of -40℃ to 85℃, and it guarantees more than 50,000 hours of MTBF. All serial ports and GPIO are designed with isolation to improve safety.
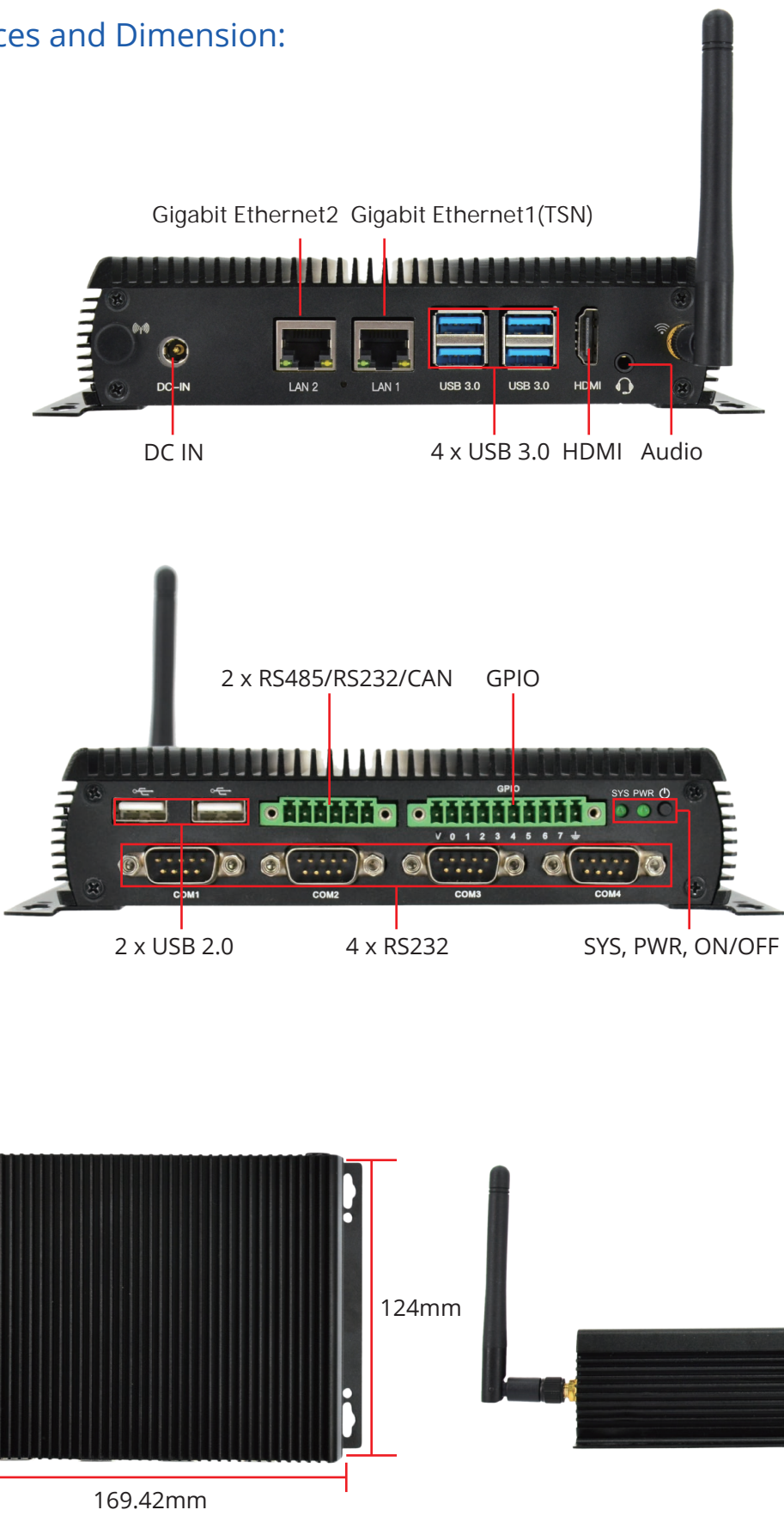
Main Features:

· **Durable:** Solid steel and aluminum enclosure, wide temperature (-40°C to 85°C), >50000 hours of MTBF

· **Modular:** Utilizes DEBIX SOM A core board and DEBIX SOM A I/O Board carrier board for flexibility

· **Multiple boot options:** Support eMMC, Micro SD and SPI Nor Flash(reserved)

· **Software Compatibility:** Support Windows, Ubuntu, Yocto, Debian, Android, OpenWRT and FreeRTOS operating systems

· **Powerful connectivity:** Include dual Gigabit network, 2.4GHz & 5GHz Wi-Fi 5, Bluetooth 5.0 and one Mini PCIe for 4G module/LoRa module/network card

· **Rich and isolated I/O:** 4 x USB 3.0, 2 x USB 2.0 and isolated interfaces: 4 x RS232, 2 x RS485/ RS232/ CAN, 4 x DI, 4 x DO

Specification:

System	
Motherboard	DEBIX SOM A (Core Board) + DEBIX SOM A I/O Board (Carrier Board)
Boot	(1) Support boot from eMMC on DEBIX SOM A (default) (2) Support boot from Micro SD on carrier board (3) Support boot from SPI Nor Flash on carrier board (reserved)
Memory	Onboard 2GB LPDDR4 (1GB/4GB/8GB optional)
Storage	Onboard 16GB eMMC (8GB/32GB/64GB/128GB/256GB optional)
OS	Windows 10 IoT Enterprise, Ubuntu 22.04, Yocto-L6.1.22_2.2.0, Debian 12 (also supports Android, OpenWRT and FreeRTOS.)

Communication	
Gigabit Ethernet	2 x Independent MAC Gigabit Ethernet ports with POE power supply (need POE power device module) (one supports TSN)
Wi-Fi & Bluetooth	2.4GHz & 5GHz Wi-Fi 5 and Bluetooth 5.0, external SMA antenna for Wi-Fi&BT (4G or LoRa antenna is optional)

Video & Audio	
Display	1 x HDMI output
Audio	1 x Headphone and mic combo port

External I/O	
DC IN	1 x Power socket for 5.5mm x 2.1mm plug
USB 3.0	4 x USB 3.0 Host
USB 2.0	2 x USB 2.0 Host
Serial Ports	(1) 4 x Isolated RS232, compatible with UART TTL 3.3V without isolation (2) 2 x Isolated RS232/RS485/CAN (RS485 for default)，compatible with UART TTL 3.3V without isolation
GPIO	(1) 4 x Isolated DI, support dry contact and wet contact (2) 4 x Isolated DO, support wet contact, compatible with dry contact of external relay
LED & KEY	(1) 1 x System LED (2) 1 x Power LED (3) 1 x ON/OFF

Internal I/O	
SIM Slot	1 x Built-in Micro SIM slot, push pop-up slot
SD Slot	1 x Built-in Micro SD slot, push pop-up slot
Mini PCIe	(1) Support 4G module such as Quectel 4G module, built-in SIM card, etc. (2) Support LoRa module (3) Support other expansion such as network card, SATA and serial port

Power Supply	
Power Input	DC 12V/2A power input for default, supports DC 12V~36V

Mechanical & Environmental	
Enclosure Material	Steel and aluminum alloy
Dimension	169.42(W)mm x 38.90(H)mm x 124.00(D)mm (±0.5mm)
Gross Weight	812g (±0.5g)
Operating Temp.	-20℃~+70℃ (-40℃~+85℃ optional)
Relative Humidity	10%~90%
MTBF	>50000 hours
Shock	15G half-sine 11ms duration
Vibration	1Grms random 5-500Hz hr/axis

I/O Interfaces and Dimension:

Gigabit Ethernet2   Gigabit Ethernet1(TSN)

DC IN

4 x USB 3.0   HDMI   Audio

2 x RS485/RS232/CAN   GPIO

2 x USB 2.0

4 x RS232

SYS, PWR, ON/OFF

124mm

169.42mm

38.9mm

Ordering Codes:

RAM LPDDR4	eMMC Storage	PN for BPC-iMX8MP-03-20℃~70℃	PN for BPC-iMX8MP-03-40℃~85℃
1GB DDR	8GB	BPC-iMX8MP-03-D1E8	BPC-iMX8MP-03-I-D1E8
	16GB	BPC-iMX8MP-03-D1E16	BPC-iMX8MP-03-I-D1E16
	32GB	BPC-iMX8MP-03-D1E32	BPC-iMX8MP-03-I-D1E32
	64GB	BPC-iMX8MP-03-D1E64	BPC-iMX8MP-03-I-D1E64
2GB DDR	8GB	BPC-iMX8MP-03-D2E8	BPC-iMX8MP-03-I-D2E8
	16GB	BPC-iMX8MP-03-D2E16	BPC-iMX8MP-03-I-D2E16
	32GB	BPC-iMX8MP-03-D2E32	BPC-iMX8MP-03-I-D2E32
	64GB	BPC-iMX8MP-03-D2E64	BPC-iMX8MP-03-I-D2E64
4GB DDR	8GB	BPC-iMX8MP-03-D4E8	BPC-iMX8MP-03-I-D4E8
	16GB	BPC-iMX8MP-03-D4E16	BPC-iMX8MP-03-I-D4E16
	32GB	BPC-iMX8MP-03-D4E32	BPC-iMX8MP-03-I-D4E32
	64GB	BPC-iMX8MP-03-D4E64	BPC-iMX8MP-03-I-D4E64
8GB DDR	8GB	BPC-iMX8MP-03-D8E8	
	16GB	BPC-iMX8MP-03-D8E16	
	32GB	BPC-iMX8MP-03-D8E32	
	64GB	BPC-iMX8MP-03-D8E64	

Compatible with DEBIX's Accessories:

Product	Model
DEBIX Display Screens	DEBIX TD050H
	DEBIX TD070H
	DEBIX TD101H

Safety Instruction:

To avoid malfunction or damage to this product please observe the following:

• Disconnect the device from the DC power supply before cleaning. Use a damp rag. Do not use liquid detergents or spray-on detergents.

• Keep the device away from moisture.

• During installation, put the device on a reliable table. It will be damaged if you drop it.

• Before connecting the power supply, ensure that the voltage is in the required range.

• The air vent in the bottom of the enclosure is used for heat dissipation. To prevent the device from overheating, don't cover the hole.

• Put the power cable in place to avoid stepping on it.

• If the device is not used for a long time, power it off to avoid damage caused by sudden overvoltage.

• Do not pour liquid into the hole of the enclosure, as this could cause fire or electrocution.

• For safety reasons, the device can only be disassembled by professional personnel.

• Do not place the device in a place where the ambient temperature is below -40℃ or above 85℃. This will damage the machine. It needs to be kept in an environment at controlled temperature.

Contact Us:

Headquarters: DEBIX Technology Inc., 8345 Gold River Ct., Las Vegas, NV 89113, USA

Factory: 5-6/F., East Zone, Shunheda A2 Building, Liuxiandong Industrial Park, Xili, Nanshan Dist., Shenzhen, China

Email: info@debix.io

Website: www.debix.io

Community: https://discord.com/invite/adaHHaDkH2