EPC-R3720

NXP i.MX8M Plus Cortex®-A53 Edge AI RISC-based Box Computer

Features

- NXP i.MX8M Plus Cortex®-A53 Quad Core 1.6GHz
- On-board LPDDR4 6 GB, 4000MT/s memory
- HDMI up to 3840 x 2160 at 30Hz resolution
- Dual GbE LAN, 1 USB2.0 and 1 USB3.2 Gen 1
- 1 Micro SD Socket & 1 Nano SIM Slot
- 1 mini-PCIe for 3G/4G, 1 M.2 2230 Key E Slot
- Yocto Linux and Android
- 4 Kinds of Rear I/O for Each Vertical Focus: IEM, Self Service, Automation and Networking

Specifications

Model		EPC-R3720IQ-ALA100	EPC-R3720IQ-ALA120	EPC-R3720IQ-ALA140	EPC-R3720IQ-ALA160
Processor System	CPU	NXP i.MX8M Plus Cortex®-A53 Quad 1.6 GHz			
Memory	Technology	LPDDR4			
	Capacity	6 GB On-board			
	Flash	16 GB On-board eMMC Flash for OS and 8 MB QSPI NOR Flash for board information			
Graphics	HDMI	1 x HDMI 2.0a, up to 3840 x 2160 at 30Hz			
	Graphics Engine	GC7000UL with 2D/3D Graphic Acceleration supporting 1G Pixel/s, OpenVG 1.1, Open GL ES3.1, Vulkan and open CL 1.2 FP			
	H/W Video Codec	Decoder: 1080p60 HEVC/H.265 Main, VP9 Profile 0/2, VP8, AVC/H.264 Baseline/Main/High Encoder: 1080p60 AVC/H.264, HEVC/H.265			
Ethernet	Chipset	NXP i.MX8M Plus integrated RGMII			
	Speed	2 10/100/1000 Mbps			
Watchdog Timer	Watchdog Timer	1~6553s, power on/off 4s			
Front I/O	USB	1 x USB3.2 Gen 1 Type A, 1 x USB 2.0 Type A			
	GbE	2 x RJ45 for GbE			
COM/CAN		1 x DB9 for RS-232/422/485 and 1 x CAN-FD			
Rear I/O		UIO-4030 1 x RS-485, 1 x 2 wires RS-232 4 x DIs, 4 x DOs	UIO-4032 2 x 2 wires RS-232 1 x GbE, 2 x USB 2.0	UIO-4034 2 x 2 wires RS-232 1 x CAN Bus 2.0B	UIO-4036 4 x GbE (Hub)
Expansion	Full-Size Mini PCIe	1 Full Size Mini-PCIe Slot (USB Signal Only)			
	M.2 Micro	1 M.2 2230 Key E Slot (USB/PCIe/SDIO/UART/I2S)			
	SD Socket	1 Micro SD Socket			
	SIM	1 Nano SIM Slot			
	Antenna Holes	4			
Power	Power Supply Voltage	+12V			
	Power Type	Lockable DC-Jack			
	Power Consumption	9.2W			
Environment	Operating Temperature	-40 ~ 70 °C			
	Operating Humidity	5% ~ 95% relative humidity, non-condensing			
Mechanical	Dimensions	174 x 108 x 25 mm			
	Mounting	Wall mount, DIN Rail mount			
	Weight	750g			
Operating System	Linux	Yocto			
	Android	Android			
Certifications		CE/FCC Class B/CCC/BSMI			

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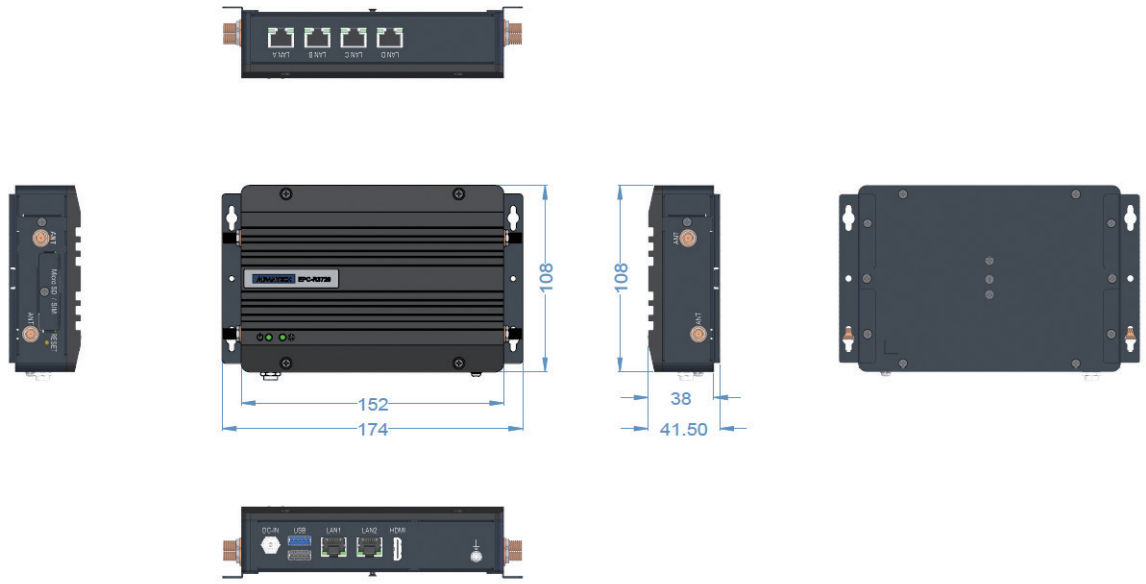
All product specifications are subject to change without notice.

Dimensions

Unit: mm



Ordering Information

Part Number	CPU	Memory	Flash	HDMI	LAN	USB	DI/DO	Serial Port	Micro SD	Nano SIM	CAN	I/O Exp.	Operating Temperature
EPC-R3720IQ-ALA100 EPC-R3720IQ-ALA10B (BSMI)	Quad 1.6 GHz	6 GB	16 GB, Yocto 3.0	1	2	2	4/4	1 RS-232, 1 RS-485	1	1	1	UIO-4030	-40 ~ 70 °C 10B (-40~60 °C)
EPC-R3720IQ-ALA120 EPC-R3720IQ-ALA12B (BSMI)	Quad 1.6 GHz	6 GB	16 GB, Yocto 3.0	1	3	4	-	2 RS-232	1	1	1	UIO-4032	-40 ~ 70 °C 12B (-40~60 °C)
EPC-R3720IQ-ALA140 EPC-R3720IQ-ALA14B (BSMI)	Quad 1.6 GHz	6 GB	16 GB, Yocto 3.0	1	2	2	-	2 RS-232	1	1	2 (CAN-FD on front I/O, CANbus on rear I/O)	UIO-4034	-40 ~ 70 °C 14B (-40~60 °C)
EPC-R3720IQ-ALA160 EPC-R3720IQ-ALA16B (BSMI)	Quad 1.6 GHz	6 GB	16 GB, Yocto 3.0	1	6 (2 as independent, and 4 by hub)	2	-	-	1	1	1	UIO-4036	-40 ~ 70 °C 16B (-40~60 °C)

Packing List

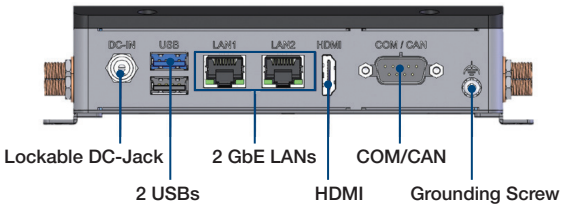
Part Number	Description
EPC-R3700-DR01	Wall Mount BKT

Optional Accessories

Part Number	Description
96PSA-A36W12W7-5	ADP A/D 100-240V 36W 12V C6 LOCK DC JACK 62368
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	Power Cord 3P Europe (WS-010+WS-083) 183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
1700008921	Power Cord 3P PSE 183cm
1700019146	Power Cord CCC 3P 2.5A 250V 183cm
1700033212-01	Y Cable for CAN & RS-232 Debug
EWM-W163M201E	802.11 a/b/g/n/ac,QCA6174A,2T2R,w/BT4.1,M.2 2230
1750008717-01	Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-R BLK
1750007965-01	Antenna Cable R/P SMA (M) to MHF4, 300mm
EWM-C117FL06E*	LTE 4G,3G WCDMA/DC-HSPA+, 2G module, MPCI-L280H
1750007990-01	Antenna 4G/LTE full band L=11 cm 50 Ohm
1750006009	Antenna Cable SMA (F) to MHF 1.32 25cm

*Please contact us for suggesting suitable cellular module for your region

Front I/O



Embedded Linux Support and Design-in Services

Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.

Features

Certified OS and BSP

- Platform compatibility tests
- Preloaded functional driver and software stacks

Licensed Services

- License authorized Canonical delivers 10-years of bug fixes and security updates
- In-house bundled service

Numerous AI and Edge Resources

- Containerized technology for service provision and deployment
- AI resources from Caffe, TensorFlow, and mxnet

Local Partner Alliance

- Embedded Linux and Android Alliance (ELAA)

WISE-DeviceOn

Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.

Features

Comprehensive Management

- Devices status
- Peripherals/firmware
- Open for extension

Remote Access

- Real-time monitoring
- Remote controls
- Troubleshooting

Efficient Operations

- Zero-touch on-boarding
- OTA updates
- Batch control

Product Highlights

SOM-6883

High-performance 11th Gen Intel® COMe Type 6 Module

MIO-5375

Compact 11th Gen Intel® Outdoor Focused 3.5" SBC

EPC-B5587

10th Gen Intel® Xeon® based Edge server

EPC-R3220

Arm based IoT Edge Gateway