

VIA AMOS-820

Fanless ultra-compact quad-core edge computing system ruggedized for extreme environments

Features

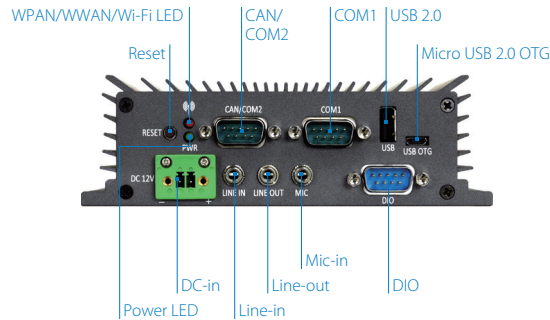
- 1.0GHz NXP i.MX 6QuadPlus or i.MX 6Quad Cortex-A9 SoC
- Power over Ethernet (PoE) option
- Wide operating temperature range, -20°C ~ 70°C
- Legacy I/O support including dual CAN bus, dual COM, and GPIO
- Android and Linux solution packs available



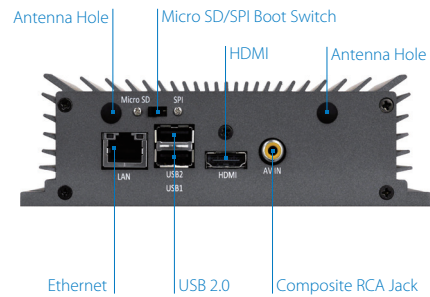
Specifications

Model Name	AMOS-820-QP	AMOS-820
Processor	1.0GHz NXP i.MX 6QuadPlus Cortex-A9 SoC	1.0GHz NXP i.MX 6Quad Cortex-A9 SoC
System Memory	1GB DDR3 SDRAM onboard	
Storage	4GB eMMC Flash memory	
Boot Loader	4MB SPI Flash ROM	
Graphics	Vivante GC2000+ GPU	Vivante GC2000 GPU
	3 independent, integrated 3D/2D and video graphics processing units Supports OpenGL® ES 3.0, OpenCL and OpenVG™ 1.1 hardware acceleration Supports MPEG-2, VC-1 and H.264 video decoding up to 1080p Supports SD encoding	
LAN	Micrel KSZ9031RNX Gigabit Ethernet transceiver with RGMII support	
Audio	NXP SGT5000 low power stereo codec	
HDMI	Integrated HDMI 1.4 transmitter	
USB	SMSC USB2514 USB 2.0 high-speed 4-port hub controllers	
CAN	TI SN65HVD1050 EMC optimized CAN transceiver	
Expansion I/O	1 miniPCIe slot	
Front Panel I/O	1 USB 2.0 port 1 Micro USB 2.0 type B port supports OTG 1 COM (TX/RX) / 2 CAN bus ports (supports CAN protocol specification version 2.0 B) 1 COM port supports 8-wire DTE mode 1 DIO port supports 8 GPIO (4 GPI + 4 GPO) 3 Audio jacks: Line-in, Line-out and Mic-in 1 Reset button 2 LEDs for power & WPAN/WWAN/Wi-Fi status 1 2-pole Phoenix DC jack	
Back Panel I/O	1 HDMI port 1 Composite RCA jack 2 USB 2.0 ports 1 Gigabit Ethernet port (supports optional IEEE802.3 at type 2) 1 Micro SD/SPI boot switch 2 Antenna holes for 3G/Wi-Fi	
Power Supply	12V DC-in (typical: 7W)	
Operating System	Android 6.0, Linux kernel 4.1.15	
VIA Smart ETK	Watchdog timer, CAN bus, GPIO, UART	
Operating Temperature	-20°C ~ 70°C (3G & Wi-Fi not included) (AMOS-820-1Q10A1, AMOS-820-5Q10A1) -20°C ~ 60°C (3G & Wi-Fi not included) (AMOS-820-2Q10A1, AMOS-820-6Q10A1)	
Operating Humidity	0% ~ 90% @ 45° C (non-condensing)	
Vibration Loading During Operation	With onboard eMMC 7Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis	
Shock During Operation	With onboard eMMC 70G, IEC 60068-2-27, half size, 11ms duration	
PoE Function	Supports IEEE802.3 at compliant (type 2) PD (AMOS-820-2Q10A1, AMOS-820-6Q10A1)	
Bottom Opening Covers	Open window with removable door plate to access Micro SD and miniPCIe slots	

Front Panel External I/O



Back Panel External I/O



Specifications

Model Name	AMOS-820
Mechanical Construction	Aluminum top chassis housing Metal chassis housing Dual removable front & rear metal face plate
Mounting	Wall/DIN Rail/VESA mountable
Dimensions	150.5mm(W) x 48.1mm(H) x 103.3mm(D) (5.9" x 1.9" x 4.1")
Weight	0.673kg (1.48lbs)
Compliance	CE, FCC

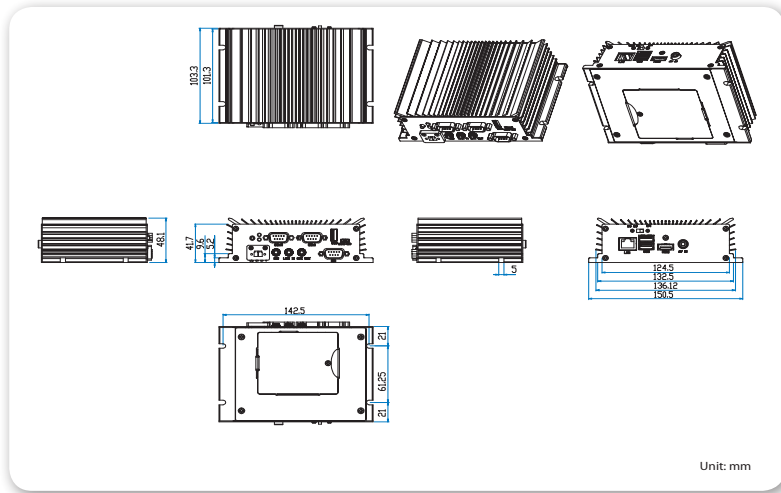
Ordering Information

Part Number	SoC Frequency	Description
AMOS-820-5Q10A1	NXP i.MX 6QuadPlus Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6QuadPlus Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG, 2 COM, 2 CAN bus, GPIO, Gigabit Ethernet, miniPCIe slot, RCA-in, 12V DC-in
AMOS-820-6Q10A1	NXP i.MX 6QuadPlus Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6QuadPlus Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG, 2 COM, 2 CAN bus, GPIO, Gigabit Ethernet, miniPCIe slot, RCA-in, PoE function, 12V DC-in
AMOS-820-1Q10A1	NXP i.MX 6Quad Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG, 2 COM, 2 CAN bus, GPIO, Gigabit Ethernet, miniPCIe slot, RCA-in, 12V DC-in
AMOS-820-2Q10A1	NXP i.MX 6Quad Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG, 2 COM, 2 CAN bus, GPIO, Gigabit Ethernet, miniPCIe slot, RCA-in, PoE function, 12V DC-in

Optional Accessories

Wireless Accessories	
Part Number	Description
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11 b/g/n USB Wi-Fi dongle
EMIO-2531-00A1	VAB-820-W-M IEE 802.11 b/g/n miniPCIe Wi-Fi & Bluetooth module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS, SIM card slot, assembly kit and antenna
EMIO-2550-01A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with SIM card slot, assembly kit and antenna

Dimensions



Packing List

Items
AMOS-820 system
Phoenix plug to DC jack
COM/CAN conversion cable
Screw pack for miniPCIe card
Screw pack for mounting
Rubber feet pack