VIA

AMOS-820

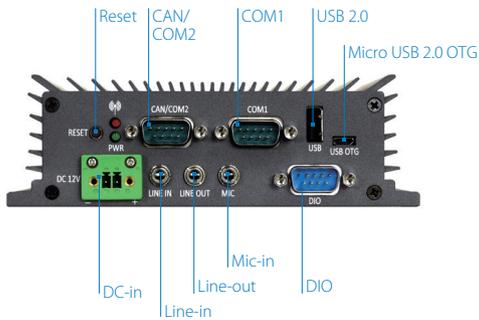**Fanless ultra-compact quad-core ARM system ruggedized for extreme environments**

Features

■ 1.0GHz Freescale™ i.MX 6Quad Cortex-A9 quad-core SoC

■ Power over Ethernet (PoE) option

■ Wide operating temperature range, -20℃ ~ 65℃

■ Legacy I/O support including dual CAN bus, dual COM, and GPIO

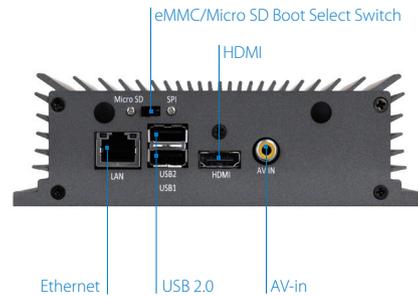■ Android and Linux solution packs available

Specifications

Model Name	**AMOS-820**
Processor	1.0GHz Freescale i.MX 6Quad Cortex-A9 quad-core SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory
Boot Loader	4MB SPI Flash ROM
Graphics	Vivante GC2000 GPU 3 independent, integrated 3D/2D and video graphics processing units Graphics engine supporting OpenGL® ES 2.0, OpenCL and OpenVG™ 1.1 hardware accleration 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	Freescale SGTL5000 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 port (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 1 Power & WWAN/Wi-Fi LED 1 2-pole Phoenix DC jack
Back Panel I/O	2 USB 2.0 ports 1 HDMI port 1 Composite RCA jack 1 Gigabit Ethernet port (supports optional IEEE802.3 at type 2) 1 Micro SD/SPI boot switch
Watchdog Timer	Integrated watch dog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line.
Power Supply	12V DC-in (typical: 7W)
Operating System	Android 4.4.2, Linux Kernel 3.10.17
Operating Temperature	-20℃ ~ 65℃ (3G & Wi-Fi not included) -20℃ ~ 60℃ PoE sku (3G & Wi-Fi not included)
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 (type2) PD (AMOS-820-P)
Bottom Opening Covers	Open window with removable door plate to access Micro SD and miniPCIe slots
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)

CE FC

Front System I/O

Reset CAN/COM2 COM1 USB 2.0 Micro USB 2.0 OTG

DC-in Line-in Line-out Mic-in DIO

Rear System I/O

eMMC/Micro SD Boot Select Switch HDMI

Ethernet USB 2.0 AV-in

Ordering Information

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

Optional Accessories

Wireless Accessories

Part Number	Description
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11b/g/n USB Wi-Fi dongle
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot

Dimensions

103.3
101.3
48.1
41.7
9.6
5.2
5
124.5
132.5
136.12
150.5
142.5
21
61.25
21

Unit: mm
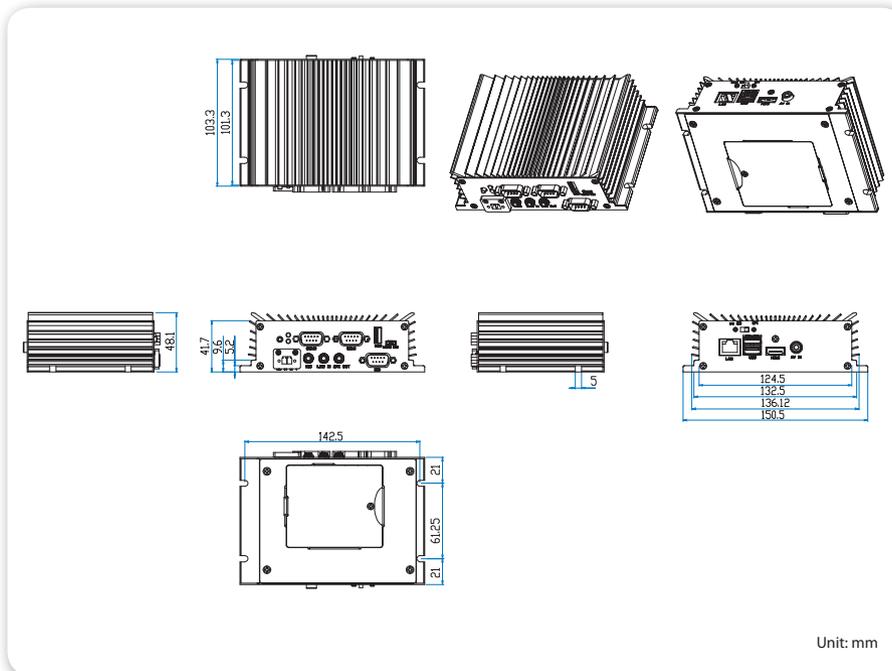
Packing List

AMOS-820 system
2-pole phoenix plug to DC jack
Screw pack for mounting
Washer rubbers pack
Screw pack for miniPCIe card
COM/CAN conversion cable