VIA AMOS-820

Ruggedized Fanless Edge Computing System

Fast-track your IoT and edge intelligence deployments with the VIA AMOS-820 edge computing system. Combining the advanced compute and graphics performance of NXP i.MX 6Quad series processors with a wealth of I/O and connectivity features, this ultra-compact fanless system provides a highly-customizable low-power solution for a host of industrial IoT, enterprise IoT, smart transportation, and energy management applications. With its ruggedized design and wide operating temperature range, the VIA AMOS-820 provides an ultra-reliable solution for mission-critical edge installations in the most demanding indoor and outdoor environments – from busy factory and warehouse floors to remote wind and solar farms.

The VIA AMOS-820 provides a powerful edge compute system with rich array of I/O and connectivity in a robust and durable small form factor. In addition to extremely low power consumption of a mere 7W under typical operation, the system supports a wide operating temperature range from -20°C up to 70°C.

◆ Choice of 1.0GHz NXP i.MX 6QuadPlus and 6Quad series quad-core SoCs

◆ Wide operating temperature range: -20°C ~ 70°C

◆ Flexible expansion options including 3G, Wi-Fi, and PoE (Power over Ethernet) support

◆ Android 6.0 and Linux BSPs available

◆ Microsoft Azure Certified for IoT

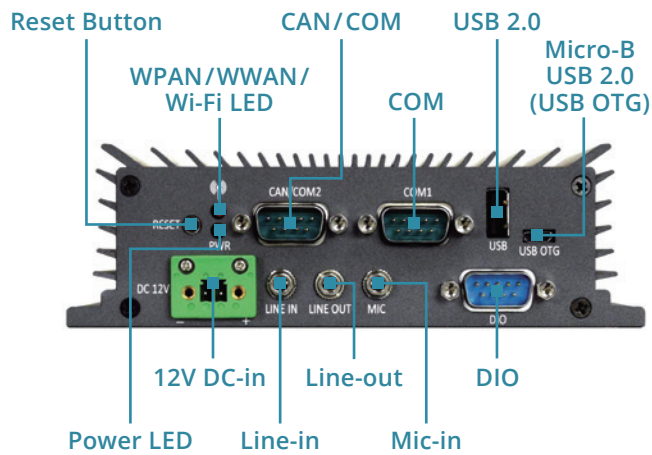◆ Compatible with FogHorn's Lightning "edge intelligence" software
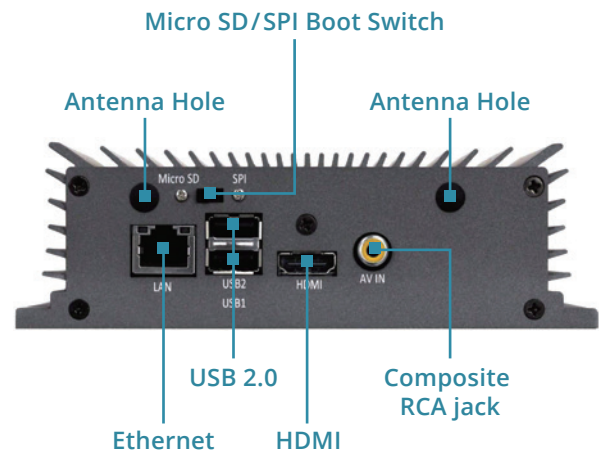
Microsoft Azure Certified

FOGHORN

VIA AMOS-820

VIA AMOS-820 Front Panel

Reset Button
WPAN/WWAN/Wi-Fi LED
CAN/COM
COM
USB 2.0
Micro-B USB 2.0 (USB OTG)
12V DC-in
Line-out
DIO
Power LED
Line-in
Mic-in

VIA AMOS-820 Rear Panel

Micro SD/SPI Boot Switch
Antenna Hole
Antenna Hole
USB 2.0
Composite RCA jack
Ethernet
HDMI

VIA AMOS-820 Specifications

Model Name	AMOS-820-QP	* AMOS-820
Processor	1.0GHz NXP i.MX 6QuadPlus Cortex-A9 quad-core SoC	* 1.0GHz NXP 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 Supports OpenGL® ES 3.0, OpenCL and OpenVG™ 1.1 hardware accleration Supports MPEG-2, VC-1 and H.264 video decoding up to 1080p Supports SD encoding	* Vivante GC2000 GPU
LAN	Micrel KSZ9031RNX Gigabit Ethernet transceiver with RGMII support	
Audio	NXP 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 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 2 USB 2.0 ports 1 Gigabit Ethernet port (supports optional IEEE 802.3at type 2)	1 Composite RCA jack 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-820-1Q10A2, AMOS-820-5Q10A1) -20°C ~ 60°C (3G & Wi-Fi not included) (AMOS-820-2Q10A2, 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 sine, 11ms duration	
PoE Function	Supports IEEE 802.3at compliant (type 2) PD (AMOS-820-2Q10A2, AMOS-820-6Q10A1)	
Bottom Opening Covers	Open window with removable door plate to access Micro SD and miniPCIe slots	
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	

VIA we connect