

RAC-1000

NVIDIA® Jetson AGX Orin™ Rugged AI Computing System



Features

- Advanced NVIDIA® Jetson AGX Orin™ platform delivers up to 275 TOPS AI performance
- The latest NVIDIA Ampere™ architecture, featuring with 2048 NVIDIA® CUDA® cores and 64 Tensor cores
- Supports 8 GMSL 1/2 automotive cameras with Fakra-Z connectors
- IP67 Anti-dust and Waterproof Chassis design
- 1 PCIe Gen3 x8 expansion slot supports optional multiple 10GigE/PoE LAN/USB connections
- 1 M12 Isolated CAN-FD, 2 M12 COM RS-232/422/485
- 2 M12 GigE LAN, 2 USB 3.1, 1 Digital Display supports 4K60
- DC 9V to 50V wide range power input, Software Ignition Power Control



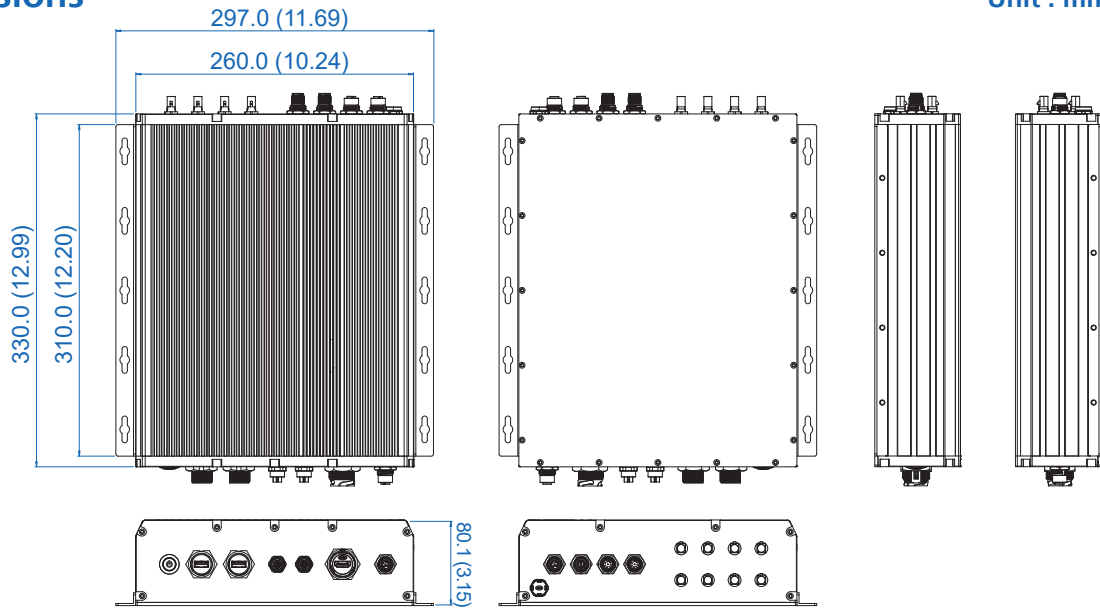
Specifications

System	
CPU	<ul style="list-style-type: none"> ▪ R32 : 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU ▪ R64 : 12-core Arm® Cortex®-A78AE v8.2 64-bit CPU
GPU	<ul style="list-style-type: none"> ▪ R32 : 1792-core NVIDIA Ampere™ architecture GPU with 56 Tensor Cores ▪ R64 : 2048-core NVIDIA Ampere™ architecture GPU with 64 Tensor Cores
DL Accelerator	2x NVDLA Engines
Memory	<ul style="list-style-type: none"> ▪ R32 : 1 32GB LPDDR5 DRAM ▪ R64 : 1 64GB LPDDR5 DRAM
OS	<ul style="list-style-type: none"> ▪ Linux ▪ NVIDIA JetPack SDK
I/O Interface	
USB	2 M12 USB 3.1
Serial	2 A-coded M12 COM RS-232/422/485
LAN	2 X-code M12 GigE LAN
HDMI	1 M12 HDMI 2.1
CAN Bus	1 A-coded M12 Isolated CAN Bus support CAN FD
Flash	1 M12 Micro USB OS flash port
Button	1 Power Button with LED
Expansion	
PCIe	1 PCIe x8 Slot
M.2	<ul style="list-style-type: none"> ▪ 1 M.2 Key B Socket (3042/3052) ▪ 1 M.2 Key E Socket (2230)
Graphics	
Interface	1 Digital Display, up to 4K60
Video Encode	<ul style="list-style-type: none"> ▪ HEVC: 2x 4K @60, 4x 4K @30, 8x 1080p @60, 16x 1080p @30 ▪ H.264: 1x 4K @60, 3 X4k @30, 7x 1080p @60, 14x 1080p @30
Video Decode	<ul style="list-style-type: none"> ▪ HEVC: Up to 1x 8K @30, 3x 4K @60, 7x 4K @30, 11x 1080p @60, 22x 1080p @30 ▪ H.264: Up to 1x 4K @60, 3x 4K @30, 6x 1080p @60, 13x 1080p @30

Camera	
GMSL	8 Fakra-Z connectors for GMSL 1/2 automotive cameras
Storage	
M.2	2 M.2 Key M socket (2280)
eMMC	1 eMMC 5.1, 64GB
Ethernet	
LAN 1	10/100/1000 Base-T Ethernet GigE LAN, X-coded M12 Connector
LAN 2	10/100/1000 Base-T Ethernet GigE LAN, X-coded M12 Connector
Power	
Power Input	DC 9V to 50V
Power Interface	4-pin K-Code M12 connector
Ignition Control	16-mode Software Ignition Control
Mechanical	
Dimensions	260 mm x 330 mm x 80 mm (10.23" x 13" x 3.14")
Weight	7 kg (15.43 lb)
Mounting	Wallmount
Environment	
Operating Temperature	<ul style="list-style-type: none"> ▪ 30W TDP Mode : -25°C to 70°C (-13°F to 158°F), with 0.63 m/s air flow ▪ 50W TDP Mode : 25°C to 55°C (-13°F to 131°F), with 0.63 m/s air flow
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.6, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2, IP67

Dimensions

Unit : mm/ inch



Order Information

Model Name	Platform	RAM	LAN	USB 3.1	Serial	Iso. CAN	Iso. DIO	PCIe Slot	GMSL	PoE+	M.2
RAC-1000-R32	Jetson AGX Orin	32GB	2	2	2	2	16	1	8	-	4
RAC-1000-R64		64GB									
RAC-1100-R32		32GB	6	2	2	2	16	1	-	4	4
RAC-1100-R64		64GB									

Accessories

PWA-160WB-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-180WB	180W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-280WB-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
GMSL Camera Kit	GMSL Camera with Fakra-Z connector
M.2 Storage Module	M.2 Key M/Key B PCIe Storage Module