

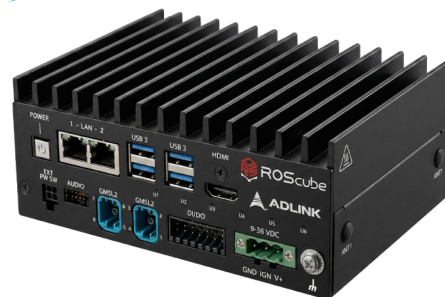
RQX-31G

Embedded ROS 2 Robotic Controller Powered
by NVIDIA® Jetson Orin™ NX Module

Features

- Embedded with NVIDIA® Jetson Orin NX/Nano™ module, delivering up to 100 TOPS
- Time synchronization for GMSL2 cameras
- 9V to 36V wide-range DC input with built-in ignition power control
- Ideal for diverse AI applications for aftermarket autonomous vehicles, service robots, humanoid robot, AMR and more

Preliminary

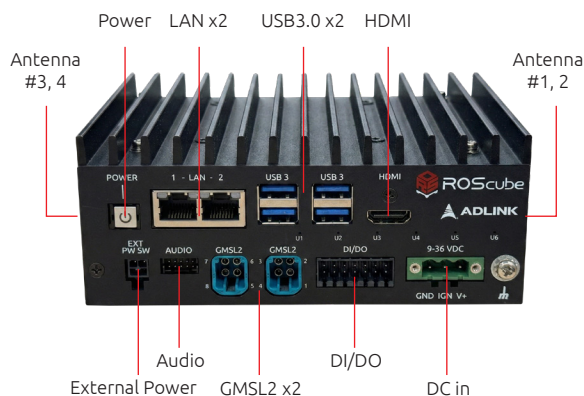


ASD+

Ordering Information

PN	Model Name	NVIDIA Module	NVIDIA Module Memory	NVMe
93-45109-000E	RQX-31G	Orin NX	16 GB	128 GB

Product Illustration



Specifications

Model	Orin NX 16GB	Orin NX 8G	Orin Nano 8G
AI Performance	100 TOPS	70 TOPS	40 TOPS
System			
GPU	1024-core NVIDIA Ampere GPU with 32 Tensor Cores		
CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3
RAM	16GB 128-bit LPDDR5 DRAM	8GB	8GB
Storage	NVMe 128GB		
OS	Linux® Ubuntu		
Front I/O Interfaces			
Button	1x power		
HDMI	1x lockable		
USB	4x USB 3.2 Gen 2 Type-A		
Ethernet	2x 10/100/1000Mbps Ethernet		
DIN/DOUT	4 DI/4DO +(1 x IEEE_1588_PPS input (I²C1)) (with isolation)		
Camera Interface	2 x 1-to-4 mini FAKRA for GMSL2 camera		
Audio in/out	1 x audio in/out		
External power button	1 x external power button cord connector		
Back I/O Interfaces			
Button	1 x reset, 1 x recovery		
USB	1x USB Type C for OTG		
COM	2x 232/422/485 on main board without isolation		
CAN Bus	1x CANbus port without isolation		
FAN	1x 2.0b		
Extension Slots			
Mini PCIe	1x PCIe mini card slot (WiFi/BT PCIE/USB3.0 co-layout)		
M.2	M.2 M key (2280) for OS M.2 M key (2242) for Data Storage		
Power Supply			
DC Input	9-36V with ignition power control (V+ /IGN/ GND)		
AC Input	84W ,OP Temp Max: 55°C		
Mechanical			
Dimensions (W x D x H)	148mm x 107mm x 60.2mm		
Weight	TBD		
Mounting	VESA		
SMA Antenna Connector	4		
Environmental			
Operating Temperature	-20°C to 70°C with 0.6m/s airflow, at 10W -20°C to 60°C with 0.6m/s airflow, at 15W -20°C to 50°C with 0.6m/s airflow, at 25W -20°C to 40°C with 0.6m/s airflow, at MAXN, Need to use industrial grade parts (which Tamb spec is 85°C) for mPCIe interface parts.		
Operating Humidity	~95% @40°C (non-condensing, optional with fanless solution) without adapter		
Storage Temperature	-20°C to 85°C		
Vibration	Operating 1Grms, 5-500Hz		
Shock	Operating 20G, half sine 11ms duration		
ESD	Contact ± 4kV, Air ± 8kV		
Regularity	CE & FCC class B, (EN61000-6-4/-6-2), CE-LVD & UL by CB, FCCID		
F/W Support			
WDT	WDT supported		