



POSEIDON

DOMAIN CONTROLLER

The POSEIDON Domain Controller is designed in accordance with front-installed mass-production standards for commercial vehicles. Built on NVIDIA architecture, it supports scalable AI computing performance and provides rich sensor and I/O interfaces with high system integration. Optional modules include Wi-Fi, 4G/5G, and RTK-INS. With an IP5X-rated enclosure, POSEIDON is suitable as a central computing and control platform for V2X roadside perception, robotics, and intelligent driving applications.



- **Automotive-Grade Pre-Installation Mass Production Design**

- Main chip meets ASIL(D) functional safety level
- Core chips and modules use automotive-grade components
- Single-board integrated design for enhanced stability

- **Highly Integrated Central Computing Platform**

- Platform-based hardware supports seamless switching between high and low computing power without changes to hardware or structural design
- Integrates functional modules such as Wi-Fi, 4G/5G, and RTK-INS integrated navigation
- Integrates interface options such as industrial and automotive Ethernet, CAN, gateway, HDMI, UART, and I/O

- **Streamlined Structure And Thermal Design**

- Compact size and lightweight, easy to install
- High connector integration, convenient wiring
- Single-fan cooling

- **Stable Supply Chain, High Cost-Effectiveness**

- Over 15 years of supply chain partnership, stable and reliable
- Integrated into commercial vehicle pre-installation, resulting in low component procurement costs

— Technical Specifications

Module	Orin-Nano-4GB	Orin-Nano-8GB	Orin-NX-8GB	Orin-NX-16GB
AI Performance	34 INT8 TOPs	67 INT8 TOPs	117 INT8 TOPs	157 INT8 TOPs
CPU	6-core Arm® Cortex®-A78AE v8.2, 64-bit, 1.7 GHz	6-core Arm® Cortex®-A78AE v8.2, 64-bit, 1.7GHz	6-core Arm® Cortex®-A78AE v8.2, 64-bit 2.0GHz	8-core Arm® Cortex®-A78AE v8.2, 64-bit, 2.0GHz
GPU	512 CUDA cores, 16 Tensor cores (1020 MHz)	1024 CUDA cores, 32 Tensor cores (1020 MHz)	1024 CUDA cores, 32 Tensor cores (1173 MHz)	1024 CUDA cores, 32 Tensor cores (1173 MHz)
NPU	N/A	N/A	1x NVDLA	2x NVDLA
Memory	4GB LPDDR5	8GB LPDDR5	8GB LPDDR5	16GB LPDDR5
SSD	128 GB standard, other capacities optional			

— Interface Specifications

Interface	Description	Interface	Description
Power Input	1× Power Input (VCC, GND)	Video Output	1× HDMI 2.0 Type-A
Ethernet	2× 1000BASE-TX, Independent Bandwidth		
USB	5× USB Ports: 1× USB 3.2 Type-C, 4× USB 3.2 Type-C		
CAN	4× CAN Ports, Compatible with CAN FD		
RS232	2× RS232 Ports, Full Duplex	RS422/RS485	1× RS422/RS485 Port, Full Duplex
I/O	4× Digital Input Ports	Positioning	RTK Centimeter-Level Positioning
Video	8× GMSL2 Camera Inputs	Power Output	4× Outputs: 2× 12V/1A, 2× 5V/0.5A
4G/5G Module	2× Cellular Modules: 1× 4G, 1× 5G (Optional)		
Antenna Interfaces	4× Antenna Interfaces: GNSS, Wi-Fi, 4G, 5G		
SIM Slot	1× SIM Card Slot	SSD Interface	1× M.2 M-Key SSD Slot
Debug Interface	1× Type-C / USB 2.0 / UART for Debugging and Firmware Flashing		

— General Specifications

Operating Temperature	-25°C to +75°C		
Cooling Method	Fan Cooling + Natural Heat Dissipation (Aluminum Heat Sink)		
Dimensions	170 mm × 130 mm × 43 mm	Protection Rating	IP5X
Operating Humidity	10% to 90% RH	Storage Humidity	5% to 95% RH
Atmospheric Pressure	86 kPa to 106 kPa	Weight	1 kg ± 0.2 kg
Power Input	9–36 VDC		
Rated Power Consumption	Option 1 (Orin Nano Super): 30 W; Option 2 (Orin NX Super): 45 W		