

Embrace Edge AI, Empower Industrial Digitalization



EC5000 Series AI Edge Computer

· NVIDIA Jetson Orin Nano/NX

· High Security

· High Reliability

· Cloud-Managed

1. Product Overview

EC5000 is a scalable AI edge computer with NVIDIA Jetson modules, built for industrial vision, real-time inference, and secure edge-cloud operations.

Key features:

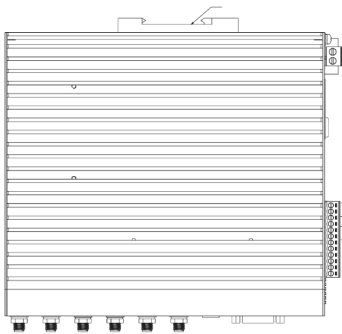
- **NVIDIA AI platform:** Supports Jetson Orin Nano 8GB and Orin NX 16GB modules
- **Rich industrial interfaces:** 2×GE, 2×serial, 6×USB3.2, HDMI, DI/DO, CAN FD, audio, GMSL2
- **Flexible expansion:** M.2 B/E/M key slots, dual SIM, Micro SD, NVMe storage
- **Reliable operation:** Fanless metal design, watchdog, link self-healing, wide-voltage input
- **Cloud-native operations:** DeviceLive remote management and DSA data integration

Core Technical Specifications

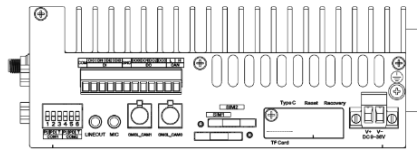
Technical Indicator	Specification
Cellular Network	5G NR / LTE Cat6 (model-dependent)
Network Features	Dual SIM backup, multi-level link detection, auto-redial
Security	TPM2.0, Secure Boot
Cloud Management	DeviceLive cloud parameter, container, app, and firmware lifecycle management
Data Acquisition	Modbus RTU/TCP, EtherNet/IP, OPC UA, DNP3.0, IEC 61850-MMS, BACnet, CNC
Open Platform	Linux (JetPack 5.1 and above)
AI Module	Jetson Orin Nano 8GB / Orin NX 16GB
AI Performance	Up to 40 TOPS (EC5350) / 100 TOPS (EC5550)

Technical Indicator	Specification
Interfaces	2×GE, 2×RS-232/485/422, DI/DO, CAN FD, USB3.2, HDMI, audio, GMSL2
Storage	Built-in 128GB NVMe, Micro SD support
Power Input	9~36V DC, polarity reversal protection
Protection Rating	IP30

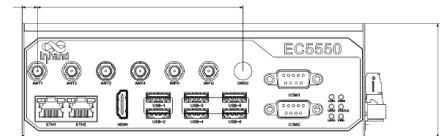
2. Product Dimensions



Front View



Side View



Interface Diagram

Note:

1. All dimensions are in millimeters (mm).
2. All dimensions are approximate and for reference only.
3. Dimensioned drawings are not intended for machining.
4. Dimensions are subject to part and manufacturing tolerances.
5. Specifications may change without prior notice.

3. Hardware Specifications

Category/Parameter	Specification
Hardware Platform	
CPU	EC5350: ARM Cortex-A78AE, 6 cores, TDP up to 15 W, 1.5 GHz; EC5550: ARM Cortex-A78AE CPU, 8 cores, TDP up to 25 W, 2 GHz
GPU	1024-core NVIDIA Ampere GPU with 32 Tensor Cores
NPU	AI acceleration up to 40 TOPS (EC5350) / 100 TOPS (EC5550)
RAM	8GB (EC5350) / 16GB (EC5550)
FLASH	1 x M.2 NVMe M-Key 2280 (128GB built-in)
Connectivity & Interfaces	
Ethernet Ports	2×10/100/1000Mbps, PoE PSE 15W per port
I/O Ports	4×DI + 4×DO
Serial Ports	2×RS-232/RS-485/RS-422 (DB9)
CAN	1×CAN FD
Buttons	1×Recovery Button, 1×Reset Button
SIM Card Holders	2×standard SIM
LED Indicators	1×Power, 1×Status, 4×User
USB	6×USB3.2 Gen2 + 1×OTG Type-C
TF (Micro SD)	Micro SD support

Category/Parameter	Specification
MIC	3.5 mm microphone audio jack
Audio	3.5 mm type line-out
GMSL	2-channel GMSL2.0 (FAKRA)
Expansion Interfaces	1×M.2 B-Key (LTE/5G) 1×M.2 E-Key (Wi-Fi/BT) M.2 NVMe M-Key 2280
HDMI	1×HDMI2.0 (up to 3840×2160@60Hz)
WiFi	802.11b/g/n/ac (RTL8822CE-CG)
Bluetooth	BLE5.0
GPS	Supported (cellular module required)
Power & Power Consumption	
Input Voltage	DC 9~36V
Power Interface	DC input with polarity reversal protection
Typical Value (OS Idle State)	10W
Maximum Value (Full Load)	60W
Mechanical Specifications	
Product Dimensions	180×160×60 mm
Mounting Method (Wall-mount Optional)	DIN-rail (default) / wall-mount
Protection Rating	IP30

Category/Parameter	Specification
Enclosure & Heat Dissipation	Metal housing, fanless design
TPM	TPM2.0
Environment & Certifications	
Storage Temperature	-40~85°C
Operating Temperature	-20~60°C
Environmental Humidity	5~95% RH (non-condensing)
Physical Characteristics	IEC60068-2-27 shock resistance IEC60068-2-6 vibration resistance IEC60068-2-32 drop resistance
EMC Standard	EN61000-4-2, level 3, Static EN61000-4-3, level 3, Radiation Electric Field EN61000-4-4, level 3, Pulsed Electric Field EN61000-4-5, level 3, Surge EN61000-4-6, level 3, Conducted Disturbance Immunity EN61000-4-8, Power Frequency Field Resistance, horizontal / vertical 400A/m (>level 2) EN61000-4-12, level 3, Shock Wave Resistance

4. Software Specifications

Category/Parameter	Specification
Operating System	
Operating System	Linux (JetPack 5.1 and above)

Category/Parameter	Specification
Network Features	
Network Access	5G or LTE Cat6 (model-dependent), Ethernet
Network Standards	5G, LTE Cat6 (different models for different networks)
Security	
Secure Boot	Supported
Reliability	
Link Detection	Multi-level link detection with auto-redial
Built-in Watchdog	Embedded watchdog self-recovery
Dual SIM Switchover	Supported
Data Acquisition Protocols (DSA)	
Industrial Protocols	Modbus RTU Master/Slave, Modbus TCP Master/Slave, EtherNet/IP, ISO on TCP, OPC UA Client/Server, Mitsubishi MC 3C/3E/3C OverTCP, Mitsubishi CPU Port, FINSUDP, HostLink, PPI
Power Protocols	DLT645-2007, IEC101/104, DNP3.0, IEC 61850-MMS
Other Protocols	BACnet, CNC
Network Management	
Upgrade Method	Supports patent upgrade mechanism, local or remote firmware upgrade
Log Functions	Local/remote logs with power-off preservation
Remote Management	DeviceLive / HTTP / HTTPS / SSH remote management

Category/Parameter	Specification
DeviceLive Cloud	Supports cloud-based parameter configuration, container management, application and firmware management

5. Ordering Information

Model Rule

Model code: EC5<350/550>-<WMNN>

<350/550>: NVIDIA module level (350=Orin Nano 8GB, 550=Orin NX 16GB)

<WMNN>: Cellular Type & Frequency Band

Model List

Model	NVIDIA Module	Cellular Bands	Memory/Storage	Ethernet/Serial	GPS
EC5550-NRQ3	Orin NX 16GB	5G NR NSA/SA: n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/ n40/n41/n48/n66/n71/n77/n78/n79 LTE FDD: B1/B2/B3/B5/B7/B8/B12(B17)/B13/B14/B1 8/B19/B20/B25/B26/B28/B29/B30/B32/B 66/B71 LTE TDD: B34/B38/B39/B40/B41/B42/B48 LAA: B46 WCDMA: B1/B2/B3/B4/B5/B6/B8/B19	16GB/128GB	2×1000Mbps; 2×RS232/RS485/ RS422 configurable	YES
EC5350-NRQ3	Orin Nano 8GB	5G NR NSA/SA: n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/ n40/n41/n48/n66/n71/n77/n78/n79 LTE FDD: B1/B2/B3/B5/B7/B8/B12(B17)/B13/B14/B1 8/B19/B20/B25/B26/B28/B29/B30/B32/B 66/B71 LTE TDD: B34/B38/B39/B40/B41/B42/B48 LAA: B46 WCDMA: B1/B2/B3/B4/B5/B6/B8/B19	8GB/128GB	2×1000Mbps; 2×RS232/RS485/ RS422 configurable	YES

EC5550-FQ09	Orin NX 16GB	4G CAT6 LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17 /B18/B19/B20/B25/B26/B28/B29/B30/B3 2/B66/B71 LTE TDD: B34/B38/B39/B40/B41/B42/B43/B46(L AA)/B48(CBRS)	16GB/128GB	2×1000Mbps; 2×RS232/RS485/ RS422 configurable	YES
EC5350-FQ09	Orin Nano 8GB	4G CAT6 LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17 /B18/B19/B20/B25/B26/B28/B29/B30/B3 2/B66/B71 LTE TDD: B34/B38/B39/B40/B41/B42/B43/B46(L AA)/B48(CBRS)	8GB/128GB	2×1000Mbps; 2×RS232/RS485/ RS422 configurable	YES
EC5550-EN00	Orin NX 16GB	No Cellular	16GB/128GB	2×1000Mbps; 2×RS232/RS485/ RS422 configurable	NO
EC5350-EN00	Orin Nano 8GB	No Cellular	8GB/128GB	2×1000Mbps; 2×RS232/RS485/ RS422 configurable	NO