

Embrace Edge AI,  
Empower Industrial Digitalization.

# EC5000 Series AI Edge Computer



• NVIDIA Jetson Orin Nano/NX Series

• High security

• High reliability

• Cloud-Managed

The EC5000 comes pre-integrated with NVIDIA® Jetson Orin NX™ or Orin Nano™, making it ideal for industrial AI applications. The EC5000 design includes 2 Gigabit LAN ports, 1 HDMI video display, 4 DI, 4 DO, 2xRS-232/RS-422/RS-485, 6 external USB 3.2 ports, 1 internal Micro USB for system recovery, and 1 CAN FD port. EC5000 is highly scalable, with built-in support for LTE/5G through an M.2 B-Key slot, support for Wi-Fi/Bluetooth through an M.2 E-Key slot, support for storage expansion through an M.2 M-Key slot, and 1 Micro SD card slot for storage devices. It also supports DeviceLive Cloud Management.



### Smart Energy

Focusing on energy efficiency and sustainable development



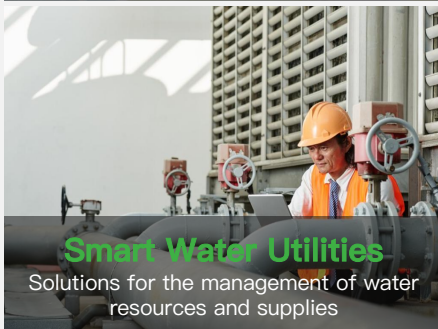
### Smart City

Improving urban management and public services



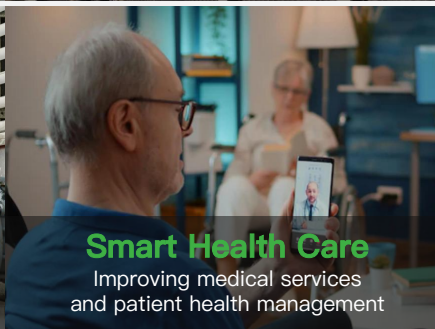
### Smart Manufacturing

Real-time monitoring and controlling



### Smart Water Utilities

Solutions for the management of water resources and supplies



### Smart Health Care

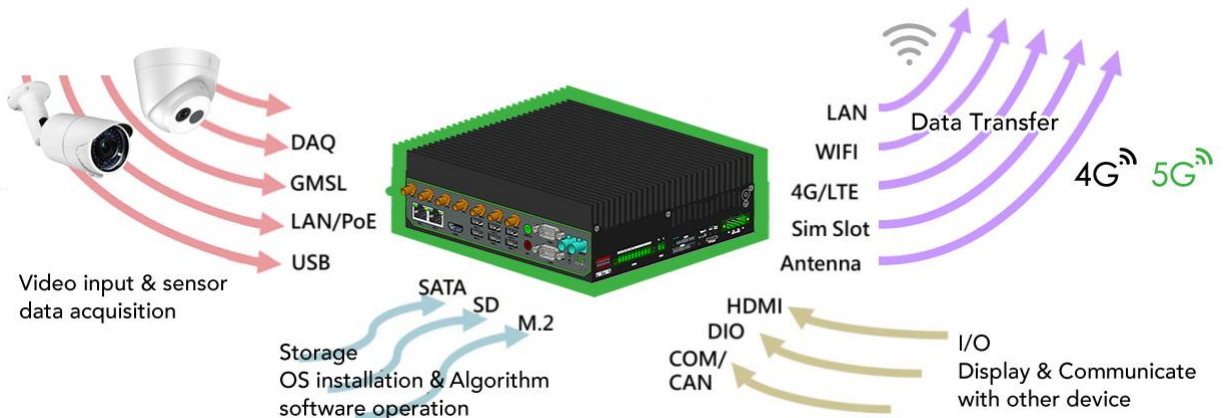
Improving medical services and patient health management



### Public Utility

Improving the efficiency and convenience of public services

## Solution



## Feature and Advantage

### Performance and Platform

- Supports NVIDIA Jetson Orin Nano/NX Series
- Optional 67/157TOPS computing power
- Support customers to develop and install edge applications
- Docker
- Jetpack: Above 5.1

### Rich interfaces

- 2x 10/100/1000Mbps Ethernet interface
- 1x HDMI
- 6x USB3.2
- 1 x M.2 B-Key/E-Key/M-Key
- 1x MicroSD
- 2x RS-232/RS-485/RS-422
- I/O, GPS, CAN, MIC, AUDIO

### Stable communication

- 5G/4G/Wi-Fi/GbE, etc
- Wired, cellular, Wi-Fi mutual backup, dual SIM failover
- Independent hardware and software watchdog
- Multilevel link detection, communication self-healing
- Fanless



### High-level security

- Linux system security patches and vulnerability remediation services
- TPM 2.0
- Secure Boot

### DeviceSupervisor™ Agent Service

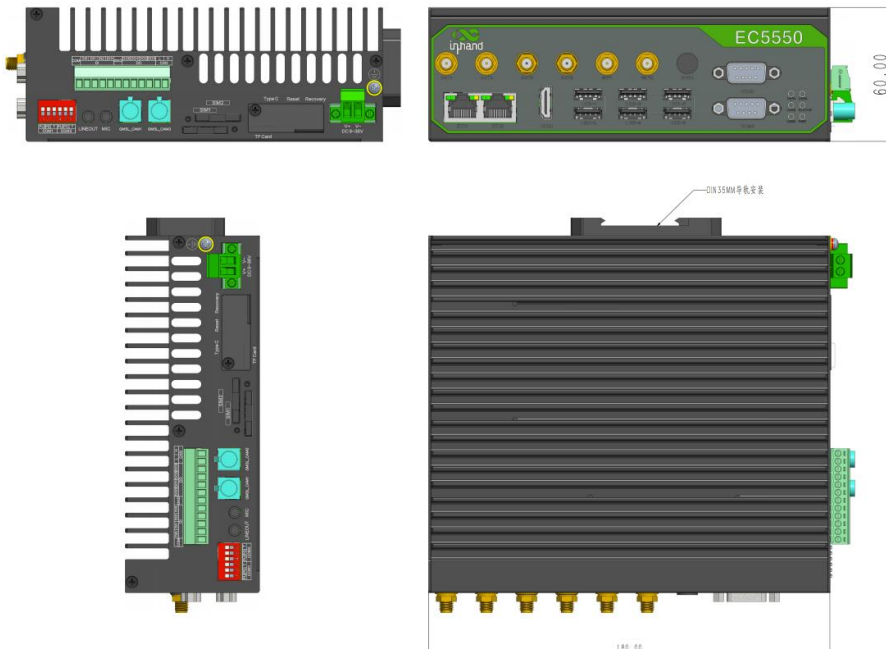
- Easy to achieve data acquisition on the cloud
- Integrate 80+ mainstream data acquisition protocols
- Support data preprocessing
- Integrated data publishing services, public/private cloud, local SCADA

### InHand DeviceLive Cloud Service

- Remote device access
- Remote device batch management
- Remote batch management of edge AI applications
- Remote container management



## Dimensions (mm)



# Product Specifications

Hardware Specifications			
Item	EC5350		EC5550
<b>Hardware Platform</b>			
Module Compatibility	NVIDIA Jetson Orin Nano 8G		NVIDIA Jetson Orin NX 16GB
CPU	ARM Cortex-A78AE, 6 cores, TDP up to 15 W, 1.5 GHz		ARM Cortex-A78AE CPU, 8 cores, TDP up to 25 W, 2 GHz
GPU	1024-core NVIDIA Ampere with 32 Tensor Cores		1024-core NVIDIA Ampere with 32 Tensor Cores
AI Performance	67 TOPS		157 TOPS
RAM	8GB		16GB
Storage	1 x M.2 NVMe M-Key 2280 (128GB built-in)		
<b>Interfaces</b>			
EtherNet Port	2 x 10/100/1000Mbps Ethernet port		
Serial Port	2 x RS-232/485/422, DB9		
I/O	4 x DI, 4 x DO		
CAN	1 x CAN FD		
GPS	GPS (cellular module support required)		
USB	6 x USB 3.2 Gen 2, 1 x OTG Type-C		
POE	2 x RJ-45 GbE PSE (IEEE 802.3af compliant, Power Output 15W per Port)		
HDMI	1 x HDMI 2.0(Maximum resolution 3840x2160 @ 60Hz)		
Wi-Fi/BT	RTL8822CE-CG, 802.11b/g/n/ac, BLE 5.0		
Expansion Interface	1 x M.2 B-Key 3042/3052 (LTE/5G) 1 x M.2 E-Key 2230 (Wifi/BT) 1 x M.2 M-Key 2280 (NVMe 128GB built-in)		
Button	1 x Recovery Button, 1 x Reset Button		
SIM Card	2 x Standard SIM		
TF Card	Supports Micro SD		
GMSL	2-ch GMSL2.0 with FAKRA		
MIC	3.5 mm microphone audio jack		
Audio	3.5 mm type line-out		
<b>Security</b>			
TPM	Integrated TPM chip, TPM2.0		
<b>Mechanical Feature</b>			
Installation	DIN rail mounting (default) / Wall mounting (optional)	Protection Rating	IP30
Housing	Metal	Dimensions	180x 160x 60 mm
<b>Power Supply</b>			
Power Input	DC 9-36V, polarity reversal protection		
Power Consumption	Idle: 10W, Full Loading: 60 W		
<b>Ambient Temperature and Humidity</b>			
Working Temperature	-20~ 60°C	Storage Temperature	-40 ~ 85°C
Ambient Humidity	5 ~ 95% (non-condensing)		
<b>Indicator</b>			
LED	1 x Power, 1 x Status, 4 x User		
<b>EMC Index</b>			
Electrostatic Discharge	EN61000-4-2, level 3		
Radiation RFI Immunity	EN61000-4-3, level 3		
Electrical Fast Transients	EN61000-4-4, level 3		
Surge	EN61000-4-5, level 3		
Conducted RFI	EN61000-4-6 ,level 3		
Ring Wave Immunity	EN61000-4-12,level 3		
Power Frequency Magnetic Field Resistance	EN61000-4-8, horizontal / vertical 400A/m (>level 2)		
<b>Physical Features</b>			
Shock	IEC60068-2-27	Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32		

Software Specifications	
Item	EC5000
<b>OS</b>	
OS	Linux (Support Jetpack 5.1 above)
<b>Network Interconnection</b>	
Network Type	5G, LTE Cat6(Different models for different networks)
<b>Reliability</b>	
Backup	Dual SIM
Link Detection	Multi-Level link detection, auto-re-dials once disconnected
Embedded Watchdog	Device self-diagnosing, auto-recovers from operation faults
<b>Data Acquisition Protocol(*DSA)</b>	
Industrial Protocol	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
Electricity Protocol	DLT645-2007, IEC101/104, DNP3.0, IEC 61850-MMS
Other Protocol	BACnet, CNC
<b>Maintenance and Management</b>	
Upgrade Method	Supports patent upgrade mechanism, local or remote firmware upgrade
Log	Support local system logs, remote logs, and important log power-off preservation
Remote Management	InHand DeviceLive, HTTP, HTTPS, SSH,etc.
DeviceLive Cloud	Supports cloud-based parameter configuration, container management, application and firmware management

\*DSA: The DeviceSupervisor Agent (DSA), developed by InHand Networks, is a cutting-edge intelligence software designed to operate on Edge Computer products. It enables clients to quickly implement data collection, processing, protocol conversion, and cloud connectivity through a "zero code/low code" approach. If you need the DSA application on the EdgeComputer product, please contact us to obtain the DSA software package.

# Ordering Guide

Model	NVIDIA Module	Cellular Type & Frequency Band: <WMNN>	Memory	Storage	Ethernet Port	Serial Port	GPS
EC5550-NRQ3	Orin NX 16GB	Global 5G NR 5G NR NSA : n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/n66/n71/n77/n78/n79 5G NR 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/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 LTE TDD: B34/B38/B39/B40/B41/B42/B48 LAA:B46 WCDMA Bands: B1/B2/B3/B4/B5/B6/B8/B19	16 GB	128 GB	2x 1000Mbps	2x RS232/RS485/ RS422 configurable	YES
EC5350-NRQ3	Orin Nano 8GB	Global 5G NR 5G NR NSA : n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/n66/n71/n77/n78/n79 5G NR 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/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 LTE TDD: B34/B38/B39/B40/B41/B42/B48 LAA:B46 WCDMA Bands: B1/B2/B3/B4/B5/B6/B8/B19	8 GB	128 GB	2x 1000Mbps	2x RS232/RS485/ RS422 configurable	YES
EC5550-FQ09	Orin NX 16GB	Global 4G CAT6 LTE FDD: B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 29/ 30/ 32/ 66/ 71 LTE TDD: B34/ 38/ 39/ 40/ 41/ 42/ 43/ 46(LAA)/ 48 (CBRS)	16 GB	128 GB	2x 1000Mbps	2x RS232/RS485/ RS422 configurable	YES
EC5350-FQ09	Orin Nano 8GB	Global 4G CAT6 LTE FDD: B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 29/ 30/ 32/ 66/ 71 LTE TDD: B34/ 38/ 39/ 40/ 41/ 42/ 43/ 46(LAA)/ 48 (CBRS)	8 GB	128 GB	2x 1000Mbps	2x RS232/RS485/ RS422 configurable	YES
EC5550-EN00	Orin NX 16GB	No Cellular	16 GB	128 GB	2x 1000Mbps	2x RS232/RS485/ RS422 configurable	NO
EC5350-EN00	Orin Nano 8GB	No Cellular	8 GB	128 GB	2x 1000Mbps	2x RS232/RS485/ RS422 configurable	NO

## About Us

InHand Networks is a leading IoT solutions provider founded in 2001, dedicated to driving digital transformation across industries and empowering customers to unlock their full potential and achieve accelerated growth.

We specialize in delivering industrial-grade connectivity solutions for diverse sectors, such as enterprise networks, industrial and building IoT, digital energy, smart commerce, and mobility. Our comprehensive product portfolio and services cater to various applications worldwide, including smart manufacturing, smart grid, intelligent transportation, smart retail, etc. With a global footprint spanning over 60 countries, we serve customers in China, the United States, France, Germany, the United Kingdom, Italy, and beyond.



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