InHand Networks

Embrace Edge AI,

Empower Industrial Digitalization.

EC5000 Series AI Edge Computer

· NVIDIA Jetson Orin Nano/NX Series

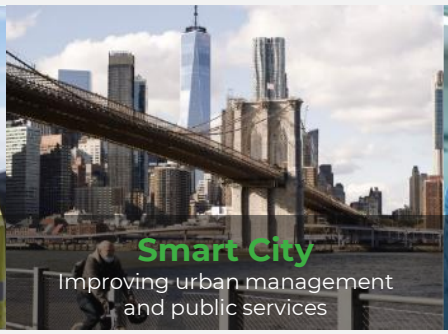
· High security

· High reliability

· Cloud-Managed

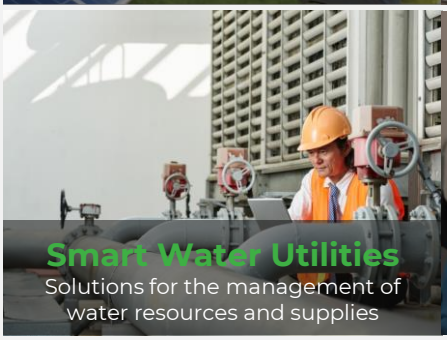
The EC5000 comes pre-integrated with NVIDIA® Jetson Orin NX™ or Orin Nano™, making it ideal for industrial AI applications.The EC5000 design includes 2 Gigabit LAN ports, 1 HDMI video display, 4 DI, 4 DO, 2xRS-232/RS-422/RS-485, 6 external USB 3.2 ports, 1 internal Micro USB for system recovery, and 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

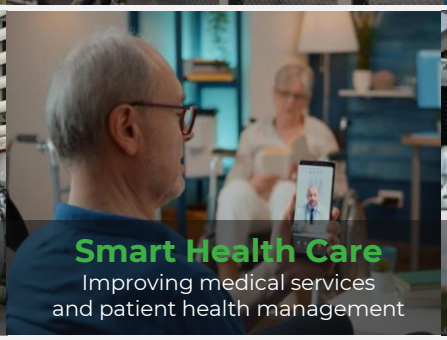


Smart City
Improving urban management and public services

Smart Manufacturing
Real-time monitoring and controlling



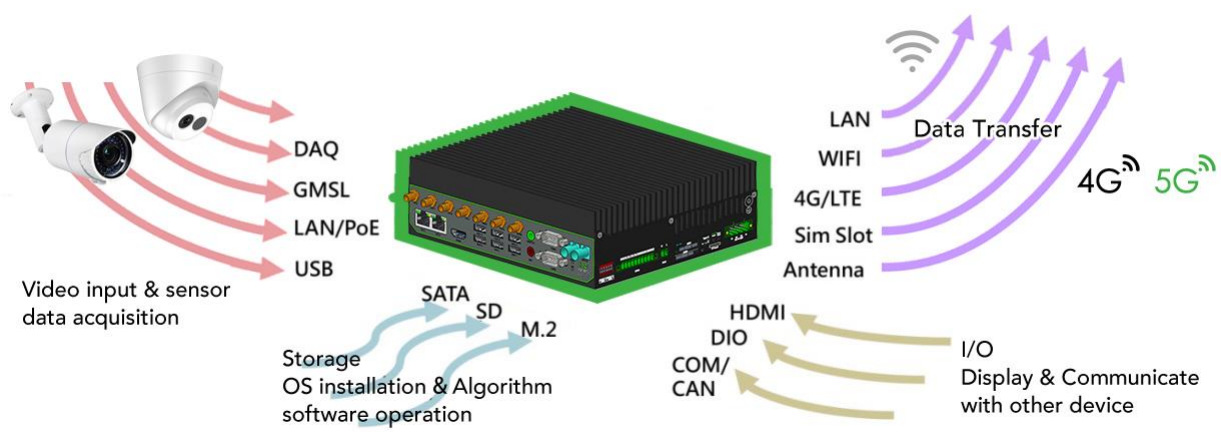
Smart Water Utilities
Solutions for the management of water resources and supplies



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

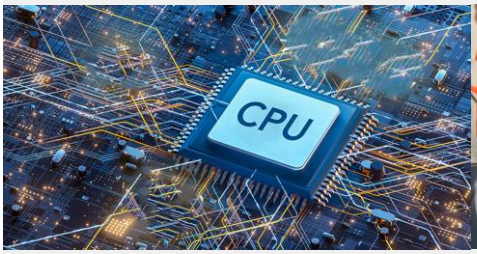
- Supports NVIDIA Jetson Orin Nano/NX Series
- Support customers to develop and install edge applications
- Docker
- Jetpack: Above 5.1

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

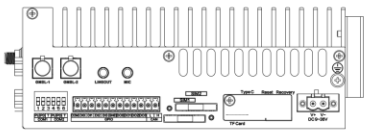
DeviceSupervisor™ Agent Service

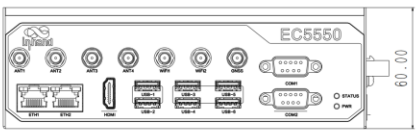
- Easy to achieve data acquisition on the cloud
- Integrate 80+ mainstream data acquisition protocols
- Support data preprocessing
- Integrated data publishing services, public/private cloud, local SCADA

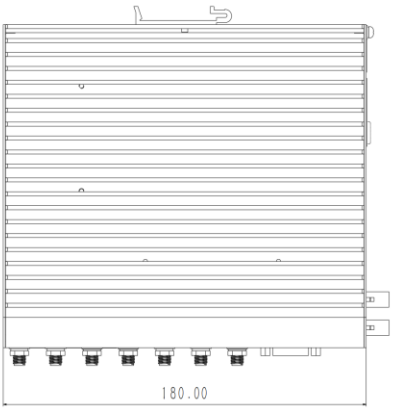
InHand DeviceLive Cloud Service

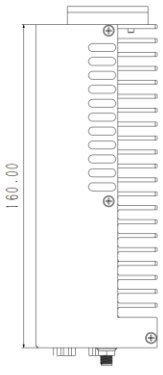
- Remote device access
- Remote device batch management
- Remote batch management of edge AI applications
- Remote container management

Dimensions (mm)









Product Specifications

Hardware Specifications				
Item	EC5350	EC5550		
Hardware Platform				
Module Compatibility	NVIDIA Jetson Orin Nano 8G	NVIDIA Jetson Orin NX 16GB		
CPU	ARM Cortex-A78AE CPU, 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 GPU with 32 Tensor Cores			
AI Performance	40 TOPS	100 TOPS		
RAM	8GB	16GB		
Storage	1 x M.2 NVMe M-Key 2242 (128GB built-in)			
Interfaces				
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	Supports GPS, Beidou, and GLONASS positioning			
USB	6 x USB 3.2 Gen 2, 1 x OTG Type-C			
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 2242 (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 (optional)	2-ch GMSL2.0 with FAKRA			
MIC(optional)	3.5 mm microphone audio jack			
Audio(optional)	3.5 mm type line-out			
Security				
TPM	Integrated TPM chip, TPM2.0			
Mechanical Feature				
Installation	DIN-rail, Wall mounting	Protection Rating	IP30	
Housing	Metal	Dimensions	180x 160x 60 mm	
Power Supply				
Power Input	DC 9~36V, polarity reversal protection			
Power Consumption	Idle: 10W Full Loading: 60 W			
Ambient Temperature and Humidity				
Working Temperature	-20~ 60℃	Storage Temperature	-40 ~ 85℃	
Ambient Humidity	5 ~ 95% (non-condensing)			
Indicator				
LED	1 x Power, 1 x Status			
EMC Index				
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)			
Physical Features				
Shock	IEC60068-2-27	Vibration	IEC60068-2-6	
Free Fall	IEC60068-2-32			

Software Specifications	
Item	EC5000
OS	
OS	Linux (Support Jetpack 5.0 above)
Network Interconnection	
Network Type	5G, LTE Cat6(Different models for different networks)
Reliability	
Backup	Dual SIM
Link Detection	Multi-Level link detection, auto-redials once disconnected
Embedded Watchdog	Device self-diagnosing, auto-recovers from operation faults
Data Acquisition Protocol(*DSA)	
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
Other Protocol	BACnet, CNC
Maintenance and Management	
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	8 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	16 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)	8 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)	16 GB	128 GB	2x 1000Mbps	2x RS232/RS485/ RS422 configurable	YES
EC5550-EN00	Orin NX 16GB	No Cellular	8 GB	128 GB	2x 1000Mbps	2x RS232/RS485/ RS422 configurable	NO
EC5350-EN00	Orin Nano 8GB	No Cellular	16 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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