**InHand** Networks

**Embrace Edge AI,**

**Empower Industrial Digitalization.**

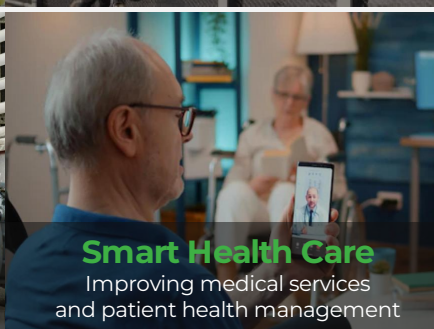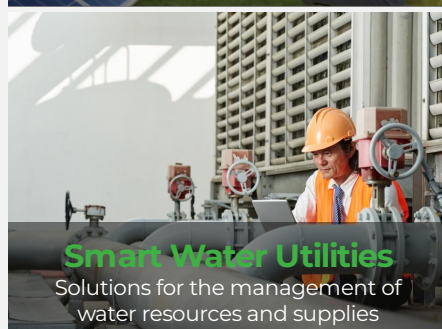# EC3320 Series AI Edge Computer

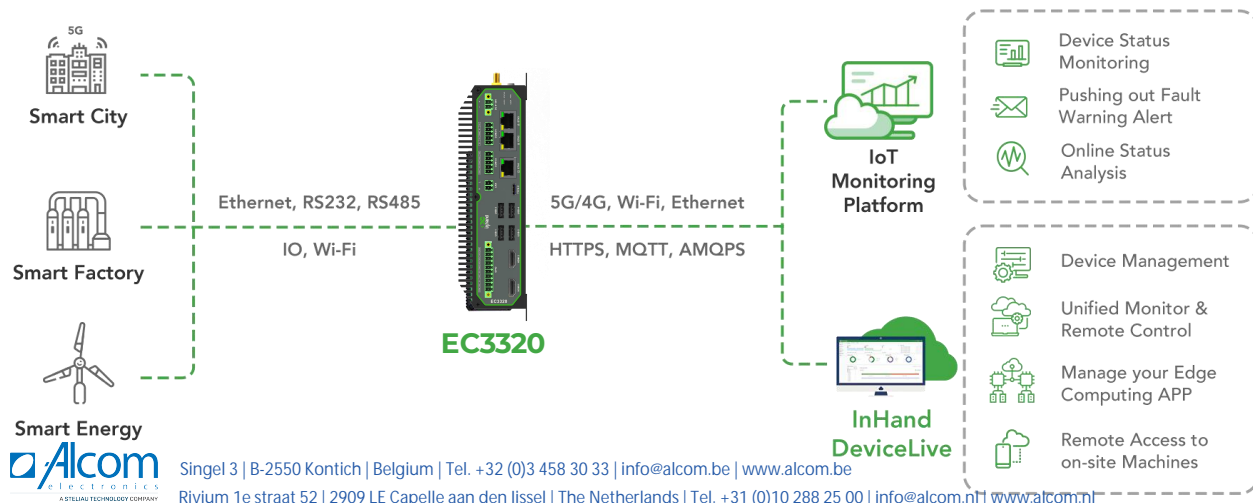· **Strong computing capability**   · **High security**   · **High reliability**   · **Cloud-Managed**

With technology advancements, demand for local computing is on the rise, especially in manufacturing, security, and healthcare. Traditional cloud solutions may not meet the need for fast processing and data security. InHand Networks offers the EC3320 AI edge computer, delivering high performance, real-time decision-making, and enhanced data privacy for improved efficiency in manufacturing, security, and healthcare

**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



5G

**Smart City**

**Smart Factory**

**Smart Energy**

Ethernet, RS232, RS485

IO, Wi-Fi

**EC3320**

5G/4G, Wi-Fi, Ethernet

HTTPS, MQTT, AMQPS

**IoT Monitoring Platform**

Device Status Monitoring

Pushing out Fault Warning Alert

Online Status Analysis

**InHand DeviceLive**

Device Management

Unified Monitor & Remote Control

Manage your Edge Computing APP

Remote Access to on-site Machines

# Feature and Advantage

## Performance and Platform

- CPU: ARM 4*Cortex-A76 + 4*Cortex-A55, up to 2.4GHz
- GPU: Mali-G610 MC4
- NPU: 6TOPS
- Compatible with various AI frameworks
- Support Hailo-8 M.2 module, up to 26TOPs computing power

## Rich interfaces

- 3x 10/100/1000Mbps Ethernet interface
- 1x CAN BUS
- 4x USB3.0
- 2x RS-232 and 2x RS-485
- 2x HDMI
- 4DI+4DO
- MIC、SPK

## Stable communication

- 4G/Wi-Fi/GbE, etc
- Wired, cellular, Wi-Fi mutual backup, dual SIM failover
- Independent hardware and software watchdog
- EMC Level 3
- Fanless

## High-level security

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

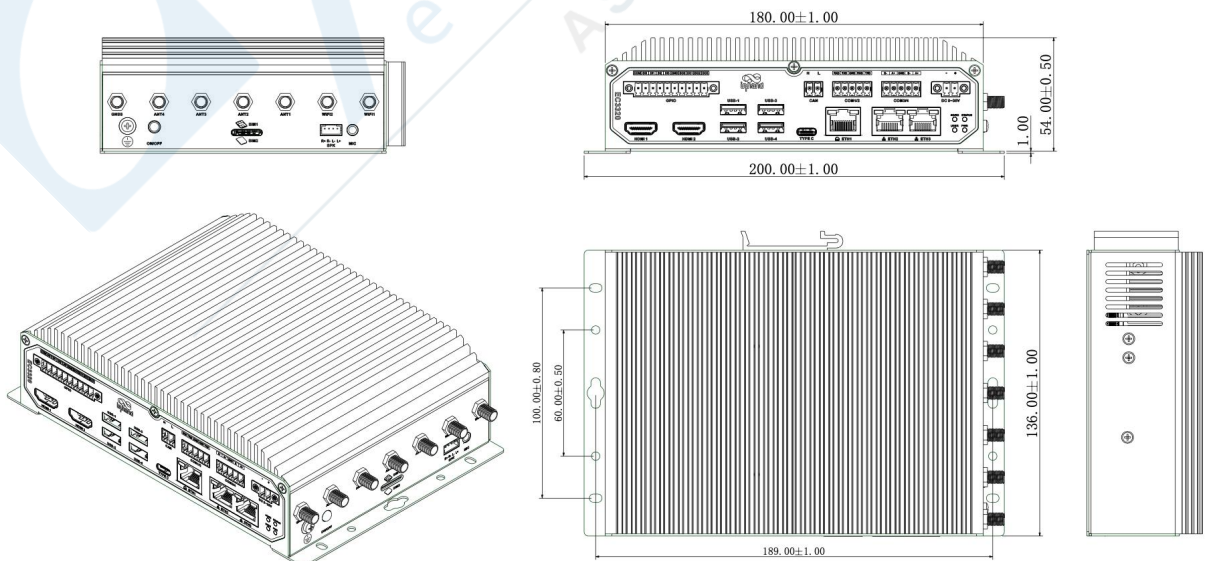## DeviceSupervisor™ Agent Service

- 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
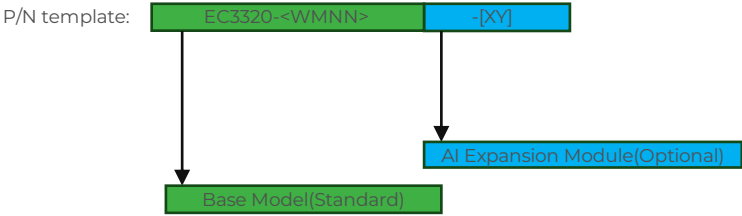- Remote container management

# Dimensions (mm)



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# Product Specifications

| Hardware Specifications | |
|---|---|
| Item | EC3320 |
| **Hardware Platform** | |
| CPU | Quad Cortex-A76 + Quad Cortex-A55@ up to2.4GHz |
| GPU | Quad-core Mali-G610 MC4 high-performance GPU |
| NPU | Up to 6 TOPS (INT8)<br>Support INT4/INT8/INT16 mixed operations and framework switching of TensorFlow / MXNet / PyTorch / Caffe |
| RAM | 8GB |
| FLASH | 64GB eMMC |
| **Interfaces** | |
| EtherNet Port | 3x 10/100/1000Mbps Ethernet port |
| Serial Port | 2x RS-232+2x RS-485, industrial terminal |
| I/O | 10pin industrial green terminal (4IN, 4OUT, 2GND) |
| CAN | 1x CAN 2.0 |
| Wi-Fi | STA, 802.11ac/a/b/g/n, 2.4G/5G dual band |
| Bluetooth | BLE 5.0 |
| GPS | GPS (cellular module support required) |
| USB | 4x USB 3.0 |
| HDMI | 2x HDMI 2.0 |
| Expansion Interface | 1x M.2(Supports SATA3.0 SSD, supports 2242 size)<br>1x M.2(Supports Hailo-8 M.2 module, up to 26TOPs computing power) |
| Power Button | 1x Power, 1x Reset |
| SIM Card | 2x Nano SIM Slot |
| MIC | 1x MIC |
| SPK | 1x SPeaker |
| **Security** | |
| TPM (Optional) | Integrated TPM chip, TPM2.0 |

| Mechanical Feature | | | |
|---|---|---|---|
| Installation | DIN-rail, wall mounting | Protection Rating | IP40 |
| Dimensions | 180x 136x 54mm | Housing | Metal |

| Power Supply | |
|---|---|
| Power Input | 9~36V DC-input (2pin green industrial terminal, with flange) |
| Power Interface | Industrial terminal block |

| Ambient Temperature and Humidity | | | |
|---|---|---|---|
| Working Temperature | -20~ 60℃ | Storage Temperature | -40 ~ 85℃ |
| Ambient Humidity | 5 ~ 95% (non-condensing) | | |

| Indicator | |
|---|---|
| Power | Power supply indicator light, always on after power on; |
| Status | The status indicator light flashes during normal operation; |
| 4G | 4G connection indicator light is always on when connected normally; |
| USER | User-definable |

| 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 | EC3320 |
| **OS** | |
| OS | Linux |
| **Network Interconnection** | |
| Network Type | 5G NR, LTE Cat6(Different models for different networks) |
| **Security** | |
| Secure Boot | Support |
| **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, |
| 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 visit the official website to obtain the DSA software package.

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# Ordering Guide

## Description of selection

P/N template:     EC3320-<WMNN>     -[XY]

AI Expansion Module(Optional)

Base Model(Standard)

## Base Model

| Model | Cellular Type &Frequency Band: <WMNN> | Memory | Storage | Ethernet Port | Serial Port | Wi-Fi/BT/CAN/MIC/SPK/DI/DO | GPS |
|---|---|---|---|---|---|---|---|
| EC3320-NRQ3 | Gloable 5G NR<br>5G NR NSA :<br>n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/n66/n71/n77/n78/n79<br>5G NR SA :<br>n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/n66/n71/n77/n78/n79<br>LTE FDD:<br>B1/B2/B3/B5/B7/B8/B12(B17)/B13/B14/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71<br>LTE TDD:<br>B34/B38/B39/B40/B41/B42/B48<br>LAA:B46<br>WCDMA Bands:<br>B1/B2/B3/B4/B5/B6/B8/B19 | 8 GB | 64 GB | 3x 1000Mbps | 2x RS232+2x RS485 | YES | YES |
| EC3320-FQ09 | Gloable 4G CAT6<br><br>LTE FDD: B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 29/ 30/ 32/ 66/ 71<br>LTE TDD: B34/ 38/ 39/ 40/ 41/ 42/ 43/ 46(LAA)/ 48 (CBRS) | 8 GB | 64 GB | 3x 1000Mbps | 2x RS232+2x RS485 | YES | YES |
| EC3320-EN00 | No Cellular | 8 GB | 64 GB | 3x 1000Mbps | 2x RS232+2x RS485 | YES | NO |

## Hailo AI Module(Optional)

| [XY] | |
|---|---|
| P/N Code | Feature |
| — | None |
| H8 | Hailo-8, M.2 Key B+M 2280 |

## 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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