



## Main Features

- Edge AI rail computer
- Built-in NVIDIA Jetson Orin™ NX SoM, up to 100 INT8 Sparse TOPS AI performance
- 4 x GbE PoE+ port for IP CAM/LiDAR sensors
- HEVC/H.265 hardware codec, 18 x 1080p30 compute power (decoded)
- The rugged, fanless design with full IP67 rating
- Ultra-speed PCIe 4.0 x4 NVMe SSD for data integrity, 128GB SSD in default
- NEXCOM Acceleration Linux (NAL) OS w/ JetPack 6.2 integrated
- Expandable for LTE/5G NR & Wi-Fi 5/6
- 24V rail DC-in with ignition control & OCP/OVP
- CE/FCC, UKCA, and EN 50155 certified

## Product Overview

AI has become a vital part of autonomous vehicle technologies. Equipped with the high-performance NVIDIA Jetson Orin™ NX SoM, the ATC 3560-IP7-NXAI4CR delivers up to 100 TOPS of AI inference performance while consuming 25W low power. This is suitable for AI power IoT gateway, OHV AI Edge recognition, AI traffic sign control, and factory automation/machine vision, enhancing productivity and lowering TCO.

The ATC 3560-IP7-NXAI4CR is a fanless, compact, and IP67 certified computer. It features rail DC 24V power input with IGN control, four PoE+ ports for IP CAM deployment to 4K@30Hz/1080@60Hz. Moreover, the ATC 3560-IP7-NXAI4CR is designed with diverse peripheral ports, like USB 3.2, isolated CAN bus, RS-232, Console, DI/DO, OTG, and HDMI® for connecting to a wide range of devices/sensors.

With the 5G NR, Wi-Fi 5/6 modules installed, the ATC 3560-IP7-NXAI4CR can enhance AI inference through Cloud Service Provider (CSP). As for harsh environment applications, the ATC 3560-IP7-NXAI4CR can operate at a wide range temperature of -35~70°C and meet the MIL-STD-810G military standard for vibration and shock resistance. In terms of regulation, the ATC 3560-IP7-NXAI4CR is compliant with CE/FCC Class A, UKCA, and EN 50155.

## Specifications

### NVIDIA Jetson Orin™ NX SoM

- NVIDIA Jetson Orin™ NX 8GB
  - CPU: 6-core Arm® Cortex®-A78AE v8.2 64-bit 1.5MB L2 + 4MB L3
  - GPU: 1024-core NVIDIA® Ampere architecture with 32 Tensor Cores
  - Memory: 8GB 128-bit LPDDR5 102.4GB/s
  - AI performance: 70 INT8 Sparse TOPS
- NVIDIA Jetson Orin™ NX 16GB
  - CPU: 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3
  - GPU: 1024-core NVIDIA® Ampere architecture with 32 Tensor Cores
  - Memory: 16GB 128-bit LPDDR5 102GB/s, 3200MHz in frequency
  - AI performance: 100 INT8 Sparse TOPS
- OpenGL 4.6, OpenGL ES 3.2, and Vulkan 1.1
- NVIDIA JetPack™ 6.2

### Storage

- 1 x M.2 Key M 2280 PCIe 3.0 x4 NVMe SSD, 128GB in default

### Expansion Slot

- 1 x Full-size Mini PCIe slot (PCIe 4.0 + USB 2.0)
- 1 x M.2 Key B 3042/3052 (USB 3.2) with 2 x micro-SIM slot

### Display Interface

- 1 x HDMI® 2.0a/b, up to 3840x2160@30Hz

### G-Sensor

- 3D accelerometer and 3D gyroscope, ST LSM6DSLTR

### Remote Power Trigger

- ATX power button, wafer reserved

### GbE

- 1 x 1GbE M12 X-coded connector
  - 9Kbyte Jumbo frame
  - Controller: Intel® I210-IT

### PoE+

- 4 x 1GbE M12 X-coded PoE+ connector
  - IEEE 802.3af/at compliant
  - 30W (4-port) power budget in total
  - PoE on/off and power Watt monitoring
  - The cap is pre-installed

### USB

- 2 x USB 3.2, Type-A
  - 5V@900mA each
  - up to 5Gbit/s link speed & compliance with USB 2.0 (LS/FS/HS link speed)
- 1 x OTG Micro-USB, 2 x USB 2.0 wafer-type (reserved)

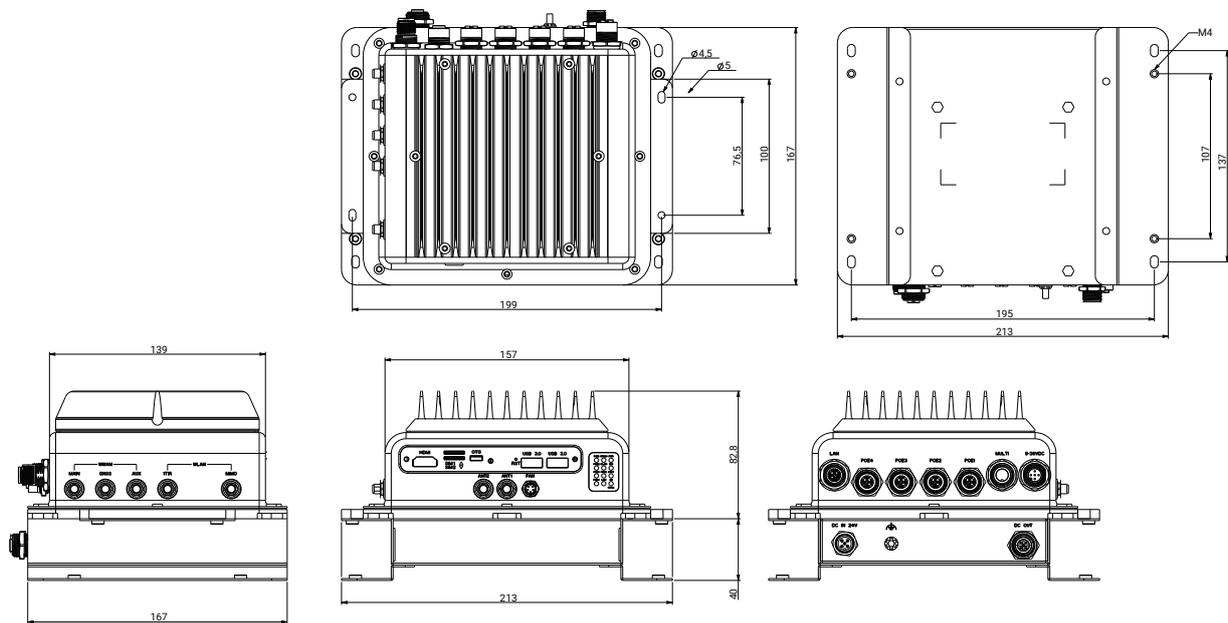
### Serial Port

- 1 x RS-232 (Tx, Rx, CTS, RTS)
- 1 x RS-232 (Tx, Rx)
- 1 x Console port (Tx, Rx)
- RS-232 working voltage ± 9V, baud rate up to 115.2kb/s
- Connector: MULTI port (M12 A-coded)

### DI/DO (reserved)

- 4-Bit input
  - Source: DC 9V~36V (12V@0.6mA/24V@1.2mA)
  - External: DC 0V~33V pull-high, high-level, DC 3.3V~33V; low-level, DC 0V~2V

## Dimension Drawing



- 4-Bit output
  - Source: DC 9V~36V (nominal 35mA@24V)
  - External: DC 5V~27V pull-high, sink current w/ 220mA for each bit, 500mA max (@25C)
- Source or external can be selected by software (default: source type)

### CAN bus

- 1 x CAN 2.0A/2.0B
- IEC 61000-4-2 Electrostatic Discharge (ESD):  $\pm 4\text{kV}/8\text{kV}$  (contact/air, whole system)
- 2.5KV isolated
- Connector: MULTI port (M12 A-coded)

### GPS

- u-blox NEO-M9N GNSS module for GPS/GLONASS/QZSS/Galileo/Beidou
- Optional DR (dead reckoning) function, NEO-M9V

### Power Management

- Nominal voltage: DC 24V for rail
- Ignition on/off control & programmable on/off delay timer

### I/O Interface Front

- 12 x LED indicator
- 1 x Reset button
- 1 x OTG
- 2 x micro-SIM slot, 1 x HDMI®, 2 x USB 3.2
- 2 x SMA antenna for LTE/5G module

### I/O Interface Rear

- Rail 24V DC-in, A-coded
- 4 x 1GbE M12 X-coded PoE connector
- 1 x 1GbE M12 X-coded connector
- 1 x M12 MULTI-port (2 x RS-232, 1 x console, 1 x CAN)

### I/O Interface Side

- 2 x PR-SMA antenna for Wi-Fi 5/6 module
- 2 x SMA antenna for LTE/5G module
- 1 x SMA antenna for GNSS

### Mechanical

- Dimensions: 213mm (W) x 167mm (D) x 122.8mm (H) (w/ mount bracket)
- Weight: 3.2kg

### Environment

- Operating temperature: EN 50155, class OT3 (-35°C~70°C), 85°C for 10 minutes (w/ 30W PoE)
- Storage temperature: -40°C~85°C
- Relative humidity: 10%~95% (non-condensing)

### Vibration & Shock

- Vibration in operating
  - MIL-STD-810H, Method 514.8C, Procedure 1, Category 4, common carrier US highway truck vibration exposure
- Shock (SSD)
  - Operating: MIL-STD-810H, Method 516.8, Procedure I, functional shock=40g
  - Non-operating: MIL-STD-810H, Method 516.8, Procedure V, crash hazard shock test=75g

### Certifications

- CE approval, FCC Class A, UKCA
- EN 50155 Class OT3

### Operating System

- NEXCOM Aided Linux (NAL) w/ Jetpack 6.2 integrated
  - NEXCOM custom functions (GNSS, 5G NR, 6-axis sensor, MCU control)
  - Ubuntu 22.04@Kernel 5.15

### Accessories

- External cable:
  - Power extension cable, 20cm
  - M12 MULTI-port adapter cable, 20cm

## Ordering Information

### • ATC 3560-IP7-NXA14CR (P/N: 10AT0356005X0)

IP67 rating AI edge computer, NVIDIA Jetson Orin™ NX 8GB, 128GB NVMe, 4 x PoE+, 1 x GbE, 2 x RS-232, 2 x USB 3.2, DC 24V w/ power isolation, rail

### • ATC 3560-IP7-NXA14CR-16 (P/N: 10AT0356006X0)

IP67 rating AI edge computer, NVIDIA Jetson Orin™ NX 16GB, 128GB NVMe, 4 x PoE+, 1 x GbE, 2 x RS-232, 2 x USB 3.2, DC 24V w/ power isolation, rail