ATC 3560-IP7-NX4CF

NVIDIA Jetson Orin™ NX Solution
Accelerated Edge AI Computer

Main Features

- Built-in NVIDIA Jetson Orin™ NX SoM, up to 157 INT8 Sparse TOPS AI performance in Super Mode
- 4 x GbE PoE+ port for IP CAM/LiDAR sensors
- HEVC/H.265 hardware codec, 18 x 1080p30 compute power (decoded)
- Wide range operating temperature of -25°C~60°C (fan kit, in Super Mode)
- The rugged, fankit 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
- Expansible for LTE/5G NR & Wi-Fi 5/6
- 9V~36V DC-in with ignition control & OCP/UVP
- CE/FCC, UKCA, and E-mark 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-NX4CF delivers up to 157 TOPS of AI inference performance (16GB version in Super Mode), making it ideal for applications such as Advanced Driver Assistance Systems (ADAS) in transportation and construction, Automatic Number Plate Recognition (ANPR), Autonomous Mobile Robots (AMR), Machine Learning (ML), Intelligent Transportation Systems (ITS), and factory automation.

Thanks to NEXCOM's advanced thermal design and its full IP67 rating, the ATC 3560-IP7-NX4CF can maintain up to 117 TOPS (8GB version) or 157 TOPS (16GB version) even in harsh conditions, enabling consistent real-time AI inference.

The ATC 3560-IP7-NX4CF is purpose-built for in-vehicle AI computing. It supports DC 9V to 36V power with IGN control, and features four GbE PoE ports for long-distance IP cameras and LiDAR sensors. It also offers a wide range of I/O, including USB 3.2, isolated CAN bus, RS-232, console port, digital I/O (DI/DO), OTG, and HDMI®.

With optional 5G NR and Wi-Fi 5/6 modules, the ATC 3560-IP7-NX4CF can connect with CPS (Cyber-Physical Systems) for AI model retraining, enhancing inference precision in the field.

Built to endure tough conditions, the ATC 3560-IP7-NX4CF supports an operating temperature range of -25°C to 60°C, and complies with MIL-STD-810H for resistance to shock and vibration. It is certified to CE/FCC Class A, UKCA, and E-mark standards.

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: 117 INT8 Sparse TOPS in Super Mode
- 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: 157 INT8 Sparse TOPS in Super Mode
- OpenGL 4.6, OpenGL ES 3.2, and Vulkan 1.1
- NVIDIA JetPack™ 6.2

Storage

- 1 x M.2 Key M 2280/3080 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@60Hz

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, PTP (IEEE 1588) supported
  - 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)

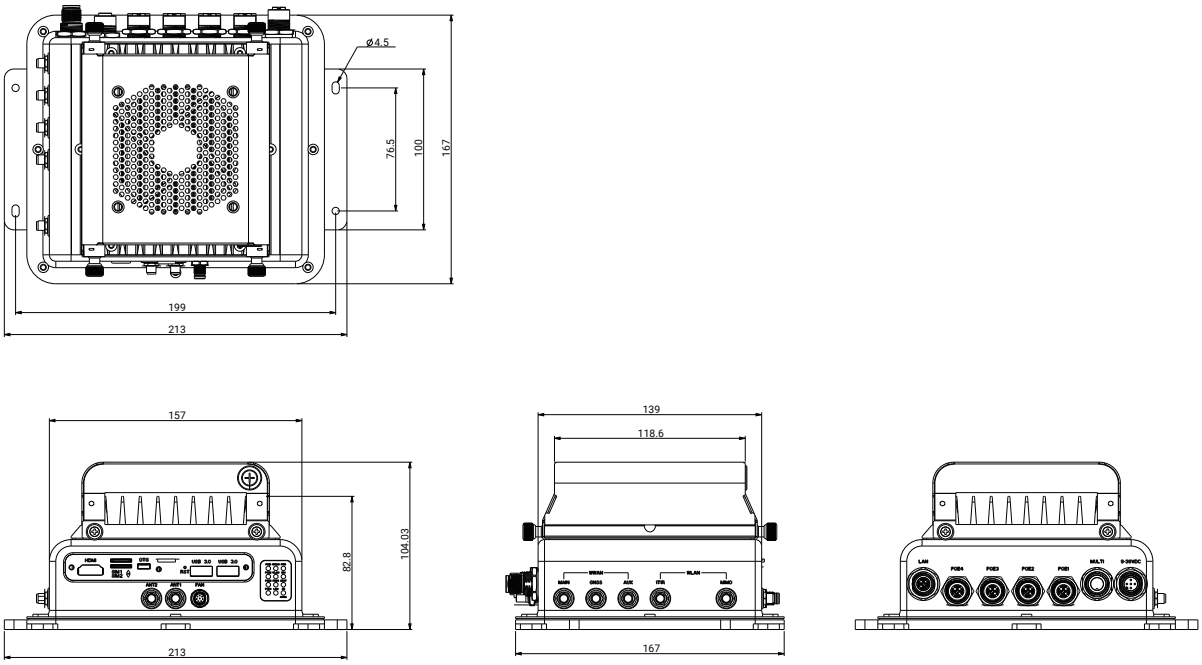
Serial Port

- 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): ± 4KV/8KV (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 9V~36V
- Cranking voltage: 6V~9V (less than 20 sec)
- OCP & UVP (shut down once exceeding 37V)
- Ignition on/off control & programmable on/off delay timer
- Optional for remote power on/off trigger (wafer reserved)

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 Antenna hole for LTE/5G module (SMA ant.)

I/O Interface Rear
- 9V~36V DC-in, S-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 Antenna hole for Wi-Fi 5/6 module (PR-SMA ant.)
- 2 x Antenna hole for LTE/5G module (SMA ant.)
- 1 x Antenna hole for GNSS (RP-SMA ant.)

Mechanical
- Dimensions: 213mm (W) x 167mm (D) x 104mm (H)
- Weight: 2.5kg

Environment
- Operating temperature: -25°C~60°C (fan kit, in Super Mode, w/ 30W PoE)
- Storage temperature: -40°C~85°C
- Relative humidity: 10%~95% (non-condensing)

Vibration & Shock
- Vibration in operating
  - MIL-STD-810G, 514.6C, Procedure 3, Category 4
  - IEC 60068-2-64: 2.0g@5Hz~500Hz
  - MIL-STD-810G, 514.6E, Procedure 1, Category 24, 7.7g approx.
- Shock
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Certifications
- CE approval, FCC Class A, UKCA
- E13

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-NX4CF (P/N: 10AT0356000X0)**
  IP67 rating AI edge computer, NVIDIA Jetson Orin™ NX 8GB, Super Mode, fan kit, 128GB NVMe, 4 x PoE+, 1 x GbE, 2 x RS-232, 2 x USB 3.2, DC 9V~36V
- **ATC 3560-IP7-NX4CF-16 (P/N: 10AT0356001X0)**
  IP67 rating AI edge computer, NVIDIA Jetson Orin™ NX 16GB, Super Mode, fan Kit, 128GB NVMe, 4 x PoE+, 1 x GbE, 2 x RS-232, 2 x USB 3.2, DC 9V~36V