

IBOX-601-TVI8



NVIDIA® Jetson Orin™ Edge AI Computer for Analog Camera Support

- NVIDIA Jetson Orin NX/Nano
- 8 x TVI/AHD/CVI Camera Support
- 2 x Ethernet Ports
- 9-60VDC Input with Built-in Smart Power Management
- 12V/1A
- The Front-Facing Interface Facilitates Installation
- Optional BBU Support

Edge AI Application



2 x Ethernet for High-speed Data Transmission

- 1 x 2.5GbE for the data transmission between the drone system
- 1 x GbE for high-resolution sensor or LiDAR connections



12VDC OUTPUT

(12V/1A for camera power or peripherals)



Wide Range Power Input

9-60VDC Input with Built-in Smart Power Management



8 x TVI/AHD Cameras Support

For quick-response, video capture.

Specifications

System

Module

- NVIDIA® Jetson Orin™ NX 16GB (1024 CUDA cores + 8-core ARM Cortex-A78AE CPU + 16 GB LPDDR5)
- NVIDIA® Jetson Orin™ Nano 8GB (1024 CUDA cores + 6-core ARM Cortex-A78AE CPU + 8GB LPDDR5)

Security

- Platform Security Controller (PSC), Security Engine (SE)

Watchdog

- Auto reset for unresponsive system

Internal Expansion

M.2

- 1 x M.2 3042/3052 Key B for WWAN w/ SIM support
- 1 x M.2 2230 Key E for Wi-Fi/BT

Mini PCIe

- 1 x Mini PCIe (full-size, USB 2.0, I2C) for GNSS module

Storage

Type

- 1 x M.2 2280 Key M for NVMe SSD

Power

Power Input

- DC 9-60V (nominal power input DC 12V/24V/48V) via Phoenix Contact 3-pin terminal block

Power Protection

- OCP, OVP, surge protection, reversed polarity protection

Power Management

- Ignition detection, Smart Power Management (BBU Supported)

Battery Backup Unit (BBU)

- Optional battery kit for up to 5 ~ 10 minutes of emergency backup time

* BBU backup time varies depending on actual overall system power consumption and battery is required to be charged before being used for system power backup
Patent No.: M447854 (Built-in battery)

Interface

Video

- 1 x HDMI® Type-A output

Audio

- 1 x HD audio output via HDMI®

Ethernet

- 1 x 2.5GbE (Intel® I226-IT) via RJ-45
- 1 x GbE (NVIDIA SoM) via RJ-45

Camera

- 8 x TVI/AHD Input via BNC

CAN

- 1 x CAN FD

USB

- 2 x USB 3.2

DIO

- 4 x DI, 4 x DO

COM

- 1 x RS-232/422/485

Camera Power

- 1 x 2-pin terminal block for 12VDC/1A output

Mgmt. Port

- 1 x USB type-C for system recovery (device only)

Software

Operating System

- NVIDIA® JetPack 6.2 or above (Jetson Linux and NVIDIA® development tools included)

Certification / Compliance

- CE, FCC Class A, E-mark, UKCA

Environmental

Operating Temp.

- NX 16GB (40W): -25°C ~ 63°C (-13°F ~ 145°F) with 0.6m/s airflow
 - Nano 8GB (25W): -25°C ~ 70°C (-13°F ~ 158°F) with 0.6m/s airflow
- *Operating temperature varies by accessories installed.

Storage Temp.

- -40°C ~ 80°C (-40°F ~ 176°F)

Relative Humidity

- 10% RH ~ 90% RH (non-condensing)

Vibration (with SSD)

- MIL-STD-810H, Method 514.8, Procedure I, Cat.4 (Operating)
- IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis

Shock (with SSD)

- MIL-STD-810H, Method 516.8, Procedure I,
Trucks and semi-trailers=15G (11ms) with SSD (Operating)

Mechanical

Construction

- Aluminum Alloy

Antenna

- 5 x SMA connector mounting hole

Mounting

- Wall mounting

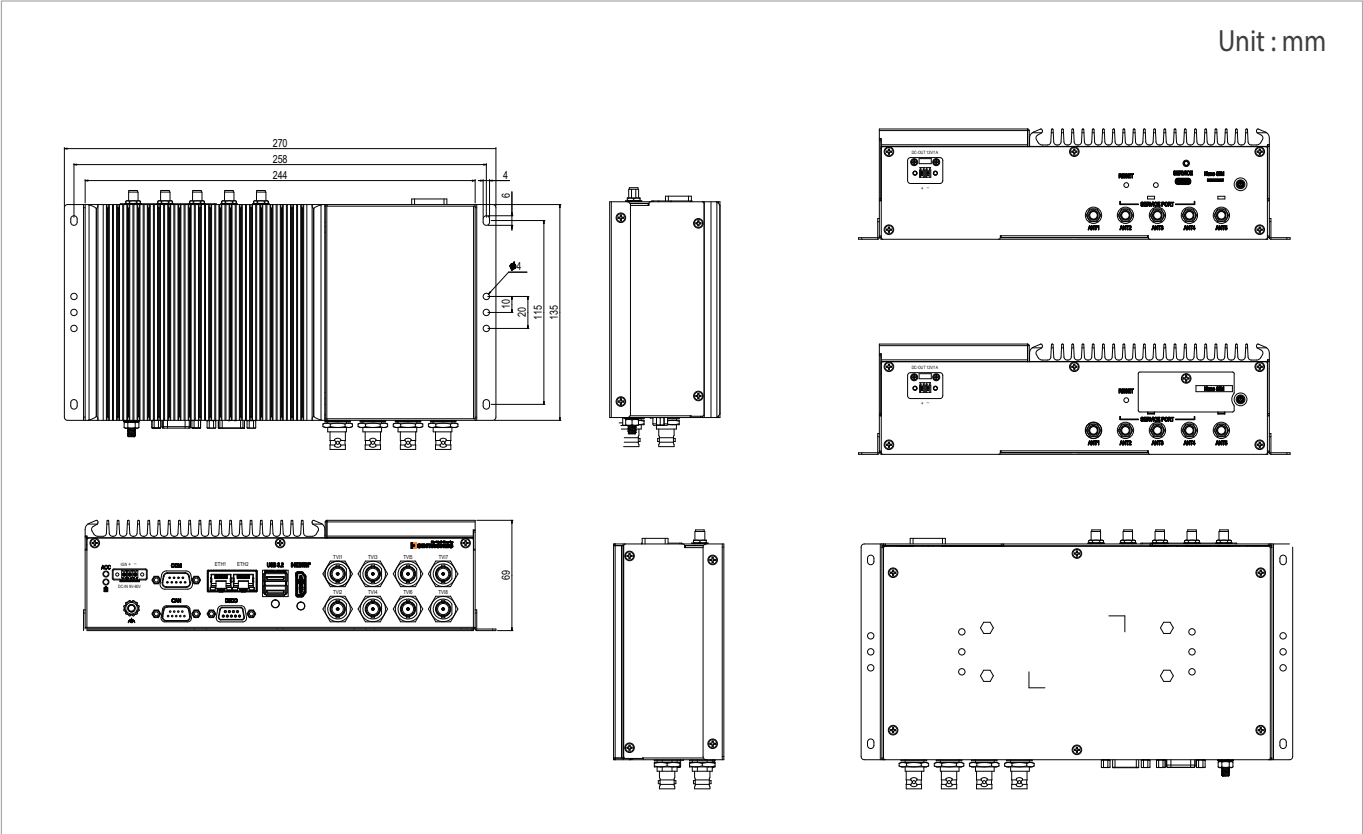
Net Weight

- 1800 g

Dimensions (L x W x H)

- 244 x 135 x 69 mm (9.61 x 5.32 x 2.72 in.)

Dimensions



Ordering Information

Model Number	IBOX-601-TVI8-zzzzz (zzzzz = ONX16 = Orin NX16GB, zzzzz = ON8 = Orin Nano 8GB)
Description	NVIDIA® Jetson Orin™ NX SoM w/ 8 x TVI/AHD 1 x CAN FD Edge AI Computer
State of Origin	Made in Taiwan

Optional Accessories

Storage	M.2 2280 Key M NVMe SSD -40°C ~ 85°C
Wi-Fi	M.2 2230 Key A-E Wi-Fi module, -40°C ~ 85°C
WWAN	M.2 3042/3052 Key B WWAN module, -40°C ~ 85°C
GNSS	M.2 2242 Key B GNSS module, -40°C ~ 85°C
Power Adapter	AC/DC 100-240V/12V 60W C14 DC plug power adapter

Analog Camera Support Lists

TVI/AHD	720p25 / 720p30 / 1080p25 / 1080p30
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