



# IBOX-601-G2



## NVIDIA® Jetson Orin NX Fanless Edge AI Computer

- NVIDIA® Jetson Orin™ NX SoM with 1024 CUDA Cores
- 4 x GMSL-2 Cameras Support
- 2 x Ethernet with M12 Connectors
- 1 x CAN FD for Vehicle Connection
- 9-60VDC Input with Built-in Smart Power Management
- -25~ 70°C Operating with Fanless Design
- Watchdog for System Monitoring

## Edge AI Application



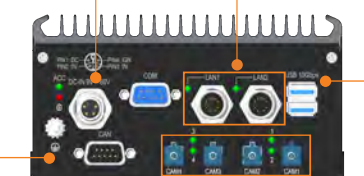
### CAN FD

Enables In-Vehicle Networking



### Wide Range Power Input

9~60V DC Input with  
Smart Power Management



### 2.5 GbE + GbE

M12 Connector for Robust Connection  
Connect to PoE Switch or LiDAR



### Dual USB 3.2

High Speed Connection for  
Cameras or Sensors



### GMSL-2

Connect to GMSL-2 cameras for  
real-time 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™ NX 8GB  
(1024 CUDA cores + 6-core ARM Cortex-A78AE CPU + 8 GB LPDDR5)

#### Network

- Intel® 2.5GbE, SoM Built-in GbE

#### Security

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

#### Watchdog

- System reset for unresponsive SoM

### Interface

#### Ethernet

- 2 x M12 X-coded connectors for 1 x 2.5GbE & 1 x GbE

#### USB

- 2 x USB 3.2 Type-A \* Two ports share 10Gbps bandwidth

#### Video

- 1 x HDMI Type-A output supports 4K resolution

#### Audio

- 1 x HD Audio from the HDMI

#### Serial Port

- 1 x DB-9 for RS-232/422/485

#### Camera Port

- 4 x FAKRA-Z connectors for GMSL-2 cameras

#### CAN Bus

- 1 x DB-9 for CAN FD

#### Mgmt. Port

- 1 x USB Type-C for system recovery (Device only)

#### SIM Card

- 1 x Nano SIM card slot

#### Antenna

- 5 x Pre-cut holes for external SMA antenna

### Internal Expansion

#### M.2 Slot

- 1 x M.2 3042/52 Key B slot (USB3.0) with a Nano SIM Card Slot
- 1 x M.2 2230 Key E slot

#### mPCIe Slot

- 1 x mPCIe Full size slot (USB.2.0 supported)

### Storage

#### Type

- 1 x M.2 2280 Key M slot supports NVMe SSD (Pre-installed system BSP)

### Power

#### Supply Voltage

- 1 x M12 K-coded for DC-IN 9 - 60V
- Supports Smart Power Management, OCP and OVP
- RTC Battery
- High-capacity coin cell battery for RTC

### Software

#### Operating System / BSP

- NVIDIA® JetPack including Jetson Linux, NVIDIA® development tools

### Environmental

#### Operating Temp.

- 25°C ~ 70°C (-13°F ~ 158°F), ambient w/ 0.6m/s airflow
- \* Operating temp. varies by accessories installed.

#### Storage Temp.

- -40°C ~ 80°C (-40°F ~ 176°F)

#### Relative Humidity

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

#### Vibration

- Random - IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis
- MIL-STD-810G - Method 514.6, Procedure I, Category 4

#### Shock

- MIL-STD-810G, Method 516.6, Procedure I,  
Trucks and semi-trailers=15G (11ms) with SSD

**Certification / Standard**

- CE, FCC Part-15 Class A, E-mark, EN50155, EN45545-2 (R25)

**Mechanical**

**Construction**

- Aluminum alloy

**Thermal Design**

- Fanless passive cooling design

**Mounting**

- DIN-rail, Wall-mounting

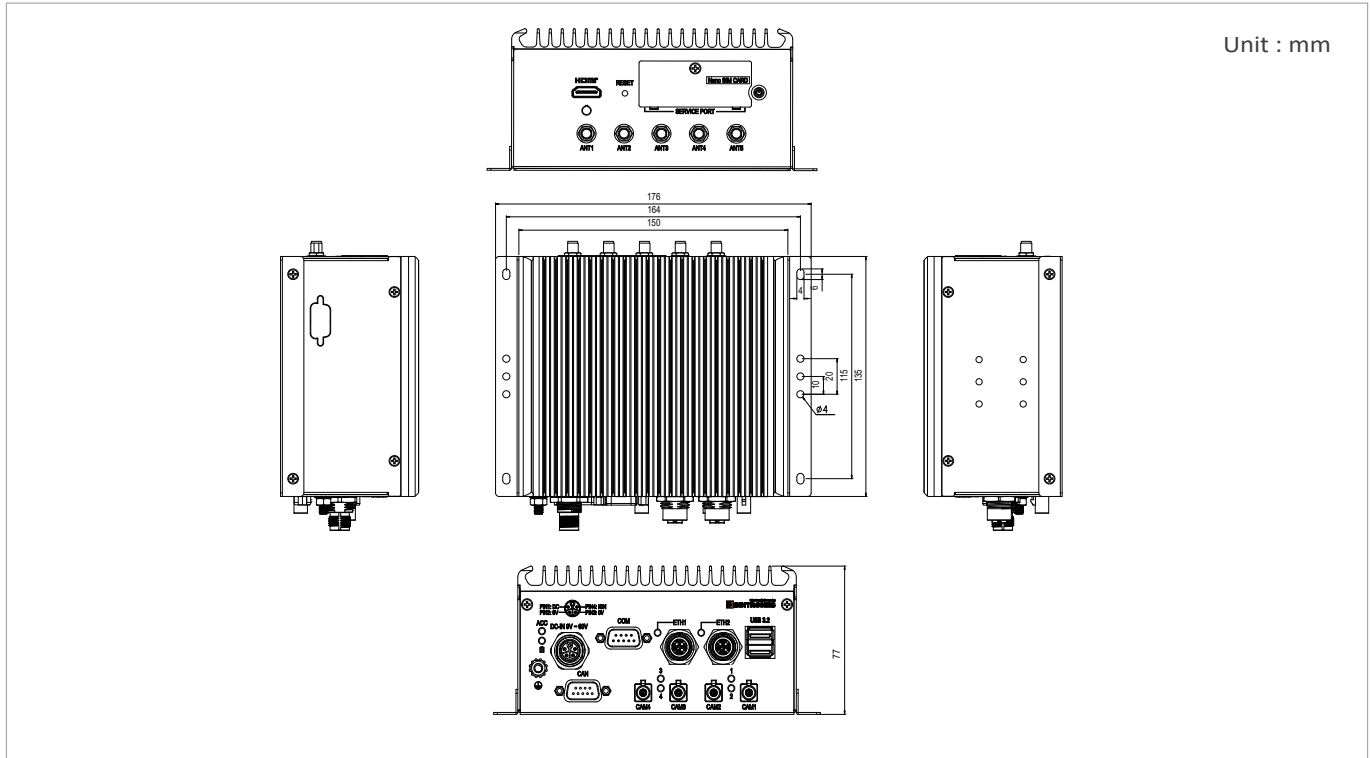
**Weight**

- 1770 g (TBC)

**Dimensions**

- 150 mm (L) x 135 mm (W) x 77 mm (H)

**Dimensions**



**Ordering Information**

Model Number	IBOX-601-G2-00-ONX16	NVIDIA® Jetson Orin™ NX 16GB / VDB-100 / 4 x GMSL-2 / Model M12
	IBOX-601-G2-00-ONX8	NVIDIA® Jetson Orin™ NX 8GB / VDB-100 / 4 x GMSL-2 / Model M12
	IBOX-601-G2-01-ONX16	NVIDIA® Jetson Orin™ NX 16GB / VDB-101 / 4 x GMSL-2 / Model M12
	IBOX-601-G2-01-ONX8	NVIDIA® Jetson Orin™ NX 8GB / VDB-101 / 4 x GMSL-2 / Model M12
Description	NVIDIA® Jetson Orin™ NX w/ 1 x 2.5GbE / 2 x LAN / 1 x HDMI / 1 x CAN bus / 4 x GMSL-2 / DC 9-60V / Edge AI Computer	
State of Origin	Made in Taiwan	

Jetson Orin SoM Lifecycle is available through January 2032.

**Optional Accessories**

Storage*	M.2 2280 NVMe SSD 240GB/480GB / 960GB	
Wi-Fi	M.2 2230 Wi-Fi Module	
WWAN Modem	M.2 3042/52 WWAN Modem	
GPS	mPCIe GPS Module	
GMSL Camera	2MP 63.9°	Sony IMX390 2MP, 63.9°, GMSL-2
	2MP 120.6°	Sony IMX390 2MP, 120.6°, GMSL-2
	2MP 186.0°	Sony IMX390 2MP, 186.0°, GMSL-2

\*The NVMe SSD is a mandatory accessory for this product.

\*Please reach out to the sales reps for more information about supported GMSL-2 cameras.

All specifications are subject to change without notice.