

# VBOX-3631-(M12X)

## Intel® Core™ Processors Series 3 Edge AI Computer



- Intel® Core™ Processors Series 3 with a Built-In NPU for AI Applications
- 1 x 2.5GbE, 4 x GbE Ports for IoT Devices Connectivity
- Type-C DP for Portable Display
- One Cover for Expansion Simplifies Module Installation
- Built-in Watchdog and Smart Power Management
- M12 Model for Robust Connection
- Front Tray for Coin-cell Battery Replacement
- Optional BBU for Emergency Circumstances

## Specifications

### System

#### Processor

- Intel® Core™ 7 processor 350 up to 4.8 GHz (P-Core)
- Intel® Core™ 5 processor 320 up to 4.6 GHz (P-Core)
- Intel® Core™ 3 processor 304 up to 4.3 GHz (P-Core)

\*2 x P-core + 4 x LP E-core for Core 7 350 and Core 5 320

\*1 x P-core + 4 x LP E-core for Core 3 304

\*\*Processor Base Power (TDP) is 28W

#### Graphics

- Intel® Graphics

#### Memory

- 1 x DDR5-6400 SO-DIMM up to 64 GB (In Band ECC Support)

#### Security

- 1 x TPM 2.0 (Comply with FIPS 140-3)

#### Watchdog

- Auto reset for unresponsive system

### Interface

#### Video

- 1 x HDMI® Output
- 1 x DVI-D Single-Link supports VDM
- 1 x USB Type-C DP output

#### Audio

- 1 x Line-out, 1 x Mic-in

#### Ethernet

- 1 x 2.5GbE from Intel I226-LM via RJ-45 or M12 X-code
- 4 x GbE from Marvell Ethernet Switch via RJ-45

\*2 x GbE via M12 X-code (optional)

#### USB

- 2 x USB 3.2, 2 x USB 2.0

#### DIO

- 6 x DI (0-60VDC), 4 x DO (12VDC/100mA), 1 x Isolated DO (external 12V/1A support)

#### COM

- 2 x COM support RS-232/422/485 ports

#### CAN

- 2 x CAN FD

#### AUX IO

- 1 x 12VDC/1A Out
- 1 x External Standby Control

### Internal Expansion

#### M.2

- 2 x M.2 3042/3052\* Key B for WWAN with dual Nano SIM support
- 1 x M.2 2230 Key E for Wi-Fi/BT

\* One slot shares with one Mini PCIe

#### Mini PCIe

- 1 x Mini PCIe\* (full-size w/ USB 2.0 only)

\* One slot shares with one M.2 3042/3052

### Storage

#### Type

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

### Certification / Compliance

- CE, FCC Class A, UKCA, E-Mark, EN 62368-1\* EN 50155\* EN 45545-2 (R25), CISPR 25\*

\*On going

### Power

#### Power Input

- DC 9-60V (nominal power input DC 12V/24V/48V) via 3-pin terminal block or M12 K-code

#### Power Output

- 2 x DC 24V/1A via 8-pin terminal block

#### Power Protection

- OCP, OVP, surge protection, reversed polarity protection

#### Power Management

- Ignition detection, Smart Power Management

#### RTC Battery

- Removable front tray for RTC coin cell battery

#### Battery Backup Unit (BBU)

- Optional battery kit for up to 5 minutes of emergency backup time (Battery charging Temp. 0°C ~ 45°C and discharging Temp. -10°C ~ 60°C)

\* 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

\*\* Operating temperature will be limited within -10°C and 50°C with the battery kit installed.

### Software

#### Operating System

- Windows 11 IoT Enterprise LTSC, Ubuntu 24.04 LTS or above

### Environmental

#### Operating Temp.

- -40°C ~ 70°C (-40°F ~ 158°F) with 0.6 m/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

- IEC 60068-2-64, random, 2.5G@5~500Hz, 1hr/axis
- MIL-STD-810H, Method 514.8, Procedure I, Category 4

#### Shock

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

### Mechanical

#### Construction

- Aluminum Alloy with Fanless Design

#### Antenna

- 9 x SMA connector panel mount hole

#### Mounting

- Wall mounting

#### Net Weight

- RJ-45 model: TBD
- M12 model: TBD

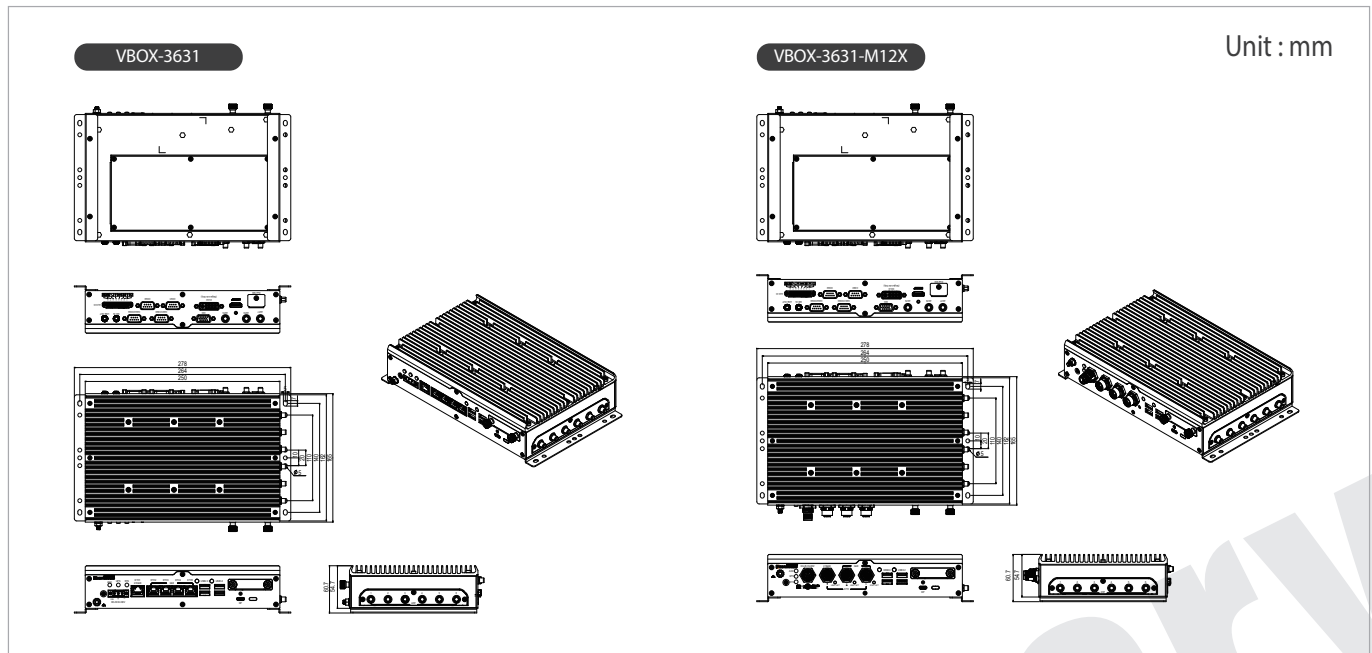
#### Dimensions (L x W x H)

- 250 x 160 x 55 mm (9.85 x 6.30 x 2.17 in.)

#### Ingress Protection

- IP40

## Dimensions



## Ordering Information

Model Number	VBOX-3631(-M12X)-zz-zzz (M12X=w/ M12 X-coded connectors) zz-zzz=C7-350=Intel® Core™ 7 Processor 350 zz-zzz=C5-320=Intel® Core™ 5 Processor 320 zz-zzz=C3-304=Intel® Core™ 3 Processor 304
Description	Intel® Core™ Series 3 Edge AI Computer
State of Origin	Made in Taiwan

## Optional Accessories

Memory	DDR5 SO-DIMM 8/16/24GB, -40°C ~ 85°C
Storage	M.2 2280 NVMe SSD 256GB~2TB, -40°C ~ 85°C
Wi-Fi	M.2 2230 Wi-Fi module, -40°C ~ 85°C
WWAN	M.2 3042/3052 WWAN module, -40°C ~ 85°C
GNSS	M.2 2242 Key B GNSS module, -40°C ~ 85°C Mini PCIe GNSS module, -40°C ~ 85°C
CAN Bus	M.2 3042 Key B CAN module Mini PCIe CAN module, -40°C ~ 85°C
Battery (BBU)	BAT-2300v2 (Operating Temp. : -20°C ~ 60°C (-4°F ~ 140°F))
Power Adapter	24VDC, 160W

All specifications are subject to change without notice.