



IP66 AI EDGE COMPUTER

WCO-3000-ORN-A

IP66 AI Edge Computer with NVIDIA® Jetson Orin™ NX Super/Nano Super



Features

- IP66-Rated Water and Dust Protection
- NVIDIA® Jetson Orin™ NX Super 16G/8G & Nano Super 8G/4G
- 4x LAN (3x 2.5GbE, 1x GbE)
- 1x Type-A USB 3.2 Gen 2 (10 Gbps), 1x Type-A USB 2
- 4x Waterproof Fakra-z Connectors, supporting GMSL 2 Camera
- 1x M.2 M Key, 2x M.2 B Key, 1x M.2 E Key
- 4x DI + 4x DO with isolation
- 9 to 48 Wide Range Power Input Supporting AT/ATX Mode
- Wide Operating Temperature -20°C to 65°C
- TPM 2.0 Supported
- Power Ignition Management

Specifications

System

Processor
NVIDIA® Jetson Orin™ NX Super 16G/8G GPU & Nano Super 8G/4G GPU with 32 Tensor Cores

- NX 16G: 1024-core NVIDIA Ampere architecture GPU (40W/157 TOPS, 25W/100 TOPS)
- NX 8G: 1024-core NVIDIA Ampere architecture GPU (40W/117 TOPS, 20W/70 TOPS)
- Nano 8G: 1024-core NVIDIA Ampere architecture GPU (25W/67 TOPS, 15W/40 TOPS)
- Nano 4G: 512-core NVIDIA Ampere architecture GPU (25W/34 TOPS, 10W/20 TOPS)

LAN Chipset
GbE1: RGMII
2.5 GbE2: Intel LAN Chip
2.5 GbE3: Intel LAN Chip
2.5 GbE4: Intel LAN Chip

Audio Codec
ALC5640

TPM
TPM 2.0

Display

Display
Single Display

HDMI
1x HDMI

Storage

SD
1x Micro SD 3.0 Slot

SIM Socket
1x External Dual Nano SIM socket (M.2 B Key attached)

SSD/HDD
1x M.2 M Key, 2242/2280
(PCIe x4, NVMe) (Default 128GB)

Expansion

M.2
1x M.2 B Key, 2242/3042/3052 (USB 3.2 Gen 1, Support 4G/5G)
1x M.2 B Key, 2242/2280 (PCIe x1 & USB 2.0)
1x M.2 E Key, 2230 (PCIe x1, USB 2.0, Support Wi-Fi)

Expansion Modules
Movella Xsens Module

I/O

Audio
1x Mic-in, 1x Line-out (M12 A-Coded)

CAN
CAN 2.0 B (M12 A-Coded)

COM
2x RS-232/422/485 (M12 A-Coded, Switchable by Software)

DIO
4 in/4 out (Isolated, M12 A-Coded)

GMSL
4x Waterproof Fakra-z Connectors, supporting GMSL 2 Camera (Optional)

LAN
4x M12 LAN (X-Coded)

PoE
4x 15W_M12 (60W Module, Optional)
Support IEEE 802.3 af for 4x LAN
Support IEEE 802.3 at for 2x LAN

USB
1x Type-A USB 3.2 Gen 2 (10 Gbps)
1x Type-A USB 2
1x USB Type-C (For OS Flash)
1x Micro USB (For Console)

Others

- 6x WiFi Antenna Holes
- 1x 4-Pin 2.0 Pitch header for Power SW & Power LED
- 1x 4-Pin FAN Connector
- Integrated G Sensor & Gyroscope
- Integrated RTC RX8010SJ
- 1x M4 Grounding Screw

Operating System

Linux
Linux Ubuntu 22.04 with JetPack 6.2

Power

Power Adapter
Optional AC/DC 24V/9.2A, 220W

Power Mode
AT, ATX

Power Ignition Sensing
Power Ignition Management

Power Supply Voltage
9~48VDC

Power Connector
M12 5-Pin K-Code

Power Protection
OVP (Over Voltage Protection);
OCP (Over Current Protection)
Reverse Protection

Environment

Operating Temperature
-20°C to 50°C (40W)
-20°C to 60°C (25W)
-20°C to 65°C (15W)

Storage Temperature
-30°C to 85°C

Relative Humidity
10% to 95% (non-condensing)

Certification
CE, FCC Class B, E-Mark 24, EMC Conformity with EN50155 & EN50121-3-2, UL 62368-1

Vibration
With SSD: 5 Grms, 5 - 500 Hz, 0.5 hr/axis

Shock
With SSD: 50G, half sine, 11ms

Physical

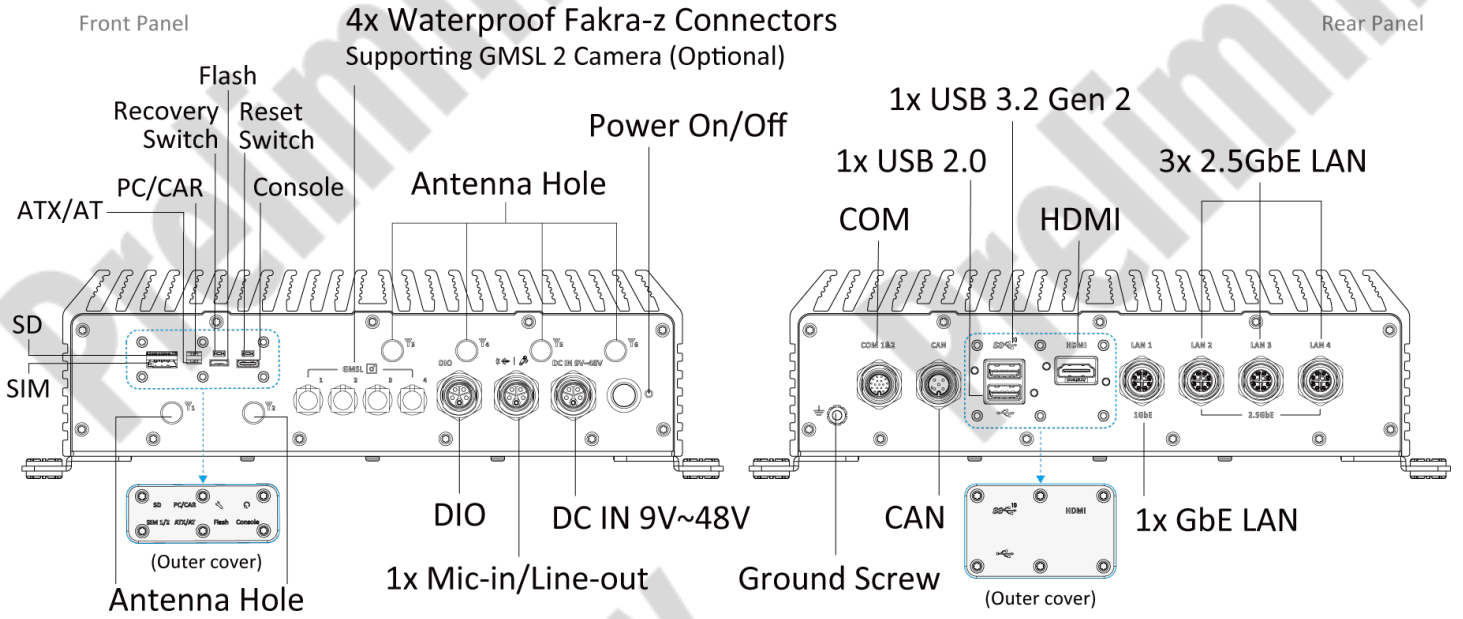
Dimensions
250 (W) x 170 (D) x 75 (H) mm

Weights
5 KG

Construction
Extruded Aluminum with Heavy Duty Metal

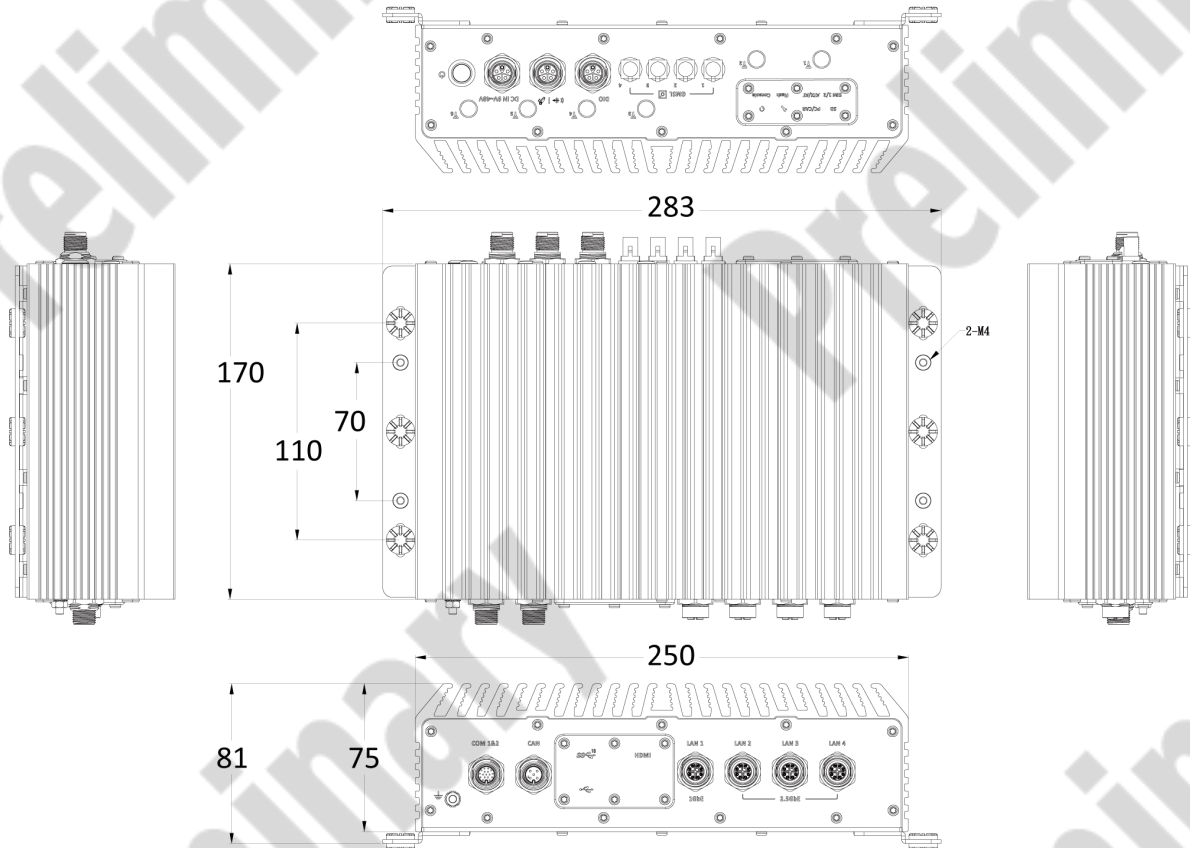
Mounting Options
Wall Mounting

External I/O Mechanical Layout



Dimension

Unit: mm



Compliances and Standards

Vibration	With SSD: 5 Grms, 5 - 500 Hz, 0.5 hr/axis IEC60068-2-64:2008 Designed to comply with MIL-STD-810H Method 514.8 Procedure I
Shock	With SSD: 50G, half sine, 11ms IEC60068-2-27:2008 Designed to comply with MIL-STD-810H Method 516.8 Procedure I
Operating Temperature	-20°C to 50°C (40W) -20°C to 60°C (25W) -20°C to 65°C (15W) IEC60068-2-1:2007 (Cold test procedure) IEC60068-2-2:2007 (Dry heat test procedure) IEC60068-2-3:2007 (Damp heat, steady state, test procedure) IEC60068-2-14:2009 (Wide temperature range thermal shock)
EMC	<ul style="list-style-type: none"> • FCC Class B • CE • ICES-003 • UKCA • Railway EMC Compliance <ul style="list-style-type: none"> - EN 50121-1: 2017 - EN 50121-3-2: 2016 • Industrial EMC Compliance <ul style="list-style-type: none"> - EN 61000-4-2: 2009 - EN 61000-4-3: 2020 - EN 61000-4-4: 2012 - EN 61000-4-5: 2014 +A1: 2017 - EN 61000-4-6: 2014 - E-Mark (E24)
Safety	<ul style="list-style-type: none"> • UL Safety: UL62368-1, 3rd Ed., (cULus) - Test procedure: CB Scheme - Standard: IEC 62368-1:2018

Available Models

Model No.	Description
WCO-3000-ORN-A	WCO-3000-ORN-A Water Resistant Edge AI Computer powered by NVIDIA Jetson Orin Nano/NX Super

Optional Accessories

Model No.	Description
1-E09A06008	Adapter AC/DC 12V 5A 60W with 3pin Terminal Block Plug 5.0mm Pitch
1-E09A12002	Adapter AC/DC 24V 5A 120W with 3pin Terminal Block Plug 5.0mm Pitch
1-TPCD00005	Power Cord, 3-pin US Type, 180cm
1-TPCD00002	Power Cord, European Type, 180cm
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm
1-TFAK00003	Fakra-Z Extension Cable, 100cm
1-TFAK00002	Fakra-Z Extension Cable, 300cm
1-TFAK00004	Fakra-Z Extension Cable, 500cm
1-TFAK00005	Fakra-Z Extension Cable, 1000cm
1-TFAK00006	Fakra-Z Extension Cable, 1500cm

Packing List

1x WCO-3000-ORN-A Series Embedded System
1x Wall Mount Kit
1x Accessory Kit

Exports And Tariff Codes

ECCN	5A992.c
HTS	8471.50.0150
ScheduleB	84.71