



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 (up to 157 TOPS)
- 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
TPM
ALC5640
TPM 2.0

Display

Display
HDMI
Single Display
1x HDMI

Storage

SD
SIM Socket
SSD/HDD
1x Micro SD 3.0 Slot
1x External Dual Nano SIM socket (M.2 B Key attached)
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
CAN
COM
DIO
GMSL
LAN
PoE
USB
Others
1x Mic-in, 1x Line-out (M12 A-Coded)
CAN 2.0 B (M12 A-Coded)
2x RS-232/422/485 (M12 A-Coded, Switchable by Software)
4 in/4 out (Isolated, M12 A-Coded)
4x Waterproof Fakra-z Connectors, supporting GMSL 2 Camera (Optional)
4x M12 LAN (X-Coded)
4x 15W_M12 (60W Module, Optional)
Support IEEE 802.3 af for 4x LAN
Support IEEE 802.3 at for 2x LAN
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)
• 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
Power Mode
Power Ignition Sensing
Power Supply Voltage
Power Connector
Optional AC/DC 24V/9.2A, 220W
AT, ATX
Power Ignition Management
9~48VDC
M12 5-Pin K-Code

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

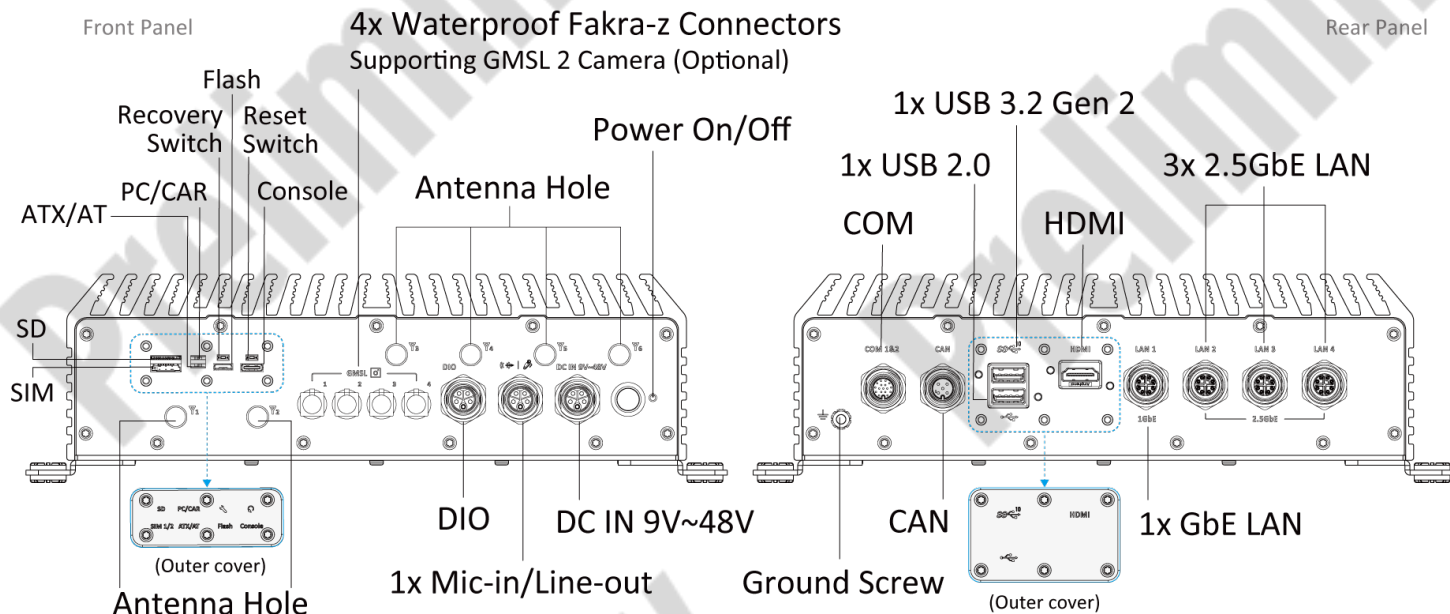
Environment

Operating Temperature
Storage Temperature
Relative Humidity
Certification
Vibration
Shock
-20°C to 50°C (40W)
-20°C to 60°C (25W)
-20°C to 65°C (15W)
-30°C to 85°C
10% to 95% (non-condensing)
CE, FCC Class B, E-Mark 24, EMC Conformity with EN50155 & EN50121-3-2, UL 62368-1
With SSD: 5 Grms, 5 - 500 Hz, 0.5 hr/axis
With SSD: 50G, half sine, 11ms

Physical

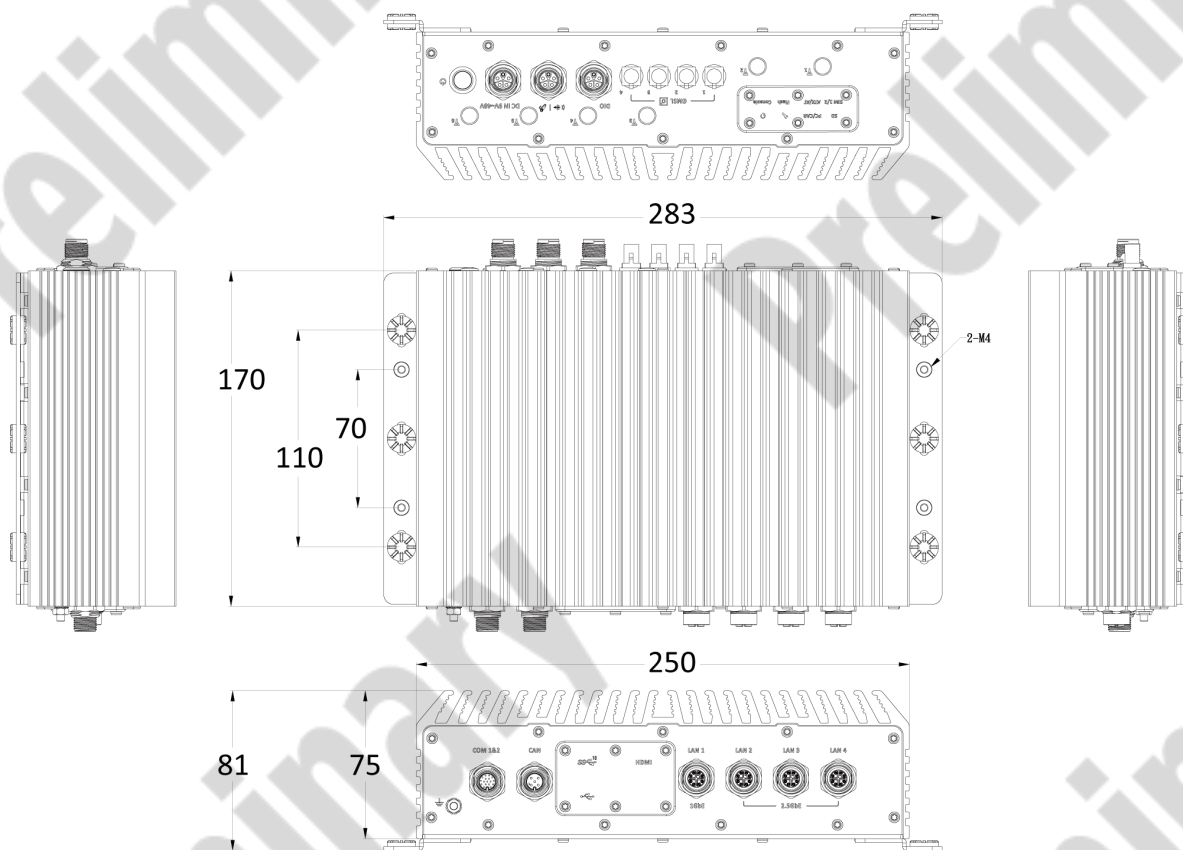
Dimensions
Weights
Construction
Mounting Options
250 (W) x 170 (D) x 75 (H) mm
5 KG
Extruded Aluminum with Heavy Duty Metal
Wall Mounting

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	- FCC Class B - CE - ICES-003 - UKCA - Railway EMC Compliance - EN 50121-1: 2017 - EN 50121-3-2: 2016 - Industrial EMC Compliance - 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 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
WCO-3000-ORN-A-P	WCO-3000-ORN-A IP66 Edge AI Computer with NVIDIA® Jetson Orin™ NX Super/Nano Super, w/ Power Adapter

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

US Exports And Tariff Codes

ECCN	5A992.c
HTS	8471.50.0150
ScheduleB	84.71

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