



AI EDGE COMPUTER

JCO-6000-ORN-B_4EBIO

High Performance AI Edge Computer with NVIDIA Jetson AGX Orin™, 4x EDGEBoost I/O Support



Features

- 8-core/12-core Arm® Cortex®-A78AE v8.2 64-bit CPU
- LPDDR5 3200MHz on SOM. 32GB/64GB
- 1x HDMI, 3840 x 2160 @ 60Hz
- 1x GbE, 1x 10 GbE (Wake-on-LAN and PXE)
- 2x External SIM Socket, 1x Micro SD Socket
- 1x eMMC 5.1 Storage, 64 GB
- 1x M.2 (M Key, 2280, PCIe x4, Support NVMe)
- 1x USB 3.2 Gen 2, 1x USB Type C, 1x USB 2.0
- 8x DI + 8x DO with isolation
- 9 to 48VDC Wide Range Power Input Supporting AT/ATX Mode
- Wide Operating Temperature -20°C to 55°C (60W CPU)
- Support GMSL 2 QUAD Port Mini Fakra, 8x Ports | 1280x720 @30FPS (optional)
- Up to 4x EDGEBoost I/O Support

Specifications

System	
Processor	• 64 GB, 12-core Arm® Cortex®-A78AE v8.2 64-bit CPU (60W/275 TOPS) • 32 GB, 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU (40W/200 TOPS)
LAN Chipset	GbE1: Marvell 88e1512 (right) 10 GbE2: Marvell AQC113(left)
System Memory	AGX Orin 32 GB/64 GB LPDDR5 @ 3200 MHz on SOM
TPM	TPM 2.0
Display	
HDMI	1x HDMI, 3840 x 2160 @ 60Hz
Storage	
eMMC	1x eMMC 5.1, 64 GB
M.2	1x M.2 (M Key, 2280, PCIe x4, Support NVMe) (Default 128GB)
SD	1x Micro SD Socket
SIM Socket	2x Micro SIM Socket (M.2 B Key attached)
Expansion	
M.2	1x M.2 (B Key, 3042/3052, USB 3.2 Gen 2, Support 4G/5G Module) 1x M.2 (E Key, 2230, PCIe x1, USB 2.0, Support Wi-Fi/Bluetooth)
Expansion Modules	
Support EDGEBoost I/O Modules:	
• 4x GbE module with Intel® I350 Chipset, RJ45/M12 connector (PoE optional) • 2x RJ45 10GbE with Intel X710 Chipset • 4x USB 3.0 Locking Type with 2x screw hole • 4x USB 3.0 (share PCIe Gen2 x1 bandwidth) • 1x M.2 M Key, PCIe x4 Lane, 2242/2260 for NVMe Storage	
*The left EBIO Bracket on the front panel don't support PoE Module	
I/O	
CAN	2x CAN (Optional, internal)
COM	2x RS-232/422/485 (Optional, internal)
DIO	8 in / 8 out (Isolated)
EDGEBoost I/O Bracket	4x EDGEBoost I/O Bracket (3x Front Panel, 1x Back Panel)
GMSL Camera	GMSL 2 Camera Support by 2x Quad Port Mini Fakra, supporting 8x 1280x720 @ 30 FPS (Optional)
LAN	2x RJ45
OOB	1x RJ45 (OOB Management Module, Optional, Occupied 1x EBIO Bracket and 1x COM & 1x USB Type-C Console Port)
PoE	By Optional PoE Power Module, Support up to three 4x RJ45/M12 LAN Module
USB	1x USB 3.2 Gen 2 1x USB 2.0 (Flash) 1x USB Type C (Console)
LED	LED 1 : System Status (Blue) LED 2 : Programmable LED (Blue) LED 3 : Programmable LED (Blue) LED 4 : Programmable LED (Blue) LED 5 : Programmable LED (Blue) LED 6 : Programmable LED (Red)
Others	6x Antenna Holes 1x Power Switch, 1x Reset Switch, 1x Force Recovery Switch 1x AT/ATX Switch, 1x Remote Power On/Off 1x PC/CAR Mode Switch
Operating System	
Linux	Linux Ubuntu 22.04 with JetPack 6.2
Power	
Power Adapter	Optional AC/DC 24V/5A, 120W Optional AC/DC 24V/9.2A, 220W Optional AC/DC 24V/11.67V, 280W

Power Mode	AT, ATX
Power Ignition Sensing	Adjustable Power Ignition Management
Power Supply Voltage	DC IN 9~48V DC IN 48~110V, Optional (occupied 1x EBIO Bracket)
Power Connector	3-pin Terminal Block
Power Protection	OVP (Over Voltage Protection); OCP (Over Current Protection) Reverse Protection

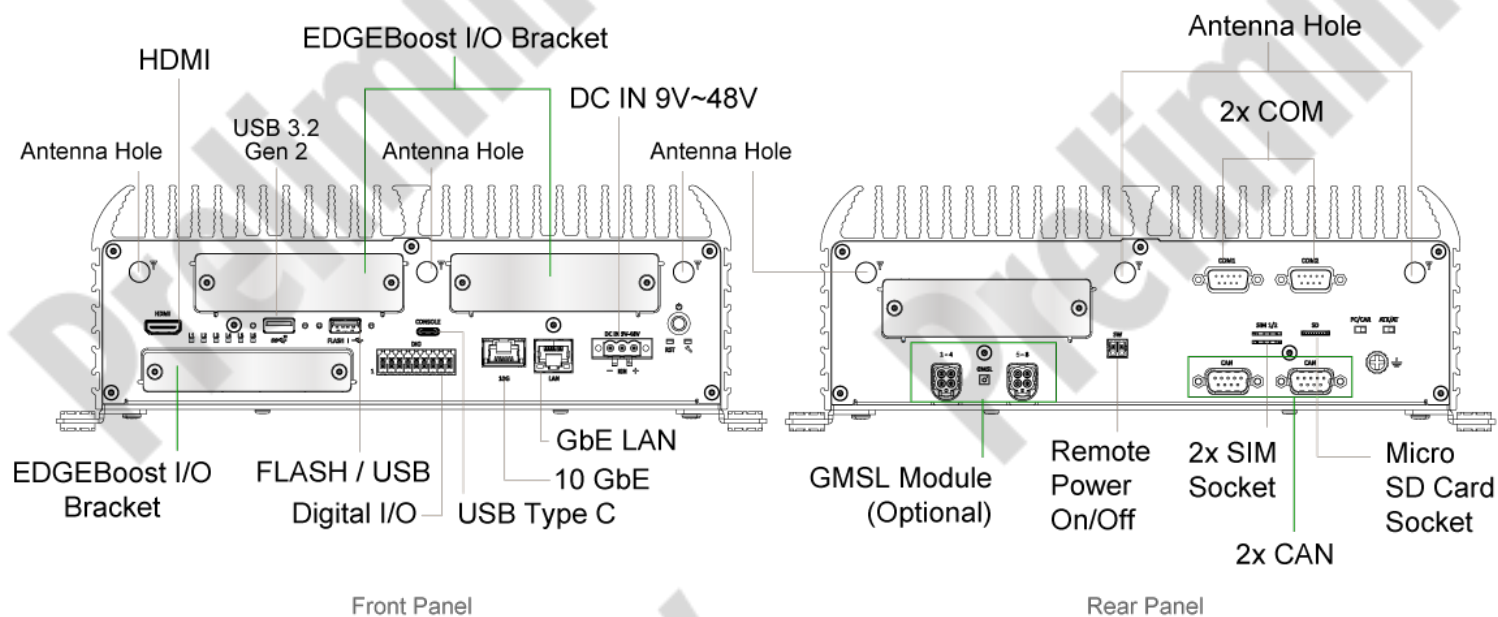
Environment	
Operating Temperature	-20°C to 55°C with 0.6 m/s airflow (MaxN 60W TDP mode, non-throttling)
Storage Temperature	-40°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Certification	EMI: • CE • FCC Class A (47 CFR part 15.109 and part 15.107) • ICES-003 • UKCA EMC Compliance: • Railway EMC: EN 50155: 2017, EN 50121-1: 2017, EN 50121-3-2: 2016 • Industrial EMC: EN 61000-4-2: 2009, EN IEC 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: UL 62368-1, 3rd Ed., (cULus) • Test procedure: CB Scheme • Standard: IEC 62368-1:2018 Green Product: • RoHS 3.0 (Directive 2015/863/EU) • REACH

Vibration	IEC60068-2-64:2008 With SSD: 5 Grms (5 - 500 Hz, 0.5 hr/axis) Designed to comply with MIL-STD-810H Method 514.8 Procedure I
Shock	IEC60068-2-27:2008 With SSD: 50G half-sin 11ms Designed to comply with MIL-STD-810H Method 516.8 Procedure I Package Drop Test: ISTA 2A

Physical	
Dimensions	270 (W) x 190 (D) x 95 (H) mm
Weights	6~7 kg
Construction	Extruded Aluminum with Heavy Duty Metal
Mounting Options	Wall Mounting

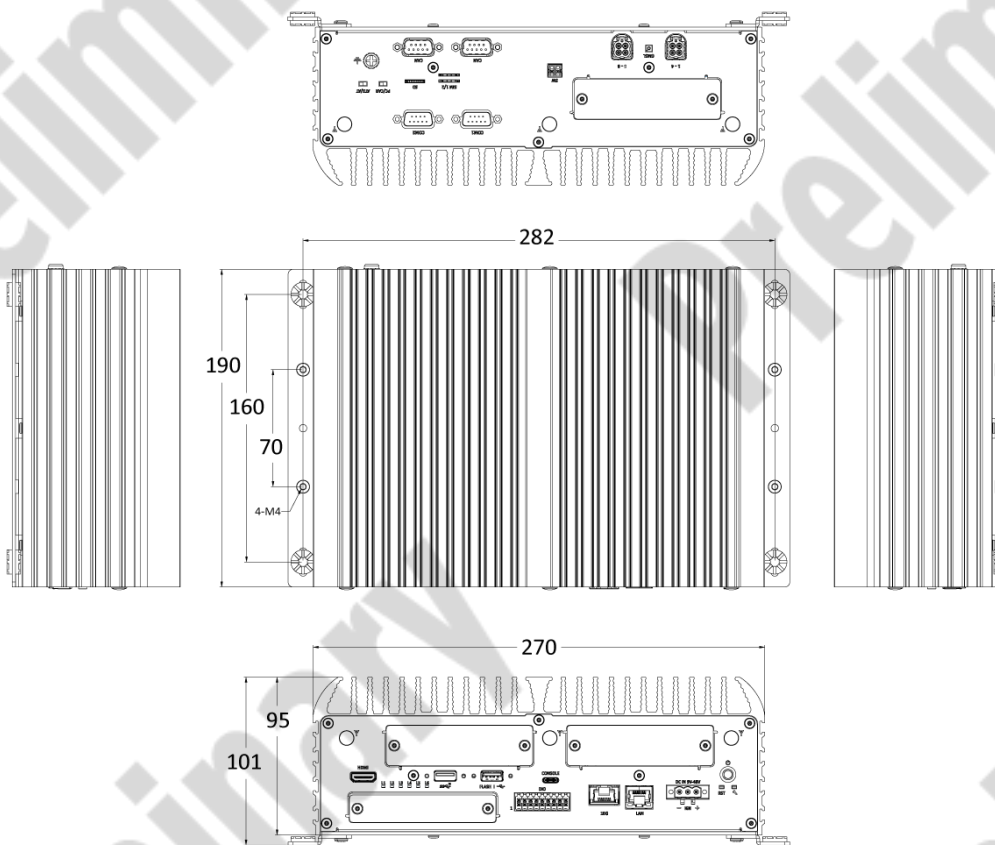
* All specifications and photos are subject to change without notice.

External I/O Mechanical Layout

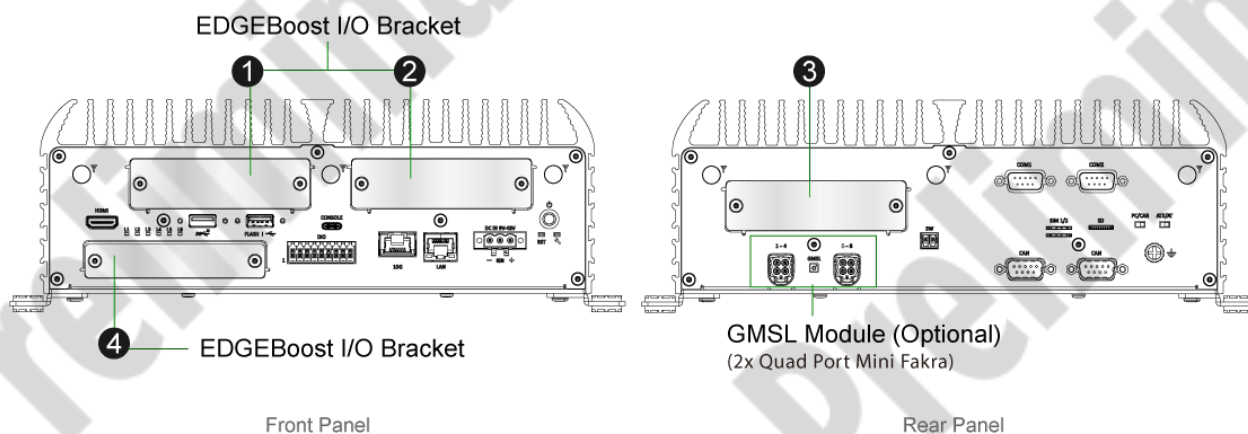


Dimension

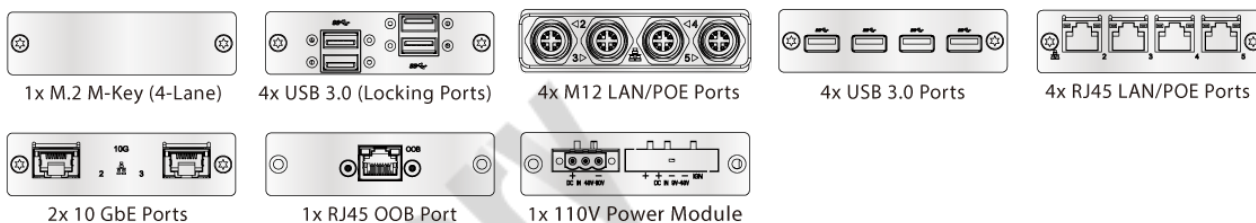
Unit: mm



Expansion



Available EDGEBoost I/O & Expansion



Optional Configurations for Additional Features

Available Model	EDGEBoost I/O No.	1	2	3	4	Optional	Support Q'ty
4x M12/RJ45 LAN Ports		✓	✓	✓	✓		4
4x M12/RJ45 POE Ports			✓	✓ (by internal PoE Module)	✓ (by internal PoE Module)		3
2x 10 GbE Ports		✓	✓	✓	✓		1
4x USB 3.0 Ports		✓	✓	✓	✓		4
4x USB 3.0 (Locking Ports)		✓	✓				2
1x M.2 M-Key (4-Lane)		✓	✓	✓	✓		4
110V Power Module			✓				1
1x RJ45 OOB Module		✓	✓	✓ (Default)			1
1x GMSL Module						✓	1

Compliances and Standards

Shock	IEC60068-2-27:2008 With SSD: 50G half-sin 11ms Designed to comply with MIL-STD-810H Method 516.8 Procedure I Package Drop Test: ISTA 2A IEC60068-2-27:2008 Designed to comply with MIL-STD-810H Method 516.8 Procedure I
Vibration	IEC60068-2-64:2008 With SSD: 5 Grms (5 - 500 Hz, 0.5 hr/axis) Designed to comply with MIL-STD-810H Method 514.8 Procedure I IEC60068-2-64:2008 Designed to comply with MIL-STD-810H Method 514.8 Procedure I
Operating Temperature	-20°C to 55°C with 0.6 m/s airflow (MaxN 60W TDP mode, non-throttling) 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)
EMI	- FCC Class A (47 CFR part 15.109 and part 15.107) - CE - ICES-003 - UKCA
Safety	- UL Safety: UL62368-1, 3rd Ed., (cULus) - Test procedure: CB Scheme - Standard: IEC 62368-1:2018
Green Product	- RoHS 3.0 (Directive 2015/863/EU) - REACH

Available Models

Model No.	Description
TBD	To Be Determined

Optional Accessories

Model No.	Description
1-E09A12002	Adapter AC/DC 24V 5A 120W with 3pin Terminal Block Plug 5.0mm Pitch
1-E09A22102	Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch
1-E09A22801	Adapter AC/DC 24V/11.67A 280W with 3pin Terminal Block Plug 5.0mm Pitch
1-TPCD00005	Power Cord, 3-pin US Type, 180cm (120W)
1-TPCD00002	Power Cord, European Type, 180cm (120W)
1-TPCD00001	Power Cord, UK Type, 180cm (120W)

Packing List

1x JCO-6000-ORN-B_4EBIO Robust AI Edge Computer
1x Wall Mount Kit

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