

JCO-6000-ORN-A

NVIDIA Jetson AGX Orin™ AI Computer with 8-core/12-core Arm® Cortex®-A78AE v8.2 64-bit CPU, 2x EDGEBoost I/O Support



Features

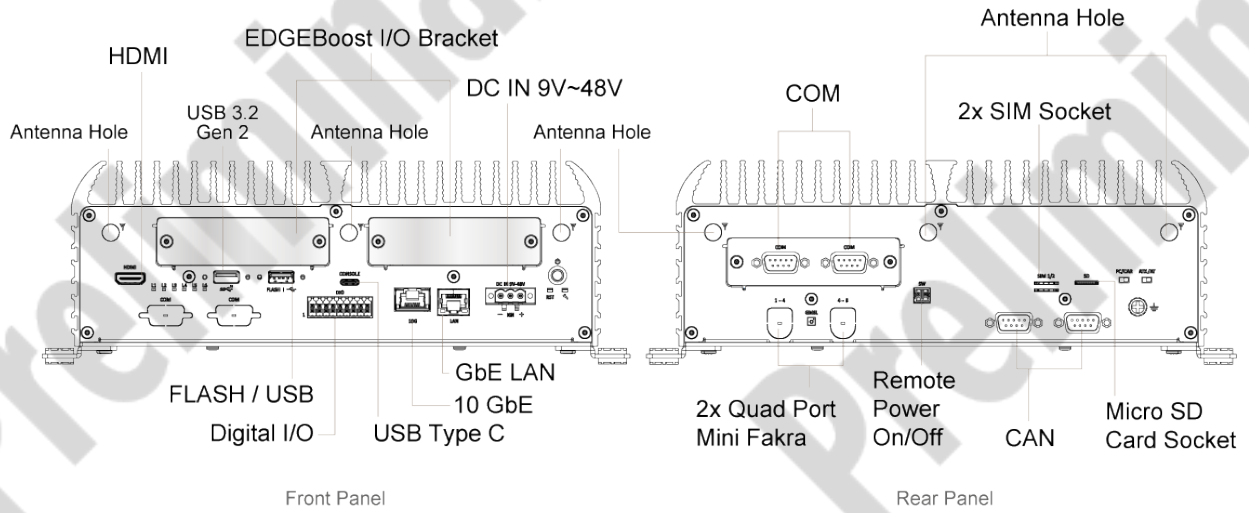
- 8-core/12-core Arm® Cortex®-A78AE v8.2 64-bit CPU
- LPDDR5 3200MHz on SOM. 32 GB/64 GB
- 1x HDMI, 3840 x 2160 @ 60Hz
- 1x GbE, 1x 10 GbE (Wake-on-LAN and PXE)
- 2x External SIM Socket, 1x Micro SD Socket
- 1x eMMC 5.1 Storage, 64 GB
- 1x M.2 (M Key, 2242/2260/2280, PCIe x4, Support NVMe)
- 1x USB 3.2 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 60°C (60W CPU)
- Support GMSL 2 QUAD Port Mini Fakra, 8x Ports | 1280x720 @30FPS (optional)
- Up to 2x EDGEBoost I/O Support

Specifications

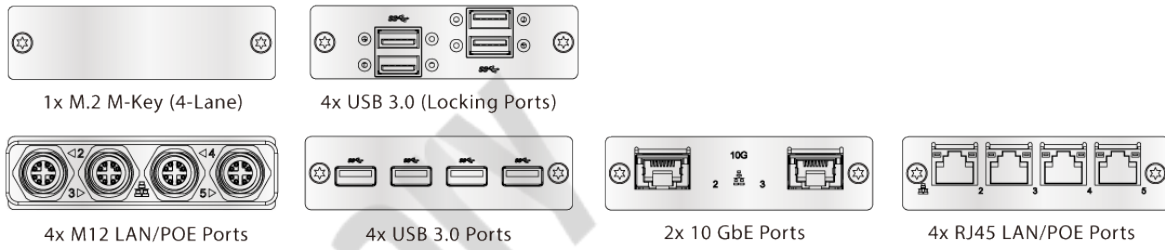
| System | |
|--|--|
| Processor | <ul style="list-style-type: none"> 64 GB, 12-core Arm® Cortex®-A78AE v8.2 64-bit CPU (60W/275 TOPS) 32 GB, 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU (40W/200 TOPS) |
| LAN Chipset | GbE1: Marvell 88e1512 (right) 10 GbE2: Marvell AQC113(left) |
| System Memory | AGX 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, 2242/2260/2280, 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: | |
| <ul style="list-style-type: none"> 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/USB port 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 |
| COM | 2x RS-232/422/485 |
| DIO | 8 in / 8 out (Isolated) |
| EDGEBoost I/O Bracket | 2x EDGEBoost I/O Bracket (Front 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) |
| 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 20.04 with JetPack |

| 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 60°C with 0.6 m/s airflow (MaxN 60W TDP mode, non-throttling) Tested according to: 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) |
| 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 (E13) Safety: • UL Safety Pending: UL62368-1, 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-810G Method 514.7 Procedure I |
| Shock | IEC60068-2-27:2008 With SSD: 50G half-sin 11ms Designed to comply with MIL-STD-810G Method 516.7 Procedure I Package Drop Test: ISTA 2A |
| Physical | |
| Dimensions | 270 (W) x 190 (D) x 95 (H) mm |
| Weights | 5.02 kg |
| Construction | Extruded Aluminum with Heavy Duty Metal |
| Mounting Options | Wall Mounting/DIN rail (Optional) |

External I/O Mechanical Layout

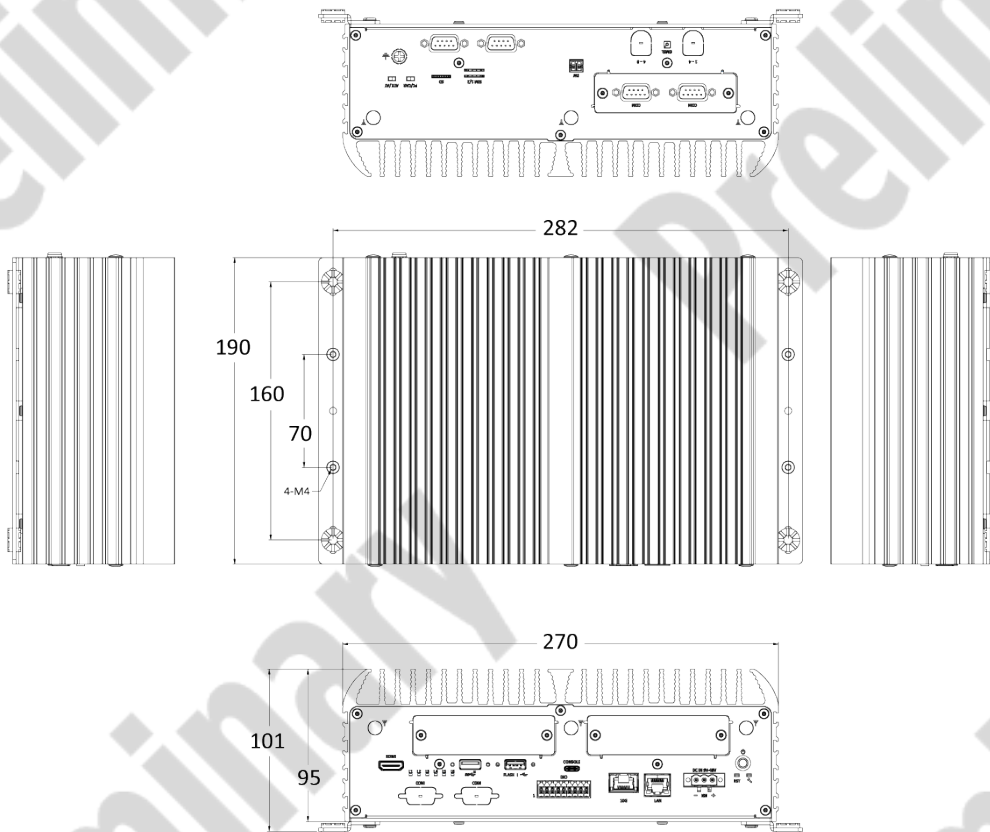


Available EDGEBoost I/O



Dimension

Unit: mm



Available Models

| Model No. | Description |
|----------------------|---|
| JCO-6000-ORN-A-AGX64 | NVIDIA Jetson AGX Orin™ AI Computer with 12-core Arm® Cortex®-A78AE v8.2 64-bit CPU, 2x EDGEBoost I/O |
| JCO-6000-ORN-A-AGX32 | NVIDIA Jetson AGX Orin™ AI Computer with 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU, 2x EDGEBoost I/O |

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 |
| SFICBL022 | Power Cord, 3-pin US Type, 180cm |
| 1-TPCD00002 | Power Cord, European Type, 180cm |
| 1-TPCD00001 | Power Cord, 3-pin UK Type, 180cm |

Packing List

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