



IP66 PHYSICAL AI COMPUTER

# WCO-6000-THR-A

IP66 Physical AI Computer with NVIDIA® Jetson AGX Thor™, Holoscan-ready



## Features

- IP66-Rated Water and Dust Protection
- NVIDIA® Jetson AGX Thor™ T5000 (128GB) & T4000 (64GB), Max 120W
- NVIDIA® Holoscan Ready
- 6x M12 LAN (4x 10GbE optional PoE+, 2x 2.5GbE)
- 2x USB 3.2 Gen 2 (10 Gbps)
- 8x Waterproof Fakra-z Connectors, supporting 8x GMSL2 cameras
- 1x M.2 M Key, 2x M.2 B Key, 1x M.2 E Key
- 7x DI + 7x DO with isolation
- 2x RS-232/422/485, 4x CAN FD (T5000 only)
- 24 to 48VDC Wide Range Power Input Supporting AT/ATX Mode
- Wide Operating Temperature -20°C to 60°C
- UL62368-1, EMC Conformity with EN50155 & EN50121-3-2, E-mark (pending)

## Specifications

System	
Processor	NVIDIA® Jetson AGX Thor™ T4000 (64GB) & T5000 (128GB) - T5000: 14-core Arm® Neoverse®-V3AE 64-bit CPU, 128GB LPDDR5X (120W/2070 TFLOPS, FP4-Sparse) - T4000: 12-core Arm® Neoverse®-V3AE 64-bit CPU, 64GB LPDDR5X (70W/1200 TFLOPS, FP4-Sparse)
LAN Chipset	LAN1 & LAN2: 2.5GbE Intel i226 LAN Chip LAN3 - LAN6: 10GbE Marvell AQC113 LAN Chip *Note: LAN6: T4000 not supported
Audio Codec	ALC5640
TPM	TPM 2.0
Display	
Display	Single Display
HDMI	1x HDMI
Storage	
SIM Socket	1x Dual SIM Socket
SSD/HDD	1x M.2 M Key (2280, PCIe x4, NVMe), Default: 128GB
Expansion	
M.2	1x M.2 B Key, 2242 (PCIe x1 & USB 2.0) 1x M.2 B Key, 3042/3052 (USB 3.2 Gen 1, Support 4G/5G) 1x M.2 E Key, 2230 (PCIe x1, USB 2.0, Support Wi-Fi/BT)
I/O	
Audio	1x Mic-in, 1x Line-out (M12 A-Coded)
CAN	4x CAN FD (M12 A-Coded) *Note: T4000 not supported
COM	2x RS-232/422/485 (M12 A-Coded, Switchable by Software)
DIO	7 in/7 out (Isolated, M12 A-Coded)
GMSL	8x Waterproof Fakra-z Connectors, supporting GMSL2 Camera (Optional)
LAN	6x M12 LAN (X-Coded)
PoE	4x 25W PoE+ for LAN3 - LAN6 (120W Module, Optional)
USB	2x USB 3.2 Gen 2 (10 Gbps, under service panel) 1x USB Type-C (For OS Flash, under service panel) 1x Micro USB (For Console, under service panel)
Others	<ul style="list-style-type: none"> <li>• 6x WiFi Antenna Holes</li> <li>• Service Panel: <ul style="list-style-type: none"> <li>1x Micro USB (For Console)</li> <li>1x USB Type-C (For OS Flash)</li> <li>1x AT/ATX SW (Default ATX)</li> <li>1x PC/CAR SW (Default PC)</li> <li>2x USB Type-A (USB 3.2 Gen2)</li> <li>1x HDMI</li> </ul> </li> <li>• 1x Power Switch with Blue LED</li> <li>• 1x Recovery Button</li> <li>• 1x Reset Button</li> <li>• 1x Remote Power Switch</li> <li>• 1x CMOS Battery</li> <li>• 1x 4-Pin FAN Connector (2.0 pitch)</li> <li>• Integrated RTC</li> <li>• 1x IMU6-Axis IMU</li> <li>• 1x M4 Grounding Screw</li> <li>• 1x Buzzer</li> </ul>

## MCU

### MCU Function:

- LED Control
- GPIO Control
- Device Mode Status
- Buzzer Control
- COM Port Control
- IGN Power On/Off Delay Time Control
- Setting Save Control
- GPIO Configuration Control
- SSD Recovery
- Update FW under Linux OS (by I2C interface)
- PoE Power ON/OFF Control, Power Voltage & Current Sensing and DC IN 12V/24 Detect for PoE Output Power Management

## Operating System

Linux Linux Ubuntu 24.04 with JetPack 7.0

## Power

Power Adapter	Optional AC/DC 24V/9.2A, 220W Optional AC/DC 24V/11.67V, 280W Optional AC/DC 48/7.5A, 360W at 220V
Power Mode	AT, ATX (Default ATX)
Power Ignition Sensing	Yes
Power Supply Voltage	24-48VDC 24V: PoE Power Budget Supports Up to 120W
Power Connector	M12 5-Pin K-Code
Power Protection	OVP (Over Voltage Protection); OCP (Over Current Protection) Reverse Protection

## Environment

Operating Temperature	77W TDP Mode: -20°C to 60°C (With PoE 120W) 120W TDP Mode: -20°C to 40°C (With PoE 120W)  *Non-Throttling, with PoE Function, full CPU+GPU stressing, with 0.6 m/s airflow
Storage Temperature	-30°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
IP Level	IP66
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 88.5 (H) x 200 (D) mm
Weights	TBD
Construction	Extruded Aluminum with Heavy Duty Metal
Mounting Options	Wall Mounting

## 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	77W TDP Mode: -20°C to 60°C (With PoE 120W) 120W TDP Mode: -20°C to 40°C (With PoE 120W)  *Non-Throttling, with PoE Function, full CPU+GPU stressing, with 0.6 m/s airflow 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"> <li>FCC Class B</li> <li>CE</li> <li>ICES-003</li> <li>UKCA</li> <li>Railway EMC Compliance               <ul style="list-style-type: none"> <li>- EN 50121-1: 2017</li> <li>- EN 50121-3-2: 2016</li> </ul> </li> <li>Industrial EMC Compliance               <ul style="list-style-type: none"> <li>- EN 61000-4-2: 2009</li> <li>- EN 61000-4-3: 2020</li> <li>- EN 61000-4-4: 2012</li> <li>- EN 61000-4-5: 2014 +A1: 2017</li> <li>- EN 61000-4-6: 2014</li> </ul> </li> <li>E-Mark (E24)</li> </ul>
Safety	<ul style="list-style-type: none"> <li>UL Safety: UL62368-1, 3rd Ed., (cULus)</li> <li>- Test procedure: CB Scheme</li> <li>- Standard: IEC 62368-1:2018</li> </ul>

## Available Models

Model No.	Description
WCO-6000-THR-A	WCO-6000-THR-A IP66 Physical AI Computer with NVIDIA® Jetson AGX Thor™

## Optional Accessories

Model No.	Description
1-E09A22001	Adapter AC/DC 24V 9.2A 220W with 5-pin Terminal Block Plug 5.0mm Pitch
1-E09A28001	Adapter AC/DC 24V 11.67A 280W with 5-pin Terminal Block Plug 5.0mm Pitch
1-E09A36003	Adapter AC/DC 24V 7.5A 360W with 5-pin Terminal Block Plug 5.0mm Pitch
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-TPCD00003	Power Cord, Japanese Type, 180cm
1-TPCD00001	Power Cord, UK Type, 180cm
1-TPCD00002	Power Cord, European 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-6000-THR-A Series Physical AI System  
1x Wall Mount Kit  
1x Accessory Kit

## Exports And Tariff Codes

ECCN	5A992.c
HTS	8471.50.0150
ScheduleB	84.71