CPT200X1

Fanless IP66 In-Vehicle Computer With Intel® Raptor Lake-S Refresh 14/13th Gen Socket Processor

MIL-STD 810

13th Raptor lake

14th Raptor Lake Refresh

- Intel® Raptor Lake-S Core™ i Processor
- NVIDIA L4 GPU
- DDR5-4800 SO-DIMM up to 96G (non-ECC/ ECC)
- 4 x 2.5GbE LAN w/M12
- M20 Connectors: 1 x USB3.0, 1 x MiniDP
- 2 x RS232/422/485 w/M12
- 2 x Internal 2.5" SSD Tray
- 1 x DC-IN w/M12
- Operating Temperature -20°C to 60°C
- MIL-STD-810 Standards for Shock, Vibration and Wide Temperatures

Introduction

The IP66 Fanless In-Vehicle GPU Computer CPT200X1 Series is engineered for mission-critical edge applications that demand both performance and durability. Equipped with the latest Intel® Raptor Lake-S Core™ i Processor and NVIDIA L4 GPU with supporting up to 96GB of DDR5-4800 SO-DIMM, it provides the computing power required for real-time AI workloads, machine vision, and autonomous control. Its rugged, fanless design ensures reliable, silent operation in even the most challenging environmental conditions.

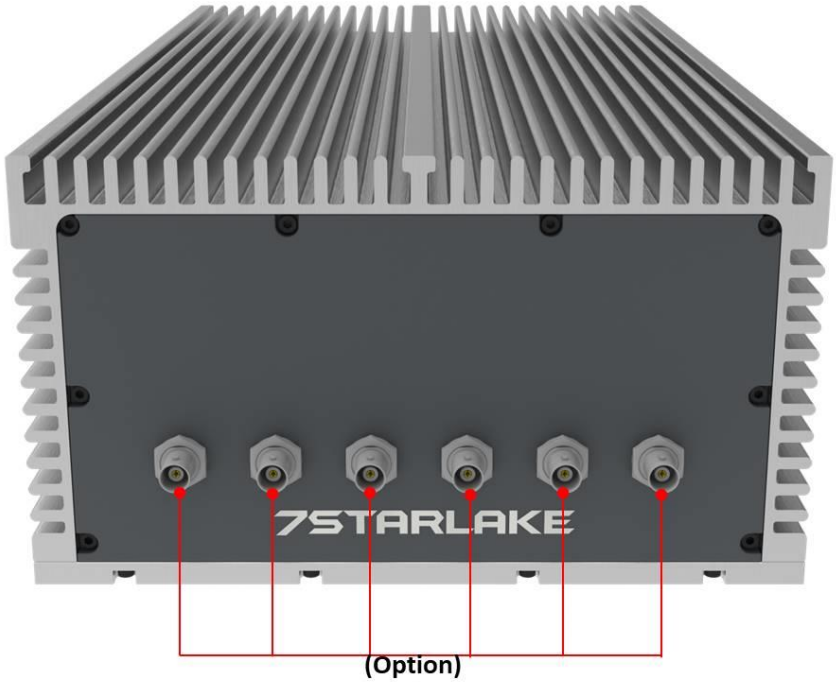
Designed for autonomous electric mining trucks, robotic arms, and other industrial automation systems, the CPT200X1 provides a robust platform for next-generation smart machinery. With IP66-rated protection, it withstands dust, water, and extreme conditions, and the MIL-STD-810 standards ensures resilience against shock, vibration, and wide temperature ranges from -20°C to 60°C.

Connectivity and flexibility are at the heart of the CPT200X1. Equipped with M12 connectors, it offers 4 x 2.5GbE LAN, 2 x RS232/422/485, along with 1x USB 3.0 and 1 x MiniDP w/M20 for high-resolution display output. It also supports dual 2.5" SSD trays, enabling high-capacity, fast-access storage for data-intensive applications such as sensor fusion, video analytics, and AI inference at the edge.

With its rugged construction, advanced processing capabilities, and versatile connectivity, the CPT200X1 series delivers a robust solution for industrial in-vehicle GPU computing. Whether powering autonomous fleets in mining operations or enabling high-precision robotics in factories, the CPT200X1 series is built to deliver reliability, efficiency, and performance under the most demanding conditions.

Appearance


2 x RS232/422/485
4 x 2.5G LAN
SSD LED
Power Button
DC-IN
1 x USB3.0
1 x Mini DP
GND


7STARLAKE
(Option)
6 x Water Proof SMA Antenna

Specifications

System	
CPU	14th/13th/12th Gen Intel® Raptor Lake-S/Alder Lake-S Core i9/i7/i5/i3/Celeron/Pentium (Up to 35W)
Chipset	Intel® R680E
GPU	NVIDIA L4
Memory Type	2 x 262-pin SO-DIMM / DDR5 4800 MHz / Max. 96 GB (Non-ECC/ ECC)
Storage Device	2 x 2.5" Internal SSD Tray
Expansion	
M.2	1 x M.2 M key 2242/2260/2280 (PCIe4.0x4,SATAIII) w/OS Storage 1 x M.2 B key 3042/3052/2260 (PCIex1,USB,SATAIII) w/4G,5G 1 x M.2 E key 2230 (PCIex1,USB) w/Wi-Fi, BT 1 x mPCIe (PCIex1,USB,SATAIII)
Front I/O	
COM	2 x RS232/422/485 w/2 x M12
LAN	4 x 2.5GbE LAN w/4 x M12
USB 3.0	1 x USB 3.0 w/1 x M20
Display	1 x MiniDP w / 1 x M20
Power Input	1 x DC-IN w/ 1 x M12 (9~48V)
Rear I/O	
(Option) Antenna	6 x Water-proof SMA Connector
Power Requirement	
Power Input	DC-IN 9~48V
Operating System	
Operating System	Windows 10/11 64Bit Linux (support by request)
Physical & Environment	
Dimensions (W x D x H)	248 x 425 x 141.2 mm
IP	IP66 designed to meet
Green Product	RoHS designed to meet

Operating Temperature	-20°C to 60°C
Storage Temperature	-40°C to 85°C
Relative Humidity	5% to 95%, non-condensing
EMC	CE and FCC designed to meet

MIL-STD-810 Environment Testing Standards

Method 501, Operational Temperature, High	Procedure II: +60°C, two-hour dwell, four cycles
Method 501, Storage Temperature, High	Procedure I: +70°C, two-hour dwell, four cycles
Method 502, Operational Temperature, Low	Procedure II: -20°C, two-hour dwell, four cycles
Method 502, Storage Temperature, Low	Procedure I: -30°C, two-hour dwell, four cycles
Method 514, Vibration	Category 24/Non-Operating (Category 20 & 24, Vibration)
Method 514, Vibration	Category 20/Operating (Category 20 & 24, Vibration)
Method 516, Shock	Procedure V Non-Operating (Mechanical Shock)
Method 516, Shock	Procedure I Operating (Mechanical Shock)
Method 507, Humidity	Procedure II: exposure to 10 cycles of 95% relative humidity at temperatures of 30 °C to 60 °C with conformal coating (optional)

Ordering Information

CPT200X1

Fanless Embedded In-Vehicle GPU System with Intel® 14/13/12th Gen Core™ i9/i7/i5/i3 Processor up to 35W , SO-DIMM DDR5 4800MHz up to 96GB, 4 × 2.5GbE RJ45 w/M12, 2 x RS232/422/485 w/M12, 1 x miniDP w/M20, 1 x USB3.0 w/M20, 2 x Internal SSD Tray, 1 x 72W NVIDIA L4 GPU, 1 x DC-IN w/M12, 9~48V, Operating Temperature -20°C to +60°C

Model	CPT200X1-i5-R1	CPT200X1-i5-R2	CPT200X1-i7-R1	CPT200X1-i7-R2	CPT200X1-i9-R1	CPT200X1-i9-R2
CPU	i5-14501TE	i5-13500TE	i7-14701TE	I7-13700TE	i9-14901TE	i9-13900TE

Function	Q'ty	Item	Have Y / N
2.5GbE LAN	4	X3~X6 w/M12	Y
GbE PoE	4	X7~X10 w/M12	N
10GbE LAN	2	X13~X14 w/M12	N
RS232/422/485	2	X1~X2 w/M12	Y
CANBUS (1 to 2)	1	X11 w/M12	N
8-bit DIDO	1	X12 w/M12	N
MiniDP	1	Mini DP w/M20	Y
USB 3.0	1	USB3.0 w/M20	Y