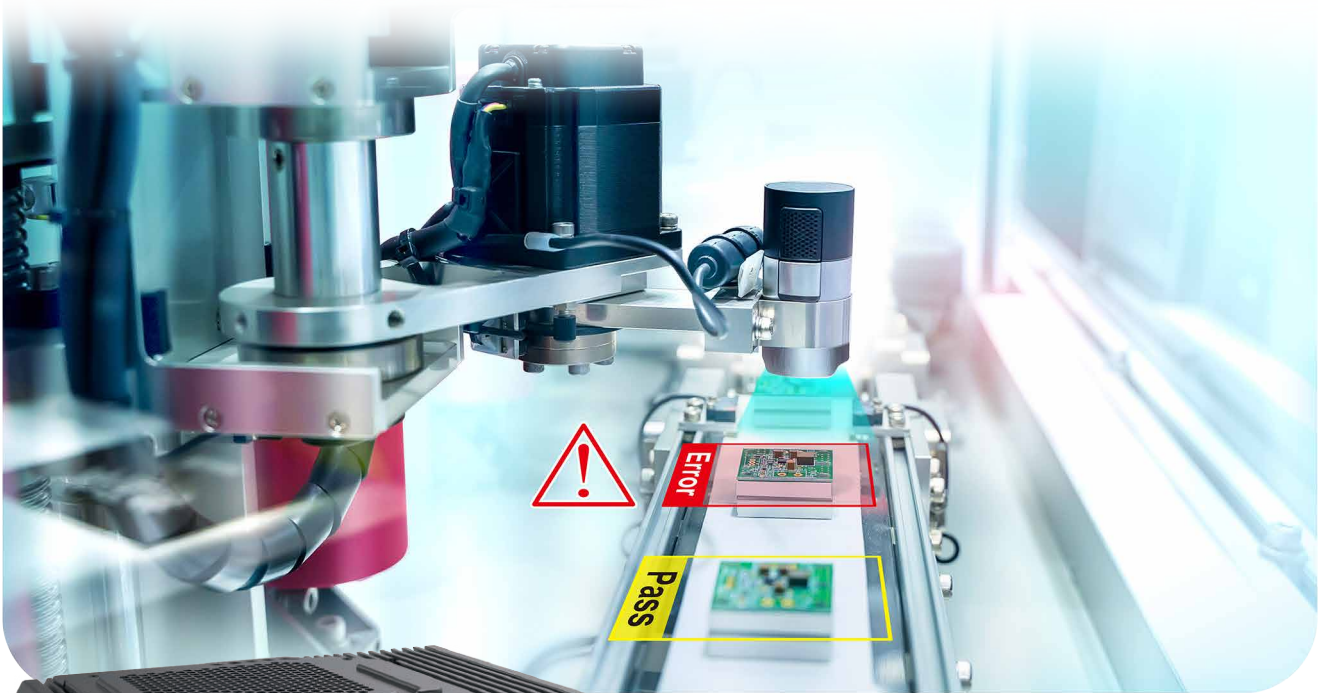


# HPS

# 1000

2.5GigE 5G

AMD Ryzen™ PRO 5000 Series Processor (Cezanne) Embedded System



^ Factory Automation



- Advanced AMD Ryzen™ PRO 5000 Series processors deliver modern performance, security features, and seamless management for demanding workloads.
- 2 DDR4 3200MHz Memory supports up to 64GB, optional with ECC
- 1 Independent 2.5G LAN, 3 Independent GigE LAN with 2 IEEE 802.3at PoE+
- Supports TPM 2.0, TSN, multiple 5G/WiFi/4G/LTE/GPRS/UMTS
- DC 9V to 50V Power Input, Software Ignition Control
- Optional VHub AIoT Solution Service supports OpenVINO based AI accelerator and advanced Edge AI applications
- Optional supports external M.2 SSD Tray, SUMIT B

∨ In-vehicle Computing



^ Autonomous Robot

AMD RYZEN PRO



VHub

Vecow

# Specifications

## System

Processor	AMD Ryzen™ 7 Pro 5000 Series Processors
Chipset	AMD X570
BIOS	AMI
SIO	Fintek F81966
Memory	2 DDR4 3200MHz SO-DIMM, up to 64GB (ECC/Non-ECC)
OS	Windows 10, Linux

## I/O Interface

Serial	4 COM RS-232/422/485
USB	- 4 USB 3.1 - 2 USB 3.2 Gen2
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
LED	Power, HDD, PoE, Wireless
SIM Card	1 External SIM Card Sockets
RTC Battery	Front access RTC Battery

## Expansion

M.2	- 1 M.2 Key B Socket (2280/3042/3052) - 1 M.2 Key E Socket (2230)
SUMIT	1 SUMIT B Slot (Optional)

## Graphics

Graphics Processor	AMD Radeon™ Graphics
Interface	3 DisplayPort : Up to 1920 x 1080@60Hz

## Storage

SATA	2 SATA III (6Gbps) support software RAID 0, 1
M.2	- 1 M.2 Key M Socket (2280, PCIe x4) - 1 M.2 Key B Socket (2280, PCIe x2, share with expansion)
Storage Device	<b>HPS-1000-4G</b> : 2 2.5" SSD/HDD Bracket (Internal) <b>HPS-1000-4R</b> : 2 Front-access 2.5"SSD/HDD Tray <b>HPS-1000-4S</b> : 1 Front-access 2.5"SSD/HDD Tray, 2 Front-access M.2 Key M SSD Tray 1 CFast Socket, Push-in/Push-out Ejector

## Audio

Audio Codec	Realtek® ALC888S-VD, 7.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

## PoE

LAN 1	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210
LAN 2	GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210

## Ethernet

LAN 3	Intel® I210 GigE LAN
LAN 4	Intel® I225-IT 2.5 GigE LAN

## Power

Power Input	DC 9V to 50V Power Input
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16-mode Software Ignition Power Control
Remote Switch	3-pin Terminal Block

## Other

TPM	Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Mgmt.	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.

## Mechanical

Dimensions	260.0mm x 188.0mm x 87.8mm (10.24" x 7.40" x 3.46")
Weight	3.8 kg (8.38 lb)
Mounting	- Wallmount by mounting bracket - DIN Rail Mount (Optional) - 2U Rackmount (Optional)

## Environment

Operating Temp.	<b>35W TDP CPU</b> : -40°C to 60°C (-40°F to 140°F) <b>65W TDP CPU</b> : -40°C to 50°C (-40°F to 122°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @60°C
Shock	- IEC 60068-2-27 - SSD : 50G @wallmount, Half-sine, 11ms
Vibration	- IEC 60068-2-64 - SSD : 5Grms, 5Hz to 500Hz, 3 Axis
EMC	CE, FCC, EN50155, EN50121-3-2

\* All product information may subject to change without prior notice.

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# Order Information

Model	Ethernet			SSD Tray		USB	Isolated DIO
	2.5G LAN	1G LAN	1G PoE*	M.2	2.5"		
HPS-1000-4G	-	-	-	-	-	-	-
HPS-1000-4R	1	3	2	-	2	6	16
HPS-1000-4S	-	-	-	2	1	-	-

## CPU List

Series	CPU	Cores	GHz	TDP (W)	CPU	Cores	GHz	TDP (W)
AMD	5750G	8	4.6	65	5750GE	8	4.6	35
Ryzen® Pro	5650G	6	4.4	65	5650GE	6	4.4	35

## Optional Software

VHub AI Developer	AI Developer Kit
VHub ROS	AMR Developer Kit
VHub EtherCAT	I/O Control Platform

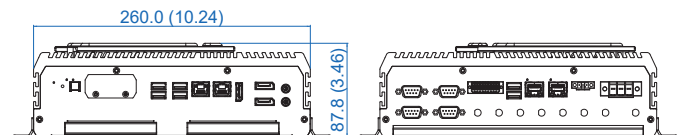
## Accessories

DDR4 32G	Certified DDR4 32GB 3200MHz RAM
DDR4 16G	Certified DDR4 16GB 3200MHz RAM
DDR4 8G	Certified DDR4 8GB 3200MHz RAM
DDR4 4G	Certified DDR4 4GB 3200MHz RAM
PWA-160WB-WT	160W, 24V, 85V AC to 264V AC Power Adaptor with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-180WB	180W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, 0°C to +40°C
PWA-280WB-WT	280W, 24V, 85V AC to 264V AC Power Adaptor with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail and VESA Mounting Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
M.2 Storage Module	M.2 Key M Storage Module
5G Module	5G Module with Antenna
4G Module	4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

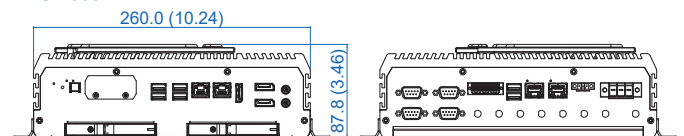
# Dimensions & Drawing

Unit : mm (inch)

## HPS-1000-4G



## HPS-1000-4R



## HPS-1000-4S

