

GPC

1000MX



Workstation-grade 9th/8th Gen Intel® Xeon®/Core™ i7/i5/i3 Processor
Dual GPU AI Computing System



▲ Rolling Stock

- 8 Cores 9th Gen Intel® Xeon®/Core™ i7/i5/i3 Processor with Workstation-grade Intel® C246 Chipset
- 1500W power budget supports max dual 750W NVIDIA® Tesla®/Quadro®/GeForce® or AMD Radeon™ 3-slot graphics card
- Supports multiple rugged X-coded/A-coded M12 connections for GigE LAN, COM RS-232/422/485, and CAN Bus A/B
- Supports 5G/WiFi/BT/4G/LTE/GPRS/UMTS wireless communication
- Expansion : 2 PCIe x8, 2 PCIe x4, 1 Mini PCIe, 1 M.2 Key E, 1 M.2 Key B
- DC 12V to 55V Power Input, Ignition Power Control, TPM 2.0
- Optional VHub AIoT Solution Service supports OpenVINO based AI accelerator and advanced Edge AI applications

▼ Railway Security



▲ Industrial EV

intel partner
Gold IoT Solutions



VHub

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Specifications

System

Processor	8-core 9th/8th Gen Intel® Xeon®/Core™ i7/i5/i3 Processor (Coffee Lake Refresh)
Chipset	Intel® C246
BIOS	AMI
SIO	IT8786E
Memory	4 DDR4 2133MHz SO-DIMM, up to 128GB (ECC/Non-ECC)
OS	Windows 10, Linux

I/O Interface

Serial	4 COM RS-232/422/485, A-coded M12 Connector
CAN Bus	2 CAN Bus 2.0 A/B, A-coded M12 Connector
USB	- 2 USB 3.1 Gen 2 - 4 USB 3.1 Gen 1
LED	Power, HDD, PoE, Wireless
SIM Card	2 External SIM Card Socket

Expansion

Mini PCIe	1 Mini PCIe sockets for PCIe/USB/SIM Card/Optional mSATA
PCIe	4 PCIe Slot : - 2 PCIe x16 slot with x8 signal - 2 PCIe x16 slot with x4 signal
M.2	- 1 M.2 Key B Socket (2280/3042/3052, PCIe x2/USB3(Default)/USB2) - 1 M.2 Key E Socket (2230, PCIe x2/USB)

Graphics

Graphics Processor	Intel® UHD Graphics 630 Independent Graphics 1 : By request Independent Graphics 2 : By request
Interface	Multiple independent displays : - 1 DisplayPort : Up to 4096 x 2304 @60Hz - By requested Graphics Card

Storage

SATA	2 SATA III (6Gbps) support software RAID 0, 1
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
M.2	1 M.2 Key M Socket (2280, PCIe x4)
Storage Device	2 Front-access 2.5" SSD/HDD Tray

Audio

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

Ethernet

LAN 1 to LAN 4	Intel® I210 GigE LAN, X-Coded M12 Connector
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Power

Power Input	DC 12V to 55V
Power Interface	4-pin Terminal Block : V+, V+, V-, V-
Ignition Control	16-mode Software Ignition Control
Remote Switch	3-pin Terminal Block

Others

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	375.0mm x 243.0mm x 215.8mm (14.76" x 9.57" x 8.50")
Weight	9.1 kg (20.06 lb)
Mounting	Wallmount by mounting bracket

Environment

Operating Temp.	-25°C to 45°C (-6°F to 113°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/Vibration	- IEC 61373 : 2010 - Railway Applications : Rolling Stock Equipment, Shock and Vibration Tests
EMC	CE, FCC, EN50155, EN50121-3-2

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Order Information

Model	M12 LAN	M12 COM	M12 CAN Bus	PCIe x8	PCIe x4	SSD Tray	USB	SIM
GPC-1000MX	4	4	2	2	2	2	6	2

CPU List

Series	CPU	Cores	GHz	TDP (W)	CPU	Cores	GHz	TDP (W)	ECC RAM
Intel® Xeon®	E-2176G	6	4.6	80	E-2278GE	8	4.7	80	Yes
					E-2278GEL	8	3.9	35	
	E-2124G	4	4.5	71	E-2226GE	6	4.6	80	
Intel® Core™	i7-8700	6	4.6	65	i7-9700E	8	4.4	65	N/A
	i7-8700T	6	4	35	i7-9700TE		3.8	35	
	i5-8500	6	4.1	65	i5-9500E	6	4.2	65	
	i5-8500T	6	3.5	35	i5-9500TE		3.6	35	
	i3-8100	4	3.6	65	i3-9100E	4	3.7	65	
	i3-8100T	4	3.1	35	i3-9100TE		3.2	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 2666MHz RAM
DDR4 16G	Certified DDR4 16GB 2666MHz RAM
DDR4 8G	Certified DDR4 8GB 2666MHz RAM
DDR4 4G	Certified DDR4 4GB 2666MHz RAM
PWS-600W1	600W, 24V, 90V AC to 264V AC Power Supply
PWS-1000W-24V	1000W, 24V, 90V AC to 264V AC Power Supply
PWS-1500W-24V	1500W, 24V, 90V AC to 264V AC Power Supply
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
4G Module	4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

Dimensions & Drawing

Unit : mm (inch)

