SEMIL-1300GC Series

Robust embedded PC for GPU computing with Intel® Xeon® / Core™ 9th/8th Gen. CPU and NVIDIA® Support

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A ONE STOP SYSTEMS COMPANY

Features

- Intel® Xeon® E or Core™ 9th/8th Gen. CPU
- 2x DDR4 2,666/2,400 SDRAM, up to 64GB
- Intel® C246 chipset
- Supports NVIDIA® RTX A2000 GPU
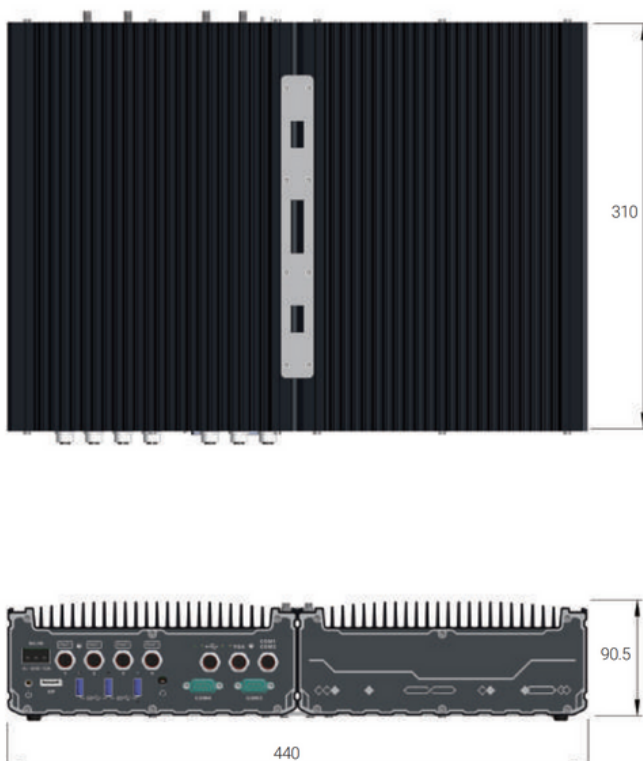- 4x 802.3at Gigabit PoE+ ports via X-coded M12 connectors

SEMIL-1300GC Series – High computing power and robust design

The SEMIL-1300GC series consists of fanless AI computers suitable for wide temperature ranges and supporting NVIDIA® Tesla T4 or Quadro P2200 for demanding environments. In combination with an Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU, the system delivers outstanding CPU and GPU performance for modern edge AI applications. The SEMIL-1300GC series features the patented thermal system architecture*, which guarantees fanless operation at -25°C to 70°C in a rack- or wall-mountable 2U19" package.

The system features an advanced passive cooling design to ensure operation in high temperature environments without throttling the GPU. Compatible with a Tesla T4 or Quadro P2200 GPU, users can take advantage of scalable GPU performance up to 8.1 TFLOPS in FP32 or 130 TOPS in INT8. It uses M12 connectors for Gigabit PoE+, USB 2.0, VGA and COM ports and provides a robust cable connection. Other high-speed computer I/Os include DisplayPort, USB 3.1 Gen1, optional 10G Ethernet and storage interfaces such as M2. for NVMe SSD and SATA ports, making the systems expandable and versatile.

The GPU-supported deep learning systems implement real-time AI inference applications @ Edge. By combining Tesla T4 or Quadro P2200, fanless wide temperature design and robust M12 connectors, the system offers possibilities for using AI even in extremely harsh environments.

Drawing (mm)

Mounting Configuration

▲ SEMIL 19" rack-monuted

▲ SEMIL wall-mounted

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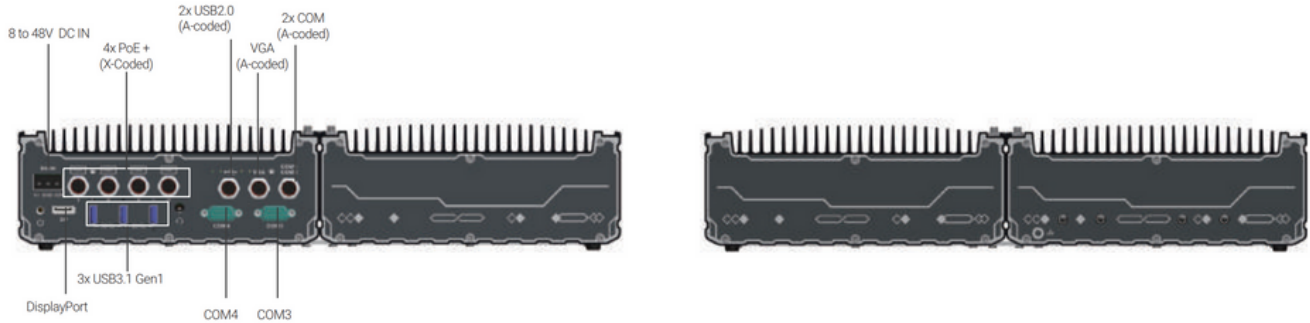| Specifications	SEMIL-1300GC Series
SYSTEM	
CPU	Supporting Intel® Xeon® E and 9th/ 8th-Gen CPU (LGA1151 socket) – Xeon E 2278GE (8C/16T) / 2278GEL (8C/16T) / 2176G (6C/12T) – i7-9700E, i7-9700TE, i7-8700, i7-8700T – i5-9500E, i5-9500TE, i5-8500, i5-8500T – i3-9100E, i3-9100TE, i3-8100, i3-8100T
Chipset	Intel® C246 Platform Controller Hub
GPU Acceleration	NVIDIA® RTX A2000 for AI inference
Graphics	Integrated Intel® UHD Graphics 630
RAM	Up to 64GB ECC/ non ECC DDR4 2,666/ 2,400 SDRAM (two SODIMM sockets)
Storage	2x Internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1 2x full-size mSATA port (mux with mini-PCIe) 1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation
AMT	Supports AMT 12.0
TPM	Supports TPM 2.0
Expansion	2x full-size mini PCI Express sockets (mux with mSATA) 1x M.2 3042/ 3052 B key socket for selected M.2 4G/ 5G module 1x M.2 2242/ 2252 E key for selected WiFi module
INTERFACE	
Ethernet	1x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I219 (M12 X-coded) 3x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I210 (M12 X-coded) Optional: 1x 10 GbE port by Intel® X550AT controller (M12 X-coded)**
USB	3x USB 3.1 Gen1 2x USB 2.0 (M12 A-coded) 1x USB 2.0 (internal)
COM	COM 1/2: 2x 3-wires RS-232 ports (M12 A-coded) COM 3: 1x software-programmable RS-232/ 422/ 485 port COM 4: 1x RS-232 port
Video	1x VGA (M12 A-coded), supporting 1,920 x 1,200 resolution 1x DisplayPort connector, supporting 4,096 x 2,304 resolution
Audio	1x 3.5 mm jack for mic-in and speaker-out
ENVIRONMENTAL	
Cooling	Fanless
Power Supply	8 ~ 48V DC input
Remote Control & LED	Built-in ignition power control
Operating Temperature	**With 35W CPU:** -40° ~ 70°C **** **With >= 65W CPU:** -40° ~ 70°C ***/ **** (configured as 35W TDP mode) -40° ~ 50°C ***/ **** (configured as 65W TDP mode)
Storage Temperature	-40° ~85°C
Vibration/Shock Resistance	Vibration: MIL-STD-810G, Method 514.7, Category 4 Shock: MIL-STD-810G, Method 516.7, Procedure I
Humidity	10 ~ 90% , non-condensing
Dimensions	440 (W) x 310 (D) x 90.5 (H) mm; (excl. rack-mount bracket)
Weight	12kg
Mounting	Rackmount and wallmount
Certifications	EN-50155, CE/FCC Class A, according to EN 55032 & EN 55035

** For optional 10GbE support, please contact Neousys Technology
*** For Xeon E 2176G/ 2278GE, i7-9700E, and i7-8700 running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.
**** For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required temperature.

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Ordering Information	Product Description
SEMIL-1341GC	Wide-temperature fanless GPU computer with NVIDIA® Tesla T4 GPU and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with M12 connectors
SEMIL-1321GC	Wide-temperature fanless GPU computer with NVIDIA® Quadro P2200 GPU and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with M12 connectors

Optional Accessories	
M12-Cable-Kit	4x PoE+, VGA, 2x USB2.0 (by Y-cable), 2x COM (by Y-cable) and DC power cables
PA-280W-ET2	280W AC/ DC power adapter 24V/ 11.67A; 16AWG/ 100cm; cord end terminals for terminal block, operating temperature: -30°C to 60°C