

SEMIL-1700GC Series

Robust Embedded PC for GPU Computing with Intel® Xeon® / Core™ 9th/8th Gen. CPU & NVIDIA® Support

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/Tesla T4/Quadro P2200 GPU
- Waterproof according to IP67



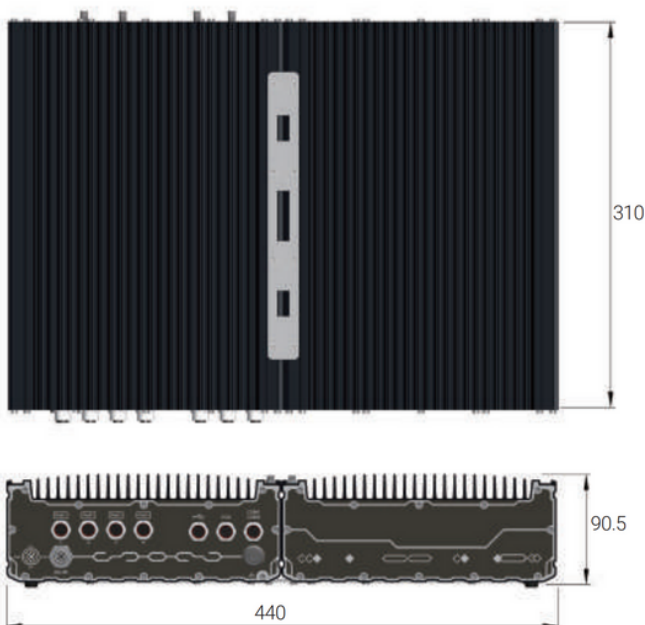
SEMIL-1700GC Series – Strong computing power and robust design

The SEMIL-1700GC series is one of the first IP67 waterproof and dustproof inference servers with pre-installed NVIDIA® RTX A2000, Tesla T4 or Quadro P2200 for the most demanding environments. The series delivers a new level of robustness for edge AI solutions. In combination with an Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU, the system delivers outstanding CPU and GPU performance for advanced edge AI applications in a variety of environmental conditions. The SEMIL-1700GC series features a patented system architecture* that guarantees fanless operation at -25°C to 70°C in a rack- or wall-mountable 2U 19" chassis.

The SEMIL-1700GC series features a sophisticated thermal design to dissipate heat generated by the RTX A2000, Tesla T4 or Quadro P2200 GPU to ensure maximum GPU performance in high temperature environments. It features a corrosion-resistant stainless steel/aluminum housing with molded O-rings and a patented fusion mechanism design to ensure exceptional durability and waterproofness. The SEMIL-1700GC series offers a variety of I/O connectors including 802.3at Gigabit PoE+, VGA, USB, COM ports and optional 10G Ethernet, all with M12 connectors for waterproof and extremely robust connectivity in shock and vibration conditions. It also features M.2 for NVMe SSD, 2.5" SATA storage, 8-48V wide-range DC input with ignition voltage control and complies with MIL-STD-810G and EN 50155.

The inference acceleration of rugged GPU computers updated real-time AI inference applications @Edge, where extremely harsh conditions are expected. By combining a powerful CPU/ GPU, rugged IP67 protection, true fanless wide temperature operation, rugged M12 connectors and standard 2U-19" rack, the SEMIL-1700GC series opens up unprecedented possibilities for AI deployment in places never before achieved.

Drawing (mm)



Mounting Configuration



▲ SEMIL 19" rack-mounted



▲ SEMIL wall-mounted

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BRESSNER
A ONE STOP SYSTEMS COMPANY

Specifications	SEMIL-1724GC	SEMIL-1728GC
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)	2x full-size mini PCI Express sockets (mux with mSATA) 2x full-size mini PCI Express sockets
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)**	1x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I219 (M12 X-coded) 7x 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	2x USB 2.0 (M12 A-coded) 1x USB 2.0 (internal)	4x USB 2.0 (M12 A-coded) 1x USB 2.0 (internal)
COM	COM 1/2: 2x 3-wires RS-232 ports (M12 A-coded)	
Video	1x VGA (M12 A-coded), supporting 1,920 x 1,200 resolution	
Audio	–	1x Mic-in and speaker-out (M12 A-coded)
ENVIRONMENTAL		
Cooling	Fanless	
Power Supply	8 ~ 48V DC input (M12 S-coded)	
Remote Control & LED	Built-in ignition power control (IGN/ GND signal via M12 serial port connector)	
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	12.2kg
Mounting	Rackmount and wallmount	
IP Rating	IP67	
Certifications	EN-50155, CE/FCC Class A, according to EN 55032 & EN 55035	

** For optional 10GbE support, please contact BRESSNER 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-1724GC-A2K	IP67 waterproof GPU computer supporting NVIDIA® RTX A2000 and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with 4x M12 PoE+ ports
SEMIL-1728GC-A2K	IP67 Waterproof GPU Computer supporting NVIDIA® RTX A2000 and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with 8x M12 PoE+ ports
SEMIL-1728GC-10G-A2K	IP67 waterproof GPU computer including NVIDIA® RTX A2000 and Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 8x M12 PoE+ ports and 10GbE port

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