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Proudly Australian-Owned Since 1999

SEMIL-1700GC Series

IP67 Waterproof GPU Computer supporting NVIDIA® Tesla T4/ Quadro P2200 and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with All M12 Connectors

Key Features

- **IP67 waterproof GPU computer with NVIDIA® Tesla T4 or Quadro P2200**
- **Intel® Xeon® E or 9th/ 8th-Gen Core™ i7/ i5/ i3 CPU**
- **Patented waterproof 2U 19" chassis for rack or wall-mount***
- **Guaranteed non-throttling GPU performance up to 62°C ambient**
- **Up to eight 802.3at Gigabit PoE+ ports via M12 X-coded connectors**
- **VGA, USB 2.0 and COM ports via M12 A-coded connectors**
- **8~48V wide-range DC input with built-in ignition power control**
- **MIL-STD-810G and EN 50155 certified**

Preliminary

*R.O.C Patent No. I697759
*CN Patent Pending

Introduction

SEMIL-1700GC series is one of the world's first IP67-rated, waterproof and dustproof inference server with pre-installed NVIDIA® Tesla T4 or Quadro P2200 for the most demanding environments. It is a brand new page in Neousys' chapter of innovations as it represents a new level of robustness for rugged edge AI solutions. Coupled with Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU, the system delivers excellent CPU and GPU performances for advanced edge AI applications in various environmental settings. SEMIL-1700GC series features Neousys' patented system architecture* to guarantee -25°C to 70°C fanless operation in a rack or wall-mountable 2U 19" enclosure.

SEMIL-1700GC series features a sophisticated thermal design to dissipate the heat generated by Tesla T4 or Quadro P2200 GPU to ensure maximum GPU performance in high-temperature environments. It has a corrosion-proof, stainless steel/ aluminum chassis with molded o-rings plus patented fusion mechanism design to offer extraordinary durability and watertight construction. SEMIL-1700GC series offers a variety of I/O connectivities, including 802.3at Gigabit PoE+, VGA, USB, COM ports and optional 10G Ethernet, all using M12 connectors for water-proof and extreme-rugged connectivity in shock and vibration conditions. Additionally, it features M.2 for NVMe SSD, 2.5" SATA storage accommodation, 8-48V wide-range DC input with ignition power control and complies with MIL-STD-810G and EN 50155.

The inference acceleration of rugged GPU computers actualized real-time AI inference applications at the edge, where extremely rough conditions are expected. By combining powerful CPU/ GPU, robust IP67 protection, true fanless wide-temperature operation, rugged M12 connectors, and standard 2U 19" rack, SEMIL-1700GC series reveals unprecedented possibilities of deploying AI to places that have yet to be reached.

Specifications

	SEMIL-1744GC	SEMIL-1724GC	SEMIL-1748GC	SEMIL-1728GC
System Core				
Processor	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			
Graphics	Integrated Intel® UHD Graphics 630			
Acceleration GPU	NVIDIA® Tesla T4	NVIDIA® Quadro P2200	NVIDIA® Tesla T4	NVIDIA® Quadro P2200
Memory	Up to 64 GB ECC/ non-ECC DDR4-2666/ 2400 SDRAM (two SODIMM sockets)			
AMT	Supports AMT 12.0			
TPM	Supports TPM 2.0			
I/O Interface				
PoE+	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)		7x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I210 (M12 X-coded)	
10 GbE Port (Build Option)	Optional: 1x 10 GbE port by Intel® X550AT controller (M12 X-coded)**			
Native Video Port	1x VGA (M12 A-coded), supporting 1920 x 1200 resolution			
Series Port	2x 3-wires RS-232 ports COM1 & COM2 (M12 A-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)	
Audio	-		1x mic-in and speaker-out (M12 A-coded)	
Storage Interface				
SATA HDD	2x Internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1			
mSATA	2x full-size mSATA port (mux with mini-PCIe)			
M.2	1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation			

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Expansion Bus				
Mini PCI-E	2x full-size mini PCI Express sockets (mux with mSATA)		2x full-size mini PCI Express socket (mux with mSATA) 2x full-size mini PCI Express socket	
Power Supply				
DC Input	8~48V DC input (M12 S-coded)			
Ignition Control	Built-in ignition power control (IGN/ GND signal via M12 serial port connector)			
Mechanical				
Dimension	440mm (W) x 310mm (D) x 86.5mm (H) (excl. rack-mount bracket)			
Weight	12 kg		12.2 kg	
Mounting	Rack-mounting and wall-mounting			
Environmental				
Operating Temperature	**with 35W CPU** -40°C ~ 70°C **** **with >= 65W CPU** -40°C ~ 70°C ***/ **** (configured as 35W TDP mode) -40°C ~ 50°C ***/ **** (configured as 65W TDP mode)			
Storage Temperature	-40°C ~85°C			
Humidity	10%~90% , non-condensing			
Vibration	MIL-STD-810G, Method 514.7, Category 4			
Shock	MIL-STD-810G, Method 516.7, Procedure I			
EMC	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

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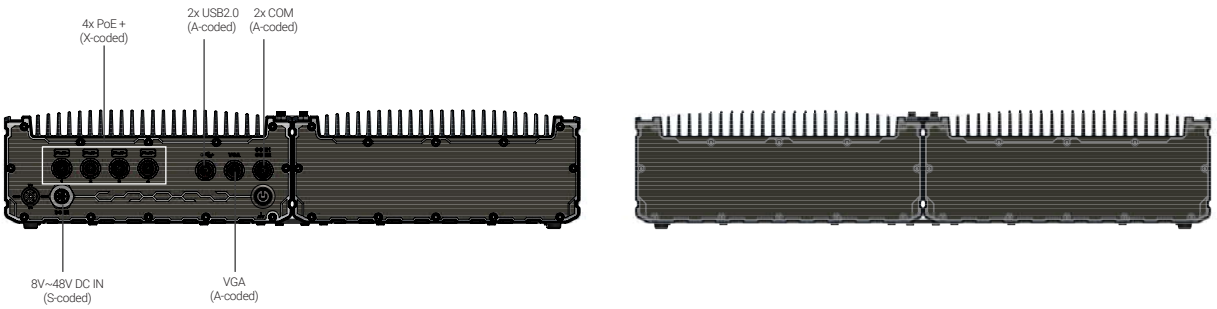
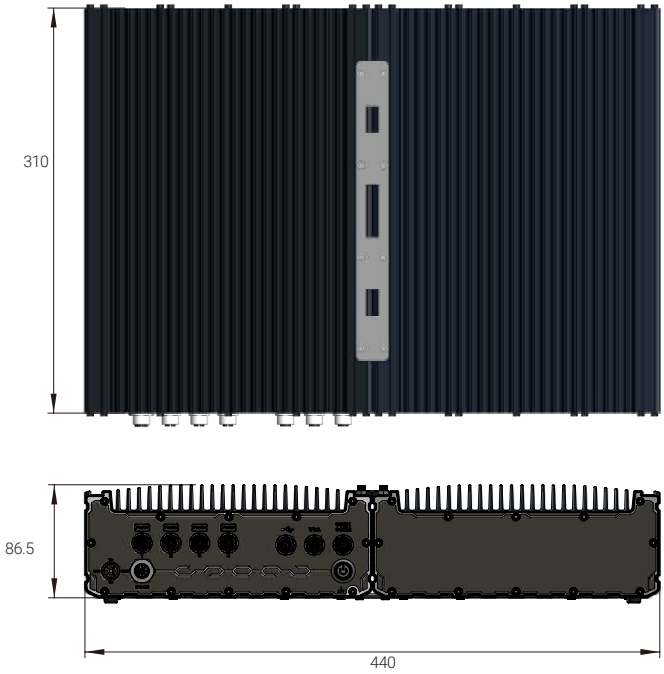
Appearance



Dimensions

Unit : mm



Mounting Configuration

▲ SEMIL 19" rack-monuted

▲ SEMIL wall-mounted

Ordering Information

Model No.	Product Description
SEMIL-1744GC	IP67 Waterproof GPU Computer supporting NVIDIA® Tesla T4 and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with 4x M12 PoE+ ports
SEMIL-1724GC	IP67 waterproof GPU computer supporting NVIDIA® Quadro P2200 and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with 4x M12 PoE+ ports
SEMIL-1748GC	IP67 waterproof GPU computer supporting NVIDIA® Tesla T4 and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with 8x M12 PoE+ ports
SEMIL-1728GC	IP67 Waterproof GPU Computer supporting NVIDIA® Quadro P2200 and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with 8x M12 PoE+ ports

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