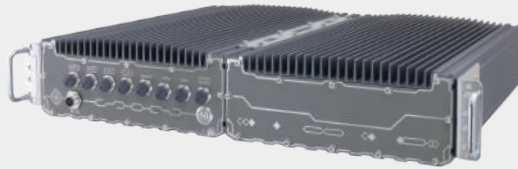# SEMIL-1700GC Series

IP67 Waterproof GPU Computer supporting NVIDIA® RTX A2000 or L4 and Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU with All M12 Connectors

Key Features

- IP67 waterproof GPU computer with NVIDIA® RTX A2000/ L4
- 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 to 48V wide-range DC input with built-in ignition power control
- MIL-STD-810G and EN 50155 certified

CONTACT US   **GET QUOTE**

*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® RTX A2000/ L4 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 -40°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 RTX A2000/ L4 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 to 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.
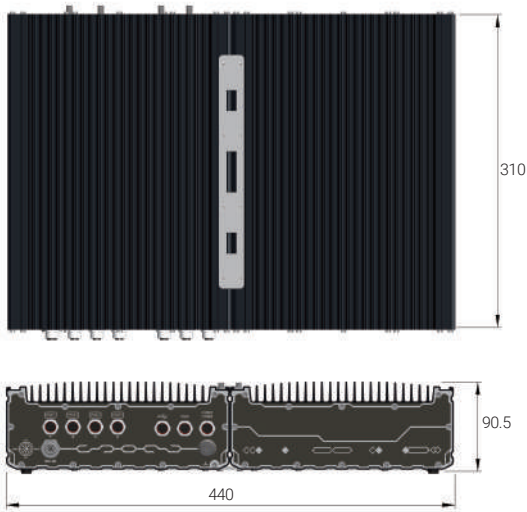
Specifications

	SEMIL-1724GC	SEMIL-1728GC	SEMIL-1748GC
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® RTX A2000		NVIDIA® L4
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		

	SEMIL-1724GC	SEMIL-1728GC	SEMIL-1748GC
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 to 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 90.5mm (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

Last updated: 30 - May 2024

Appearance

4x PoE +
(X-coded)

2x USB2.0
(A-coded)

2x COM
(A-coded)

8 to 48V DC IN
(S-coded)

VGA
(A-coded)

Dimensions

310

440

90.5

Mounting Configuration

Unit : mm

▲ SEMIL 19" rack-monuted

▲ SEMIL wall-mounted

Ordering Information

Model No.	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
SEMIL-1748GC-10G-ADA	IP67 waterproof GPU computer including NVIDIA® L4 and Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 8x M12 PoE+ ports and 10GbE port

Optional Accessories

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
Cblkit-M12	Please refer to the Cable Kit Guide on the following page

SEMIL-1000 Series

Type	Model Name	Description
	Cbl-M12X8M-RJ45-CAT6A-500CM	M12 (8-pole-X-coded) to RJ45, CAT6, length : 500CM
	Cbl-M12A8M-2U2TA-180CM	M12 (8-pole-A-coded) to 2xUSB 2.0 type A (female), Length: 180CM
	Cbl-M12A17M-VGA-180CM2	M12 (17-pole-A-coded) to VGA (Male), Length: 180CM
	Cbl-M12A8M-2DB9M_OW2-180CM1	Cable 180cm, M12 A-Code Male 8P to x2 DB9 Male+2P
	Cbl-M12S4F-OW4-180CM1	Cable 180cm, M12 S-Code Female 4P to Open Wire 4P
	Cbl-M12A8M-ADJ-180CM	M12 (8-pole-A-coded) to Audio Jack, Length : 180CM

Cable Kit

SEMIL-1300 M12 cable kit		
Cblkit-M12-SEMIL1300	4x Cbl-M12X8M-RJ45-CAT6A-500CM	1x Cbl-M12A8M-2U2TA-180CM
	1x Cbl-M12A17M-VGA-180CM2	1x Cbl-M12A17M-2DB9M_OW2-180CM1

SEMIL-1300-10G M12 cable kit		
Cblkit-M12-SEMIL1300	5x Cbl-M12X8M-RJ45-CAT6A-500CM	1x Cbl-M12A8M-2U2TA-180CM
	1x Cbl-M12A17M-VGA-180CM2	1x Cbl-M12A8M-2DB9M_OW2-180CM1

SEMIL-1704 M12 cable kit		
Cblkit-M12-SEMIL1700	4x Cbl-M12X8M-RJ45-CAT6A-500CM	1x Cbl-M12A8M-2U2TA-180CM
	1x Cbl-M12A17M-VGA-180CM2	1x Cbl-M12A8M-2DB9M_OW2-180CM1
	1x Cbl-M12S4F-OW4-180CM1	

SEMIL-1704-10G M12 cable kit		
Cblkit-M12-SEMIL1700-10G	5x Cbl-M12X8M-RJ45-CAT6A-500CM	1x Cbl-M12A8M-2U2TA-180CM
	1x Cbl-M12A17M-VGA-180CM2	1x Cbl-M12A8M-2DB9M_OW2-180CM1
	1x Cbl-M12S4F-OW4-180CM1	

SEMIL-1708 M12 cable kit		
Cblkit-M12-SEMIL1708	8x Cbl-M12X8M-RJ45-CAT6A-500CM	2x Cbl-M12A8M-2U2TA-180CM
	1x Cbl-M12A17M-VGA-180CM2	1x Cbl-M12A8M-2DB9M_OW2-180CM1
	1x Cbl-M12S4F-OW4-180CM1	

SEMIL-1708-10G M12 cable kit		
Cblkit-M12-SEMIL1708-10G	9x Cbl-M12X8M-RJ45-CAT6A-500CM	2x Cbl-M12A8M-2U2TA-180CM
	1x Cbl-M12A17M-VGA-180CM2	1x Cbl-M12A8M-2DB9M_OW2-180CM1
	1x Cbl-M12S4F-OW4-180CM1	

SEMIL-1708-ADO M12 cable kit		
Cblkit-M12-SEMIL1708-ADO	8x Cbl-M12X8M-RJ45-CAT6A-500CM	2x Cbl-M12A8M-2U2TA-180CM
	1x Cbl-M12A17M-VGA-180CM2	1x Cbl-M12A8M-2DB9M_OW2-180CM1
	1x Cbl-M12S4F-OW4-180CM1	1x Cbl-M12A8M-ADJ-180CM

SEMIL-1708-10G-ADO M12 cable kit		
Cblkit-M12-SEMIL1708-10G-ADO	9x Cbl-M12X8M-RJ45-CAT6A-500CM	2x Cbl-M12A8M-2U2TA-180CM
	1x Cbl-M12A17M-VGA-180CM2	1x Cbl-M12A8M-2DB9M_OW2-180CM1
	1x Cbl-M12S4F-OW4-180CM1	1x Cbl-M12A8M-ADJ-180CM