

SEMIL-1700GC Series

IP67 Waterproof GPU Computer including NVIDIA® RTX 2000 Ada / L4 and supporting Intel® Xeon® E / 9th/ 8th-Gen Core™ CPU with All M12 Connectors

Key Features

- IP67 waterproof GPU computer with NVIDIA® RTX 2000 Ada/ L4
- Intel® Xeon® E or 9th/ 8th-Gen Core™ i7/ i5/ i3 CPU
- Patented waterproof 2U 19" chassis for rack or wall-mount^[1]
- 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 EMC compliant


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[1]R.O.C Patent No. 1697759

Introduction

SEMIL-1700GC series is one of the world's first IP67-rated, waterproof and dustproof inference server with pre-installed NVIDIA® RTX 2000 Ada or L4 for the most demanding environments. It is a brand new page in Neosys' 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 Neosys' patented system architecture* to guarantee -40°C to 70°C fanless operation in a rack or wall-mountable 2U 19" enclosure.

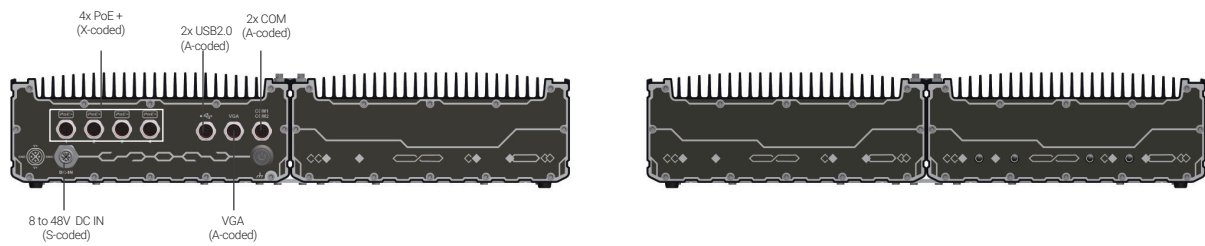
SEMIL-1700GC series features a sophisticated thermal design to dissipate the heat generated by RTX 2000 Ada or L4 GPU to ensure maximum GPU performance in high-temperature environments. It has a corrosion-proof, stainless steel/ aluminum chassis with molded o-rings plus patented fusion mechanism design 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 EMC.

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.

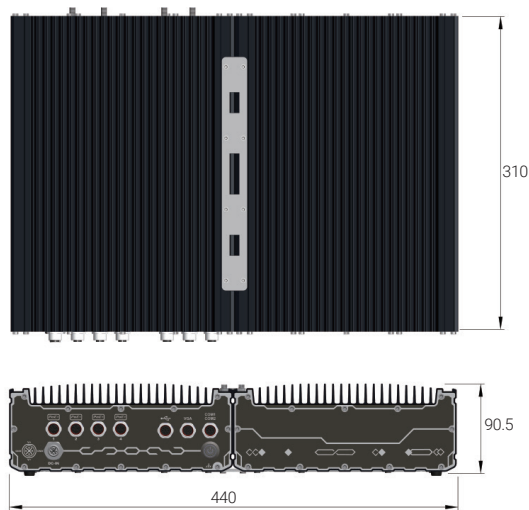
Specifications

SEMIL-1724GC				SEMIL-1744GC		SEMIL-1728GC		SEMIL-1748GC		SEMIL-1724GC		SEMIL-1744GC		SEMIL-1728GC		SEMIL-1748GC	
System Core								Expansion Bus									
Processor		Supporting Intel® Xeon® E and 9 th / 8 th -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						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			
Chipset		Intel® C246 platform controller hub						Power Supply									
Graphics		Integrated Intel® UHD Graphics 630						DC Input		8 to 48V DC input (M12 S-coded)							
Acceleration GPU		NVIDIA® RTX 2000 Ada		NVIDIA® L4		NVIDIA® RTX 2000 Ada		NVIDIA® L4		Ignition Control		Built-in ignition power control (IGN/ GND signal via M12 serial port connector)					
Memory		Up to 64 GB ECC/ non-ECC DDR4-2666/ 2400 SDRAM (two SODIMM sockets)						Mechanical									
AMT		Supports AMT 12.0						Dimension		440mm (W) x 310mm (D) x 90.5mm (H) (excl. rack-mount bracket)							
TPM		Supports TPM 2.0						Weight		12 kg		12.2 kg					
I/O Interface								Mounting		Rack-mounting and wall-mounting							
PoE+		1x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I219 (M12 X-coded)				Environmental											
10 GbE Port (Build Option)		Optional: 1x 10 GbE port by Intel® X550AT controller (M12 X-coded)				Operating Temperature		with 35W CPU -40°C ~ 70°C ^[3] with >= 65W CPU -40°C ~ 70°C ^{[2]/[3]} (configured as 35W TDP mode) -40°C ~ 50°C ^{[2]/[3]} (configured as 65W TDP mode)									
Native Video Port		1x VGA (M12 A-coded), supporting 1920 x 1200 resolution						Storage Temperature		-40°C ~85°C							
Series Port		2x 3-wires RS-232 ports COM1 & COM2 (M12 A-coded)						Humidity		10%-90% , non-condensing							
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)				Vibration		MIL-STD-810G, Method 514.7, Category 4							
Audio		-		1x mic-in and speaker-out (M12 A-coded)				Shock		MIL-STD-810G, Method 516.7, Procedure I							
Storage Interface								EMC		EN 50121 (EN 50155 EMC) CE/FCC Class A, according to EN 55032 & EN 55035							
SATA HDD		2x Internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1						[2] 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.									
mSATA		2x full-size mSATA port (mux with mini-PCIe)						[3] For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required									
M.2		1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation															

Appearance

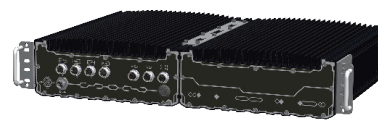


Dimensions

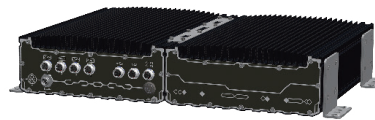


Mounting Configuration

Unit : mm



▲ SEMIL 19" rack-moneted



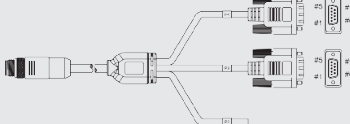
▲ SEMIL wall-mounted

Ordering Information

Model No.	Product Description
SEMIL-1724GC-ADA	IP67 waterproof GPU computer w/ NVIDIA® RTX 2000 ADA, 4x M12 PoE+ ports supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU
SEMIL-1728GC-ADA	IP67 waterproof GPU Computer w/ NVIDIA® RTX 2000 ADA, 8x M12 PoE+ ports supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU
SEMIL-1724GC-10G-ADA	IP67 waterproof GPU Computer w/ NVIDIA® RTX 2000 ADA, 4x M12 PoE+ ports, 10GbE port supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU
SEMIL-1728GC-10G-ADA	IP67 waterproof GPU Computer w/ NVIDIA® RTX 2000 ADA, 8x M12 PoE+ ports, 10GbE port supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU
SEMIL-1744GC-ADA	IP67 waterproof GPU Computer w/ NVIDIA® L4 (Ada Lovelace), 4x M12 PoE+ ports supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU
SEMIL-1748GC-ADA	IP67 waterproof GPU Computer w/ NVIDIA® L4 (Ada Lovelace), 8x M12 PoE+ ports supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU
SEMIL-1744GC-10G-ADA	IP67 waterproof GPU Computer w/ NVIDIA® L4 (Ada Lovelace), 4x M12 PoE+ ports, 10GbE port supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU
SEMIL-1748GC-10G-ADA	IP67 waterproof GPU Computer w/ NVIDIA® L4 (Ada Lovelace), 8x M12 PoE+ ports, 10GbE port supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU

Optional Accessories

PA-280W-ET2	280W AC/DC power adapter 24V/11.67A16AWG/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-180CM3	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-180CM3	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-180CM3	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-180CM3	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-180CM3	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-180CM3	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-180CM3	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-180CM3	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-180CM3	1x Cbl-M12A8M-2DB9M_OW2-180CM1
	1x Cbl-M12S4F-OW4-180CM1	1x Cbl-M12A8M-ADJ-180CM