

SEMIL-2000GC Series

19" rack mount IP69K waterproof computer including NVIDIA® L4, supporting Intel® 14th/ 13th/ 12th-Gen Core™ processor with M12 10GbE and M12 PoE+ ports

Key Features



CE FC

- IP69K waterproof GPU computer with NVIDIA® L4 GPU
- -40°C to 70°C wide-temperature fanless operation
- 2x 10GbE, 1x GbE, and 4x 2.5GbE PoE+ via M12 X-coded connectors (SEMIL-2047)
Up to 8x Ethernet ports and 4x PoE+ via M12 X-coded connectors (SEMIL-2048)
- 2x SocketCAN and 2x USB3.2 Gen1 Type-C w/ DP alternative mode
- 8V to 48V wide-range DC input with reverse polarity protection and built-in ignition power control
- MIL-STD-810H compliant

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*R.O.C Patent No. 1697759
*CN Patent Pending

Introduction

SEMIL-2000GC is an extreme-rugged, IP69K-rated dustproof and waterproof edge AI platform in a 2U 19" rack-mount form factor. Featuring Neosys' advanced thermal design, it delivers fanless wide-temperature operation from -40°C to 70°C, sustaining GPU performance up to its 58°C throttling point. Powered by an NVIDIA® L4 GPU, it provides up to 2.5x the performance of Tesla T4, ensuring reliable computing for the most demanding environments.

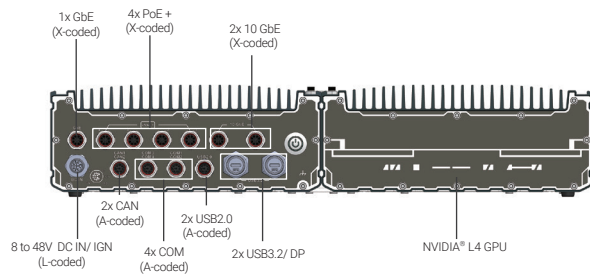
Powered by Intel's 14th/ 13th/ 12th-Gen platform, SEMIL-2000GC benefits from Intel® 7 photolithography with performance and efficient core hybrid performances while supporting up to 128 GB DDR5 memory.

SEMIL-2000GC adopts a corrosion-proof stainless steel and aluminum chassis to counteract moisture and salinity. By utilizing M12 connectors, it offers extremely rugged connections in shock and vibration environments with two CAN bus 2.0 with SocketCAN driver, two USB 3.2, seven Ethernet (including two 10GbE), and four 802.3at PoE+ ports to supply 25.5W of power per port to connected compatible devices. Internally, there is an M.2 M-key socket to support NVMe SSD and mini-PCIe sockets for extending feature sets. Additionally, SEMIL-2000GC features two 2.5" SATA SDD/ HDD accommodation, 8-48V wide-range DC input with ignition power control, and it is also in compliance with MIL-STD-810H standards.

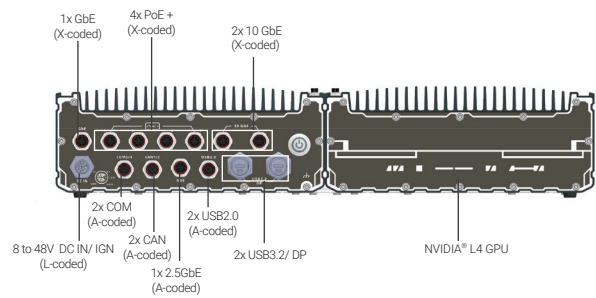
Specifications

	SEMIL-2047GC		SEMIL-2048GC			SEMIL-2047GC		SEMIL-2048GC																
System Core					Storage Interface																			
Processor	Supporting Intel® 14th-Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP) - Intel® Core™ i9-14900/ i9-14900T - Intel® Core™ i7-14700/ i7-14700T - Intel® Core™ i5-14500/ i5-14400/ i5-14500T - Intel® Core™ i3-14100/ i3-14100T				SATA HDD					2x Internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1														
	Supporting Intel® 13th-Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP) - Intel® Core™ i9-13900E/ i9-13900TE - Intel® Core™ i7-13700E/ i7-13700TE - Intel® Core™ i5-13500E/ i5-13400E/ i5-13500TE - Intel® Core™ i3-13100E/ i3-13100TE				M.2					1x M.2 2280 M key NVMe socket (PCIe Gen4x4) for NVMe SSD														
	Supporting Intel® 12th-Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP) - Intel® Core™ i9-12900E/ i9-12900TE - Intel® Core™ i7-12700E/ i7-12700TE - Intel® Core™ i5-12500E/ i5-12500TE - Intel® Core™ i3-12100E/ i3-12100TE - Intel® Pentium® G7400E/ G7400TE - Intel® Celeron® G6900E/ G6900TE				Expansion Bus					Mini PCI-E					3x full-size mini PCI Express socket with SIM slot									
										M.2					1x M.2 2242/3052 B key socket with dual SIM slot for M.2 5G/ 4G module 1x M.2 2230 E key socket for Wi-Fi					-				
					Power Supply					DC Input					8V to 48V DC input, with reverse polarity protection (M12 L-coded)									
										Ignition Control					Built-in ignition power control (IGN/ GND signal via M12 L-coded connector)									
					Mechanical					Dimension					440mm (W) x 310mm (D) x 90.5mm (H)									
Chipset	Intel® Q670E platform controller hub		Intel® R680E platform controller hub		Weight					12 kg														
Graphics	Integrated Intel® UHD Graphics 770 (32EU)				Mounting					Rack-mounting (standard) and wall-mounting (standard)														
Acceleration GPU	NVIDIA® L4 GPU				Environmental																			
Memory	Up to 128 GB DDR5 4800 SDRAM (two SODIMM slots)		Up to 128 GB ECC/ non-ECC DDR5 4800 SDRAM (two SODIMM slots)		Operating Temperature					With 35W CPU -40°C to 70°C														
AMT	Supports Intel vPro/ AMT 16.0									With CPU operating >= 65W CPU -40°C to 70°C (configured as 35W TDP mode) -40°C to 60°C (configured as 65W TDP mode)														
TPM	Supports dTPM 2.0									Storage Temperature					-40°C ~85°C									
I/O Interface					Ethernet Port					Humidity					10%~90% , non-condensing									
					2x 10GbE Ethernet by X550-AT2 (with WoL) (M12 X-coded) 4x 2.5GbE Ethernet by Intel I226-IT (PoE+) (M12 X-coded) 1x GbE Ethernet by Intel I219-LM (with WoL) (M12 X-coded)				1x 2.5GbE Ethernet by Intel I226-IT (M12 X-coded)				Vibration					MIL-STD-810H, 514.8C-IV. Category 4						
					-								Shock					MIL-STD-810H, 516.8 Procedure I						
PoE+	4x IEEE 802.3at PoE+ PSE with 100 W total power budget				CAN Bus					2x isolated CAN 2.0 port, supporting SocketCAN in Linux					EMC					EN 50121 (EN 50155 EMC) CE/FCC Class A, according to EN 55032 & EN 55035				
USB	2x Type-C USB 3.2 Gen1x1 (5Gbps) ports (shared DisplayPort) 2x USB 2.0 ports (M12 A-coded)				Video Port					2x Type-C USB connector supporting DP output (shared USB3.2 Gen1x1)					Ingress Protection					IP69K				
					2x Type-C USB connector supporting DP output (shared USB3.2 Gen1x1)																			
					2x isolated 3-wire RS-232 ports (COM1/ COM2)				-															
					1x isolated 3-wire RS232 (COM3) & 1x RS-422/ 485 port (COM4)																			

Appearance



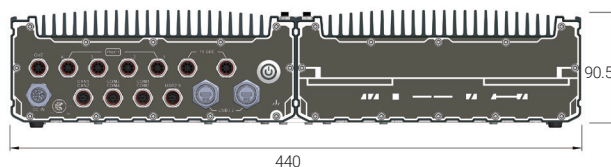
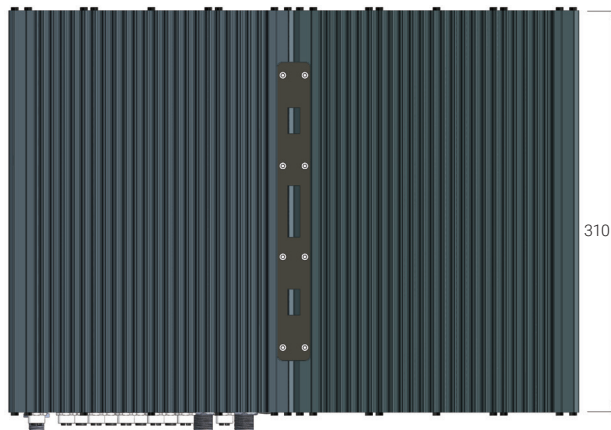
SEMIL-2047GC



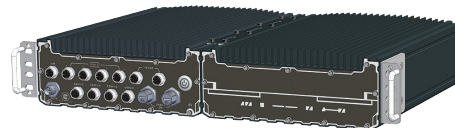
SEMIL-2048GC

Dimensions

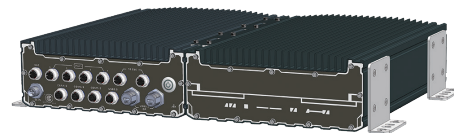
Unit : mm



Mounting Configuration



▲ SEMIL 19" rack-mount



▲ SEMIL wall-mount

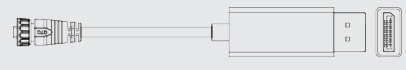
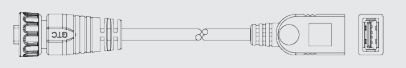
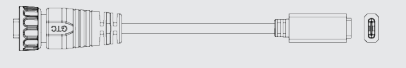
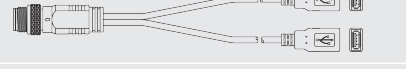
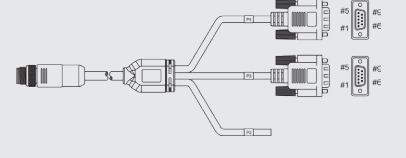
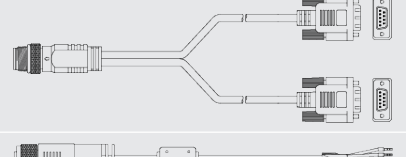
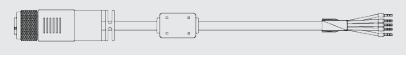
Ordering Information

Model No.	Product Description
SEMIL-2047GC	19" rack mount IP69K waterproof computer including NVIDIA® L4, supporting Intel® 14th/ 13th/ 12th-Gen Core™ processor with 2x M12 10GbE and 4x M12 PoE+ ports
SEMIL-2048GC	19" rack mount IP69K waterproof computer including NVIDIA® L4, supporting Intel® 14th/ 13th/ 12th-Gen Core™ processor with M12 ports of 2x 10GbE, 1x GbE, 1x 2.5GbE and 4x 2.5GbE PoE+ ports

Optional Accessories

PA-280W-CW6P-2P	280W AC-DC power adapter 24V 11.67A, 85~264VAC, -30~+70°C w/ Wafer FML6P to 2P End Terminal cable for AWP/SEMIL
PA-600W-C4PY-4P	600W AC-DC power adapter 24V 25A, 85~264VAC, -20~+70°C, w/ 4PY Terminal to 4P End Terminal cable for AWP/SEMIL

SEMIL-2000GC Series

Type	Model Name	Description
	Cbl-TpCPlug-DPM-1M	TypeC Male Plug to DP Male Cable, Length : 1M
	Cbl-TpCPlug-U3TA-50CM	TypeC Male Plug to USB3.0 Type-A FML, Length: 50CM
	Cbl-TpCPlug-UTpCF-50CM	TypeC Male Plug to USB Type-C FML Cable, Length : 50CM
	Cbl-M12X8M-RJ45-500CM	M12(8-pole-X-coded) to RJ45, CAT6, Length : 500CM
	Cbl-M12A8M-2U2TA-180CM1	M12 (8-pole-A-coded) to 2xUSB 2.0 type A (female), Length: 180CM
	Cbl-M12A8M-2DB9M_OW2-180CM1	M12 A-Code Male 8P to x2 DB9 Male+2P, Length: 180CM
	Cbl-M12A8M-2DB9M-180CM	M12 (8-pole-A-coded male) to 2x DB9 male, Length: 180CM
	Cbl-M12L5F-CordEnd5-180CM	M12 L-Code 5P(FML) to Cord End Terminal 5P, Length: 1.8M

Cable Kit

SEMIL-2000 M12 cable kit		
Cblkit-M12-SEMIL2007	7x Cbl-M12X8M-RJ45-500CM	1x Cbl-M12A8M-2U2TA-180CM1
	2x Cbl-M12A8M-2DB9M_OW2-180CM1 (COM1/2 & CAN1/2)	1x Cbl-M12A8M-2DB9M-180CM (COM3/4)
	1x Cbl-M12L5F-CordEnd5-180CM	
Cblkit-M12-SEMIL2008	8x Cbl-M12X8M-RJ45-500CM	1x Cbl-M12A8M-2U2TA-180CM1
	1x Cbl-M12A8M-2DB9M_OW2-180CM1 (CAN1/2)	1x Cbl-M12A8M-2DB9M-180CM (COM3/4)
	1x Cbl-M12L5F-CordEnd5-180CM	