

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 USB 3.2 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. I697759
*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 2.5× the performance of Tesla T4, ensuring reliable computing for the most demanding environments.

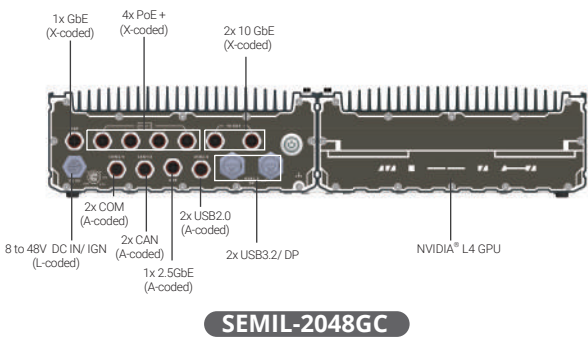
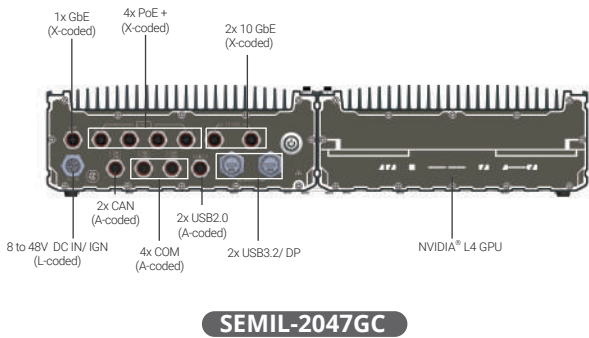
Powered by Intel's 14th/ 13th/ 12th-Gen platform, SEMIL-2000GC benefits from Intel® 7 photolithography with performance and efficient core hybrid performances while supporting up to 128 GB DDR5 memory.

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.

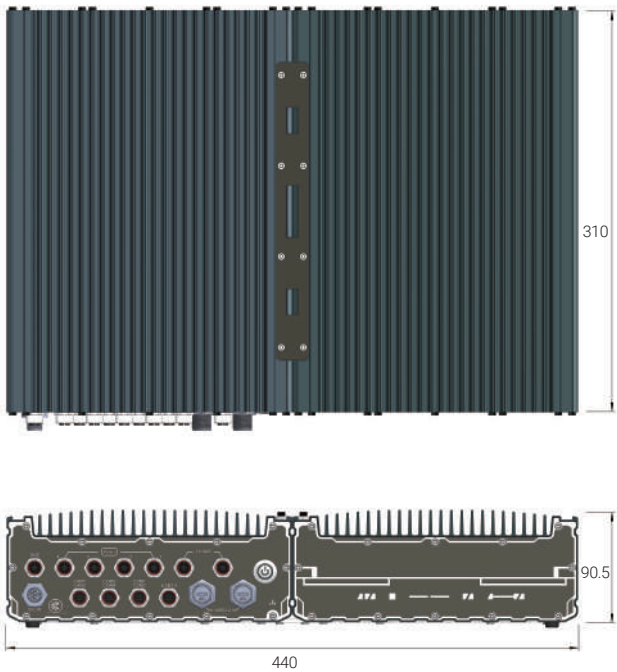
Specifications

	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			
					M.2		1x M.2 2280 M key NVMe socket (PCIe Gen4x4) for NVMe SSD			
	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				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					
Chipset	Intel® Q670E platform controller hub		Intel® R680E platform controller hub		Dimension		440mm (W) x 310mm (D) x 90.5mm (H)			
Graphics	Integrated Intel® UHD Graphics 770 (32EU)				Weight		12 kg			
Acceleration GPU	NVIDIA® L4 GPU				Mounting		Rack-mounting (optional) and wall-mounting (standard)			
Memory	Up to 128 GB DDR5 4800 SDRAM (two SODIMM slots)		Up to 128 GB ECC/ non-ECC DDR5 4800 SDRAM (two SODIMM slots)		Environmental					
AMT	Supports Intel vPro/ AMT 16.0				Operating Temperature		With 35W CPU -40°C to 70°C			
TPM	Supports dTPM 2.0						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)			
I/O Interface										
Ethernet Port	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)				Storage Temperature		-40°C ~85°C			
	-		1x 2.5GbE Ethernet by Intel I226-IT (M12 X-coded)		Humidity		10%~90% , non-condensing			
PoE+	4x IEEE 802.3at PoE+ PSE with 100 W total power budget				Vibration		MIL-STD-810H: 514.8C-VII. Category 4			
CAN Bus	2x isolated CAN 2.0 port, supporting SocketCAN in Linux				Shock		MIL-STD-810H: 516.8 Procedure I			
USB	2x Type-C USB 3.2 Gen1x1 (5Gbps) ports (shared DisplayPort) 2x USB 2.0 ports (M12 A-coded)				EMC		EN 50121 (EN 50155 EMC) CE/FCC Class A, according to EN 55032 & EN 55035			
Video Port	2x Type-C USB connector supporting DP output (shared USB3.2 Gen1x1)				Ingress Protection		IP69K			
Serial Port	2x isolated 3-wire RS-232 ports (COM1/ COM2)		-							
	1x isolated 3-wire RS232 (COM3) & 1x RS-422/ 485 port (COM4)									

Appearance



Dimensions



Mounting Configuration



▲ SEMIL 19" rack-mount



▲ SEMIL wall-mount

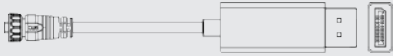
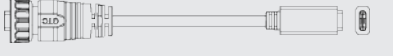
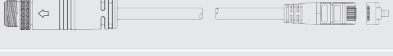
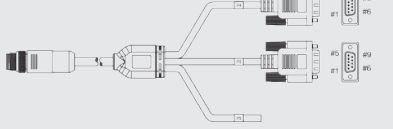
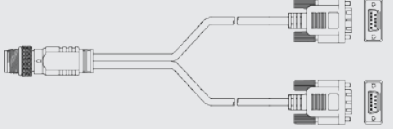
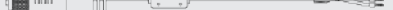
Ordering Information

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 Plug, CAT6, Length : 500CM
	Cbl-M12A8M-2U2TA-180CM2	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-180CM2
	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-180CM2
	1x Cbl-M12A8M-2DB9M_OW2-180CM1 (CAN1/2)	1x Cbl-M12A8M-2DB9M-180CM (COM3/4)
	1x Cbl-M12L5F-CordEnd5-180CM	