

SEMIL-1300 Series

Half-Rack Rugged Fanless Computer Supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ Processor with M12 connectors



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Key Features

- Intel® Xeon® E or 9th/ 8th-Gen Core™ i7/ i5/ i3 CPU
- 2U half-rack fanless system, -40 °C to 70 °C operation
- 4x 802.3at Gigabit PoE+, VGA, 2x USB 2.0, 2x COM via M12 connectors
- M.2 B key for 4G/ 5G module, M.2 E key for WiFi module
- Patented supercapacitor-based uninterruptible power backup* (SEMIL-1311J)
- 8~48V wide-range DC input with built-in ignition power control
- CE, FCC and EN 50155 certified

Preliminary

*R.O.C Patent No. 1598820

Introduction

SEMIL-1300 series is a rugged fanless computer with robust M12 I/O connectors in a standard 2U 19" half-rack form factor enclosure. Powered by Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU and coupled with workstation-grade Intel® C246 chipset, it supports up to 64 GB DDR4 ECC/non-ECC memory and offers flexible mounting options to wall or rack-mount up to two SEMILs side by side.

SEMIL-1300 series incorporates Neosys' best-in-class passive thermal design for proven -40 °C to 70 °C fanless operation. It offers a variety of I/O connectivities utilizing M12 connectors that are reliably robust, cost-effective and can be obtained off-the-shelf. There are also generic I/Os with screw-lock mechanisms to guarantee an extreme-rugged connection in shock and vibration environments. It has four 802.3at PoE+ ports, each supplying 25W of power to the connected device such as an IP or GigE camera. SEMIL-1300 is designed with 4G/5G and WiFi5/WiFi6 wireless connectivity in mind and it supports 8-48V wide-range DC input with ignition power control for in-vehicle use while complying with EN 50155.

In addition, SEMIL-1311J is equipped with Neosys' patented SuperCAP-based UPS containing 2500 watt-second stored energy to sustain and safely shut down the system during unforeseen power outages. It is the perfect solution for data protection and applications in unstable power environments. With a standard half-rack design, proven wide temperature operation capability, protected against shock/ vibration and power interruption, Neosys' SEMIL-1300 series is the ideal robust solution for extreme-rugged deployment.

Specifications

SEMIL-1301J		SEMIL-1311J		SEMIL-1301J		SEMIL-1311J	
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) 1x M.2 3042/ 3052 B key socket for selected M.2 4G/ 5G module 1x M.2 2242/ 2252 E key for selected WiFi module	
Chipset				Intel® C246 platform controller hub			
Graphics				Integrated Intel® UHD Graphics 630			
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)					
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 1x DisplayPort connector, supporting 4096 x 2304 resolution					
Series Port		2x 3-wires RS-232 ports COM1 & COM2 (M12 A-coded) 1x software-programmable RS-232/ 422/ 485 port (COM3, DB9) 1x RS-232 port (COM4, DB9)					
USB		3x USB 3.1 Gen1 2x USB 2.0 (M12 A-coded) 1x USB 2.0 (internal)					
Audio		1x 3.5 mm jack for mic-in and speaker-out					
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					

Power Supply	
DC Input	8~48V DC input
Ignition Control	Built-in Ignition power control
Power Backup	
Capacity	-2500 watt-second
Mechanical	
Dimension	220mm (W) x 310mm (D) x 86.5mm (H) (excl. rack-mount bracket)
Weight	5.8 kg6 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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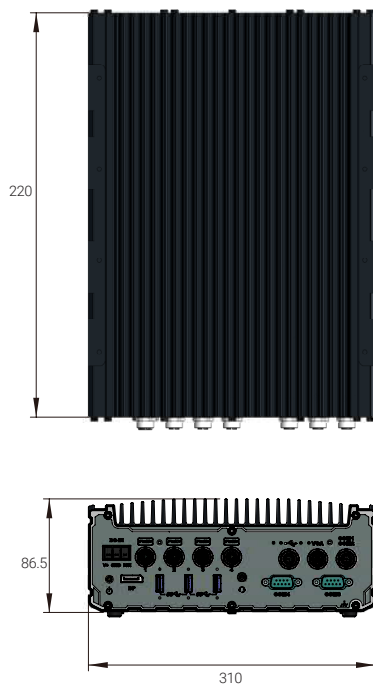
SEMIL-1300 Series



Appearance



Dimensions



Mounting Configuration

Unit : mm



▲ SEMIL 19" rack-mounted



▲ SEMIL wall-mounted

Ordering Information

Model No.	Product Description
SEMIL-1301	Half-Rack Rugged Fanless Computer supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ processor with M12 I/Os
SEMIL-1311J	Half-Rack Rugged Fanless Computer supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ processor with M12 I/Os and SuperCAP UPS

Optional Accessories

Joint-plate	Joint plate for dual SEMIL assembly
M12-Cable-Kit	4x PoE+, VGA, 2x USB2.0 (by Y-cable), 2x COM (by Y-cable) and DC power cables
PA-160W-OW	160W AC-DC power adapter, 20V/8A; 18AWG/120cm; cord end terminals for terminal block, operating temperature : -30 to 70°C.
PA-120W-OW	120W AC/DC power adapter, 20V/6A; 18AWG/120cm; cord end terminals for terminal block, operating temperature : -30 to 70°C.

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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