

# SEMIL-1700 Series

Half-rack IP67 Waterproof Computer Supporting Intel® Xeon® E or 9th/ 8th-Gen Core™ Processor with All M12 Connectors



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## Key Features

- Intel® Xeon® E or 9th/ 8th-Gen Core™ i7/ i5/ i3 CPU
- Extremely rugged, IP67-rated waterproof and dustproof
- -40°C to 70°C wide-temperature fanless operation
- 2U 19" half-rack form-factor for rack or wall-mount
- Up to 8x 802.3at Gigabit PoE+ ports via M12 X-coded connectors
- VGA, USB 2.0 and COM ports via M12 A-coded connectors
- Patented SuperCAP-based uninterruptible power backup\* (SEMIL-1710J)
- 8~48V wide-range DC input with built-in ignition power control
- MIL-STD-810G and EN 50155 certified

Preliminary

\*R.O.C Patent No. 1598820

## Introduction

SEMIL-1700 series is an extremely rugged 2U half-rack computer with an IP67-rated waterproof and dustproof design. Powered by Intel® Xeon® E or 9th/ 8th-Gen Core™ CPU and coupled with workstation-grade Intel® C246 chipset, it can support up to 64 GB ECC/ non-ECC DDR4 memory. The 2U half-rack form-factor SEMIL-1700 series incorporates Neosys' best-in-class thermal design and offers mounting flexibility where you can wall or rack-mount up to two SEMILs side by side.

SEMIL-1700 adopts a corrosion-proof chassis made of stainless steel and aluminum to counteract against moisture and salinity. Offering a variety of I/O connectivities that utilize M12 connectors to guarantee extremely rugged connections in shock and vibration environments, it has up to eight 802.3at PoE+ ports to supply 25W of power to connected devices. Internal expansion wise, it has an M.2 M-key socket to support NVMe SSD and mini-PCIe sockets for extending feature sets. Additionally, SEMIL-1700 features two 2.5" SATA HDD/ HDD accommodation, 8-48V wide-range DC input with ignition power control and complies with MIL-STD-810G and EN 50155.

To top it off, SEMIL-1710J is equipped with Neosys' innovative SuperCAP-based UPS\* containing 2500 watt-second stored energy to sustain or safely shut down the system during unforeseen power outages. Protected against water, dust, high/ low temperature, shock/ vibration and power interruption, Neosys' SEMIL-1700 series is set to redefine edge application computing, where ruggedness matter.

## Specifications

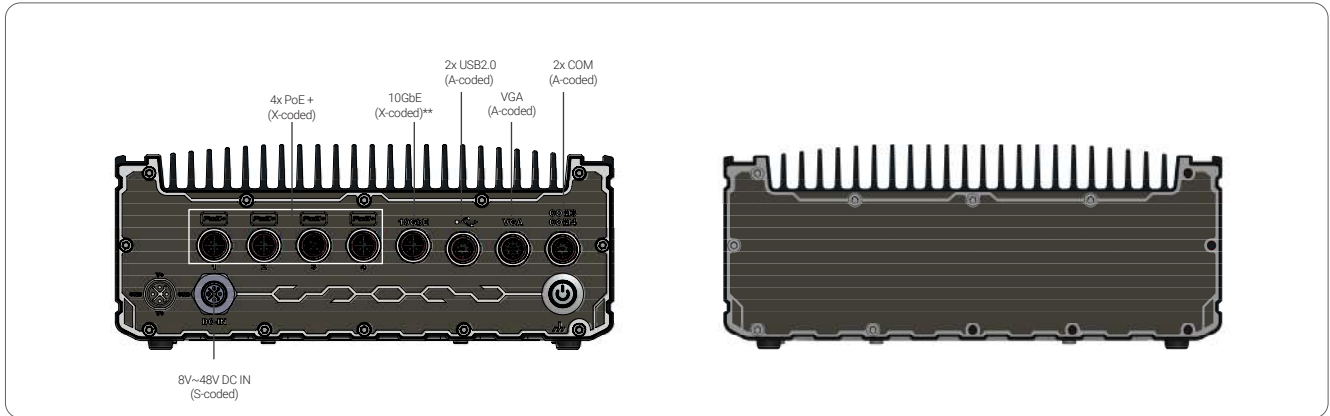
	SEMIL-1704	SEMIL-1714J	SEMIL-1708	SEMIL-1718J
<b>System Core</b>				
Processor	Supporting Intel® Xeon® E and 9 <sup>th</sup> / 8 <sup>th</sup> -Gen CPU (LGA1151 socket) - Xeon E 2278GE (8C/16T) / 2278GEL (8C/16T) / 2176G (6C/12T) - i7-9700E, i7-9700TE, i7-8700, i7-8700T - i5-9500E, i5-9500TE, i5-8500, i5-8500T - i3-9100E, i3-9100TE, i3-8100, i3-8100T			
Chipset	Intel® C246 platform controller hub			
Graphics	Integrated Intel® UHD Graphics 630			
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			
<b>I/O Interface</b>				
PoE+	1x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I219 (M12 X-coded)		7x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I210 (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			
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)	
<b>Storage Interface</b>				
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			
<b>Expansion Bus</b>				
Mini PCI-E	2x full-size mini PCI Express socket (mux with mSATA)		2x full-size mini PCI Express socket (mux with mSATA) 2x full-size mini PCI Express socket	
<b>Power Supply</b>				
DC Input	8~48V DC input (M12 S-coded)			
Ignition Control	Built-in ignition power control (IGN/ GND signal via M12 serial port connector)			
<b>SuperCAP UPS</b>				
Capacity	-	2500 watt-second	-	2500 watt-second
<b>Mechanical</b>				
Dimension	220mm (W) x 310mm (D) x 90.5mm (H)			
Weight	5.8 kg	6 kg	5.9 kg	6.2 kg
Mounting	Rack-mounting and wall-mounting			
<b>Environmental</b>				
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)			
mSATA	10%~90% , non-condensing			
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 Neosys Technology

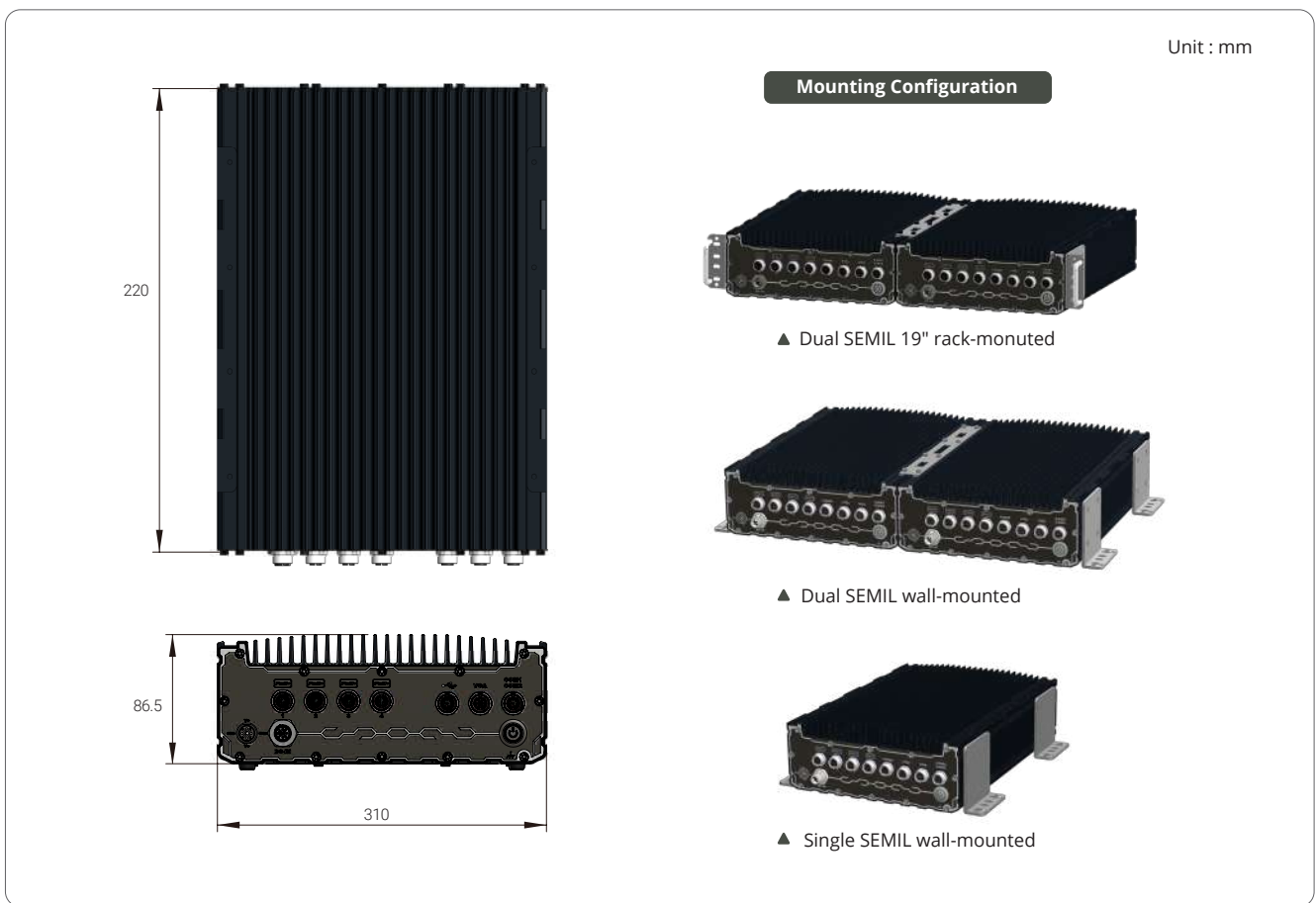
\*\*\* For Xeon E 2176G/ 2278GE, i7-9700E, and i7-8700 running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

\*\*\*\* For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required

## Appearance



## Dimensions



## Ordering Information

Model No.	Product Description
SEMIL-1704	Half-rack IP67 waterproof computer supporting Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 4x M12 PoE+ ports
SEMIL-1714J	Half-rack IP67 waterproof computer supporting Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 4x M12 PoE+ ports and SuperCAP UPS
SEMIL-1708	Half-rack IP67 waterproof computer supporting Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 8x M12 PoE+ ports
SEMIL-1718J	Half-rack IP67 waterproof computer supporting Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 8x M12 PoE+ ports 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.