

SEMIL-1700 Series

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



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 to 48V wide-range DC input with built-in ignition power control
- MIL-STD-810G and EN 50155 certified

Contact Neosys

Get Quote

*R.O.C Patent No. I598820

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 to 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 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------|-------------|
| System Core | | | | |
| Processor | Supporting Intel® Xeon® E and 9th/ 8th-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 | | | |
| I/O Interface | | | | |
| 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) | |
| 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) | |
| 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 | | | |

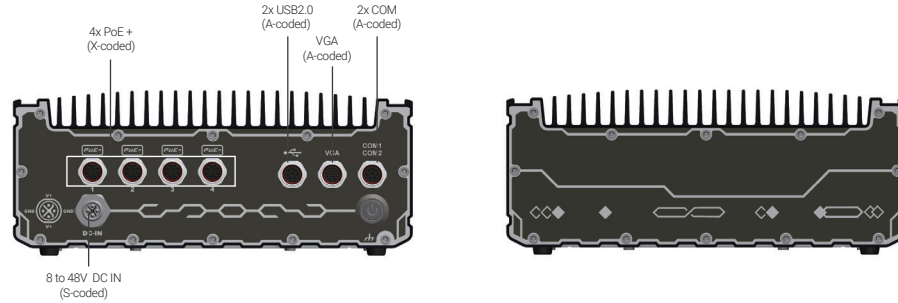
| | SEMIL-1704 | SEMIL-1714J | SEMIL-1708 | SEMIL-1718J |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------|------------------|
| Expansion Bus | | | | |
| 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 | |
| Power Supply | | | | |
| DC Input | 8 to 48V DC input (M12 S-coded) | | | |
| Ignition Control | Built-in ignition power control (IGN/ GND signal via M12 serial port connector) | | | |
| SuperCAP UPS | | | | |
| Capacity | - | 2500 watt-second | - | 2500 watt-second |
| Mechanical | | | | |
| 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 | | | |
| 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 Neosys Technology

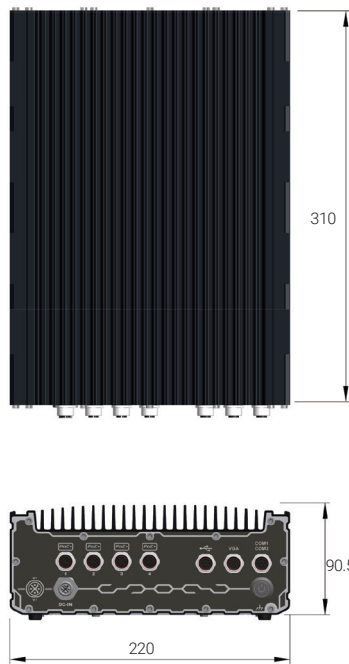
*** For Xeon E 2176G/ 2278GE, i7-9700E, and i7-8700 running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

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

Appearance

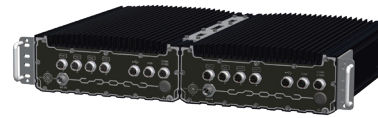


Dimensions



Unit : mm

Mounting Configuration



▲ Dual SEMIL 19" rack-mounted



▲ Dual SEMIL 19" wall-mounted



▲ SEMIL wall-mounted




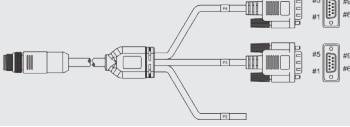

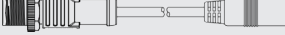
Ordering Information

| 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-1704-10G | Half-rack IP67 waterproof computer supporting Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 4x M12 PoE+ ports and 10GbE port |
| SEMIL-1708 | Half-rack IP67 waterproof computer supporting Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 8x M12 PoE+ ports |
| SEMIL-1708-10G | Half-rack IP67 waterproof computer supporting Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 8x M12 PoE+ ports and 10GbE port |
| 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-1714J-10G | Half-rack IP67 waterproof computer supporting Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 4x M12 PoE+ ports, SuperCAP UPS and 10GbE port |
| 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 |
| SEMIL-1718J-10G | Half-rack IP67 waterproof computer supporting Intel® Xeon® E or 9th / 8th-Gen Core™ processor with 8x M12 PoE+ ports and SuperCAP UPS and 10GbE port |

Optional Accessories

| | |
|-------------------|----------------------------------------------------------------------------------------------------------------------------|
| PA-160W-OW | 160W AC-DC power adapter, 20V/8A; 18AWG/120cm; cord end terminals for terminal block, operating temperature : -30 to 70°C. |
| JPlate-SL | Joint plate assembly for SEMIL |
| 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-180CM2 | 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-180CM2 | 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-180CM2 | 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-180CM2 | 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-180CM2 | 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-180CM2 | 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-180CM2 | 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-180CM2 | 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-180CM2 | 1x Cbl-M12A8M-2DB9M_OW2-180CM1 |
| | 1x Cbl-M12S4F-OW4-180CM1 | 1x Cbl-M12A8M-ADJ-180CM |