

# MVP-6100 Series

Value Family 9th Generation Intel® Xeon®/Core™ i7/i5/i3 & 8th Gen Celeron® Processor-Based Expandable Computer

## Features

- 9th Gen Intel® Xeon®/Core™ i7/i5/i3 & 8th Gen Celeron® LGA processor
- Dual SODIMMs for up to 32GB DDR4 non-ECC/ ECC memory
- Rich I/O: 2x DP++/ DVI/ VGA/ 3x GbE/ 4x COM/ 8-ch DI/ 8-ch DO/TPM2.0
- 2x USB 3.1 Gen2 + 1x USB 3.1 Gen1 + 3x USB 2.0
- Rich storage: up to 4x 2.5" SATA, CFast, M.2 2280
- Embedded Expansion: Mini PCIe/ M.2 3042/ 2x USIM
- Front accessible I/O and adaptive Function Module v.2 option
- Flexible modular expansion with 2 or 4 slots



## Software Support

- Win10 IoT Enterprise CBB 64bit
- Linux Ubuntu 18.04

## Optional Accessories

- **MVP-6100 Fan Kit (P/N: 91-95267-0010)**
- **Factory Installed 2.5" SATA SSD/HDD/M.2/CFast**
- **Wireless Module**  
Wi-Fi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ antenna)
- **Optional 2x 2.5" SATA Kit (w/ Bracket and Cable)**
- **AC/DC Adapter**  
220W (P/N: 31-62149-0000)  
280W (P/N: 31-62162-1010-A0)
- **Internal power cable for add-on card**  
30-21656-0000-A0: for MVP-6120  
30-21655-0000-A0: for MVP-6140

## Ordering Information

| Model           | CPU                    | PCH  | Slot # |
|-----------------|------------------------|------|--------|
| MVP-612X-1E/M4G | Intel® Xeon® E-2278GE  | C246 | 2      |
| MVP-612A-1E/M4G | Intel® Core™ i7-9700E  | H310 | 2      |
| MVP-6121-1E/M4G | Intel® Core™ i7-9700TE | H310 | 2      |
| MVP-6122-1E/M4G | Intel® Core™ i5-9500TE | H310 | 2      |
| MVP-6123-1E/M4G | Intel® Core™ i3-9100TE | H310 | 2      |
| MVP-6124-1E/M4G | Intel® Celeron® G4900T | H310 | 2      |
| MVP-614X-3E/M4G | Intel® Xeon® E-2278GE  | C246 | 4      |
| MVP-614A-3E/M4G | Intel® Core™ i7-9700E  | C246 | 4      |
| MVP-6141-3E/M4G | Intel® Core™ i7-9700TE | C246 | 4      |
| MVP-6142-3E/M4G | Intel® Core™ i5-9500TE | C246 | 4      |
| MVP-6143-3E/M4G | Intel® Core™ i3-9100TE | C246 | 4      |
| MVP-6144-3E/M4G | Intel® Celeron® G4900T | C246 | 4      |

## Specifications

| Model Name            | MVP-610X   | MVP-610A                                       | MVP-6101               | MVP-6102               | MVP-6103               | MVP-6104               |
|-----------------------|--|--|------------------------|------------------------|------------------------|------------------------|
| <b>System Core</b>    |  |  |                        |                        |                        |                        |
| Processor             | Intel® Xeon® E-2278GE  | Intel® Core™ i7-9700E                          | Intel® Core™ i7-9700TE | Intel® Core™ i5-9500TE | Intel® Core™ i3-9100TE | Intel® Celeron® G4900T |
| TDP                   | 80W  | 65W  | 35W                    | 35W                    | 35W                    | 35W                    |
| # of Cores            | 8  | 8  | 8                      | 6                      | 4                      | 2                      |
| Base Freq.            | 3.3 GHz  | 2.6 GHz  | 1.8 GHz                | 2.2 GHz                | 2.2 GHz                | 2.9 GHz                |
| Max Turbo Freq.       | 4.7 GHz  | 4.4 GHz  | 3.8 GHz                | 3.6 GHz                | 3.2 GHz                | -                      |
| Chipset               | C246   | MVP-6120 series: H310<br>MVP-6140 series: C246 |                        |                        |                        |                        |
| Memory                | 4GB DDR4 non-ECC 2400 MHz, dual SODIMMs, up to 32GB<br>(Optional: 4/8/16/32GB ECC, only for Intel® Xeon®/Core™ i3/Celeron w/ C246)                             |  |                        |                        |                        |                        |
| <b>I/O Interface</b>  |  |  |                        |                        |                        |                        |
| Display               | 2x DP++ 1.2, DVI-D, VGA (dual independent displays w/ H310, 3 independent displays w/ C246)  |  |                        |                        |                        |                        |
| Ethernet              | 3x Intel GbE: 2x i211AT + i219<br>(Support Intel® AMT/vPro™ w/ C246)   |  |                        |                        |                        |                        |
| Serial Ports          | COM1/2: RS-232/422/485, COM3/4: RS-232<br>(Optional COM5/6: RS-232, shared w/ DI/O)  |  |                        |                        |                        |                        |
| USB                   | 3x USB 3.1 Gen 1 + 3x USB 2.0, 1x internal USB 2.0 dongle (2x USB 3.1 up to Gen 2 w/ C246)   |  |                        |                        |                        |                        |
| Audio                 | Line-out, Mic-in (Optional: speaker-out)   |  |                        |                        |                        |                        |
| Mini PCIe             | 1x Full size (USB 2.0 + PCIe)  |  |                        |                        |                        |                        |
| M.2                   | 1x socket 2, key B+M or B, 2280/3042 (USB3.1 + SATA III + PCIe x1. Up to PCIe x2 w/ C246)  |  |                        |                        |                        |                        |
| USIM                  | 2  |  |                        |                        |                        |                        |
| DI/O                  | 8-CH DI and 8-CH DO  |  |                        |                        |                        |                        |
| I <sup>2</sup> C      | 2 (3.3V/5V)  |  |                        |                        |                        |                        |
| TPM                   | TPM2.0   |  |                        |                        |                        |                        |
| Expansion Slots       | MVP-6120 series: PCIe x16 + PCI (total up to 150W)<br>MVP-6140 series: PCIe x16 + 2 PCIe x4 + PCI (total up to 150W with 12V in; total up to 250W with 24V in) |  |                        |                        |                        |                        |
| <b>Storage Device</b> |  |  |                        |                        |                        |                        |
| 2.5" SATA             | 2x internal (RAID 0/1/5/10 support w/ C246)<br>(Optional: additional 2x internal, w/ C246)   |  |                        |                        |                        |                        |
| CFast                 | 1 Type II  |  |                        |                        |                        |                        |
| <b>Mechanical</b>     |  |  |                        |                        |                        |                        |
| Dimensions            | MVP-6120 series: 165 (W) x 240 (D) x 210 (H) mm (6.5" x 9.45" x 8.27")<br>MVP-6140 series: 206 (W) x 240 (D) x 210 (H) mm (8.11" x 9.45" x 8.27")              |  |                        |                        |                        |                        |
| Weight                | MVP-6120 series: 4.8 kg (10.6 lbs)<br>MVP-6140 series: 5.1 kg (11.2 lbs)   |  |                        |                        |                        |                        |
| Mounting              | Wall mount   |  |                        |                        |                        |                        |
| Fan                   | Optional   |  |                        |                        |                        |                        |
| <b>Power Supply</b>   |  |  |                        |                        |                        |                        |
| DC Input              | 12-24V (± 10% tolerance)   |  |                        |                        |                        |                        |
| AC Input              | Optional: 220W/280W AC/DC adapter  |  |                        |                        |                        |                        |
| <b>Environmental</b>  |  |  |                        |                        |                        |                        |
| Operating Temperature | Standard: (w/ air flow 0.6 m/s)  |  |                        |                        |                        |                        |
|                       | 0°C to 40°C  | 0°C to 50°C                                    |                        |                        |                        |                        |
|                       | Extended: (w/ air flow 0.6 m/s & ind. storage)   |  |                        |                        |                        |                        |
| Storage Temperature   | -20°C to 40°C  | -20°C to 50°C                                  | -20°C to 60°C          |                        |                        |                        |
|                       | -40°C to 85°C (-40°F to 185°F) (excl. storage)   |  |                        |                        |                        |                        |
| Humidity              | ~95% @ 40°C (non-condensing)   |  |                        |                        |                        |                        |
| Vibration             | Operating: 5 Grms, random, 5-500 Hz, 3 axes (w/2.5" SSD/CFast, 3 Grms w/ fan)  |  |                        |                        |                        |                        |
|                       | Operating: 0.5 Grms, random, 5-500 Hz, 3 axes (w/ HDD)   |  |                        |                        |                        |                        |
| Shock                 | Operating: 50 G, half sine 11ms duration (w/ 2.5" SSD/CFast)   |  |                        |                        |                        |                        |
| ESD                   | Contact +/-4KV, Air +/-8KV   |  |                        |                        |                        |                        |
| EMC                   | EN61000-6-4/-2, CE & FCC Class A   |  |                        |                        |                        |                        |
| Safety                | UL/cUL, CB, CCC  |  |                        |                        |                        |                        |