

# MLB-3102 Medical Box PC

Medical box PC with 12th/13th/14th Gen Intel® Core™ i3/i5/i7/i9 processors (LGA1700 socket), supporting MXM-Axe module based on Intel® Arc™ GPU, and Thunderbolt™ 4\*.



## Features

- ADLINK MXM-Axe graphics module support (type A, up to 50W TDP based on power supply)
- 12th/13th/14th Gen Intel® Core™ i3/i5/i7/i9, Celeron® processor
- Dual SODIMM for up to 64GB DDR5 non-ECC memory
- 1x HDMI 2.0, 5x DisplayPort (1 from CPU, 4 from MXM)
- 1x M.2 E-key supporting 1630 or 2230 for Wi-Fi/Bluetooth module, 1x M.2 M-key supporting 2242 or 2280 for SATA/PCIe storage module, 1x M.2 M-key supporting 2242 or 2280 for NVMe & frame grabber
- Reliable Molex 24V DC-in connector
- 2x 2.5GbE Intel® I225-LM Ethernet Controller
- 2x PCIe Gen 3 x4 expansion slot for full-height, half-length add-on card, each slot is 25W power budget and additional Molex 4-pin power cable (12V/1.5A and 5V/2A) support

## Software Support

- Win 10/Win 11 IoT Enterprise
- Ubuntu 24.04

## Ordering Information

- MLB-3102-i5-12500E/M16GB/512G
- MLB-3102-i7-12700E/M16GB/1TB

## Accessories

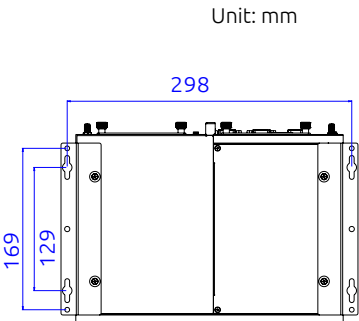
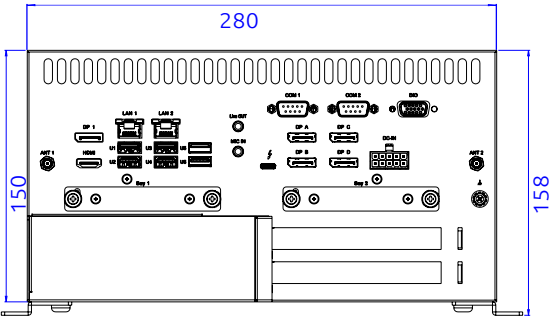
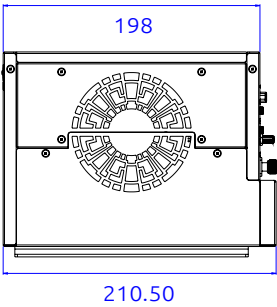
- Adaptor  
Medical 450W, 24 V / 18.75 A
- Screws package  
3x M3 screws for M.2, 8x M3 screws for HDD try,  
2x M2 screws for MXM card

## Optional Accessories

- MXM-Axe-A370M: 91-74000-0010
- MXM-Axe-A350M: 91-74000-1010
- Cooler: 32-21006-0000-A0
- Wall Mount Bracket 34-34546-0100-A02pcs
- Wi-Fi Kit Intel® AX210: 91-95333-200E

\*The Thunderbolt 4 certification applies only to the 12th Gen Intel® Core™ processor-based Box PC.

### Dimensions



Unit: mm

### Specifications

| Model                 | MLB-3102                                                                                                                                                                                                                                                                                                                                         |               |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| MXM Support           | MXM-AXe-A370M                                                                                                                                                                                                                                                                                                                                    | MXM-AXe-A350M |
| Processor             | Intel® Core™ i9-12900E, 5.0GHz, 14M Cache, 65W TDP, LGA1700, DDR5 4800MHz support<br>Intel® Core™ i7-12700E, 3.6GHz, 12M Cache, 65W TDP, LGA1700, DDR5 4800MHz support<br>Intel® Core™ i5-12500E, 3.0GHz, 7.5M Cache, 65W TDP, LGA1700, DDR5 4800MHz support<br>Intel® Core™ i3-12100E, 3.2GHz, 5M Cache, 60W TDP, LGA1700, DDR5 4800MHz support |               |
| Chipset               | Intel® Q670E Chipset                                                                                                                                                                                                                                                                                                                             |               |
| Memory                | Non-ECC DDR5 4800MHz, 2x SO-DIMM, up to 64GB                                                                                                                                                                                                                                                                                                     |               |
| I/O Interfaces        |                                                                                                                                                                                                                                                                                                                                                  |               |
| Display               | 1x HDMI 2.0, 5x DisplayPort (1 from CPU, 4 from MXM)                                                                                                                                                                                                                                                                                             |               |
| Ethernet              | 2x 2.5GbE (Intel® I225-LM)                                                                                                                                                                                                                                                                                                                       |               |
| Serial Ports          | 1x RS-232/422/485, 1x RS-232                                                                                                                                                                                                                                                                                                                     |               |
| USB                   | [Front] 1x USB 3.2 gen 2 Type A<br>[Rear] 2x USB 3.2 Gen 2 Type A, 4x USB 3.2 Gen 1 Type A, 1x USB 3.2 Gen 1 Type C                                                                                                                                                                                                                              |               |
| M.2                   | 1x M.2 E-key supporting 1630 or 2230 for Wi-Fi/BT module,<br>1x M.2 M-key supporting 2242 or 2280 for PCIe/SATA for storage,<br>1x M.2 M-key supporting 2242 or 2280 for PCIe Gen 4 x4 for NVMe & frame grabber                                                                                                                                  |               |
| Digital IO            | 1x DI/DO with 4 in, 4 out                                                                                                                                                                                                                                                                                                                        |               |
| Audio                 | Default: Mic in & line out<br>Option: L/R speaker-out (2W + 2W), Mic-in                                                                                                                                                                                                                                                                          |               |
| TPM 2.0               | Default: TPM, w/o TPM                                                                                                                                                                                                                                                                                                                            |               |
| Expansion slot        | 2x PCIe Gen 3 x4 expansion slot for full height half length add on card,<br>Total max supports 25W power budget and additional Molex 4 pin power cable (12V/4.17A) support                                                                                                                                                                       |               |
| Storage               |                                                                                                                                                                                                                                                                                                                                                  |               |
| SATA/PCIe             | 2x 2.5" SATA 6Gb/s external drive bays<br>1x M.2 2242/2280 M key support SATA/PCIe gen 3 x 3 to support storage<br>1x M.2 2242/2280 M key support PCIe gen 4 x 4 to support storage                                                                                                                                                              |               |
| Mechanical            |                                                                                                                                                                                                                                                                                                                                                  |               |
| Dimensions            | 280 x 198 x 150mm (W x D x H, without foot pads)                                                                                                                                                                                                                                                                                                 |               |
| Weight                | 8.4 kg                                                                                                                                                                                                                                                                                                                                           |               |
| Mounting              | Optional wall-mount bracket                                                                                                                                                                                                                                                                                                                      |               |
| Power Supply          |                                                                                                                                                                                                                                                                                                                                                  |               |
| DC Input              | DC 24 input (Molex DC-in jack)                                                                                                                                                                                                                                                                                                                   |               |
| AC Input              | 450W (24V/18.75A) AC/DC Medical grade adapter                                                                                                                                                                                                                                                                                                    |               |
| Environmental         |                                                                                                                                                                                                                                                                                                                                                  |               |
| Operating Temperature | 0°C to 40°C                                                                                                                                                                                                                                                                                                                                      |               |
| Storage Temperature   | -20°C to 70°C                                                                                                                                                                                                                                                                                                                                    |               |
| Humidity              | 5% to 95%, non-condensing                                                                                                                                                                                                                                                                                                                        |               |
| Vibration             | Operating vibration: 2Grms, 5-500Hz, 3 axes,<br>Package (NON-OP) vibration: 3.44Grms, 10-1000Hz, 3 axes (W/MXM, W/SSD)                                                                                                                                                                                                                           |               |
| Certification         | CE, FCC class B                                                                                                                                                                                                                                                                                                                                  |               |