

E521F-C/D/E Series

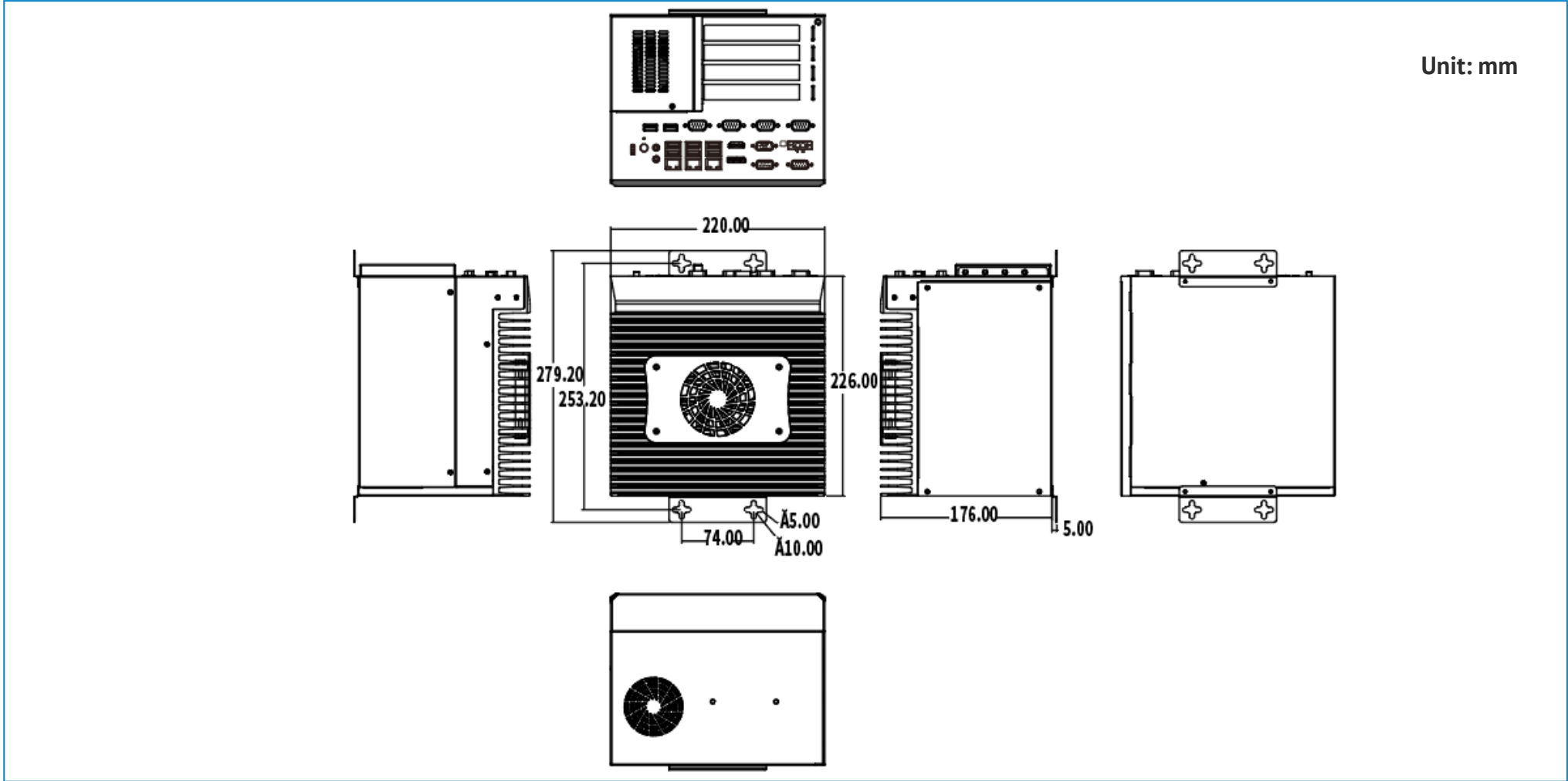


Features

- Intel® 12-14th generation Core™ i3/ i5/ i7 Series CPU
- H610/H670/Q670 Chipset
- Dual channel DDR5 up to 64GB
- 3 Displays: DP, HDMI and VGA
- 3 GbE LAN (2 x Intel i210, 1 x Intel i219)
- 1 RS-232/422/485, 3 RS-232/485, 2 RS-232
- 4 USB 3.2, 4 USB 2.0 (H610) or 6 USB3.2, 2 USB20 (H670/Q670)
- 1 PCIe 5.0 x16, 1 PCIe 4.0 x4(x2 signal) , 2 PCI slot
- Q670/H670 support 2 SATA RAID (support RAID 0/RAID 1, switchable in BIOS)
- Support 4G/5G, Wi-Fi module expansion
- DC 24V (9-36V configuration is optional)
- 220 x 226 x 176 mm (L x W x H), support Wall-mounting
- Modular and cable-free design
- CE/FCC Class B, ESD 8KV/15KV
- Windows 10/11 and Linux multiple version OS

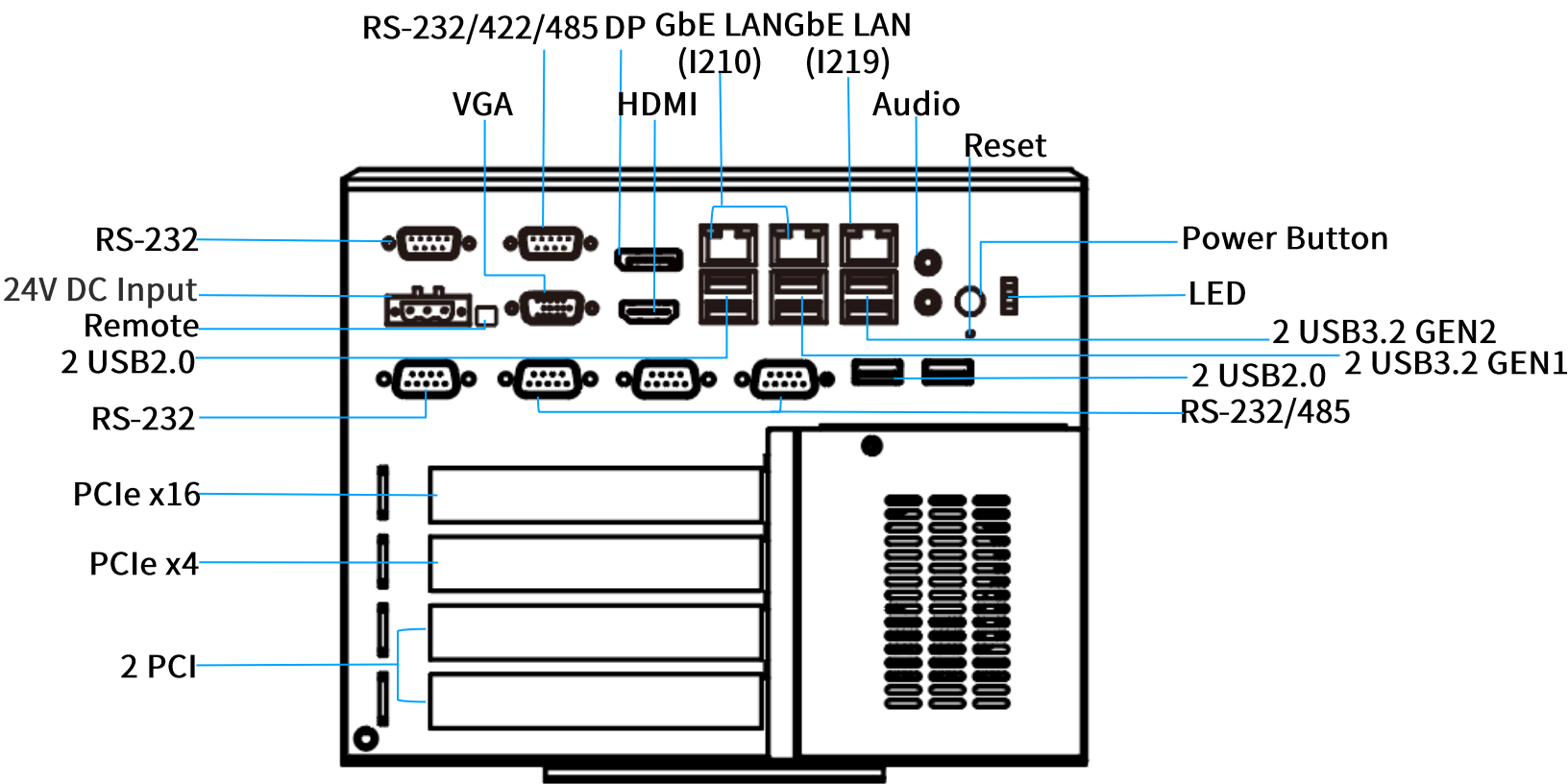
Specifications

| Items                    |                       | Descriptions                                                                                                                                     |
|--------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor System         | CPU                   | Intel® 12-14th Gen Core™ Processors                                                                                                              |
|                          | Processor Base Power  | 65W MAX                                                                                                                                          |
|                          | Socket                | LGA1700                                                                                                                                          |
|                          | Chipset               | H610/H670/Q670                                                                                                                                   |
|                          | BIOS                  | AMI 128Mbit SPI Flash                                                                                                                            |
| Memory                   | Sockets               | Dual channel DDR5 SO-DIMM                                                                                                                        |
|                          | Capacity              | Max. 64GB                                                                                                                                        |
| Graphics                 | Controller            | Intel UHD Graphics 770                                                                                                                           |
| External IO              | DP                    | 1 x DP1.4a up to 4096x2304@60Hz                                                                                                                  |
|                          | HDMI                  | 1 x HDMI2.0b up to 4096 x 2160@60 Hz                                                                                                             |
|                          | VGA                   | 1 x VGA up to 1920 x 1200@60Hz                                                                                                                   |
|                          | LAN                   | 2 x Intel i210 GbE, 1 x Intel i219 GbE                                                                                                           |
|                          | USB 3.2               | H610: 4 USB3.2 (2 x GEN1, 2 x GEN2)<br>Q670/H670: 6 USB3.2 (GEN2)                                                                                |
|                          | USB 2.0               | H610: 4 USB2.0<br>Q670/H670: 2 USB2.0                                                                                                            |
|                          | Serial Ports          | 1 RS-232/422/485, 3 RS-232/485, 2 RS-232                                                                                                         |
|                          | Audio                 | 1 x Line out, 1 x Mic in                                                                                                                         |
|                          | Power Connector       | 1 x 3 PIN Phoenix terminal                                                                                                                       |
|                          | Reset                 | 1 x Reset Button                                                                                                                                 |
| LED & Switch             | Power Button          | 1 x Power Button                                                                                                                                 |
|                          | LED                   | 4 (SATA, Memory, USER1, USER2)                                                                                                                   |
| Expansion                | USB                   | 1 x internal USB2.0 (Type A)                                                                                                                     |
|                          | PCIe/PCI              | 1 PCIe 5.0 x16, 1 PCIe 4.0 x4(x2 signal) , 2 PCI slot                                                                                            |
|                          | SATA3.0               | 2 x SATA 7+15                                                                                                                                    |
|                          | M.2 E-Key             | 1 x M.2 2230 support Wi-Fi (Support PCIe)                                                                                                        |
|                          | M.2 B-Key             | 1 x M.2 3042 B-Key support 4G (H610),<br>1 x M.2 3052 B-Key support 4G/5G (H670/Q670);<br>or 1 x M.2 2280 support SATA3.0                        |
|                          | M.2 M-Key             | 1 x M.2 2280 M-Key SATA3.0(Default), H670/Q670 can be optionally<br>modified to NVMe. (Q670 / H670 support RAID 0/RAID 1, switchable in<br>BIOS) |
|                          | SIM                   | 1 x NANO SIM                                                                                                                                     |
| Power Requirement        | Power Type            | 24V DC input (9-36V configuration is optional)                                                                                                   |
|                          | Power management      | AT/ATX                                                                                                                                           |
|                          | Max. Consumption      | 240W                                                                                                                                             |
| Others                   | Watchdog              | 65536 lever, 0~65535 sec                                                                                                                         |
|                          | TPM                   | TPM2.0 (Optional)                                                                                                                                |
| Physical Characteristics | Construction          | Aluminium Alloy                                                                                                                                  |
|                          | Mounting              | Wall Mounting                                                                                                                                    |
|                          | Dimensions            | 220 x 226 x 176mm (LxWxH)                                                                                                                        |
|                          | Weight                | 4.3 Kg                                                                                                                                           |
| Environment              | Operating Temperature | 0~50°C (32~122°F)                                                                                                                                |
|                          | Storage Temperature   | -40~85 °C (-40~185°F)                                                                                                                            |
|                          | Operating Humidity    | 95% @ 40 °C(Non-Condensing)                                                                                                                      |
|                          | Storage Humidity      | 95% @ 60 °C(Non-Condensing)                                                                                                                      |
| Certification            | EMC                   | CE, FCC                                                                                                                                          |
|                          | Operation system      | Windows 10/11, centos 8, ubuntu 20.04/22.04                                                                                                      |

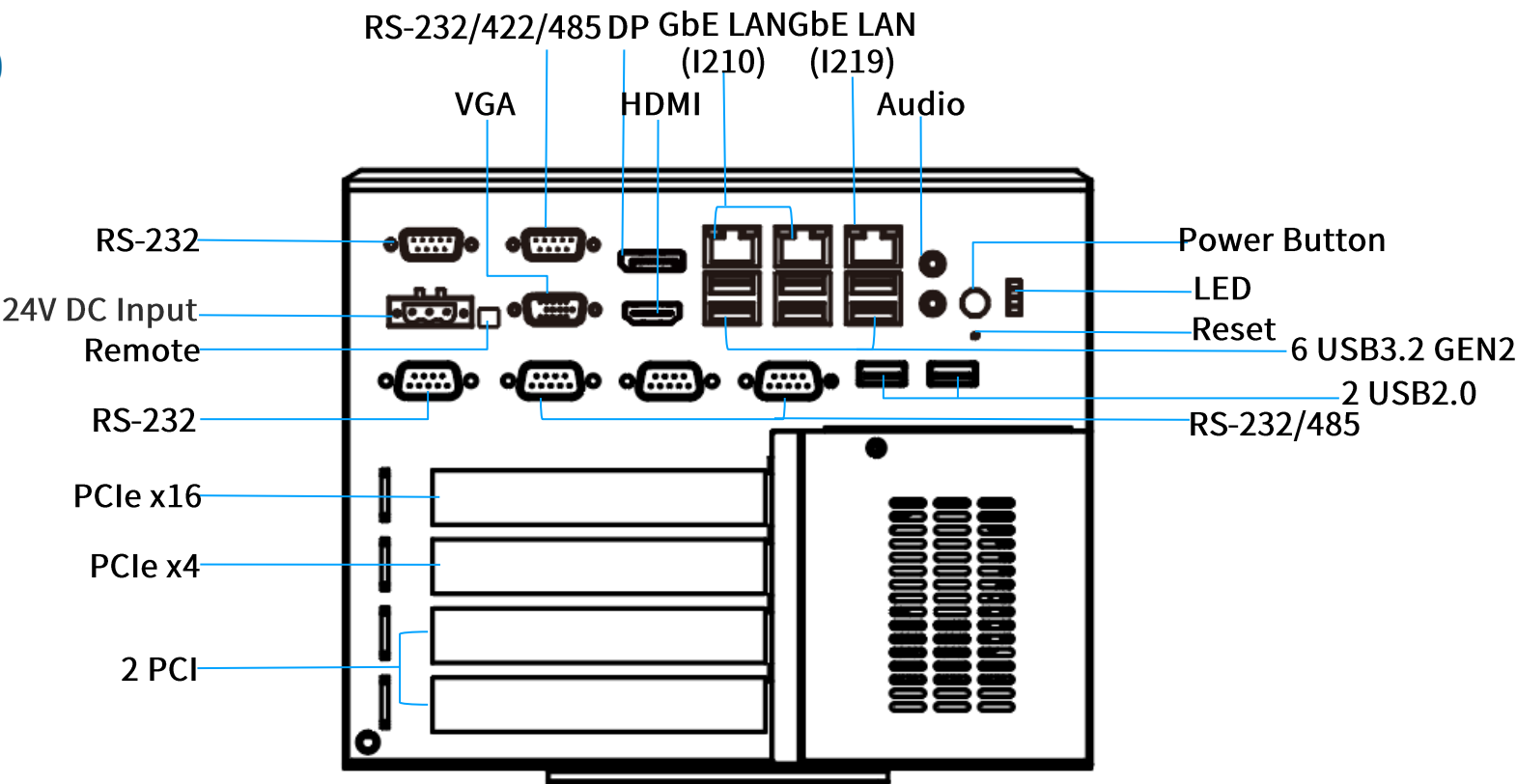


Interface

H610



H670/Q670



Ordering Information

| Part Number  | CPU      | Processor Base Power | Max. Frequency | Core | Thread | GbE | COM | USB3.2 | USB2.0 | M.2 | DC-Input |
|--------------|----------|----------------------|----------------|------|--------|-----|-----|--------|--------|-----|----------|
| E521F-C-3000 | i3-12100 | 60W                  | 4.30 GHz       | 4    | 8      | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-C-5000 | i5-12400 | 65W                  | 4.40 GHz       | 6    | 12     | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-C-5000 | i5-12500 | 65W                  | 4.60 GHz       | 6    | 12     | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-C-7000 | i7-12700 | 65W                  | 4.90 GHz       | 12   | 20     | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-D-3000 | i3-13100 | 60W                  | 4.50 GHz       | 4    | 8      | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-D-5000 | i5-13400 | 65W                  | 4.60 GHz       | 10   | 16     | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-D-5000 | i5-13500 | 65W                  | 4.80 GHz       | 14   | 20     | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-D-7000 | i7-13700 | 65W                  | 5.20 GHz       | 16   | 24     | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-E-3000 | i3-14100 | 60W                  | 4.70 GHz       | 4    | 8      | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-E-5000 | i5-14400 | 65W                  | 4.70 GHz       | 10   | 16     | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-E-5000 | i5-14500 | 65W                  | 5.00 GHz       | 14   | 20     | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |
| E521F-E-7000 | i7-14700 | 65W                  | 5.40 GHz       | 20   | 28     | 3   | 6   | 4 or 6 | 4 or 2 | 3   | 24V DC   |

Optional Accessories

| Part Number      | Description                                                 |
|------------------|-------------------------------------------------------------|
| MF0A000000000070 | WIFI+BT module M.2 2230 PCIe WIFI5 2T2R AW-CB515NF          |
| MF0A000000000069 | WIFI+BT module M.2 2230 PCIe WIFI6 2T2R AW-XB547NF          |
| MF0A000000000016 | 5G module, M.2 RM500Q-GL Sub-6 GHz Worldwide (Excluding US) |
| MF0A000000000042 | 5G LTE module M.2 RM520NGLAA-M20-SGASA, Worldwide           |
| MF0A000000000036 | 4G LTE module M.2 EM05CEFC-128-SGAS, China                  |
| MF0A000000000066 | 5G LTE module M.2 RM500UCNVAA-D10-SNADA EMEA/Asia-Pacific   |

OS Support

|         | Description                                        |
|---------|----------------------------------------------------|
| Windows | Win10 IoT Ent 2019 LTSC Entry OEM                  |
|         | Win10 IoT Ent 2019 LTSC MultiLang ESD OEI High End |
|         | Win10 IoT Ent 2019 LTSC MultiLang ESD OEI Value    |
|         | Win10 IoT Ent 2021 LTSC Multilang ESD OEI Entry    |
|         | Win 11                                             |
| Linux   | centos 8                                           |
|         | ubuntu 20.04~24.04                                 |

Packing List

| Part Number      | Description                                         | Quantity |
|------------------|-----------------------------------------------------|----------|
| -                | E521F-C/D/E Series Rugged and Compact Industrial PC | 1        |
| ZM0A000000000254 | Power Adapter                                       | 1        |
| KE0A000000000004 | Round head screws                                   | 4        |
| ZM0A000000000020 | Three-plug power cord                               | 1        |
| MC0A000000000019 | Wall-mounting kits (100*37*1mm)                     | 1        |