

# HX520 Series

Scalable, High-performance Industrial Edge Computers

Adaptable, highly configurable industrial computing platforms powered by Intel® Core™ Ultra processing with built-in edge AI capabilities.

[onlogic.com/helix-520](https://onlogic.com/helix-520)



## Edge AI Performance

Future-looking computing power with Intel® Series 1 and 2 Core™ Ultra processing and integrated NPU for edge AI. Expandable with Hailo accelerators and NVIDIA GPUs for advanced workloads.

## Industrial Reliability

Unwavering reliability in demanding industrial environments. Fanless or fanless-hybrid cooling with a 0 to 50°C operating temp and a range of industrial certifications for exceptional performance.

## Tailored Connectivity

Industry-focused onboard I/O including multiple USB, Thunderbolt, and 2.5GbE LAN ports. ModBay expansion enables up to 8x PoE or additional 10GbE LAN.

| System                       |                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------|
| Processor Generation         | Intel Core Ultra 1 Series (125H/135H/165H)<br>Intel Core Ultra 2 Series (225H/265H) |
| Graphics                     | Intel UHD Graphics<br>Intel Arc™ (Dual Channel Memory Required)                     |
| Memory                       | 2x DDR5-5600 SO-DIMM Up to 96GB Total (optional In-Band ECC) (MTL-H)                |
| Number of Displays Supported | 4 (2x DP, 2x USB-C) (Base System)                                                   |

| Front I/O    |                           |
|--------------|---------------------------|
| Power Button | 1x Power Button           |
| USB          | 6x USB 3.2 Gen 2          |
| USB-C        | 2x Thunderbolt 4          |
| Network      | 4x 2.5Gb LAN (Intel I226) |
| Reset        | 1x Factory Reset Switch   |

| Top I/O   |                                       |
|-----------|---------------------------------------|
| Power     | 1x 4 pin Terminal Block Power         |
| Grounding | 1x Grounding Lug                      |
| Sim Card  | 1x 3ff SIM Slot (Mapped to M.2 B-Key) |
| Antenna   | 5x Antenna, 6x Optional               |
| DIO       | Optional 4/4 DIO module               |

| Bottom I/O        |                                                                                        |
|-------------------|----------------------------------------------------------------------------------------|
| Fan               | 1x Fan Hat Power                                                                       |
| Display           | 2x DisplayPort 2.1 UHBR20                                                              |
| Serial or CAN-Bus | 4x COM via dual-port connectors (RS-232, RS484, RS-422),<br>Optional 2-port CAN module |
| Power             | 1x Remote Switch Input                                                                 |

| Power Input                          |                                                                                          |
|--------------------------------------|------------------------------------------------------------------------------------------|
| Source                               | [HX521/HX522] 12-24VDC / 12A<br>HX523/HX524/HX525] 19-24VDC / 12A                        |
| Optional Power Supply Specifications | 180W 24V 7.5A with 6-pin Molex - Level VI<br>330W 24V 13.75A with 6-pin Molex - Level VI |

| Storage, Expansion & Management |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage                         | 1x M.2 2260/2280 M-Key (PCIe Gen4 x4)<br>1x M.2 3052/3042/2280 B-Key (PCIe Gen4 x2/USB 2.0, PCIe Gen4 x1/USB3.2 Gen 1)                                                                                                                                                                                                                                                                                                                                                                |
| Expansion                       | [All] 1x M.2 E-Key (WiFi) PCIe Gen4 x1, USB 2.0)<br>[All] 1x M.2 B-Key (PCIe Gen4 x2/USB 2.0, PCIe Gen4 x1/USB3.2 Gen 1)<br>[HX522] 2x 2.5" SATA Hot Swap 7.0 - 9.5mm max<br>[HX523] 2x ModBay Expansion Slots each supporting one of:<br>2x COM (RS232, RS422, RS485)<br>4x RJ45 1GbE LAN<br>4x RJ45 1GbE PoE<br>3x M12 1GbE LAN<br>3x M12 1GbE PoE<br>4x USB 3.2 Gen2<br>[HX524] 1x PCIe Gen5 x16 mechanical/x8 electrical FHHL<br>[HX525] 1x MXM (4GB A1000/8GB A2000/ 16GB A4500) |
| Remote Management               | Intel vPro Platforms/Intel Active Management Technology (Intel AMT) with supporting processor                                                                                                                                                                                                                                                                                                                                                                                         |

| Mechanical & Weight |                                                                                                                                          |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions (WxHxD)  | HX521: 50.8mm x 177 mm x 225mm<br>HX522/3/4/5: 106mm x 177mm x 225mm                                                                     |
| Case Type           | HX521/2/3: Fanless<br>HX524/5: Fanless-Hybrid                                                                                            |
| Case Material       | Aluminum and Steel Enclosure                                                                                                             |
| Weight              | HX521 - 5.0lbs [2.26 kg]<br>HX522 - 7.3lbs [3.31 kg]<br>HX523 - 7.9lbs [3.58 kg]<br>HX524 - 8.3lbs [3.77 kg]<br>HX525 - 9.1lbs [4.13 kg] |
| Mounting Options    | Wall<br>VESA<br>VESA In-Line<br>DIN                                                                                                      |
| Expected Life Cycle | 5 Year                                                                                                                                   |
| Hardware Type       | Edge Devices and IoT Gateways                                                                                                            |

## Environment & Regulatory

|                       |                                                                                     |                                                                                                             |
|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Operating Temperature | 0°C to 50°C                                                                         |                                                                                                             |
| Ingress Protection    | HX521/522/523: IP50 (Dust Protected)<br>HX525: IP40<br>HX524: IP20                  |                                                                                                             |
| Certifications        |    | UL/IEC CB Scheme 62368-1 Product Safety<br>EU Low Voltage Directive 2014/35/EU                              |
|                       |    | Title 47 CFR - FCC Part 15 Subpart B (Class A)                                                              |
|                       |    | EN 60950-1 & EN 63268-1<br>CISPR 32/EN 55032<br>CISPR 35/EN 55035<br>Radio Equipment Directive (2014/53/EU) |
|                       |   | RoHS Directive (2011/65/EU, (EU) 2015/863)                                                                  |
|                       |  | WEEE Directive (2012/19/EU)                                                                                 |
|                       |  | IEC 60601-1-2, 4th ed.                                                                                      |
|                       |  | EN 60945, 4th ed. / DNV                                                                                     |

## Environment & Regulatory Cont.

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Countries of Use | <p>Certification Markings: CE, cULus, FCC, UKCA, VCCI, RCM, RoHS, WEEE<br/>Coming soon: BIS, KCC</p> <p>Available Countries (incl Wi-Fi/BT):</p> <p>Americas:<br/>United States, Canada</p> <p>Asia:<br/>China, Hong Kong, Japan,</p> <p>Oceania:<br/>Australia, New Zealand</p> <p>Europe:<br/>Austria, Belgium, Bulgaria, Croatia, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Liechtenstein, Luxembourg, Malta, Norway, The Netherlands, United Kingdom, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden</p> <p>Coming soon: Saudi Arabia, UAE, India, South Korea*</p> <p>Colocation approved countries (Wi-Fi/BT + LTE):<br/>USA, CA, EU, UK, AUS/NZ</p> <p>Available Countries (no Wi-Fi/BT):</p> <p>Americas:<br/>Mexico, Brazil</p> <p>Asia:<br/>Singapore</p> <p>Other countries available, please call.</p> |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

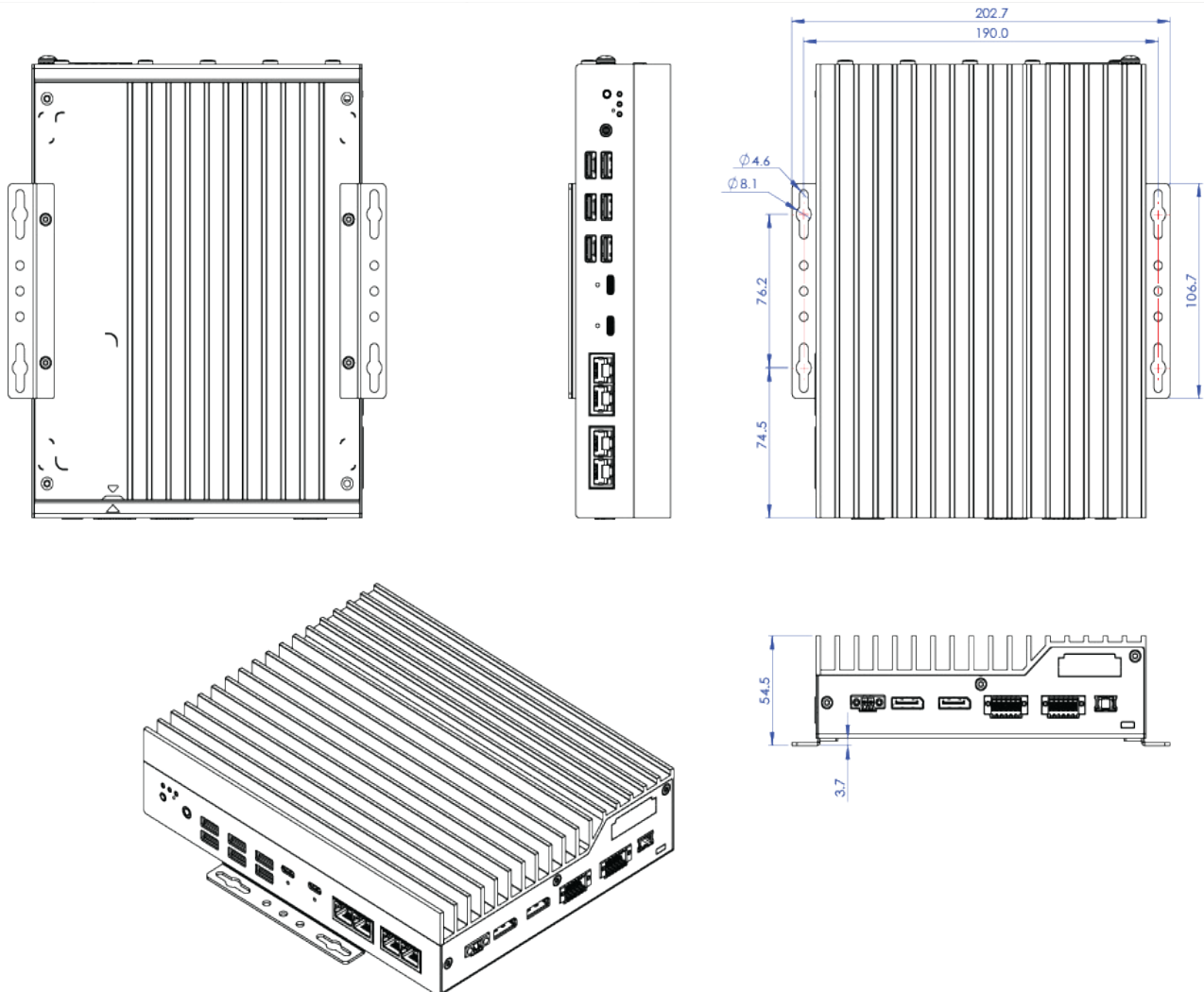
## Other

|          |                                                                                                        |
|----------|--------------------------------------------------------------------------------------------------------|
| Warranty | <p>2 Year Limited Warranty on parts and services</p> <p>3 Year (Optional)</p> <p>5 Year (Optional)</p> |
|----------|--------------------------------------------------------------------------------------------------------|

## HX520 Series Dimensional Drawings

HX521 Wall Mounting

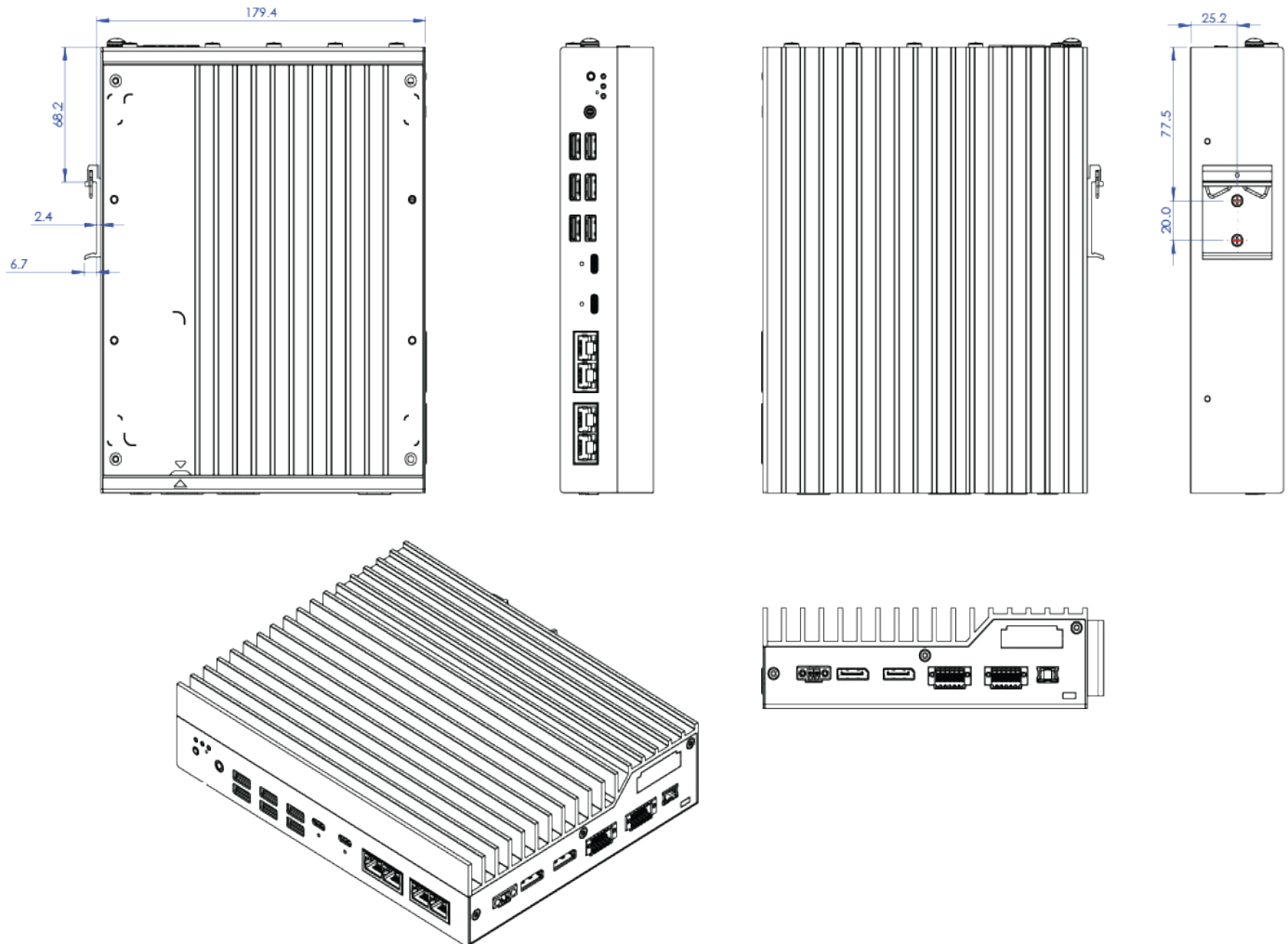
all measurements in mm



## HX520 Series Dimensional Drawings

HX521 DIN Mounting

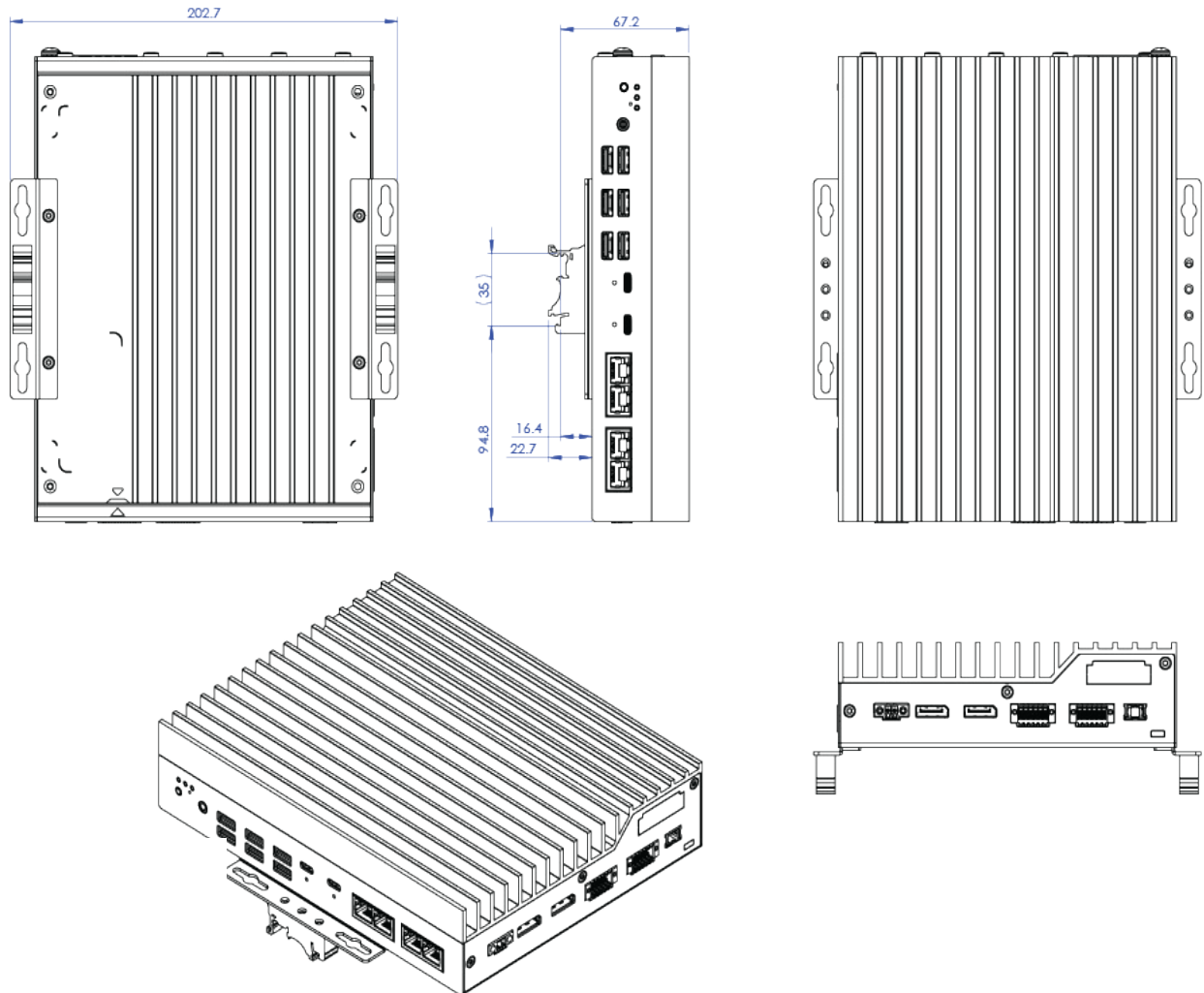
all measurements in mm



## HX520 Series Dimensional Drawings

HX521 DIN Bottom Mounting

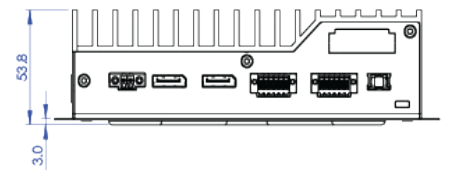
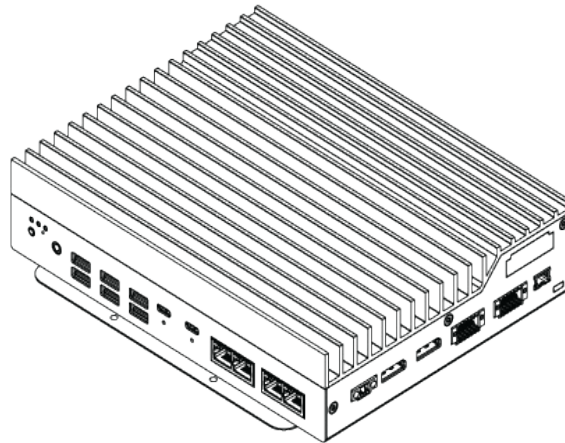
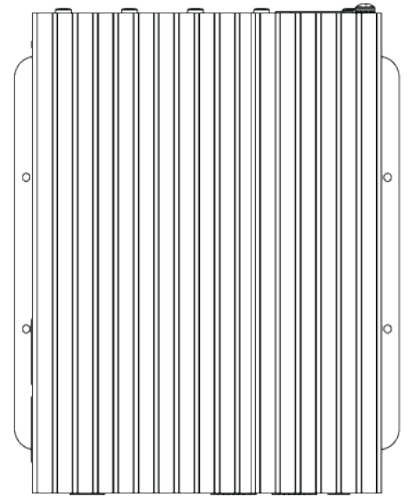
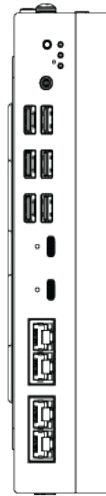
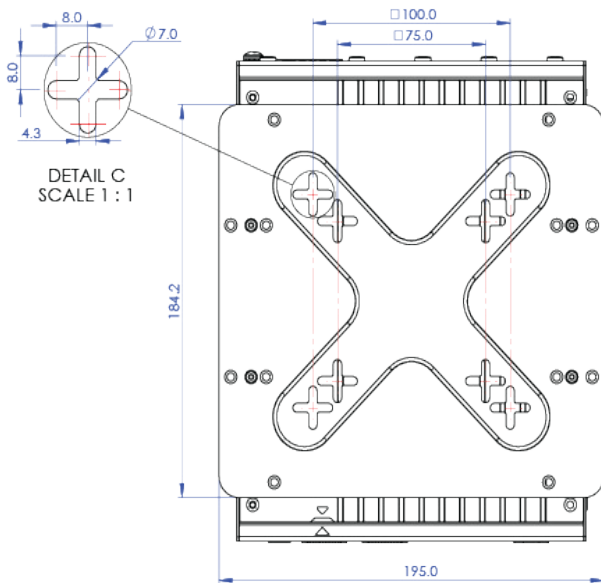
all measurements in mm



## HX520 Series Dimensional Drawings

HX521 VESA Mounting

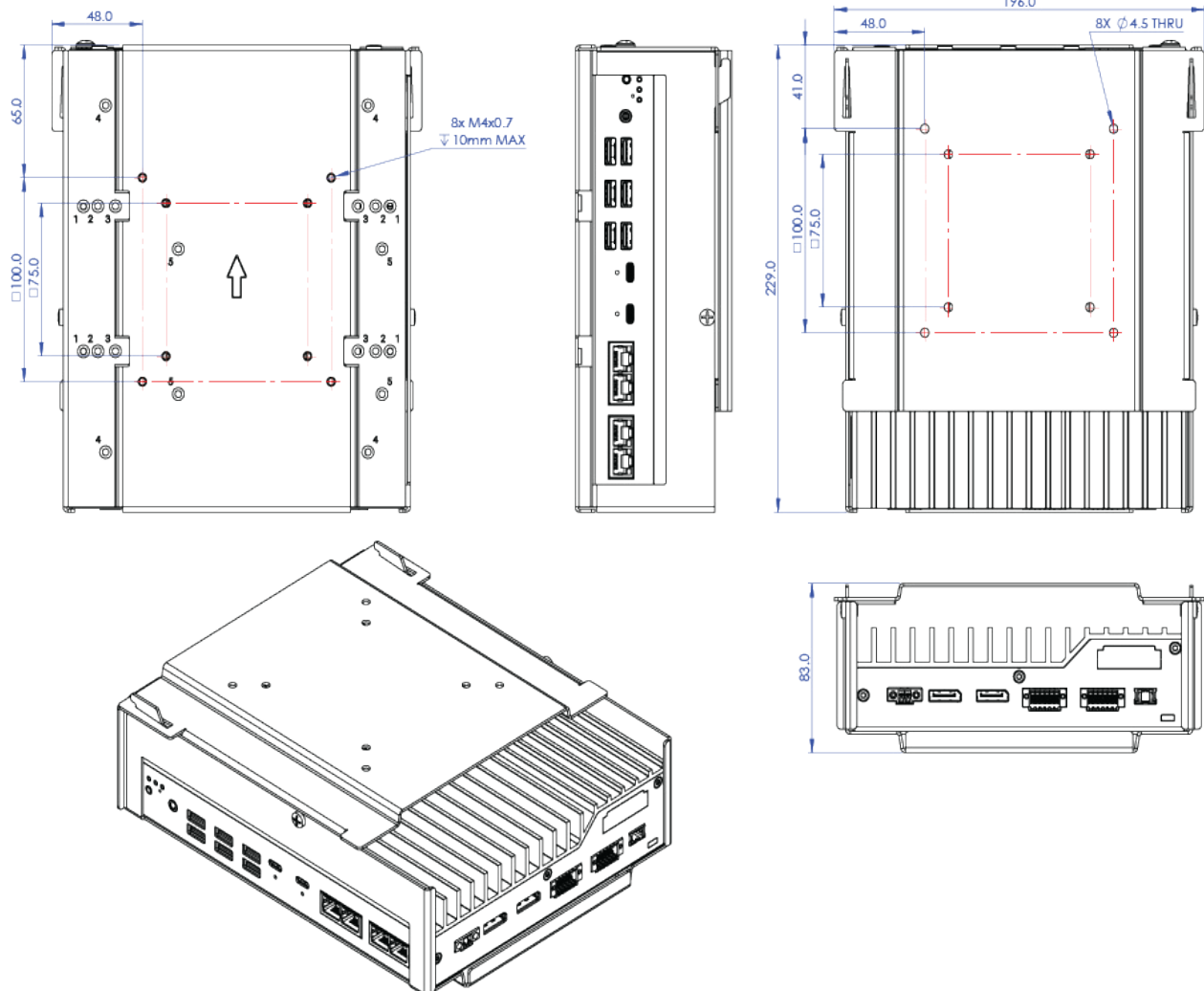
all measurements in mm



## HX520 Series Dimensional Drawings

### HX521 VESA THRU Mounting

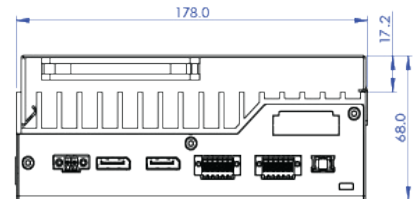
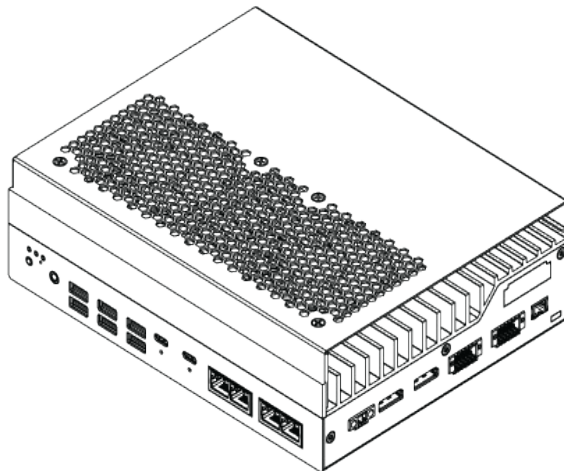
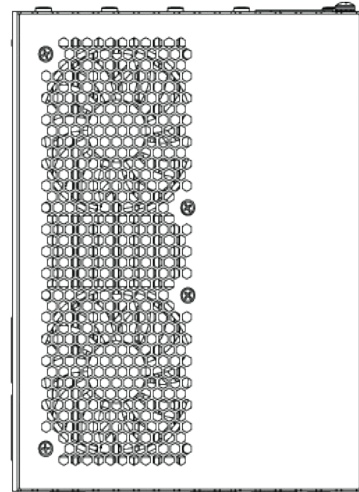
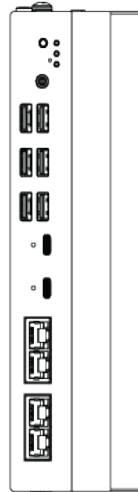
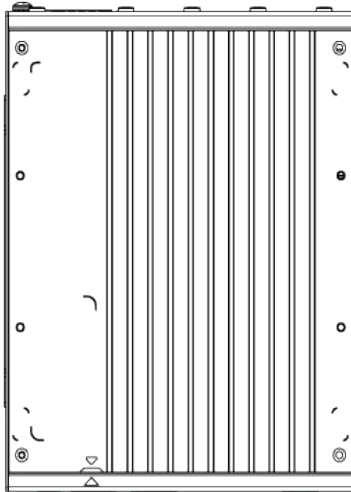
all measurements in mm



## HX520 Series Dimensional Drawings

HX521 Fan Hat

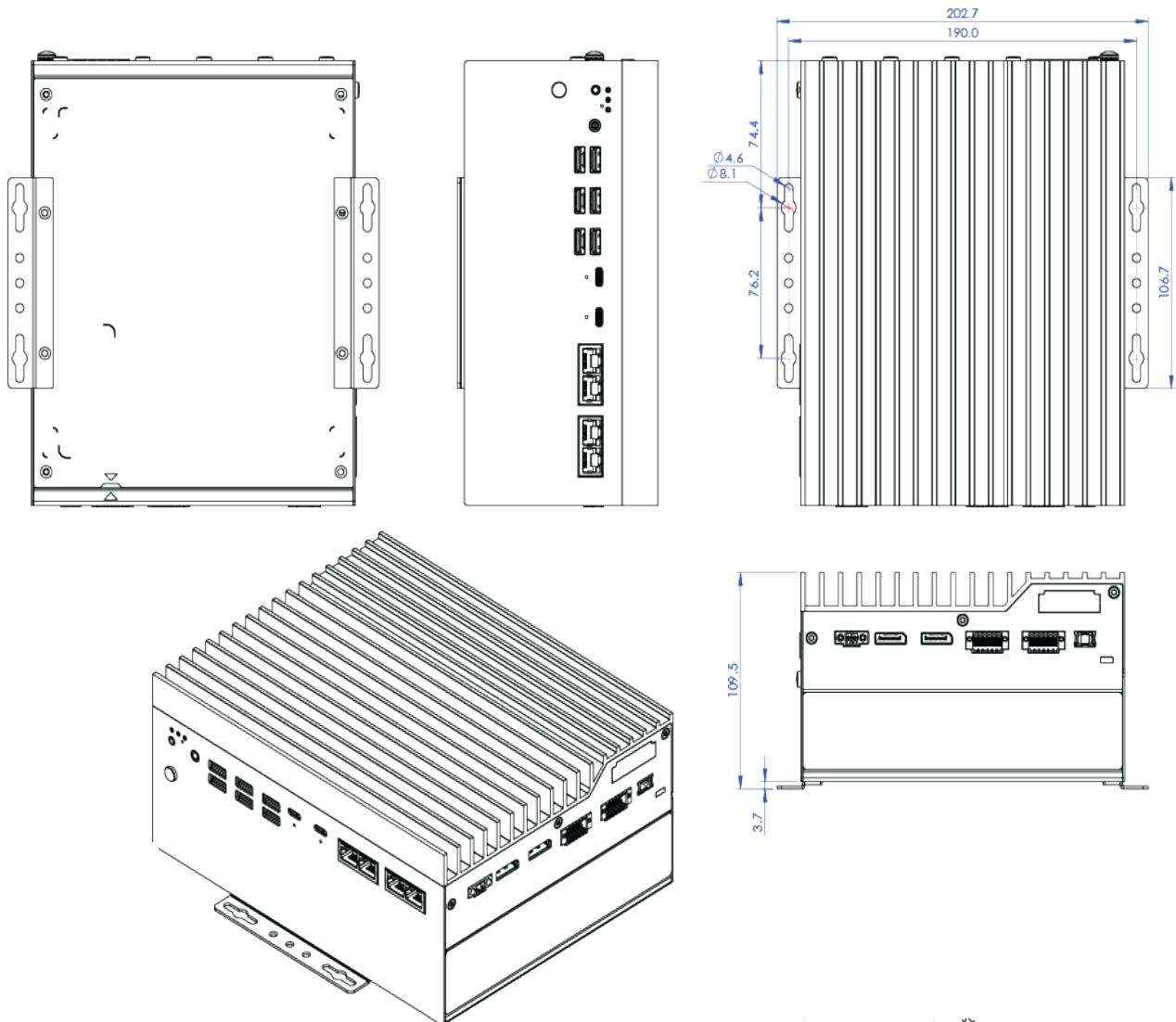
all measurements in mm



## HX520 Series Dimensional Drawings

HX52x Expanded Wall Mounting

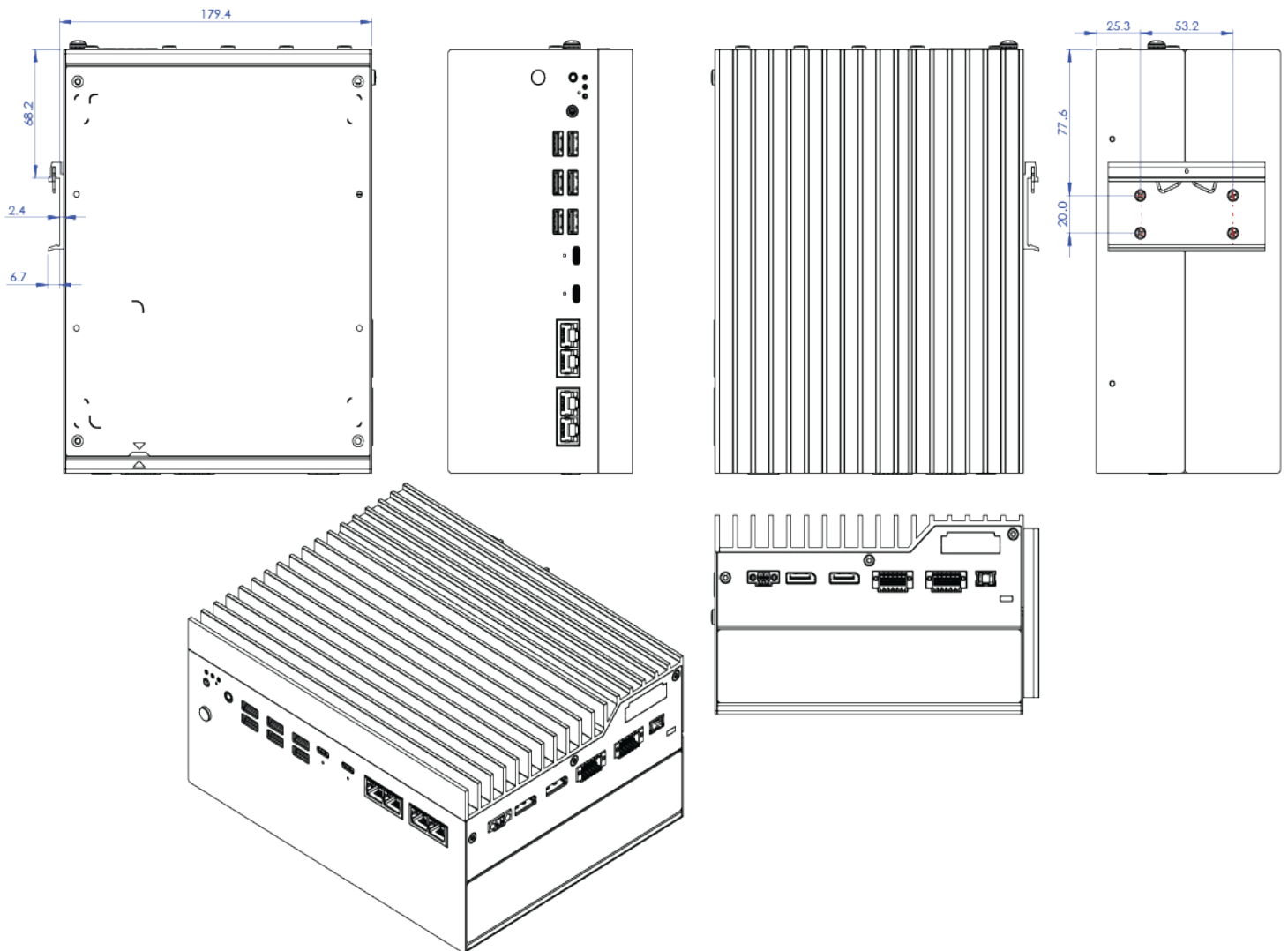
all measurements in mm



## HX520 Series Dimensional Drawings

HX52x Expanded DIN Mounting

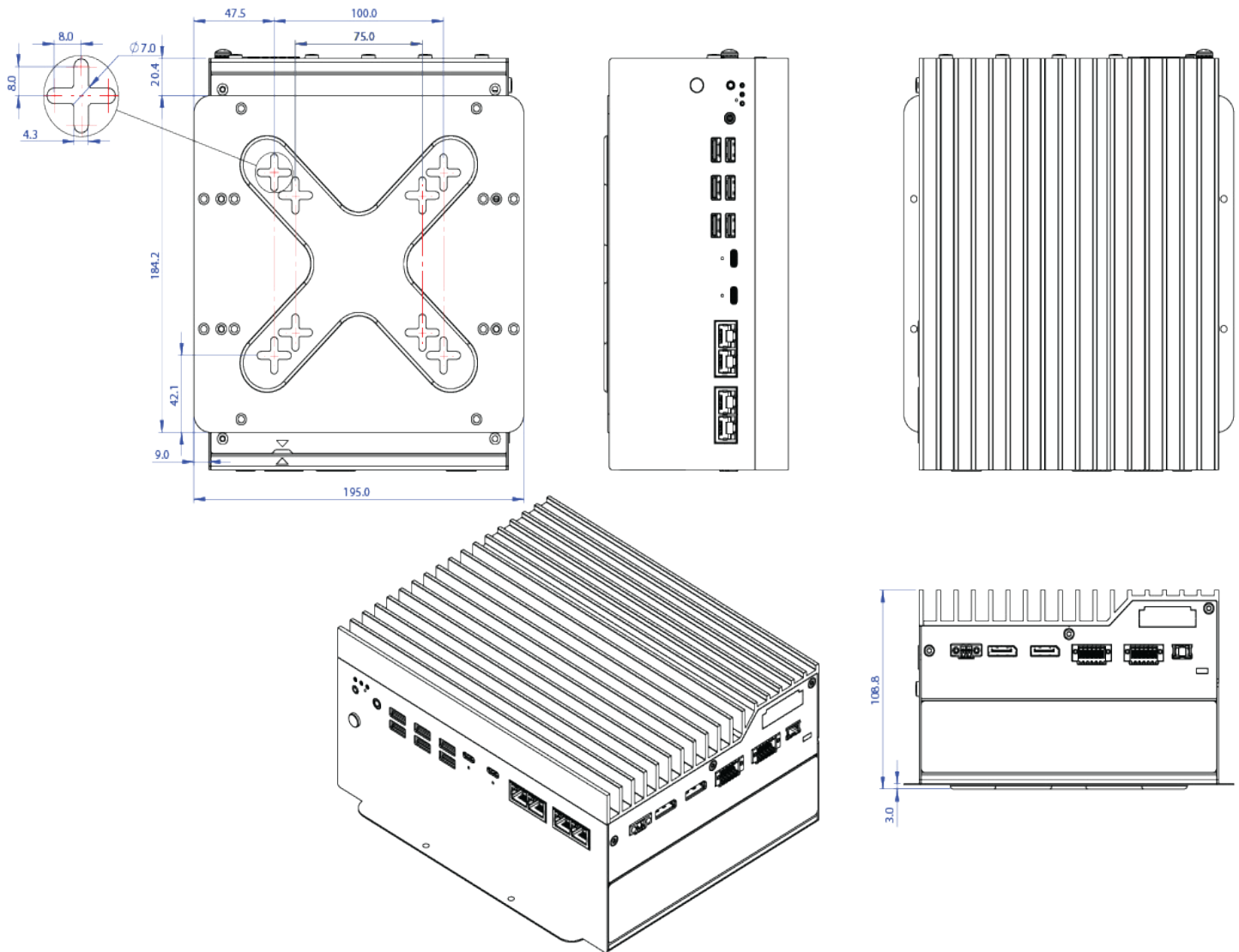
all measurements in mm



## HX520 Series Dimensional Drawings

HX52x Expanded VESA Mounting

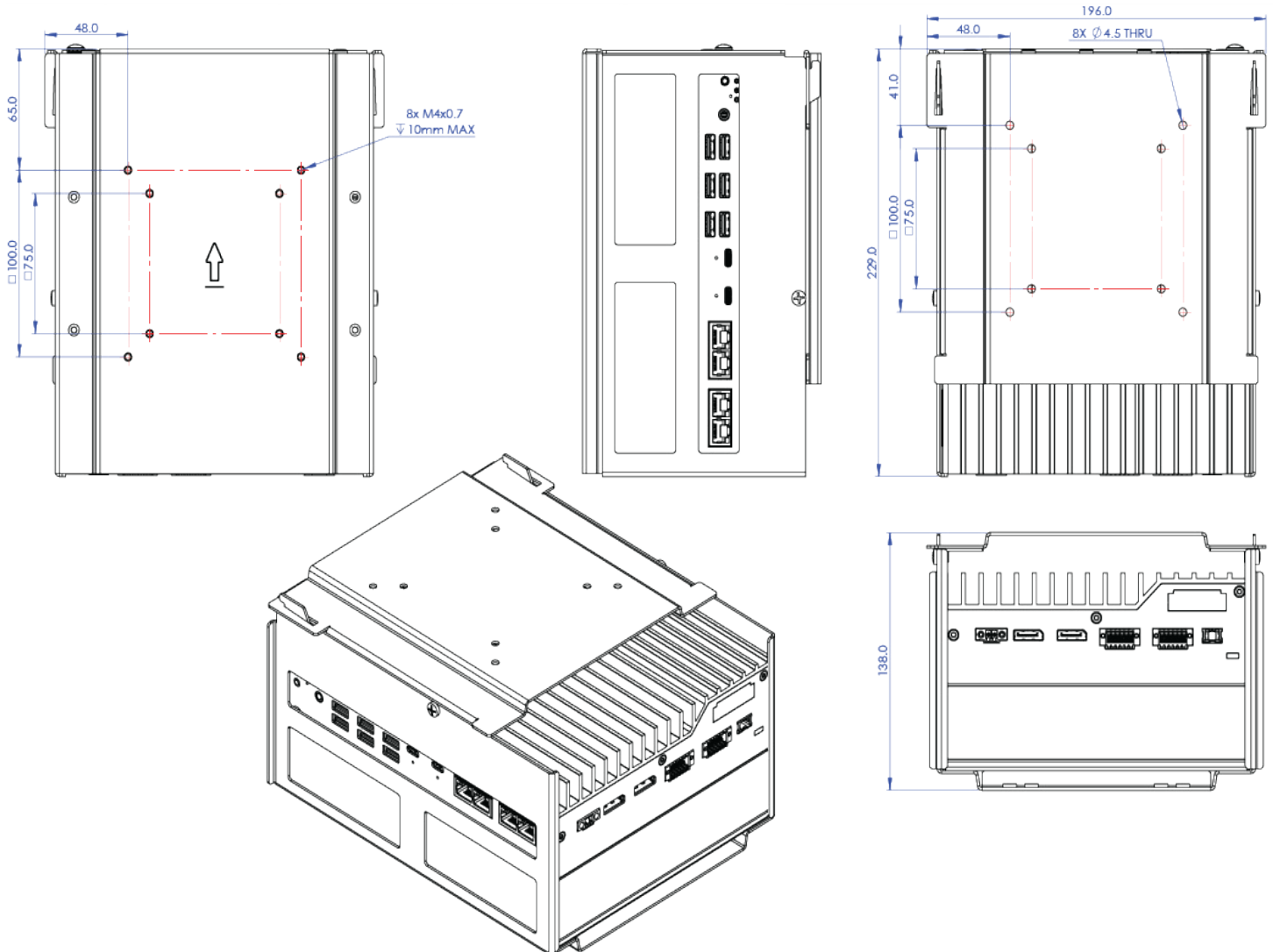
all measurements in mm



## HX520 Series Dimensional Drawings

HX52x Expanded VESA THRU Mounting

all measurements in mm



## HX520 Series Dimensional Drawings

HX52x Expanded Fan Hat

all measurements in mm

