

# Karbon 804

## High-Performance Rugged Computer With ModBay & PCIe

Incredible computing power  
with dual ModBay and PCIe Gen 4 expansion.

[onlogic.com/k804](https://onlogic.com/k804)



### Advanced Processing Performance

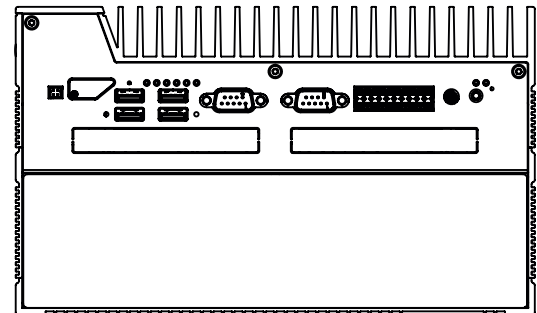
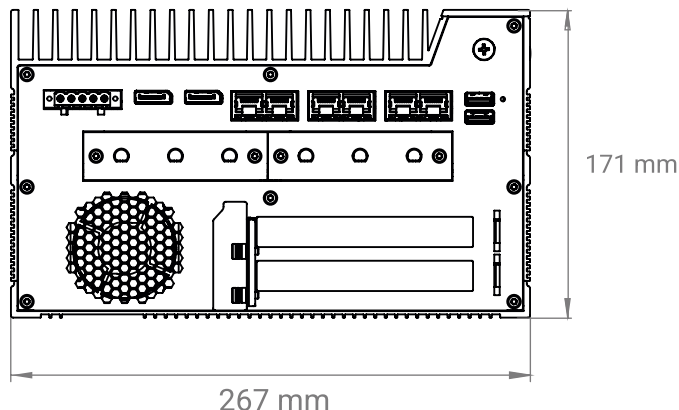
Powered by 12th Gen Intel Core processing, Karbon 802 leverages Intel's unique hybrid core architecture, which adapts to your needs. PCIe Gen 4 expansion, optional ECC memory, 4G and Wi-Fi compatibility give you the capabilities you need now, and set your project up for success well into the future.

### Engineered for the Edge

Rugged features for the Karbon 804 include 12 to 48 V DC power input, an operating temperature range of -40 to 70°C, and testing to MIL-STD-810 shock and vibration standards, as well as testing for industrial, medical, automotive, rail and maritime applications. standards.

### Connect to Anything, Anywhere

The Karbon 804 can be configured with up to 14x LAN, with PoE+ support on up to 10x of those ports. Other connectivity includes dual DisplayPorts, 4x COM, 6x USB 3.2 Gen 2, dual SIM slots and integrated 18-pin GPIO. A pair of our unique ModBay expansion slots let you further customize the system.



### North America

Phone: +1 802 861 2300 | Email: [info@onlogic.com](mailto:info@onlogic.com) | [www.onlogic.com](https://www.onlogic.com)

### Europe

Phone: +31 088 5200 700 | Email: [info.eu@onlogic.com](mailto:info.eu@onlogic.com) | [www.onlogic.com](https://www.onlogic.com)

## System

Processor	Intel® 12th Gen Alder Lake S Core i3-12100E Core i3-12100TE Core i5-12500E Core i5-12500TE Core i7-12700E Core i7-12700TE Core i9-12900E Core i9-12900TE
Processor Speed	Up to 5 GHz (processor dependent)
Processor Cores	Up to 16 (processor dependent)
Integrated Graphics	Intel UHD Graphics 730/770
Chipset	Intel W680
Memory	Up to 64 GB DDR4 2666 ECC or non-ECC

## Rear I/O

Ethernet	1x 2.5 GbE LAN with Intel I225-LM controller and AMT support 1x or 5x 2.5 GbE LAN with Intel I225-IT controllers
USB	2x USB 3.2 Gen 2 Type-A
Display	2x DisplayPort (Full-size, DP 1.4, DP++, HDMI 1.4)
Power	5-Pin Terminal Block Power Input (12 ~ 48V DC) Automotive Ignition Power Sensing
Other	2x OnLogic ModBays for I/O Expansion including 4x LAN/PoE, 3x M12 LAN/PoE, 2x 10Gb LAN, 4x USB 3.0

## Front I/O

USB	4x USB 3.2 Gen 2 Type-A
Serial	2x RS-232/422/485 COM
Other	20-Pin Terminal Block Header (DIO, CAN bus, Ext. Switch) 1x 3.5 mm audio jack 2x 3FF Mini-SIM slots 1x External fan connector 8x Status LEDs 1x Power button

## Expansion & Features

Expansion Options & Storage	1x M.2 2280 M-key (PCIe Gen 4 x4) 1x M.2 2280 M-key (PCIe Gen 4 x4, SATA) 1x M.2 3042/3052/2280 B-key (PCIe x2, SATA, USB 3.0, USB 2.0) 1x M.2 2230 E-key (PCIe x1, USB 2.0) 1x mPCIe (PCIe x1, USB 2.0) 1x PCIe Gen 4 x16 or 2x PCIe Gen 4 x8 slots 2 x 2.5" SATA SSD/HDD drives 0-15mm max (hot-swap optional, 7-9.5mm max)
Features	User-Programmable OnLogic Microcontroller (MCU) Automotive Ignition Power Sensing Optional TPM 2.0 module (Nuvoton NPCT750) Optional PCIe Aux Power for cards over 75W

## Mechanical

Dimensions (WxHxD)	240 x 143 x 267 mm 9.45 x 5.63 x 10.51 in
Mounting Options	Wall Mount Wall Mount with Vibration Isolation DIN Rail Mount

## Environmental & Regulatory

Operating Temperature	-40 ~ 70°C (w/ 35W CPU) -40 ~ 50°C (w/ 65W CPU)
Shock Tolerance	Tested according to IEC 60068-2-27 and MIL-STD-810G (516.6)
Vibration Tolerance	Tested according to IEC 60068-2-64 and MIL-STD-810G (514.6)
Certifications	FCC 47 CFR Part 15 Subpart B (Class A) UL/IEC/EN 63268-1 (UL Listed & CB) CISPR 32 / EN 55032 CISPR 35 / EN 55035 Radio Equipment Directive (2014/53/EU) RoHS 3 (2015/863/EU) WEEE Directive (2012/19/EU) Power Immunity According to E-Mark ISO 7637-2 & ISO 16750-2 EN 50121-3-2 IEC 60601-1-2, 4th ed. IEC 60945, 4th ed.

## US Office

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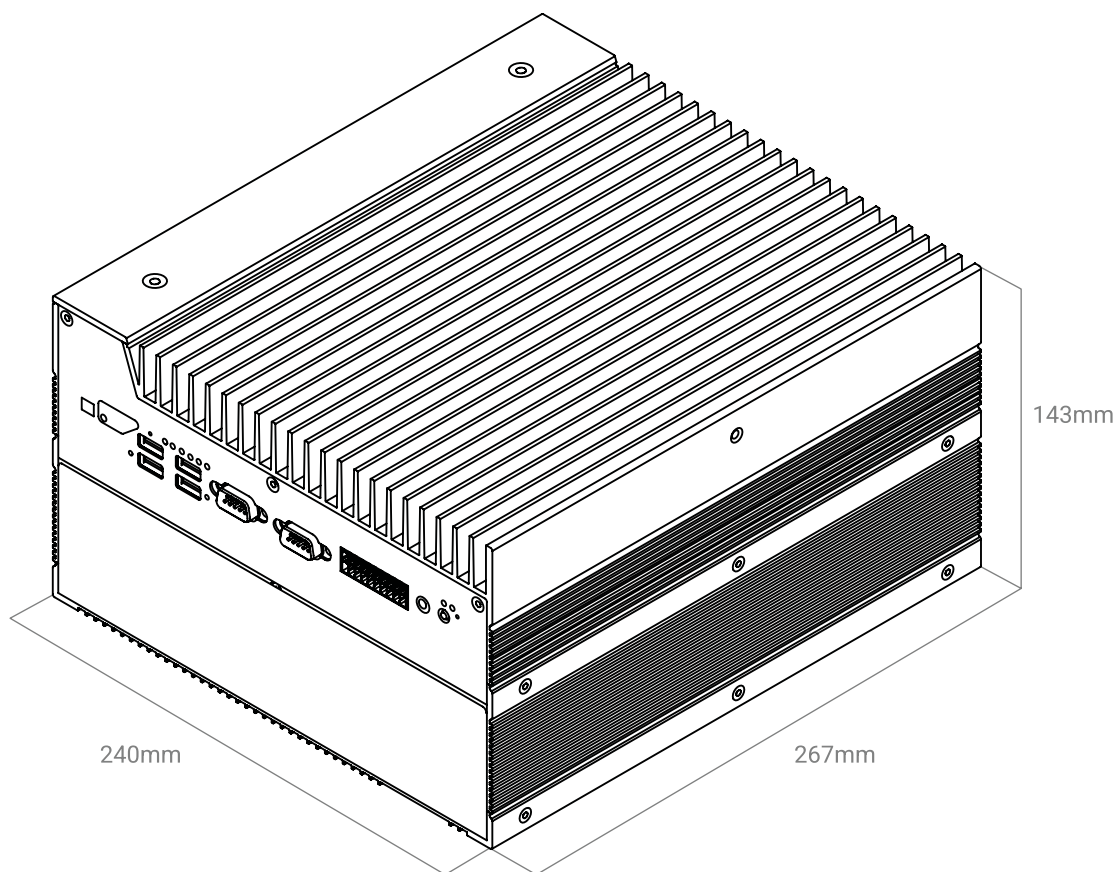
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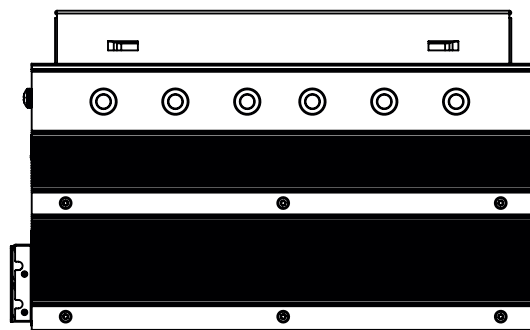
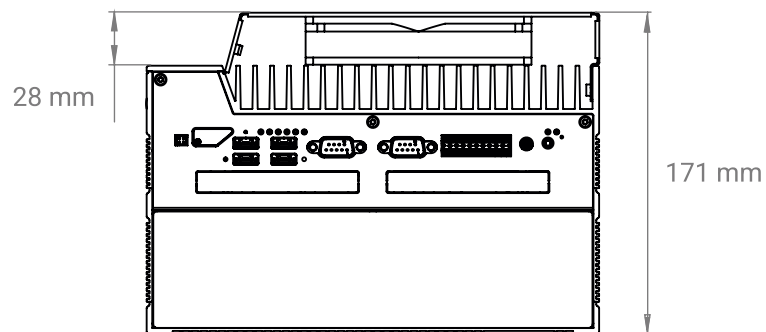
## Karbon 804 Dimensional Drawings

High-Performance Rugged Computing, Evolved

All measurements in mm



### Dimensions with Optional External Fan



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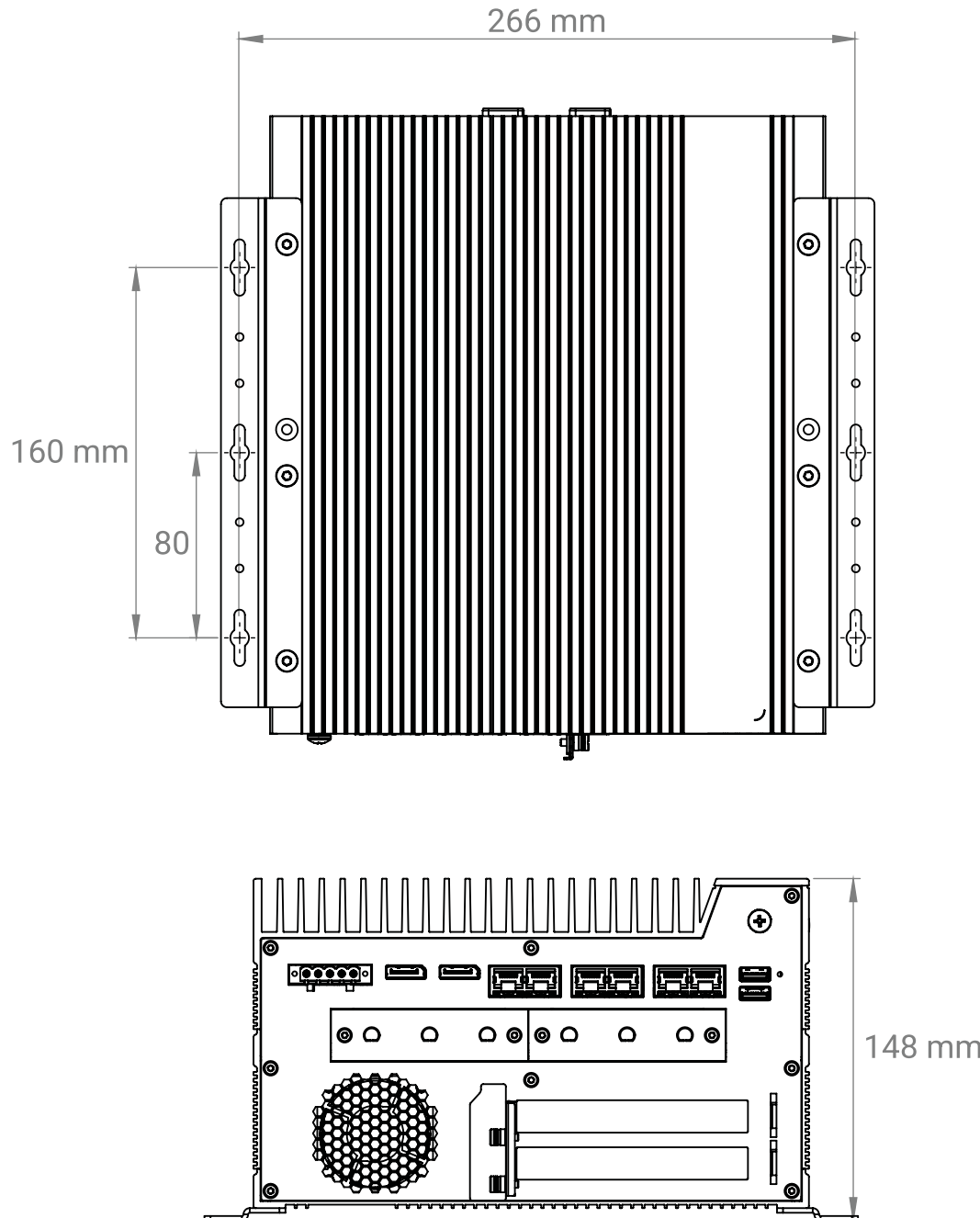
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## Karbon 804 Wall Mount

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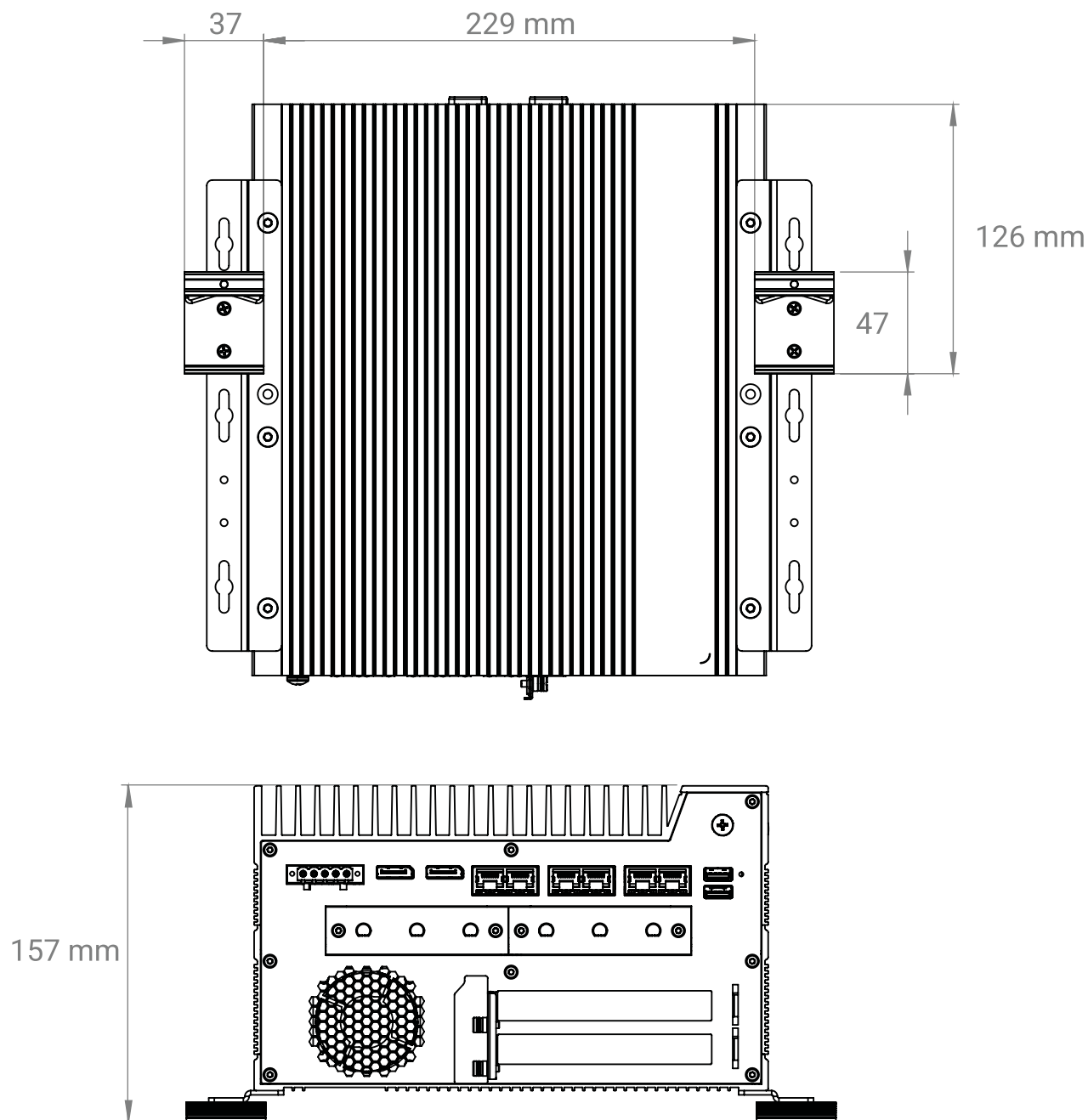
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## Karbon 804 DIN Mount

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All measurements in mm



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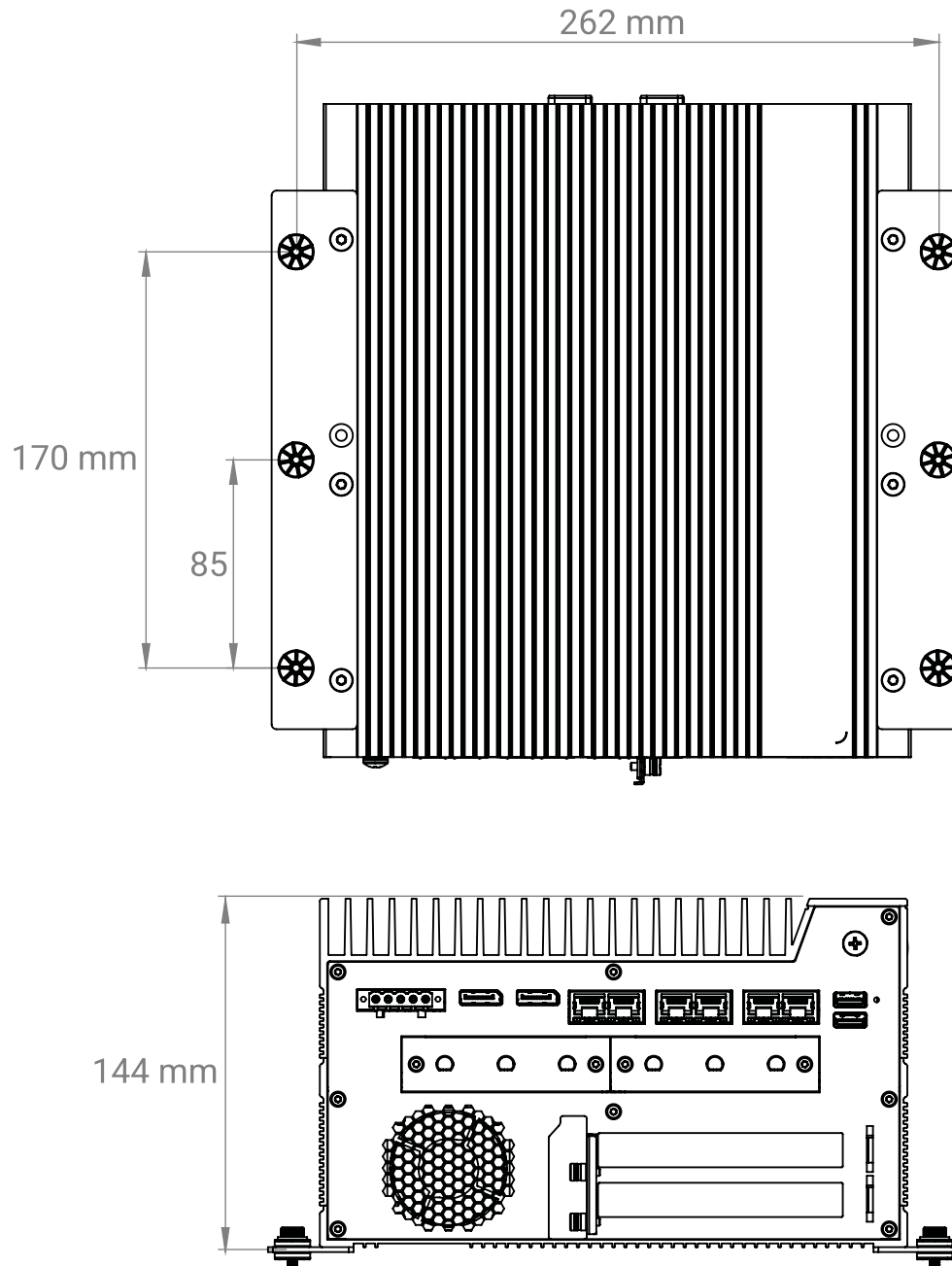
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## Karbon 804 DIN Isolation Mount

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All measurements in mm



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