ONLOGIC

Karbon 801

Low Profile Rugged Computing, Evolved

Brings power, reliability, and connectivity to the IoT edge.

onlogic.com/k801

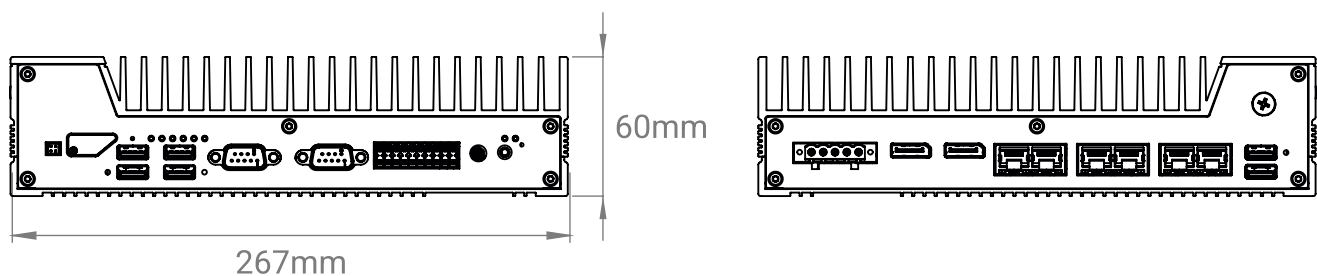## Advanced Processing Performance

Powered by 12th Gen Intel Core processing, Karbon 801 leverages Intel's unique hybrid core architecture, which adapts to your needs. PCIe Gen4 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

At just 60 mm tall, the Karbon 801 gives you the freedom to install the system wherever you need it. The system features 12 to 48V DC power input, an operating temperature range of -40 to 70°C, has been tested to MIL-STD-810 shock and vibration standards.

Connect to Anything, Anywhere

The system can be configured with up to 6x 2.5 GbE LAN ports, two of which can provide power (PoE). Other connectivity includes dual DisplayPorts, 2x COM, 6x USB 3.2 Gen 2, dual SIM slots and integrated 18-pin GPIO (DIO, CAN, Switch).

60mm

267mm

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

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)
Features	User-Programmable OnLogic Microcontroller (MCU) Automotive Ignition Power Sensing Optional TPM 2.0 module (Nuvoton NPCT750)

Mechanical

Dimensions (WxHxD)	240 x 60 x 267 mm 9.45 x 2.36 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)
Operating Humidity	10% - 95% (non-condensing)
Shock Tolerance (Operating)	Tested according to MIL-STD-810G, Method 516.6 for Ground Level Equipment 40g, 11ms, sawtooth, 3 pulses positive and negative per axis, 3-axis, operating
Vibration Tolerance (Operating)	Tested according to MIL-STD-810G, Method 514.6, Category 4, Common Carrier over US Highways 1 hour per axis, 3 axes
Certifications	FCC 47 CFR Part 15 Low-Voltage (2014/35/EU) Electromagnetic Compatibility (2014/30/EU) Radio Equipment (2014/53/EU) - Only applicable for configurations with wireless transmitters EN 55032 EN 55035 RoHS 3 (2015/863/EU) WEEE Directive (2012/19/EU) Power Immunity According to E-Mark 7637-2 & 16750-2 EN 50121 Additional Safety and EMC certifications pending. Some certifications configuration dependent.

Karbon 801 Dimensional Drawings

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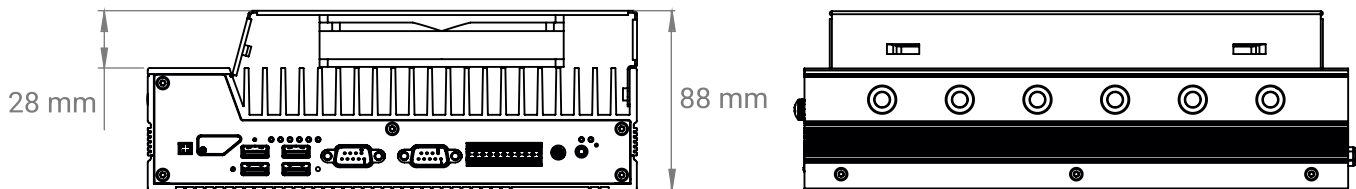
All measurements in mm

60mm

240mm

267mm
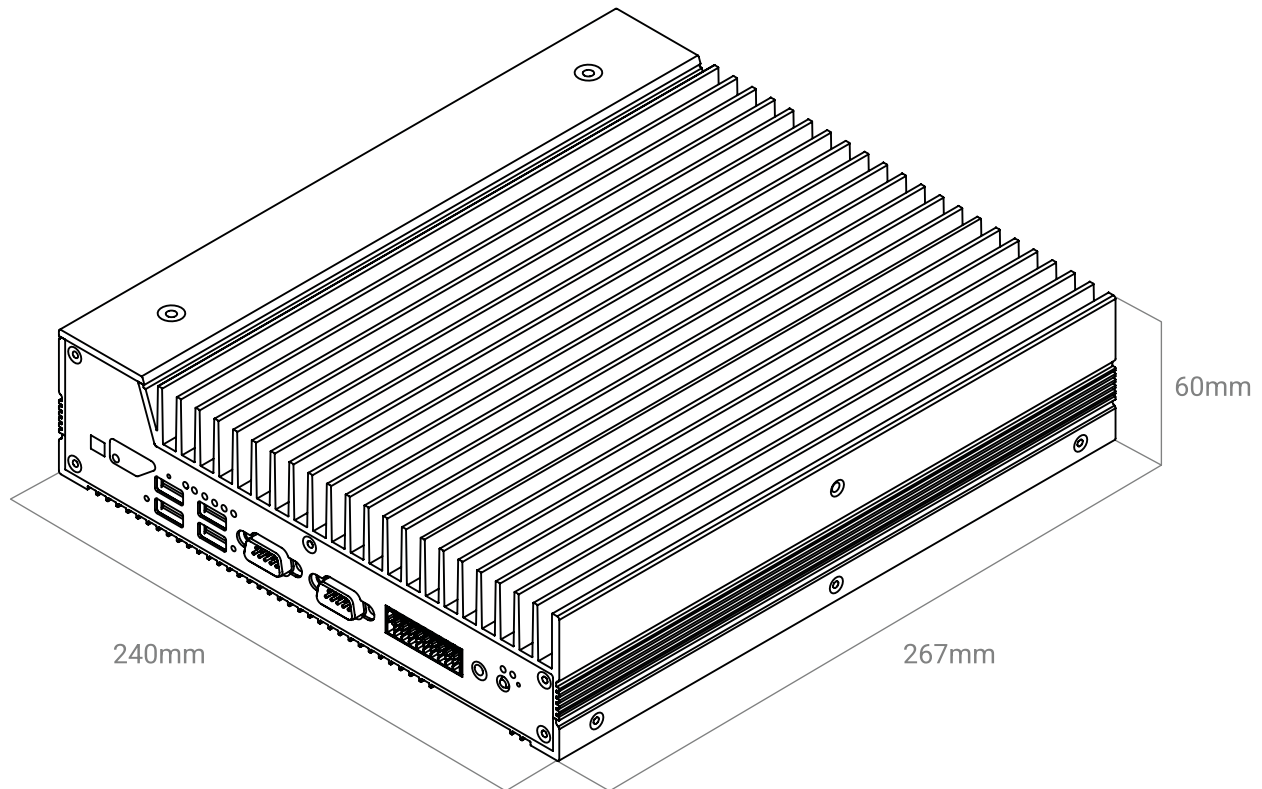
Dimensions with Optional External Fan

28 mm

88 mm

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Karbon 801 Wall Mount

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All measurements in mm

282 mm

266 mm

160 mm

80 mm

64 mm

⌀ 4 mm

⌀ 8 mm

60mm

5mm
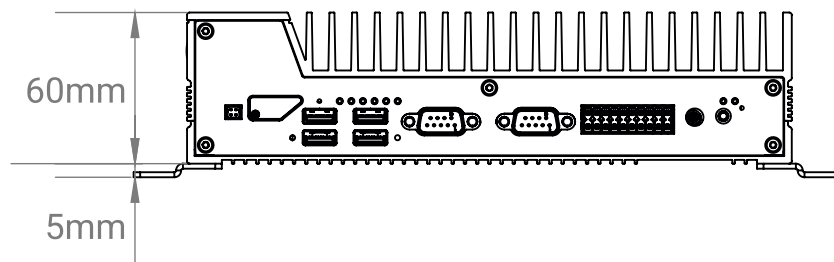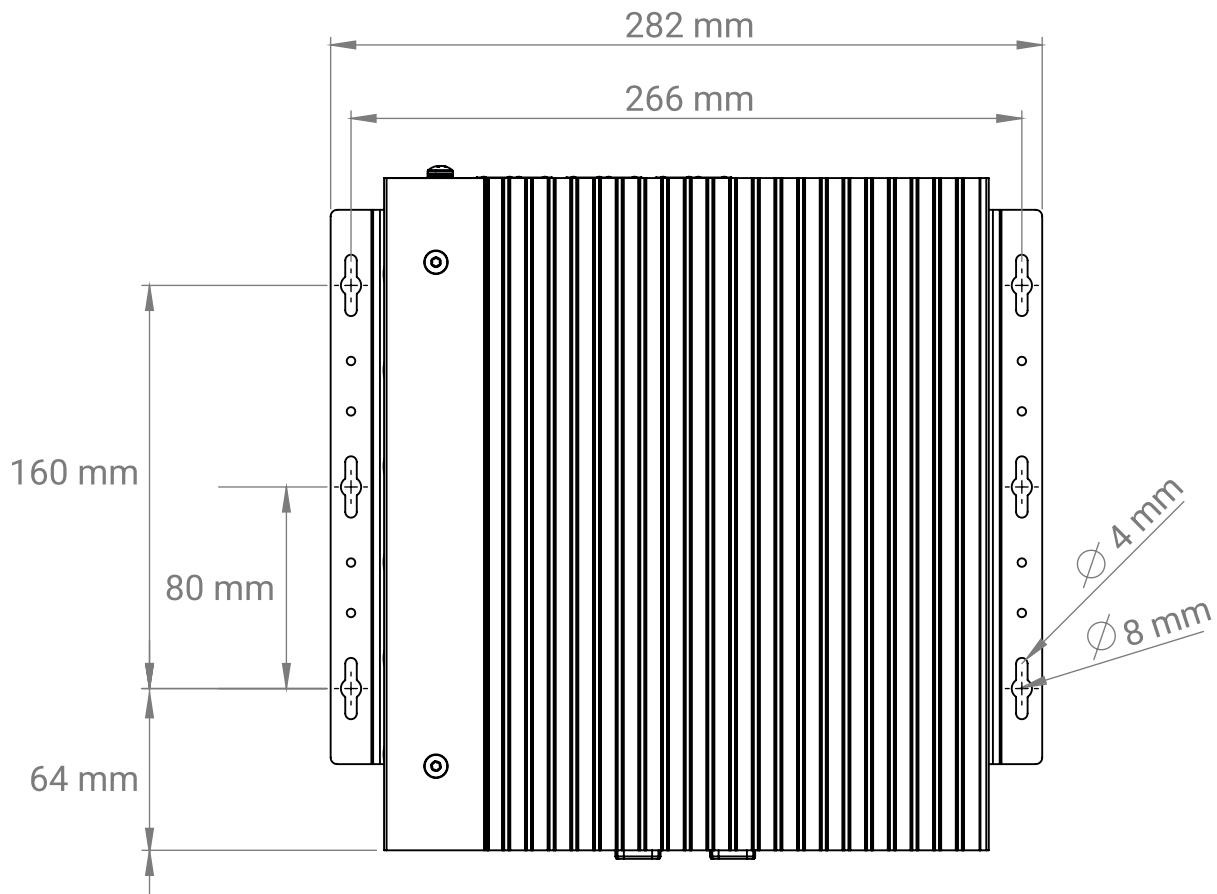
Karbon 801 DIN Mount

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All measurements in mm

303 mm

37

125 mm

47

75 mm
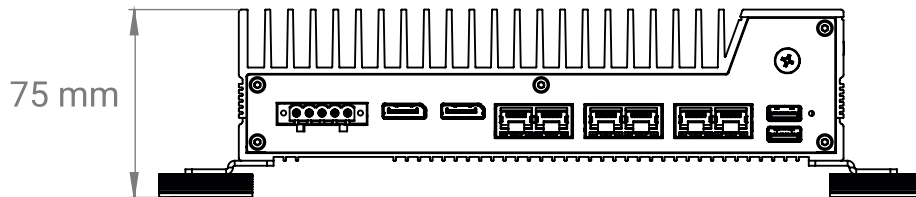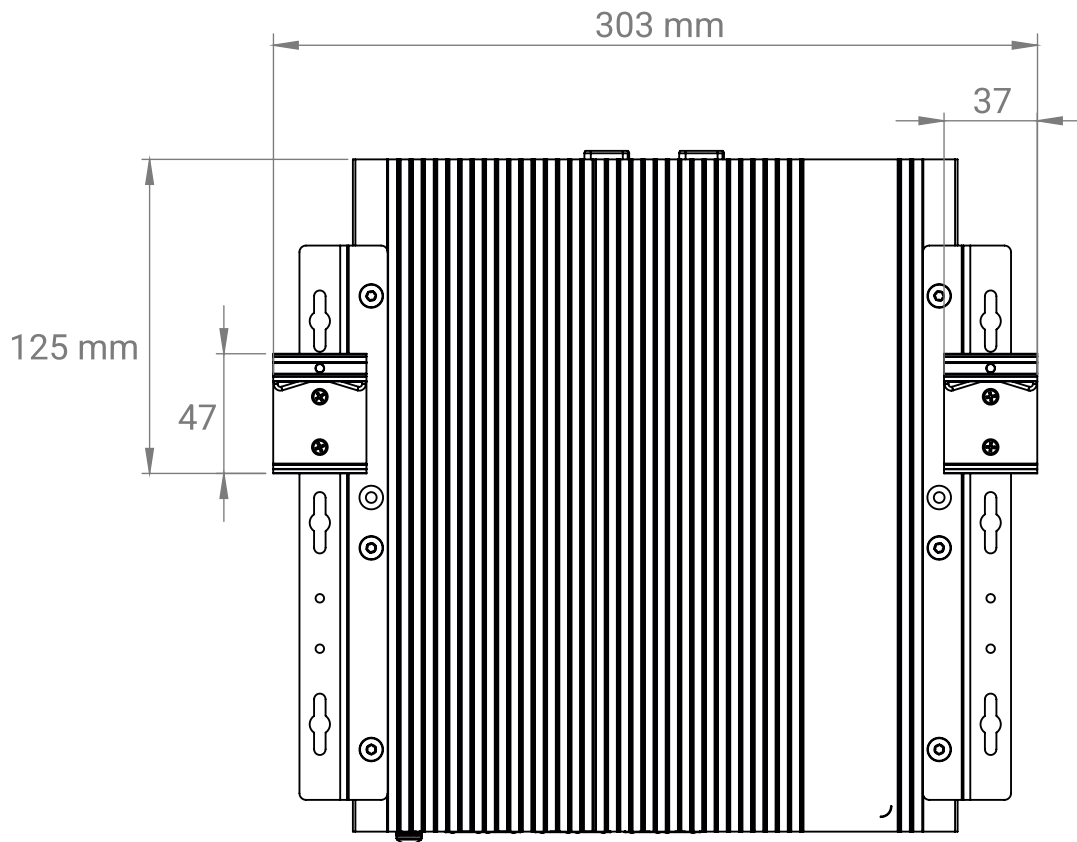
Karbon 801 Vibration Isolation Mount

High-Performance Rugged Computing, Evolved

All measurements in mm

282 mm

262 mm

170 mm

85

59 mm

62 mm