K430

Karbon 430 Intel® Elkhart Lake Compact Rugged Computer with Expansion

The power and IoT capabilities of Intel Atom® x6000E processors in a compact, rugged, fanless system built for the challenges of the IoT Edge.

onlogic.com/k430

Powered By Intel Elkhart Lake

Powered by a Dual-Core Intel Atom x6211E, or Quad-Core x6425E processor, which have been specifically designed for the IoT, Karbon 430 offers a unique combination of features, power and connectivity. The integrated Intel® Programmable Services Engine enables support for a host of connectivity and power management functions, including CAN bus and automotive power control. The Karbon 430 is perfect as a rugged Industrial IoT gateway, edge device, embedded controller or the backbone for medical, energy management or industrial control applications.

Protected From Damage In Edge Environments

Measuring just over 2" tall, and with support for Wall, DIN Rail or VESA mounting, the Karbon 430 was designed to be installed anywhere you need it. Its rugged design, -40° to 70°C operating temperature range, 9-48V power input, and the absence of any moving parts dramatically improve lifespan and reliability. Environmental testing includes Medical EMC (EN 60601-1), Rail EMC (EN 50121), Maritime EMC (EN 60945), Automotive E-mark, as well as IEC and MIL STD-810 shock and vibration. All of this performance is safely delivered inside a system NRTL listed to UL 62368-1, accompanied by a CB Scheme to IEC 62368-1.

Customizable And Expandable

Standard I/O on the Karbon 430 includes USB, dual LAN (with optional PoE), CAN bus (via 3-pin terminal block) and a DisplayPort. Optional Wi-Fi and 4G LTE give you wireless access to your critical data from anywhere. Onboard ignition sensing allows the system to be powered on/off based on the power state of a vehicle. The Karbon 430's five total internal expansion slots can also be used to add additional connectivity, including COM, LAN and DIO, as well as additional functionality, including AI accelerators and GPS.
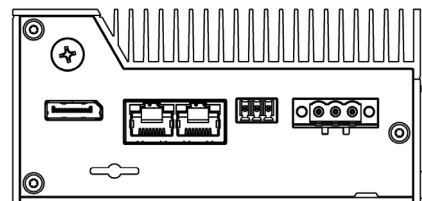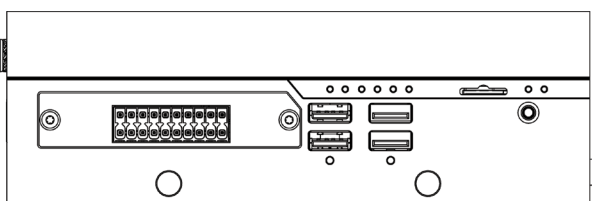
ONLOGIC

System

Processor	Intel Atom x6425E Intel Atom x6211E
Processor Speed	1.80 GHz to 3.0 GHz
Processor Socket	Onboard (BGA)
Processor Generation	Elkhart Lake
Processor Cores	2 4
Chipset	Shared with CPU
Graphics/GPU	Intel UHD Graphics
Memory Type	DDR4 SO-DIMM (non-ECC)
Memory Capacity	32 GB
Memory Speed	3200 MHz
Memory Slot Count	2
Number of Displays Supported	1 direct output (3 with MST hub)

Top I/O

Other	2 or 4 SMA Antenna ports

Bottom I/O

Ethernet	Ethernet 2 GbE LAN ports (PoE+ optional)
Video	1 DisplayPort connector
SIM	1 3FF Micro-SIM
Other	1 3-pin Terminal Block power connector 1 CAN bus

Front I/O

Power Button	1 Power button
USB	2 USB 3.2 Gen 2 ports 2 USB 2.0 ports
SIM	1 3FF Micro-SIM
Other	COM or DIO expansion slot 2 SMA Antenna ports

Other

Hardware Type	Edge Devices and IoT Gateways
Warranty	2 Year Limited Warranty on parts and services

Expansion & Features

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Storage Options	1x mSATA (shared with mPCIe) 1x M.2 3042/2260/2280 B-key (PCIe x2; USB 2.0; SATA)
Motherboard Expansion	1x Full-size mPCIe (PCIe x1; USB 2.0, SATA) 1x M.2 2230 E-key (PCIe x1; USB 2.0) 1x M.2 3042/2260/2280 B-key (PCIe x2, USB 2.0, SATA)
Daughterboard Expansion	2x LAN + 1x M.2 3042/52/2260/80 B-key (PCIe x1; USB 3.0; USB 2.0; SIM) or 2x COM or 1x COM + 1x LAN or 1x M.2 3042/3052/2260/2280 B-key (PCIe x1, USB 3.0, USB 2.0), 1x M.2 2242/60/80 B-key (PCIe x1, USB 3.0, USB 2.0)
LAN Controller	Intel I210-IT GbE
System Monitoring	Intel PTT support TPM 2.0 Module (optional)
Input Voltage	9 - 48 VDC
Power Input	3-pin Terminal Block connector

Mechanical & Weight

Dimensions (WxHxD)	180 x 60 x 123 mm 7.09 x 2.36 x 4.84 in
Case Type	Ruggedized
Mounting Options	DIN-mount VESA-mount Wall-mount
Release Date	Q4 '21
Expected Life Cycle	5 Years

Environmental & Regulatory

Operating Temperature	-40 - 70°C
Operating Humidity	10% - 95% (non-condensing)
Certifications	FCC 47 CFR Part 15 CE UKCA VCCI RCM CAN ICES-003(A) / NMB-003(A) CISPR 32 / 35 (EN 55032 / EN 55035 UL/EN/IEC 62368-1 (UL E490677) NRTL + CB IEC 60068-2-27 IEC 60068-2-64 EN 60945 Ed. 4 EN 50121-3-2 EN 60601-1-2 4th ed. MIL-STD-810G Test

K430 Dimensional Drawings

Rugged Expandable Computer

All measurements in mm

DETAIL A
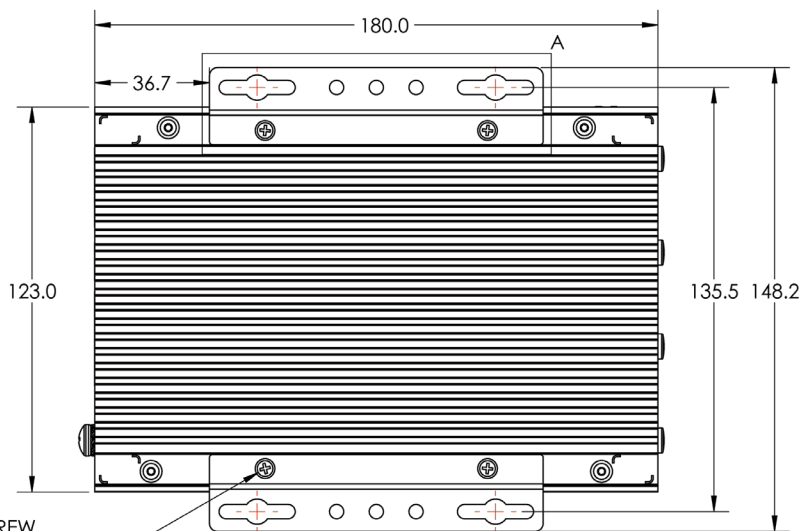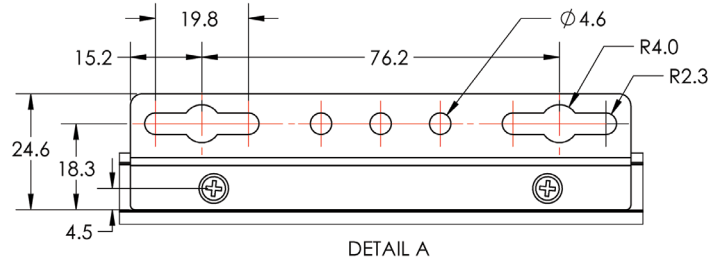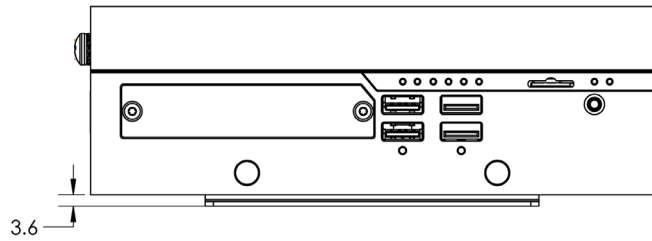
M3X0.5 120° FLAT HEAD SCREW
MAXIMUM SCREW DEPTH INTO CHASSIS 5.5mm