

# WCO-3000 SERIES

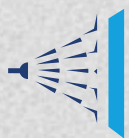
## IP68/IP69K WATERPROOF COMPUTER

DELIVER INTELLIGENCE  
WHERE IT COUNTS



### BUILT RUGGED. BUILT READY.

The WCO Series expands the limitation of hardware to environment where the normal embedded computer are not suitable to be used. The WCO computers are a great solution for food and beverage processing, outdoor digital signage, surveillance, Military & defense, and automation control where the computers are in constant threat of water splash from all directions to even water immersion.



IP68/IP69K  
Rating



Wide Range Voltage  
9-36V or 48-110V



Scalable M12  
Ports



High-Quality  
Compact Construction

# Fanless IP68/69K Waterproof Edge Computers

WCO-3000-EHL Series with Intel Atom<sup>®</sup> x6425E Processor (Elkhart Lake)



In an era where the landscape of data processing is undergoing a transformative shift from centralized cloud systems to decentralized edge computing, the demand for industrial computers capable of withstanding extreme conditions is on the rise. The industrial sector, in particular, is witnessing a surge in deployments in harsh environments, where traditional computing solutions fall short. Recognizing this paradigm shift, the WCO-3000-EHL Series is a fanless IP68/69K Waterproof Edge Computer meticulously designed to meet the evolving needs of edge computing in harsh environmental settings.

The WCO Series expands the limitation of hardware to the environment where normal embedded computers are not suitable to be used. The WCO Series Waterproof computers are a great solution for food and beverage processing, outdoor digital signage, surveillance, Military & defense, and automation control where the computers are exposed to water from all directions to even water immersion.



## ▼ WCO-3000-EHL Key Features

- Intel Elkhart Lake CPU (x6425E)
- IP68/69K
- Fast-speed Ethernet and USB 3.2 Gen 2
- 4K Display Support
- Robust M12 Connectors
- Withstand Extreme Environments



Smart City



Digital Signage



Agriculture



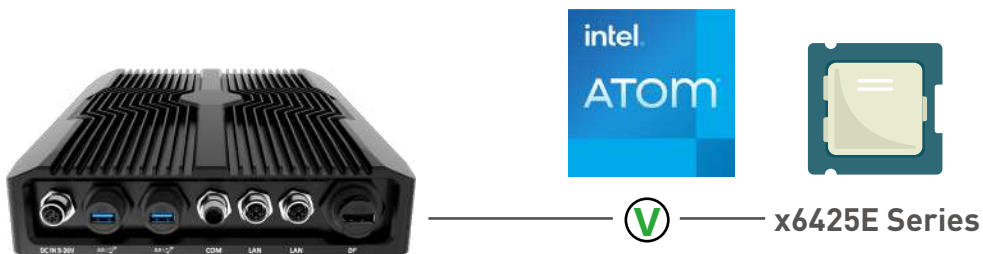
Food Processing



Industrial Automation

# Intel® Elkhart Lake Atom® x6425E Series Processor

The WCO-3000-EHL Series is powered by the Intel® Atom® x6425E Series processor (Formally known as Elkhart Lake) for powerful quad-core performance with low power 12W TDP consumption. With heavier workloads, harsher environments, and more complex data to analyze, integrating Intel® Atom® x6425E into the WCO-3000-EHL provides considerable performance improvements by leveraging its SoC design with a 10nm compute die and 14nm PCH in a single chipset.



Processor	Cores	Max TDP	CPU High Frequency Mode	CPU Burst (Turbo) Mode	Graphics High Frequency Mode	Graphics Burst (Turbo) Mode	Intel® UHD Graphic	In-Band ECC
Intel Atom® x6425E	4	12W	2.0 GHz	3.0 GHz	500 MHz	750 MHz	32 EUs	No



All of the robust IoT features that Intel® Elkhart Lake offers are covered within Intel® IoT Group (IOTG) long-lifecycle product availability. The 15-year product lifecycle provides the customer with fifteen years of IOTG hardware and software technical support, a great value proposition for long-term industrial applications.



## ▶ IP68 & IP69K: Unmatched Environmental Protection

Featured with IP68/IP69K ratings, WCO-3000-EHL Series is equipped with unmatched environmental protection. IP69K is the highest level of the IP rating system that validates the industrial computer for being totally dust-tight and protected against high-temperature, high-pressure water jet sprays from all sides in a close range. IP68 ensures the machine is protected against full water immersion beyond 1m up to 30 mins. IP68/IP69K makes sure WCO Edge Computers sustain high-pressure, high-temperature system washdowns required for hygienic and aseptic environments.



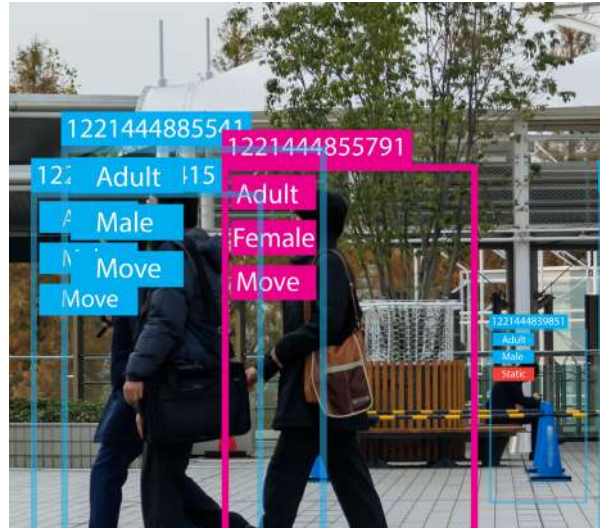
## ▶ M12 Connectors: Secure and Reliable Connectivity

M12 connectors, standardized under IEC 61076-2-101, are an excellent choice for creating rugged, compact, and dependable connections in applications where harsh environments are a concern. These connectors comply with IP68-IP69K ratings, which adds an extra layer of resilience. When combined with the waterproof chassis of WCO, they provide comprehensive protection for computers, even in the most demanding deployment situations.



## ► High-Speed and Customizable I/O Ports

With two Ethernet ports supporting speeds up to 2.5 GbE and 1 GbE, two USB 3.2 Gen 2 ports providing a transfer rate of 10 Gbps each, and one display output supporting 4K resolution, the WCO-3000-EHL Series offers a versatile array of high-speed and customizable I/O ports. These features empower the WCO-3000-EHL series to seamlessly adapt to diverse industrial connectivity requirements, providing the flexibility needed for a wide range of applications.



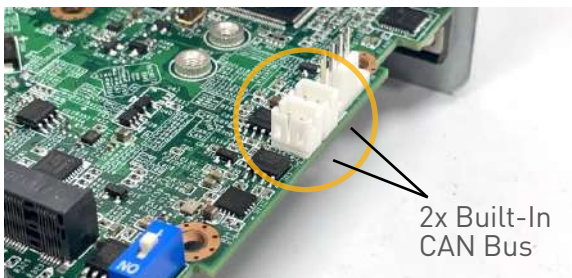
## ► Edge AI Ready at the Rugged Edge

Positioned for the future, the WCO-3000-EHL Series is primed for Edge AI applications, supporting AI Acceleration with M.2 compatibility for one Hailo-8™ AI module. With up to 26 TOPS AI performance at a 2.5W extremely low TDP, it enhances real-time processing and decision-making directly at the edge, providing a crucial advantage for industries seeking to leverage the power of artificial intelligence in their operations.



## ► Robust Wireless Technology for Remote IoT

The WCO-3000-EHL Series' robust wireless technologies enable seamless wireless connectivity for mobile and remote IIoT solutions. The system features a Dual-SIM socket, providing 4G/LTE and even 5G cellular connectivity through a modular add-in card. The 5G module also supports the Global Navigation Satellite System (GNSS) and eSIM features for autonomous geo-spatial positioning and cellular redundancy. In addition, the WCO-3000-EHL also supports Wi-Fi 6 and Bluetooth 5 to connect to various wireless sensors and IoT devices.



## ► Automation Ready with Embedded CAN Bus

The WCO-3000-EHL is equipped with embedded CAN Bus (Controller Area Network) to communicate directly with other modules and network devices, facilitating operations while reducing errors and downtimes. With a two-channel, two-pin Can Bus I/O and protocol built-in to the WCO-3000-EHL's motherboard, the system can leverage vehicle telematics data and provide real-time in-vehicle analytics. The built-in CAN bus provides the WCO-3000-EHL Series with a fully robust, efficient, and flexible feature for harsh environment applications.



## ▶ Power Ignition Management

The WCO-3000-EHL Series has an optional power ignition module for ignition sensing and management. Power ignition management is a configurable component that sets a predetermined time interval for the WCO-3000-EHL to boot or shut down. This system is programmable with six different configurations on how the computer should behave when the engine turns on/off. Compatible with both 12V and 24V systems, this feature ensures that applications are saved and closed properly, avoiding data loss and corruption.



## ▶ Discrete Hardware Security with TPM 2.0

Providing hardware-level data security is crucial for edge IoT applications. The WCO-3000-EHL implements a discrete TPM 2.0 chip that safely encrypts essential data. This integrated trust platform module's root keys enable password protection, device authentication, and future-ready cybersecurity to defend the device's data and transmission against malicious attacks.



## ► Built Rugged, Built Ready

The WCO-3000-EHL Series is tested and validated to its limit at C&T's in-house testing lab for best-in-class industrial durability. It has the durability to withstand extreme industrial environments while maintaining reliable performance at the rugged edge.

- Wide Temperature Range: -40°C to 60°C
- 50G Shock & 5Grms Vibration (MIL-STD-810G Compliance)
- Wide Voltage Input: 9VDC-36VDC Input (Optional 48VDC -110VDC)
- Over Current & Over Voltage Protection





We Create World-Class Edge Computers  
For Your Industry-Leading Solutions

## WCO-3000-EHL SERIES

**intel.**  
Elkhart Lake



Model	WCO-3000-EHL
CPU Support	Intel® Atom® Processor x6425E, Quad Core, 1.5 MB Cache, 1.8 GHz
Memory	1x 260-Pin DDR4 2400/2667/3200MT/s SODIMM. Max. up to 32 GB (non-ECC)
Graphic Output	1x DisplayPort 1.4, DP++ (4096 x 2160@60Hz) or 1x HDMI (Optional)
I/O	2x RJ45 by M12 X-Code, 2x USB 3.2 Gen 2 Type A (Waterproof), 1x RS-232/422/485 by M12 A-Code
Storage	1x Internal 2.5" SATA HDD Bay, 1x mSATA (shared by 1x Mini PCI Express)
Expansion	1x M.2 (B Key, 3042/3052, PCIe x 1 + USB 3.2 Gen2, Support 4G/5G/Hailo AI Module), 2x Internal SIM socket, 1x Full-size Mini PCIe
Power	DC IN 9~36 V, DC IN 48~110V (Optional), M12 S-code 4-pin
Certification	IP68, IP69K, CE, FCC Class A
Operating Temperature	-40 °C to 60 °C
Dimensions (WxDxH)	231 x 292 x 57 mm