



DCO-1000-ASL SERIES

DIN-RAIL FANLESS EMBEDDED COMPUTER

REAL-TIME
PROCESSING FOR ADVANCED
IOT SOLUTIONS



COMPACT RUGGED X86 DIN-RAIL INDUSTRIAL COMPUTERS

The DCO-1000-ASL is a compact, fanless din-rail industrial computer designed for demanding IoT environments. Built to operate reliably in extreme temperatures and resist shock and vibration, it's ideal for space-constrained industrial applications requiring advanced remote management and top-tier durability.



Compact &
Rugged Design



Din-rail
Mountable



Balanced I/O
Configuration



Industrial IoT
Solutions

Din-Rail Fanless Industrial Computer

Revolutionizing Industrial Edge IoT with DCO-1000-ASL Series



The realm of industrial IoT (IIoT) represents a transformative wave sweeping across various industries, bringing with it the promise of enhanced efficiency, improved safety, and unprecedented operational intelligence. As enterprises strive to harness the power of IIoT, the demand for robust, secure, and reliable computing solutions has surged. These solutions are pivotal in gathering, analyzing, and transmitting data from a myriad of sensors and devices, enabling real-time decision-making and predictive maintenance. In such environments, the necessity for compact, powerful, and versatile computing platforms becomes a critical factor in driving the success of IoT deployments, especially in challenging industrial settings.

In response to these evolving IIoT demands, we introduce the DCO-1000-ASL Series, a state-of-the-art Din-rail mounted computer tailored for the unique challenges of industrial environments. This fanless, ultra-small form factor device is equipped with the Intel Atom x7433RE processor, combining powerful computing capabilities with energy efficiency. Designed to optimize space and enhance scalability without compromising performance, the DCO-1000-ASL is ideal for applications where installation space is limited yet high reliability is crucial. By integrating robust processing with versatile mounting options, the DCO-1000-ASL ensures superior operational reliability and is an indispensable tool in any IoT infrastructure, facilitating advanced data processing at the edge.



▼ DCO-1000-ASL Key Features

- **Small Form Factor with DIN Rail Mounting**
- **Intel® Atom® Processor x7433RE**
- **Doubling Performance with DDR5 Memory**
- **Support Up to 4x 2.5 GbE LAN**
- **OoB (Out-of-Band) Module for Remote Management**
- **World-Class Certification: UL-Listed, FCC, CE**

Key Markets & Applications



Transportation
Infrastructure



Energy and
Utilities



Manufacturing
and Automation



Smart Cities and
Infrastructure



Surveillance and
Security

Small Form Factor Design & Din rail Mounting



The DCO-1000-ASL stands out in the industrial computer market by uniquely combining an ultra-small form factor with Din-rail mounting capabilities. This dual advantage allows for flexibility and efficiency in installation, especially suited for environments where space is a critical constraint.

- **Ultra-Compact Design & Space Efficiency:**

Perfect for scenarios where space savings are essential while providing the full functionality of a standard industrial PC. This design reduces clutter and enhances airflow around critical components, ideal for tightly packed control cabinets.

- **Din-Rail Mounting:**

Ensures easy, secure, and versatile installation, allowing for rapid deployment and maintenance without compromising on accessibility.

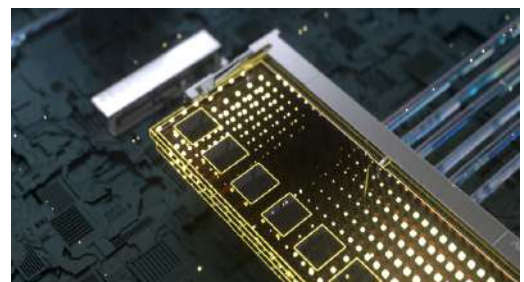
► **Enhanced Efficiency with Intel® Atom® Processor x7433RE**

At the core of the DCO-1000-ASL is the Intel® Atom® Processor x7433RE, which is built on Intel's advanced architecture and is optimized for low power consumption (9W) without sacrificing performance. It utilizes Intel's 10nm process technology, significantly reducing power draw while maintaining robust processing capabilities. This efficiency is crucial in industrial settings where devices need to operate continuously without excessive heat generation or energy use. Equipped with multiple cores, this processor can handle several tasks simultaneously. This capability is vital for industrial IoT devices that must perform data processing, real-time analytics, and communications concurrently.



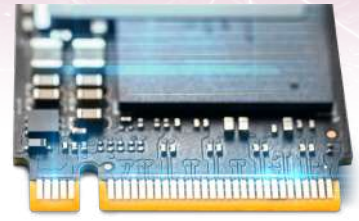
► **DDR5 High-Speed and High-Efficiency Data Handling**

The DCO-1000-ASL supports the latest DDR5 4800MHz SODIMM memory, with options for In-Band ECC/Non-ECC configurations up to 16GB. DDR5 technology offers higher data transfer rates and increased bandwidth compared to its predecessors, enhancing overall system responsiveness and supporting more complex IoT and edge computing tasks.

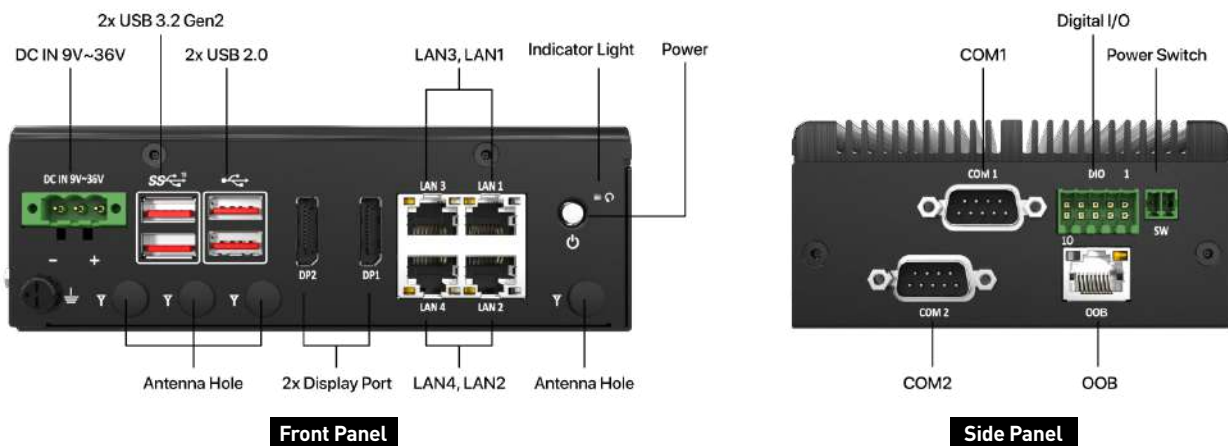


► Scalable Storage Expansions

For storage, the DCO-1000-ASL utilizes an M.2 B Key 3042/3052 slot for NVMe SSDs, offering high-speed storage capabilities that greatly exceed those of traditional SATA SSDs. This design supports high data transfer rates critical for real-time applications and ensures reduced latency and increased reliability in industrial settings. With a default 128GB NVMe SSD, this setup provides ample initial storage while allowing for easy upgrades to meet the expanding data needs.



► Balanced I/O Configuration for IoT applications



- **4x 2.5 GbE RJ45**

The inclusion of four 2.5 Gigabit Ethernet ports allows for high-speed network connectivity, crucial for applications that involve large-scale data transfer or require reliable, real-time communication between devices. This feature is particularly beneficial in networked control systems or where multiple machine-to-machine connections are necessary.

- **Dual Serial Ports**

Dual RS-232/422/485 serial ports remain essential for industrial environments, facilitating direct, robust communication with a variety of legacy equipment and industrial automation systems. These ports support a wide range of devices, from sensors to modems, providing versatility in connectivity options.

- **Dual 4K Independent Displays**

The DCO-1000-ASL supports two independent 4K displays that allow operators to monitor complex processes in ultra-high definition, which is vital for detailed visual analysis and control. This capability is especially useful in scenarios requiring precision such as quality control, surveillance, and advanced graphical presentations.

- **2x USB 3.2 Gen 2 (10 Gbps), 2x USB 2.0**

The combination of high-speed USB 3.2 Gen 2 ports and standard USB 2.0 ports enables versatile peripheral connections and fast data transfers. The USB 3.2 Gen 2 ports providing the speed of 10 Gbps each, are ideal for high-throughput devices like external storage and cameras, while the USB 2.0 ports handle less data-intensive peripherals such as keyboards and mice, ensuring optimal resource allocation and system efficiency.

► High-Speed 5G & Wireless Connectivity for Remote and Mobile IIoT

The DCO-1000-ASL is optimized for remote and mobile IIoT applications, featuring robust wireless technologies. It supports high-speed 4G/5G through an M.2 B Key with dual Nano-SIM slots, ensuring reliable connectivity across different network carriers. Additionally, it incorporates Wi-Fi and Bluetooth for efficient, wide-range communication with various wireless sensors and IoT devices, crucial for deployments in environments where wired networks are impractical.



► Gain Remote Access by OOB Management Module

The DCO-1000-ASL integrates OOB remote management module through 1x RJ45, offering substantial benefits for maintaining and monitoring industrial systems remotely:



• Uninterrupted Management:

OOB module allows administrators to manage and troubleshoot the device even when the main network is down, or the operating system is unresponsive.

• Reduced Downtime:

Enables remote diagnostics and recovery, significantly reducing system downtime and maintenance costs by allowing issues to be addressed promptly from any location.

• Enhanced Security:

Provides a secure channel for remote management, separate from the primary network, reducing the risk of intrusion and unauthorized access.

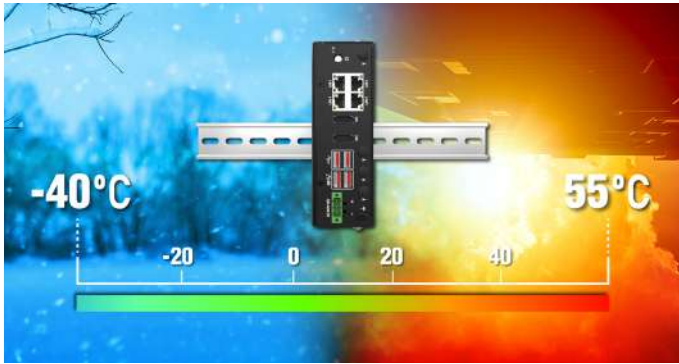
► Discrete Hardware Security with TPM 2.0

The DCO-1000-ASL integrates Trusted Platform Module (TPM) 2.0 to significantly enhance security in industrial IoT environments. TPM 2.0 supports secure boot processes to ensure the system starts with trusted software, facilitates robust data encryption to protect sensitive information, and enables device authentication and remote attestation to verify the integrity of the device and its software. These features work together to safeguard against unauthorized access, data breaches, and malware, ensuring the reliability and security of the entire system in challenging industrial settings.



► **Industrial-Grade Durability**

The DCO-1000-ASL has been rigorously tested and validated in Premio in-house testing lab to ensure best-in-class industrial durability. Designed to withstand extreme industrial environments, it maintains reliable performance even at the rugged edge of operational limits. Its key durability features include:



- Extended Operating Temperature: -40°C to 55°C
- MIL-STD-810G Shock & Vibration: 20G/5Grms
- Wide Power Input: 9~36VDC
- Power Protection: OCP, OVP, RPP

► **World-Class Certifications**

The DCO-1000-ASL is certified with UL, CE, and FCC Class A, ensuring compliance with the highest standards of safety and quality, making it suitable for global industrial deployments.

- UL 61010-2-201
- CE
- FCC Class A



WE DESIGN,
MANUFACTURE, AND
SERVICE CUSTOMERS
AROUND THE WORLD



DCO-1000-ASL SERIES



intel
Atom Processor

Model	DCO-1000-ASL
CPU Support	Intel® Atom® x7433RE Processor
Memory	1x 262-Pin DDR5 4800MT/s SODIMM. Max. up to 16GB (Default 8GB, ECC/Non-ECC)
Display	2x 4K DisplayPort 1.4, DP
Storage	1x M.2 (B Key, 3042/3052, PCIe x2), Default 128GB
Expansion	1x M.2 B Key (3042/3052, USB 3.2 Gen2 + USB 2.0 for 4G/5G Module only) 1x M.2 E Key (2230, PCIe x1 + USB 2.0, support Wifi/Bluetooth) 1x Dual Nano SIM Socket
I/O	2x RS-232/422/485 4x RJ45 (2.5GbE) 2x USB 3.2 Gen 2 (10 Gbps), 2x USB 2.0
OOB	1x RJ45 (OOB Management Module, Optional)
Power	3-pin, AT, ATX 9~36V
Operating Temp	-40°C to 55°C
Shock & Vibration	With SSD: 20G, half sine, 11ms Wall Mounting with NVMe SSD: 5 Grms, 5 - 500 Hz, 0.5hr/axis DIN Rail Mounting with NVMe SSD: 5 Grms, 5 - 500 Hz, 0.5hr/axis
Certification	UL 61010-2-201, CE, FCC Class A
Operating System	Windows 10, Windows 11, Linux kernel 5.X
Dimensions (WxDxH)	150 x 105 x 49 mm
Mounting Options	DIN-Rail Mounting Wall Mounting (Optional)