



# CT-DAS Series

## CT-DAS01 & CT-DAS02 3.5" SBC Industrial Motherboard

Engineered for Deterministic Edge Performance



### **ROBUST 3.5" SBC Engineered for Mission-Critical Edge Deployments**

The CT-DAS Series combines compact 3.5" SBC design, industrial I/O, wide-voltage power input, and rugged deployment features to support reliable edge computing across automation, transportation, utility, and embedded industrial applications.



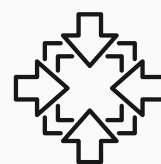
Deployment Ready Solution



Industrial Grade



Fast Time To Market



Compact & Ruggedized Design



## Architectural Pillars of the CT-DAS Series

Industrial edge systems require more than processing power. They need reliable connectivity, flexible I/O, stable power input, and long-term deployment readiness.



The CT-DAS Series is built on a compact 3.5" SBC architecture for space-constrained embedded applications.

It combines industrial-grade compute, high-speed networking, and flexible expansion to support a wide range of edge workloads.

With hardened power design and model-specific I/O options, the CT-DAS Series helps simplify deployment across industrial automation, transportation, energy, and embedded edge environments.



### Scalable Processor Options

- CT-DAS01: Intel Atom x7433RE / x7835RE
- CT-DAS02: Intel N97 / N150
- Up to 8 cores, model dependent



### Native Industrial I/O

- CT-DAS01: 2x CAN FD, 2x RS-232/422/485, 8-bit DIO
- CT-DAS02: 1x RS-232/422/485, 1x RS-232, 8-bit GPIO/DIO



### Resilient Connectivity

- 2x 2.5GbE RJ45
- Dual Nano SIM socket
- M.2 B-Key for 4G/5G expansion
- TPM 2.0



### Hardened Deployment Design

- 9-36V DC input
- OVP / OCP / DC surge protection
- Wide operating temperature, model dependent

## Scalable Edge Processing Options

The CT-DAS Series offers processor options for different industrial edge requirements. CT-DAS01 is powered by Intel Atom x7433RE / x7835RE processors for higher-core embedded performance, while CT-DAS02 supports Intel N97 / N150 processors for efficient industrial computing in compact deployments.



**This processing architecture supports the simultaneous execution of:**

- **Real-time data acquisition and monitoring:** Collect, process, and monitor operational data from connected sensors, machines, and field devices to support faster visibility and response at the edge.
- **Protocol translation between field devices and networks:** Bridge communication between legacy industrial equipment, controllers, and modern network infrastructure to simplify system integration.
- **Edge gateway and control applications:** Support gateway, control, and coordination tasks at the edge, helping systems manage device communication, data routing, and local operations.
- **Local analytics and lightweight inference:** Run basic analytics and lightweight AI inference closer to the data source to reduce latency, lower bandwidth usage, and support faster decision-making.
- **Secure data communication and device management:** Help protect connected systems with secure data transmission, device authentication, and trusted management for distributed edge deployments.

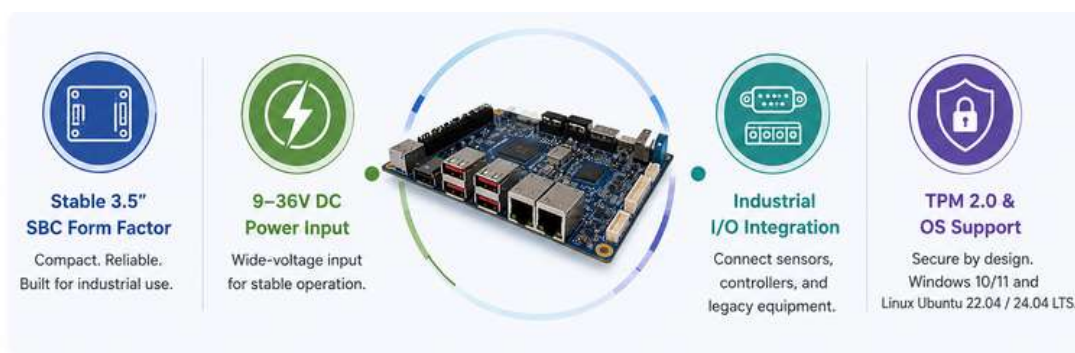


The CT-DAS Series gives system designers flexible processor choices for industrial edge deployments, balancing compute performance, power efficiency, and rugged deployment requirements in a compact 3.5" SBC form factor.



## Platform Stability for Industrial Deployments

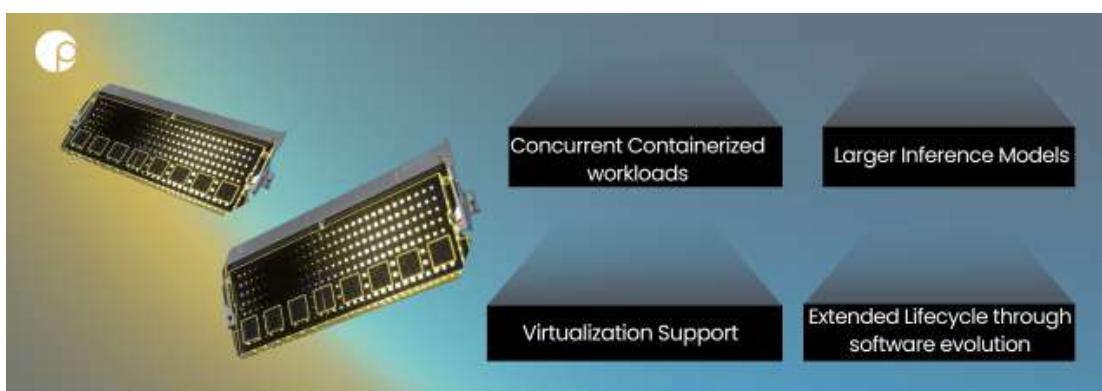
The CT-DAS Series is designed to support long-term embedded deployments with a stable 3.5" SBC form factor, integrated industrial I/O, and wide-voltage 9–36V DC power input. This helps system designers build compact edge solutions for industrial automation, transportation, energy, and infrastructure environments.



With TPM 2.0 support and OS compatibility for Windows 10/11 and Linux Ubuntu 22.04 / 24.04 LTS, the series helps simplify software integration, device security, and deployment planning for industrial edge systems that need reliable operation over time.

## Memory & Software Scalability

Supporting up to 32GB DDR5 SO-DIMM memory, the CT-DAS Series provides the memory headroom required for modern industrial edge software stacks.



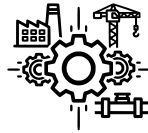
The memory subsystem ensures that deployed systems remain viable as application demands expand.



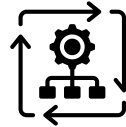
## INTEGRATED I/O CONTROL



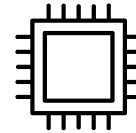
Native  
Connectivity



Deterministic  
Communication



Multi-Protocol  
Serial



Direct Sensor  
Interface

## Industrial I/O Architecture

The CT-DAS Series provides integrated industrial I/O to help connect edge systems with sensors, controllers, legacy equipment, and networked infrastructure. I/O configuration varies by model, allowing system designers to select the board that best fits their deployment.

## Fieldbus & Control Interfaces

### CT-DAS01

- 2x CAN FD
- 2x RS-232/422/485
- 4 in / 4 out DIO

### CT-DAS02

- 1x RS-232/422/485
- 1x RS-232 internal
- 4 in / 4 out GPIO/DIO

## High-Bandwidth Networking

The platform incorporates:

- 2x 2.5GbE RJ45, chipset varies by model

These ports enable high-throughput data movement for sensor aggregation, machine vision pipelines, and redundant industrial network topologies.

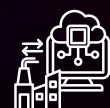
## HIGH-BANDWIDTH NETWORKING FLOW



Capture critical  
data



High-speed data  
flow



Edge Processing of  
data



Ensure continuous  
operation



## Display & HMI Flexibility

Display outputs include:

- 1x DisplayPort
- 1x HDMI
- 1x eDP / LVDS shared connector

HDMI capability varies by model: CT-DAS01 supports HDMI 2.0b; CT-DAS02 supports HDMI 1.4b.

This allows the CT-DAS Series to support both headless gateway and embedded HMI applications, supporting panel PCs, operator terminals, and vehicle dashboard systems without external GPU requirements.



**Gateway + HMI  
Ready**

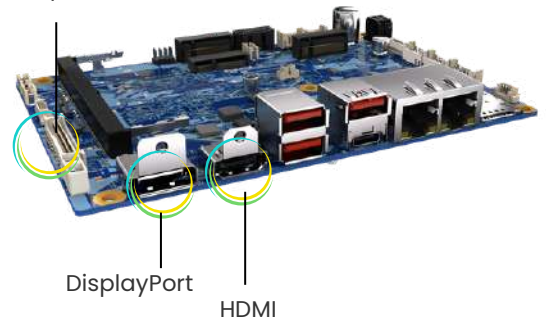


**Multi-Display  
Support**



**GPU-Free  
Graphics**

eDP / LVDS



## Modular Expansion & Storage

The board provides flexible expansion architecture:

- M.2 M Key (PCIe x2 NVMe) for high-speed storage
- M.2 B Key supports NVMe or 4G/5G module. CT-DAS02 shares SATA with M.2 B-Key
- M.2 E Key for Wi-Fi/Bluetooth

This modular approach enables deployment-specific configuration while maintaining a compact and standardized footprint.



## Connectivity & Edge Continuity

Distributed and remote edge deployments require uninterrupted communication and trusted device identity. The CT-DAS Series is designed with multi-path connectivity and hardware-based security features to support reliable edge communication across distributed infrastructure.

### Uninterrupted Edge. Trusted Connectivity.



- ✓ Multi-Path Networking Architecture
- ✓ Hardware-Rooted Security
- ✓ Edge-to-Cloud Continuity

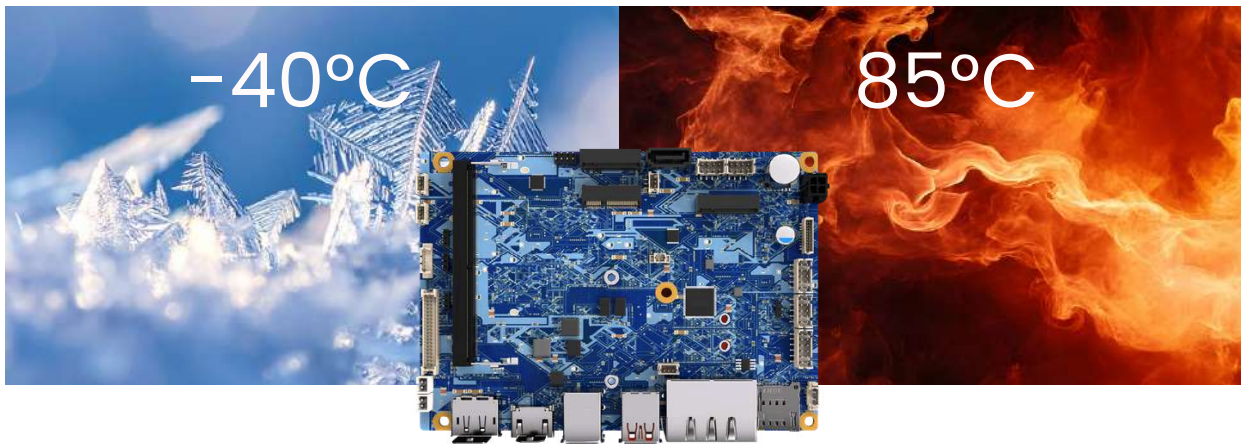
- Dual 2.5GbE enables high-bandwidth wired networking and redundant network topology configurations.
- Dual Nano SIM support via M.2 B-Key 4G/5G expansion can help support carrier flexibility and cellular backhaul redundancy, depending on module and software configuration.
- TPM 2.0 establishes a hardware root of trust, enabling secure boot, device authentication, and protected credential storage.

This layered connectivity architecture ensures secure, continuous edge-to-cloud communication even in infrastructure-limited environments.



## Wide-Temperature Reliability for Industrial Edge Deployments

The CT-DAS01 and CT-DAS02 are engineered to maintain stable edge computing performance across uncontrolled environments – from sealed outdoor enclosures to factory floors, mobile systems, and energy infrastructure.



**Thermal range varies by model:** CT-DAS01: -40°C to 85°C | CT-DAS02: -10°C to 60°C

## Built for Harsh Deployment Conditions

### Wide-Temperature Operation

Built to run reliably in cold starts, high heat, and enclosed installations.

### 9–36V DC Power Input

Supports stable operation with a wide range of industrial power sources.

### Integrated Power Protection

Helps protect the system from voltage spikes, overcurrent, and power surges.

## DESIGNED FOR REAL-WORLD INDUSTRIAL DEPLOYMENTS



### Mobile deployments

Stable operation in vehicles and transit systems



### Factory floors

Reliable performance in industrial environments



### Outdoor enclosures

Withstands extreme weather and temperatures



### Energy and utility infrastructure

Built for mission-critical power systems



## Application Alignment



### Automotive & Transportation

Support in-vehicle and transportation edge systems with wide-voltage power input, compact 3.5" SBC design, and model-specific industrial I/O.



### Industrial Automation

Support machine monitoring, gateway control, and industrial communication workloads with flexible I/O and scalable compute options.



### Remote Edge AI

Run local analytics and lightweight inference workloads while supporting cellular expansion for edge-to-cloud communication.



### Critical Infrastructure

Enable compact industrial gateways for utilities, energy systems, and smart city deployments where stable power input, connectivity, and environmental readiness are important.

We Design,  
Manufacture, and  
Service Customers  
Around the World



## CT-DAS01/CT-DAS02

3.5" SBC Industrial Motherboard



Model	CT-DAS01	CT-DAS02
CPU	Intel Atom x7835RE / x7433RE, Upto 8 core	Intel N97 / N150 Processor, 4-core, up to 3.60GHz
Memory	1x DDR5 4800/5600 MT/s SO-DIMM, Max 32GB	
Storage	1x M.2 M Key (2280, PCIe x2) support for NVMe	
Display	1x DP 1.4a 1x eDP / 1x LVDS	
Rear I/O	2x 2.5GbE RJ45, 1x Dual Nano SIM Socket 3x USB 3.2 Gen 1 Type A, 1x USB 3.2 Gen 1 Type C 2x USB 2.0 Pin header 3port	
Internal I/O	2x CAN FD 2x RS-232/422/485	1x RS-232/422/485 1x RS-232 internal
Expansion	M.2 B Key (PCIe x1/USB 3.0) – NVMe or 4G/5G M.2 E Key (PCIe x1/USB 2.0) – Wi-Fi/Bluetooth	
Operating Systems	Windows 10/11 Linux Ubuntu 22.04 / 24.04 LTS	
Power	AT, ATX, DC IN 9~36V OVP (Over Voltage Protection) OCP (Over Current Protection)	
Operating Temperature	-40°C to 85°C	-10°C to 60°C
TPM	TPM 2.0	
Dimension	146 x 102mm	