



# THE NEXT STEP IN **EDGE COMPUTING**

19" Car Server DATAlynx ATX4



# The Next Step in Edge Computing

## Reliability, Scalability, and Cost Efficiency

High-performance computing at the edge is not just about raw power - it is about creating a sustainable, adaptable, and cost-effective system that continues to perform reliably over time. As edge computing deployments grow, companies face new challenges: How can systems integrate seamlessly into existing infrastructures? How can long-term stability be ensured in demanding environments? And how do businesses avoid costly replacements as technology advances?



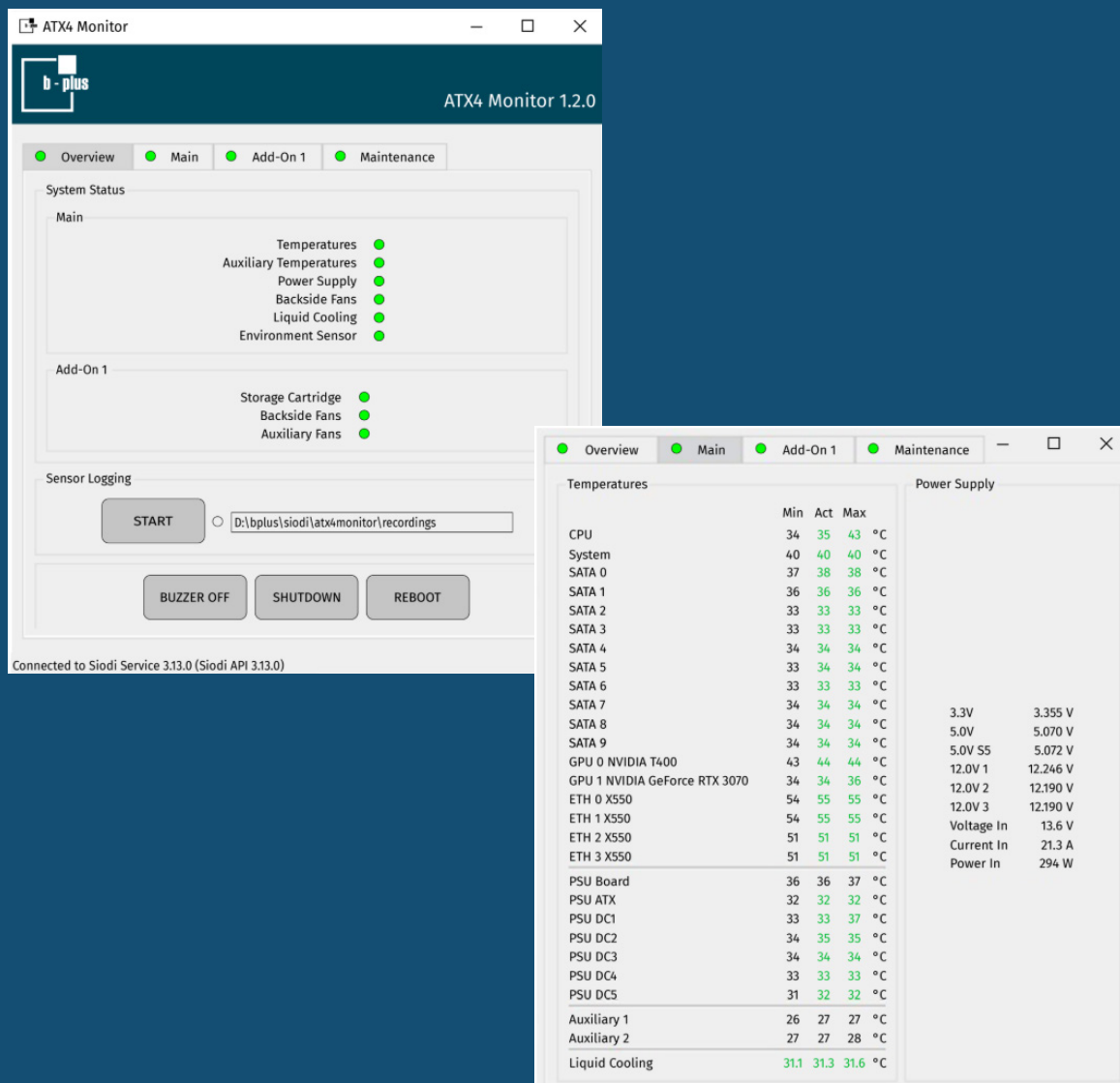
Picture: 19" Car Server DATALynx ATX4

### Standardization and Interoperability

The growing diversity of edge computing platforms presents a significant challenge for many organizations. Different hardware architectures, communication protocols, and software environments often lead to integration difficulties, increased development effort, and system inefficiencies. Without a standardized approach, ensuring seamless interoperability between various edge components becomes time-consuming and costly. The DATALynx ATX4 offers a standardized architecture that consolidates multiple devices and thereby enhances software compatibility. By simplifying integration and ensuring smooth communication between systems, it reduces development time and accelerates deployment, allowing businesses to focus on innovation rather than technical obstacles.

## Intelligent System Monitoring

In edge computing, system stability is critical, as deployments often run in decentralized, remote, or harsh environments with minimal direct oversight. Factors like fluctuating temperatures, power supply variations, or component wear can impact performance and lead to unexpected failures. Without proactive monitoring, these issues may go unnoticed until they cause system downtime, data loss, or hardware damage—resulting in costly maintenance and operational disruptions. The ATX4 is equipped with the Smart I/O Driver Interface SIODI, a software that acts as an interface to all components installed in the systems. The solution operates independently from the PC system and offers real-time monitoring and logging of key parameters such as system performance and status, temperature, fan speed, cooling, voltage, and storage units. This way, hardware-related malfunctions can be detected at an early stage. Therefore, the operation of the system, the test vehicle or the vehicle fleet can be maintained at all times. This proactive approach extends the system's lifespan and ensures long-term operational stability.



Picture: A brief insight into SIODI based ATX Monitor

## Scalable and Future-Proof

Edge computing environments are constantly evolving, requiring systems that can keep pace with increasing performance demands. However, many conventional embedded systems fall short due to rigid hardware configurations, limited expansion capabilities, and proprietary architectures. These restrictions often force companies to replace entire systems when their computing needs grow, leading to high costs, long integration times, and unnecessary hardware waste.

The DATALynx ATX4 is built for scalability, offering a modular architecture that adapts to a wide range of applications. With add-ons such as GPU expansion, additional storage, and PCIe extensions, the system can be configured as a multi-I/O recording solution or scaled up to a high-performance deep learning and AI platform. Its CPU, memory, and PCIe options provide nearly limitless flexibility, ensuring seamless adaptation to specific requirements. „Nothing is impossible,“ says Product Manager Roland Peindl, highlighting the system’s ability to evolve alongside technological demands.



**DATALynx ATX4**

Base System



**DATALynx ATX4**

Base System  
+ GPU Add-On  
+ Storage Add-On

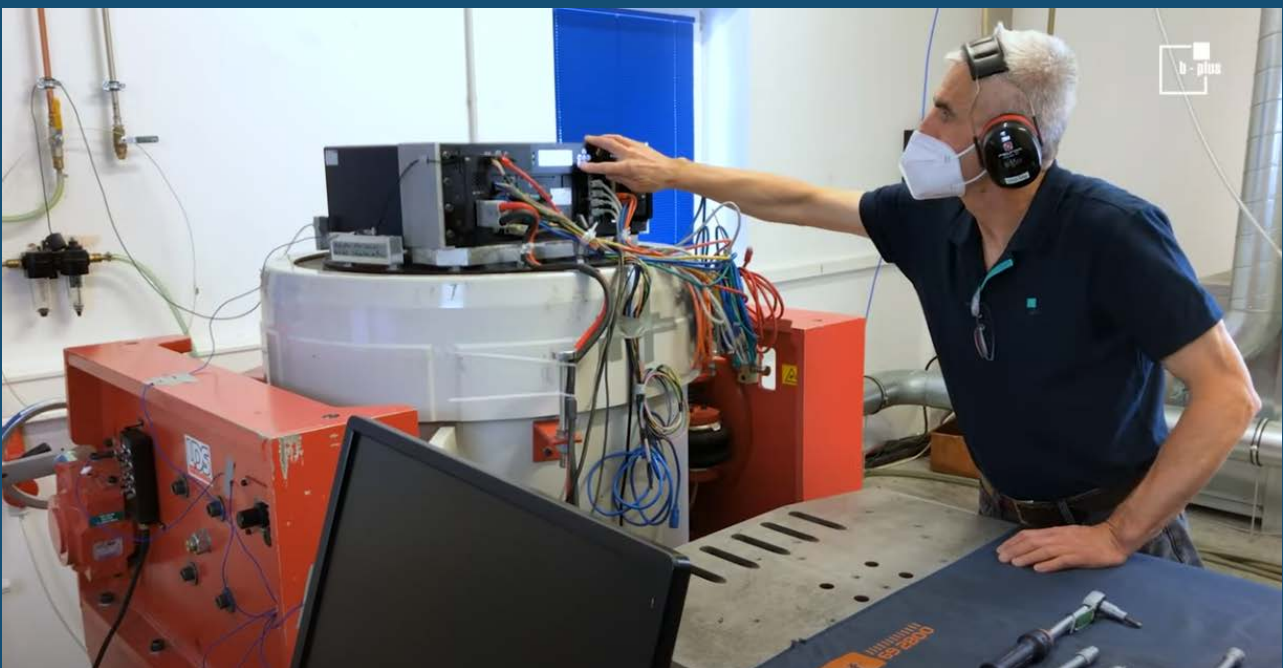


## Durability and Performance

Edge computing systems often operate in extreme conditions, where high temperatures, vibrations, and dust can severely impact performance and longevity. Many conventional systems struggle to withstand these challenges, leading to overheating, component failures, and costly downtime. Without robust engineering, reliability in such demanding environments becomes a major concern.

The DATAlynx ATX4 is built to overcome these obstacles. Engineered for consistent peak performance in temperatures ranging from  $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ , the DATAlynx ATX4 features a vibration-resistant housing and a fully integrated liquid cooling system that efficiently cools the power supply, CPU, and GPU. Unlike other setups, the entire system is cooled internally, eliminating the need for external extensions and ensuring reliable operation even under extreme conditions. Additionally, the secure fixation of all components and cables, along with moving-part-free design, ensures maximum durability. Rigorously vibration-tested up to  $50\text{ m/s}^2$  (5g), the DATAlynx ATX4 delivers unmatched reliability.

Watch this video to see how we put our hardware through its paces:



Video: Extensive Testing on DATAlynx ATX4

All of our systems go through a rigorous qualification cycle, with early-stage testing conducted in our in-house laboratory. We also collaborate with an independent, accredited organization for testing, approvals, and certifications.

To ensure maximum reliability, our devices are tested under real-world conditions, undergoing extreme temperature and vibration tests while running at full CPU and GPU load. Throughout these tests, they must maintain peak performance without any failures or drop in efficiency.

## Cost Efficiency

Purchasing multiple small system components may seem cost-effective at first, but the long-term expenses quickly add up. Separate units require individual maintenance, increased power consumption, additional cabling, and complex integration efforts, leading to higher operational costs and potential system inefficiencies.

The DATAlynx ATX4 eliminates the need for multiple smaller systems by consolidating key functionalities into a single, powerful unit. This reduces acquisition costs, minimizes maintenance efforts, and optimizes overall efficiency. Additionally, b-plus offers service packages with up to five years of functional warranty, ensuring long-term reliability and cost-effectiveness while significantly lowering total cost of ownership.



## Future-Ready Edge Computing with the DATAlynx ATX4

The DATAlynx ATX4 is more than just another edge computing system - it is a purpose-built solution designed to tackle the most demanding challenges in modern applications. Many conventional edge systems fall short in scalability, durability, integration, and performance, limiting their adaptability to evolving industry needs. The DATAlynx ATX4 overcomes these barriers by combining high computing power, modular flexibility, and robust reliability into a single, seamlessly integrated system.

Its scalable architecture allows for customized expansions, ensuring it can adapt to new workloads without requiring a full system replacement. Built to withstand extreme conditions, it features a vibration-resistant housing and fully integrated liquid cooling, maintaining peak performance in extreme temperatures. Additionally, its standardized design enhances interoperability, simplifying integration into complex system landscapes.

## Featured Products



### **DATA**Lynx ATX4

19" Vehicle Server



### **COPY**Lynx ATX4

Data Copy Station



### **x8 STORAGE** Gen4 E1.S

Removable Storage



### **Thunder Dock** x8

Docking Station



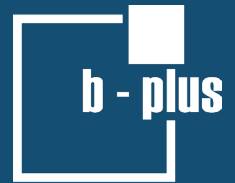
### **XTSS**

Universal Time Sync Service



### **SIODI**

Smart I/O Driver Interface



PIONEERING  
NEW MOBILITY

# Contact us

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