

High-Quality Storage Cards Empower Precision Data Acquisition

All-in-One DAQ Solutions at Doewe Technologies

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<https://www.doewe.com>

With the rapid advancement of information technology, Data Acquisition Systems (DAQ) have been widely adopted across industries, including industrial automation, scientific research, automotive electronics, and environmental monitoring. These systems undertake high-precision, high-speed data acquisition, processing, and analysis tasks in complex applications, playing a vital role in ensuring production efficiency, enhancing product quality, and driving technological innovation. As data acquisition demands grow, the performance requirements for DAQ hardware components continue to rise. In particular, the storage module has become a critical factor constraining overall system performance and application effectiveness.



Figure 1 Front View of PXIe Storage Card

In modern data acquisition systems, the storage card, as one of the core components, undertakes critical tasks. DAQ systems typically need to acquire, store, and transmit large volumes of data within short periods. The performance of the storage card directly impacts the system's stability, the accuracy of data acquisition, and the reliability of the final test results. Storage cards must not only meet the requirements for fast read/write speeds but also possess reliability and durability in extreme environments. The performance of the storage card directly determines whether the data acquisition system can complete tasks efficiently and accurately. High-performance storage cards ensure rapid and secure data storage and transmission, prevent data loss or corruption, and enhance the overall efficiency of the system. Conversely, underperforming storage cards may cause data delays, loss, or storage errors, thereby affecting the accuracy of data acquisition and even potentially leading to the failure of the entire testing process, compromising the reliability and validity of the final test results. Therefore, selecting a high-quality storage card is essential for the proper operation of the data acquisition system.

High-performance storage cards provide excellent data transfer rates and massive storage capacity, ensuring data is not lost and is efficiently preserved during acquisition. Especially in application scenarios requiring extremely high real-time performance, the read/write speed of the storage card is a key factor determining system performance. High-quality storage cards can support sustained read/write speeds exceeding 6GB/s, ensuring smooth transmission of data streams and preventing system lag or delays caused by data accumulation. Simultaneously, storage cards need to feature extremely low latency to allow the system to respond quickly to real-time data changes, ensuring every piece of data is acquired and stored in real time.

Besides transfer speed, the reliability of the storage card is equally critical. In demanding applications such as industrial and scientific research, storage cards often need to operate stably in complex environments like extreme temperatures, humidity,

and high electromagnetic interference. Superior storage cards typically feature anti-interference designs and can withstand high operating temperatures and strong vibrations, providing assurance for the long-term stable operation of the system. Poor-quality storage cards may lead to data loss or storage errors, or even cause system failure, directly impacting the accuracy and validity of data acquisition results and potentially resulting in test task failures.

Doewe Technologies focuses on providing customers with high-performance, high-reliability storage solutions. Our PXIe storage card adopts advanced NVMe solid-state storage technology, featuring sustained read/write speeds exceeding 6GB/s and a maximum storage capacity of 16TB. It efficiently meets the demands of real-time acquisition for large volumes of data. Based on the PCI Express X8 GEN3 interface, this storage card ensures high-bandwidth data transmission while offering excellent scalability, helping enhance the overall performance of the data acquisition system and ensuring stability and reliability during high-speed data stream processing.

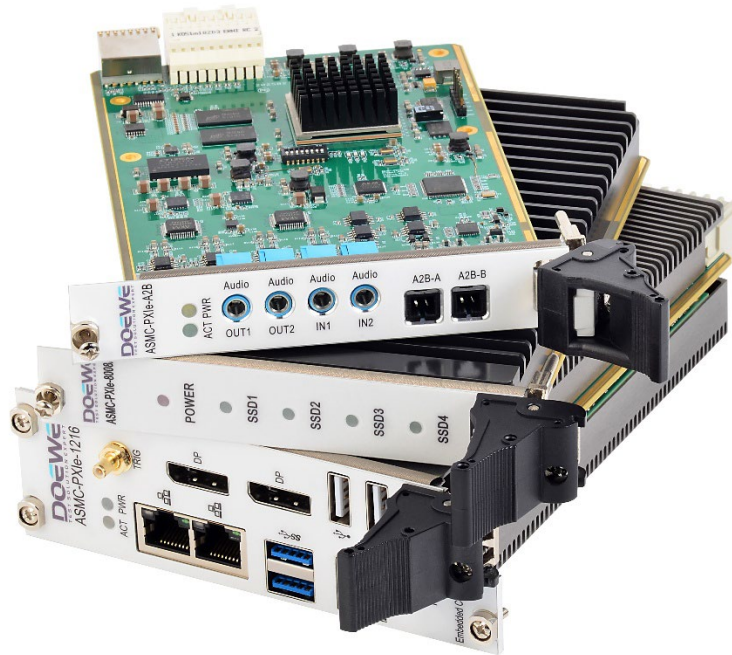


Figure 2 Doewe Technologies PXIe Card

In terms of technical advantages, Doewe Technologies' storage card possesses several unique innovative features. Firstly, bit identification technology supports slot address recognition, enabling precise confirmation of data storage locations and facilitating subsequent accurate data analysis and management. This technology is particularly suitable for complex testing and measurement environments, effectively reducing the difficulty of data traceability and saving analysis time. Additionally, Doewe Technologies' storage card supports energy monitoring functionality, allowing real-time reading of the storage card's power consumption. Through this feature, users can monitor the storage card's energy consumption in real time, further optimizing the system's energy usage, improving energy efficiency, and extending the equipment's service life.

Furthermore, Doewe Technologies' storage card employs high-speed, low-latency transmission technology and supports P2P (Peer-to-Peer) storage. This technology bypasses the controller to write data directly to the storage card, effectively reducing latency during data transmission and optimizing storage efficiency. Especially in large-scale data acquisition scenarios, P2P storage technology significantly enhances data transfer efficiency, reduces bottlenecks and delays, and ensures data is stored quickly and reliably to meet the demands of high-performance systems.

Doewe Technologies' storage card emphasizes flexibility and scalability in its design, enabling adaptation to various application scenarios. Whether in electronic device testing, automotive electronics testing, or fields such as aerospace and industrial automation, Doewe Technologies' storage card operates stably, ensuring efficient system operation. Moreover, the storage card supports RAID technology, further enhancing data storage security and reliability and effectively preventing data loss or corruption.

Through stringent quality control and extensive application testing, Doewe Technologies' storage card has been widely used in scientific research institutions, industrial manufacturing, and government and military sectors, earning high trust from

users. Our storage card products not only meet the stringent requirements for performance and stability in high-end testing and measurement systems but also provide reliable storage assurance for smart manufacturing and complex testing across various industries.



Figure 3 Side View of Doewe Technologies PXIe Storage Card

In modern data acquisition systems, the performance of the storage card plays a decisive role in the system's stability, data processing efficiency, and the accuracy of test results. Choosing a high-performance storage card not only enhances the overall efficiency of the system but also ensures accurate data storage and secure transmission. With its outstanding performance, reliability, and flexibility, Doewe Technologies' storage card has become an indispensable component in data acquisition systems across various industries. We will continue to dedicate ourselves to technological innovation, providing global customers with more efficient and secure storage solutions to support the advancement of industry technologies.

Doewe Technologies is always committed to achieving innovative, unique, and reliable product solutions in the field of data acquisition. We deeply understand that

these elements are the cornerstone for enterprises to establish themselves in market competition. For this reason, we derive innovative inspiration from customers' real application needs, rather than merely showcasing flashy product features. By continuously optimizing and enhancing data acquisition solutions, Doewe Technologies empowers partners to move towards an efficient and precise future. Welcome to choose Doewe Technologies and together embark on a new chapter in data acquisition. Contact Tel: +86-10-64327909.