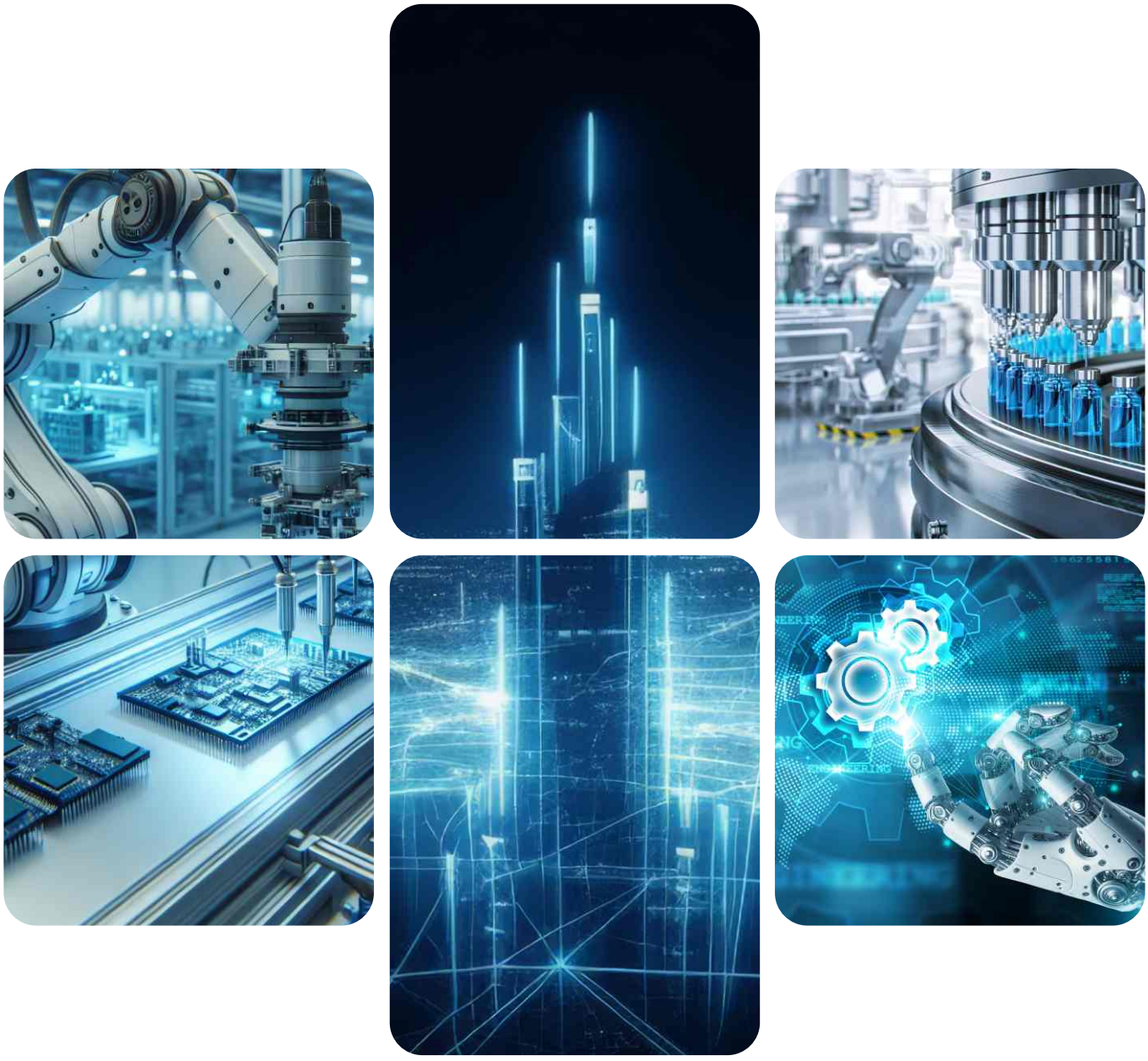
CERVOZ

Making Memories for Industry



INDUSTRIAL

Storage, Memory and Expansion Solutions

ABOUT CERVOZ

Founded in 2006, Cervoz Technology Co., Ltd. specializes in embedded components for the industrial market. With over two decades of experience, the company focuses on the design and development of storage, memory and expansion card solutions for diverse industrial applications.

Cervoz provides industrial-grade products that emphasize stability and longevity, featuring long-term availability, strict BOM control, and high compatibility. Our solutions are engineered to meet the rigorous demands of industrial environments, supporting both legacy systems and mainstream technologies.

Our product portfolio includes

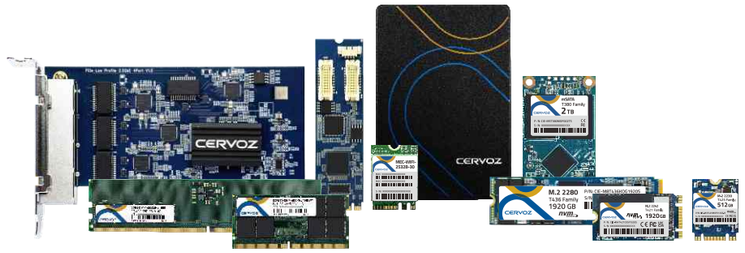
- Industrial Storage: SSDs and Memory Cards
- Industrial Memory: DRAM Modules
- Industrial Modular Expansion Cards

Headquartered in Taipei, Taiwan, Cervoz supports a global customer base through a commitment to reliability and meeting specific project requirements.

OUR COMMITMENT

Making Memories for Industry

We focus on ensuring system stability and long-term reliability for diverse industrial applications. By combining strict component sourcing with internal validation and lifecycle management, Cervoz supports smooth system integration while maintaining long-term product durability.



Making Memories for Industry

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Our Value

CORE COMPETENCES

We stand together with our customer through listening to the demand and feedback,
using our experience and expertise to collaborate producing high reliability and compatibility product for industrial applications.

Industrial Grade Design

Only first-grade materials are used for all product lines. Our R&D expertise results in outstanding hardware and firmware designs creating products with the highest reliability, compatibility and endurance.

Manufacturing

In the manufacturing process, we utilize the latest automation technologies. Every workflow is in line with ISO international standards to create a high-yield and the highest quality products.

Product Management

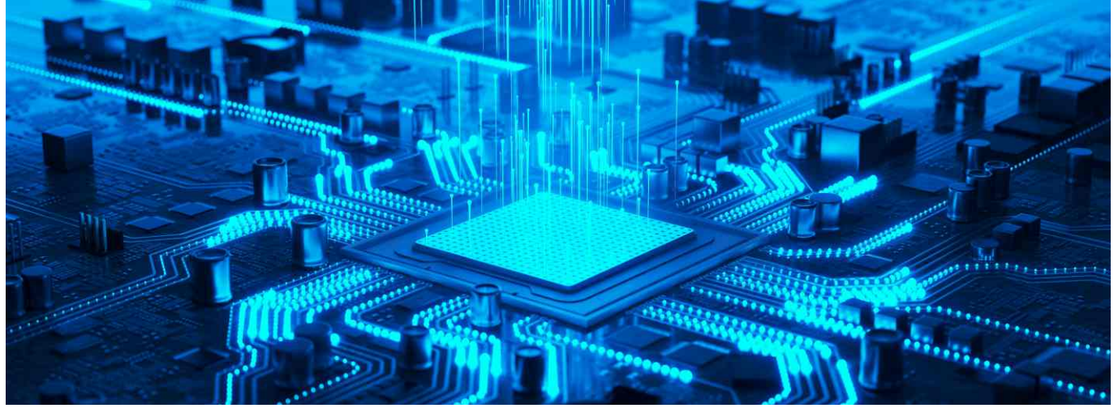
We follow a unified fixed BOM principle, as well as long-term product availability in order to fulfill customers' long-term projects. Cervoz' product lifecycles are 3 to 5 years, with 8 years being the longest. We have a comprehensive ERP inventory management system with high safety stock levels ready to deliver when you need us.

Quality Assurance

For our quality assurance procedures, we test at all levels, including EVT (Engineering Verification Test), DVT (Design Verification Test) and PVT (Production Verification Test), as well as application and compliance tests. It brings Cervoz' product with high reliability and top compatibility. Cervoz products are certified with CE, FCC, REACH and RoHS.

Premium Service

We care about every detail and exceed customers' expectations. We use our industry know-how and experience to offer premium sales and services and provide real-time technical support. Our services cover specialized testing and reporting on demand, debugging analysis, customization service and many more.



Our Innovation

TECHNOLOGIES

Multi-Layered Data Protection

A specialized design product with multi-layered data protection against information leakage which is consist of AES 256-bit, write protection, quick erase and physical destruction.

AES

AES 256-bit Encryption

Write Protect

Quick Erase

Self-Physical Destruction

Powerguard (Power Loss Protection)

Powerguard SSD is designed for mission-critical application when the system encounters unpredictable power failure.

Powerguard is a Power Loss Protection (PLP) technology developed by Cervoz. It provides additional power during an unexpected power outage to complete current flash write operation, moreover, to protect firmware, mapping table integrity.

Reliability-Optimized MLC

Cervoz Reliance Series utilizes our " Reliability Optimized MLC (RO-MLC) Technology ".

We adopt specialized firmware to simulate the mechanism acting like SLC. It is a cost-effective solution for high-reliability applications.

RO-MLC

Value-added Service

TECHNOLOGIES

Cervoz continues to bring the most innovative products and develops industrial-grade technologies that focus on reliability, durability, and performance to offer unique features and value-added solutions to a wide range of industries.

Cervoz FlashMonitor

Cervoz FlashMonitor is specialized flash disk monitoring software, developed in-house, dedicated to monitoring flash storage health. Disk relevant information and health conditions can be checked and monitored in real time, preventing functional degradation and predicting disk lifespan.

Wide Temperature

Cervoz wide temperature storage and memory modules support operating temperatures from - 40°C ~ +85°C. Product compatibility and stability through strict environmental testing, which makes the products exceptionally durable for harsh environments.

Conformal Coating

Conformal coating is a thin protective film applied to products as protection against moisture, dust, chemicals, thermal shocks and sunlight. If storage and memory modules must withstand harsh environments, the conformal coating becomes necessary in order to prevent damage or failure of the electronics and at the same time increases the lifecycle of the product.

Anti-Vibration Fill

The purpose of Anti-Vibration Fill is to enhance the robustness of storage and memory modules. It is done by filling epoxy resin between the edges of PCB and ICs to prevent the solder joints from coming loose to enhance resistance against the pull-out and shear force.

Isolation

Isolation describes the design of modular expansion cards whereby the input and output circuits are electrically and physically separated. The design prevents any interference or harm to the device from the power source, and overall increases the safety of the device to users.

Focus Market

APPLICATIONS

Cervoz offers a variety of storage and memory product from entry-level to the supreme-level to fulfill any industrial application needs.

Industrial Automation

Industrial automation systems require continuous operation and stable performance in demanding factory environments. Cervoz provides industrial storage and memory solutions designed to support long service life, wide compatibility, and consistent system operation.

Embedded Computing

Embedded computing platforms often face constraints in space, power, and long-term availability. Cervoz offers compact storage, memory and expansion cards designed to support stable integration across diverse system architectures.

In-Vehicle/ Transportation

IIn-vehicle and transportation systems operate under vibration, temperature variation, and power fluctuation. Cervoz provides validated storage and memory solutions designed to support reliable operation in demanding transportation environments.

RUGGED & DEFENSE

Rugged and defense applications require validated reliability, environmental endurance, and secure data handling under extreme conditions such as shock, vibration, and temperature variation. Cervoz offers military-grade SSD and DRAM solutions designed and tested in compliance with U.S. military standards MIL-STD-810G/H. These solutions sustain harsh operating environments and incorporate multiple data protection features, including AES 256-bit encryption, write protection, quick erase, and self-physical destruction for mission-critical deployments.

Defense-Grade Protection

Cervoz Military-Grade SSDs and DRAM modules are engineered to exceed the most stringent military and aerospace standards. Designed specifically for mission-critical applications, they combine proven reliability with cutting-edge technology to deliver uncompromising performance in the world's harshest environments. Our MIL-STD-810G/H certified solutions ensure data integrity and operational continuity when failure is not an option.

MIL-STD-810G/H Certification

Compliant with MIL-STD-810G and 810H standards. Enhanced shock testing (Method 516.8) includes pyrotechnic simulation, while advanced vibration testing (Method 514.8) better replicates real battlefield conditions with dynamic cycling protocols.

Powerguard Technology

Proprietary power-loss protection technology prevents data corruption during unexpected power failures. Critical for mission-continuity applications where power interruption could compromise operational effectiveness or data integrity.

Advanced Security Architecture

Hardware-based AES 256-bit encryption provides military-grade data protection, while Quick Erase enables immediate data sanitization. Write Protection prevents unauthorized modification, and Self-Physical Destruction capability offers ultimate security when required.

Extreme Environmental Tolerance

Engineered for operation in temperatures ranging from -40°C to +85°C. Enhanced thermal cycling protocols ensure reliable startup and operation during rapid temperature transitions encountered in military deployments.

Enhanced Shock and Vibration Resistance

Surpassing standard industrial requirements, our military-grade SSDs withstand enhanced shock levels including pyrotechnic simulation testing.

Defense-Grade SSDs & DRAM Modules

SPEC SHEET

2.5" I M.2 SSDs Portfolio

US Military Standards	MIL-STD-810G	MIL-STD-810H	
Series	M339	T445	T455
Form Factor	25" SSD	M.2 2242 I M.2 2280	M.2 2242 I M.2 2280
Interface	SATA III	PCIe Gen4x4	PCIe Gen4x4
Connector	SATA (7 + 15 pin)	M.2 (M)	M.2 (M)
NAND Type	3D MLC	3D TLC	3D TLC
Capacity	32GB ~ 512GB	256GB ~ 2TB	240GB ~ 1920GB
Sequential Read (Max)	550MB/s	5,010MB/s I 5,080MB/s	5,010MB/s I 5,080MB/s
Sequential Write (Max)	355MB/s	4,690MB/s I 4,740MB/s	4,690MB/s I 4,740MB/s
Wide Temp (-40~85°C)	√	√	√
DRAM Buffer	√	–	–
Powerguard (PLP)	√	–	–
Conformal Coating	Optional	Optional	Optional
Anti-Vibration Fill	√	Optional	Optional
AES 256-bit Encryption	√	–	–
Multi-Layered Data Security (Quick Erase/ Physical Destroy)	√	–	–
Write Protection	√	Optional	Optional
FlashMonitor	√	√	√
Dimension (LxWxH/mm)	100.00 x 69.85 x 7.00	42.00 x 22.00 x 2.15 I 80.00 x 22.00 x 2.15	

Product specifications are subject to change without prior notice.

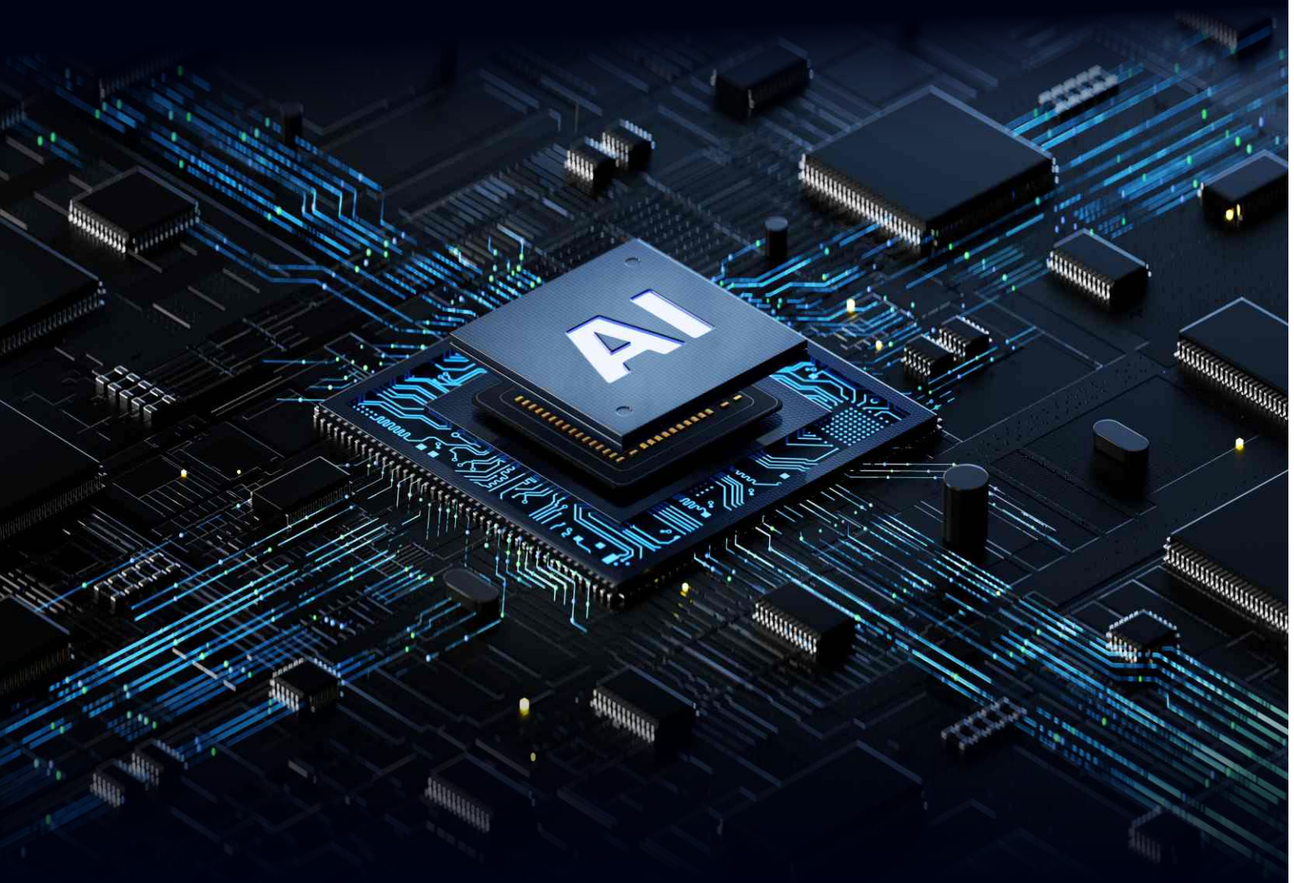
DRAM Modules Portfolio

US Military Standards	MIL-STD-810H	
Module	DDR4	DDR5
DIMM Type	DIMM I SO-DIMM I VLP DIMM I VLP SO-DIMM	DIMM I SO-DIMM I VLP DIMM
Speed (MT/s)	2400MHz, 2666MHz, 2933MHz, 3200MHz	4800MHz, 5600MHz
Density	4GB, 8GB, 16GB, 32GB	8GB, 16GB, 32GB, 48GB
Function	Non-ECC, ECC, Registered+ECC	Non-ECC, ECC, Registered+ECC
Voltage	1.2V	1.1V
Operating Temp.	√	√
Wide Temp (-40 ~ 95°C)	√	√
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	31.25 I 30.00 I 18.75 I 18.00	31.25 I 30.00 I 18.75

Product specifications are subject to change without prior notice.

ENABLING AI AT THE EDGE

At the edge,
AI workloads move data processing closer to where information is generated, placing greater demands on system responsiveness and data handling efficiency. Cervoz supports edge AI architectures by providing a stable and scalable hardware foundation for embedded and industrial platforms.



Edge AI deployments often face constraints in space, power, and operating conditions outside data center environments. Cervoz storage, memory, and expansion solutions are designed to support consistent data handling and sustained system operation in real-world edge AI deployments.

Focus Market

APPLICATIONS

Healthcare

AI and data-driven healthcare are transforming how medical systems analyze, store, and access information. Cervoz provides industrial-grade storage, memory, and expansion solutions that ensure reliability, high performance, and long-term stability for healthcare applications.

Networking & Telecom

Networking and telecom infrastructure must handle high data throughput, low latency, and scalable system architectures. Cervoz solutions support these requirements by enabling fast storage access for data processing, stable memory performance for network workloads, and expansion capabilities that allow flexible interface and bandwidth upgrades.

Retail / Service / Entertainment

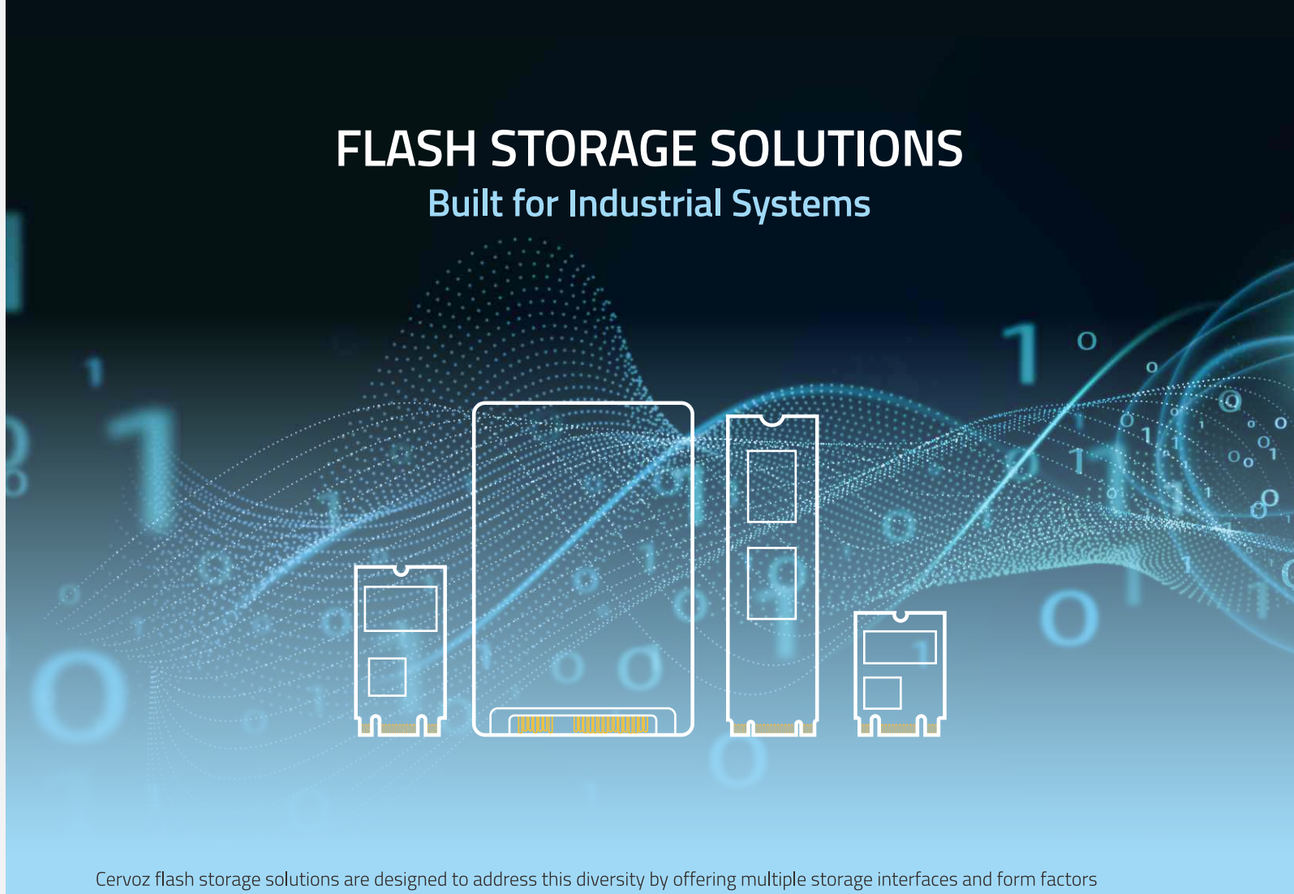
Retail and service systems rely on continuous data access, transaction stability, and flexible peripheral connectivity. Cervoz solutions support these platforms with reliable storage for transaction and content data, stable memory for system responsiveness, and expansion options that simplify integration with POS devices, displays, and interactive systems.

Our Products

FLASH STORAGE SOLUTION

Cervoz industrial flash storage solutions are designed to support mission-critical systems that require consistent performance, responsive data access, and long service life. To meet diverse system requirements, these solutions are available in multiple form factors, including **U.2**, **2.5" SSDs**, **M.2 embedded modules**, **mSATA**, **CFast**, and **CompactFlash** for enterprise and industrial applications.

The product portfolio includes ***Supreme (SLC)***, ***Reliance (RO-MLC)***, ***Momentum (MLC)***, and ***Titan (TLC)*** series, built on advanced NAND flash technology and manufactured to stringent industrial-grade specifications. These solutions incorporate data protection mechanisms such as power loss protection, end-to-end data protection, error correction, and wear leveling to help maintain continuous operation and data integrity.



Cervoz flash storage solutions are designed to address this diversity by offering multiple storage interfaces and form factors within a unified industrial portfolio. This flexible approach allows system designers to select appropriate storage solutions based on performance, space, and integration requirements, without increasing platform redesign complexity.

Advanced NAND & Flash Technologies

Integrates advanced NAND management technologies such as 3D NAND and LDPC ECC for improved endurance, data integrity, and storage efficiency.

Powerguard & Data Protection

Data protection mechanisms like Powerguard and end-to-end protection help preserve stored data in unstable power or high-stress conditions.

Wide Temperature & Durability Design

Industrial grade temperature(–40°C to +85°C) support and rugged durability features help storage operate reliably in harsh environments.

Flexible Interfaces & Form Factors

Offers SATA III and PCIe storage options in a wide range of form factors, enabling storage selection that aligns with space, interface, and platform requirements.

** Available on specific models and/or form factors.

Solution Product Line

INDUSTRIAL 2.5" SSD

SATA SSD
2.5" SSD

PCIe SSD
U.2 SSD

EMBEDDED MODULE

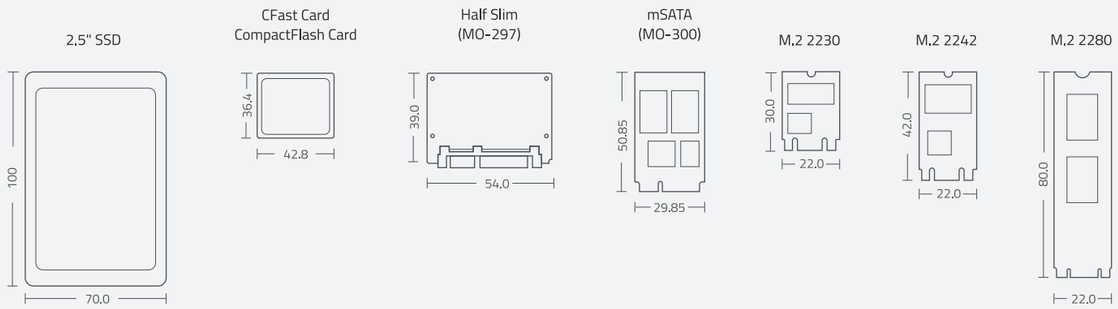
SATA SSD
mSATA / Half Slim
M.2 2242/ M.2 2280

PCIe SSD
M.2 2230
M.2 2242/ M.2 2280

MEMORY CARD

SATA SSD
CompactFlash Card
CFast Card

Form Factor Comparison



Units: mm

Industrial SATA III SSDs

Cervoz SATA III SSDs deliver stable storage performance with broad compatibility across industrial platforms.
Based on the SATA III interface, they provide a reliable storage solution for systems that prioritize stability and long-term availability.

Available in 2.5" SSD, mSATA, and M.2 form factors, these SSDs integrate easily with existing system architectures.
They are commonly used in industrial PCs, HMI systems, and long-life embedded projects that require consistent performance and minimal platform changes.

Powerguard

Helps protect stored data and system integrity during unexpected power interruptions, reducing the risk of data corruption and supporting stable system recovery.

Enhanced ECC & Wear Leveling

Applies advanced error correction and wear leveling mechanisms to improve data reliability and extend flash endurance over prolonged operation.

Industrial Compatibility

Designed to support wide operating temperature ranges and rugged protective features, enabling reliable storage operation across diverse industrial deployment environments.

Lifecycle Management

Implements a fixed BOM strategy and long-term supply planning to support extended system lifecycles and minimize redesign risks.

**Available on specific models and/or form factors.

Product Series
Supreme (SLC) Series / Reliance (RO-MLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

2.5" SATA SSD

	S350
Series	Supreme Series (SLC)
Form Factor	2.5 inch
Interface	SATA III 6.0Gb/s
Connector	SATA (7 + 15 pin)
NAND Flash Type	SLC
Capacity	8GB ~ 128GB
Dimension (LxWxH/mm)	100.00 x 69.85 x 7.00
Sequential Read	up to 510MB/s
Sequential Write	up to 420MB/s
MTBF	>3,000,000 hours
Standard Temp.	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C
Supply Voltage	5V DC +/-5%
Power Consumption	Active mode: < 2300mW, Idle mode: < 325mW
With DRAM Buffer	–
Powerguard	–
Specialty Technology	Static and dynamic wear leveling
FlashMonitor	√

	R335	R336
Series	Reliance Series (RO-MLC)	Reliance Series (RO-MLC)
Form Factor	2.5 inch	2.5 inch
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	SATA (7 + 15 pin)	SATA (7 + 15 pin)
NAND Flash Type	3D MLC	3D MLC
Capacity	16GB ~ 256GB	16GB ~ 256GB
Dimension (LxWxH/mm)	100.00 x 69.85 x 7.00	100.00 x 69.85 x 7.00
Sequential Read	up to 550MB/s	up to 550MB/s
Sequential Write	up to 465MB/s	up to 465MB/s
MTBF	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	5V DC +/-5%	5V DC +/-5%
Power Consumption	Active mode: < 2200mW, Idle mode: < 445mW	Active mode: < 2030mW, Idle mode: < 425mW
With DRAM Buffer	√	√
Powerguard	–	√
Specialty Technology	Low power consumption, Shock resistance and anti-vibration	
FlashMonitor	√	√

Product Series
Momentum (MLC) Series / Titan (TLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

2.5" SATA SSD

	M350	M335	M336
Series	Momentum Series (MLC)	Momentum Series (MLC)	Momentum Series (MLC)
Form Factor	2.5 inch	2.5 inch	2.5 inch
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	SATA (7 + 15 pin)	SATA (7 + 15 pin)	SATA (7 + 15 pin)
NAND Flash Type	MLC	3D MLC	3D MLC
Capacity	16GB ~ 512GB	32GB ~ 512GB	32GB ~ 512GB
Dimension (LxWxH/mm)	100.00 x 69.85 x 7.00	100.00 x 69.85 x 7.00	100.00 x 69.85 x 7.00
Sequential Read	up to 495MB/s	up to 550MB/s	up to 550MB/s
Sequential Write	up to 420MB/s	up to 435MB/s	up to 450MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	5V DC +/-5%	5V DC +/-5%	5V DC +/-5%
Power Consumption	Active mode: < 1910mW, Idle mode: < 355mW	Active mode: < 2625mW, Idle mode: < 440mW	Active mode: < 2505mW, Idle mode: < 425mW
With DRAM Buffer	–	√	√
Powerguard	–	–	√
Specialty Technology	Static and dynamic wear leveling	Low power consumption, Shock resistance and anti-vibration	
FlashMonitor	√	√	√

	T383	T387	T386
Series	Titan Series (TLC)	Titan Series (TLC)	Titan Series (TLC)
Form Factor	2.5 inch	2.5 inch	2.5 inch
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	SATA (7 + 15 pin)	SATA (7 + 15 pin)	SATA (7 + 15 pin)
NAND Flash Type	3D TLC NAND	3D TLC NAND	3D TLC NAND
Capacity	128GB/256GB/512GB/1TB/2TB	256GB/512GB/1TB/2TB	256GB/512GB/1TB/2TB
Dimension (LxWxH/mm)	100.10 x 69.85 x 7.00mm	100.00 x 69.85 x 7.00	100.00 x 69.85 x 7.00
Sequential Read	up to 560MB/s	up to 560MB/s	up to 560MB/s
Sequential Write	up to 500MB/s	up to 420MB/s	up to 420MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	5V DC +/-5%	+5V DC ± 5%	+5V DC ± 5%
Power Consumption	Active mode: < 1005mW, Idle mode: < 385mW	Active mode: < 2405mW, Idle mode: < 525mW	Active mode: < 2405mW, Idle mode: < 525mW
With DRAM Buffer	–	√	√
Powerguard	–	–	√
Specialty Technology	End-to-End data protection	Support AES 256-bit Encryption, End-to-End data protection	
FlashMonitor	√	√	√

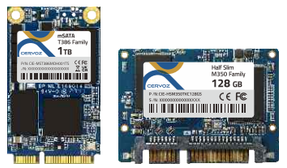
Product Series
Supreme (SLC) Series / Reliance (RO-MLC) Series
Momentum (MLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

mSATA

	S350	R335	R336
Series	Supreme Series (SLC)	Reliance Series (RO-MLC)	Reliance Series (RO-MLC)
Form Factor	mSATA	mSATA	mSATA
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	mSATA	mSATA	mSATA
NAND Flash Type	SLC	3D MLC (Controlled by Reliability Optimized-MLC Technology)	
Capacity	8GB ~ 128GB	16GB ~ 128GB	16GB ~ 64GB
Dimension (LxWxH/mm)	50.80 x 29.85 x 4.00	50.95 x 30.00 x 3.90	50.95 x 30.00 x 3.90
Sequential Read	up to 510MB/s	up to 510MB/s	up to 495MB/s
Sequential Write	up to 420MB/s	up to 465MB/s	up to 440MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 2250mW, Idle mode: < 325mW	Active mode: < 2090mW, Idle mode: < 430mW, DEVSLP mode: < 55mW	Active mode: < 1970mW, Idle mode: < 375mW, DEVSLP mode: < 45mW
With DRAM Buffer	–	√	√
Powerguard	–	–	√
FlashMonitor	√	√	√

	M350	M335	M336
Series	Momentum Series (MLC)	Momentum Series (MLC)	Momentum Series (MLC)
Form Factor	mSATA	mSATA	mSATA
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	mSATA	mSATA	mSATA
NAND Flash Type	MLC	3D MLC	3D MLC
Capacity	32GB ~ 512GB	32GB ~ 256GB	32GB ~ 128GB
Dimension (LxWxH/mm)	50.80 x 29.85 x 4.00	50.95 x 30.00 x 3.90	50.95 x 30.00 x 3.90
Sequential Read	up to 495MB/s	up to 545MB/s	up to 545MB/s
Sequential Write	up to 265MB/s	up to 435MB/s	up to 330MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 2690mW, Idle mode: < 285mW	Active mode: < 2295mW, Idle mode: < 390mW, Slumber mode: < 70mW	Active mode: < 1890mW, Idle mode: < 390mW, DEVSLP mode: < 70mW
With DRAM Buffer	–	√	√
Powerguard	–	–	√
FlashMonitor	√	√	√



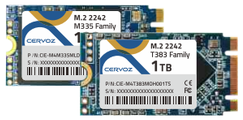
Product Series
Momentum (MLC) Series / Titan (TLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

mSATA I Half Slim

	T383	T387	T386
Series	Titan Series (TLC)	Titan Series (TLC)	Titan Series (TLC)
Form Factor	mSATA	mSATA	mSATA
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	mSATA	mSATA	mSATA
NAND Flash Type	3D TLC NAND	3D TLC NAND	3D TLC NAND
Capacity	128GB/256GB/512GB/1TB/2TB	256GB/512GB/1TB	256GB/512GB/1TB
Dimension (LxWxH/mm)	50.95 x 30.00 x 3.60	50.80 x 29.85 x 4.00	50.95 x 30.00 x 3.90
Sequential Read	up to 560MB/s	up to 560MB/s	up to 560MB/s
Sequential Write	up to 510MB/s	up to 410MB/s	up to 415MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 970mW, Idle mode: < 410mW	Active mode: < 2495mW, Idle mode: < 500mW	Active mode: < 2495mW, Idle mode: < 500mW
With DRAM Buffer	–	√	√
Powerguard	–	–	√
Specialty Technology	End-to-End data protection	Support AES 256-bit Encryption, End-to-End data protection	
FlashMonitor	√	√	√

	M350	T383
Series	Momentum Series (MLC)	Titan Series (TLC)
Form Factor	Half Slim	Half Slim
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	SATA (7+15pin)	SATA (7+15pin)
NAND Flash Type	MLC	3D TLC NAND
Capacity	32GB ~ 128GB	128GB/256GB/512GB/1TB/2TB
Dimension (LxWxH/mm)	54.00 x 39.00 x 4.00	54.00*39.00*5.50
Sequential Read	up to 495MB/s	up to 560MB/s
Sequential Write	up to 315MB/s	up to 500MB/s
MTBF	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–
Supply Voltage	5V DC +/-5%	+5V DC +/-5%
Power Consumption	Active mode: < 1600mW, Idle mode: < 285mW	Active mode: < 1005mW, Idle mode: < 385mW
With DRAM Buffer	–	–
Powerguard	–	–
Specialty Technology	Static and dynamic wear leveling	End-to-End data protection
FlashMonitor	√	√



Product Series
Reliance (RO-MLC) Series / Momentum (MLC) Series
Titan (TLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

M.2 2242

	R335	M335
Series	Reliance Series (RO-MLC)	Momentum Series (MLC)
Form Factor	M.2 2242	M.2 2242
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	M.2 (B+M)	M.2 (B+M)
NAND Flash Type	3D MLC (Controlled by RO-MLC)	3D MLC
Capacity	16GB ~ 64GB	32GB ~ 128GB
Dimension (LxWxH/mm)	42.00 x 22.00	42.00 x 22.00 x 3.65
Sequential Read	up to 510MB/s	up to 545MB/s
Sequential Write	up to 455MB/s	up to 330MB/s
MTBF	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 1885mW, Idle mode: < 385mW, Slumber mode: < 60mW	Active mode: < 1885mW, Idle mode: < 385mW, Slumber mode: < 60mW
With DRAM Buffer	√	√
Powerguard	–	–
Specialty Technology	Low power consumption, Shock resistance and anti-vibration	
FlashMonitor	√	√

	M350	T383
Series	Momentum Series (MLC)	Titan Series (TLC)
Form Factor	M.2 2242	M.2 2242
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	M.2 (B+M)	M.2 (B+M)
NAND Flash Type	MLC	3D TLC
Capacity	16GB ~ 256GB	128GB/256GB/512GB/1TB
Dimension (LxWxH/mm)	42.00 x 22.00 x 3.75	42.00 x 22.00 x 3.50
Sequential Read	up to 475MB/s	up to 560MB/s
Sequential Write	up to 420MB/s	up to 505MB/s
MTBF	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 1535mW, Idle mode: < 260mW	Active mode: < 895mW, Idle mode: < 225mW
With DRAM Buffer	–	–
Powerguard	–	–
Specialty Technology	Static and dynamic wear leveling	End-to-End data protection
FlashMonitor	√	√

Product Series
Reliance (RO-MLC) Series / Momentum (MLC) Series
Titan (TLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

M.2 2280

	R335	M335	M350
Series	Reliance Series (RO-MLC)	Momentum Series (MLC)	Momentum Series (MLC)
Form Factor	M.2 2280	M.2 2280	M.2 2280
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	M.2 (B+M)	M.2 (B+M)	M.2 (B+M)
NAND Flash Type	RO-MLC	3D MLC	MLC
Capacity	16GB ~ 128GB	32GB ~ 256GB	32GB ~ 512GB
Dimension (LxWxH/mm)	80.00 x 22.00 x 3.90	80.00 x 22.00 x 3.90	80.00 x 22.00 x 3.90
Sequential Read	up to 510MB/s	up to 545MB/s	up to 490MB/s
Sequential Write	up to 465MB/s	up to 435MB/s	up to 470MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 2295mW, Idle mode: < 390mW, Slumber mode: <70mW	Active mode: < 2295mW, Idle mode: < 390mW, Slumber mode: <70mW	Active mode: < 2650mW, Idle mode: < 280mW
With DRAM Buffer	√	√	–
Powerguard	–	–	–
FlashMonitor	√	√	√

	T383	T387	T386
Series	Titan Series (TLC)	Titan Series (TLC)	Titan Series (TLC)
Form Factor	M.2 2280	M.2 2280	M.2 2280
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	M.2 (B+M)	M.2 (B+M)	M.2 (B+M)
NAND Flash Type	3D TLC	3D TLC NAND	3D TLC NAND
Capacity	128GB/256GB/512GB/1TB/2TB	256GB ~ 2TB	256GB/512GB/1TB/2TB
Dimension (LxWxH/mm)	80.00 x 22.00 x 2.15	80.00 x 22.00 x 3.50	80.00 x 22.00 x 3.50
Sequential Read	up to 560MB/s	up to 560MB/s	up to 560MB/s
Sequential Write	up to 505MB/s	up to 425MB/s	up to 425MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	+3.3V DC ± 5%	3.3V DC +/-5%
Power Consumption	Active mode: < 990mW, Idle mode: < 225mW	Active mode: < 2550mW, Idle mode: < 550mW	Active mode: < 2550mW, Idle mode: < 550mW
With DRAM Buffer	–	√	√
Powerguard	–	–	√
Specialty Technology	Static and dynamic wear leveling	Support AES 256-bit Encryption, End-to-End data protection	
FlashMonitor	√	√	√

Product Series
Supreme (SLC) Series / Reliance (RO-MLC) Series
Momentum (MLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

CompactFlash Card I CFast Card

	S141	M141
Series	Supreme Series (SLC)	Momentum Series (MLC)
Form Factor	CompactFlash	CompactFlash
Interface	CompactFlash Specification v6.0	CompactFlash Specification v6.0
Connector	PATA (50 pin)	PATA (50 pin)
NAND Flash Type	SLC	MLC
Capacity	256MB ~ 16GB	8GB ~ 64GB
Dimension (LxWxH/mm)	42.8 x 36.4 x 3.3	42.8 x 36.4 x 3.3
Sequential Read	up to 80MB/s	up to 125MB/s
Sequential Write	up to 70MB/s	up to 95MB/s
MTBF	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC I 5V DC +/-5%	3.3V DC I 5V DC +/-5%
Power Consumption	Active mode: <730mW, Idle mode: < 25mW	Active mode: < 730mW, Idle mode: < 25mW
With DRAM Buffer	–	–
Powerguard	–	–
Specialty Technology	Operating as boot disk, Static and dynamic wear leveling, Bad block management	
FlashMonitor	√	√

	S350	R350	M350
Series	Supreme Series (SLC)	Reliance Series (RO-MLC)	Momentum Series (MLC)
Form Factor	CFast	CFast	CFast
Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s	SATA III 6.0Gb/s
Connector	SATA (7+17 pin)	SATA (7+17 pin)	SATA (7+17 pin)
NAND Flash Type	SLC	RO-MLC	MLC
Capacity	8GB ~ 32GB	16GB ~ 64GB	32GB ~ 128GB
Dimension (LxWxH/mm)	42.8 x 36.4 x 3.3	42.8 x 36.4 x 3.3	42.8 x 36.4 x 3.3
Sequential Read	up to 510MB/s	up to 510MB/s	up to 495MB/s
Sequential Write	up to 300MB/s	up to 450MB/s	up to 445MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/- 5%	3.3V DC +/- 5%	3.3V DC +/- 5%
Power Consumption	Active mode: < 1700mW, Idle mode: < 325mW	Active mode: < 1475mW, Idle mode: < 260mW	Active mode: < 1550mW, Idle mode: < 300mW
With DRAM Buffer	–	–	–
Powerguard	–	–	–
Specialty Technology	Operating as boot disk, Static and dynamic wear leveling, Bad block management		
FlashMonitor	√	√	√

Product specifications are subject to change without prior notice.

Industrial PCIe SSDs

Cervoz Industrial PCIe SSDs are designed for applications that require higher throughput and faster data access. Leveraging the PCIe interface, these SSDs support increased bandwidth and lower latency to meet the demands of data-intensive and performance-driven systems.

Available in modern form factors such as M.2 and U.2, Cervoz PCIe SSDs integrate smoothly into contemporary platforms where storage performance directly impacts system responsiveness. They are commonly deployed in edge computing, AI-enabled systems, and advanced industrial platforms that require sustained high-speed data processing.

High-Speed PCIe Architecture

Leverages PCIe lanes and the NVMe architecture to deliver higher bandwidth and lower latency for data-intensive industrial applications.

Advanced ECC & Bad Block Management

Enhances data integrity and storage reliability by correcting errors and managing defective flash blocks, supporting stable operation under high-performance and data-intensive workloads.

Thermal & Heat Management

Designed to manage thermal behavior effectively and prevent performance throttling during sustained high-load operation, helping maintain consistent data throughput over time.

Wide Temperature Endurance

Supports stable storage operation across a wide operating temperature range, enabling consistent performance in industrial environments with varying thermal conditions.

**Available on specific models and/or form factors.

Product Series
Titan (TLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

M.2 2230

	T425	
Series	Titan Series (TLC)	Titan Series (TLC)
Form Factor	M.2 2230	M.2 2230
Interface	PCIe Gen3x2	PCIe Gen3x2
Connector	M.2 2230 (A+E)	M.2 2230 (B+M)
NAND Flash Type	3D TLC	3D TLC
Capacity	128GB/256GB	128GB/256GB
Dimension (LxWxH/mm)	30.00 x 22.00 x 3.50	30.00 x 22.00 x 3.50
Sequential Read	up to 880MB/s	up to 1300MB/s
Sequential Write	up to 820MB/s	up to 1050MB/s
MTBF	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 1650mW, Idle mode: < 400mW	Active mode: < 1900mW, Idle mode: < 450mW
With DRAM Buffer	–	–
Powerguard	–	–
Specialty Technology	End-to-End data protection, SLC write cache technology, Thermal throttling technology	
FlashMonitor	√	√

	T445	T455
Series	Titan Series (TLC)	Titan Series (TLC)
Form Factor	M.2 2230	M.2 2230
Interface	PCIe Gen4x4	PCIe Gen4x4
Connector	M.2 2230 (M)	M.2 2230 (M)
NAND Flash Type	3D TLC	3D TLC
Capacity	256GB ~ 1TB	240GB ~ 960GB
Dimension (LxWxH/mm)	30.00 x 22.00 x 3.50	30.00 x 22.00 x 3.50
Sequential Read	up to 5,095MB/s	up to 5,095MB/s
Sequential Write	up to 4,740MB/s	up to 4,740MB/s
MTBF	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 4650mW, Idle mode: < 720mW	
With DRAM Buffer	–	–
Powerguard	–	–
MIL-STD-810H Compliant	Optional	Optional
Specialty Technology	Write Protect Function (Optional), End-to-End data protection, Thermal throttling	
FlashMonitor	√	√

Product Series
Titan (TLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

M.2 2242

	T425	T421	T405
Series	Titan Series (TLC)	Titan Series (TLC)	Titan Series (TLC)
Form Factor	M.2 2242	M.2 2242	M.2 2242
Interface	PCIe Gen3x2	PCIe Gen3x2	PCIe Gen3x4
Connector	M.2 2242 (B+M)	M.2 2242 (B+M)	M.2 2242 (M)
NAND Flash Type	3D TLC	3D TLC	3D TLC
Capacity	128GB/256GB/512GB	120GB ~ 1920GB	128GB/ 256GB/ 512GB
Dimension (LxWxH/mm)	42.00 x 22.00 x 3.50	42.00 x 22.00 x 3.50	42.00 x 22.00 x 3.50
Sequential Read	up to 1770MB/s	up to 1780MB/s	up to 2605MB/s
Sequential Write	up to 1520MB/s	up to 1640MB/s	up to 1800MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 2400mW, Idle mode: < 500mW	Active mode: < 3000mW, Idle mode: < 1000mW	Active mode: < 2600mW, Idle mode: < 1050mW
With DRAM Buffer	–	–	–
Powerguard	–	–	–
Specialty Technology	End-to-End data protection, SLC write cache technology, Thermal throttling technology		
FlashMonitor	√	√	√

	T445	T455
Series	Titan Series (TLC)	Titan Series (TLC)
Form Factor	M.2 2242	M.2 2242
Interface	PCIe Gen4x4	PCIe Gen4x4
Connector	M.2 2242 (M)	M.2 2242 (M)
NAND Flash Type	3D TLC	3D TLC
Capacity	256GB ~ 2TB	240GB ~ 1920GB
Dimension (LxWxH/mm)	42.00 x 22.00 x 3.50	42.00 x 22.00 x 3.50
Sequential Read	up to 5,010MB/s	up to 5,010MB/s
Sequential Write	up to 4,690MB/s	up to 4,690MB/s
MTBF	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 5130mW, Idle mode: < 805mW	
With DRAM Buffer	–	–
Powerguard	–	–
MIL-STD-810H Compliant	Optional	Optional
Specialty Technology	Write Protect Function (Optional), End-to-End data protection, Thermal throttling	
FlashMonitor	√	√

Product Series
Titan (TLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

M.2 2280

	T405	T436
Series	Titan Series (TLC)	Titan Series (TLC)
Form Factor	M.2 2280	M.2 2280
Interface	PCIe Gen3x4	PCIe Gen3x4
Connector	M.2 2280 (M)	M.2 2280 (M)
NAND Flash Type	3D TLC	3D TLC
Capacity	128GB ~ 1TB	Standard/Wide Temp.: 240GB~1920GB/960GB
Dimension (LxWxH/mm)	80.00 x 22.00 x 3.50	80.00 x 22.00 x 3.50
Sequential Read	up to 2605MB/s	up to 3,445MB/s
Sequential Write	up to 1880MB/s	up to 1,000MB/s
MTBF	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 2820mW, Idle mode: < 1100mW	Active mode: < 6,000mW, Idle mode: < 2,000mW
With DRAM Buffer	–	√
Powerguard	–	√
Specialty Technology	End-to-End data protection, Dynamic Thermal throttling	
FlashMonitor	√	√

	T441	T445	T455
Series	Titan Series (TLC)	Titan Series (TLC)	Titan Series (TLC)
Form Factor	M.2 2280	M.2 2280	M.2 2280
Interface	PCIe Gen4x4	PCIe Gen4x4	PCIe Gen4x4
Connector	M.2 2280 (M)	M.2 2280 (M)	M.2 2280 (M)
NAND Flash Type	3D TLC	3D TLC	3D TLC
Capacity	480GB~3840GB	256GB~2TB	240GB~1920GB
Dimension (LxWxH/mm)	80.00 x 22.00 x 3.50	80.00 x 22.00 x 2.15	80.00 x 22.00 x 2.15
Sequential Read	up to 7,100 MB/s	up to 5,080MB/s	up to 5,080MB/s
Sequential Write	up to 6,190 MB/s	up to 4,740MB/s	up to 4,740MB/s
MTBF	>3,000,000 hours	>3,000,000 hours	>3,000,000 hours
Standard Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Wide Temp.	–	–40°C ~ 85°C	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%	3.3V DC +/-5%	3.3V DC +/-5%
Power Consumption	Active mode: < 11W, Idle mode: < 2W	Active mode: < 5130mW, Idle mode: < 805mW	Active mode: < 5130mW, Idle mode: < 805mW
With DRAM Buffer	√	–	
Powerguard	–	–	
Specialty Technology	End-to-End data protection	Single-Sided Design, MIL-STD-810H Compliant (Optional)	
FlashMonitor	√	√	

Product Series
Titan (TLC) Series

Operating Temperature
Standard Temp.: 0°C ~ 70°C / Wide Temp.: –40°C ~ 85°C

M.2 2280 I U.2

	T449
Series	Titan Series (TLC)
Form Factor	M.2 2280
Interface	PCIe Gen4x4
Connector	M.2 2280 (M)
NAND Flash Type	3D TLC
Capacity	128GB ~ 2TB
Dimension (LxWxH/mm)	80.00 x 22.00 x 3.50
Sequential Read	up to 5,010MB/s
Sequential Write	up to 4,690MB/s
MTBF	>3,000,000 hours
Standard Temp.	0°C ~ 70°C
Wide Temp.	–40°C ~ 85°C
Supply Voltage	3.3V DC +/-5%
Power Consumption	Active mode: < 5130mW, Idle mode: < 805mW
With DRAM Buffer	–
Powerguard	–
MIL-STD-810H Compliant	√
Specialty Technology	Quick Erase, Write Protect , Self-Physical Destruction
FlashMonitor	√

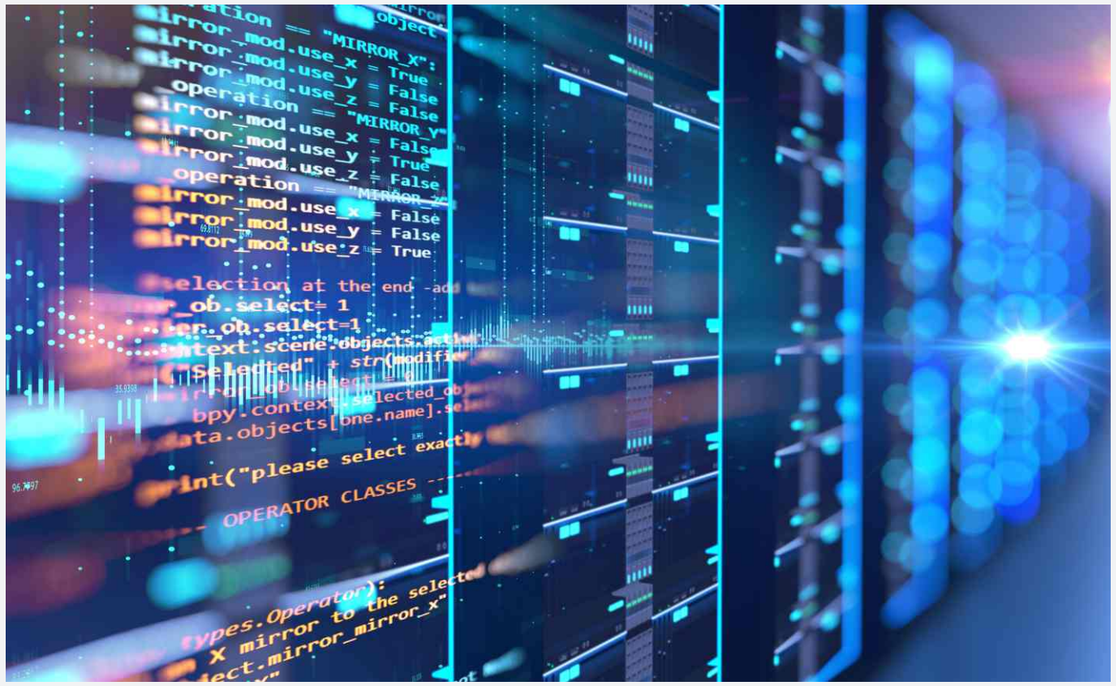
	T442
Series	Titan Series (TLC)
Form Factor	2.5inch x 15mm
Interface	PCIe Gen4x4
Connector	U.2
NAND Flash Type	TLC NAND
Capacity	1920GB~30.72TB
Dimension (LxWxH/mm)	100.00 x 69.85 x 14.65mm
Sequential Read	up to 13,490MB/s
Sequential Write	up to 8,685MB/s
MTBF	>2,500,000 hours
Standard Temp.	0°C ~ 70°C
Wide Temp.	–
Supply Voltage	+12V DC ± 10%
Power Consumption	Active mode: < 25W, Idle mode: < 5W
With DRAM Buffer	√
Powerguard	√
Specialty Technology	Support AES 256-bit Hardware Encryption, TCG OPAL 2.0 Compliant, Support Crypto Erase & Secure Erase, Physical Presence SID (PSID) for Drive Revert, IEEE 1667 (eDrive) Support
FlashMonitor	√

Our Products

DRAM MODULE SOLUTION

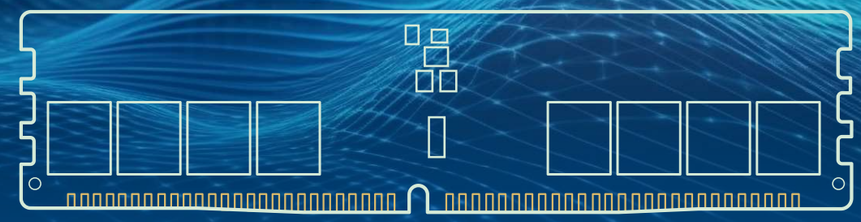
Cervoz industrial DRAM modules support embedded, industrial, and server platforms requiring stable performance and long-term availability. The product line covers **DIMM**, **SO-DIMM**, **VLP-DIMM**, **VLP SO-DIMM**, as well as **CSODIMM** and **CUDIMM** architectures to meet diverse system design requirements.

Available in ***Standard***, ***Wide Temperature***, and ***Server-grade series***, the modules support DRAM generations from DDR1 to DDR5 with optional ECC and registered configurations. Manufactured to JEDEC standards using original major-brand DRAM chips, all modules follow a fixed BOM principle and are validated across multiple platforms to ensure consistent compatibility and reliability.



CUDIMM & CSODIMM

Designed for Data-Intensive and AI-Driven Workloads



As data-intensive and AI-driven workloads continue to scale, system performance is increasingly constrained by memory bandwidth, signal integrity, and power efficiency. Traditional DRAM modules can struggle to keep pace with these demands, making memory a critical bottleneck in modern high-performance systems. CUDIMM and CSODIMM architectures are introduced to address these limitations at the module level.

High-Speed DDR5 (Up to 6400 MT/s)

Supports higher memory bandwidth to accelerate data access and reduce memory bottlenecks in data-intensive workloads.

Built-in Clock Driver (CKD)

Improves signal integrity and timing stability to enable reliable high-frequency memory operation.

On-Die ECC for Data Integrity

Detects and corrects internal memory errors to help maintain data accuracy during high-speed operation.

High-Density Capacity (Up to 64GB)

Enables higher memory capacity per module to support larger datasets and more demanding workloads.

Industrial-Grade Reliability

Designed and validated for stable operation over extended lifecycles in industrial and embedded system deployments.

**Available on specific models and/or form factors.

Solution Product Line

STANDARD SERIES

DDR5/ DDR3
DIMM/ SO-DIMM/ VLP DIMM

DDR4
DIMM/ SO-DIMM
VLP DIMM/ VLP SO-DIMM

DDR2
DIMM/ SO-DIMM

WIDE TEMP. SERIES

DDR5
DIMM/ SO-DIMM

DDR4/ DDR3
DIMM/ SO-DIMM

DDR2
SO-DIMM

SERVER SERIES

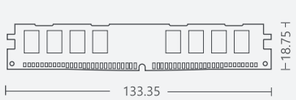
DDR5/ DDR4
DIMM with ECC
SO-DIMM with ECC
Registered DIMM with ECC

DDR3
DIMM with ECC
Registered DIMM with ECC

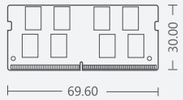
Form Factor Comparison

DDR5 DIMM

DDR5 VLP DIMM

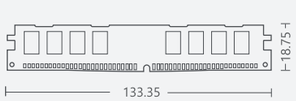


DDR5 SO-DIMM

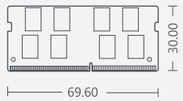


DDR4 DIMM

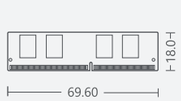
DDR4 VLP DIMM



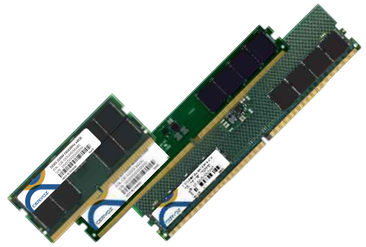
DDR4 SO-DIMM



DDR4 VLP SO-DIMM



Units: mm



DDR5/ DDR3
DIMM/ SO-DIMM/ VLP DIMM
DDR4
DIMM/ SO-DIMM/ VLP DIMM/ VLP SO-DIMM
DDR2
DIMM/ SO-DIMM

Standard Series

DDR5

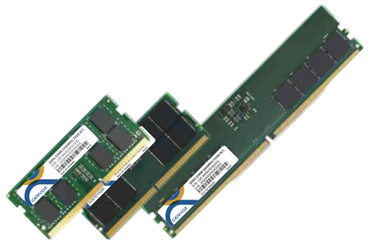
DIMM Type	DIMM I SO-DIMM	VLP DIMM
Speed (MT/s)	4800, 5600	4800, 5600
Capacity	8GB, 16GB, 32GB, 48GB	16GB, 32GB
Pin Count	288pin I 262pin	288pin
Type	Unbuffered (Non-ECC)	Unbuffered (Non-ECC)
Voltage	1.1V	1.1V
Operating Temp.(Tc)	0°C ~ 95°C	0°C ~ 95°C
US Military Standards	√	√
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	31.25/ 30.00	18.75

DDR4

DIMM Type	DIMM I SO-DIMM	VLP DIMM I VLP SO-DIMM
Speed (MT/s)	2133, 2400, 2666, 2933, 3200	2666
Capacity	4GB, 8GB, 16GB, 32GB	4GB, 8GB, 16GB
Pin Count	288pin I 260pin	288pin I 260pin
Type	Unbuffered (Non-ECC)	Unbuffered (Non-ECC)
Voltage	1.2V	1.2V
Operating Temp.(Tc)	0°C ~ 95°C	0°C ~ 95°C
US Military Standards	√	√
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	31.25/ 30.00	18.75/ 18.00

	DDR3	DDR2
DIMM Type	DIMM I SO-DIMM I VLP DIMM	DIMM I SO-DIMM
Speed (MT/s)	1066, 1333, 1600, 1866	667, 800
Capacity	2GB, 4GB, 8GB	1GB, 2GB
Pin Count	240pin I 204pin I 240pin	240pin I 200pin
Type	Unbuffered (Non-ECC)	Unbuffered (Non-ECC)
Voltage	1.5V I 1.5V/1.35V	1.8V
Operating Temp.	0°C ~ 85°C	0°C ~ 85°C
US Military Standards	–	–
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	30.00 I 30.00 I 18.30	30.00

Product specifications are subject to change without prior notice.



DDR5
DIMM/ SO-DIMM/ VLP DIMM
DDR4/ DDR3
DIMM/ SO-DIMM
DDR2
SO-DIMM

Wide Temperature Series

DDR5

DIMM Type	DIMM I SO-DIMM	VLP DIMM
Speed (MT/s)	4800, 5600	4800, 5600
Capacity	8GB, 16GB, 32GB, 48GB	16GB, 32GB
Pin Count	288pin/ 262pin	288pin
Type	Unbuffered (Non-ECC)	Unbuffered (Non-ECC)
Voltage	1.1V	1.1V
Operating Temp.(Tc)	–40°C ~ 95°C	–40°C ~ 95°C
US Military Standards	√	√
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	31.25/ 30.00	18.75

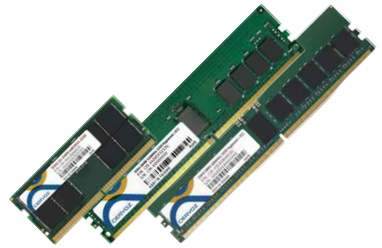
DDR4

DIMM Type	DIMM	SO-DIMM
Speed (MT/s)	2133, 2400, 2666, 2933, 3200	2133, 2400, 2666, 2933, 3200
Capacity	4GB, 8GB, 16GB, 32GB	4GB, 8GB, 16GB, 32GB
Pin Count	288pin	260pin
Type	Unbuffered (Non-ECC)	Unbuffered (Non-ECC)
Voltage	1.2V	1.2V
Operating Temp.(Tc)	–40°C ~ 95°C	–40°C ~ 95°C
US Military Standards	√	√
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	31.25	30.00

DDR3 / DDR2

DIMM Type	DIMM I SO-DIMM	SO-DIMM
Speed (MT/s)	1333, 1600, 1866	667, 800
Capacity	2GB, 4GB, 8GB	1GB, 2GB
Pin Count	240pin/ 204pin	200pin
Type	Unbuffered (Non-ECC)	Unbuffered (Non-ECC)
Voltage	1.5V/1.35V	1.8V
Operating Temp.	–40°C~ 85°C	–40°C ~ 85°C
US Military Standards	–	–
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	30.00	30.00

Product specifications are subject to change without prior notice.



DDR5/ DDR4
DIMM with ECC/ SO-DIMM with ECC
Registered DIMM with ECC
DDR3
DIMM with ECC
Registered DIMM with ECC

Server Series

DDR5

DIMM Type	DIMM I Registered DIMM	SO-DIMM
Speed (MT/s)	4800, 5600	4800, 5600
Capacity	16GB, 32GB	16GB, 32GB
Pin Count	288pin	262pin
Type	Unbuffered (with ECC) I Registered (with ECC)	Unbuffered (with ECC)
Voltage	1.1V	1.1V
Operating Temp.(Tc)	0°C ~ 95°C	0°C ~ 95°C
US Military Standards	√	√
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	31.25	30.00

DDR4

DIMM Type	DIMM I Registered DIMM	SO-DIMM
Speed (MT/s)	2400, 2666, 2933, 3200	2400, 2666, 2933, 3200
Capacity	4GB, 8GB, 16GB, 32GB	4GB, 8GB, 16GB, 32GB
Pin Count	288pin	260pin
Type	Unbuffered (with ECC) I Registered (with ECC)	Unbuffered (with ECC)
Voltage	1.2V	1.2V
Operating Temp.(Tc)	0°C ~ 95°C	0°C ~ 95°C
US Military Standards	√	√
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	31.25	30.00

DDR3

DIMM Type	DIMM	Registered DIMM
Speed (MT/s)	1333, 1600	1600
Capacity	2GB, 4GB, 8GB	2GB, 4GB, 8GB
Pin Count	240pin	240pin
Type	Unbuffered (with ECC)	Registered (with ECC)
Voltage	1.5V/1.35V	1.5V/1.35V
Operating Temp.	0°C ~ 85°C	0°C ~ 85°C
US Military Standards	–	–
Anti-vibration Fill	Optional	Optional
Conformal Coating	Optional	Optional
PCB Height(mm)	30.00	30.00

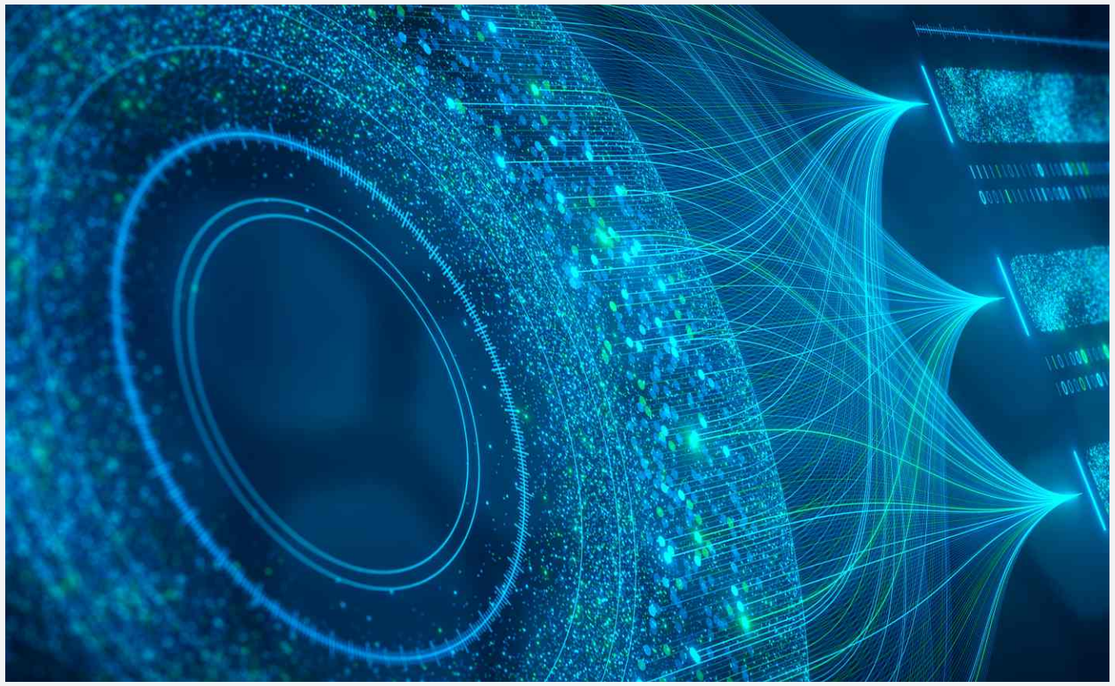
Product specifications are subject to change without prior notice.

Our Products

MODULAR EXPANSION CARD SOLUTION

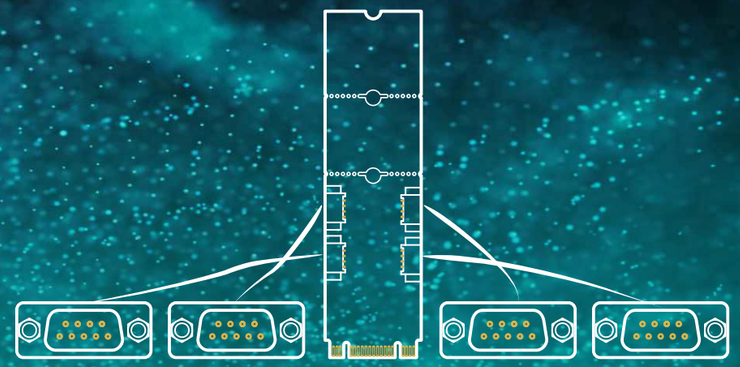
Cervoz Modular Expansion Cards provide flexible system expansion for embedded and industrial platforms requiring additional connectivity and interface options. The product series covers seven key functions, including ***Ethernet***, ***Wi-Fi***, ***CAN Bus***, ***Serial***, ***SATA***, ***USB***, and ***Display***, addressing a wide range of system integration needs.

Available in **PCIe**, **mini PCIe**, and **M.2 form factors (2230, 2242, 2260, 2280)**, these cards support efficient system design across platforms with different performance and space requirements. Unique to Cervoz, the M.2 card design allows length adjustment from 2280 to 2260 or 2242, simplifying system design and inventory management. All modules are validated for compatibility and reliability across diverse industrial platforms.



CAN Bus Expansion Cards

Reliable CAN Communication for Industrial Systems



Cervoz CAN Bus expansion cards combine support for CAN 2.0 and CAN FD to address evolving industrial communication requirements. While CAN 2.0 remains widely used for standard control communication, CAN FD enables higher data throughput for data-intensive applications. Designed for industrial system integration, these expansion cards provide a flexible approach to extending CAN connectivity without increasing system complexity.

2.0 | FD
CAN

CAN 2.0 & CAN FD

Supports both classical CAN and CAN FD to accommodate different data rate and bandwidth requirements.

Industrial-Grade Protection

Provides 2.5 kV isolation and up to 15 kV ESD protection to help ensure stable CAN communication and long-term reliability in industrial environments.

Effortless Integration

Supports 2- or 4-port configurations and a modular 3-in-1 breakaway M.2 design compatible with 2242, 2260, and 2280 form factors for flexible system integration.

Wide Temperature Operation

Designed to maintain stable CAN Bus communication across a wide operating temperature range for continuous industrial operation.

**Available on specific models and/or form factors.

Solution Product Line

NETWORKING

Ethernet Series
Mini PCIe/ M.2 (B+M Key)
M.2 (A+E Key)/ PCIe

Wi-Fi Series
Mini PCIe/ M.2 (A+E/ E Key)

COMMUNICATION

CAN Bus Series
M.2 (B+M Key)

Serial Series
Mini PCIe/ M.2 (B+M Key)

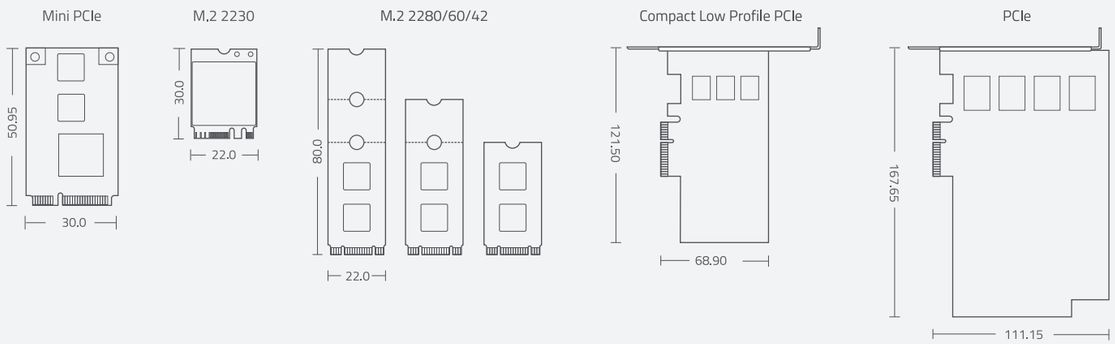
SATA Series
Mini PCIe

SYSTEM I/O & DISPLAY

USB Series
Mini PCIe/ M.2 (B+M Key)/ PCIe

Display Series
Mini PCIe/ M.2 (B+M Key)

Form Factor Comparison



Units: mm

Modular Expansion Card

Expand Capabilities for Diverse Industrial PCs

Cervoz Mini-PCIe expansion card allows extension of device connectivity for slim and compact PC installation in many different applications: Factory Automation, KIOSK/ POS, Fleet Management, In-Vehicle/ Transportation and Networking.


In-Vehicle/ Transportation


Fleet Management


Factory Automation


KIOSK/POS

Core Competence

Industrial PC Dedication

- Industrial Grade Components
- Multi-Directional Connector Fixation
  (MECFIX Daughterboard Design)
- Long Product Lifespan
- Prolonged Warranty Period

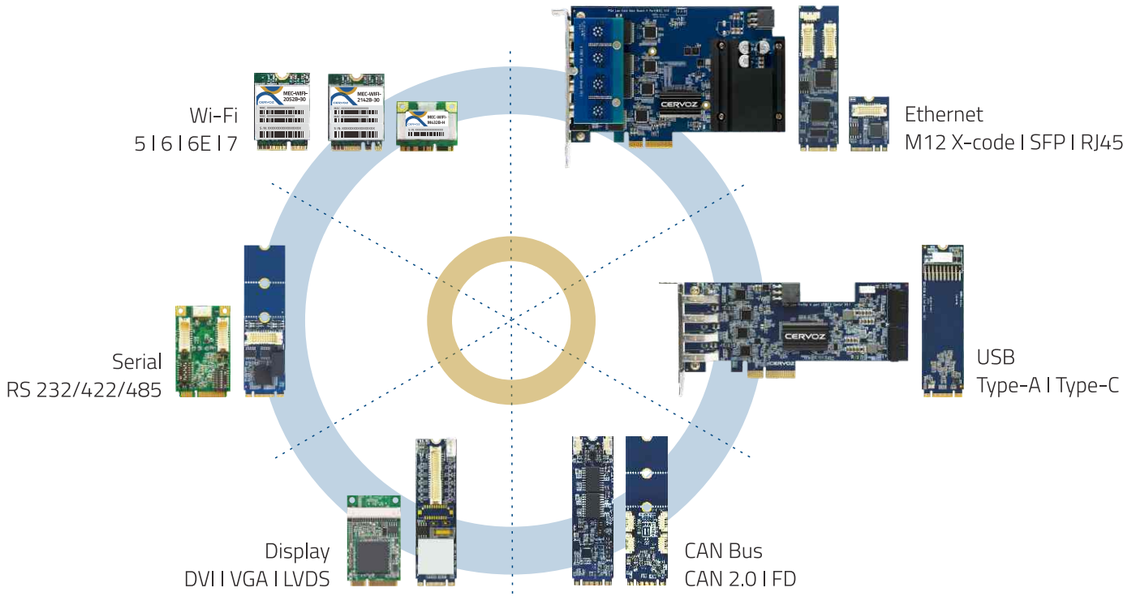
Comprehensive Product Line

- Various PC I/O Functions
- Various Choices of Expansion Ports

Full Certification

- CE, FCC, UKCA, RoHS, and REACH

Various I/O Functional Solutions



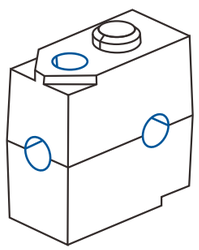
Unique Design

MECFIX (Versatile Mounting)

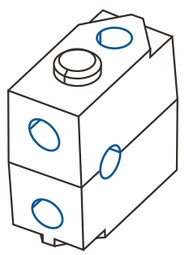
The MECFIX is Cervoz's versatile mounting mechanism that facilitates flexible plugging and connecting of modules and components onto the MEC daughterboard. The MECFIX allows for flexibility and customization that would otherwise not be possible.

MECFIX-Unique Mounting Machanism

MEC USB, Ethernet and Display series come with special designed daughterboard called MECFIX. The feature of the mounting unit allows versatile mounting options which make system integrators exceptionally flexible while mounting the MEC connectors (MECFIX) on their PC or systems in every possible location.



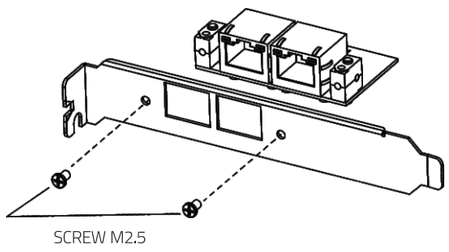
Front



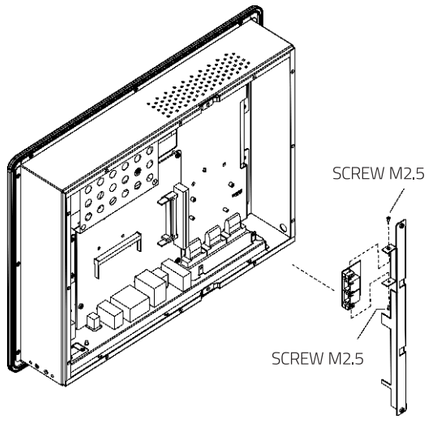
Back

MECFIX Provides Following Example Mounting

Front Side Mounting



Upper / Right / Left Side Mounting (internal Used)



Industrial Networking Solutions

As industrial systems become more connected, stable and flexible network connectivity is essential for data exchange, remote management, and system coordination.

Fixed onboard networking can limit scalability and deployment options, especially in space-constrained or evolving system designs. Industrial networking expansion cards provide a practical way to add or upgrade LAN and Wi-Fi connectivity while maintaining system stability and integration flexibility.

Multiple Speed Options

Supports multiple Ethernet and Wi-Fi speed options to accommodate different bandwidth requirements across industrial networking applications.

Industrial-Grade Protection

Features isolated Ethernet ports with 2.5 kV surge protection to help maintain stable network communication in electrically noisy industrial environments.

Flexible Interface Options

Provides RJ45, M12 X-code, and SFP interface options for adaptable integration in industrial networking systems.

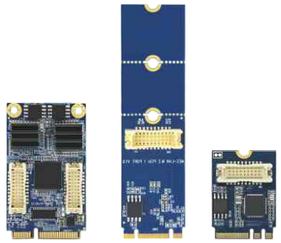
Critical Operating

Supports stable network operation from –40°C to +85°C under continuous and critical operating conditions.

PoE+ Capability

Supports Power over Ethernet to deliver data and power through a single cable, simplifying device deployment and reducing system complexity.

**Available on specific models and/or form factors.



Key Features

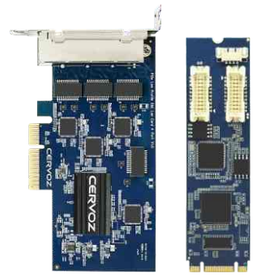
- Form Factors: Mini PCIe, M.2 2230/42/60/80
- Speeds: 1/2.5/10 GbE
- Space-Saving Design: 3-in-1 Form Factor
- Features: Isolation/ MECFIX
- Interface (Connector): RJ45

Ethernet Solution

	MEC-LAN-M101i I MEC-LAN-M102i	MEC-LAN-M601i I MEC-LAN-M602i
Form Factor	Mini PCIe	Mini PCIe
Controller	Intel I210 x1 I Intel I210 x2	Intel I226-IT x 1 I Intel I226-IT x 2
Connector	RJ45	RJ45
Power Consumption	195mA@3.3V I 705mA@3.3V	350mA@3.3V I 970mA@3.3V
Dimensions (WxL/ mm)	30.00 x 50.95	30.00 x 50.95
Operating Temp.	–40°C~ 85°C	–40°C~ 85°C
Storage Temp..	–40°C ~ 95°C	–40°C ~ 125°C
Port No.	1 I 2	1 I 2
Data Rate Per Port	1GbE	2.5GbE
Special Feature	2kV isolation	2kV isolation
MECFIX	√	√

	MEC-LAN-2001i I MEC-LAN-2002i	MEC-LAN-2601i I MEC-LAN-2602i
Form Factor	M.2 2242/2260/2280 (B+M key)	M.2 2280 (B+M key)
Controller	Intel I210 x1 I Intel I210 x2	Intel I226-IT x 1 I Intel I226-IT x 2
Connector	RJ45	RJ45
Power Consumption	195mA@3.3V I 625mA@3.3V	365mA@3.3V I 990mA@3.3V
Dimensions (WxL/ mm)	22.00 x 42.00/60.00/80.00	22.00 x 80.00
Operating Temp.	–40°C~ 85°C	–40°C~ 85°C
Storage Temp..	–40°C ~ 95°C	–40°C ~ 125°C
Port No.	1 I 2	1 I 2
Data Rate Per Port	1 GbE	2.5 GbE
Special Feature	2kV isolation	2kV isolation
MECFIX	√	√

	MEC-LAN-2631i
Form Factor	M.2 2230 (A+E key)
Controller	Intel I226-IT x1
Connector	RJ45
Power Consumption	350mA@3.3V
Dimensions (WxL/ mm)	22.00 x 30.00
Operating Temp.	–40°C~ 85°C
Storage Temp..	–40°C ~ 125°C
Port No.	1
Data Rate Per Port	2.5 GbE
Special Feature	2kV isolation
MECFIX	√



Key Features

- Speeds: 1/ 2.5/ 10GbE
- Port Options: 1/2/4 Ports
- Form Factors: M.2 2280, PCIe
- Interface (Connector): SFP, RJ45, M12 X-code
- Features: Isolation/ PoE+ Power Module

Ethernet Solution

	MEC-LAN-2001-SFP	MEC-LAN-2002-SFP
Form Factor	M.2 2280 (B+M key)	M.2 2280 (B+M key)
Controller	Intel I210-IS x1	Intel I210-IS x2
Connector	SFP	SFP
Power Consumption	150mA@3.3V	500mA@3.3V
Dimensions (WxL/ mm)	22.00 x 80.00	22.00 x 80.00
Operating Temp.	–40°C~ 85°C	–40°C~ 85°C
Storage Temp..	–40°C ~ 125°C	–40°C ~ 125°C
Port No.	1	2
Data Rate Per Port	1 GbE	1 GbE
Special Feature	Wake-on-LAN and Hot-Swap function	Wake-on-LAN and Hot-Swap function
MECFIX	√	√

	MEC-LAN-P002	MEC-LAN-P004	MEC-LAN-P014
Form Factor	PCIe GEN2x4	PCIe GEN2x4	PCIe GEN2x4
Controller	Intel I210 x 2	Intel I210 x 4	Intel I210 x 4
Connector	RJ45	RJ45	M12 X-code
Power Consumption	900mA@3.3V	1273mA@3.3V	1390mA@3.3V
Dimensions (WxL/ mm)	168.00 x 111.00	168.00 x 111.00	168.00 x 111.00
Operating Temp.	0°C ~ 70°C	0°C ~ 70°C	0°C ~ 70°C
Storage Temp..	–40°C ~ 125°C	–40°C ~ 95°C	–40°C ~ 125°C
Port No.	2	4	4
Data Rate Per Port	1 GbE	1 GbE	1 GbE
Special Feature	PoE+/2kV isolation	PoE+/2kV isolation	PoE+/2kV isolation
MECFIX	–	–	–

	MEC-LAN-PL502	MEC-LAN-PL104	MEC-LAN-PL604
Form Factor	Standard Low-Profile PCIe GEN3x4	Compact Low-Profile PCIe GEN2x4	
Controller	Intel X550-AT2 x 1	Intel I210 x 4	Intel I226-IT x4
Connector	RJ45	RJ45	RJ45
Power Consumption	850mA@12V	1265mA@3.3V	550mA @12V
Dimensions (WxL/ mm)	68.90 x 167.65	68.90 x 121.50	68.90 x 121.50
Operating Temp.	0°C ~ 55°C	0°C ~ 70°C	–40°C ~ 85°C
Storage Temp..	–40°C ~ 125°C	–40°C ~ 125°C	–40°C ~ 125°C
Port No.	2	4	4
Data Rate Per Port	10 GbE	1 GbE	2.5 GbE
Special Feature	PoE+/2kV isolation	2kV isolation	2kV isolation
MECFIX	–	–	–

Key Features

- Standards: Wi-Fi 5, Wi-Fi 6, Wi-Fi 6E, Wi-Fi 7
- Frequency Bands: 2.4GHz, 5GHz, 6GHz (Wi-Fi 6E/ 7)
- Form Factors: Mini PCIe and M.2 2230 (A+E/ E key)
- Integrated Bluetooth: Version 4.0, 5.0, 5.2 and 5.4
- MIMO Technology: 2T2R

Wi-Fi Solution

	MEC-WIFI-M432B-H	MEC-WIFI-2632B-30
Generation	Wi-Fi 5	Wi-Fi 5
Form Factor	Half size	M.2 2230 (A+E key)
Interface	Mini-PCIe	WLAN: PCIe 1.1 / Bluetooth: USB2.0
IEEE Networking Standard	802.11 a/b/g/n/ac + Bluetooth 4.0	802.11 a/b/g/n/ac + Bluetooth 5.0
Chipset	Realtek RTL8812AE	Realtek RTL8822CE
RF Frequency Range	2.4~2.5GHz	2.4~2.5GHz
	5.725~5.785GHz	5.15~5.85GHz
	ISM Dual Band	ISM Dual Band
MIMO Technology	2T2R	2T2R
Dimensions (WxL/ mm)	29.85 x 26.65	30.0 x 22.0
Operating Temp.	0°C ~ 70°C	0°C ~ 70°C

	MEC-WIFI-2042B-30	MEC-WIFI-2042B-30W
Generation	Wi-Fi 6	Wi-Fi 6
Form Factor	M.2 2230 (A+E key)	M.2 2230 (A+E key)
Interface	WLAN: PCIe 1.1 / Bluetooth: USB2.0	WLAN: PCIe 1.1 / Bluetooth: USB2.0
IEEE Networking Standard	802.11 a/b/g/n/ac/ax + Bluetooth 5.2	802.11 a/b/g/n/ac/ax + Bluetooth 5.2
Chipset	Realtek RTL8852BE	Realtek RTL8852BE
RF Frequency Range	2.402~2.484GHz	2.402~2.484GHz
	5.15~5.85GHz	5.15~5.85GHz
	ISM Dual Band	ISM Dual Band
MIMO Technology	2T2R	2T2R
Dimensions (WxL/ mm)	30.0 x 22.0	30.0 x 22.0
Operating Temp.	0°C ~ 70°C	–40°C ~ 85°C

	MEC-WIFI-2142B-30	MEC-WIFI-2052B-30
Generation	Wi-Fi 6E	Wi-Fi 7
Form Factor	M.2 2230 (A+E key)	M.2 2230 (E key)
Interface	WLAN: PCIe 2.1/ Bluetooth: USB2.0	WLAN: PCIe 2.1 / Bluetooth: USB2.0
IEEE Networking Standard	802.11 a/b/g/n/ac/ax + Bluetooth 5.2	802.11 a/b/g/n/ac/ax/be + Bluetooth 5.4
Chipset	Realtek RTL8852BE	Realtek RTL8922AE-CG
RF Frequency Range	2.402~2.484GHz	2.402~2.484GHz
	4.905~5.915GHz	4.905~5.915GHz
	5.930~7.110GHz	5.930~7.110GHz
MIMO Technology	2T2R	2T2R
Dimensions (WxL/ mm)	30.0 x 22.0	30.0 x 22.0
Operating Temp.	0°C ~ 70°C	0°C ~ 70°C

Product specifications are subject to change without prior notice.

Industrial Communication Solutions

In industrial and embedded systems, CAN Bus and serial communication are widely used for device control, monitoring, and data exchange at the field level.

Fixed onboard communication interfaces can limit system flexibility when application requirements change or additional connections are needed. Industrial communication expansion cards provide a practical way to add or adapt CAN Bus and serial connectivity, enabling systems to scale communication capabilities without redesigning the core platform.

CAN Bus & Serial Support

Supports CAN Bus and serial communication to meet diverse industrial control and monitoring requirements.

Industrial-Grade Protection

Designed with electrical protection features to help maintain stable communication in electrically noisy industrial environments.

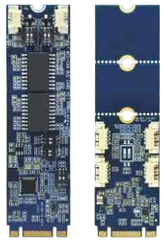
Effortless Integration

Available in M.2 and Mini PCIe form factors and multi-port configurations to simplify industrial communication integration across different system design.

Critical Operating

Supports stable network operation from –40°C to +85°C under continuous and critical operating conditions.

**Available on specific models and/or form factors.



Key Features

- Output I/F: CAN FD/ CAN 2.0 A/B
- Meet the Requirements of the ISO 11898-1:2015
- Frequency Range: 24/ 80MHz
- Form Factors: M.2 2242/2260/2280 (B+M key)
- 2.5 kV Isolation, 3-in-1 Breakaway Design

CAN Bus Solution

	MEC-CAN-2802i I MEC-CAN-2F02i	MEC-CAN-2814i I MEC-CAN-2814i
Form Factor	M.2 2280 (B+M key)	M.2 2242/2260/2280 (B+M key)
Controller	F81601 I F81601A	
Output I/F	CAN 2.0B I CAN FD/2.0A/B	CAN 2.0B I CAN FD/2.0A/B
Frequency Range	24 MHZ I 80MHz	24 MHZ I 80MHz
Dimensions (WxL/ mm)	22.00 x 80.00	22.00 x 42.00/60.00/80.00
Operating Temp.	–40°C ~ 85°C	–40°C ~ 85°C
Baud Rate	up to 1Mbps	up to 1Mbps
Port No.	2	4
Power Consumption	MAX 3.3V @ 400mA I MAX 3.3V @ 600mA	MAX 3.3V @ 1100mA I MAX 3.3V @ 1300mA
Special Feature	2.5 kV isolation	2.5 kV isolation, 3-in-1 breakaway design
MECFIX	–	–

Product specifications are subject to change without prior notice.

Key Features

- Form Factors: Mini PCIe and M.2 2242/2260/2280 (B+M key)
- Interface: RS-232/422/485 Mode Selectable by DIP Switch Setting
- H/W, S/W Automate Flow Control Supported
- FIFO 256 Bytes, 15 KV ESD Protections on Board
- Support Port to Computer Isolation 2.5kV

Serial Solution

	MEC-COM-M334	MEC-COM-2012	MEC-COM-2032i
Form Factor	Mini-PCIe	M.2 2242/2260/2280 (B+M key)	
Controller	XR17V354	XR17V352	XR17V352
Interface	RS-232/422/485 x 4	RS-232 x 2	RS-232/422/485 x 2
Serial Port Voltage Select	5V or 12V	5V or 12V	5V or 12V
Dimensions (WxL/ mm)	30.00 x 50.95	22.00 x 42.00/ 60.00/ 80.00	
Operating Temp.	–40°C ~ 85°C	–40°C ~ 85°C	–40°C ~ 85°C
Storage Temp.	–40°C ~ 95°C	–40°C ~ 95°C	–40°C ~ 95°C
Baud Rate	up to 921.6 Kbps	up to 921.6 Kbps	up to 921.6 Kbps
Power Consumption	645mA@3.3V	78mA@3.3V	155mA@3.3V
Special Feature	DIP switch setting	DIP switch setting, 3-in-1 Form Factor, 2.5kV isolation	
MECFIX	–	–	

Product specifications are subject to change without prior notice.

System I/O & Display Solutions

In embedded systems, USB and SATA support peripheral connectivity and storage, while display interfaces provide visual output for system monitoring and interaction.

Fixed onboard resources can limit flexibility across different deployments. Expansion cards enable adaptable USB, SATA, and display configurations without increasing system design complexity.

USB & SATA Connectivity

Supports USB Type-A and Type-C connectivity along with SATA expansion to accommodate diverse peripheral and storage requirements.

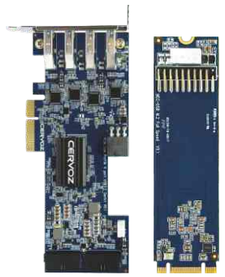
Versatile Display Connectivity

Supports a variety of display interfaces including DVI, VGA, and LVDS to accommodate different visualization needs.

Effortless Integration

Available in multiple port configurations and form factors to simplify system expansion without redesigning the core platform.

**Available on specific models and/or form factors.



Key Features

- Form Factors: Mini PCIe, M.2 (B+M key) and Standard PCIe
- Interface: USB 3.2 Type-A/Type-C
- Data Transfer rate of 1.5/12/480/5000 Mbps
- 3-in-1 Breakaway Design
- Support Hot-Swap function

USB Solution

	MEC-USB-M102	MEC-USB-2002 I MEC-USB-2002C
Form Factor	Mini-PCIe	M.2 2242/2260/2280 (B+M key)
Controller	Renesas (NEC) PD720202K8-701-BAA-A	Renesas (NEC) PD720202K8-701-BAA-A
Interface	USB 3.2 x 2	USB 3.2 x 2 Type-A I USB 3.2 x 2 Type-C
Performance	Data Transfer rate of 1.5/12/480/5000 Mbps	Data Transfer rate of 1.5/12/480/5000 Mbps
Dimensions (WxL/ mm)	30.00 x 50.95	22.00 x 42.00/ 60.00/ 80.00
Operating Temp.	0°C ~ 70°C	0°C ~ 70°C
USB Power(Per Port)	–	5V@1000A
Port No.	2	2
Power Consumption	215mA@3.3V	198mA@3.3V
Special Feature	Hot-Swap function	3-in-1 Form Factor
MECFIX	√	–

	MEC-USB-2012 I MEC-USB-2012C	MEC-USB-PL004
Form Factor	M.2 2280 (B+M key)	Standard PCI-Express
Controller	Renesas (NEC) PD720202K8-701-BAA-A x2	Renesas (NEC) PD720202K8-701-BAA-A x4
Interface	USB 3.2 x 2 Type-A I USB 3.2 x 2 Type-C	USB 3.2 x 4
Performance	Data Transfer rate of 1.5/12/480/5000 Mbps	Data Transfer rate of 1.5/12/480/5000 Mbps
Dimensions (WxL/ mm)	22.00 x 80.00	68.90 x 158.00
Operating Temp.	0°C ~ 70°C	0°C ~ 70°C
USB Power(Per Port)	5V@1000A	5V@900mA, 5V@1500mA,
Port No.	2	4
Power Consumption	809mA@3.3V	1400mA @3.3V
Special Feature	Hot-Swap function	Hot-Swap function
MECFIX	–	–

	MEC-USB-PL008 I MEC-USB-PL008C
Form Factor	Standard PCI-Express
Controller	Renesas (NEC) PD720202K8-701-BAA-A x4
Interface	PL008: USB 3.2 x 8 Type-A
	PL008C: USB 3.2 x 4 (T ype-A), USB 3.2 x 4 (Type-C)
Performance	Data Transfer rate of 1.5/12/480/5000 Mbps
Dimensions (WxL/ mm)	68.90 x 158.00
Operating Temp.	0°C ~ 70°C
USB Power(Per Port)	5V@900mA, 5V@1500mA,
Power Consumption	1700mA @3.3V
Special Feature	Hot-Swap function
MECFIX	–

Product specifications are subject to change without prior notice.

Key Features

- Form Factors: Mini PCIe and M.2 2280(B+M key)
- Support 1280 x 1024 @ 60Hz DVI /VGA Resolution
- LVDS Display Resolution up to 1920x1080@60Hz
- Built in 256MB DDR3 memory
- Support 3.3V or 5V Panel Power Select by Switch Setting

Display Solution

	MEC-DIS-M002	MEC-DIS-271L
Form Factor	Mini-PCIe	M.2 2280 (B+M key)
Controller	SiliconMotion SM750 with 16MB DDR SDRAM	SMI SM768
Interface	DVI x 1 (Support DVI, VGA)	LVDS: X1(Single/Dual Channel LVDS)
Performance	DVI Resolution: Up to 1280 x 1024, 60Hz, VGA Resolution : Up to 1280 x 1024, 60Hz	LVDS Resolution: 24/48bit LVDS
Dimensions (WxL/ mm)	30.00 x 50.95	22.00 x 80.00
Operating Temp.	0°C ~ 70°C	0°C ~ 70°C / -40°C ~ 85°C
Storage Temp.	-40°C ~ 95°C	-40°C ~ 95°C
Power Consumption	740mA@3.3V	850mA@3.3V
Special Feature	Support simultaneously dual display output	Support 24 or 48 bit LVDS Channel
MECFIX	√	–

Key Features

- Form Factors: Mini PCIe
- IDE/AHCI Mode Supported
- SATA Port Multiplier and Hot-Swap Supported
- Transfer rate of 1.5Gbps, 3.0Gbps and 6.0Gbps
- Hardware SPAN, RAID 0, RAID 1 Supported

SATA Solution

	MEC-SAT-M002	MEC-SAT-M102
Form Factor	Mini-PCIe	Mini-PCIe
Controller	Asmedia ASM1061	Asmedia ASM1061R
Interface	Serial ATA III x 2 (SATA)	Serial ATA III x 2 (SATA)
Performance	Data Transfer Rate: SATA III transfer rate of 1.5Gbps, 3.0Gbps 6.0Gbps	
Dimensions (WxL/ mm)	30.00 x 50.95	30.00 x 50.95
Operating Temp.	0°C ~ 70°C	0°C ~ 70°C
Storage Temp.	-40°C ~ 95°C	-40°C ~ 95°C
Port No.	2	2
Power Consumption	360mA@3.3V	301mA@3.3V
Special Feature	IDE/AHCI mode supported, SATA Port Multiplier and Hot-Swap supported	
RAID	–	√

Product specifications are subject to change without prior notice.

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