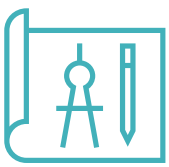
CERVOZ

Product Catalogue

Making Memories for Industry

About Cervoz

Cervoz develops, produces, and markets storage and memory products for Industrial Computing. Everything we do, from design, product management, and manufacturing, to quality control, sales and service is dedicated to fulfilling the special characteristics of diversified and critical industrial applications.

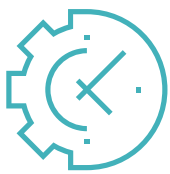


R&D

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.

Product Management

Cervoz follows 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.



Manufacturing

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

Quality Assassurance

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.

Sales & 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.

We stand together with our customers using our storage and memory products to collaborate producing high quality, professional industrial computers.

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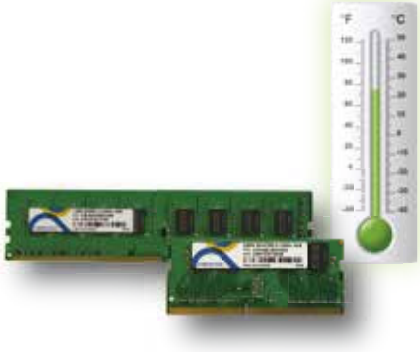
Highlights

Long Term Availability MLC Solution – M335 / M305 Family

Cervoz M335 and M305 Families are long-term availability MLC solutions; both families can be supplied for long lifecycle of 4 years. M335 is available in both 2.5" SATA and mSATA form factors, and M305 includes 2.5" SATA, mSATA and CFast form factors; our products are all offered with the fixed BOM principle.

2019
2018
2017
2016



Industrial Wide Temperature RAM Module

Cervoz wide temperature RAM module supports operating temperature -40˚C~95˚C; it works perfectly in extreme environmental conditions. Our solutions are tested and verified to withstand thermal shocks and cycles, which makes the products exceptionally durable for harsh environments.

Half-size mSATA Flash Module

Applications like POS, Control Cabinet, In-vehicle, Factory Automation, often request Compact (small) PCs; a lot of these PCs do not have 2.5" SSD/HDD bays. Cervoz has designed the half-size mSATA Flash Storage which perfectly fits in the mSATA sockets of these PCs and utilizes spaces efficiently. Cervoz Half-size mSATA form factor is compliant with the MO-300B standard.

MEC WIFI Solutions

Cervoz WIFI Mini PCIe solutions are available with 1T1R/2T2R, 802.11 a.b.g.n /802.11a.c and Bluetooth 4.0 functionalities. They are ideal multi-protocol wireless expansion boards for diversified industrial applications; products are offered with fixed BOM principle and 5 years longevity lifecycle.

Our Technologies

SMART Tool

Cervoz FlashMonitor

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

Disk Information

The Disk Information page provides all flash disk information, including part number details, firmware version, LBA value, disk capacity status, temperature value and many more.
Special supported features can be acknowledged on this page as well.

Health Status

The Health Status page provides flash disk health status in percentage, estimated lifespan, power on hours, power cycle count, and erase count values.
Users can choose to monitor flash disk's health degradation by day, month or year.

SMART

The SMART page provides full information of the flash disk's SMART values.
Users can easily access to inspect SMART information of the flash disk at any time.

Tool

The Tool page offers two functions:

1 Alert – Users can easily set up alert parameters of the flash disk; once figures reach the set parameters, system would immediately send out emails, so that users are in complete control. Parameters can be set for temperature, capacity, health status and lifespan estimation.

2 Security Erase – With a simple click, users can erase all data of the flash disk.

Our Technologies

Flash Module with DRAM Buffer

The purpose of designing an additional DRAM chip into the flash module is to increase both performance and endurance. The DRAM chip acts as a directory that assists the controller to allocate data to the assigned positions. Therefore it shortens the response time and increases the performance.

Comparing Flash Storage to DRAM, DRAM does not have any limitation of program/erase cycles, whereas Flash Storage does. Every time when the controller tries to program a sector of data into Flash Storage, it needs to erase a whole block of Flash before re-programming it. However with the DRAM buffer small data can be collected to a certain amount before delivering to the Flash Storage which reduces the program/erase times to the flash chips, and therefore increases the endurance.

Powerguard

Powerguard protects data loss when encountering an improper power failure; Powerguard would complete saving the ongoing files and safely terminate the operation in order to guard the SSD.

Cervoz designs our flash modules with additional tantalum capacitors to store these extra charges. With this special design, SSD is constantly charging the tantalum capacitors with 12V power during its operation.

Cervoz Industrial Powerguard SSD includes capacities from 32GB~512GB; it is suitable for critical industrial applications, such as factory automation, networking, server / cloud, in-vehicle, and surveillance.

SED (Self Encryption Drive)

SED protects data saved in flash drive being accessed by unauthorized persons. Cervoz applies OPAL SSC (Security Subsystem Class) defined by Trust Computing Group encryption mechanisms, and AES (advanced encryption standard) algorithms for our Self Encryption Drives.

Conformal Coating

Conformal coating is a thin protective film applied to products to act as protection against moisture, dust, chemicals, and sunlight. If flash modules must withstand harsh environments, 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.

Cervoz' conformal coating service is applied to all our industrial flash module product lines that include Cervoz Industrial SSD, Memory Card and Embedded Module.

Wide Temperature Product Series

Since Cervoz is dedicated to the Industrial PC market, wide temperature products are certainly one of our key focuses. We offer all Flash & DRAM modules with the corresponding "Wide Temperature" ranges. Cervoz carefully selects original extended temperature IC from industry leading manufacturers, designs and produces our modules with the highest quality. Each product is tested and verified in burn-in chambers during the engineering verification stage ensuring absolute reliability and endurance in extended temperatures.

DRAM Dual Voltage

Cervoz offers DDR3 DRAM modules that support dual voltage, 1.5v and 1.35v; customers do not have to worry if they purchase the unmatched voltage DRAM modules with their motherboards or systems. In addition OEM and system integrators do not have to keep two different modules in stock; they can simply use one Cervoz DRAM module for all DDR3 platforms. Cervoz offers various DRAM modules with the dual voltage technology, including DDR3 DIMM & SO-DIMM Series.

Our Markets

Embedded Computing

An embedded computer is specifically designed for a particular kind of application device, the installation space for these computers is normally very limited. Some embedded computers do not have HDD/SSD bays available; instead there are only memory card slots or simply PATA or SATA sockets available inside of the systems. Cervoz offers various Industrial Memory Cards and Industrial Embedded Modules with comprehensive small size form factors and interfaces which are ideal for embedded computer applications. Users can simply install the memory cards into the slots or small size PATA & SATA flash modules inside of the embedded computers. Products are available in SLC, RO-MLC and MLC technologies.

Telecom & Networking

Telecom and networking applications often involve telecom data centers, machine to machine communications and industries' VPN, firewalls, and wireless appliances. Storage and memory normally requires high speed data transmission rates, in addition to high endurance and reliability. Applications are operated 24/7 for simultaneous data communications. Cervoz' Supreme and Reliance Series flash modules are designed to perform at the highest speed of data transmission, with a degree of reliability and 24/7 operation which are the perfect solutions for telecom and networking industries.

Factory Automation

Factory automation is the use of robotic devices to complete manufacturing tasks. Today computers are becoming increasingly important in the manufacturing process because of their efficiency in handling repetitive tasks and their lower operational costs. Computers are often used for applications such as machinery, control, scheduling, monitoring and replacing human operators. In order to handle such significant tasks, computers and components must be extremely reliable and be able to cope with high pressure, shock, vibration, humidity and extended temperatures. Cervoz' Supreme and Reliance Series flash modules are professionally designed to withstand high pressure, constant vibration, high humidity, and extended temperatures for mission critical tasks in harsh environments.

Information & Entertainment

Information and entertainment applications often involve machine terminals, point of sales systems, point of service systems, KIOSK systems, digital signage and casino gaming. These applications drive the need of embedded computers and components with highest levels of reliability, security, performance and in many cases, -cost effective solutions, in order to rival the competitive technology market. Cervoz' Reliance and Momentum Series flash modules adopt commercial technologies (RO-MLC / MLC), however we develop these products using high quality components, rugged mechanical materials and apply industrial grade product management and production flow. Therefore we are able to offer the right product in the right price range for price sensitive semi-industrial and industrial applications.

Transportation

Transportation applications often involve in-vehicle navigations systems, visual and information systems, task monitoring, and surveillance systems. These applications share common requirements: wide operating temperatures, long data retention, repetitive power cycling, anti-shock and vibration. Cervoz' storage and memory wide temperature ranges are designed for transportation applications that can withstand extended temperature from -40˚C~85˚C (Flash modules), and -40˚C~95˚C (DRAM modules) which can operate flawlessly in extremely low and high temperatures. Furthermore Cervoz' flash modules are designed to tolerate vibrations of up to 20G, 10Hz~2000Hz, shock 1500G, 0.5ms. The SLC and RO-MLC technologies are structured especially for high read access and long data retention. In addition, Cervoz conducts full power cycling tests in order to meet the highest standards of repetitive power cycling.

Server / Cloud Computing

Servers are computers that centralize data storage; cloud computing is a technology which large groups of remote servers are networked. They both share common requirements: 24-hour non-stop performance, reliability and endurance. Cervoz Industrial SSD Reliance Series (RO-MLC Technology) is the solution for server and cloud applications. The reliability of the P/E cycles is up to 50,000, which is 10 times higher than MLC. On the other hand price is only doubled (SLC is typically around 4~6 times higher in price than MLC). Cervoz Industrial SSD Reliance Series offers high performance with reliability and endurance, as well as a remarkably high price-performance ratio which is perfectly suitable for server and cloud applications.

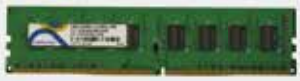
Industrial RAM Module (CIR)

Cervoz Industrial RAM Module product line consists of DIMM, SO-DIMM and VLP DIMM form factors; it includes 3 different series, Standard (unbuffered) Series, Wide Temperature Series and Server (buffered) Series. We offer various DRAM generations (DDR1~DDR4), and functionalities for the demanding requirements of the Industrial Computing Market.

Cervoz Industrial RAM modules are designed and manufactured in accordance to JEDEC standards, using industrial-grade original DRAM chips. Products are offered with fixed BOM principle and long-term availability.

Modules are tested and verified with various platforms in order to assure our customers for the highest level of compatibility and reliability.

DDR4 DIMM



Type	288Pin Unbuffered DIMM
ECC	Non ECC
IC Organization	512Mx8 / 1Gx8
Capacity	4GB / 8GB / 16GB
Speed	1866MHz / 2133MHz / 2400MHz
Voltage	1.2V
Operating Temp.	0 ~ 85ºC

DDR3 DIMM

Type	240Pin Unbuffered DIMM
ECC	Non ECC
IC Organization	128Mx8 / 256Mx8 / 512Mx8
Capacity	1GB/ 2GB / 4GB / 8GB
Speed	1066MHz / 1333MHz / 1600MHz
Voltage	1.35V / 1.5V
Operating Temp.	0 ~ 85ºC

DDR4 SO-DIMM

Type	260Pin Unbuffered SO-DIMM
ECC	Non ECC
IC Organization	512Mx8 / 1Gx8
Capacity	4GB / 8GB / 16GB
Speed	1866MHz / 2133MHz / 2400MHz
Voltage	1.2V
Operating Temp.	0 ~ 85ºC

DDR3 VLP-DIMM

Type	240Pin Unbuffered Very Low Profile DIMM
ECC	Non ECC
IC Organization	128Mx8 / 256Mx8 / 512Mx8
Capacity	1GB/ 2GB / 4GB / 8GB
Speed	1066MHz / 1333MHz / 1600MHz
Voltage	1.35V / 1.5V
Operating Temp.	0 ~ 85ºC

DDR3 SO-DIMM

Type	204Pin Unbuffered SO-DIMM
ECC	Non ECC
IC Organization	128Mx8 / 256Mx8 / 512Mx8
Capacity	1GB/ 2GB / 4GB / 8GB
Speed	1066MHz / 1333MHz / 1600MHz
Voltage	1.35V / 1.5V
Operating Temp.	0 ~ 85ºC

Wide Temperature Series

DDR3 DIMM

Type	240Pin Unbuffered DIMM
ECC	Non ECC
IC Organization	256Mx8 / 512Mx8
Capacity	2GB / 4GB / 8GB
Speed	1066MHz / 1333MHz / 1600MHz
Voltage	1.35V / 1.5V
Operating Temp.	-40 ~ 95°C

DDR3 SO-DIMM

Type	204Pin Unbuffered SO-DIMM
ECC	Non ECC
IC Organization	256Mx8 / 512Mx8
Capacity	2GB / 4GB / 8GB
Speed	1066MHz / 1333MHz / 1600MHz
Voltage	1.35V / 1.5V
Operating Temp.	-40 ~ 95°C

Server Series

DDR4 DIMM with ECC

Type	288Pin Unbuffered DIMM
ECC	with ECC
IC Organization	512Mx8 / 1Gx8
Capacity	4GB / 8GB / 16GB
Speed	1866MHz / 2133MHz / 2400MHz
Voltage	1.2V
Operating Temp.	0 ~ 85°C

DDR3 DIMM with ECC

Type	240Pin Unbuffered DIMM
ECC	with ECC
IC Organization	256Mx8 / 512Mx8
Capacity	2GB / 4GB / 8GB
Speed	1066MHz / 1333MHz / 1600MHz
Voltage	1.35V / 1.5V
Operating Temp.	0 ~ 85°C

DDR4 SO-DIMM with ECC

Type	260Pin Unbuffered SO-DIMM
ECC	with ECC
IC Organization	512Mx8 / 1Gx8
Capacity	4GB / 8GB / 16GB
Speed	1866MHz / 2133MHz / 2400MHz
Voltage	1.2V
Operating Temp.	0 ~ 85°C

DDR3 Registered DIMM with ECC

Type	240Pin Registered DIMM
ECC	with ECC
IC Organization	256Mx8 / 512Mx8
Capacity	2GB / 4GB / 8GB
Speed	1066MHz / 1333MHz / 1600MHz
Voltage	1.35V / 1.5V
Operating Temp.	0 ~ 85°C

Industrial Embedded Module (CIE)

Cervoz Industrial Embedded Module product line consists of mSATA, Half Slim, SATA Disk 7pin, PATA Disk 40/44pin modules and other flash modules that are to be plugged in on internal sockets of computers; it includes 3 different series, Supreme (SLC) Series, Reliance Series (RO-MLC) and Momentum (MLC) Series. All three series are designed and manufactured according to the same industrial grade specifications. Moreover they all incorporate the fixed BOM principle and the long life-cycle management.

Products include both standard temperature range and wide temperature range options with various capacities to choose from. Modules can be used for both booting and storage purposes.

Form Factor	mSATA
Family	M335 (with DDR3 DRAM buffer)
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	32GB ~ 128GB
Sequential Read/Write	up to 535MB/s / up to 145MB/s
Supply Voltage	+3.3V DC ± 5%
Dimension (LxWxH)	50.95 x 30.00 x 3.90 mm
Temperature Range	Standard Temp. (0~70°C)

New

Form Factor	mSATA
Family	M336 (Powerguard Function)
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	32GB ~ 128GB
Sequential Read/Write	up to 535MB/s / up to 145MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	50.95 x 30.00 x 3.90 mm
Temperature Range	Standard Temp. (0~70°C)

Form Factor	mSATA
Family	M305
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	16GB ~ 128GB
Sequential Read/Write	up to 500MB/s / up to 160MB/s
Supply Voltage	+3.3V DC ± 5%
Dimension (LxWxH)	50.95 x 30.00 x 3.90 mm
Temperature Range	Standard Temp. (0~70°C)

Form Factor	Half Size mSATA
Family	M310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	4GB ~ 256GB
Sequential Read/Write	up to 430MB/s / up to 175MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	26.80 x 29.85 x 4.00 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	M.2 2242
Family	M310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	8GB ~ 256GB
Sequential Read/Write	up to 430MB/s / up to 175MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	42.00 x 22.00 x 3.75 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	M.2 2260
Family	M310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	16GB ~ 256GB
Sequential Read/Write	up to 430MB/s / up to 175MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	60.00 x 22.00 x 3.75 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	M.2 2280
Family	M310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	16GB ~ 256GB
Sequential Read/Write	up to 490MB/s / up to 180MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	80.00 x 22.00 x 3.90 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	SATA Disk 7pin Vertical
Family	M310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	4GB ~ 256GB
Sequential Read/Write	up to 430MB/s / up to 175MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	53.40 x 22.20 x 1.00 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Reliance Series (RO-MLC)

Form Factor	mSATA
Family	R335
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	16GB ~ 64GB
Sequential Read/Write	up to 490MB/s / up to 225MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	50.95 x 30.00 x 3.90 mm
Temperature Range	Standard Temp. (0~70°C)

Form Factor	mSATA
Family	R310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	2GB ~ 128GB
Sequential Read/Write	up to 520MB/s / up to 190MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	50.80 x 29.85 x 4.00 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	Half Size mSATA
Family	R310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	2GB ~ 128GB
Sequential Read/Write	up to 520MB/s / up to 175MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	26.80 x 29.85 x 4.00 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	mSATA
Family	S310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	4GB ~ 64GB
Sequential Read/Write	up to 130MB/s / up to 110MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	50.80 x 29.85 x 4.00 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	Half Slim
Family	S310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	4GB ~ 64GB
Sequential Read/Write	up to 130MB/s / up to 110MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	54.00 x 39.00 x 4.00 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	SATA Disk 7pin Vertical
Family	S310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	4GB ~ 32GB
Sequential Read/Write	up to 67MB/s / up to 60MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	53.40 x 22.20 x 1.00 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	PATA Disk 44pin Vertical
Family	S130
Interface	PATA
Capacity	128MB ~ 4GB
Sequential Read/Write	up to 43MB/s / up to 37MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	52.20 x 23.80 x 6.50 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Industrial SSD (CIS)

Cervoz Industrial SSD product line consists of both SATA and PATA interfaces; it includes 3 different series, Supreme (SLC) Series, Reliance Series (RO-MLC) and Momentum (MLC) Series. All three series are designed and manufactured according to the same industrial grade specifications. Moreover they all incorporate the fixed BOM principle and the long life-cycle management.

Products include both standard temperature range and wide temperature range options with various capacities to choose from.

Form Factor	2.5" SATA SSD
Family	M335 (with DDR3 DRAM buffer)
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	32GB ~ 512GB
Sequential Read/Write	up to 560MB/s / up to 420MB/s
Supply Voltage	+5.0V DC ± 5%
Dimension (LxWxH)	100.00 x 69.85 x 7.00 mm
Temperature Range	Standard Temp. (0~70°C)

Form Factor	2.5" SATA SSD
Family	M310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	16GB ~ 256GB
Sequential Read/Write	up to 490MB/s / up to 180MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	100.10 x 69.85 x 7.00 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	2.5" SATA SSD
Family	M305
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	32GB ~ 256GB
Sequential Read/Write	up to 500MB/s / up to 280MB/s
Supply Voltage	+5.0V DC ± 5%
Dimension (LxWxH)	100.00 x 69.85 x 7.00 mm
Temperature Range	Standard Temp. (0~70°C)

New

Form Factor	2.5" SATA SSD
Family	M336 (Powerguard Function)
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	32GB ~ 512GB
Sequential Read/Write	up to 545MB/s / up to 425MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	100.00 x 69.85 x 7.00 mm
Temperature Range	Standard Temp. (0~70°C)

Reliance Series (RO-MLC)

Form Factor	2.5” SATA SSD
Family	R335
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	16GB ~ 256GB
Sequential Read/Write	up to 510MB/s / up to 420MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	100.00 x 69.85 x 7.00 mm
Temperature Range	Standard Temp. (0~70°C)

Supreme Series (SLC)

Form Factor	2.5” SATA SSD
Family	S310
Interface	SATA III 6.0Gb/s
	(backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	4GB ~ 64GB
Sequential Read/Write	up to 130MB/s / up to 110MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	100.10 x 69.85 x 7.00 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Form Factor	2.5” PATA SSD
Family	S120
Interface	PATA
Capacity	16GB ~ 256GB
Sequential Read/Write	up to 80MB/s / up to 90MB/s
Supply Voltage	+5.0V DC +/-5% (3.3V and 5.0V)
Dimension (LxWxH)	100.00 x 69.85 x 7.20 mm
Temperature Range	Standard Temp. (0~70°C) / Wide Temp. (-40~85°C)

Industrial Memory Card (CIM)

Cervoz Industrial Memory Card product line consists of both CompactFlash Cards and CFast Cards; it includes 3 different series, Supreme (SLC) Series, Reliance Series (RO-MLC) and Momentum (MLC) Series. All three series are designed and manufactured according to the same industrial grade specifications. Moreover they all incorporate the fixed BOM principle and the long life-cycle management.

Products include both standard temperature range and wide temperature range options with various capacities to choose from; CompactFlash enclosures are available with or without write protect switches.

Form Factor	CompactFlash
Family	M120
Interface	CompactFlash Specification v6.0 (backward compatible to v3.x, 4.x, 5.x)
Capacity	4GB ~ 64GB
Sequential Read/Write	up to 65MB/s / up to 40MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	42.8 x 36.4 x 3.3 mm
Temperature Range	Standard Temp. (0~70°C) Wide Temp. (-40~85°C)

Form Factor	CFast
Family	M310
Interface	SATA III 6.0Gb/s (backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	4GB ~ 128GB
Sequential Read/Write	up to 485MB/s / up to 160MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	42.8 x 36.4 x 3.3 mm
Temperature Range	Standard Temp. (0~70°C) Wide Temp. (-40~85°C)

Form Factor	CFast
Family	M305
Interface	SATA III 6.0Gb/s (backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	16GB ~ 128GB
Sequential Read/Write	up to 500MB/s / up to 150MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	42.8 x 36.4 x 3.3 mm
Temperature Range	Standard Temp. (0~70°C)

Supreme Series (SLC)

Form Factor	CompactFlash
Family	S120
Interface	CompactFlash Specification v6.0 (backward compatible to v3.x, 4.x, 5.x)
Capacity	128MB ~ 32GB
Sequential Read/Write	up to 80MB/s / up to 65MB/s
Supply Voltage	+5.0V DC +/-5%
Dimension (LxWxH)	42.8 x 36.4 x 3.3 mm
Temperature Range	Standard Temp. (0~70°C) Wide Temp. (-40~85°C)

Form Factor	CFast
Family	S310
Interface	SATA III 6.0Gb/s (backward compatible to 3.0Gb/s, 1.5Gb/s)
Capacity	1GB ~ 64GB
Sequential Read/Write	up to 65MB/s / up to 55MB/s
Supply Voltage	+3.3V DC +/-5%
Dimension (LxWxH)	42.8 x 36.4 x 3.3 mm
Temperature Range	Standard Temp. (0~70°C) Wide Temp. (-40~85°C)

Mini-PCIe Expansion Card (MEC)

Cervoz' Industrial Mini-PCIe Expansion Card product line is designed and manufactured especially for expansion purpose of Embedded PC. The combination of standard technology and small form factor (30mm x 50.95mm) makes it ideal for slim and compact PC installation. Product line Includes Ethernet, Serial, FireWire, USB, Display and SATA functionalities; it makes Embedded PC expansion possible again!

Products are designed using only industrial grade component and therefore can support operating temperature -20 ~ +70˚C. We perform strict reliability and compatibility test in order to meet the highest quality standards.

Ethernet Solution

Model No.	MEC-LAN-M001
PCI-Express	PCI-Express Mini Card
Electromechanical Revision	Electromechanical Rev. 1.1
Bus	Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
Interface (Ethernet 10/100/1000)	1 (RJ45)
Flow Control	IEEE 802.3x flow control
Driver Support	Win 2003, Win XP, Win Vista, Win 7, Win 8
Power Consumption	250mA@3.3V
Dimension (WxL)	30.00 x 50.95 mm
Operating Temperature	-20~70°C
Storage Temperature	-20~85°C
Humidity	5~95%

Model No.	MEC-LAN-M002-R1
PCI-Express	PCI-Express Mini Card
Electromechanical Revision	Electromechanical Rev. 1.1
Bus	Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
Interface (Ethernet 10/100/1000)	2 (RJ45)
Flow Control	IEEE 802.3x flow control
Driver Support	Win 2003, Win XP, Win Vista, Win 7, Win 8
Power Consumption	835mA@3.3V
Dimension (WxL)	30.00 x 50.95 mm
Operating Temperature	-20~70°C
Storage Temperature	-20~85°C
Humidity	5~95%

FireWire Solution

Model No.	MEC-FIR-M003
PCI-Express	PCI-Express Mini Card
Electromechanical Revision	Electromechanical Rev. 1.1
Bus	Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
Interface (IEEE 1394)	1 (1394A), 2 (1394B)
Data Transfer Rate	100, 200, 400, 800Mbit/s
Driver Support	Win 2003, Win XP, Win Vista, Win 7, Win 8
Power Consumption	245mA@3.3V
Dimension (WxL)	30.00 x 50.95 mm
Operating Temperature	0~60°C
Storage Temperature	-20~85°C
Humidity	5~95%

Serial Solution

Model No.	MEC-COM-M212
PCI-Express	PCI-Express Mini Card
Electromechanical Revision	Electromechanical Rev. 2.0
Bus	Single-Lane (x1) PCI-Express with throughput up to 5.0/2.5Gbps
Interface	2 x RS232
ESD Protection	15 KV on board
Serial Port Power Voltage Select	5V or 12V
Performance Baud Rate	Asynchronous baud rates up to 921.6 Kbps
Driver Support	Win 2000, Win XP, Win Vista, Win 7, Win 8
Power Consumption	415mA@3.3V
Dimension (WxL)	30.00 x 50.95 mm
Operating Temperature	-40~85°C
Storage Temperature	-40~85°C
Humidity	5~95%

Model No.	MEC-COM-M334
PCI-Express	PCI-Express Mini Card
Electromechanical Revision	Electromechanical Rev. 2.0
Bus	Single-Lane (x1) PCI-Express with throughput up to 5.0/2.5Gbps
Interface	4 x RS232/RS422/RS485
ESD Protection	15 KV on board
Serial Port Power Voltage Select	5V or 12V
Performance Baud Rate	Asynchronous baud rates up to 921.6 Kbps
Driver Support	Win 2000, Win XP, Win Vista, Win 7, Win 8
Power Consumption	645mA@3.3V
Dimension (WxL)	30.00 x 50.95 mm
Operating Temperature	-40~85°C
Storage Temperature	-40~85°C
Humidity	5~95%

Display Solution

Model No.	MEC-DIS-M002
PCI-Express	PCI-Express Mini Card
Electromechanical Revision	Electromechanical Rev. 1.1
Bus	Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
Interface	1 (DVI-I), can be expanded to 1 x DVI and 1 x VGA
DVI Resolution	Up to 1280 x 1024, 60Hz
VGA Resolution	Up to 1280 x 1024, 60Hz
Driver Support	Win 2003, Win XP, Win Vista, Win 7, Win 8
Power Consumption	740mA@3.3V
Dimension (WxL)	30.00 x 50.95 mm
Operating Temperature	-20~70°C
Storage Temperature	-20~85°C
Humidity	5~95%

USB Solution

Model No.	MEC-USB-M002
PCI-Express	PCI-Express Mini Card
Electromechanical Revision	Electromechanical Rev. 2.0
Bus	Single-Lane (x1) PCI-Express with throughput up to 5.0/2.5Gbps
Interface(USB 3.0)	2 (USB)
Data Transfer Rate	Data Transfer rate of 1.5 / 12 / 480 / 5000 Mbps, Low Speed (1.5Mbps), Full Speed (12Mbps), High Speed (480Mbps), Super Speed (5Gpbs)
Driver Support	Win 2003, Win XP, Win Vista, Win 7, Win 8
Power Consumption	290mA@3.3V
Dimension (WxL)	30.00 x 50.95 mm
Operating Temperature	-20~70°C
Storage Temperature	-20~85°C
Humidity	5~95%

SATA Solution

Model No.	MEC-SAT-M002
PCI-Express	PCI-Express Mini Card
Electromechanical Revision	Electromechanical Rev. 2.0
Bus	Single-Lane (x1) PCI-Express with throughput up to 5.0/2.5Gbps
Interface(Serial ATA III)	2 (SATA)
Data Transfer Rate	SATA III transfer rate of 1.5Gbps, 3.0Gbps 6.0Gbps
Driver Support	Win 2003, Win XP, Win Vista, Win 7, Win 8
Power Consumption	360mA@3.3V
Dimension (WxL)	30.00 x 50.95 mm
Operating Temperature	-20~70°C
Storage Temperature	-20~85°C
Humidity	5~95%

Model No.	MEC-WIFI-M101-H
Feature	1T1R Mode with a 150Mbps Tx/Rx PHY Rate 20MHz/40MHz Bandwidth IEEE 802.11b/g/n Compatible WLAN IEEE 802.11e QoS Enhancement (WMM) Complies with PCIe 1.1
Frequency Range	802.11 b/g/n
Interface	Mini PCI Express
T/R	1T1R
Form factor	Half Size
Dimension	29.85 x 26.65 mm
Operating Temperature	0 ~ 70°C
Operating System Support	Win 7, Win 8, Win Vista, Win XP

Model No.	MEC-WIFI-M231B-H
Feature	Configuration WLAN/ BT Antenna Diversity with DPDT RF Switch WLAN Standard IEEE 802.11 ABGN/AC Host Interface Half Mini-Card Complies with PCI express 1.1
Frequency Range	802.11 a/b/g/n/ac + Bluetooth 4.0
Interface	Mini PCI Express
T/R	1T1R , 2Ant
Form factor	Half Size
Dimension	29.85 x 26.65 mm
Operating Temperature	0 ~ 70°C
Operating System Support	Win 7, Win 8, Win 8.1, Win10, Linux, Android

Model No.	MEC-WIFI-M302-H
Feature	Internal 2.4GHz PA 2T2R MIMO 11n Support 20MHz and 40MHz Bandwidth Transmission IEEE 802.11b/g/n Compatible WLAN Complies with PCI Express Base Specification Revision 1.1
Frequency Range	802.11 b/g/n
Interface	Mini PCI Express
T/R	2T2R
Form factor	Half Size
Dimension	29.85 x 26.65 mm
Operating Temperature	0 ~ 70°C
Operating System Support	Win 7, Win 8, Linux, Android

Cervoz Storage Enclosure (CSE)

Cervoz Storage Enclosure product line consists of both Storage Enclosure and RAID Storage Enclosure series. With a various combinations of 2.5″ and 3.5″ SSD / HDD bays, you can easily extend your storage capacity for the diversified industrial applications.

Model No.	CSE-312ANSAN
Form Factor	1 x 3.5" Bay for 2 x 2.5" HDD (SSD)
Support HDD Type	2.5" SATA I, II, III HDD & SSD
Interface	7pin SATA signal connector x 1 & 15pin SATA power connector x 1
Indicators	Green for power on Orange for HDD access
Security	Metal key-lock
Material	Aluminum
Compatibility	Windows / Linux / Mac
Dimension	146 (L) x 101 (W) x 25 (H) mm
Weight	0.39 kg

Model No.	CSE-511BTSSN
Form Factor	1 x 5.25" Bay for 1 x 3.5" HDD
Support HDD Type	3.5" SATA I, II, III & SAS I, II
Interface	7pin SATA signal connector x 1 & 15pin SATA power connector x 1
Indicators	Green for power on Amber for HDD access
Security	Dual-function metal key-lock design: Power lock & mechanical lock
Material	Aluminum
Cooling Fan	4 x 4cm Fan x 1
Compatibility	Windows / Linux / Mac
Dimension	189 (L) x 146 (W) x 42 (H) mm
Weight	0.84 kg

Model No.	CSE-514ATSSN
Form Factor	1 x 5.25" Bay for 4 x 2.5" HDD & SSD
Support HDD Type	2.5" SATA I, II, III & SAS I, II HDD & SSD
Interface	7pin SATA signal connector x 4 & 15pin SATA power connector x 1
Indicators	Blue for power on Purple for HDD access Red (slow blinking) for fan failure Red (fast blinking) for overheating
Security	Metal key-lock
Material	Aluminum body & Aluminum tray
Cooling Fan	4 x 4cm Fan x 2
Compatibility	Windows / Linux / Mac
Dimension	180 (L) x 146 (W) x 42 (H) mm
Weight	0.91 kg

Model No.	CSE-523CTSARB
RAID	0, 1, 3, 5, JBOD, PM, Clone (Dip switch / Software)
Application	5.25” form factor drive space (2 CD-ROM drive bay)
Inner Tray Design	Allow to fit 2.5”/3.5” HDD
HDD Capacity	2.5”/3.5” SATA HDD or SSD (Single HDD tested up to 4TB)
Transfer Connector	7 Pin SATA port connector
Transfer Rate	Up to 3Gbps
Fan Speed Adjustable	8cm Fan x 1, Fast / Slow
Compatibility	Windows / Linux / Mac
Dimension	202 (L) x 146 (W) x 86 (H) mm
Weight	1.3 kg

Model No.	CSE-534CTSARC
RAID	0, 1, 3, 10, 5, JBOD, PM, Clone (Dip switch / Software)
Application	5.25” form factor drive space (3 CD-ROM drive bay)
Inner Tray Design	Allow to fit 2.5”/3.5” HDD
HDD Capacity	2.5”/3.5” SATA HDD or SSD (Single HDD tested up to 4TB)
Transfer Connector	7 Pin SATA port connector
Transfer Rate	Up to 3Gbps
Fan Speed Adjustable	8cm Fan x 1, Fast / Slow
Compatibility	Windows / Linux / Mac
Dimension	202 (L) x 146 (W) x 126 (H) mm
Weight	1.5 kg

Model No.	CSE-535CTSARD
RAID	0, 3, 10, 5, JBOD, PM, Clone (Dip switch / Software)
Application	5.25” form factor drive space (3 CD-ROM drive bay)
Inner Tray Design	Allow to fit 2.5”/3.5” HDD
HDD Capacity	2.5”/3.5” SATA HDD or SSD (Single HDD tested up to 4TB)
Transfer Connector	7 Pin SATA port connector
Transfer Rate	Up to 3Gbps
Fan Speed Adjustable	8cm Fan x 1, Fast / Slow
Compatibility	Windows / Linux / Mac
Dimension	207 (L) x 126 (W) x 146 (H) mm
Weight	1.9 kg

Our Values

Responsibility through owning it

Cervoz is responsible for the customer's experience with us. We do not pass you off to others or avoid tough challenges. Every time our customer interacts with us they know that there is someone who is responsible on the other side.

At Cervoz, our staffs always have ownership of their tasks.

Service through listening

Customer service isn't just something we talk about. We make the effort to directly communicate with our customers and that's how we can give the best service in this industry.

At Cervoz, we respect our coworkers and give them honest feedback, and we listen to others the same way.

Reliability through testing

Reliability isn't just something we say, it is something that we show our customers by rigorous, consistent inspections and testing.

At Cervoz, not only we test our products before they are delivered, we challenge each-other to ensure that we focus in the right direction and the right targets as a team.

Quality through improvement

Cervoz has constantly developed the products and processes that ensure you have the right product for the job, at the right time and the right price.

At Cervoz, quality isn't a static concept, it is a journey that we continuously move upon in every department in our company.

CERVOZ

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