



**Industrial Computing System Provider**  
Intelligent Solution Empowered by Innovation

# Who We Are

## Market Position

**Cincoze is a system provider in the Industrial Computing field.** We design, manufacture, and market highly engineered and innovative products to meet the demanding industrial application markets.

Company	Product	Market
Industrial Computing System Provider	Fanless Computing Solution & Industrial Display Solution	Industrial Application
		

## Capabilities

Cincoze specializes in the processes that are crucial to implementing a complete solution, every step from the technical feasibility study, design, verification, and manufacturing to extended life cycle services.

With responsive design, accurate and ERP-managed manufacturing abilities, in addition to expert component selection, Cincoze offers high quality, long lifecycle management to meet the most demanding requirements.

## New Product Development Process

Concept Design	Product Planning	Design Review	Prototype Building
<ul style="list-style-type: none"> <li>-Analyze Needs</li> <li>-Create Concept</li> </ul> 	<ul style="list-style-type: none"> <li>-Define Specifications</li> <li>-Industrial Design</li> <li>-Sourcing Strategy</li> </ul> 	<ul style="list-style-type: none"> <li>-Mock-ups</li> <li>-Electrical Test</li> </ul> 	<ul style="list-style-type: none"> <li>-Commercial Sample</li> <li>-Integrated System Test</li> </ul> 
Pilot Production	Mass Production	Continuous Support	
<ul style="list-style-type: none"> <li>-Production Process Design</li> <li>-Pilot Assembly</li> </ul> 	<ul style="list-style-type: none"> <li>-Volume Production</li> <li>-Production Testing</li> <li>-Global Distribution</li> </ul> 	<ul style="list-style-type: none"> <li>-Component Replacement</li> <li>-Technical Support</li> <li>-Warranty Support</li> </ul> 	

## Product Lines

Cincoze is a professional manufacturer providing industrial computing system solutions. We offer both fanless computing and display computing product lines.

“Diamond” is our fanless computing system product line that includes three series; Superior Performance (Diamond S), Power Efficient (Diamond E), and Compact Size (Diamond C). Diamond is a rugged, reliable and comprehensive solution for critical industrial environments.

“Crystal” is our display computing system product line that includes three series; Convertible Panel PC (Crystal VP), Convertible Touch Monitor (Crystal VM), and Display System Module (CDS Module). Crystal is a flexible, all-in-one, industrial, and multi-functional solution that fulfills a wide range of applications.

**Industrial Computing System Provider**

Fanless Computing Solution	Display Computing Solution
	
<p style="text-align: center;"><b>Industrial Fanless Computers (Diamond)</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><b>Diamond S Series</b> Superior Performance Fanless Computers</p> </div> <div style="text-align: center;">  <p><b>Diamond E Series</b> Power Efficient Fanless Computers</p> </div> <div style="text-align: center;">  <p><b>Diamond C Series</b> Compact Size Fanless Computers</p> </div> </div>	<p style="text-align: center;"><b>Industrial Panel PCs &amp; Touch Monitors (Crystal)</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><b>Crystal VP Series</b> Convertible Panel PCs</p> </div> <div style="text-align: center;">  <p><b>Crystal VM Series</b> Convertible Touch Monitors</p> </div> <div style="text-align: center;">  <p><b>CDS Module Series</b> Display System Modules</p> </div> </div>

# Services

## Configure-To-Order Services (CTOs)

We offer "Turnkey" solutions according to customers' needs. We can configure numerous options on our systems including:

- Hardware Integration:** We carefully choose and certify qualified products such as processors, memory, storage devices, expansion cards, and other components as our standard part lists. You decide the configuration and we integrate those components into your system.
- Software Installation:** We can install an operating system (OS) or a customized image based on the request.
- Testing & Verification:** We will conduct POST, function tests and burn-in tests on the integrated system.



### Benefits to Customers

- Flexible System Solutions
- Cost Effectiveness
- Proven Quality

## OEM/ODM Services

Cincoze offers OEM/ODM and industrial computing customization services to meet the requirements of clients in small to medium quantities with a fast time-to-market turnaround. Our services cover the full project life cycle. We maintain stringent quality standards in our manufacturing processes, and ensure products to go through rigorous quality checks at every stage of production. Our expertise and experience lies in design implementation, quick prototyping, on-time delivery and RMA / repairing services for our clients.



# What We Do

## Innovative R&D

A Balance between the Latest PC Technology, Innovation and Application Know-how

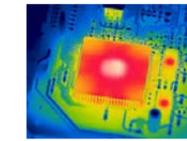
We have a dynamic and experienced R&D team that keeps pace with changing industry trends. We ensure that our staff is up-to-date with the most innovative technology and always offers state-of-the-art solutions to meet the customer's specific application demands.

At Cincoze, we constantly refine and evolve all of our processes to enhance value, verify reliability, and foster innovation; we devote our major manpower to R&D. Our in-house engineering team is dedicated to developing creative solutions that improve the capabilities of our products.



### Electronic Design

Cincoze possesses exceptional design experience in electronic and circuit optimization. We are confident in passing any stringent test criterion from customers' requirements.



### Thermal Design

In order to help our customers overcome thermal issues, Cincoze is equipped with thermal simulation tools along with physical test benches to assure thermal performance of any mechanical design.



### Mechanical Design

Cincoze's dedicated and experienced mechanical engineers understand your applications and requirements and are able to ensure safety and reliability.



### System Integration

Our team of professionals is dedicated to providing only the best for our clients. We achieve this by keeping up-to-date with the latest technologies.

## Effective Manufacturing

We organize complete manufacturing process including PCB, metal sheet and aluminum chassis production; we hold our own assembly factory in Taiwan.

We emphasize **quality, flexibility** and **productivity** which is **reflected** in:

- **Manufacturing Plan:** We have a rigorous production plan to meet targeted quantities and lead-times.
- **Efficient Production:** We carefully manage all production procedures and operations to optimize efficiency.
- **Total Quality Assurance:** All products we produce are 100% tested and verified.
- **Manufacturing Process Simplification and Process Refinements:** Ongoing analysis, review, and study of production methods must be performed with the sole purpose of making the process simpler, easier, and as a result, optimized.



SMT / DIP Process



Sheet Metal Fabrication



Extruded Aluminum Enclosures



System Assembly



Product Packaging

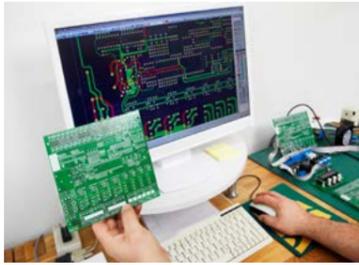
## Reliable Quality Assurance

Integrated Quality Assurance: Assuring Best Quality Right from the Start

Cincoze is deeply invested in developing rigorous quality assurance and compliance testing facilities. With the mentioned quality assurance and compliance tests we assure that our customers receive durable products that withstand harsh operation environments. Under our strict Quality Assurance System, product design and reliability are controlled.



## Meticulous Reliability Testing Ensures Design and Production Quality



Electrical Test



Environmental Test



Function Test



Vibration Test



Drop Test



Burn-in Test



## Global Sales & Distribution

In order to extend our global sales and support, we form partnerships with industry-leading distributors to bring our clients the additional value which includes up-to-date technology, access to specialized resources and expertized services.

## Complete Service

When you decide with a Cincoze solution, you are choosing a reliable partner. We provide the value-added service before and after the purchase. We have a dedicated technical and customer service support team who quickly responds to your requests, providing real-time solutions.



### Technical Support

Cincoze provides timely and knowledgeable support and services to help your system operate efficiently.



### Troubleshooting

Our service team is equipped with the latest and greatest tool-sets. All team members continually undergo training on a wide range of products to be able to respond swiftly and effectively in any situation.



### Warranty

Cincoze products are warranted to be free from manufacturing defects in materials and workmanship starting from the shipping date of Cincoze.

# What We Believe

## Green Products

### Designing Products with the Eco-friendly Concept

Cincoze focuses on designing products that are easy to be reused, recycled, and disassembled, which improve product power efficiency, and adhere to hazardous substance guidelines. We continuously take steps toward carrying out our Green policy. The Green Product concept has been built into our new product development system to ensure protection of the environment. In order to provide eco-friendly products, we consider the following while designing our products:



- **Smarter Material Choices:** We use safe materials in our products and many of our products are designed with environmentally preferable materials like recycled plastics.
- **RoHS Compliant:** From our internal practices to our production processes, we continue to promote environmental protection policies and provide RoHS compliant products for our customers.

## Brand Values

### Driving Growth & Innovation Through Our Brand Core-Values

We strongly believe in leading products and solutions with the aim of controlling, monitoring and optimizing industrial processes and functions. We at Cincoze work non-stop to create solution to our customers' Industrial Applied Computer demands. This is evident through our core-values:

- Quality-driven
- An Extreme Commitment to Reliability
- Attention to Detail – Both in Products and Services
- People – We Develop Our Know-how through Our People

### Internal (Employees)

At Cincoze we are continuously looking to improve our internal processes.

#### Quality-driven

We always focus on improving the quality of our product as well as the quality of our service.

We must always be reliable in the way we work together as a team.

#### An extreme commitment to reliability

Reliability is the key for IPCs and we work continuously to make sure our products are 100% reliable.

Within Cincoze we pay attention to every detail.

#### Attention to Detail – Both in Products and Services

It is through attention to details that others will judge us – it is a representation of our company and our products' quality.

We know that to develop the specialist know-how needed to be experts: we need to have the best people and invest in them.

#### People – We develop our know-how through our people

We show outsiders the quality of our company and products by the quality of our people – that is what they see.

### External (Customers & Partners)

# Innovative

Product Lines

Cincoze is proud to introduce the revolutionary convertible display system and advanced fanless computing system product lines to the market. The convertible display system (CDS) is a brand new type of industrial panel PC and touch monitor. CDS offers innovative technology that provides new solutions for many industrial applications. This advanced fanless computing system adds new functionality with even greater computing performance. It steps-up fanless computing to a new level.

## Industrial Computing System Provider

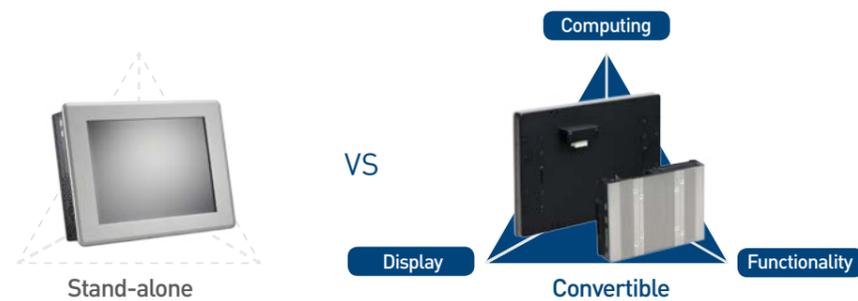


## Revolutionary Convertible Display System



CDS is a standardized "All-in-one" system that is composed in two major parts, display and system. They are interdependent and can be operated together. The advanced electronic design integrates display, touch and computer signal in an embedded circuit board, which provides the most reliable display computing operation. Moreover, the unique mechanical design unifies connection, form factor and fixation to ensure seamless hardware integration. This technology together offers possibilities of changing display size of a system, upgrading computing performance and I/O connectivity depending entirely on the requirements of the application.

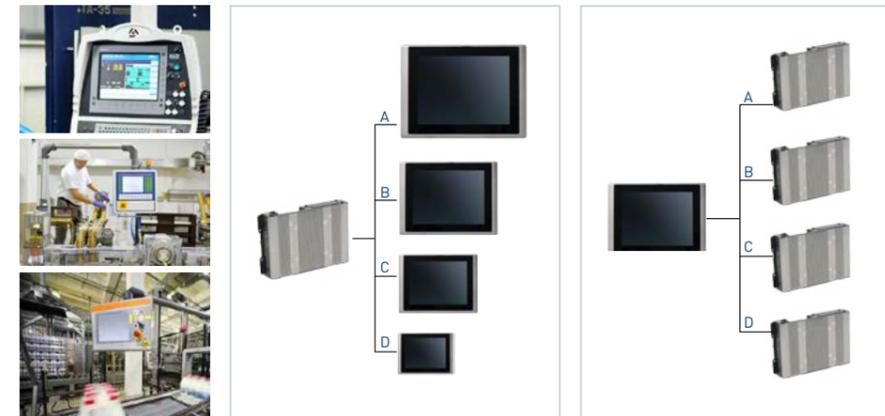
form factor and fixation to ensure seamless hardware integration. This technology together offers possibilities of changing display size of a system, upgrading computing performance and I/O connectivity depending entirely on the requirements of the application.



Features	Benefits
<b>Configure by demand</b>	Build an application-ready system instantly
<b>Easy maintenance</b>	Lower total ownership cost and keep non-stop operation
<b>Upgrade capability</b>	Protect investment and offer scalability

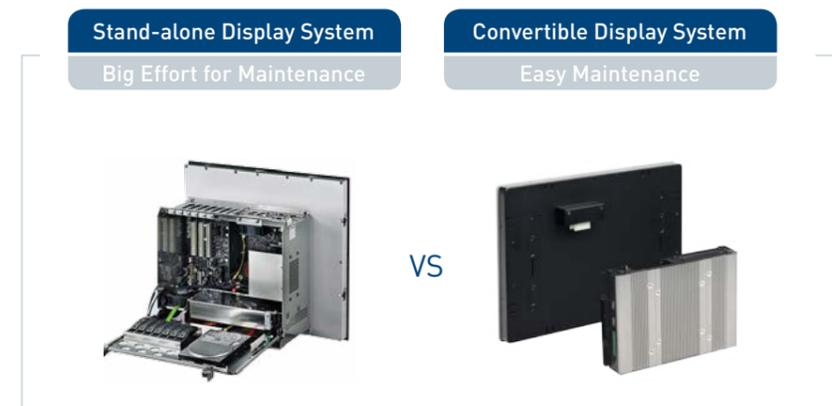
## Configure by Demand

CDS supports the "configure by demand" function that allows users to configure their own panel PC or touch monitor by selecting the desired display (LCD size, resolution, formats) and system (computing performance, I/O connectivity).



## Easy Maintenance

CDS is very easy to maintain and does not require a specialist. The plug-in design means only three steps are needed to exchange or maintain a system. This results low cost on-site maintenance and allows operations to continue without interruption.



## Upgrade Capability

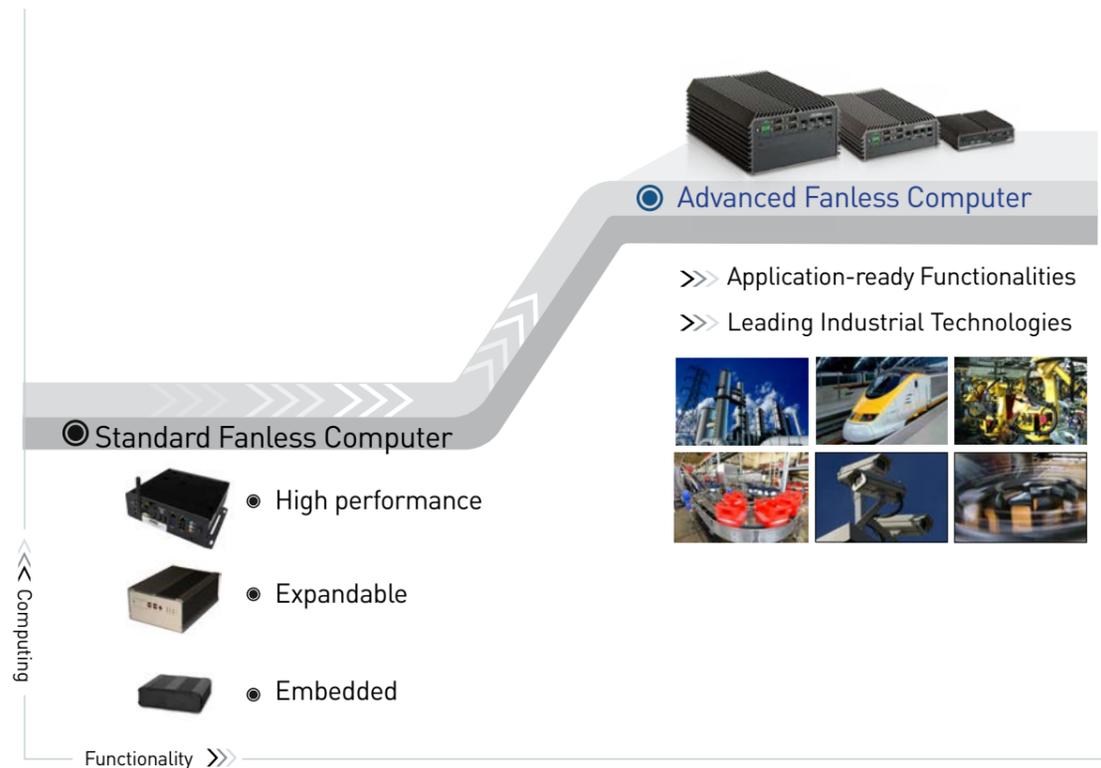
Thanks to the standardized electronic specification and unified mechanical design of CDS that can be upgraded easily and thus your investment is protected.



# Advanced Fanless Computing System

The advanced fanless computing system integrates both leading industrial computing technologies and application-ready functionality to simplify the complexity of industrial applications. The leading industrial computing technologies comprise the latest Intel embedded solution, the world's leading "Fanless System Supports Desktop Processor", unique "Compact Expandable Computer" and much more for you to explore.

The application-specific functionalities include power ignition for vehicle, Power over Ethernet, RAID for backup and recovery, and multi Giga LAN for surveillance. It is very exciting to know how those functionalities can make the applications much easier and more cost-effective. There is no longer a need to make compromises for performance or functionality while choosing a suitable fanless computer. Here, you have it all!



## Latest Intel® Embedded Solution

The advanced fanless computing system powered by the latest Intel® Atom™ SOC processors and the 4th generation core™ i processors provides comprehensive solutions, from power efficient to top performance, to fulfill various operation requirements. The latest features highlight significant graphics improvement, better computing performance, and smart I/O with less power consumption.



## World-leading Fanless Computer Supports Desktop Processor

The advantages of the Intel® embedded desktop solution are very obvious; it has higher performance and lower cost in comparison to its mobile solution. However this is hardly achievable in a "fanless" system because of the heat generated from the high power consumption. By integrating the latest Intel® core™ i solution with the unique Cincoze thermal design, we are proud to introduce the world's leading "Fanless Computer Supports Desktop Processor" to the market. While enjoying the benefits of rugged fanless design and higher desktop performance, the LGA1150 supported socket allows the flexible choice of a compatible processor for the application.



## ■ Compact Expandable Computer

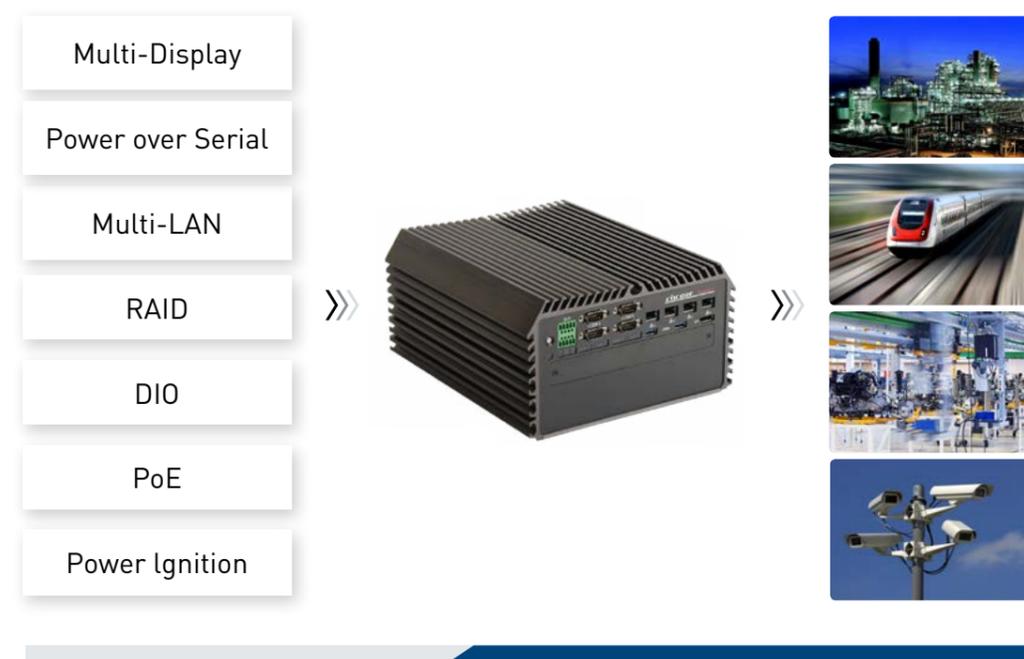
The usual problem with a small size embedded box PC is its limited expandability, which narrows down the range of applications that can be implemented. This is not the case with our "Compact Expandable Computer". The palm-sized body, equipped with two Mini-PCIe slots and unique universal I/O bracket allow expansion for wireless communication, I/O add-ons and automation fieldbus cards. "Compact Expandable Computer" has redefined the term "embedded". It is tiny yet very flexible which creates many new possibilities for the embedded market.



- 2 Mini-PCIe Slot with Unique Universal I/O Bracket
- Wireless Expansion
- I/O Expansion
- Fieldbus Expansion

## ■ Application-ready Functionalities

The usage of industrial computers over the last decade has extended into an enormous range of applications. Many of these require more than standard computing functionality; transportation, digital signage, factory automation, POS/KIOSK, surveillance, in-vehicle, medical and many others. By using built-in micro-processors, extended I/O modules, dedicated ASIC and add-on circuit boards, we are able to offer advanced functionalities that makes the required applications easy to apply and ready to run. The advanced fanless computing system is more than just a standard fanless computer; it offers not only superior computing performance but also integrated application-ready functionalities such as Digital I/O, Power Ignition, Power over Ethernet, Power over Serial, RAID and Multi-LAN. The target of the advanced fanless computing system is to be an intelligent and cost saving solution for the increased demands of today's market.





# Diamond

## Fanless Computing Systems

Cincoze is proud to offer our Diamond product line of fanless computing systems. The Diamond product line includes Superior Performance (Diamond S), Power Efficient (Diamond E) and Compact Size (Diamond C) Series. All three series are designed to be rugged, fanless and cable free and are subjected to rigorous testing for verification of their suitability to operate under harsh environmental conditions. They are extremely reliable and suitable for a wide range of industrial applications.

## The Core Design Concepts for Diamond Fanless Computing Systems

### >> Rugged Design

Diamond Systems are designed for harsh environments. The rugged mechanical design can withstand extremes of shock, vibration, humidity, and temperature. The rugged design concept also applies in component selection, circuit design, PCB layout, material thermal solutions, critical test criteria, and manufacturing process.

**Fanless Design** The absence of moving parts extends system life, reduces needs for maintenance in a wide range of environments and heavy-duty industrial applications. In addition, it also minimizes possible downtimes caused by failures of moving parts. Fanless design reduces overall system power consumption.



**Cable Free Design** All components and connectors are directly mounted on the PCB using SMT and DIP without any connecting cables. This eliminates possible cable failure and also prevents signal degradation and latency. Our cable free design results in an extremely strong and durable mechanical structure which is suitable for the harshest environments.

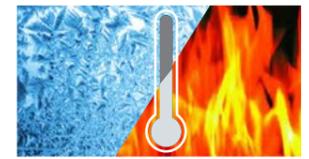


**One-piece Housing Design** This mechanical design provides high reliability, durability, easy access for installation and maintenance. The robust one-piece housing is highly resistant to damage caused by shock and vibration. The unit is well sealed and resistant to moisture and ingress of dust. The robust housing is also designed to give the most efficient heat dissipation under various environmental conditions..



### Wide Temperature Range

The design of Diamond Systems allows operations in extreme high and low temperature environments. The system provides the highest level of failure tolerance and is designed to deliver optimum performance over a wide temperature range in order to accommodate diverse industrial applications.



### Integrated Anti-vibration Kit

The integrated anti-vibration kit effectively absorbs shock and vibration. It is a simple and reliable anti-vibration solution that gives the system extra stability and increases life-span of the device.



### >> Reliable Design

Diamond Systems are designed for flexibility across a wide range of applications and focused on reliability, performance and longevity. They are built with industrial grade components, special heat dissipation, reliable DC power input, power protection and ESD protection to minimize the possibility of failures in harsh environments.

### Industrial Components

Quality of components directly affects the performance of an industrial computing product. The industrial components used in this product line provide outstanding performance and generate less heat inside of the system and it also increases the system stability.

### Special Heat Dissipation

The intelligent design of thermal module and chassis structure allows the most effective heat dissipation. This increases the upper limit of temperature operation and also raises the industrial-grade quality and standard.



## Reliable DC Power Input

Voltage supplies in different places can vary and may be unstable at times. Incorrect voltage and current can cause damage and failure of electrical components. In order to provide safe and reliable operations under industrial conditions a wide range of acceptable inputs are essential. The built-in industrial standard voltage and current regulator allow a wide range of DC inputs.

## Power Protection

Diamond Systems have several means for power protection, a positive high voltage ideal diode controller with reverse input protection, transient voltage suppressor diode (also known as TVS Diode), and several types of fuses on the main board. The power protection design not only reduces risks from installation mistakes, and also prevents accidental system damages.

- **Reverse Power Input Protection:** Protects the system against incorrect power input polarity.
- **Over Voltage Protection:** Protects the system from over voltage up to 75 VDC  $\pm$  15 %.
- **Over Current Protection:** Protects the system from over current up to 15~20 Amps.

## ESD Protection

Diamond Systems are built-in with ultra-low capacitance ESD protection array for high speed I/O ports, such as USB, VGA, DVI display outputs, etc. ESD array protects the system from external ESD threats and also guards the power supply and data transfer connections against discharge spikes.

## Comprehensive Product Portfolio

Diamond Systems are available in several designs with different functionalities. They are all highly reliable and functional and can be implemented to various requirements. Cincoze offers several options as below:

### ■ Diamond S Series

The Diamond S series features high processing power and multi-expansion possibilities. The systems provide high performance, multi-tasking and ultimate functionality, with I/O and expansion capabilities for the most critical applications.

### ■ Diamond E Series

The Diamond E series features efficient processing power and high functionality. The systems are designed with rich I/O, high flexibility and easy expansion capabilities which are ideal for diverse industrial applications.

### ■ Diamond C Series

The Diamond C series systems are very small and efficient and they are designed with low power consumption. The systems provide performance that is ideal for embedded applications where space is limited.

## Diamond Fanless Computing Systems

### Expandable Fanless Computing Systems

#### Diamond S

High Performance  
Multi-tasking  
Abundant Functionality  
High Expansion Capability



#### Diamond E

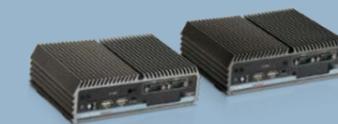
Power Saving  
Abundant Functionality  
Rich I/O  
High Expansion Capability



### Integrated Fanless Computing Systems

#### Diamond C

Power Saving  
Extremely Compact



# The Key Features of Diamond Fanless Computing Systems

## 1. Superior Performance

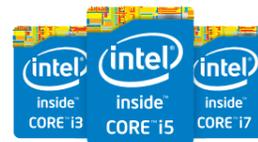
### World-leading Fanless Computer Supports Desktop Processor—Highly Flexible and Cost Effective



Supporting the 4th generation Intel® Core™ i3/i5/i7 processor up to 3.7GHz, and L2 cache up to 8M, Cincoze Diamond S series is a powerful desktop solution and also the world's first "Fanless Computer Supports Desktop Processor". In comparison with the mobile platform, Diamond S series provides a better performance at a lower price. In addition, the sockets support LGA 1150, which enable users to select compatible processors on demand.

### Substantially More CPU Power and Extra Graphic Performance

Powered by the 4th generation Intel® Core™ i3/i5/i7 processors and the Intel® Q87 chipset, Diamond S series fanless computing systems enable customers to consolidate industrial workloads and deliver much more efficient factory solutions. With improved CPU performance, graphic capability, security and power efficiency, it is ideal for powering intelligent systems.



### Triple-independent Display Supported

Based on Intel® HD Graphics, Intel® augments the graphics performance with DX11.1 and OCL1.2, while supporting HDMI 1.4, DP, eDP, DVI, and VGA digital displays. The multiple video output ports enable Diamond S series to create an ultimate visual experience and support separate video streams and extension modes on the triple-independent display.



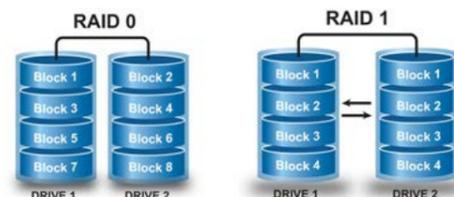
Extended Screen



Individual Screen

### RAID 0/1 Supported

Diamond S / E series support SATA RAID technology with RAID (striping) and RAID 1 (disk mirroring) to offer safe and cost-effective storage solutions. RAID technology is ideal for a variety of industrial-grade applications that require high data transfer rates, mass data storage and high reliability.



## 2. Ultimate Expandability

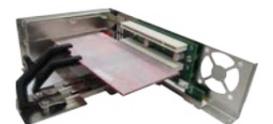
Diamond Systems were born to be expandable. The systems support various expansion interfaces, such as PCI, PCI express, Mini-PCIe, and MSATA, offering the greatest flexibility for many different applications.



Interface	Standard Height (mm)	Support Length (mm)	Diamond C Series	Diamond E Series	Diamond S Series
Mini-PCIe	30.00	26.80 Half size	V	V	V
	30.00	50.95 Full size	V	V	V
PCI	111.15	174.63 Max		V	V
	111.15	235.00 Max			V
PCIe x1	111.15	174.63 Max		V	V
	111.15	235.00 Max			V
PCIe x16	111.15	235.00 Max			V

### PCI/PCIe Expansion

Diamond S / E series support removable extension modules with PCI/PCIe combination slots, and unique card retainer design protecting add-on cards from vibration shock.



### Mini-PCIe Expansion

Diamond Systems support multiple Mini-PCIe slots, which provides expansion capacity for I/O and wireless applications. In addition, the universal I/O bracket design allows easy Mini-PCIe card expansion.



# 3. Extended Functionality

## PoE (Power over Ethernet)

Diamond S / E series support up to 4 PoE ports providing up to 27 watts of power per port. The PoE function enables data to be transmitted simultaneously through an Ethernet cable allowing the system to be used with IEEE802.3af compliant power devices (PD). This makes the system ideally suitable for outdoor applications such as IP cameras, Access Points, RFID Readers and IP Phones, making it possible to reduce the complexity, cost of installation and maintenance while increasing the security and reliability of the network.



## Multi-LAN

Diamond S / E series support up to 6 Gigabit LAN ports with Intel® 82583 Ethernet controllers. This feature provides abundant network connectivity and enables the system to be tailored to specific applications, such as monitoring, analysis, or surveillance.

## PoS (Power over Serial)

Diamond S / E series support power over serial ports, enabling devices to be powered directly without the need of external DC power sources.

## AT / ATX Dual Power Mode

Diamond systems support AT/ATX dual power mode. AT/ATX DIP switch is located in an accessible area allowing users to select required power modes



## Digital I/O

Diamond systems support up to 4-ch isolated digital input and output, allowing implementations to industrial control applications.



Digital I/O



POS / KIOSK



Control Application

## Intelligent Ignition Control

Built-in microprocessor and power ignition signal pin allow detection of ignition signal status and control on/off delay time setting. This intelligent ignition control function makes Diamond S / E series ideal for in-vehicle applications.



Power Ignition



Power Ignition Function for in-vehicle Application

# 4. Easy Maintenance

## Accessible Design

External devices, such as HDD, SSD, CFAST, SIM Card and CMOS battery can be accessed from the protected and removable front plate for Diamond S series. The retrievable design offers great convenience for maintenance and on-site usage; it saves a lot of maintenance time and cost.



Exchangeable Fuse Socket

## Exchangeable Fuses

Diamond S series has built-in exchangeable fuse that protects the system from over current up to 15A. The convenient design enables users to exchange fuses when necessary.

## Self-Diagnostics

Diamond S series has built-in internal sensors for measuring system temperature. The temperature LED on the front panel shows the system status. This self-diagnostic design enables users to take precautionary action to prevent incidents.



- Green=Good
- Yellow=Moderate
- Red=Hot
- Blinking Red=Over Heat

## External Fan Option

An optional external fan is available for installation on top of the system and can be powered directly from the system which allows Diamond S series to be deployed in extremely harsh conditions.

# Superior Performance Fanless Computers

## Diamond S Series

- The World's 1st Fanless Computer Supports Desktop Processor
- 4th Generation Intel® Core™ i7/i5/i3 Processors Supported
- Wide Operating Temperature (-10°C ~ 60°C)
- Triple Independent Display
- Multi LAN / PoE Version Available
- Power over Serial / RAID/ DIO and Power Ignition Functionalities
- Various Expansion Interfaces: PCI / PCIe / Mini-PCIe Expansion Available



The World's 1st Fanless Computer Supports Desktop Processor



Wide Operating Temperature



Triple Independent Display



Abundant Functionalities



Various Expansion Interfaces



Easy Maintenance



intel inside CORE i3    intel inside CORE i5    intel inside CORE i7

# Power Efficient Fanless Computer

## Diamond E Series

- Onboard Intel® Atom™ Processor (Bay Trail Platform)
- Wide Operating Temperature (-20°C ~ 70°C)
- Multi LAN/PoE Version Available
- Power over Serial / RAID/ DIO and Power Ignition Functionalities
- Various Expansion Interfaces: PCI / PCIe / Mini-PCIe Expansion Available



Wide Operating  
Temperature



Abundant  
Functionalities



Various Expansion  
Interfaces



Easy  
Maintenance



# Compact Size Fanless Computer

## Diamond C Series

- Powered by Intel® Atom™ Processor
- Wide Operating Temperature Available (-20°C ~ 70°C)
- Compact Size Design: 185x131x54 mm
- Rich I/O
- 2x Mini-PCIe Sockets with Universal I/O Bracket Supported
- Wall / VESA / Side / Din-rail Mount



Wide Operating  
Temperature



Extremely  
Compact Size



Rich I/O



Function  
Scalability



# Industrial Fanless Computers

Photo						
Model Name		DS-1000	DS-1000L	DS-1000P	DS-1001	
Ordering No.		DS-1000	DS-1000L	DS-1000P	DS-1001-E	DS-1001-P
Processor System	CPU	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support
	Frequency	2.3 GHz / 2.7 GHz / 2.4 GHz	2.3 GHz / 2.7 GHz / 2.4 GHz	2.3 GHz / 2.7 GHz / 2.4 GHz	2.3 GHz / 2.7 GHz / 2.4 GHz	2.3 GHz / 2.7 GHz / 2.4 GHz
	Core Number	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2
	BIOS	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI
	Chipset	Intel Q87	Intel Q87	Intel Q87	Intel Q87	Intel Q87
Memory	Technology	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz
	Max. Capacity	16 GB	16 GB	16 GB	16 GB	16 GB
	Socket	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM
Display	VGA	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)
	DDI (HDMI/DVI/DisplayPort)	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort
	Multiple Display	Triple	Triple	Triple	Triple	Triple
Expansion	PCI	-	-	-	-	1
	PCIe	-	-	-	1 (PCIex16)	-
	Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe
Ethernet	Controller	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, GbE3: Intel 82583V, GbE4: Intel 82583V, GbE5: Intel 82583V, GbE6: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE
	PoE	-	-	4x 802.3at Compliant PoE Ports The Maximum DC Power Delivery on Each PoE is 25W@DC 56V Input	-	-
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Audio	CODEC	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR
	Connector	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out
WatchDog Timer		Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset
Storage	SSD / HDD	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay
	mSATA	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)
	CompactFlash / CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast
	SIM Socket	1	1	1	1	1
I/O Ports	USB 3.0	4	4	4	4	4
	USB 2.0	4	4	4	4	4
	DIO	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out
	COM Port	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485
	PS/2	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS
	Antenna Holes	2	2	2	2	2
	Power Switch	1	1	1	1	1
	AT/ATX Switch	1	1	1	1	1
	External Fan Connector	Yes	Yes	Yes	Yes	Yes
	Remote Power On/Off and Remote Power Reset	Yes	Yes	Yes	Yes	Yes
Power	Power Type	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX
	Power Supply Voltage	9-48VDC	9-48VDC	12-48VDC	9-48VDC	9-48VDC
	Power Adaptor	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/9.16A, 220W	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/5A, 120W
Physical	Construction	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal
	Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting

Photo								
Model Name		DS-1001L	DS-1001P	DS-1002				
Ordering No.		DS-1001L-E	DS-1001L-P	DS-1001P-E	DS-1001P-P	DS-1002-PE	DS-1002-EE	DS-1002-PP
Processor System	CPU	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support	Intel 4th Generation: i7-4770TE/ i5-4570TE/ i3-4330TE Support
	Frequency	2.3 GHz/2.7 GHz/2.4 GHz	2.3 GHz/2.7 GHz/2.4 GHz	2.3 GHz/2.7 GHz/2.4 GHz	2.3 GHz/2.7 GHz/2.4 GHz	2.3 GHz/2.7 GHz/2.4 GHz	2.3 GHz/2.7 GHz/2.4 GHz	2.3 GHz/2.7 GHz/2.4 GHz
	Core Number	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2
	BIOS	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI
	Chipset	Intel Q87	Intel Q87	Intel Q87	Intel Q87	Intel Q87	Intel Q87	Intel Q87
Memory	Technology	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz
	Max. Capacity	16 GB	16 GB	16 GB	16 GB	16 GB	16 GB	16 GB
	Socket	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM
Display	VGA	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)
	DDI (HDMI/DVI/DisplayPort)	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort
	Multiple Display	Triple	Triple	Triple	Triple	Triple	Triple	Triple
Expansion	PCI	-	1	-	1	1	-	2
	PCIe	1 (PCIex16)	-	1 (PCIex16)	-	1 (PCIex16)	2 (PCIex1, PCIex16)	-
	Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe
Ethernet	Controller	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, GbE3: Intel 82583V, GbE4: Intel 82583V, GbE5: Intel 82583V, GbE6: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE
	PoE	-	-	4x 802.3at Compliant PoE Ports The Maximum DC Power Delivery on Each PoE is 25W@DC 56V Input	4x 802.3at Compliant PoE Ports The Maximum DC Power Delivery on Each PoE is 25W@DC 56V Input	-	-	-
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Audio	CODEC	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR	Realtek ALC8885-VD2-GR
	Connector	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out
WatchDog Timer		Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset
Storage	SSD / HDD	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay
	mSATA	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)
	CompactFlash / CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast
	SIM Socket	1	1	1	1	1	1	1
I/O Ports	USB 3.0	4	4	4	4	4	4	4
	USB 2.0	4	4	4	4	4	4	4
	DIO	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out
	COM Port	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485
	PS/2	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS
	Antenna Holes	2	2	2	2	2	2	2
	Power Switch	1	1	1	1	1	1	1
	AT/ATX Switch	1	1	1	1	1	1	1
	External Fan Connector	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Remote Power On/Off and Remote Power Reset	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Power	Power Type	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX
	Power Supply Voltage	9-48VDC	9-48VDC	12-48VDC	12-48VDC	9-48VDC	9-48VDC	9-48VDC
	Power Adaptor	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/9.16A, 220W	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/5A, 120W
Physical	Construction	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal
	Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting

# Industrial Fanless Computers

Photo						
Model Name		DS-1002L			DS-1002P	
Ordering No.		DS-1002L-PE	DS-1002L-EE	DS-1002L-PP	DS-1002P-PE	DS-1002P-EE
Processor System	CPU	Intel 4th Generation: i7-4770TE / i5-4570TE / i3-4330TE Support	Intel 4th Generation: i7-4770TE / i5-4570TE / i3-4330TE Support	Intel 4th Generation: i7-4770TE / i5-4570TE / i3-4330TE Support	Intel 4th Generation: i7-4770TE / i5-4570TE / i3-4330TE Support	Intel 4th Generation: i7-4770TE / i5-4570TE / i3-4330TE Support
	Frequency	2.3 GHz / 2.7 GHz / 2.4 GHz	2.3 GHz / 2.7 GHz / 2.4 GHz	2.3 GHz / 2.7 GHz / 2.4 GHz	2.3 GHz / 2.7 GHz / 2.4 GHz	2.3 GHz / 2.7 GHz / 2.4 GHz
	Core Number	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2	4 / 2 / 2
	BIOS	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI	AMI 128Mbit SPI
	Chipset	Intel Q87	Intel Q87	Intel Q87	Intel Q87	Intel Q87
Memory	Technology	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz	DDR3 1333MHz/ 1600MHz DDR3L 1333MHz/ 1600MHz
	Max. Capacity	16 GB	16 GB	16 GB	16 GB	16 GB
	Socket	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM
Display	VGA	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)
	DDI (HDMI/DVI/DisplayPort)	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort	1x DVI 2x DisplayPort
	Multiple Display	Triple	Triple	Triple	Triple	Triple
Expansion	PCI	1	-	2	1	-
	PCIe	1 (PCIex16)	2 (PCIex1, PCIex16)	-	1 (PCIex16)	2 (PCIex1, PCIex16)
	Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe	3x Full-size Mini PCIe
Ethernet	Controller	GbE1: Intel 82583V, GbE2: Intel i217LM, GbE3: Intel 82583V, GbE4: Intel 82583V, GbE5: Intel 82583V, GbE6: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, GbE3: Intel 82583V, GbE4: Intel 82583V, GbE5: Intel 82583V, GbE6: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, GbE3: Intel 82583V, GbE4: Intel 82583V, GbE5: Intel 82583V, GbE6: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE
	PoE	-	-	-	4x 802.3at Compliant PoE Ports The Maximum DC Power Delivery on Each PoE is 25W@DC 56V Input	4x 802.3at Compliant PoE Ports The Maximum DC Power Delivery on Each PoE is 25W@DC 56V Input
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Audio	CODEC	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR
	Connector	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out
WatchDog Timer		Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset
Storage	SSD / HDD	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay
	mSATA	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)	2x mSATA (Shared by Mini-PCIe Socket)
	CompactFlash / CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast
I/O Ports	SIM Socket	1	1	1	1	1
	USB 3.0	4	4	4	4	4
	USB 2.0	4	4	4	4	4
	DIO	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out
	COM Port	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485
	PS/2	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS
	Antenna Holes	2	2	2	2	2
	Power Switch	1	1	1	1	1
	AT/ATX Switch	1	1	1	1	1
	External Fan Connector	Yes	Yes	Yes	Yes	Yes
Remote Power On/Off and Remote Power Reset	Yes	Yes	Yes	Yes	Yes	
Power	Power Type	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX
	Power Supply Voltage	9-48VDC	9-48VDC	9-48VDC	12-48VDC	12-48VDC
	Power Adaptor	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/5A, 120W	Optional AC/DC 24V/9.16A, 220W	Optional AC/DC 24V/9.16A, 220W
Physical	Construction	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal
	Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting

Photo						
Model Name		DE-1000		DE-1001		
Ordering No.		DE-1000	DE-1000L	DE-1000P	DE-1001-E	DE-1001-P
Processor System	CPU	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845
	Frequency	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz
	Core Number	4	4	4	4	4
	BIOS	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI
	Chipset	-	-	-	-	-
Memory	Technology	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz
	Max. Capacity	8GB	8GB	8GB	8GB	8GB
	Socket	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM
Display	VGA	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)
	DDI (HDMI/DVI/DisplayPort)	1x DVI 2x DisplayPort	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort
	Multiple Display	Triple	Dual	Dual	Dual	Dual
Expansion	PCI	2	-	-	-	1
	PCIe	-	-	-	1 (PCIex1)	-
	Mini PCIe	3x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe
Ethernet	Controller	GbE1: Intel 82583V, GbE2: Intel i210-IT, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i210-IT, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i210-IT, GbE3: Intel 82583V, GbE4: Intel 82583V, GbE5: Intel 82583V, GbE6: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i210-IT, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i210-IT, Support Wake on LAN, PXE
	PoE	-	-	4x 802.3at compliant PoE ports The Maximum DC power Delivery on Each PoE is 25W@DC 56V Input	-	-
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Audio	CODEC	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR
	Connector	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out
WatchDog Timer		Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset
Storage	SSD / HDD	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay
	mSATA	2x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)
	CompactFlash / CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast
I/O Ports	SIM Socket	1	1	1	1	1
	USB 3.0	4	1	1	1	1
	USB 2.0	4	4	4	4	4
	DIO	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out
	COM Port	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485
	PS/2	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS
	Antenna Holes	2	2	2	2	2
	Power Switch	1	1	1	1	1
	AT/ATX Switch	1	1	1	1	1
	External Fan Connector	Yes	-	-	-	-
Remote Power On/Off and Remote Power Reset	Yes	Yes	Yes	Yes	Yes	
Power	Power Type	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX
	Power Supply Voltage	12-48VDC	9-48VDC	9-48VDC	12-48VDC	9-48VDC
	Power Adaptor	Optional AC/DC 24V/9.16A, 220W	Optional AC/DC 12V/5A, 60W	Optional AC/DC 12V/5A, 60W	Optional AC/DC 24V/9.16A, 220W	Optional AC/DC 12V/5A, 60W
Physical	Construction	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal
	Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting

# Industrial Fanless Computers

Photo						
Model Name		DE-1001L	DE-1001P		DE-1002	
Ordering No.		DE-1001L-P	DE-1001P-E	DE-1001P-P	DE-1002-EE	DE-1002-PP
Processor System	CPU	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845
	Frequency	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz
	Core Number	4	4	4	4	4
	BIOS	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI
	Chipset	-	-	-	-	-
Memory	Technology	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz
	Max. Capacity	8 GB	8 GB	8 GB	8 GB	8 GB
	Socket	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM
Display	VGA	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)
	DDI (HDMI/DVI/DisplayPort)	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort
	Multiple Display	Dual	Dual	Dual	Dual	Dual
Expansion	PCI	1	-	1	-	2
	PCIe	-	1 (PCIex1)	-	2 (PCIex1)	-
	Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe
Ethernet	Controller	GbE1: Intel 82583V, GbE2: Intel i210-IT, GbE3: Intel 82583V, GbE4: Intel 82583V, GbE5: Intel 82583V, GbE6: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i210-IT, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i210-IT, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i210-IT, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i210-IT, Support Wake on LAN, PXE
	PoE	-	4x 802.3at compliant PoE ports The Maximum DC power Delivery on Each PoE is 25W@DC 56V Input	4x 802.3at Compliant PoE Ports The Maximum DC Power Delivery on Each PoE is 25W@DC 56V Input	-	-
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Audio	CODEC	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR
	Connector	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out
WatchDog Timer		Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset
Storage	SSD / HDD	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay
	mSATA	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)
	CompactFlash / CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast
	SIM Socket	1	1	1	1	1
I/O Ports	USB 3.0	1	1	1	1	1
	USB 2.0	4	4	4	4	4
	DIO	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out
	COM Port	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485
	PS/2	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS
	Antenna Holes	2	2	2	2	2
	Power Switch	1	1	1	1	1
	AT/ATX Switch	1	1	1	1	1
	External Fan Connector	-	-	-	-	-
	Remote Power On/Off and Remote Power Reset	Yes	Yes	Yes	Yes	Yes
	Power	Power Type	AT, ATX	AT, ATX	AT, ATX	AT, ATX
Power Supply Voltage		9-48VDC	12-48VDC	12-48VDC	9-48VDC	9-48VDC
Power Adaptor		Optional AC/DC 12V/5A, 60W	Optional AC/DC 24V/9.16A, 220W	Optional AC/DC 24V/9.16A, 220W	Optional AC/DC 12V/5A, 60W	Optional AC/DC 12V/5A, 60W
Physical	Construction	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal
	Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting

Photo							
Model Name		DE-1002L	DE-1002P	DC-1000	DC-1100		
Ordering No.		DE-1002L-EE	DE-1002L-PP	DE-1002P-EE	DE-1002P-PP	DC-1000	DC-1100
Processor System	CPU	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom D525	Intel Atom E3845
	Frequency	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz	1.8 GHz	1.91 GHz
	Core Number	4	4	4	4	2	4
	BIOS	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 16Mbit SPI	AMI 64Mbit SPI
	Chipset	-	-	-	-	ICH8-M	-
Memory	Technology	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 1066MHz/ 1333MHz DDR3L 1333MHz/ 1600MHz	DDR3 800MHz	DDR3 1066MHz/ 1333MHz
	Max. Capacity	8 GB	8 GB	8 GB	8 GB	2 GB	4 GB
	Socket	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	2x 204-Pin SODIMM	1x 204-Pin SODIMM	1x 204-Pin SODIMM
Display	VGA	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)	Yes (w/ Optional Split Cable)
	DDI (HDMI/DVI/DisplayPort)	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort	1x DVI 1x DisplayPort	1x DVI	1x DVI 1x DisplayPort
	Multiple Display	Dual	Dual	Dual	Dual	Dual	Dual
Expansion	PCI	-	2	-	2	-	-
	PCIe	2 (PCIex1)	-	2 (PCIex1)	-	-	-
	Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe	2x Full-size Mini PCIe
Ethernet	Controller	GbE1: Intel 82583V, GbE2: Intel i217LM, GbE3: Intel 82583V, GbE4: Intel 82583V, GbE5: Intel 82583V, GbE6: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, GbE3: Intel 82583V, GbE4: Intel 82583V, GbE5: Intel 82583V, GbE6: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel i217LM, Support Wake on LAN, PXE	GbE1: Intel 82583V, GbE2: Intel 82583V, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE
	PoE	-	-	4x 802.3at Compliant PoE Ports The Maximum DC Power Delivery on Each PoE is 25W@DC 56V Input	4x 802.3at Compliant PoE Ports The Maximum DC Power Delivery on Each PoE is 25W@DC 56V Input	-	-
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Audio	CODEC	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR	Realtek ALC888S-VD2-GR
	Connector	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out	1x Mic-in, 1x Speak-out
WatchDog Timer		Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset
Storage	SSD / HDD	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	2x 2.5" SATA SSD/HDD Bay	1x 2.5" SATA HDD Bay	1x 2.5" SATA HDD Bay
	mSATA	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)	1x mSATA (Shared by Mini-PCIe Socket)	-	-
	CompactFlash / CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CompactFlash	1x CFast
	SIM Socket	1	1	1	1	1	1
I/O Ports	USB 3.0	1	1	1	1	-	1
	USB 2.0	4	4	4	4	4	3
	DIO	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out
	COM Port	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	6x RS-232/422/485	4x RS-232/422/485	4x RS-232/422/485
	PS/2	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS	1x KB/MS	-
	Antenna Holes	2	2	2	2	2	2
	Power Switch	1	1	1	1	1	1
	AT/ATX Switch	1	1	1	1	1	1
	External Fan Connector	-	-	-	-	-	-
	Remote Power On/Off and Remote Power Reset	Yes	Yes	Yes	Yes	-	-
	Power	Power Type	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX
Power Supply Voltage		9-48VDC	9-48VDC	12-48VDC	12-48VDC	12VDC	9-48VDC
Power Adaptor		Optional AC/DC 12V/5A, 60W	Optional AC/DC 12V/5A, 60W	Optional AC/DC 24V/9.16A, 220W	Optional AC/DC 24V/9.16A, 220W	Optional AC/DC 12V/5A, 60W	Optional AC/DC 12V/5A, 60W
Physical	Construction	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal	Extruded Aluminum with Heavy Duty Metal
	Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional VESA Mounting	Wall Optional Side/VESA/ DIN-Rail Mounting	Wall Optional Side/VESA/ DIN-Rail Mounting

# Crystal

## Display Computing System



Cincoze Crystal Industrial Convertible Display Systems are all-in-one devices integrated with high-resolution screens, touch screens and computers. "Crystal" is our industrial display computing product line that is consisted of Convertible Panel PC (Crystal VP) and Touch Monitor (Crystal VM). A wide selection of display sizes are available from 8" to 19" with format aspect of 4:3 and 16:9, choices of single or multi-touch screen, and selected computer performance. Cincoze Industrial Convertible Display Systems are designed with innovative technology and the highest industrial standard. They have extensive functionalities that fulfill the needs for a wide range of applications.

## Crystal Industrial Convertible Display Systems

Convertible Panel PCs	Convertible Touch Monitors
<b>Crystal VP</b> Innovative Convertible Design Industrial State-of-the-art Design Multi-tasking	<b>Crystal VM</b> Innovative Convertible Design Industrial State-of-the-art Design

## The Core Design Concept for Crystal Convertible Display Systems

### 1. Convertible Display Systems (CDS) for Industrial Applications

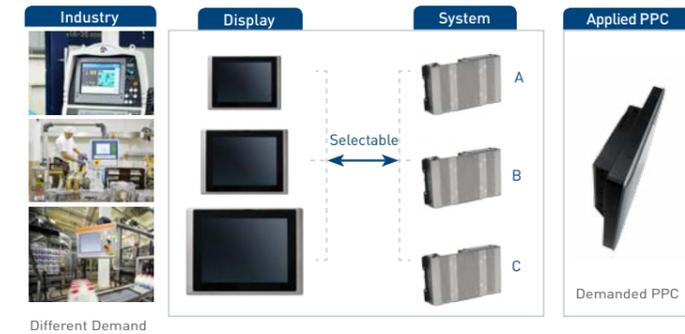
This all-in-one Convertible Display Systems (CDS) offer display systems that are extremely flexible, exchangeable, configurable and backwards compatible. The innovative technology offers simple transformation with a three-step simple installation.

**Exchangeable** CDS offers all display and system modules for building complete systems. These modules are independent and can be replaced or exchanged individually.



### Configure by Demand

Different display modules (size, luminance, touch, format, etc.) are compatible with different system modules (I/O, platform, functions) and vice versa.



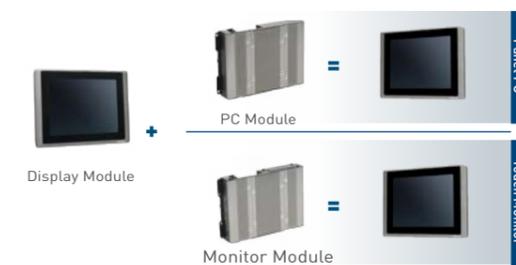
### Upgrade Capability

Newly released models within the same series are backwards compatible.



### Transformable

There are two types of system modules, PC and monitor modules; displays are compatible to both of them. The assembly of a Panel PC or a Touch Monitor is easily carried out by selections of the appropriate modules. Their identical appearance is also most suitable for dual display applications.



### Plug-in Design

The unified connection, mechanical design, signal interface and fixation enable users to install ready-to-run systems. Installation of such system involves only three easy steps and the modular nature results extremely simple maintenance.



## 2. All-in-One Solution

- **Highly Integrated System:** The superbly engineered solution is composed of display, touch and computing technologies to provide intuitive operational experiences.
- **Industrial Grade LED Backlight Panel:** The panel provides a long display life, better image quality and uses less power.
- **Highly Luminous Display:** The display offers high visibility and smooth operation in most environments.
- **Touch Panel Integrated:** The touch offers solutions for intuitive operation required by numerous applications
- **Intel® Inside:** The platform offers excellent computing and graphics performance with less power consumption.
- **Full Functionality:** A generous provision of I/O ports offers extensive functionality and connectivity.
- **Ultra-Slim Design:** The slim compact design offers great flexibility for installation in different locations, such as VESA mount, panel mount and wall mount while giving a modern industrial look and feel at the same time.

## 3. Industrial State-of-the-art Design

- **Fan-less Design:** Systems are designed with no moving parts.
- **Aluminum Die-cast Front Frame:** Rugged body structure protects against shock and collision.
- **Wide Operating Temperature:** Crystal Industrial Convertible Display Systems can be operated in harsh environments.
- **Flat Surface:** Front screen is easy to clean.
- **IP65 Front Panel Protection:** IP65 front panel protects screen from water and dust.
- **Wide Range DC Power Inputs:** The power range allows Crystal Industrial Convertible Display Systems to be deployed and powered anywhere
- **Power Protection:** Over current, over voltage and reverse power protection provides extra safety against faults and errors.

## 4. Multi-functional

### Classic Screen and Widescreen

Crystal Industrial Convertible Display Systems are offered in a wide range of sizes and formats. In addition to the classic 4:3 format, modern widescreen 16:9 format is also available.



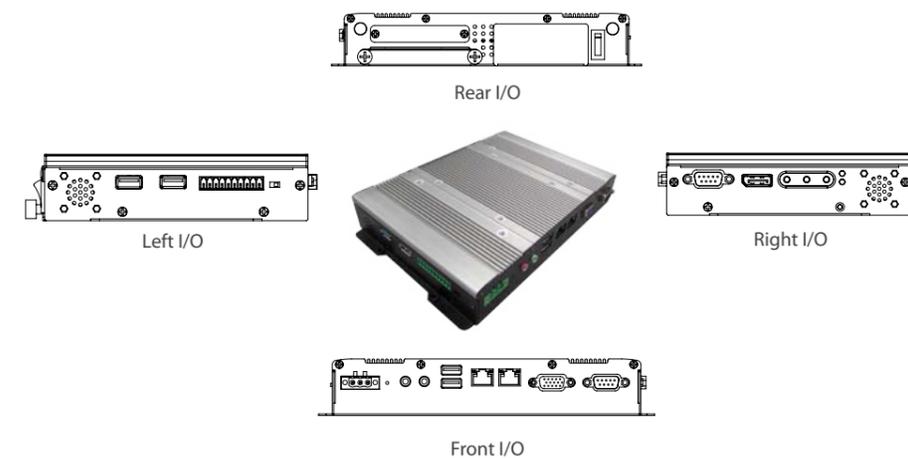
### Multi-Touch and Single Touch

They are available in projected capacitive multi-touch and 5-wire resistive single touch screens.



### Multi I/O for Extensive Connectivity

Crystal PC modules are designed with abundant of I/O functionality in ultra slim form factors. The multi-directional I/O port allocation makes access easily.



### Wireless Communication

Crystal PC modules offer Mini-PCIe and SIM Card slots for expansion of WIFI and mobile telecommunication.

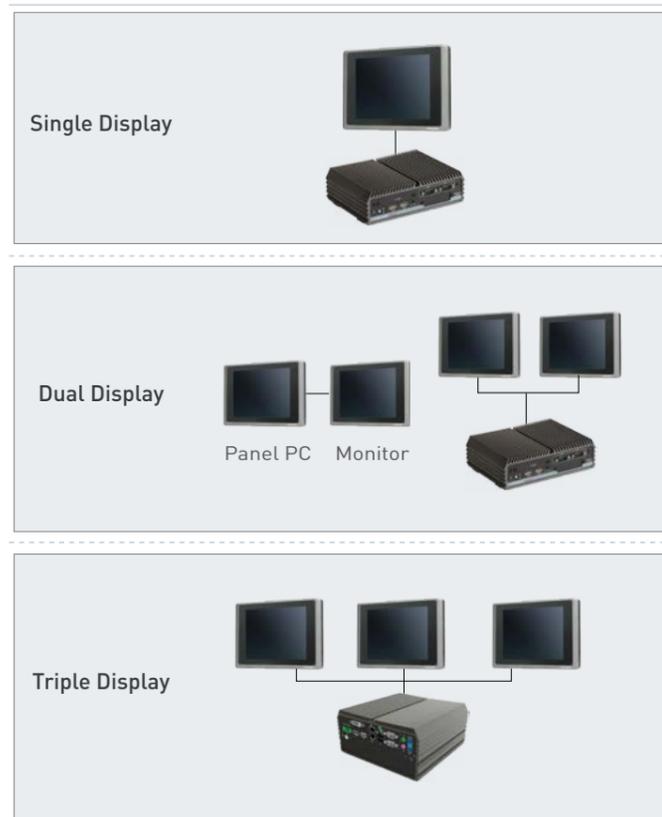
### Accessible Storage Design

Crystal PC modules support 3 types of storage devices, 2.5" HDD/SDD, CFAST and SIM card. The accessible storage design allows quick data access and easy maintenance.



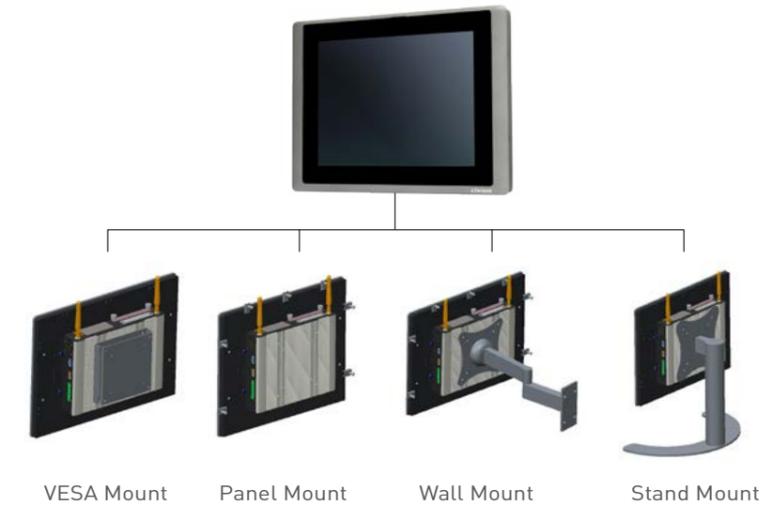
### Multi Display Application

Crystal Monitors offer cost effective Multi-display solutions for single, dual and triple display applications.



### Multi Mounting Options

Crystal Industrial Convertible Display Systems are optimized for flexible usage in every location. They offer versatile mounting possibilities and installation positions with retention of all necessary characteristics.



### Multi Appearance

Crystal can provide the same look and feel by changing the appearance. Logos, colors of aluminum front bezel, Mylar and back cover can be customized to fit in customer's equipment or surroundings.



# Convertible Panel PCs

## Crystal VP Series

- 8"~19" Multi-functional All-in-One Panel PCs
- CDS (Convertible Display Systems) Supported
- Projected Capacitive and 5-wire Resistive Touchscreen Available
- Aluminum Die-Casting Front Frame
- Front Panel IP65 Rating



Full Range of Display Sizes from 8.4" ~ 19"



Multi-Touch and Single Touch



IP65 Aluminum Die Cast Front Frame



Flat Surface for Easy Cleaning



CDS (Convertible Display Systems) Supported



Multiple Sets of I/O

# Convertible Touch Monitors

## Crystal VM Series

- 8"~19" Full Range Touch Monitors
- CDS (Convertible Display Systems) Supported
- Projected Capacitive and 5-wire Resistive Touchscreen Available
- Aluminum Die-Casting Front Frame
- Front Panel IP65 Rating



Full Range of Display Sizes from 8.4" ~ 19"



Multi-Touch and Single Touch



IP65 Aluminum Die Cast Front Frame



Flat Surface for Easy Cleaning



CDS (Convertible Display Systems) Supported

# Convertible Display System Modules

## CDS Modules Series

- 8" ~ 19" Full Range Supported Display Modules
- CDS (Convertible Display Systems) Supported
- Selected PC Modules and Monitor Modules
- Configure System by Demand



# Convertible Panel PCs

Photo						
Model Name		CV-108-P1001	CV-110-P1001		CV-112-P1001	
Ordering No.		CV-108R-P1001	CV-110R-P1001	CV-110C-P1001	CV-112R-P1001	CV-112C-P1001
Display	LCD Size	8.4" [4:3]	10.4" [4:3]	10.4" [4:3]	12.1" [4:3]	12.1" [4:3]
	Max. Resolution	800 x 600	800 x 600	800 x 600	800 x 600	800 x 600
	Brightness (cd/m2)	400	400	400	450	450
	Contrast Ratio	600 : 1	700 : 1	700 : 1	800 : 1	800 : 1
	Pixel Pitch (mm)	0.213 (H) x 0.213 (V)	0.264 (H) x 0.264 (V)	0.264 (H) x 0.264 (V)	0.3075 (H) x 0.3075 (V)	0.3075 (H) x 0.3075 (V)
	Viewing Angle (H-V)	150 / 130	160 / 130	160 / 130	160 / 140	160 / 140
	Backlight MBTF	30000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)
Touch	Resistive 5-wire	V	V	-	V	-
	Projected Capacitive	-	-	V	-	V
Processor System	CPU	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845
	Frequency	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz
	Core Number	4	4	4	4	4
	BIOS	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI
Memory	Technology	DDR3L	DDR3L	DDR3L	DDR3L	DDR3L
	Max. Capacity	4 GB [Pre-installed 2 GB]	4 GB [Pre-installed 2 GB]	4 GB [Pre-installed 2 GB]	4 GB [Pre-installed 2 GB]	4 GB [Pre-installed 2 GB]
	Socket	1x 204-Pin SODIMM	1x 204-Pin SODIMM	1x 204-Pin SODIMM	1x 204-Pin SODIMM	1x 204-Pin SODIMM
Ethernet	Controller	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Storage	SSD / HDD	1x 2.5" SATA HDD Bay	1x 2.5 SATA HDD bay	1x 2.5 SATA HDD bay	1x 2.5" SATA HDD Bay	1x 2.5" SATA HDD Bay
	CompactFlash/CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast
	SIM Socket	1	1	1	1	1
I/O Ports	VGA	1	1	1	1	1
	DisplayPort	1	1	1	1	1
	USB 3.0	1	1	1	1	1
	USB 2.0	3	3	3	3	3
	DIO	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out
	COM Ports	2x RS-232/422/485	2x RS-232/422/485	2x RS-232/422/485	2x RS-232/422/485	2x RS-232/422/485
	Line-out	1	1	1	1	1
	Mic-in	1	1	1	1	1
	Power Switch	1	1	1	1	1
	Reset Button	1	1	1	1	1
	AT/ATX Switch	1	1	1	1	1
Expansion	Mini PCIe	1	1	1	1	1
Other Features	Watchdog Timer	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset
	Audio	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)
	OSD Function	LCD On/Off, Brightness Up/Down	LCD On/Off, Brightness Up/Down	LCD On/Off, Brightness Up/Down	LCD On/Off, Brightness Up/Down	LCD On/Off, Brightness Up/Down
Power	Power Type	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX
	Power Requirement	9-48VDC	9-48VDC	9-48VDC	9-48VDC	9-48VDC
	Power Adaptor	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC
Environment	IP Level	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 compliant front panel	IP 65 compliant front panel
Physical	Dimension (WxDxH, mm)	260 x 182.5 x 27.5	295 x 222.3 x 27.5	295 x 222.3 x 27.5	345 x 260.3 x 28	345 x 260.3 x 28
	Construction Front Panel	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface
	Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting

Photo							
Model Name		CV-115-P1001	CV-W115-P1001		CV-117-P1001		CV-119-P1001
Ordering No.		CV-115R-P1001	CV-115C-P1001	CV-W115R-P1001	CV-W115C-P1001	CV-117R-P1001	CV-117C-P1001
Display	LCD Size	15" [4:3]	15" [4:3]	15.6" [16:9]	15.6" [16:9]	17" [4:3]	17" [4:3]
	Max. Resolution	1024 x 768	1024 x 768	1366 X 768	1366 X 768	1280 x 1024	1280 x 1024
	Brightness (cd/m2)	350	350	300	300	350	350
	Contrast Ratio	800 : 1	800 : 1	500 : 1	500 : 1	800 : 1	800 : 1
	Pixel Pitch (mm)	0.297 (H) x 0.297 (V)	0.297 (H) x 0.297 (V)	0.252 (H) x 0.252 (V)	0.252 (H) x 0.252 (V)	0.264 (H) x 0.264 (V)	0.264 (H) x 0.264 (V)
	Viewing Angle (H-V)	160 / 160	160 / 160	170 / 160	170 / 160	170 / 160	170 / 160
	Backlight MBTF	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)			
Touch	Resistive 5-wire	V	-	V	-	V	-
	Projected Capacitive	-	V	-	V	-	V
Processor System	CPU	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845	Intel Atom E3845
	Frequency	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz	1.91 GHz
	Core Number	4	4	4	4	4	4
	BIOS	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI	AMI 64Mbit SPI
Memory	Technology	DDR3L	DDR3L	DDR3L	DDR3L	DDR3L	DDR3L
	Max. Capacity	4 GB [Pre-installed 2 GB]	4 GB [Pre-installed 2 GB]	4 GB [Pre-installed 2 GB]			
	Socket	1x 204-Pin SODIMM	1x 204-Pin SODIMM	1x 204-Pin SODIMM	1x 204-Pin SODIMM	1x 204-Pin SODIMM	1x 204-Pin SODIMM
Ethernet	Controller	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Storage	SSD / HDD	1x 2.5 SATA HDD Bay	1x 2.5 SATA HDD Bay	1x 2.5 SATA HDD Bay			
	CompactFlash/CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast	1x CFast
	SIM Socket	1	1	1	1	1	1
I/O Ports	VGA	1	1	1	1	1	1
	DisplayPort	1	1	1	1	1	1
	USB 3.0	1	1	1	1	1	1
	USB 2.0	3	3	3	3	3	3
	DIO	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out	4 in/4 out
	COM Ports	2x RS-232/422/485	2x RS-232/422/485	2x RS-232/422/485	2x RS-232/422/485	2x RS-232/422/485	2x RS-232/422/485
	Line-out	1	1	1	1	1	1
	Mic-in	1	1	1	1	1	1
	Power Switch	1	1	1	1	1	1
	Reset Button	1	1	1	1	1	1
	AT/ATX Switch	1	1	1	1	1	1
Expansion	Mini PCIe	1	1	1	1	1	
Other Features	Watchdog Timer	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset	Software Programmable Supports 1-255 sec. System Reset			
	Audio	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)			
	OSD Function	LCD On/Off, Brightness Up/Down	LCD On/Off, Brightness Up/Down	LCD On/Off, Brightness Up/Down			
Power	Power Type	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX	AT, ATX
	Power Requirement	9-48VDC	9-48VDC	9-48VDC	9-48VDC	9-48VDC	9-48VDC
	Power Adaptor	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC-264VAC, 47-63Hz Output: 12VDC
Environment	IP Level	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel			
Physical	Dimension (WxDxH, mm)	408 x 307.4 x 30.5	408 x 307.4 x 30.5	420 x 250 x 37.5	420 x 250 x 37.5	450 x 351 x 33	450 x 351 x 33
	Construction Front Panel	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface
	Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting

## Convertible Touch Monitors

Photo					
Model Name		CV-108-M1001	CV-110-M1001		CV-112-M1001
Ordering No.		CV-108R-M1001	CV-110R-M1001	CV-110C-M1001	CV-112R-M1001 CV-112C-M1001
Display	LCD Size	8.4" [4:3]	10.4" [4:3]	10.4" [4:3]	12.1" [4:3] 12.1" [4:3]
	Max. Resolution	800 x 600	800 x 600	800 x 600	800 x 600 800 x 600
	Brightness (cd/m2)	400	400	400	450 450
	Contrast Ratio	600 : 1	700 : 1	700 : 1	800 : 1 800 : 1
	Pixel Pitch (mm)	0.213 [H] x 0.213 [V]	0.264 [H] x 0.264 [V]	0.264 [H] x 0.264 [V]	0.3075 [H] x 0.3075 [V] 0.3075 [H] x 0.3075 [V]
	Viewing Angle [H-V]	150 / 130	160 / 130	160 / 130	160 / 140 160 / 140
	Backlight MBTF	30000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight) 50000 hrs (LED Backlight)
Touch	Resistive 5-wire	V	V	-	V -
	Projected Capacitive	-	-	V	- V
System	A/D Board	Novatek NT68856UFG	Novatek NT68856UFG	Novatek NT68856UFG	Novatek NT68856UFG Novatek NT68856UFG
	VGA	1	1	1	1 1
	DVI-D	1	1	1	1 1
	DisplayPort	1	1	1	1 1
	USB 2.0	1	1	1	1 1
	COM Port	1x RS-232/422/485	1x RS-232/422/485	1x RS-232/422/485	1x RS-232/422/485 1x RS-232/422/485
	Audio Input	1	1	1	1 1
	Power Switch	1	1	1	1 1
Other Features	Audio	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker) AMP 2W + 2W (Internal Speaker)
	OSD Function	LCD On/Off, Auto, Menu, Brightness Up/Down	LCD On/Off, Auto, Menu, Brightness Up/Down	LCD On/Off, Auto, Menu, Brightness Up/Down	LCD On/Off, Auto, Menu, Brightness Up/Down LCD On/Off, Auto, Menu, Brightness Up/Down
Power	Power Requirement	9~48VDC	9~48VDC	9~48VDC	9~48VDC 9~48VDC
	Power Adaptor	Optional 60W Power Adapter Input: 90VAC~264VAC, 47~63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC~264VAC, 47~63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC~264VAC, 47~63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC~264VAC, 47~63Hz Output: 12VDC Optional 60W Power Adapter Input: 90VAC~264VAC, 47~63Hz Output: 12VDC
Environment	IP Level	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel IP 65 Compliant Front Panel
Physical	Dimension (WxDxH, mm)	260 x 182.5 x 27.5	295 x 222.3 x 27.5	295 x 222.3 x 27.5	345 x 260.3 x 28 345 x 260.3 x 28
	Construction Front Panel	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface Die-cast Flat Surface
	Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting Panel / Wall / Stand / Arm / VESA Mounting

Photo							
Model Name		CV-115-M1001	CV-W115-M1001	CV-117-M1001	CV-119-M1001		
Ordering No.		CV-115R-M1001 CV-115C-M1001	CV-W115R-M1001 CV-W115C-M1001	CV-117R-M1001 CV-117C-M1001	CV-119R-M1001 CV-119C-M1001	CV-119R-M1001 CV-119C-M1001	CV-119R-M1001 CV-119C-M1001
Display	LCD Size	15" [4:3] 15" [4:3]	15.6" [16:9] 15.6" [16:9]	17" [4:3] 17" [4:3]	19" [4:3] 19" [4:3]	19" [4:3] 19" [4:3]	19" [4:3] 19" [4:3]
	Max. Resolution	1024 x 768 1024 x 768	1366 X 768 1366 X 768	1280 x 1024 1280 x 1024	1280 x 1024 1280 x 1024	1280 x 1024 1280 x 1024	1280 x 1024 1280 x 1024
	Brightness (cd/m2)	350 350	300 300	350 350	350 350	350 350	350 350
	Contrast Ratio	800 : 1 800 : 1	500 : 1 500 : 1	800 : 1 800 : 1	800 : 1 800 : 1	1000 : 1 1000 : 1	1000 : 1 1000 : 1
	Pixel Pitch (mm)	0.297 [H] x 0.297 [V] 0.297 [H] x 0.297 [V]	0.252 [H] x 0.252 [V] 0.252 [H] x 0.252 [V]	0.264 [H] x 0.264 [V] 0.264 [H] x 0.264 [V]	0.264 [H] x 0.264 [V] 0.264 [H] x 0.264 [V]	0.294 [H] x 0.294 [V] 0.294 [H] x 0.294 [V]	0.294 [H] x 0.294 [V] 0.294 [H] x 0.294 [V]
	Viewing Angle [H-V]	160 / 160 160 / 160	170 / 160 170 / 160	170 / 160 170 / 160			
	Backlight MBTF	50000 hrs (LED Backlight) 50000 hrs (LED Backlight)	50000 hrs (LED Backlight) 50000 hrs (LED Backlight)	50000 hrs (LED Backlight) 50000 hrs (LED Backlight)			
Touch	Resistive 5-wire	V -	- V	V -	- V	V -	- V
	Projected Capacitive	- V	- V	- V	- V	- V	- V
System	A/D Board	Novatek NT68856UFG	Novatek NT68856UFG	Novatek NT68856UFG	Novatek NT68856UFG	Novatek NT68856UFG	Novatek NT68856UFG
	VGA	1	1	1	1	1	1
	DVI-D	1	1	1	1	1	1
	DisplayPort	1	1	1	1	1	1
	USB 2.0	1	1	1	1	1	1
	COM Port	1x RS-232/422/485	1x RS-232/422/485	1x RS-232/422/485	1x RS-232/422/485	1x RS-232/422/485	1x RS-232/422/485
	Audio Input	1	1	1	1	1	1
	Power Switch	1	1	1	1	1	1
Other Features	Audio	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)	AMP 2W + 2W (Internal Speaker)			
	OSD Function	LCD On/Off, Auto, Menu, Brightness Up/Down	LCD On/Off, Auto, Menu, Brightness Up/Down	LCD On/Off, Auto, Menu, Brightness Up/Down			
Power	Power Requirement	9~48VDC	9~48VDC	9~48VDC	9~48VDC	9~48VDC	9~48VDC
	Power Adaptor	Optional 60W Power Adapter Input: 90VAC~264VAC, 47~63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC~264VAC, 47~63Hz Output: 12VDC	Optional 60W Power Adapter Input: 90VAC~264VAC, 47~63Hz Output: 12VDC			
Environment	IP Level	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel			
Physical	Dimension (WxDxH, mm)	408 x 307.4 x 30.5	408 x 307.4 x 30.5	420 x 250 x 37.5	420 x 250 x 37.5	450 x 351 x 33	450 x 351 x 33
	Construction Front Panel	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface
	Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting	Panel / Wall / Stand / Arm / VESA Mounting

## Convertible Display System Modules

Photo								
Model Name		CV-108	CV-110		CV-112	CV-115		
Ordering No.		CV-108R	CV-110R	CV-110C	CV-112R	CV-112C	CV-115R	CV-115C
Display	LCD Size	8.4" [4:3]	10.4" [4:3]	10.4" [4:3]	12.1" [4:3]	12.1" [4:3]	15" [4:3]	15" [4:3]
	Max. Resolution	800 x 600	800 x 600	800 x 600	800 x 600	800 x 600	1024 x 768	1024 x 768
	Brightness (cd/m2)	400	400	400	450	450	350	350
	Contrast Ratio	600 : 1	700 : 1	700 : 1	800 : 1	800 : 1	800 : 1	800 : 1
	Pixel Pitch (mm)	0.213 (H) x 0.213 (V)	0.264 (H) x 0.264 (V)	0.264 (H) x 0.264 (V)	0.3075 (H) x 0.3075 (V)	0.3075 (H) x 0.3075 (V)	0.297 (H) x 0.297 (V)	0.297 (H) x 0.297 (V)
	Viewing Angle (H-V)	150 / 130	160 / 130	160 / 130	160 / 140	160 / 140	160 / 160	160 / 160
	Backlight MBTF	30000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)
Touch	Resistive 5-wire	V	V	-	V	-	V	-
	Projected Capacitive	-	-	V	-	V	-	V
Environment	IP Level	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel
Physical	Dimension (WxDxH, mm)	260 x 182.5 x 27.5	295 x 222.3 x 27.5	295 x 222.3 x 27.5	345 x 260.3 x 28	345 x 260.3 x 28	408 x 307.4 x 30.5	408 x 307.4 x 30.5
	Construction Front Panel	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface

Photo							
Model Name		CV-W115		CV-117	CV-119		
Ordering No.		CV-W115R	CV-W115C	CV-117R	CV-117C	CV-119R	CV-119C
Display	LCD Size	15.6" [16:9]	15.6" [16:9]	17" [4:3]	17" [4:3]	19" [4:3]	19" [4:3]
	Max. Resolution	1366 X 768	1366 X 768	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024
	Brightness (cd/m2)	300	300	350	350	350	350
	Contrast Ratio	500 : 1	500 : 1	800 : 1	800 : 1	1000 : 1	1000 : 1
	Pixel Pitch (mm)	0.252 (H) x 0.252 (V)	0.252 (H) x 0.252 (V)	0.264 (H) x 0.264 (V)	0.264 (H) x 0.264 (V)	0.294 (H) x 0.294 (V)	0.294 (H) x 0.294 (V)
	Viewing Angle (H-V)	170 / 160	170 / 160	170 / 160	170 / 160	170 / 160	170 / 160
	Backlight MBTF	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)	50000 hrs (LED Backlight)
Touch	Resistive 5-wire	V	-	V	-	V	-
	Projected Capacitive	-	V	-	V	-	V
Environment	IP Level	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel	IP 65 Compliant Front Panel
Physical	Dimension (WxDxH, mm)	420 x 250 37.5	420 x 250 37.5	450 x 351 x 33	450 x 351 x 33	510 x 383.3 x 33	510 x 383.3 x 33
	Construction Front Panel	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface	Die-cast Flat Surface

## CDS PC Module

Photo			
Model Name		P1001	
Ordering No.		P1001	
Processor System	CPU	Intel Atom E3845	
	Frequency	1.91 GHz	
	Core Number	4	
	BIOS	AMI 64Mbit SPI	
Memory	Technology	DDR3L	
	Max. Capacity	4 GB (Pre-installed 2 GB)	
	Socket	1x 204-Pin SODIMM	
Ethernet	Controller	GbE1: Intel i210-AT, GbE2: Intel i210-AT, Support Wake on LAN, PXE	
	Speed	10/100/1000 Mbps	
Storage	SSD / HDD	1x 2.5" SATA HDD Bay	
	CompactFlash/CFast	1x CFast	
	SIM Socket	1	
I/O Ports	VGA	1	
	DisplayPort	1	
	USB 3.0	1	
	USB 2.0	3	
	DIO	4 in/4 out	
	COM Ports	2x RS-232/422/485	
	Line-out	1	
	Mic-in	1	
	Power Switch	1	
	Reset Button	1	
	AT/ATX Switch	1	
	Expansion	Mini PCIe	1
	Other Features	Watchdog Timer	Software Programmable Supports 1-255 sec. System Reset
Audio		AMP 2W + 2W (Internal Speaker)	
OSD Function		LCD On/Off, Brightness Up/Down	
Power	Power Type	AT, ATX	
	Power Requirement	9-48VDC	
	Power Adaptor	Optional 60W Power Adaptor Input: 90VAC-264VAC, 47-63Hz Output: 12VDC	
Physical	Dimension (WxDxH, mm)	222.5 X 149 X 37.5	
	Construction Front Panel	Die-cast Flat Surface	
	Mounting	Panel / Wall / Stand / Arm / VESA Mounting	

## CDS Monitor Module

Photo		
Model Name		M1001
Ordering No.		M1001
System	A/D Board	Novatek NT68856UFG
	VGA	1
	DVI-D	1
	DisplayPort	1
	USB 2.0	1
	COM Port	1x RS-232/422/485
	Audio Input	1
Other Features	Power Switch	1
	Audio	AMP 2W + 2W (Internal Speaker)
	OSD Function	LCD On/Off, Auto, Menu, Brightness Up/Down
Power	Power Requirement	9-48VDC
	Power Adaptor	Optional 60W Power Adaptor Input: 90VAC-264VAC, 47-63Hz Output: 12VDC
Physical	Dimension (WxDxH, mm)	222.5 X 149 X 37.5
	Construction	Die-cast Flat Surface
	Mounting	Panel / Wall / Stand / Arm / VESA Mounting



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Preliminary

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