NEWS RELEASE

Empowering AOI: Cincoze DS-1400 Embedded Computer Series

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TAIPEI, Taiwan--(BUSINESS WIRE)-- Outstanding quality control is at the heart of manufacturing. Thanks to the rapid development of smart factories and AI technologies, Automated Optical Inspection (AOI) is gradually replacing traditional manual inspection due to its higher efficiency, greater precision, and non-contact inspection. The core of AOI relies on high-intensity real-time computing and machine learning, which relies on the combined computing power of a CPU and a GPU. Rugged computing brand — Cincoze, recently released the latest addition to the Rugged Computing - DIAMOND product line, the high-performance and PCIe expansion embedded computer (DS-1400 Series). Not only does it come equipped with a super high-performance CPU, but it also supports GPU cards via PCIe interfaces. Since its launch, it has become a focal point in the AOI field and is an ideal choice for edge AI computer.

Empowering AOI: Cincoze DS-1400 Embedded Computer Series (Photo: Business Wire)

CPU+GPU collaboration enhances inspection efficiency and accuracy

In the past, the manufacturing industry often relied on manual inspection to evaluate production line yield, which was inefficient and prone to errors. By introducing AOI technology, the efficiency and accuracy of product inspection can be significantly improved, thanks to powerful processing capabilities. As the core of the operation, the DS-1400 series can be equipped with Intel 12th gen Alder Lake-S processor, offering up to 16 cores (8P + 8E), with support for up to 64GB of DDR5 memory at up to 4800MHz with ECC. It features up to two PCI/PCIe expansion slots, one of which can support a maximum of 110W, with dimensions of 111mm x 235mm. Cincoze's patented Adjustable PCIe Card Retainer (Patent No: I773359) ensures the DS-1400 operates stably in industrial environments with continuous vibrations, achieving precise and rapid inspection efficiency.

Rich I/O and flexible expansion meet AOI integration needs

As the main system of the AOI, the DS-1400 must be able to connect to peripheral devices required for AOI, such as high-speed cameras, lights, sensors, and displays. In addition to native high-speed I/O (2× 1GbE LAN, 8× USB), the expansion area allows for modular expansion using Cincoze's exclusive modules, such as 10GbE LAN, M12 LAN, USB3.2, and PoE. Installing an optional Wi-Fi/4G module in the MiniPCIe slot enables wireless communications, allowing personnel to monitor production status and information remotely in real time.

Rugged security with military-grade verification

As part of the Cincoze Rugged Computing - DIAMOND product line, the DS-1400 series continues Cincoze's commitment to rugged security. In addition to features like wide temperature (-40~70°C), wide voltage (9-48V), overvoltage, overcurrent, and ESD protection, it also complies with the U.S. military standard for shock and vibration resistance MIL-STD-810G. This demonstrates that the DS-1400 series can maintain stable and secure operation for extended periods in demanding industrial environments.

About Cincoze

Cincoze is a rugged embedded computer brand that provides embedded computer solutions for edge computing and AIoT needs. Its product lines include rugged embedded computers, industrial panel PCs, industrial monitors, and embedded GPU computers. Cincoze products meet the application needs of various vertical markets, especially manufacturing, in-vehicle systems, rail, transportation, and warehouse and logistics. Over the years, Cincoze has launched many innovative products and has won several patents, awards, and international certifications

Tags：**Panel PC** / **Fanless PC** / **embedded computers** / **GPU computer** / **AOI / Edge AI Computer / Automation** / **Manufacturing**

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