Application Note
Portwell, Inc.

RS4U-B656 Industrial PC with AI Computing Capability Featuring 11ᵗʰ Generation Intel® Core™ i7 Processors

Compact System for Industrial Automation & Control Targeting Automated Optical Inspection

To meet the ever-increasing need for smart manufacturing, automated production and delivery of high-quality products, the manufacturing processes have undergone a radical change. As the scope of AI applications in smart manufacturing continues to expand, AI has brought breakthroughs in many instances and the demand for AI industrial servers has increased. Therefore, an off-the-shelf solution to meet these various demands is the most expeditious way to accelerate the realization of smart manufacturing.

Portwell's RS4U-B656—built with versatile I/O ports to achieve flexibility and AI computing capability—it is an ideal solution for scalable industrial applications including industrial automation, intelligent control systems, medical/healthcare imaging systems, automated test equipment, semiconductor equipment, display wall/digital signage, digital security surveillance, broadcasting systems, transportation and storage, and IoT edge computing.

Optimized Computing Powered by 11ᵗʰ Generation Intel® Core™ i7 Processors

Integrated with 11th Generation Intel Core Processors, Portwell's RS4U-B656 offers energy efficient and optimized balance of computing power, accelerated graphic processing, and overall power consumption for various application needs. What's more, it also provides high flexibility for I/O expansion with a wide selection of carriers, and supports multiple peripheral control and wireless connectivity for remote applications.

Portwell's RS4U-B656 industrial intelligent system platform can use its high core computing power to improve the inference performance of deep learning. And through enhanced CPU performance and integrated graphics, image capture, processing, and data analysis can be processed and calculated in real-time and effectively. Plus, with a wide range of connection options (including powerful I/O ports and Gigabit Wi-Fi), data can be quickly transmitted from the device to any place needed, whether it is a network, an internally deployed server, the AI infrastructure, or any other destinations.

AI Smarter Manufacturing with RS4U-B656

RS4U-B656 features the 11th Generation Intel Core processors up to 4 cores. This means it delivers faster single-thread and multi-tasking compute-intensive performance compared to the previous generation. But the benefits don't stop there, based on the integrated Intel Iris Xe graphics equipped with up to 96 execution units (EUs), the Portwell RS4U-B656 offers a 2.95x graphics performance increase compared to predecessor and can support up to three 4K displays simultaneously. All in all, it provides more bandwidth for AI applications.

COMe Type 6 System, RS4U-B656

• 11th Generation Intel Core i3/i5/i7/ and Intel Celeron® processor, up to 4 cores/8 threads

• 16GB DDR4 2400 SO-DIMM (Option Up to 64GB I DDR4 Non-ECC on 2x SO-DIMM sockets)

• High-speed dual Gigabit Ethernet(1*2.5G & 1*1G)

• Rich I/O connections such as serial ports, USB 3.2 Gen 2, SATA III ports

RS4U-B656
Compact System with
11th Gen Intel® Core™ i7 Processor for
Industrial Automation & Control Targeting Automated Optical Inspection

About Portwell

Portwell, Inc., founded in 1993, has focused herself towards a high-technology scope that brings company value through the state-of-the-art. For the past years, continuous leading product development and revenue growth have made Portwell a major Mission-Critical Application Platform Provider in the world. The in-house design of industrial computers and application platforms by Portwell has also been targetted to meet our customer needs for flexibility. Portwell, Inc., an IoT Solutions Titanium Partner of the Intel® Partner Alliance, a community of communications and embedded developers and solution providers, designs and manufactures Communication Appliances along with a full range of Industrial Platform Service (Computer on Module, Embedded Computing, Industrial Computer), Communication Appliance Service (Software Defined Wide Area Network, ANS series, AnnA ANS Network Associate), Vertical Market Service (Advanced Network Solutions, Gaming, Medical, industrial Automation, Smart Transportation, Energy, Smart Manufacturing, Internet of Things(IoT), AI Solutions, Mobility & Barcoding Solutions, EMS/DMS), Panel Device Service (Panel PC, LEAD Series) . With streamline access to the latest Intel technology, we paved the way with the broadest array of building blocks, delivering cutting-edge solutions to meet and even exceed the demanding needs of the ever-changing telecommunication, medical electronics, industrial automation, defense and life automation markets. Committed to supplying customers with a one-stop shopping approach of full product selection, competence and sophisticated customer support, Portwell helps all our customers pave the royal road to success and stay ahead of competition.

Portwell

intel. partner Titanium IoT Solutions

Portwell, Inc., an IoT Solutions Titanium Partner of the Intel Partner Alliance, designs and manufactures a full range of IPC products (SBC, backplane, redundant power supply, rack mount & node chassis), embedded architecture solutions, DVR system platforms, and communications appliances. We provide complete R&D and project management services to decrease customers' time to market and reduce project risk and cost. Portwell is also an ISO 13485, ISO 9001, and ISO 14001-certified company that deploys quality assurance through product design, verification, and manufacturing cycles.

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