



Smarter with Intel®. Stronger with Crystal Group.

Energy is essential to modern day living and homeland security, which is why power companies are undergoing a major transformation to protect energy resources now and for years to come. The Crystal Group Energy Series™ (ES) delivers optimized solutions—powered by Intel—to ensure long-lasting, high-performance computing in unpredictable conditions.

The ES3304S19 substation solution delivers reliable power and performance in a rugged chassis that can withstand the intense conditions of remote locations, such as extreme climates, weather conditions, temperatures, moisture, and dust. Enabling critical power grid capabilities, like constant monitoring, real-time alerts, automation, and remote management, allows power generation, transmission and distribution to flow smoothly while being protected from both physical and cyber threats.

Solution Benefits

Proven performance. Our designs incorporate exceptional thermal protections that are crucial for seamless compute operations in the most remote and unpredictable environments. In addition, all Crystal Group products are field-tested and proven to meet strict military and industrial standards.

Flexible, reliable and protected. With exceptional processing power in a flexible, scalable system, the ES3304S19 is easily integrated, upgraded, and interoperable with legacy equipment. Real-time remote management means system updates and adjustments can be made to one or more substations with the push of a button.

Customized for you. We use leading-edge commercial-off-the-shelf technologies and open architecture solutions to deliver high-performance systems tailored to your specific compute needs.

Cost effective. Designed to protect your investment, this rugged server delivers reliable, long-life performance, limits maintenance demands, and maximizes system uptime for a low total cost of

FEATURES

- Lightweight aluminum construction at 35-40 lbs.
- 3U tall, 19" rack mount server
- Up to 128GB of DDR4 ECC memory
- Versatility with four industry standard drive bays supporting up to 12 SSDs
- Expandable with three slots
- Dual Intel® Xeon® Coffee Lake E series CPUs
- 19" depth chassis
- Modular I/O
- 7+ year warranty

A clear advantage.

Specifications

Mechanical 3U Height: 5.25" (13.3 cm) Width: 17.5" (44.5 cm) EIA-310 rack compliant Depth: 19" (48.3 cm) Weight: 35-40 lbs. (15.8-18.1 kg) [content dependent]	Environmental Standards Operational temperature: -35°C to +55°C ¹ Storage temperature: -40°C to +85°C ¹ Humidity: 95% non-condensing with humidity kit ¹ Altitude: 12,500ft operation, 40,000ft transport ¹
CPU Intel® Xeon CPU architecture options from Intel embedded long-life roadmap Dual Coffee Lake E series scalable processors	Electromagnetic Compatibility Standards Note: Compliance with some standards may require an internal kit IEC 61850-3, International Standard Communication Networks and Systems for Power Utility Automation (regarding environment and EMC concerns) ¹ IEEE 1613, Standard Environmental and Testing Requirements for Communications Networking Devices in Electric Power Substations, EMI category ¹ Emissions: Radiated FCC Part 15. 109, Class A; conducted FCC Part 15. 107, Class A ¹ Testing with solid state drives
Expansion Three PCIe	Cooling Passive, conduction-based thermal management
External Bay Four standard 3.5" drive bays supporting up to 12 removable SATA/SAS SSDs	Customization Customization of all components and integration services available
Memory Up to 128GB, registered, ECC, DDR4 RAM	Software Compatibility Supports Windows 10®, Windows Server 2019®, VMware®, or Linux®
Mounting 19" rack mount with Accuride rails	
Power Supply Dual input, redundant, 400W, 125VDC + 125VDC	



1 - Testing Underway

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