

SEL Port Server

High-Density Serial-to-Ethernet Port Server



Simplify serial-to-Ethernet communications

- The SEL Port Server is an operating system ordering option for the SEL-3350 Computing Platform.
- Add 16 to 48 serial ports with the SEL Port Server—then scale to 96 ports using SEL-2905 Serial Port Expanders.
- Centralize secure Ethernet access to serial devices, such as relays, remote terminal units, and radios.
- Streamline deployment using offline configuration, automated workflows, and software-defined port mapping.
- Maintain communications visibility by using integrated logging, monitoring, and troubleshooting tools.
- Support SCADA connectivity and time synchronization across connected devices.



Centralized Serial-to-Ethernet Communications

Many utility and industrial systems rely on protective relays, meters, controllers, radios, and other serially connected devices. Integrating serial devices with Ethernet networks adds complexity to monitoring and management—and converting to a full Ethernet solution adds cost. The SEL Port Server simplifies these challenges by providing modern serial-to-Ethernet communications and a suite of SEL software and engineering tools. These features streamline serial network configuration and management, centralize communications visibility, enable serial access across entire systems, and provide time synchronization.

High-Density Serial Connectivity

The SEL Port Server provides 16 to 48 serial ports and centralizes secure Ethernet access to serial-connected devices. Pair it with one or more SEL-2905 Serial Port Expanders. Each expander adds 16 serial ports, allowing a single SEL Port Server to manage as many as 96 serial ports.

Simplified Configuration and Communications Management

Configure the SEL Port Server offline using the Port Server Builder extension in ACSELERATOR RTAC® SEL-5033 Software. The extension automates repetitive configuration tasks and enables software-defined port mapping. Local logging, Sequence of Events logging, Syslog forwarding, SNMP monitoring, and web-based status views help engineers identify and troubleshoot communications issues.

Time Synchronization and SCADA Connectivity

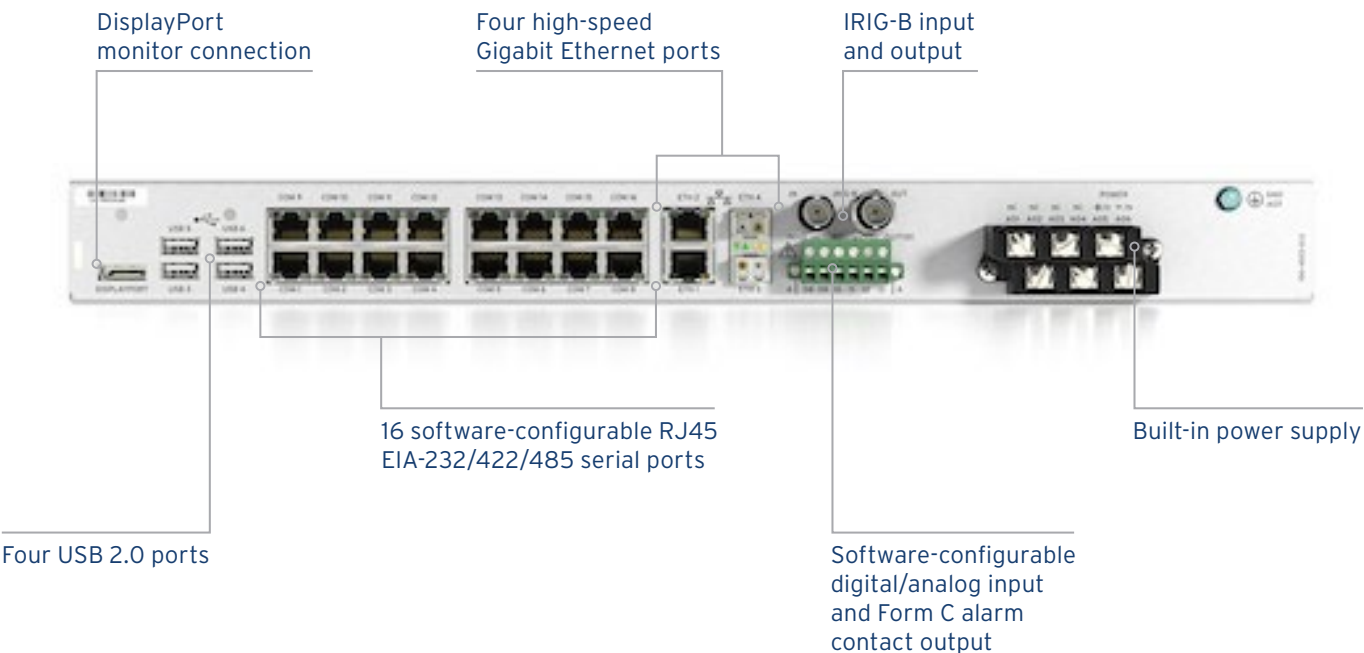
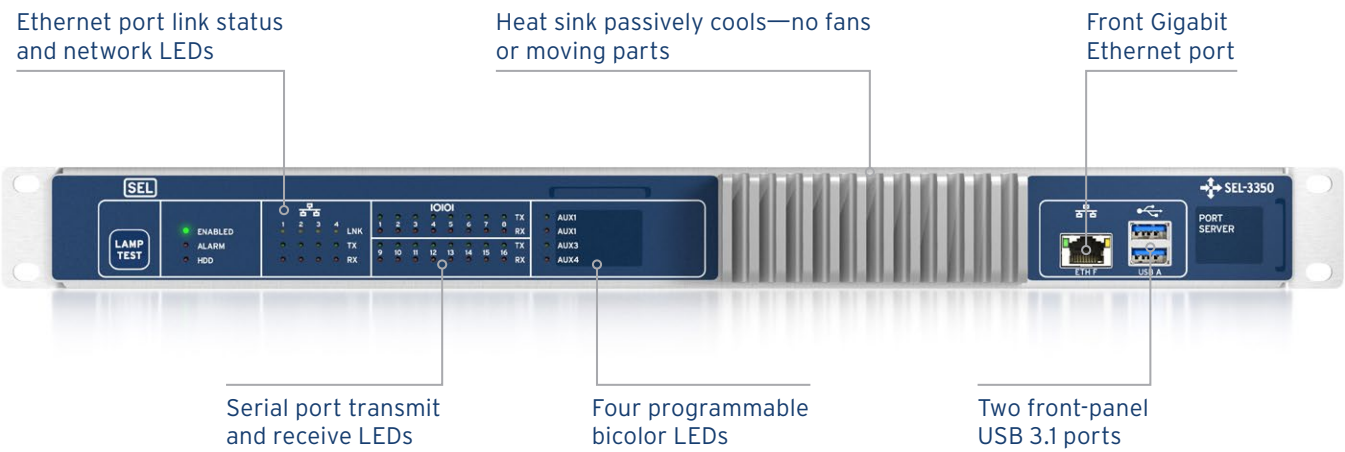
Support time synchronization and distribution using IRIG-B and Network Time Protocol (NTP)/Precision Time Protocol (PTP) clients. Synchronize time across all connected devices and logs. The SEL Port Server supports SCADA connectivity and remote monitoring over Ethernet networks by using DNP3, Modbus TCP, and IEC 60870-5-104.

Built for Harsh Utility and Industrial Environments

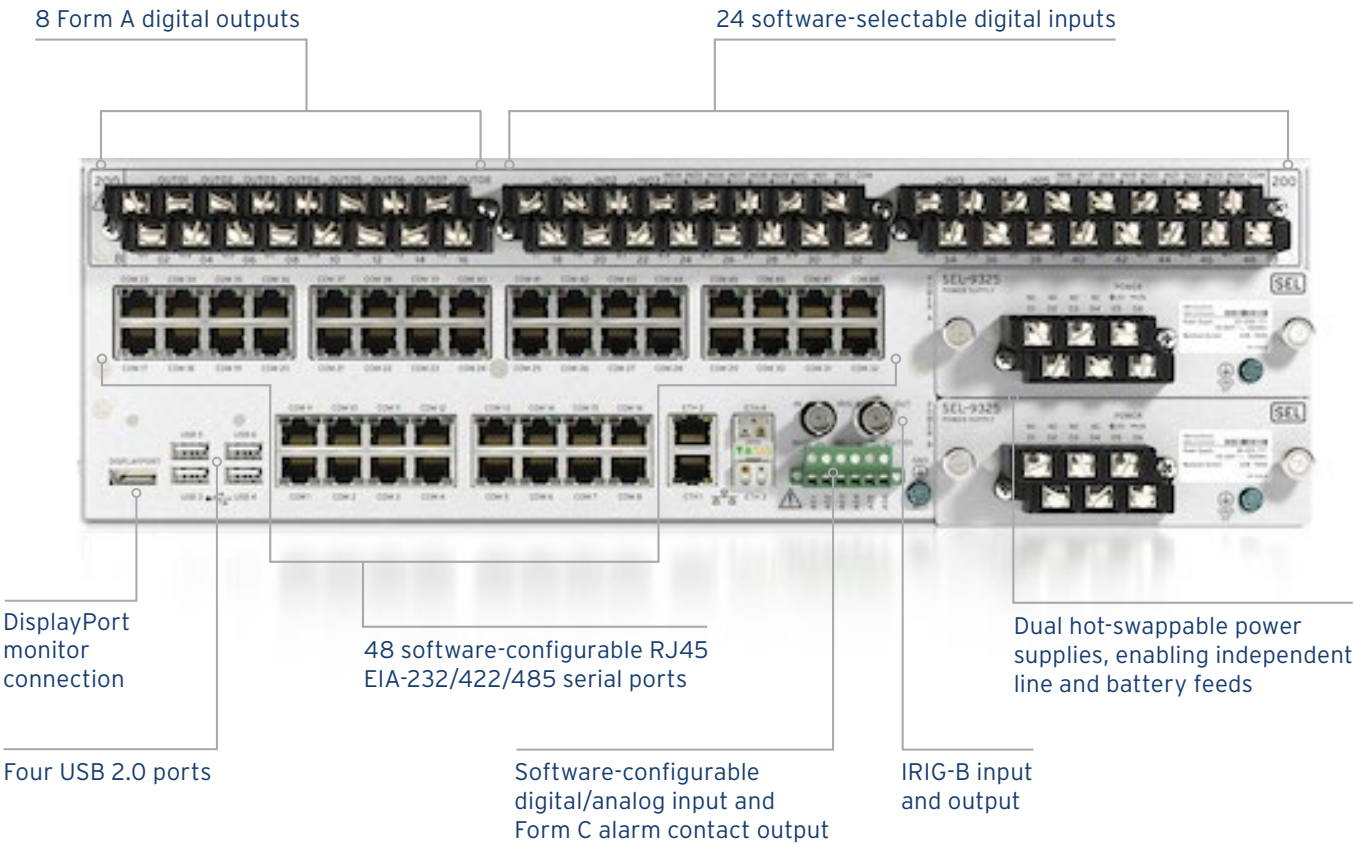
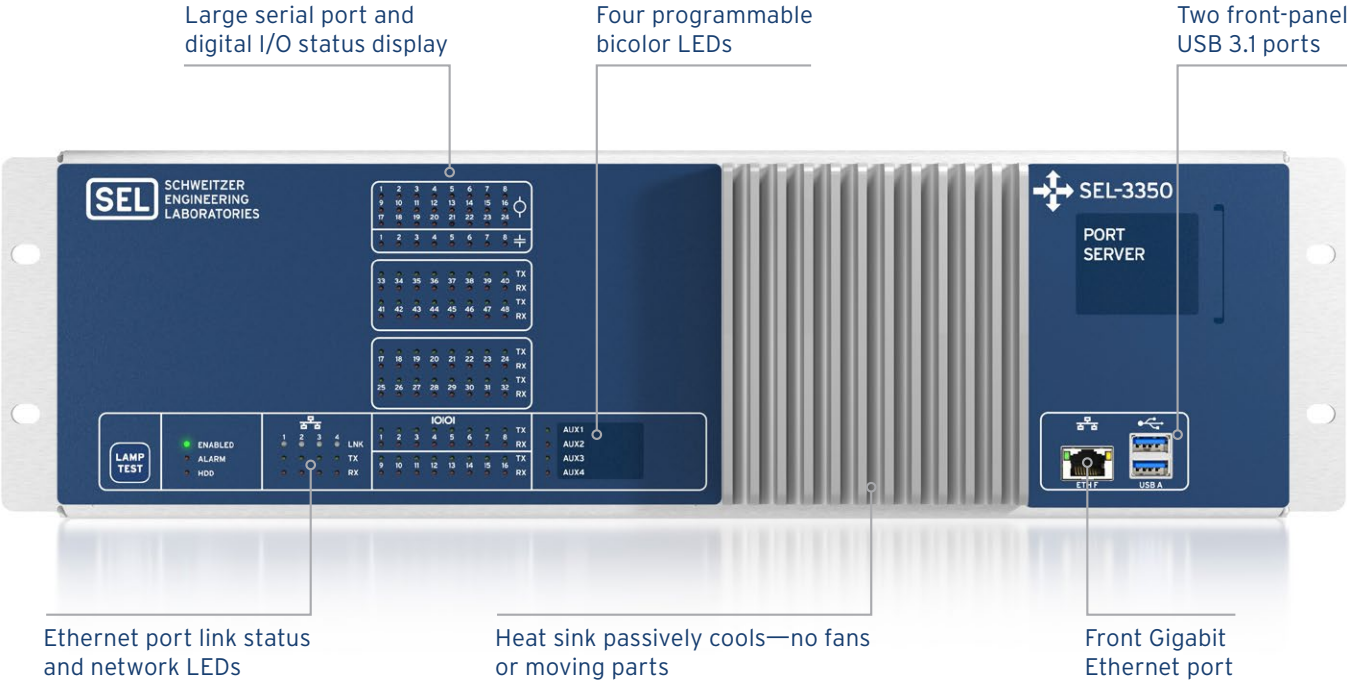
Built on the rugged SEL Computing Platform, the SEL Port Server is engineered and tested to withstand harsh utility and industrial environments. It meets utility standards for electromagnetic interference/ESD, electrical fast transient (EFT)/burst, surge, magnetic fields, vibration, and shock, and has an operating temperature of -40° to $+85^{\circ}\text{C}$. Every SEL Port Server is backed by a ten-year, worldwide warranty and includes no-cost technical support.

Product Overview

1U Device



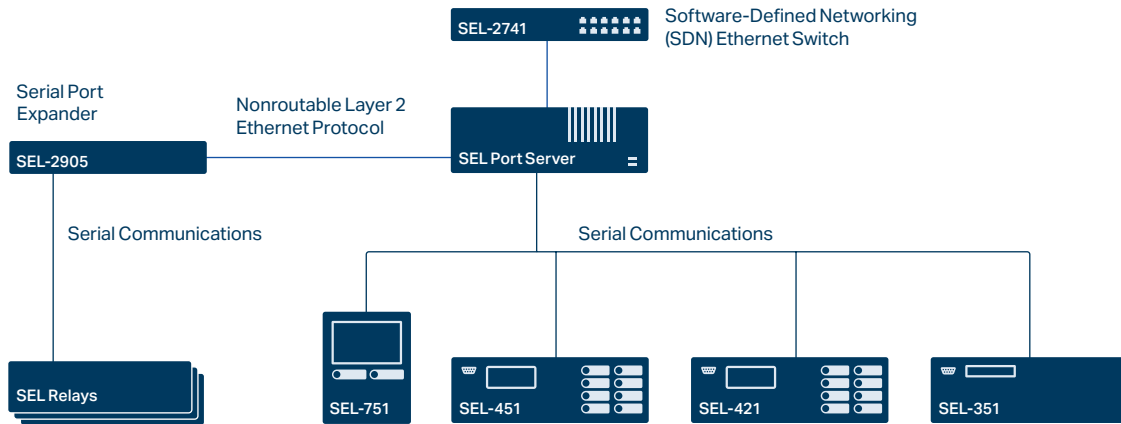
3U Device



Applications

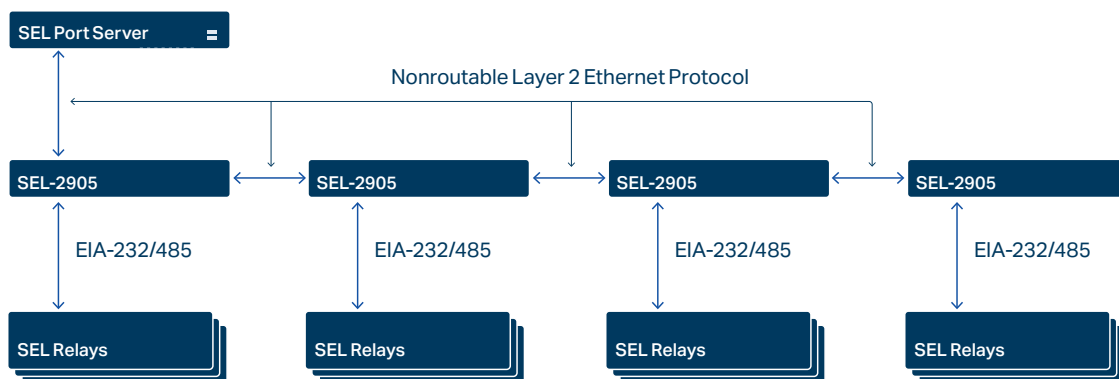
Centralize Serial Device Access Over Ethernet

The SEL Port Server provides centralized Ethernet access to serial devices, such as protective relays, and to other devices that will not be directly connected to the IP network. The SEL Port Server supports a wide range of serial and Ethernet protocols to route SCADA, engineering, and monitoring communications to and from the appropriate serial port on connected devices.



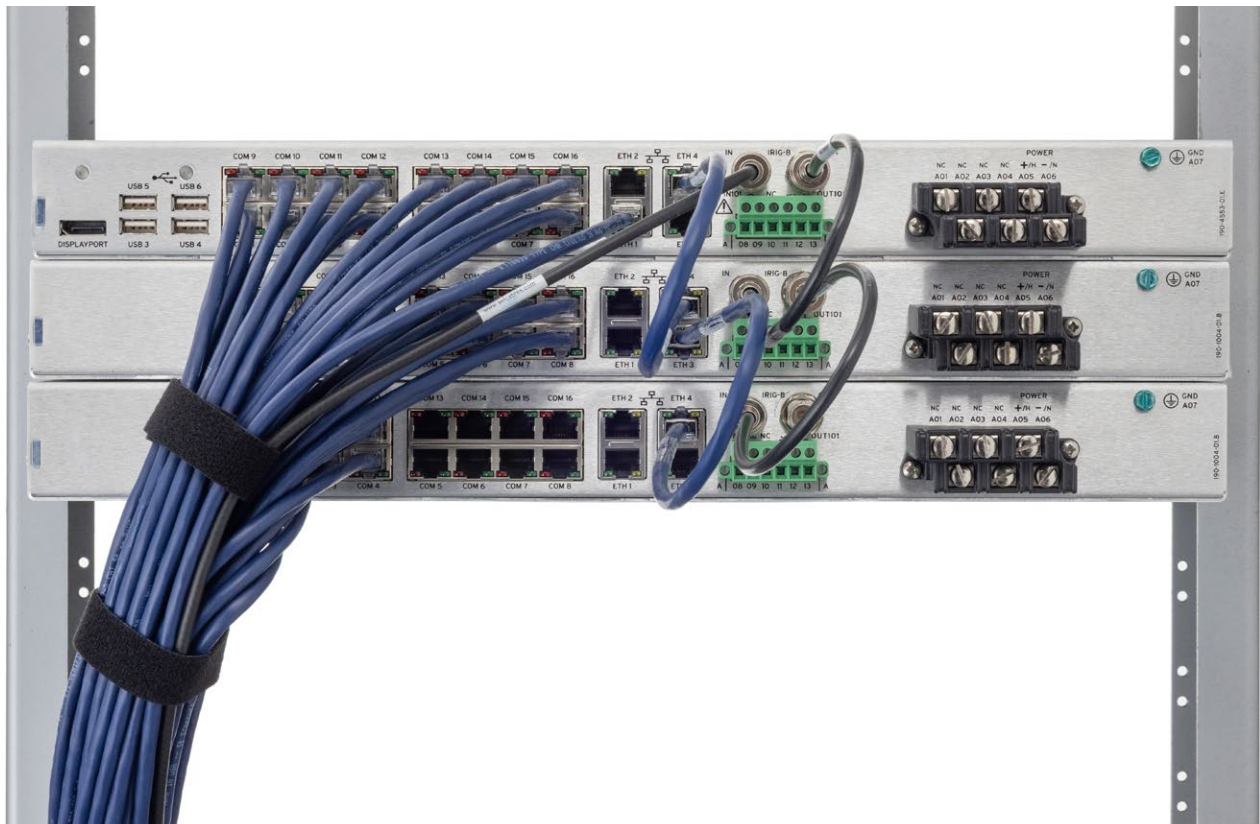
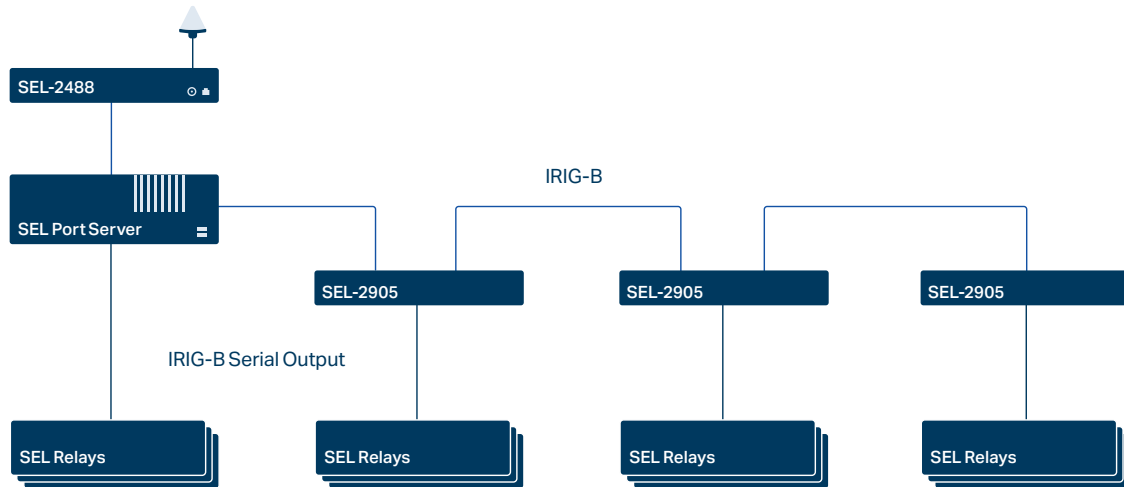
Scale Serial Connectivity With Flexible Expansion

Expand SEL Port Server serial capacity up to 96 ports by pairing with SEL-2905 Serial Port Expanders. The SEL-2905 uses a dedicated, nonroutable Layer 2 Ethernet protocol to connect to an RTAC or SEL Port Server, adding serial capacity without introducing other IP-addressable devices.



Enable Accurate Time Synchronization Across Devices

Synchronize and distribute time using IRIG-B and NTP/PTP clients. If an external time source is unavailable, the SEL Port Server generates and distributes its own internal clock signal.



Specifications

Serial Ports	1U model: 16 RJ45 EIA-232/422/485 ports 3U model: 48 RJ45 EIA-232/422/485 ports	Time Synchronization	IRIG-B in and out NTP server and client PTP server and client
Ethernet Ports	5 high-speed Gigabit Ethernet ports with the following configuration options: • 1 front-panel 10/100/1000 Mbps RJ45 port • 4 rear 10/100/1000 Mbps Ethernet ports configured as one of the following options: - 4 RJ45 ports - 4 small form-factor pluggable (SFP) fiber-optic ports - 2 RJ45 and 2 SFP ports	Security	Cryptography (encryption and authentication) HTTPS/TLS-encrypted web access SSH- and SSL/TLS-encrypted tunneling with X.509 certificate authentication User-based accounts LDAP RADIUS Deny-by-default firewall
USB	2 front-panel USB 3.2 ports 4 rear USB 2.0 ports	Power Supply	Three options to choose from: • Low-voltage 24–48 Vdc • Medium-voltage 48–125 Vdc or 110–120 Vac • High-voltage 125–250 Vdc or 110–240 Vac 1U model: One built-in power supply 3U model: Dual hot-swappable power supplies
Protocols	Serial-to-Ethernet Tunneling Modes Raw TCP Telnet Secure Shell (SSH) Secure Socket Layer (SSL)/Transport Layer Security (TLS) Port Server Monitoring SCADA Protocols DNP3 LAN/WAN Modbus TCP IEC 60870-5-104 Management/Access Protocols Lightweight Directory Access Protocol (LDAP) Remote Authentication Dial-In User Service (RADIUS) SNMP SSH Syslog Telnet	Chassis	Rack or panel mount, 1U or 3U
		Operating Temperature Range	–40° to +85°C (–40° to +185°F)
		Options	Conformal coating



Making Electric Power Safer, More Reliable, and More Economical
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