EDUCATION SOLUTIONS

SEL

- 40+ YEARS OF INNOVATION
- 6,500+ EMPLOYEES WORLDWIDE
- 100% EMPLOYEE-OWNED
- 170+ COUNTRIES WITH SEL SOLUTIONS AND SERVICES
- 100+ OFFICES WORLDWIDE

SCHWEITZER ENGINEERING LABORATORIES (SEL)

SEL is a trusted provider of complete power protection, automation, communications, and metering solutions for critical industries. Facilities around the world rely on SEL solutions to improve electrical safety and protect power infrastructure and essential equipment. Designed and tested to operate reliably in the harshest environments, SEL products are backed by a ten-year, no-questions-asked warranty.

SEL engineers are industry experts in distribution protection and control, power system management, distributed energy resource integration, microgrid design, and cybersecurity best practices. They can help you meet your operational needs with the following solutions and services.

SOLUTIONS

Power System Protection and Metering

- Feeder protection
- Motor protection
- Arc-flash mitigation
- Generator protection
- Transformer protection
- Bus protection
- Tie-breaker protection
- Utility interconnection protection
- Special protection schemes
- Power quality and revenue metering

Power System Automation Controllers and Computing

- Real-time automation controllers (RTACs)
- Programmable automation controllers
- Industrial automation controllers (compact and rack-mount)
- HMI display solutions

Communications and Cybersecurity

- WAN and LAN networking (wired and wireless)
- Transceivers and adapters
- Satellite-synchronized clocks
- Secure communications

Power System Fault Indication

- Overhead fault indication
- Underground fault indication

NORTH AMERICAN UTILITIES CHOSE SEL AS THE BEST-IN-CLASS RELAY MANUFACTURER IN THESE CATEGORIES*

TECHNOLOGY (84%)

SERVICE & SUPPORT (87%)

PRICE (82%)

*NEWTON-EVANS RESEARCH COMPANY SURVEY: "*WORLDWIDE STUDY OF THE PROTECTIVE RELAY MARKETPLACE IN ELECTRIC UTILITIES: 2019–2022 VOLUME 1—NORTH AMERICAN MARKET*"

WHY OUR CUSTOMERS CHOOSE SEL

▲ SEL-751 FEEDER PROTECTION RELAY

Reliable solutions. SEL products are designed, built, and rigorously tested in full electrical load conditions to withstand vibrations, electrostatic discharge, and electrical transients for trouble-free operation in extreme conditions and temperatures from –40° to +85°C (–40° to +185°F). SEL devices are UL- and CE-listed and CSA-certified. Conformal coating offers an additional barrier against contaminants and corrosive gases and fumes.

Low cost of ownership. Our devices collectively have the highest mean time between failures (MTBF) in the market—over 700 years. This means if you have 700 devices installed in your system, you can expect an average of one hardware failure per year. Our devices come with no-charge configuration software and are backed by our worldwide, no-questions-asked, ten-year product warranty.

No-charge technical support. Experienced local application engineers and a knowledgeable sales force offer a complete network of support.

Reliable operations and reduced operational costs. Our devices protect equipment and provide actionable information that helps operators reduce power consumption, identify power quality issues, optimize equipment life cycles, and plan preventative maintenance. We offer solutions that help facilities manage onsite power sources and eliminate blackouts and associated revenue losses and equipment damage.

Scalable solutions. From basic protection to advanced ultra-fast power management systems, our products are designed with scalable growth in mind.

System control. Our devices let users modify, expand, and customize solutions to fit their applications.

Power system awareness and integration into SCADA systems. Flexible communications ports and protocols increase the visibility of the power system operation status and conditions in SCADA systems and allow custom configuration of applications. Supported protocols include serial, EtherNet/IP, Modbus, DNP3, IEC 61850, Mirrored Bits® communications, and IEEE C37.118-2011.

Advanced diagnostics. Millisecond time-stamped reports, Sequential Events Recorder (SER) data, and oscillographic event reports offer improved situational awareness, event root-cause analysis and troubleshooting, and early warnings of system instability.

ENSURING RELIABLE ENERGY FOR CAMPUSES AND LABORATORIES

Rising energy costs, reliable access to power, and integration of renewable energy sources are some of the challenges facing research facilities and university laboratories. SEL solutions and expertise help facilities with onsite generation resources and electrical utility feeds maintain campus uptime during power outages. Our highly reliable power management and control systems and schemes provide efficient, dependable, and secure solutions to integrate multiple generation sources for guaranteed energy delivery. In response to increasing energy efficiency goals, SEL metering solutions provide precise monitoring of consumption by individual buildings and departments.

"WE'RE SAVING THE UNIVERSITY UPWARDS OF $4 MILLION A YEAR. That's about 20 percent of our utility bill."

SHAWN CONNOLLY
VICE PRESIDENT OF UNIVERSITY FACILITIES
MONTCLAIR STATE UNIVERSITY (MSU)

7 OF THE TOP 10 U.S. RESEARCH UNIVERSITIES COUNT ON SEL POWER SOLUTIONS AND SERVICES

14 OUT OF 17 U.S. DEPARTMENT OF ENERGY LABORATORIES EMPLOY SEL TECHNOLOGY AND SERVICES TO PROTECT THEIR POWER SYSTEMS

▲ MONTCLAIR STATE UNIVERSITY

▶ **CUSTOMER**
Montclair State University (MSU)

PROJECT
University Campus, New Jersey, USA

SOLUTION
Microgrid System

The SEL custom system seamlessly responds to off-campus power disturbances in milliseconds, determines when and where the system should supply power or shed loads and by how much, and provides energy cost savings with onsite energy usage management.

CUSTOMER
University of California, San Diego (UCSD)

PROJECT
University Campus, California, USA

SOLUTION
SCADA and Power Management and Control System

The SEL system enables UCSD to detect unstable conditions in the main grid, quickly island itself, and shed noncritical loads so that critical areas can maintain reliable operation.

CUSTOMER
National Renewable Energy Laboratories (NREL)

PROJECT
Energy Systems Integration Facility (ESIF), Colorado, USA

SOLUTION
Microgrid System

The SEL system meets the nine NREL key performance parameters, including resiliency and reliability, microgrid survivability, power quality, operation and maintenance, and economical operation.

BACKED BY UNMATCHED QUALITY AND SUPPORT

SEL invents, designs, manufactures, and supports a complete line of products for the protection, monitoring, control, automation, and metering of electric power systems. Our products are manufactured and tested in the United States to meet the rigorous environmental and operational demands of facilities that must operate flawlessly 24 hours a day, 7 days a week. We are committed to quality with a worldwide, ten-year, no-questions-asked warranty and unmatched, free technical support and customer service.

When you work with SEL, you get more than our products or solutions—you get a partnership. That means we'll provide support whenever you need us. No matter the issue, we will be there until it's resolved.

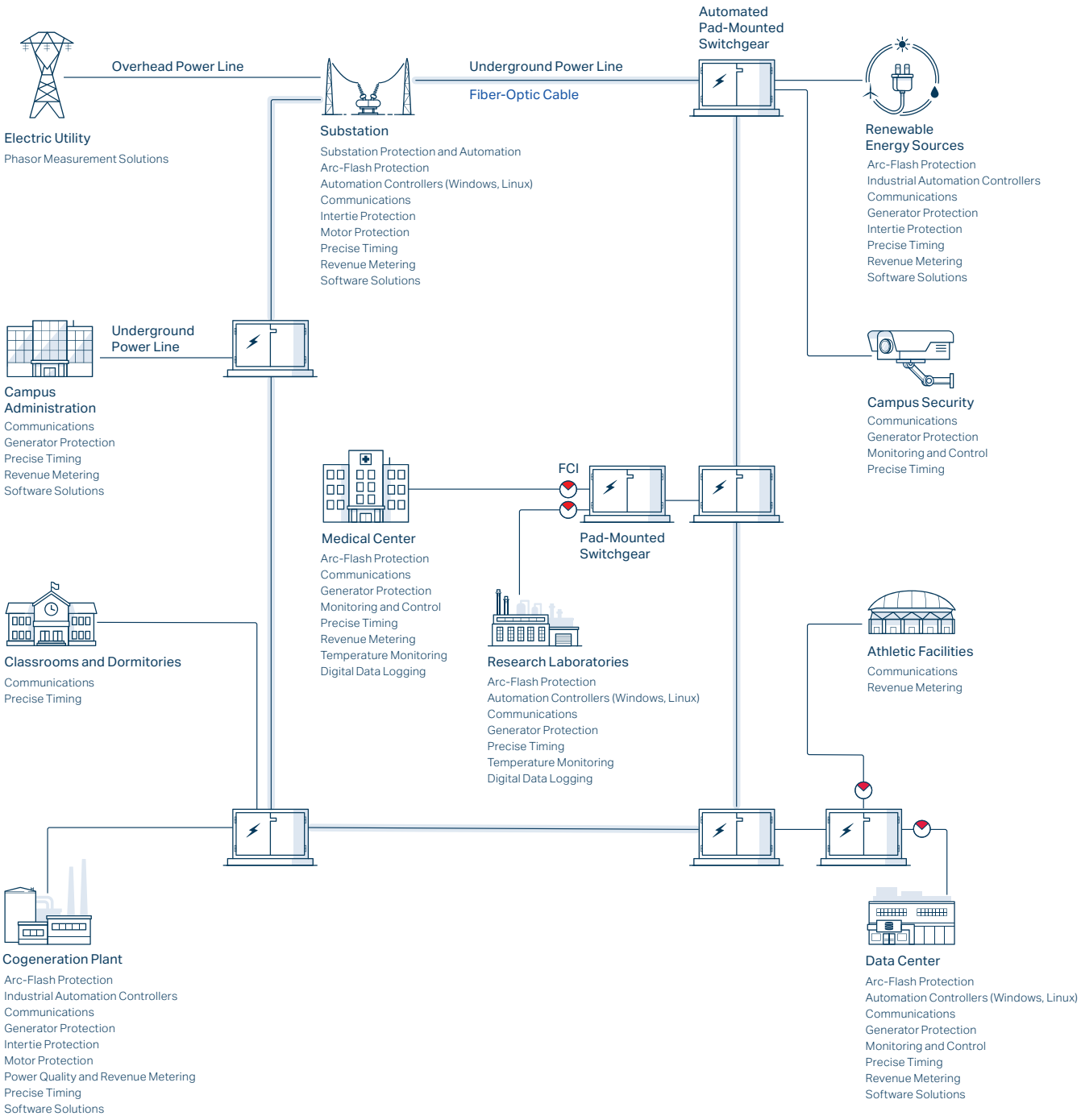
When major disasters occur, we stand ready to help our customers and the communities they serve by discounting products destined for disaster relief, expediting deliveries, and providing 24/7 field support.

"**I'M ALWAYS GREETED BY A FRIENDLY VOICE** and **GET THE HELP I NEED.** Call me old-fashioned, but real customer service requires real people."

KEN DICKERSON
DEEP EAST TEXAS ELECTRIC COOPERATIVE

SEL SOLUTIONS

CAMPUS-WIDE POWER SYSTEM DIAGRAM EXAMPLE



ORDERING AND CUSTOMER SUPPORT

selinc.com/support | +1.509.338.3838

Online Configuration and Ordering

Configure products to meet your exact application needs and order them online with an SEL account. Once logged in, select "Configure and Order" on a product webpage to choose from available model options, including items like power supply voltages, inputs and outputs, communications ports and protocols, and conformal coating. Save individual products to your cart, create projects to house specific product orders, and request a quote—all online. For products that do not require configuration or have been identified as common product configurations, select "Popular Models" on a product webpage to quickly and easily find the model you want.

Ordering Support

Our sales representatives and customer service teams are always happy to answer questions and help configure the right SEL solution for your application. Visit selinc.com/support for regional sales contact information.

Popular Models

The Popular Models program makes selecting and ordering SEL products simple, fast, and convenient. SEL popular models are products preconfigured for popular applications and available for many SEL devices. Specific popular models may ship from stock. When available, the popular model configurations are displayed on the related SEL product webpage, where you can also view their technical details and popular applications. You can order these models directly from SEL or through your SEL sales representative.

Local Support. Global Expertise.

Whether it's grid modernization in the Philippines or an ambitious offshore wind integration project in Belgium, our global engineering experts have helped projects in regions like yours succeed. And with local support from technical staff in your region, you can count on us to help your successes continue.

Scan to find a customer support representative in your area.

selinc.com/edu-solutions