

# MISSION-CRITICAL FACILITY SOLUTIONS





35+ YEARS OF INNOVATION

5,000+ EMPLOYEES WORLDWIDE

100% EMPLOYEE-OWNED

165+ 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. Mission-critical 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.

Our 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
- 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%)

## 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  $-40^{\circ}$  to  $+85^{\circ}\text{C}$  ( $-40^{\circ}$  to  $+185^{\circ}\text{F}$ ). 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, MIRRORRED BITS<sup>®</sup> 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.

# WE HELP DATA CENTERS MAXIMIZE AVAILABILITY AND UPTIME



SEL is a trusted provider of power system protection, monitoring, control, and energy metering solutions to data center facilities around the globe. Our comprehensive power solutions optimize power delivery and usage. They quickly reroute energy around faults to minimize interruptions, save money, and ensure efficient power system availability and system uptime.

“SEL’s always been really great to work with.

**WE’VE ALWAYS BEEN ABLE TO GET GOOD TECH SUPPORT** on the phone whenever we have issues.”

**JUSTIN HARP**

DIRECTOR OF OPERATIONS ENGINEERING  
VANTAGE DATA CENTERS

**7** OF THE TOP 10 GLOBAL DATA CENTER COMPANIES  
TRUST SEL POWER SOLUTIONS AND SERVICES

**LARGEST** HYPERSCALE DATA CENTER OPERATORS IN  
NORTH AMERICA EMPLOY SEL TECHNOLOGY  
TO PROTECT THEIR POWER SYSTEMS





▲ VANTAGE DATA CENTERS

► **CUSTOMER**  
Vantage Data Centers

**PROJECT**  
Data Center Complex, California, USA

**SOLUTION**  
Power Quality and Energy Metering

An SEL metering solution supports Vantage's mission-critical reliability standard by providing energy reliability information and power quality measurements.

**CUSTOMER**  
Banco do Brasil (BB)

**PROJECT**  
Central Data Center, Brasília, Brazil

**SOLUTION**  
Power System Protection and Communication

SEL implemented advanced feeder protection with high-speed arc-flash mitigation at BB's primary data center. This facility enables 24/7 availability to support the bank's world-class operations.

**CUSTOMER**  
Global Technology Company

**PROJECT**  
Multiple Hyperscale Data Center Sites

**SOLUTION**  
Power System Protection, Control, and Networking

SEL designed the protection and control schemes to deploy across multiple facilities. The system provides scalable electrical power architecture with optimal protection against blackouts to maintain uptime.





AUTOMATION CONTROLLERS AND COMPUTING



PROTECTION SYSTEMS AND METERING



## 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



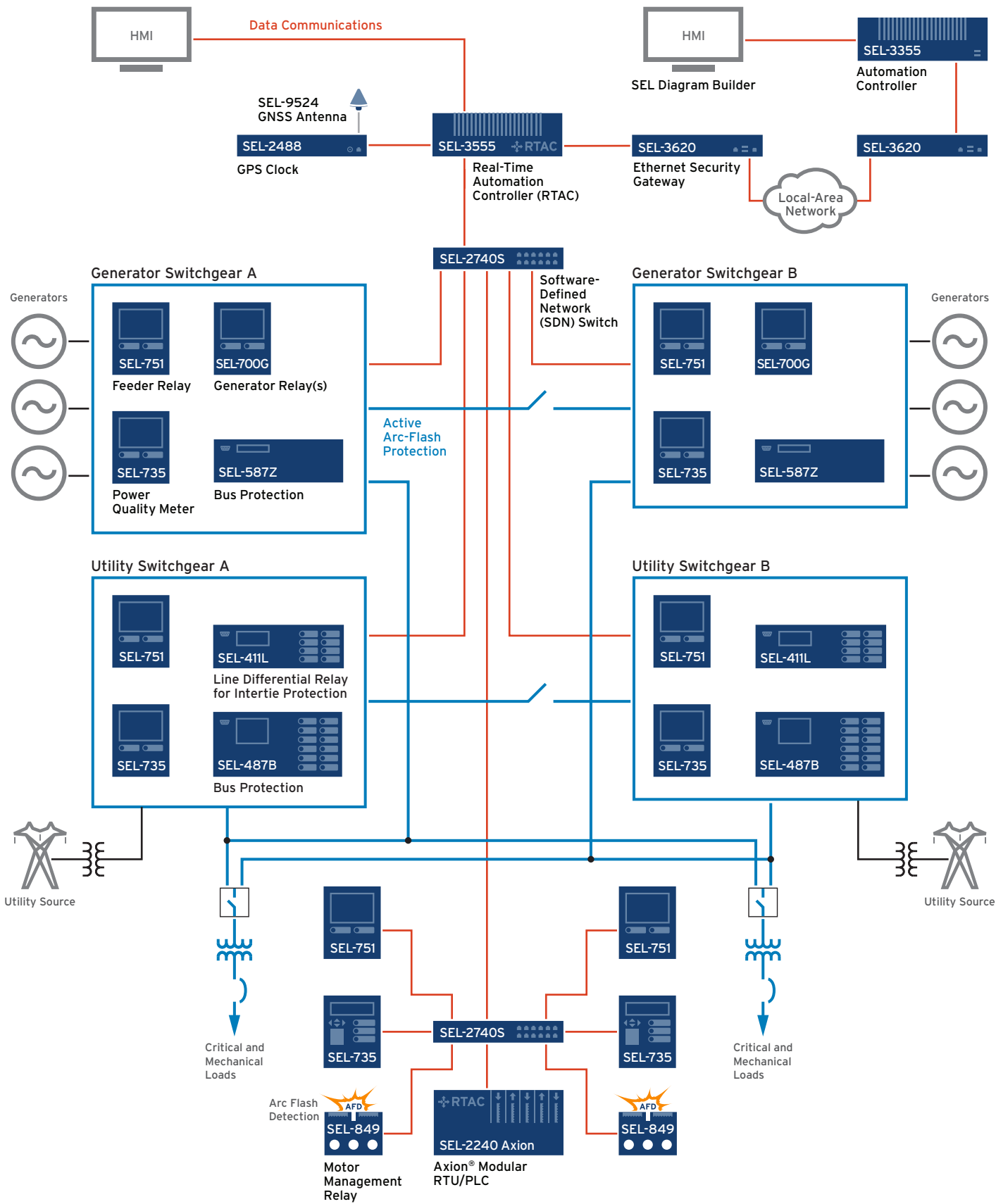
COMMUNICATIONS AND CYBERSECURITY

FOR A DETAILED LIST OF OUR PRODUCTS AND SOLUTIONS, VISIT [selinc.com](http://selinc.com).

READ ON TO LEARN ABOUT EXAMPLE APPLICATIONS OF SEL PRODUCTS AND SOLUTIONS AT MISSION-CRITICAL FACILITY SITES.

# SEL SOLUTIONS

## DATA CENTER POWER SYSTEM ONE-LINE DIAGRAM EXAMPLE



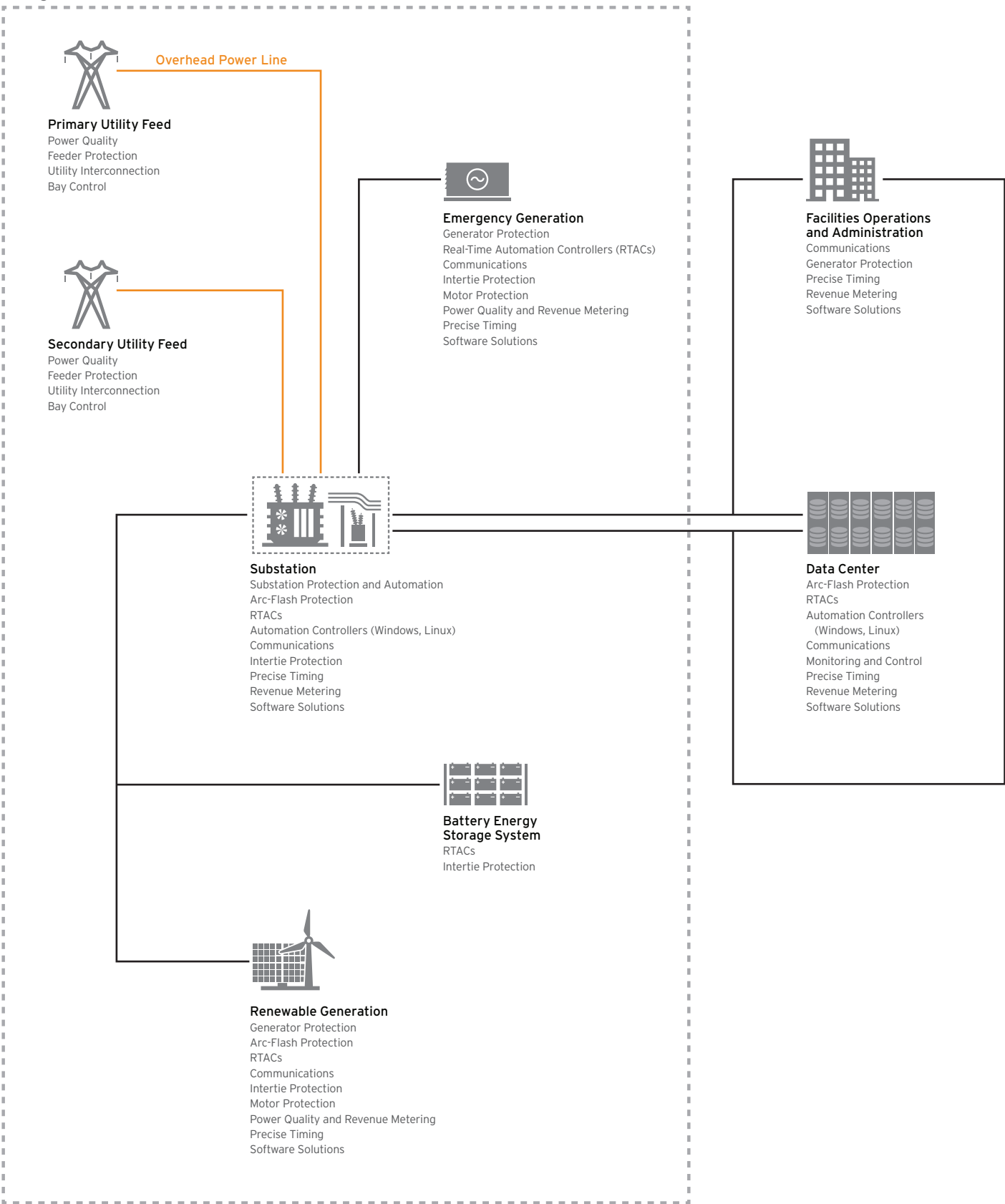




# SEL SOLUTIONS

## MICROGRID CONTROL APPLICATION EXAMPLE

### Microgrid Control

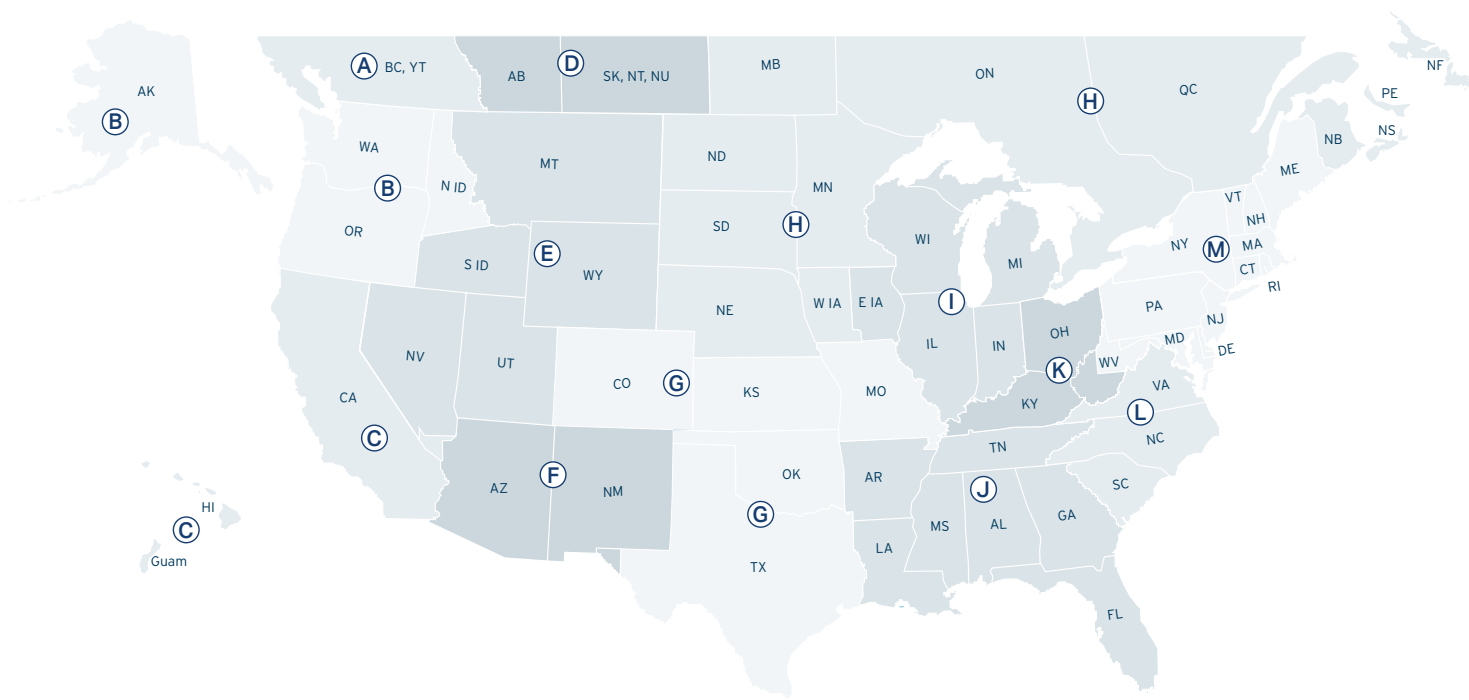






## CONTACT US

## SALES, ORDERING, AND CUSTOMER SUPPORT

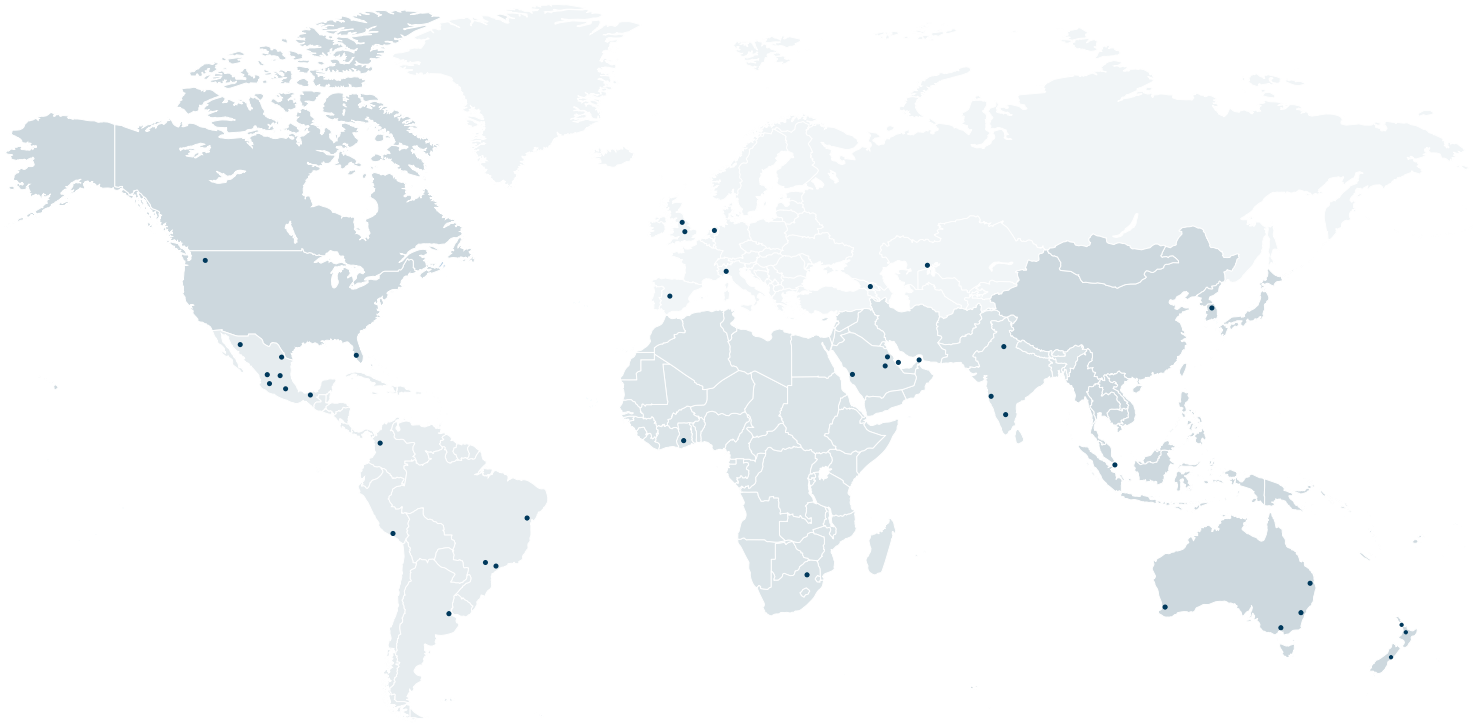


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PF00653 • 20210115