Innovations & Solutions

[SEL]

SEL-487E Centralized Protection and Control (CPC)

- Simplifies commissioning and testing, firmware management, and cybersecurity, and reduces total cost of ownership by centralizing these functions in one device rather than in several single- or multifunction protective relays
- Based on a relay platform your utilities are using right now
- Offers flexible deployment solutions, including traditional I/O connections, TiDL, or IEC 61850

FLISR (Fault Location, Isolation, and Service Restoration)

- Simple—System configurations are created in minutes with no complex modeling required
- Scalable—Feeders can be designed and deployed individually and remain operational as new feeders are expanded across the grid
- Secure—Runs on SEL Blueframe, a secure, Linux-based operating system designed for operational technology (OT) applications
- Fast—Uses protection and switching devices at the grid edge for fault location, increasing the speed of service restoration
- Interoperable—Vendor-agnostic with all reclosers that support DNP3, including the SEL-651R Advanced Recloser Control and the SEL-651RA Recloser Control
- Versatile—Designed to work on overhead and underground circuits

Traveling-Wave and Time-Domain Solutions

- Fast—Detects and issues trip commands in 1–2 ms, 5 to 10 times faster than traditional protection
- Accurate—Most accurate fault locator available; pin-points faults to an insulator on a tower
- Reliable—Protection that isn't dependent on sources; great for areas with high inverter-based resource integration

SEL Arc Sense™ Technology

- Uses advanced signal processing to detect high-impedance faults, which can be difficult or impossible for traditional protection to detect
- Available in many devices already deployed in your distribution systems, resulting in very little cost to aid in the detection and mitigation of wildfires
- Alarms operators for a fallen conductor through SCADA or instructs to open a circuit breaker or recloser control to isolate the affected circuit

Questions about this document?

Call +1.509.332.1890 or contact your local sales representative.

SEL Time-Domain Link (TiDL®) Technology

- Simplest digital secondary system available
- Point-to-point configuration; simple, visible indication of which devices are communicating
- Plug-and-operate configuration
- No network switches required
- No GPS clocks required
- Cyber-secure; T-Protocol, by design, won't operate on traditional networks

SEL Arc-Flash Solutions

- Significantly decreases the time it takes a relay to trip in response to an arc fault, reducing hazardous incident energy and saving lives
- Combines light-sensing technology with fast overcurrent protection, providing high-speed arc-flash detection and preventing overtripping for external faults
- Relays work with low- and medium-voltage switchgear and easily coordinate with other devices in industrial- and commercial-scale facilities

SEL-T35 Time-Domain Power Monitoring With Energy Packet Technology

- Energy calculation method simply traceable to fundamentals of physics and mathematics
- Energy packets are based on watt-seconds and are therefore an accurate representation of energy flowing in an electric network under any power quality conditions
- We use energy packets to look at new and more precise ways to monitor, control, meter, and even predict electric power system operations

Software-Defined Networking (SDN)

- The only network system where you can design and deploy how and where network traffic is allowed to flow
- Similar to having an individual firewall on every port— an exciting concept for cybersecurity
- Redirects network traffic to secondary path instantaneously when network breaks
- Inherently provides network configurations, helping meet network audit requirements
- Unauthorized traffic entering the switch is flagged and routed to an intrusion detection system

SEL-5702 Synchrowave® Operations

- Our next-generation wide-area situational awareness (WASA) software that complements SCADA and EMSs by aggregating high-resolution time-series data, including synchrophasor data, relay event reports, point-on-wave data, and GIS geospatial data
- Equips transmission control centers with tools to transform time-synchronized data into detailed system insights that support decision making
- Built for operators: simple to use and customizable to meet your WASA needs

SEL ICON® Virtual Synchronous Networking (VSN)

- Preserves deterministic time-division multiplexing (TDM) performance over packet transport with under 1 ms latency
- Uses your current TDM-based line current differential protection system with Internet Protocol core networks
- Allows packet-based and TDM-based systems to work together, greatly reducing communication migration or upgrade costs
- Is simple to configure; designed so you configure the QoS settings for all your critical protection circuits in just one step, saving time and ensuring consistency

SEL POWERMAX® Power Management and Microgrid Control Solutions

- Keeps the lights on by managing generation controls, load-shedding schemes, and automatic synchronization schemes
- Uses tie flow control scheme to manage the import of power
- Scalable, from managing an entire country's power system to oil refineries to solar and wind farms
- Manages energy costs and determines the optimal generation dispatch based on operational constraints, such as fuel cost, weather, the state of charge mode, and energy import/export costs

Blueframe® Data Management and Automation (DMA)

- Automatically collects, stores, and manages device-specific information to simplify day-to-day management of your system of devices and to support compliance
- Automates and accelerates the collection of oscillography, Sequence of Events (SOE) data, device settings, property information, and other device files and reports
- Provides automated password rotation and streamlines device audits through custom summary reports to identify device changes
- Can be deployed across substation or regional installations or centralized at a corporate installation