SEL-3622

Security Gateway

Merge physical security and cybersecurity for field operations.

- Small form factor and wide temperature range for cabinet installation on distribution poles and in substation yards.
- Accelerometer, light sensor, and cable disconnect detection alert on physical tampering.
- Deny-by-default firewall and virtual private network (VPN) encryption protect all traffic in remote field cabinets.
- Multifactor authentication keeps engineering access to all devices secure.
- Embedded whitelist antivirus technology reduces zero-day virus threats.

Key Features

Embedded Whitelist Anti-Malware

Resist known and unknown malware attacks with exe-GUARD™ embedded antivirus. Powerful rootkit resistance technology, embedded Linux® mandatory access controls, and process whitelisting help mitigate attacks against the gateway itself and eliminate costly patch management and antivirus signature updates.

Serial-to-Ethernet Transceiver

Expand your protocol compatibility by converting serial DNP3 and Modbus® to Ethernet DNP3 Transmission Control Protocol (TCP) or User Datagram Protocol (UDP) and Modbus TCP on the fly. Establish an Ethernet connection using Secure Shell (SSH), Telnet, raw TCP, or UDP encapsulation to create a persistent tunnel between a logical Ethernet port and a physical serial port. The device can also convert most bit-based protocols (Conitel, Tejas, Van Comm, etc.) to Ethernet to help replace analog links without disrupting existing systems.

Secure Electronic Access Point to Electronic Security Perimeters

Use the SEL-3622 Security Gateway to provide a central point of entry to one or several intelligent electronic devices (IEDs) with user-based access controls and detailed activity logs. Log on to the SEL-3622 jump host functionality, not IEDs. Manage user accounts and group memberships centrally using Lightweight Directory Access Protocol (LDAP)-accessible systems, such as Microsoft® Active Directory®, or by using Remote Authentication Dial-In User Service (RADIUS). RADIUS functionality enables multifactor authentication technology, such as RSA tokens.

Enhanced Data Security With IPsec VPN

Communicate with existing IT and control systems over VPN tunnels secured with IPsec. Protect Ethernet or serial data regardless of the endpoint or recloser control vendor. IPsec on the SEL-3622 is interoperable with other Lemnos-compliant VPN endpoints.

Support for NERC CIP Requirements

The SEL-3622 provides automated IED password management and enforces complex passwords. Establish secure role-based engineering access controls that log and time-stamp all access attempts and every command entered on remote IEDs. Integrate event records into existing log management systems using syslog.

Small Form Factor With Low Power Draw

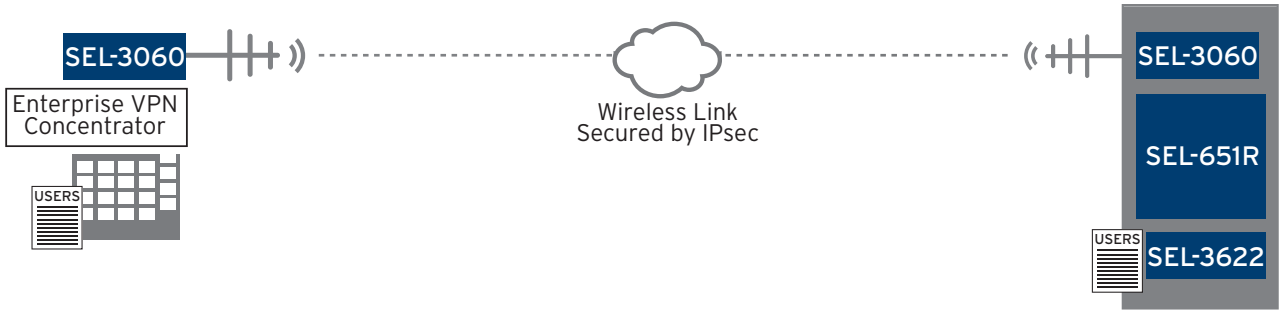
The SEL-3622 Gateway's small form factor fits into field cabinets or other confined spaces. It supports 10–30 Vdc inputs and draws less than 5 W of power (for dual-copper configuration). The SEL-3622 Gateway's three Ethernet ports and four serial ports support a wide variety of Ethernet and serial-to-Ethernet communications configurations.

Virtual Software Client Support

Transform unsecure serial or legacy Ethernet communications on Windows® computers to cryptographically secure channels by using SEL-5827 Virtual Connect Client or SEL-5828 Virtual Port Service Software. These applications are provided free by SEL to make remote SEL-3622 ports available for existing software and terminal applications on your PC, including those using Modbus TCP/RTU. Data are secured using SSH with SEL-3622 port groups, master ports, and serial ports.

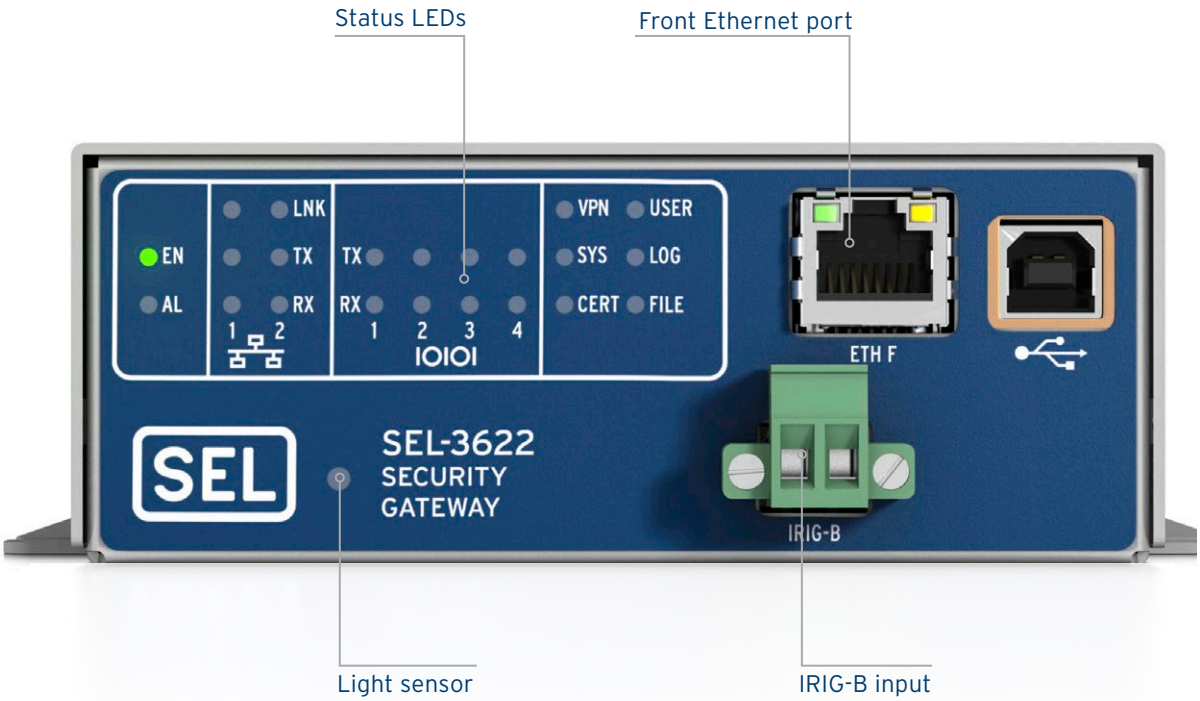
Physical Security Protections

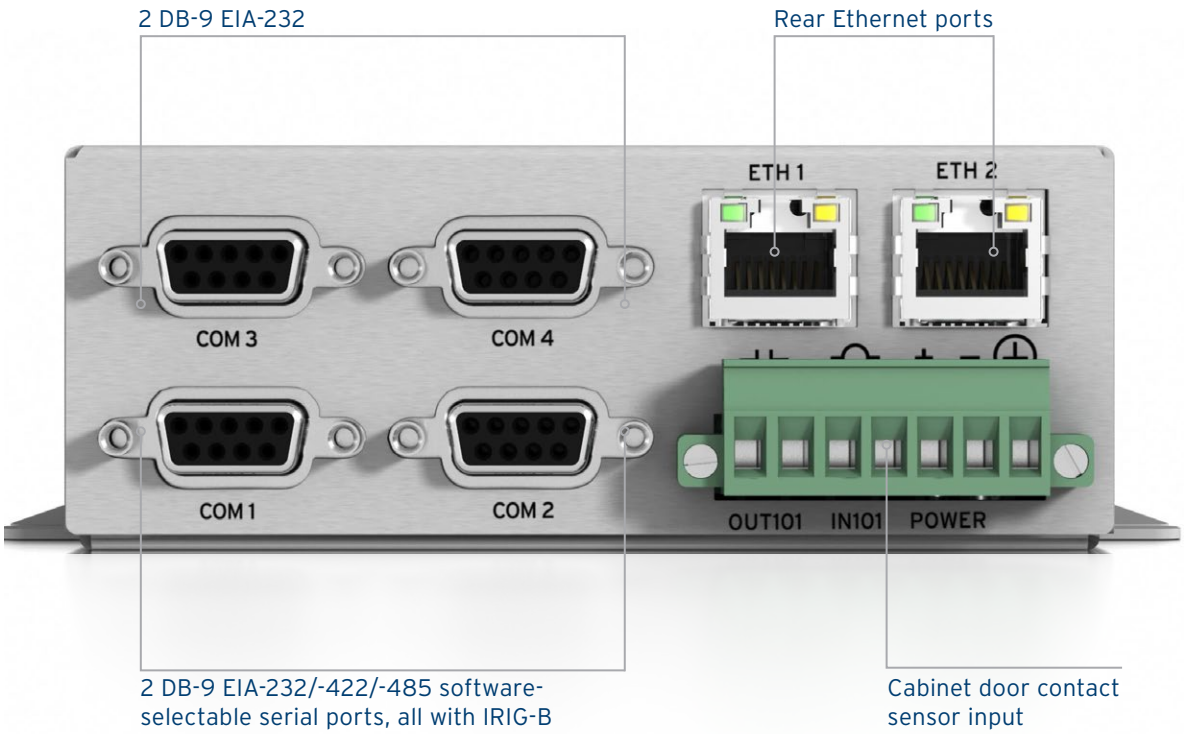
Alert on possible malicious physical activity with physical sensor components on the SEL-3622 Security Gateway. The SEL-3622 can detect sudden movement (through an embedded accelerometer), sudden changes in visible light (through an embedded light sensor), the opening of cabinet doors (through an input sensor), and the connection and disconnection of Ethernet cables.



Secure all Ethernet and serial data communications with IPsec or SSH.

Product Overview

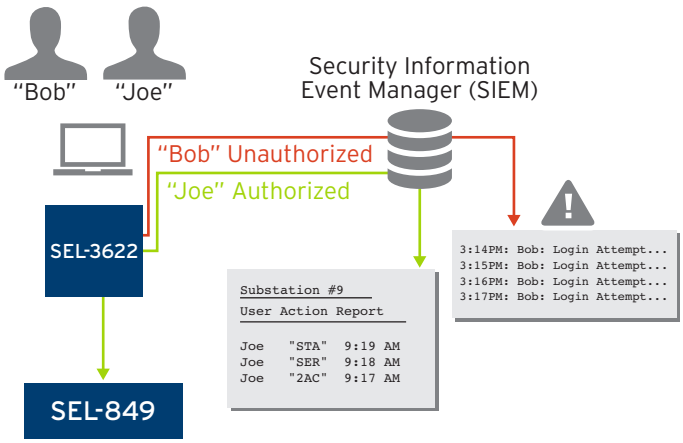



2 DB-9 EIA-232
Rear Ethernet ports
ETH 1
ETH 2
COM 3
COM 4
COM 1
COM 2
OUT101
IN101
POWER
2 DB-9 EIA-232/-422/-485 software-selectable serial ports, all with IRIG-B
Cabinet door contact sensor input

Applications

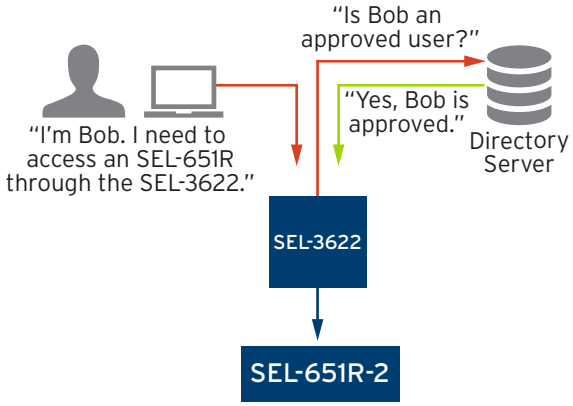
Accountability and Compliance

Integrate into existing log management systems using Syslog. Centralized log collection also means easier compliance with North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) event logging rules and regulations. Use SEL-3622 proxy services to generate user command reports and to trace all actions performed on IEDs back to individual users. Log all successful or blocked connections to the firewall, and be alerted to the presence of unauthorized network communication attempts.



User Access Control

Query Microsoft Active Directory using LDAP or RADIUS. System administrators can easily add and remove user-based account access and authorized access levels to specific devices from a central location.

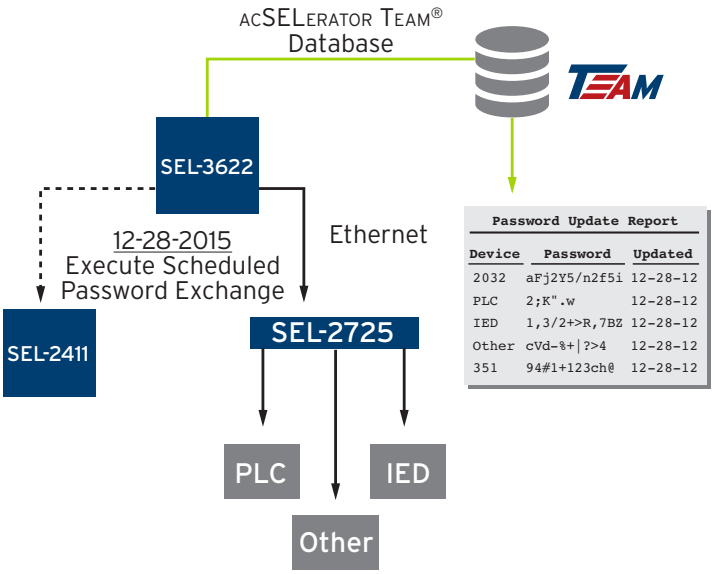


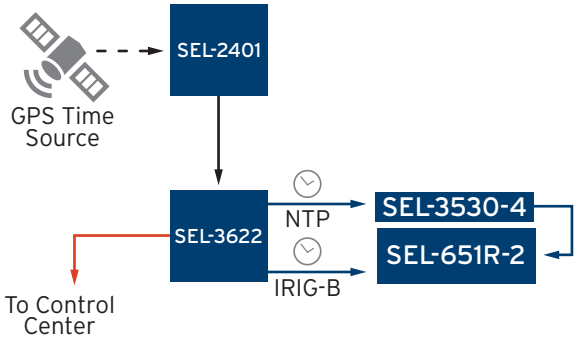
Automated IED Password Management

Manage IED passwords quickly and efficiently with SEL-3622 proxy services. Enforce strong passwords on IEDs that automatically change on a configurable schedule. Ensure that no default or weak passwords are in use on critical networks. Use ACSELERATOR TEAM® SEL-5045 Software to automate the collection of password change reports.

Time Synchronization

Provide time synchronization to all your protected IEDs, data concentrators, and rugged computing devices. Distribute accurate time using both IRIG-B and the Ethernet-based Network Time Protocol (NTP). Should a satellite time source be disrupted temporarily, the SEL-3622 will maintain substation time using its own internal clock.





SEL-3622 Specifications

General

Network Interfaces	**Ports:** 2 rear, 1 front **Data Rates:** 10/100 Mbps **Front Connector:** RJ45 female **Rear Connectors:** RJ45 female or LC fiber (single-mode 100BASE-LX10 or multimode 100BASE-FX) **VLANs:** Up to 4 per physical interface
Serial Ports	**Ports:** 4 rear **Type:** 2 EIA-232/EIA-485 (software-selectable), 2 EIA-232 **Data Rate:** 1200 to 115200 bps **Connector:** DB-9 female (Ports 1–4) **Protocol Support:** Byte- and bit-based serial protocols
Time Synchronization	**NTP:** Server and client **IRIG-B Input:** Phoenix input, IRIG B000 or B002, even or odd parity **IRIG-B Output:** Serial ports (Pins 4 and 6), IRIG B000 even parity
User Authentication	**Local Accounts:** 256 maximum local accounts, requires strong passwords (8–128 characters) **LDAP:** v3, TLS-secured **RADIUS:** PAP, EAP-PEAP/MSCHAPv2, EAP-TTLS/PAP
Logging and Alerting	**SNMP Traps:** v1/v2c/c3 **Syslog:** UDP transport **RADIUS:** Accounting packets
Physical Tamper Detection	**Input Contact:** 1 (pickup/dropout depends on source)
Additional Cybersecurity Controls	**Embedded Antivirus:** exe-GUARD whitelisting antivirus **Authorization Levels:** Technician and Administrator **SSH:** Server and client
Power Supply Options	12/24 Vdc 9.8–30.0 Vdc <5 Watts
Operating Temperature	–40° to +85°C (–40° to +185°F)

SEL Making Electric Power Safer, More Reliable, and More Economical

Schweitzer Engineering Laboratories, Inc.
Tel: +1.509.332.1890 | Email: info@selinc.com | Web: www.selinc.com

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