SEL-3332 Intelligent Server

More Powerful, More Protocols, More Logic, More Secure, and More Intuitive

Now With IEC 61850

WORLDWIDE 10 years WARRANTY

- *Remotely connect with confidence via encrypted engineering access*
- *Unmatched customer support and a worldwide, ten-year product warranty*
- *Query and control devices with popular protocols on every port*
- *Configure settings online locally, remotely, or when offline through the configurator software*

Features and Benefits

Simple Setup
- Automatically configure IEDs
- Efficiently map and translate data with drag-and-drop interface

Powerful Hardware Platform
- Quickly perform all tasks with 1.4 GHz Intel® Pentium® M processor with 1 GB system ECC RAM
- Archive data with up to 16 GB CompactFlash® memory
- Increase dependability with self-test diagnostics, watchdog processor, and alarm

Proven SEL Hardware Experience
- Connect safely to hardened EIA-232, USB, and Ethernet ports
- Install anywhere—4,000-year MTBF power supply and no fans, rotating storage drives, or vent holes
- Distribute NTP and IRIG-B time synchronization

Built-In Logic Processing Platform
- Perform substation automation
- Flexibly concentrate data
- Easily perform scaling and Boolean logic

Seamless Protocol Conversion
- Connect to a wide variety of devices using IEC 61850 or other protocols
- Use multiple protocols concurrently to communicate with multiple masters

Data Archiving and Viewing
- Log sequential events records and analog information
- Automatically retrieve and store fault records locally and remotely

Convenient Diagnostic and Troubleshooting Tools
- View inbound and outbound communications with built-in data scope
- Apply test values to test communications and commission installation

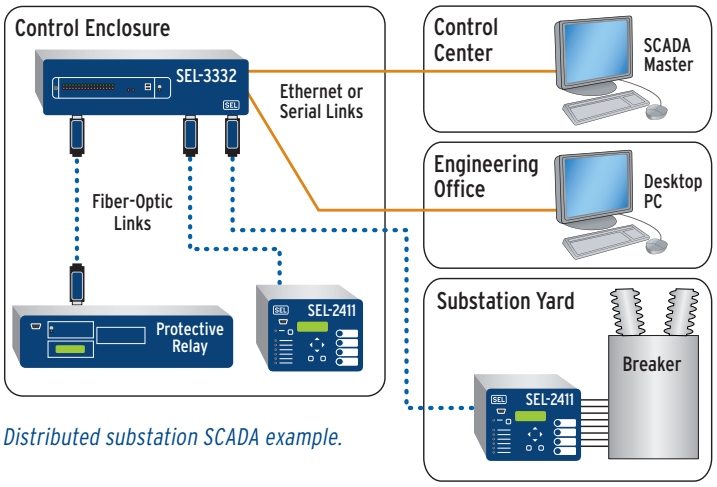
Cybersecurity Management
- Encrypt Ethernet-based engineering access and SCADA protocols with SSL/TLS
- Protect VPN access with IPsec link security
- Manage access via user accounts
- Exceed NERC system security auditing and logging requirements
- Enforce NERC password complexity requirements
- Include NERC-compliant port control

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

Electrical Substation SCADA, Report Retrieval, and Engineering Access

Use the SEL-3332 Intelligent Server, relays, remote I/O modules, and the SEL-2411 Programmable Automation Controller for higher reliability, lower cost, and more functions, instead of settling for an RTU. An RTU provides only remote I/O for SCADA, without the benefit of the other functions available in a distributed SEL system.

- Link substation IEDs into a single contact point for SCADA and engineering access.
- Remotely manage protection and control settings, retrieve and file power system reports, time-tag changes, and directly access devices for engineering maintenance (ACSELERATOR QuickSet® SEL-5030 Software).

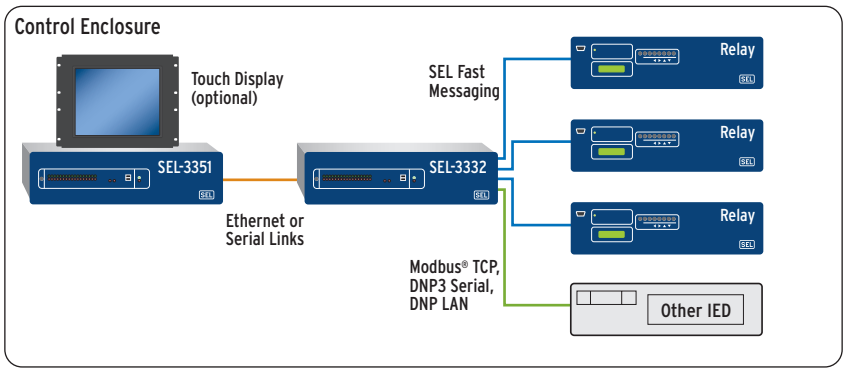


Distributed substation SCADA example.

Protocol Conversion and Data Concentration With Local Intelligent Operator Interface

Convert protocols and concentrate data from multiple IEDs made by multiple manufacturers for overall substation integration applications. Add optional HMI software and touch display to the SEL-3351 System Computing Platform for local display and control of substation IEDs.

- Connect to IEDs using legacy and modern protocols with a few mouse clicks.
- Communicate with all SEL IEDs via true interleave.
- Retrieve and store event records locally and remotely (ACSELERATOR Report Server® SEL-5040 Software).

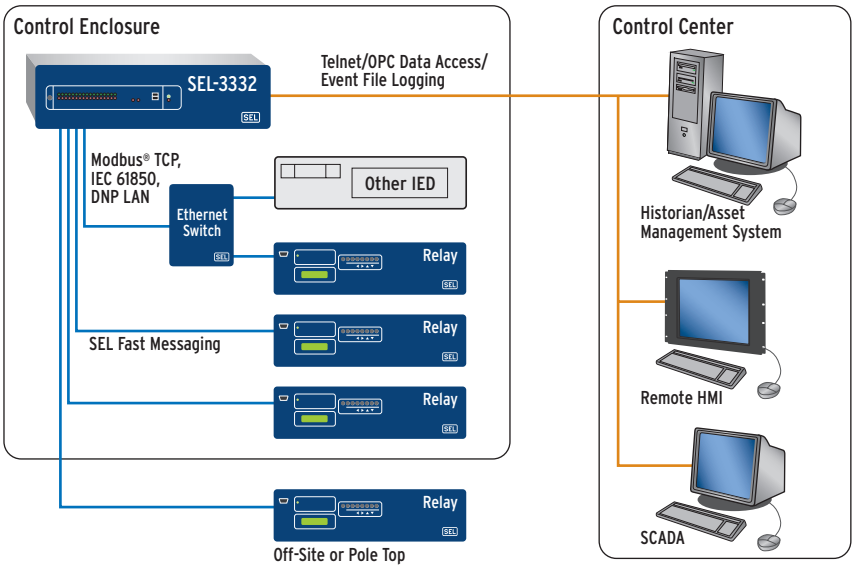


Example of protocol conversion and data concentration with local control.

Protocol Conversion and Data Concentration With Enterprise Connectivity

Interface directly to utility information systems, including historians and asset management systems.

- Relieve SCADA master stations from unnecessary substation information.
- Interface non-SCADA data directly with the appropriate enterprise information system.
- Use optional OPC client and server modules to provide an enterprise data exchange interface.
- Add optional data logger module to the SEL-3332 to log event information to comma-separated value (CSV) files. Use this feature to record changes in analog and digital points, device communications statistics, and most other numeric values tracked by protocol conversion software.

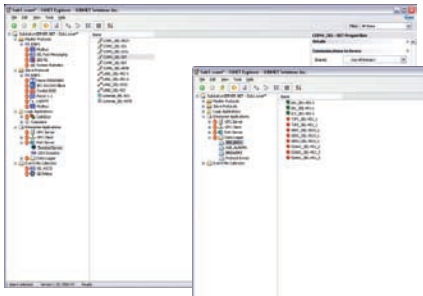


Protocol conversion and data concentration with remote enterprise connectivity.

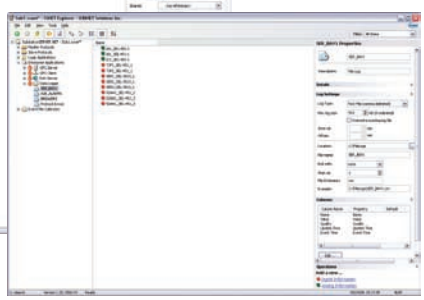
Match Your Applications With Specialized Software Modules

The SEL-3332 features SubstationSERVER.NET, an advanced substation communications server software product from SUBNET Solutions, Inc. The software provides data concentration, protocol translation, automation logic, event file collection, and enterprise connectivity for electric utilities. SubstationSERVER.NET utilizes a high-performance, in-memory database, coupled with these optional software modules, to meet specific system requirements.

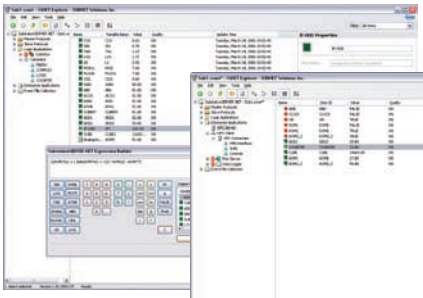
- **Port Server**
  Map physical serial ports to IP addresses, allowing transparent engineering access to any connected IEDs.
- **Data Logger**
  Build a sequential events log file of binary and analog point changes, conveniently viewed with SERviewer Software or Microsoft® Excel®.
- **Calculator**
  Perform math and logic manipulation of binary or analog points.
- **OPC Client and OPC Server**
  Interface with third-party OPC servers to read/write data to/from the SEL-3332, and provide read access to the data inside the SEL-3332.



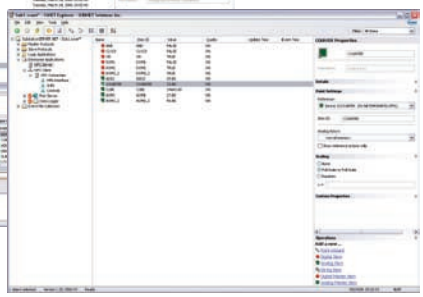
Port Server



Data Logger



Calculator

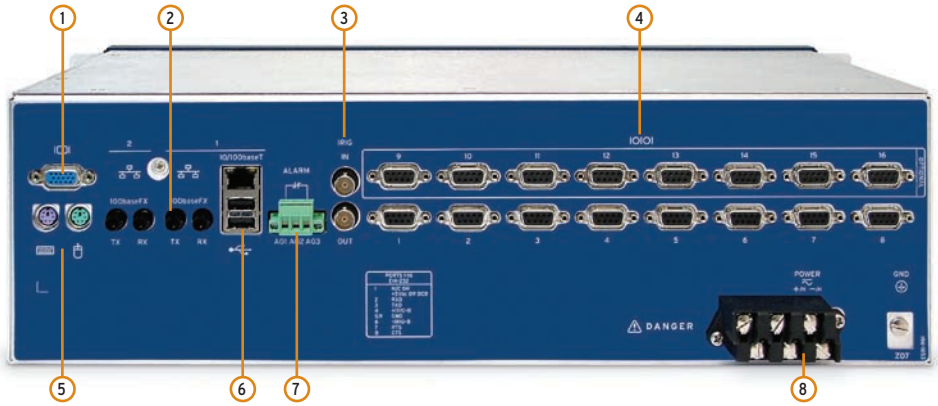


OPC Client and OPC Server

Front and Back Views

Front View

1. *Port Transmit and Receive LEDs*
2. *Two USB Ports*
3. *Power LED*
4. *Lamp Test Button*
5. *Drive Activity LEDs*
6. *Alarm LED*



Back View

1. *VGA Monitor Port*
2. *Two Ethernet Ports*
3. *IRIG Input and Output Ports*
4. *EIA-232 Serial Ports*
5. *Keyboard and Mouse Ports*
6. *Two Back-Panel USB Ports*
7. *Alarm Output Contact*
8. *Power Input*

SEL-3332 Intelligent Server

General Specifications

General

1.4 GHz Intel Pentium M processor single-board computer with 1 GB ECC RAM

Up to 16 GB CompactFlash® RAM

Watchdog processor, independent of single-board computer

Operating temperature range of −40° to +75°C (−40° to +167°F)

No fans or other moving parts

Operating System

Windows® XP Embedded

Protocols

Peer to Peer

IEC 61850 GOOSE

Master

IEC 61850 MMS, DNP3 Level 3 Serial, DNP3 LAN/WAN, Modbus® RTU and TCP/IP, SEL ASCII Event File Collection, SEL Fast Messaging to SEL relays and communications processors, SES-92, LG 8979, IEC 60870-5-103, Harris 5000/6000

Slave

IEC 61850 MMS, DNP3 Level 3 Serial, DNP3 LAN/WAN, IEC 60870-5-101/104, Harris 5000/6000, Recon 1.1, LG8979, Modbus RTU and TCP/IP, Conitel Byte, GE-TAC/BE-TAC 7020, CDC Type II

Logic Processing

Built-in programmable logic calculator

Enterprise Applications

OPC Client 3.0

OPC Server 3.0

Port Server (map physical serial ports to IP addresses)

Data Logger

Event File Collection

SEL ASCII

GE Universal Relays

Ethernet Ports

Ports	2
Data Rate	10 or 100 Mbps
Standard	IEEE 802.3

Ethernet Port 1

Connectors	RJ-45 Female and 2 ST® Connectors
Interface	10/100BASE-T and 100BASE-FX

Ethernet Port 2

Connectors	2 ST Connectors
Interface	100BASE-FX

Serial Ports

Ports	1, 8, or 16
Connectors	DB-9 Female
Data Rate	300 to 115000 bps
Data Signals	EIA-232 full-duplex data
Time Output	Demodulated IRIG-B
Other	Power output on Pin 1

USB Ports

Front	2
Back	2

IRIG Ports

Connectors	Female BNC
IRIG Input	Modulated IRIG-B or demodulated IRIG-B
IRIG Output	Demodulated IRIG-B

Power Supply Options

125/240 Vdc or Vac

48/125 Vdc or 125 Vac

24/48 Vdc

Substation- and Plant-Grade Equipment

Designed, built, and tested with the same practices, processes, and standards that we use for our protective relays, communications processors, and other products. This includes compliance with IEEE and IEC standards for electrostatic discharge, fast transients, radiated emissions, surge-withstand capability, dielectric strength, pulsed magnetic fields, and disturbances.

Refer to the SEL-3332 Data Sheet for detailed test data. Specifications and tests are per the ANSI/IEEE C37.90-1989 and IEC 60255 protective relay standards, and the ANSI/IEEE 1613-2003 standard covering communications and networking devices.

Pullman, Washington USA
Tel: +1.509.332.1890 • Fax: +1.509.332.7990 • www.selinc.com • info@selinc.com