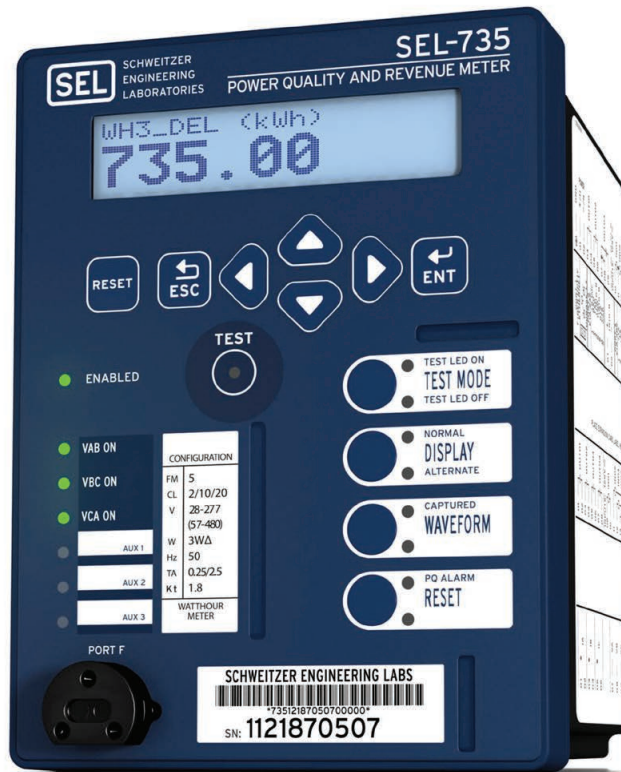


SEL-735

POWER QUALITY AND REVENUE METER



KEY FEATURES

ACCURATE AND AFFORDABLE REVENUE AND POWER QUALITY METERING FOR ANY APPLICATION.

Accurate Metering

Exceed ANSI C12.20 0.2 class accuracy with bidirectional, full four-quadrant energy metering for generation, interchange, transmission, distribution, or industrial applications. Many new metering installations, such as distributed generation, operate over a wide current range. The SEL-735 Power Quality and Revenue Meter provides high accuracy over an extended operating range with a 0.06 percent Wh guarantee. Typical Wh accuracy errors of 0.02 percent surpass the accuracy of many energy standards.

Voltage Sag, Swell, and Interruption (VSSI) Recorder

Correlate system disturbances with the VSSI recorder. Enabled from the factory, the VSSI recorder time-stamps voltage excursions with up to 1 ms resolution and records indefinitely using an adaptive sampling rate. The SEL-735 stores and reports the residual voltage, duration, affected phases, CBEMA/ITIC reports, and time stamp of the event. The VSSI settings include trigger thresholds for sag events from 5 to 99 percent and for swell events from 101 to 180 percent of the base voltage.

Load Profile Data Collection

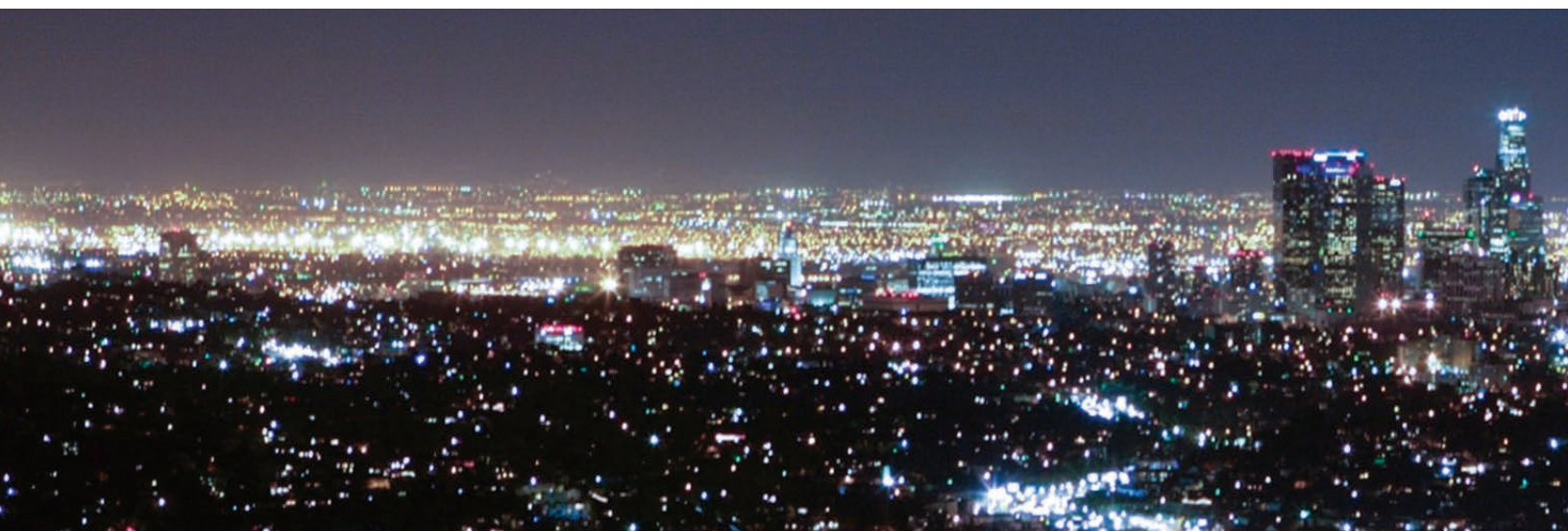
Collect billing data with a simple-to-use load profile recorder that captures years of data. Independent load profile recorders in the SEL-735 allow simultaneous meter and power quality logging of up to 192 data channels. Trend averages, minimums, maximums, changes, and snapshots at a rate of once every three seconds.

Transformer and Line Loss Compensation (TLLC)

Enter transformer nameplate and line impedance information directly into the meter to automatically compensate for transformer and line losses. When the contractual billing point differs from the meter location, use TLLC to optimize the metering location and reduce the instrument transformer costs.

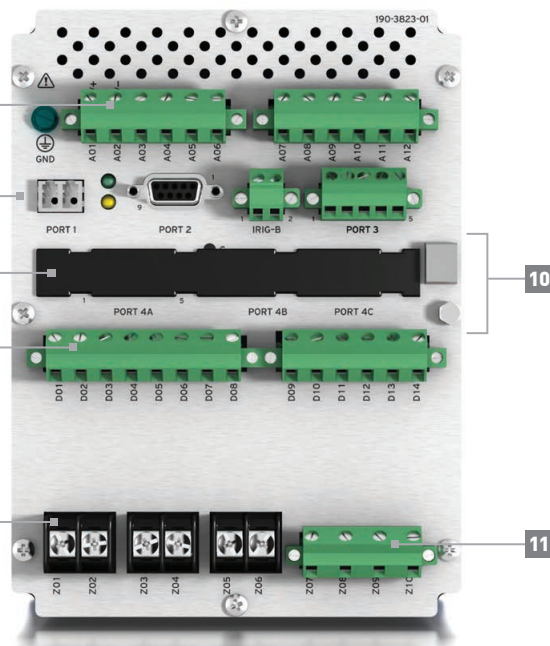
Time-of-Use (TOU) Metering

Capture rate-based demand and energy consumption, configured with a user-defined calendar. Apply TOU metering to bill consumption at different rates based on season, day type, and time of day. The program automatically self-reads and resets demand; there is no need to manually reset meters.

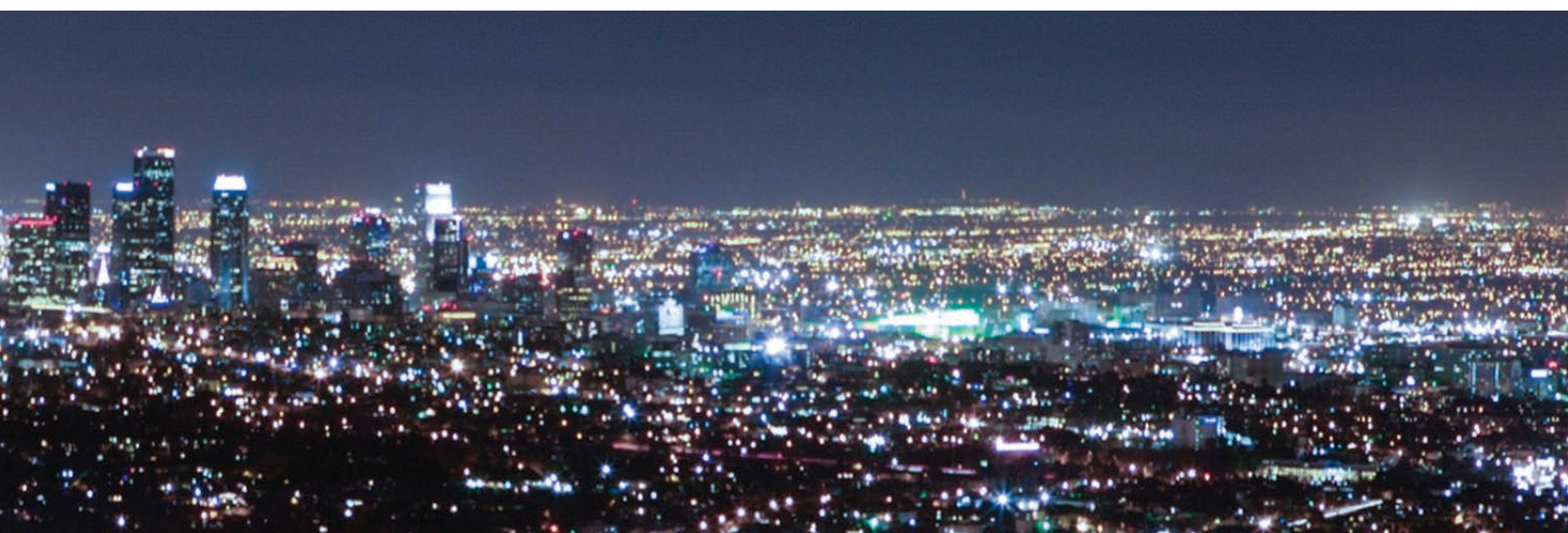




- 1 Simple front-panel navigation
- 2 Read, test, and program with ANSI Type II optical port
- 3 Custom controls
- 4 Custom nameplate and bar code



- 5 Power supply board: 2 inputs, 3 outputs
- 6 Main board: Copper or fiber-optic Ethernet, EIA-232, IRIG-B, EIA-232/-485
- 7 Communications board (Expansion Slot #1): EIA-485, telephone modem, EIA-232
- 8 I/O board (Expansion Slot #2): 4 inputs, 4 outputs (solid-state or electromechanical); or 4 analog outputs, 4 solid-state outputs
- 9 CT board: Ia, Ib, Ic
- 10 Sealing provision
- 11 PT board: Va, Vb, Vc, Vn

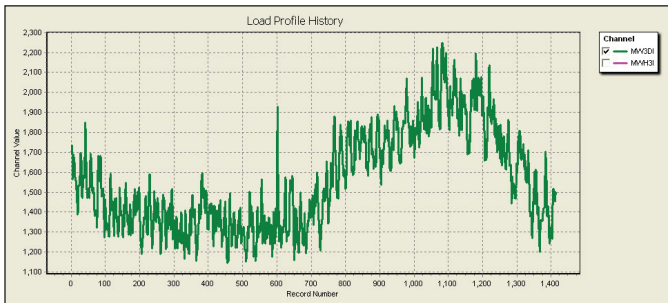


APPLICATIONS



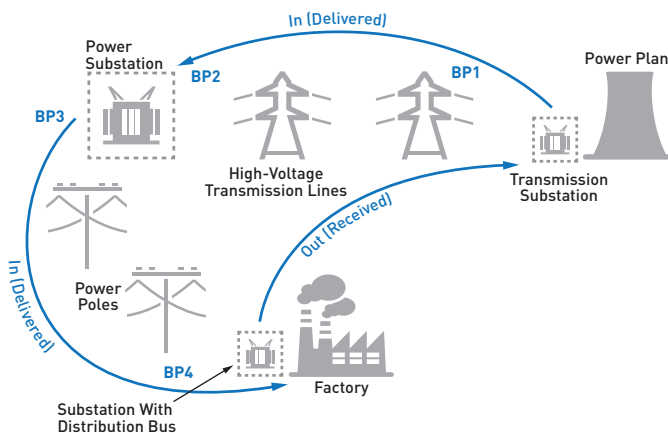
POWER QUALITY (PQ)/PORTABLE PQ

Monitor PQ anywhere with the SEL-735 Portable Power Quality Meter. The rugged portable case makes it easy to transport the meter and install temporary metering. Measure harmonic and interharmonic content through the 63rd order. Optional clamp-on current transformers and clip-on voltage leads allow you to pinpoint PQ problems and measure energy consumption on subcircuits. You can also log months worth of data with 128 MB of onboard memory. To ensure consistent measurements, SEL designed the SEL-735 to comply with IEC 61000-4-30.



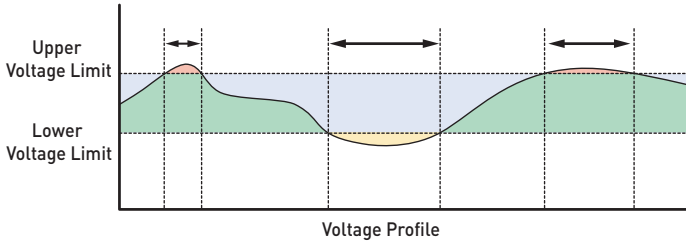
LOAD PROFILE RECORDER

Log up to 192 data channels simultaneously, and trend averages, minimums, maximums, and changes sampled once every three seconds with the Load Profile Recorder. Retrieve, plot, and export load profile data with acSELERATOR QuickSet® SEL-5030 Software.



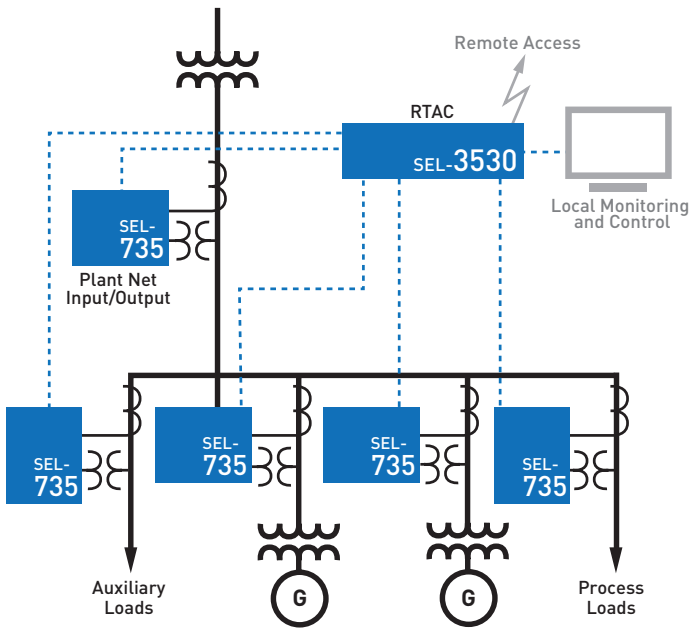
TRANSFORMER/LINE LOSS COMPENSATION

Install the SEL-735 on the low side of the power transformer to reduce instrumentation cost. Choose from four metering and billing locations to optimize the installation for your needs.



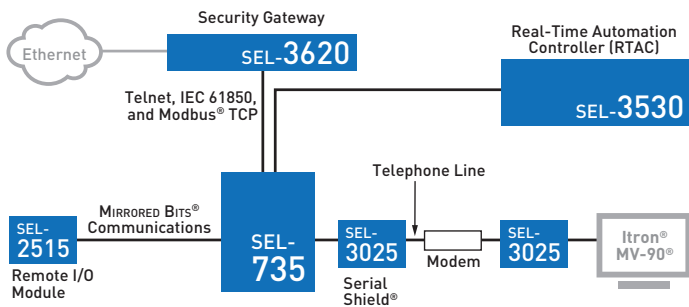
VSSI RECORDER

Correlate system disturbances and access information on residual voltage, duration, affected phases, CBEMA/ITIC reports, and event time stamps with the SEL-735 Meter's VSSI recorder.



REVENUE METERING/NET BILLING

The SEL-735 gives you the flexibility and control you need for your metering applications. Collect and report billing, PQ, and historical data. Replace obsolete transducers, and poll directly from SCADA with DNP3 or Modbus® protocols. Support complex tariffs with multiple load profile data recorders, and provide flexible TOU metering with a 20-year calendar. The predictive demand feature lets you initiate load control and reduce demand charges.



COMMUNICATIONS INTEGRATION AND SECURITY

Combine the SEL-735 and SEL-3620 Ethernet Security Gateway to securely perform a wide range of communications and integration tasks. Retrieve metering values with comprehensive security. Protect devices from unauthorized access with multi-tiered passwords, and set up secure port configurations.

Communicate with copper or fiber-optic Ethernet, and integrate with SCADA or metering systems via DNP3, IEC 61850, Modbus, Fast Message, SEL, and MIRRORRED BITS® communications protocols. Interface with Itron® MV-90®-compatible communications over serial, modem, and Ethernet connections.

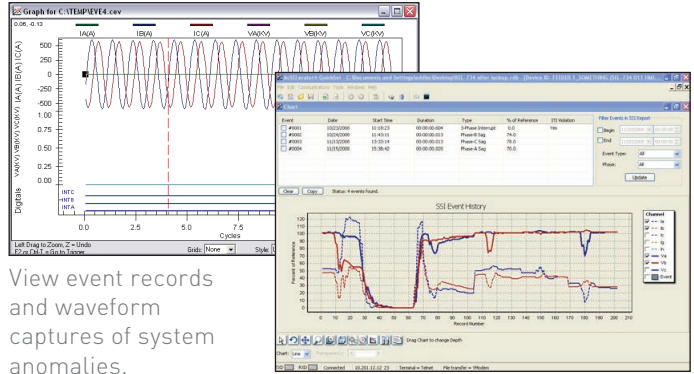
CAPTURE EVERY DISTURBANCE

SYSTEM CONDITION MEASUREMENT AND RECORDING

Measure and record the following:

- IEC 61000-4-30 compliant current, voltage, power, energy, harmonic, flicker, and unbalance
- Measurement aggregation in 10-/12-cycle, 3-second,* 10-minute,* and 120-minute intervals*
- Harmonic angles for voltage and current*
- High-resolution, 512 samples/cycle waveform capture*
- Total harmonic distortion (THD), crest factor, and K-factor metering up to the 63rd harmonic
- High-speed load profile recording with 3-second resolution*
- Voltage sag, swell, and interruptions
- Symmetrical components

*Optional Benefits



View event records and waveform captures of system anomalies.

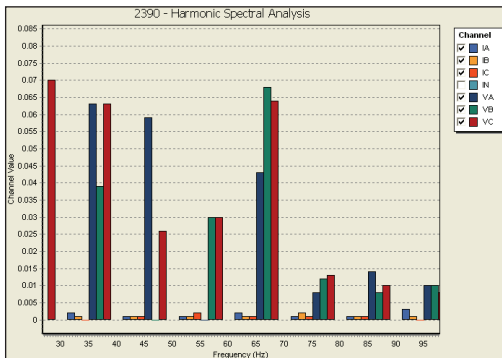
VSSI reports detail system interruptions with 1 ms resolution.

HARMONIC METERING

Monitor, records, and control using individual harmonic values, THD, and K-factor up to the 63rd harmonic.

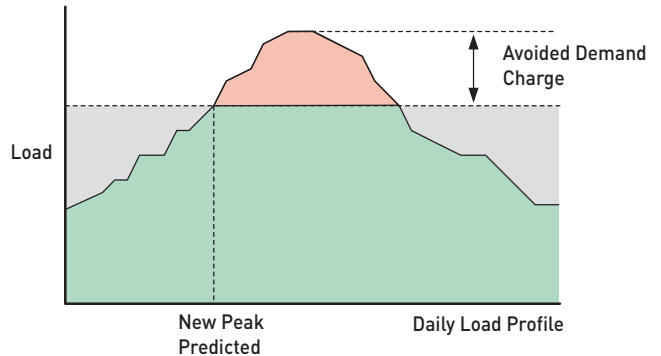
INTERHARMONIC METERING

Measure, record, and control using Group THD. Measure interharmonics from 5 to 3800 Hz in 5 Hz bins.



PREDICTIVE DEMAND

The predictive demand function monitors accumulated demand and alarms when the predicted demand exceeds a user-defined limit. The SEL-735 can then shut down loads or peak-shave with generation to avoid demand charges, as shown in the graphic. The predictive demand alarm is available through all communication interfaces, including the front-panel LEDs.



Reduce peak demand charges with the predictive demand alarm.

MINIMUM/MAXIMUM METERING

The SEL-735 automatically records the date and time of minimum and maximum voltage, current, and power measurements. Use this capability for equipment selection, troubleshooting, and diagnosis of any installation.

The screenshot shows the 'Min/Max Metering Values' window for station 'STATION A'. It displays a table of minimum and maximum values for various parameters over time.

Parameter	Max	Date	Time	Min	Date	Time
IA(A)	2545.73	07/13/07	16:06:33.226	0.08	07/13/06	16:39:05.685
IB(A)	2317.88	07/11/07	16:06:35.226	0.05	08/31/06	15:05:45.316
IC(A)	2375.98	07/13/07	15:12:56.483	0.05	08/30/06	23:04:10.323
IN(A)	1.00	08/16/06	08:21:49.395	0.06	07/12/06	11:49:43.339
VA (PV)	123.43	09/12/07	09:45:39.150	0.12	07/12/06	13:56:49.811
VB (PV)	126.41	09/12/07	09:45:45.750	0.12	07/12/06	14:49:11.354
VC (PV)	123.00	09/12/07	09:45:39.150	0.12	08/31/07	17:25:07.585
ESP (MW)	356.29	09/12/07	09:45:45.350	-0.00	07/12/06	08:09:31.865
QSP (MVAR)	77.36	09/12/07	09:45:42.750	-0.03	03/22/07	17:06:07.948
LAST REBOOT	06/16/06	14:37:15.875				

Capture minimum/maximum quantities with half-cycle resolution.

INSTALL ANYWHERE

REVENUE METERING

- Collect and report billing, PQ, and historical data.
- Replace obsolete transducers, and poll directly from SCADA with DNP3 or Modbus protocols.
- Support complex tariffs with multiple load profile data recorders.
- Provide flexible TOU metering with a 20-year calendar.
- Use predictive demand to initiate load control and reduce demand charges.

POWER QUALITY

- Ensure consistent measurements with IEC 61000-4-30 compliance.
- Log and view VSSI events.
- Measure harmonic and interharmonic content up to the 63rd order.

OUTDOOR

- Replace socket meters with a low-cost enclosure and prewired FT-1 test switch.
- Quickly install the meter with thoughtful design details, such as DIN rails for accessories; a lockable, stainless-steel latching system; wall-mount brackets; and wire clamps. The fully sealed enclosure complies with NEMA 4X, IEC 529, and IP 66 protection requirements.



Outdoor enclosure.

EASILY EXTRACTABLE METER (EXM)

- Extract an SEL-735 Meter in less than one minute using the EXM option. A self-shorting CT connector automatically shorts CT secondaries when disconnected.
- Replace draw-out meters with simple retrofit brackets that match the existing panel cutout for legacy meters.



Vertical retrofit bezels.

PORTABLE POWER QUALITY

- Monitor PQ anywhere with the SEL-735 Portable Power Quality Meter.
- Install temporary metering anywhere with a PQ meter in a rugged portable case.
- Pinpoint PQ problems and energy consumption on subcircuits with clamp-on current transformers and clip-on voltage leads.
- Log months worth of data with 128 MB of onboard memory.



Portable Power Quality Meter.



**MAKING ELECTRIC POWER SAFER,
MORE RELIABLE, AND MORE ECONOMICAL**

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