SEL-T35 Time-Domain Power Monitor

Continuous Waveform Streaming and Virtual Metering

Key Features and Benefits

The SEL-T35 Time-Domain Power Monitor samples ac and dc signals and streams raw waveform data and energy packet calculations. Each SEL-T35 includes a license for the SEL Synchrowave Energy and Power Monitoring Software Bundle, providing an integrated solution for power quality monitoring with real-time measurements, disturbance detection, energy transfer analysis, metering calculations, load profiling, and automated reporting. The system supports local and wide-area monitoring for substations, power plants, solar and wind farms, battery energy storage systems, data centers, and commercial and industrial facilities.

- **Continuous Waveform Streaming.** Stream 14.4 ksps waveform data to Synchrowave software for recording, visualization, disturbance monitoring, alarms, and notifications.
- **Energy Packet Streaming.** Stream time-domain energy calculations every millisecond. This industry-exclusive technology avoids frequency-tracking delay and supports faster control for inverters and rotating machines.
- **Fast Waveform Streaming.** Stream waveforms at 1 Msps to a directly connected receiver for analysis and capture of high-frequency content.
- **Virtual Metering.** Calculate metering quantities, synchrophasors, power quality metrics, and load profile trending from streamed waveform data using the included Synchrowave software.

- **Oscillation and Disturbance Detection.** Detect and capture oscillations, rapid voltage changes, voltage sag, swell, interrupt (VSSI), and other disturbance events. Generate notifications and emails when disturbances exceed configured thresholds.
- **Flexible I/O.** Measure an additional voltage source using the auxiliary voltage input independent of the three-phase voltage connections. Connect sensors to the analog current loop inputs to measure dc current, solar irradiance, temperature, or humidity. Monitor voltage presence using universal binary inputs with configurable ac or dc voltage assertion ranges.
- **Event Ride-Through.** Stream data as long as 10 seconds after an outage with the integrated power supply ride-through pack.

Product Overview

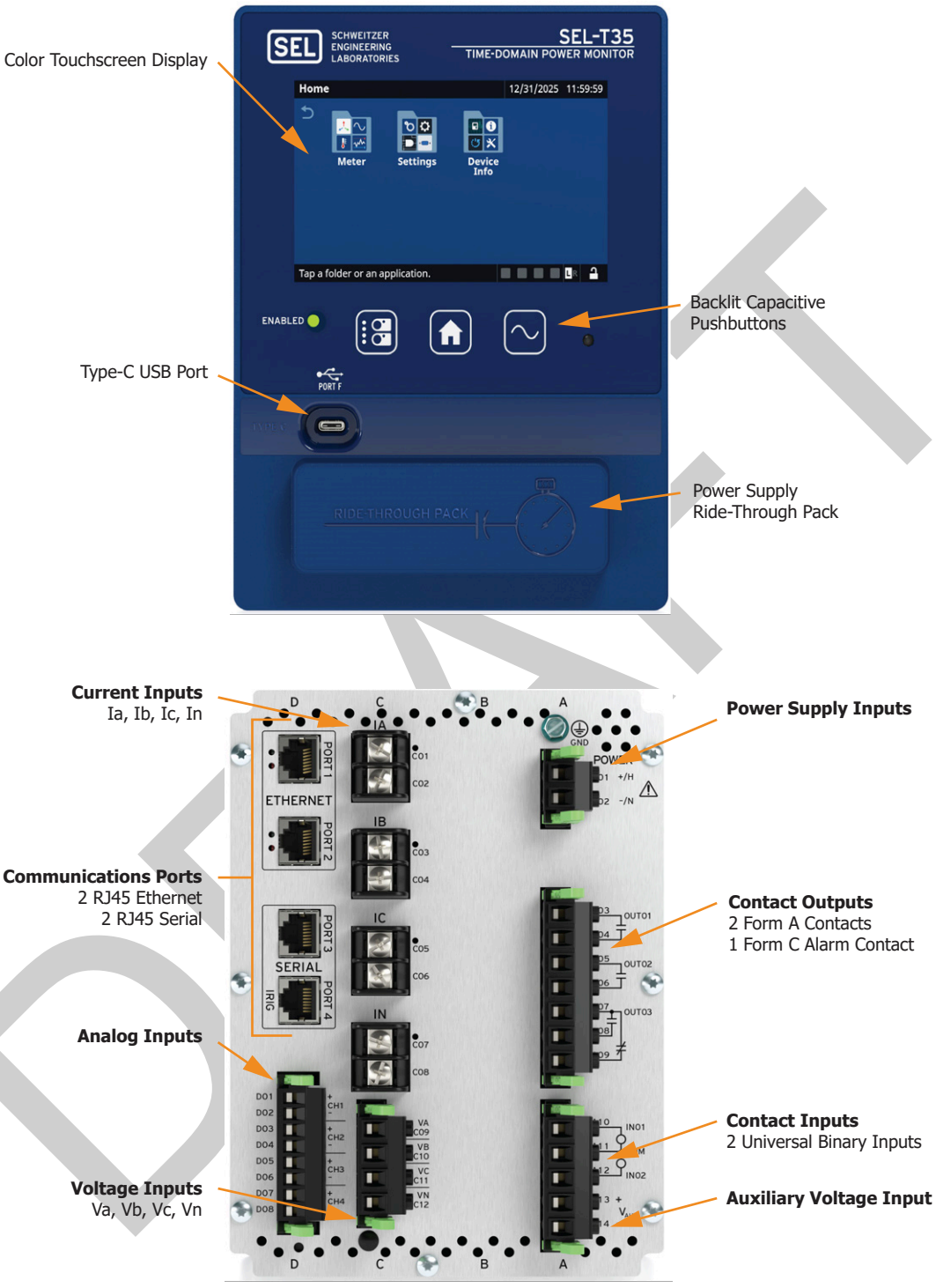

Figure 1 Product Features

Features

Continuous Waveform Streaming

Conventional disturbance monitoring relies on event-triggered captures or phasor-based methods with limited window length or signal bandwidth. The SEL-T35 continuously streams 14.4 ksps waveforms, recording disturbances independent of capture windows, trigger conditions, or signal filtering that removes high-frequency content.

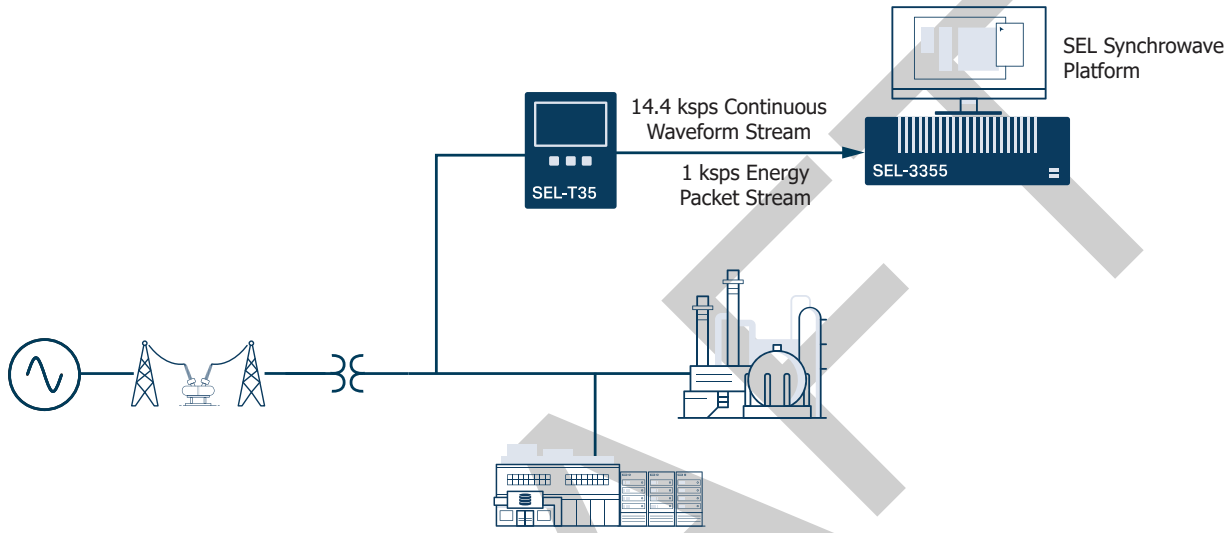

Figure 2 Power System Monitoring

Energy Packet Streaming

The SEL-T35 calculates and streams single-phase and three-phase energy flow by integrating instantaneous power every millisecond, producing energy packets. Positive energy packets represent energy delivered to the load, while negative energy packets represent energy returned from the load. Energy packets enable faster control by eliminating frequency tracking delays. Visualize energy transfer in real time within the included software for insights into dynamic load behavior.

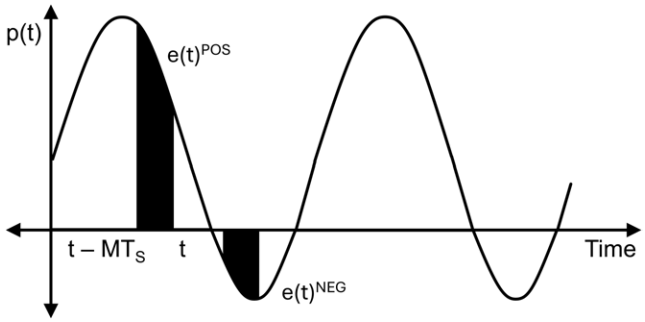

Figure 3 Positive and Negative Energy Packets

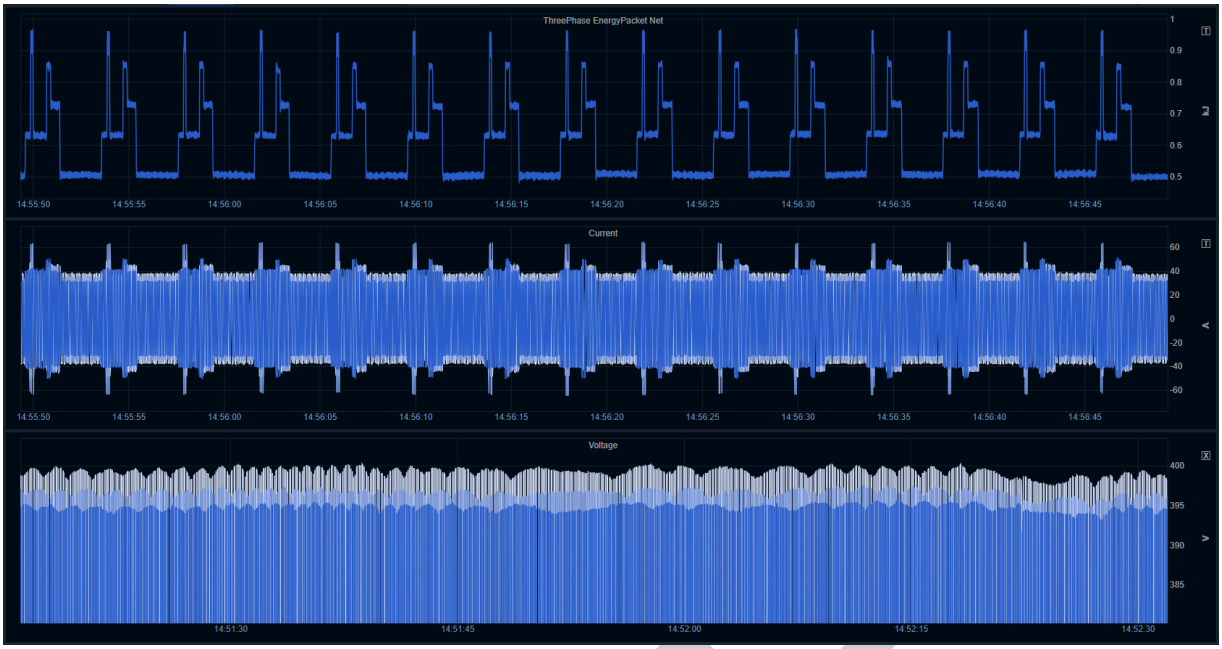

Figure 4 Visualize Millisecond Energy Transfer

Fast Waveform Streaming

The SEL-T35 streams 1 Msps waveforms to a directly connected device for high-frequency transient analysis. The virtual oscilloscope displays waveforms and provides functions including cursors, triggers, and math functions.

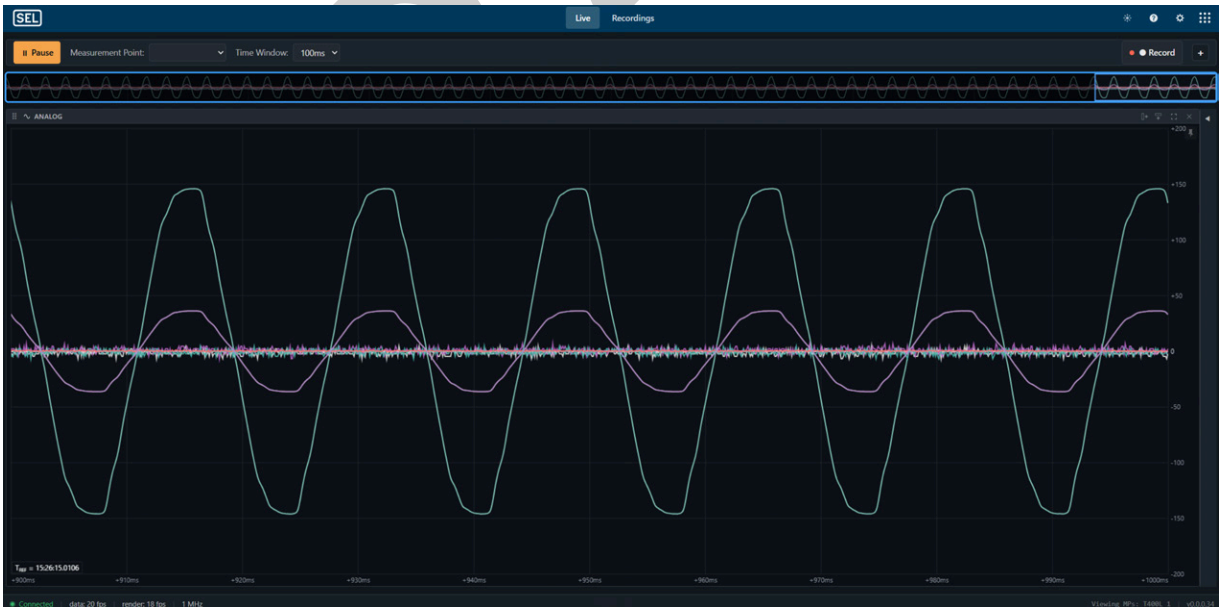

Figure 5 Fast Waveform Streaming

DC and Fault Current Measurement

The SEL-T35 voltage phase inputs can directly measure dc loads such as batteries, solar panels, inverters, and dc rail lines. The device also includes universal current sensors on the current phase input channels. These sensors are optimized for measuring transient fault currents that exceed the measurement range of the device CT.

Transducer Support and Auxiliary Voltage Monitoring

Four analog current loop inputs measure current from third-party transducers such as dc voltage, dc current, temperature, or solar irradiance. The SEL-T35 auxiliary voltage input can directly measure ac and dc voltage sources such as power supplies, bus voltages, and UPS batteries.

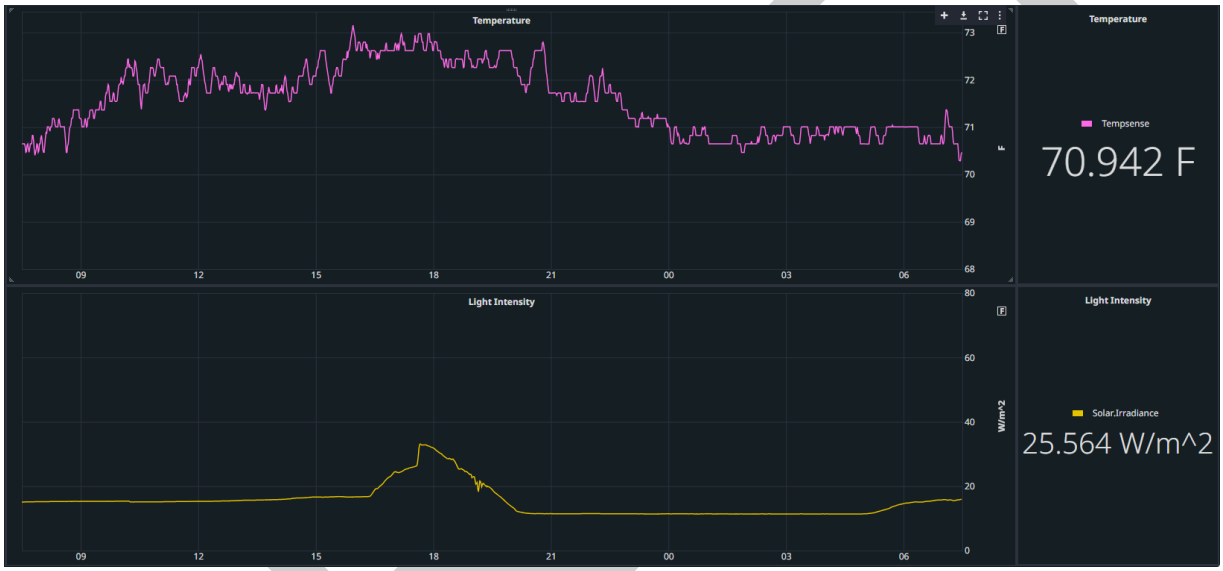

Figure 6 Pyranometer and Temperature Sensor

Synchrowave Software Features

Each SEL-T35 includes a license for the SEL Synchrowave Energy and Power Monitoring Software Bundle to monitor and visualize data streams from the device. The following sections describe the features included in the software bundle.

Waveform Visualization and Recording

Visualize and record continuous waveform streaming data with the software monitoring and historian applications. Export the recorded data directly to COMTRADE or CSV without the storage limitations of trigger-based events.

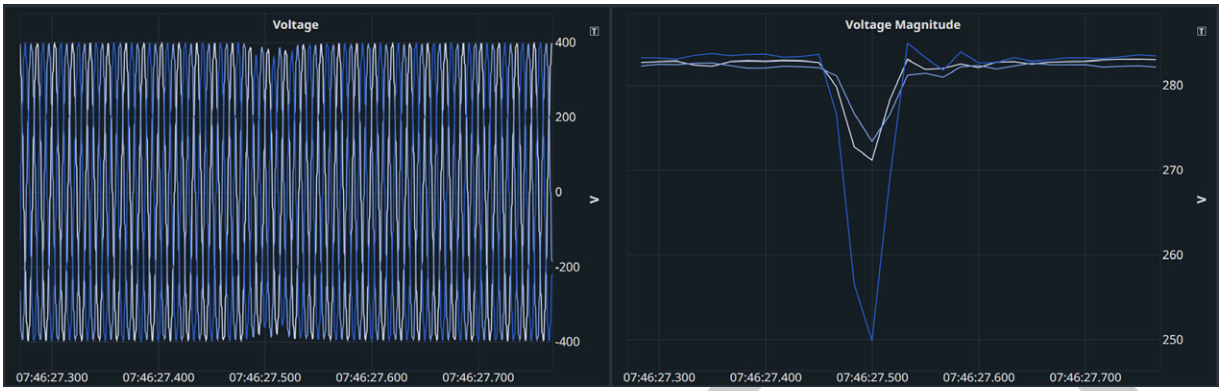

Figure 7 Identify Voltage Disturbances

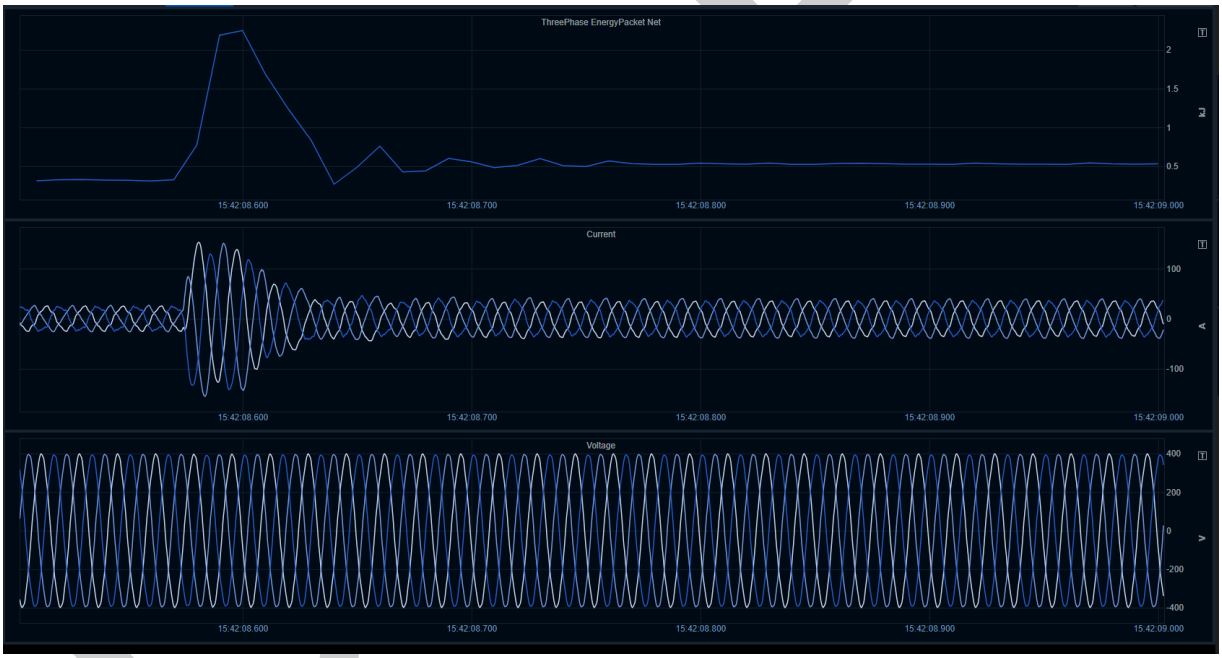

Figure 8 Visualize Motor Starts

Table 1 describes the network bandwidth and server storage requirements.

Table 1 Network Bandwidth and Storage Requirements

Data Type	Data Rate	Network Bandwidth (Mbps)	Per Channel Storage Usage (GB/Day)
Waveform Data	14.4 ksps	6	5
Energy Packet Data	1 ksps	1	0.4

Virtual Metering

Calculate metering quantities from the continuous waveform streaming data. These include voltage and current magnitudes and angles as well as power and frequency.

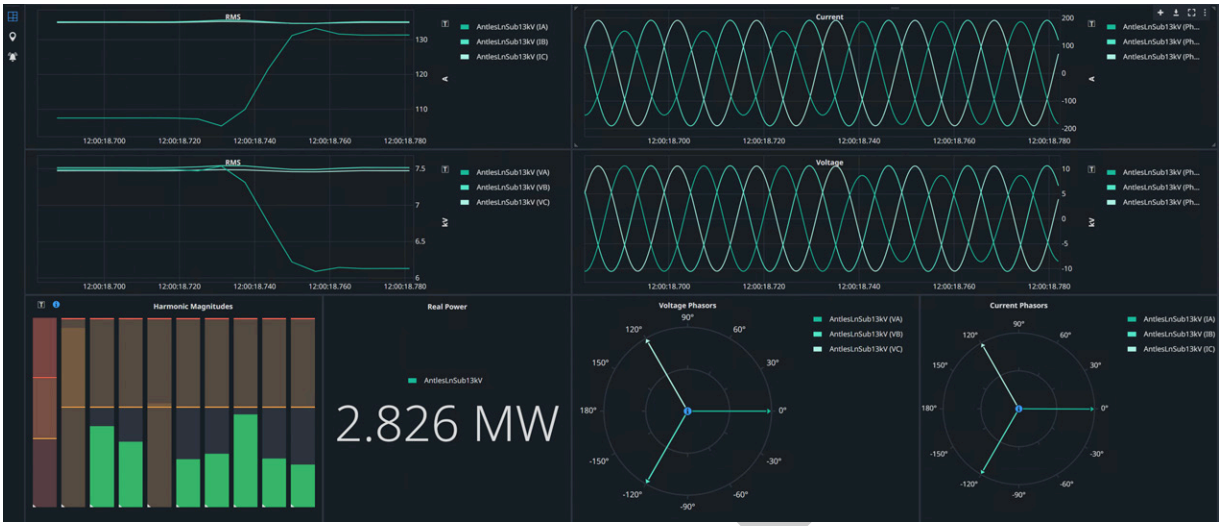

Figure 9 Virtual Metering

Fast Acquisition Load Profile Trending

Aggregate signals using various functions including minimum, maximum, average, change-over-interval (COI), end-of-interval (EOI), count, sum, root mean square (RMS), and cubic root mean (CRM). Load profile calculations can run at intervals as short as 50 ms and as long as 2 hours.

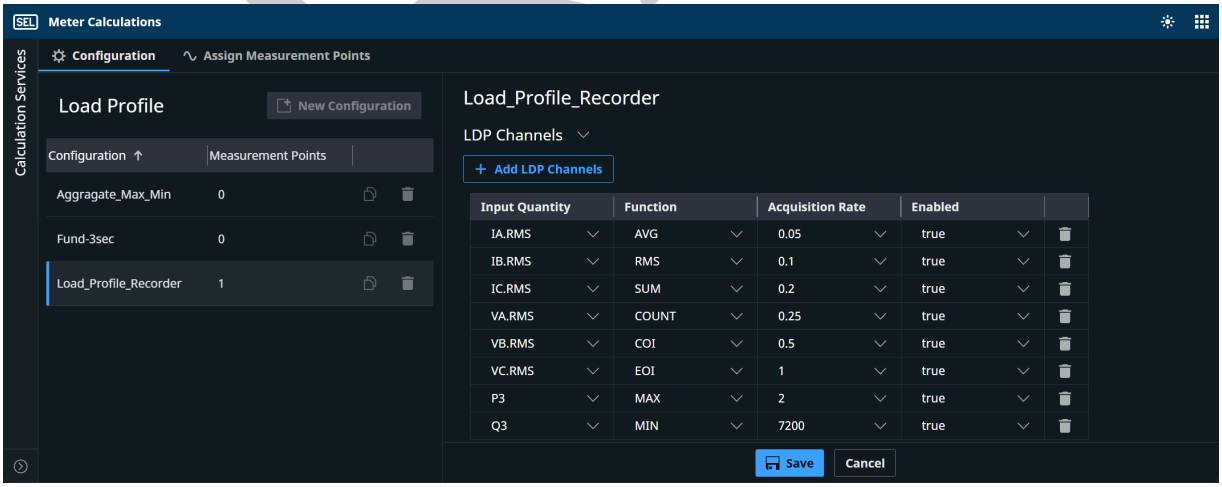

Figure 10 Load Profile Recorders

Virtual Disturbance Monitoring

Record voltage disturbances, including sag/swell/interrupt (VSSI) and rapid voltage changes (RVC). The application generates event records that capture data for the duration of the disturbance. Customize trigger thresholds, hysteresis, and dynamic voltage base.

Figure 11 Virtual Disturbance Recorder

Flicker Metering and Harmonic Analysis

Monitor and record harmonics as high as the 100th order with individual harmonic magnitudes and angles as well as THD. Calculate 200 ms harmonics as component, group, or subgroup for IEC 61000-4-30 compliance. Calculate 1-cycle harmonics for fast THD analysis. Export the waveforms into COMTRADE format and import them into Synchrowave Event for additional harmonic analysis.

Monitor and record maximum instantaneous and short-term flicker values. Trend flicker with the load profile application for variable long-term flicker. Flicker is an indicator of fluctuation of voltage magnitude most sensitive in the 6–12 Hz frequency range. Flicker can interfere with the human eye and brain from flickering light bulbs, can affect sensitive electrical equipment, and is necessary for power quality compliance standards.

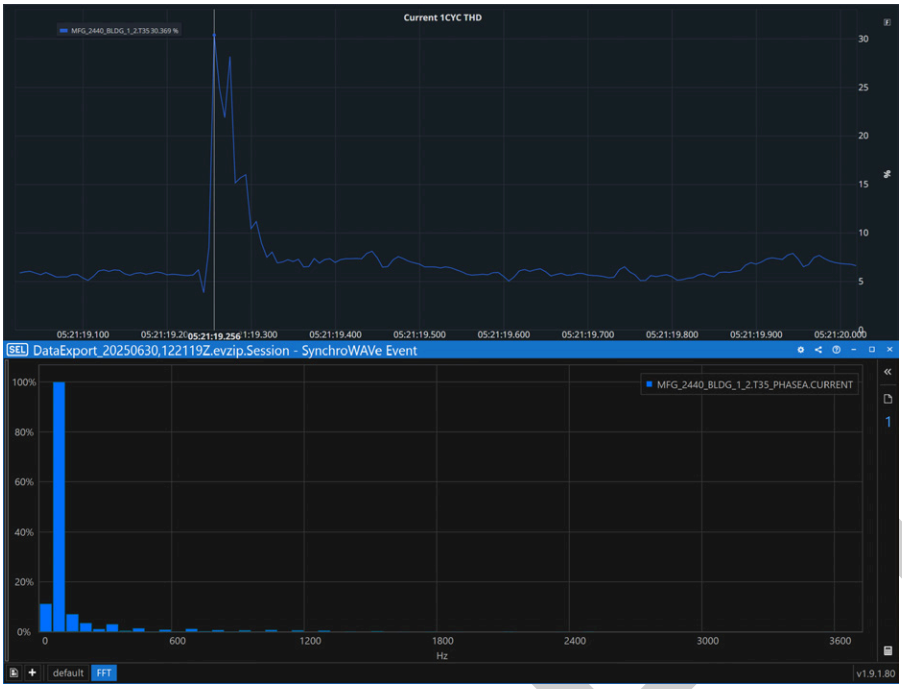

Figure 12 Harmonics Measurements

Custom Calculations

Create calculation libraries to generate custom quantities derived from other signals in the Synchrowave server. The calculations application includes the following functions and elements:

- Constant variables
- Array variables
- Wait timers
- Time variables
- Math operators (+, -, /, *)
- Comparison operators (=, ==, <>, !=, >, >=, <, <=)
- Math functions (SQRT, SUM, AVG, LOG, SIN, MIN, MAX, etc.)
- Complex number functions (REAL, IMAG, MAG, ANG, etc.)
- Power system functions (SEQ0, SEQ1, SEQ2)
- Filter functions (FIR, IIR)
- IF statements

Disturbance Notifications

Generate notifications with advanced detection algorithms that identify oscillations, VSSI events, instrument transformer failures, and other power system disturbances. Create custom alarms triggered when monitored values exceed defined magnitude and time thresholds, identifying anomalies unique to your application. Notify users via email with a direct link to the disturbance.

Figure 13 Oscillation Notification

Virtual PMU

Calculate IEEE C37.118 Synchrophasors from the continuous waveform streaming data. This includes voltage phasors, current phasors, frequency, and ROCOF at a rate of 50 or 60 Hz. Visualize and compare the data easily alongside other PMU devices in your system.

Application Examples

The SEL-T35 provides accurate, time-stamped samples of current and voltage waveforms for data analysis. This real-time data allows powerful custom calculations, fast derived meter quantities, and specialized disturbance detection notifications. This makes the SEL-T35 and Synchrowave software package a flexible tool for monitoring diverse power system loads.

Power Quality Monitoring and Troubleshooting

View system disturbances captured by continuous waveform streaming data without needing to program pickup triggers. Calculate metering quantities, harmonics, and other power quality-related quantities for visualization, calculations, and trending. Generate notifications and emails with monitor-type applications to quickly and easily identify disturbances. Time-align the notifications to power system operations to identify trip operations, system faults, and equipment schedules.

Characterize Data Center Loads

Measure, identify, and visualize rapid power fluctuations and voltage oscillations commonly observed at data centers involved in AI training and inference. Training is more power-intensive and scheduled, while inference operates during regular user queries, requiring less power. Inference includes two phases: prompt computation for querying the AI model, and token generation for creating responses. Power swings during inference occur due to the prompt phases using significantly more power than the token phases. Record power measurements with high-resolution data from the SEL-T35 for insights into AI operations and how they affect the power system.

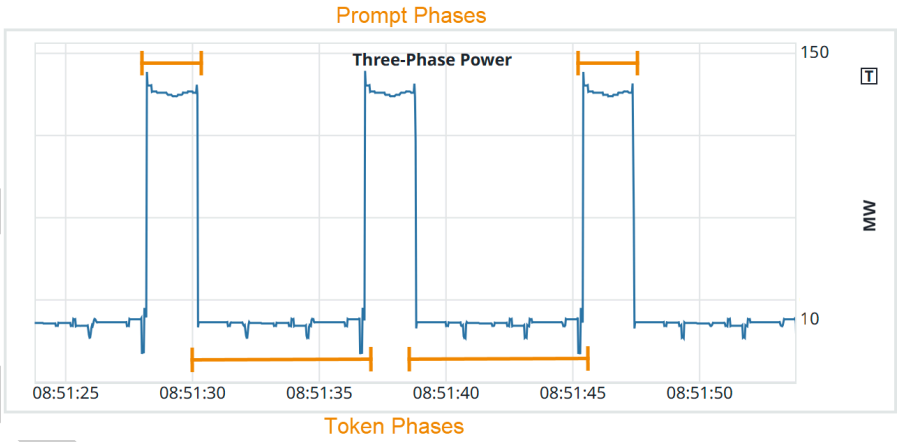

Figure 14 Measure Data Center Power Fluctuations

Inverter Efficiency Calculations

Monitor both the input and output of an inverter to quantify conversion efficiency with a single device. Use the analog current loop inputs for dc measurements from transducers and the phase inputs for ac measurement. Calculate efficiency using a Synchrowave custom calculations library.

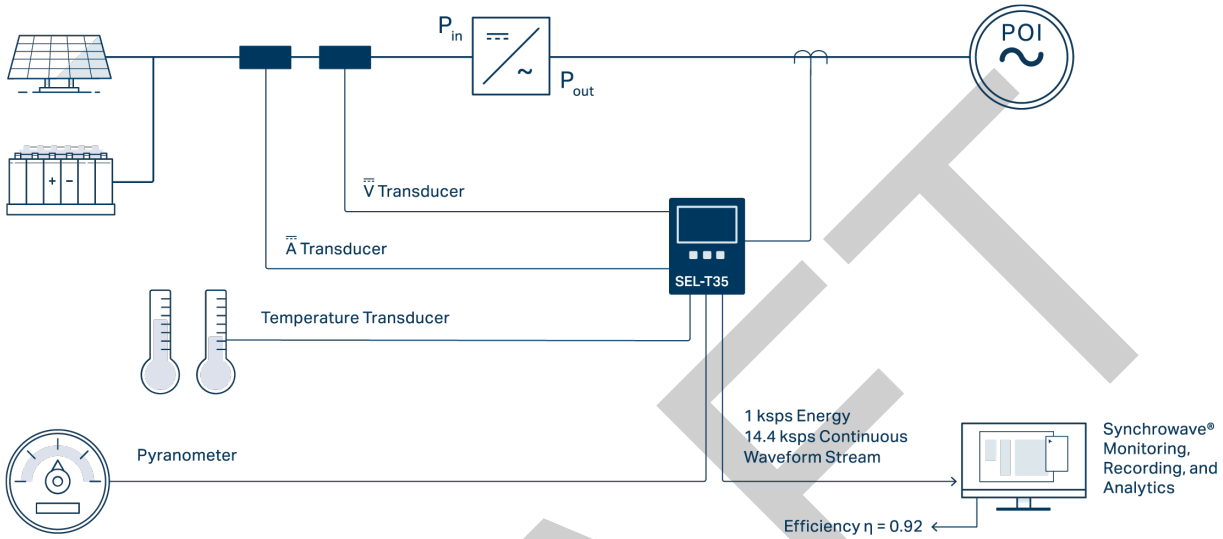

Figure 15 Conversion Efficiency

Identify Subcycle Transients

Stream waveform data to record and identify subcycle transients. Create a custom calculations library to generate incremental quantities that compare cycle-by-cycle waveform data. Incremental quantities highlight subtle abnormal wave shapes, voltage and current transients, and rapid voltage changes.

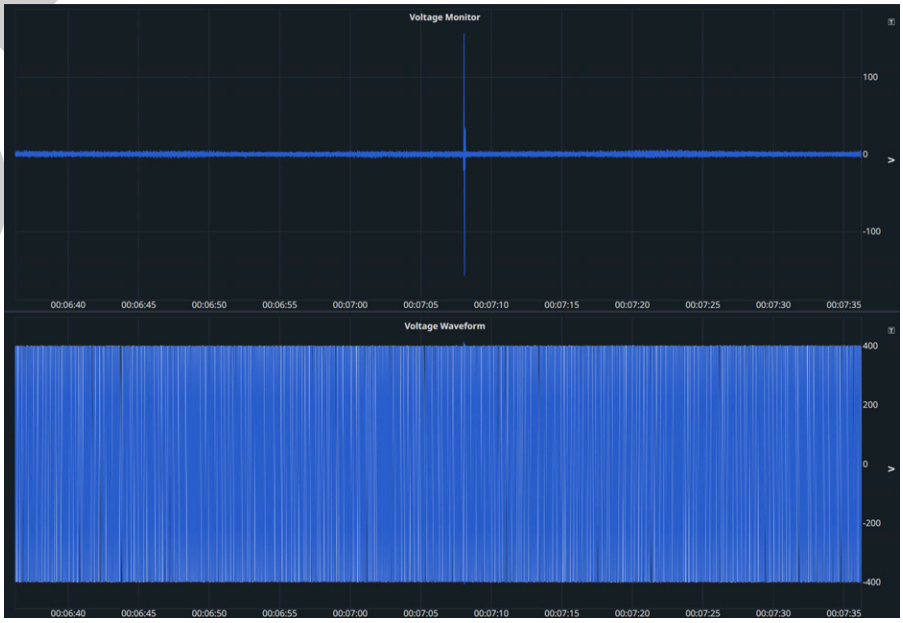

Figure 16 Waveform Disturbance Detection

Portable Power Monitor

Monitor power quality anywhere with the rugged SEL-T35 Portable Power Monitor. Pinpoint power quality problems on subcircuits with optional clamp-on CTs and clip-on voltage leads.

Figure 17 Portable Power Monitor

Mounting Options and Accessories

Refer to the Meter Accessory Catalog, available at selinc.com/products/t35/, for more information on enclosures, cables, and other accessories.

Diagrams and Dimensions

The SEL-T35 fits existing SEL-2400/SEL-700 series panel cutouts but extends 39.2 mm (1.54 in) deeper. A maximum of two SEL-T35 power monitors can mount side-by-side in a 19" rack with the 915900051 5U mounting plate.

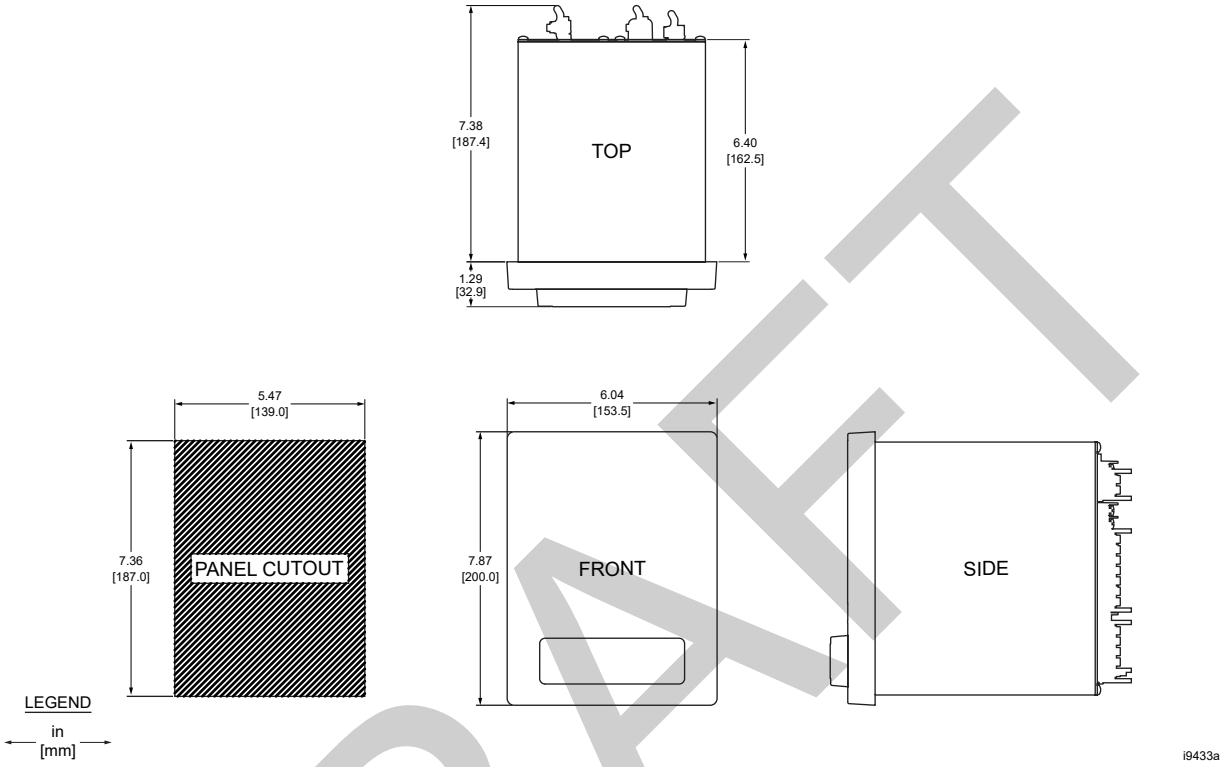

Figure 18 SEL-T35 Dimensions

Specifications

⚠CAUTION
Observe ratings prior to commissioning.

Compliance

Canada:	ICES-001(A) / NMB-001(A)
European Union (EU):	CE: Mark—EMC Directive (2014/30/EU), Low Voltage Directive (2014/35/EU)
Federal Institute of Metrology (METAS):	Certified to EN 61557-12, PMD-I, SD/SS, K55, Class 0.2
ISO 9001:	Designed and manufactured under an ISO 9001 certified quality management system
Underwriter's Laboratories, Inc. (Normal Locations):	UL Listed to U.S. and Canadian safety standards (File E220228, FTRZ, FTRZ7, NRAQ, NRAQ7, PICQ, PICQ7)
United Kingdom:	UKCA Mark

General

Nominal Frequency:	50/60 Hz

Voltage Phase Inputs

Measurement Category:	III
Maximum Rating:	600 V_{L-N}, 1039 V_{L-L}continuous, 6000 V for 0.5 ms
Nominal Voltage:	120 V
Measurement Range:	1–600 V_{L-N}, 1–1039 V_{L-L}, 1–600 Vdc, 600–6000 V_{Fault}
Burden:	10 $M\Omega_{L-N}$

Current Phase Inputs

Measurement Category:	III
Maximum Rating:	20 A continuous, per UL 61010, 500 A for 1 s (thermal), 100 A for 25 s (thermal), 1250 A_{peak} for 1/2 cycle at 50 Hz (limiting dynamic value)
Nominal Current:	1 A, 2 A, 5 A
Burden:	≤0.5 VA
Measurement Range:	
Current Transformers:	0.001–22 A
Universal Current Sensors:	1–20 A continuous , 20–300 A fault

Auxiliary Voltage Input

Measurement Range:	1–300 V

Power Supply

Power Consumption:	35 W, 60 VA
Rated Input:	110–277 Vac 125–250 Vdc
Input Voltage Range:	85–305 Vac 100–300 Vdc
Mains Frequency:	50/60 ± 5 Hz
AC Ripple on DC Mains:	15% of rated dc value 100/120 Hz per EN 61000-4-17
Interruption:	10 s typical, 5 s guaranteed ride-through (unavailable above +70°C)

Communications Protocols

Continuous Waveform Streaming, FTP, SEL JSON

Input Contacts

Externally Whetted Binary Inputs

Rated AC Frequency:	50/60 Hz
Rated Range:	24, 48, 110, 125, 220, and 250 Vdc, 120 Vac, 240 Vac

Ranges are selectable within the device settings.

DC Control Signal:

24 Vdc:	Pickup: 19.2–28.8 Vdc Dropout: 0–14.4 Vdc
48 Vdc:	Pickup: 38.4–57.6 Dropout: 0–28.8 Vdc
110 Vdc:	Pickup: 88–132 Vdc Dropout: 0–66 Vdc
125 Vdc:	Pickup: 100–150 Vdc Dropout: 0–75 Vdc
220 Vdc:	Pickup: 176–264 Vdc Dropout: 0–132 Vdc

250 Vdc:	Pickup: 200–300 Vdc Dropout: 0–150 Vdc

AC Control Signal:

120 Vac:	Pickup 88–144 Vac Dropout 0–30 Vac
240 Vac:	Pickup: 176–288 Vac Dropout: 0–60 Vac

Burden Current: 1.5 ± 0.5 mA

Pickup/Dropout Time:

AC:	1 cycle at nominal voltage and frequency
DC:	Configured debounce delay + 0.5 ms

Output Contacts

General

Ratings determined by EN 60255-23.

The device supports Form A and C outputs.

Mechanical Durability: >10,000 cycles at rated conditions

Pickup/Dropout Time: <16 ms

DC Output Ratings

Rated Operational Voltage: 250 Vdc

Rated Voltage Range: 19.2–275 Vdc

Rated Insulation Voltage: 300 Vdc

Make: 30 A per IEEE C37.90-1989, 3.6 kVA, cos(θ) = 0.3

Carry: 3 A at 120 Vac, 50/60 Hz
1.5 A at 240 Vac, 50/60 Hz

1–Second Thermal: 50 A for 1 second

Contact Protection: 360 Vdc, 115 J MOV protection across open contacts

Breaking Capacity (10000 Operations) per IEC 60255-0-20:1974:

12/24 Vdc	0.75 A	L/R = 40 ms
48 Vdc	0.50 A	L/R = 40 ms
125 Vdc	0.30 A	L/R = 40 ms
250 Vdc	0.20 A	L/R = 40 ms

AC Output Ratings

Maximum Operating Voltage (Ue): 250 Vac

Insulation Voltage (Ui) Rating (excluding EN 61010-1): 300 Vac

1–Second Thermal: 50 A for 1 second

Contact Rating Designation: B300

B300 (5 A Thermal Current, 300 Vac Max)

	Maximum Current		Max VA
Voltage	120 Vac	240 Vac	—
Make	30 A	15 A	3600
Break	3 A	1.5 A	360

PF < 0.35, 50–60 Hz

Utilization Category: AC-15

AC-15		
	120 Vac	240 Vac
Operational Voltage (Ue)	120 Vac	240 Vac
Operational Current (Ie)	3 A	1.5 A
Make Current	30 A	15 A
Break Current	3 A	1.5 A

Electromagnetic loads > 72 VA, PF < 0.3, 50–60 Hz

Voltage Protection Across Open Contacts: 270 Vac, 40 J

Analog Inputs

Thermal Limits: Channel 1: ±500 mA
Channels 2, 3, 4: ±75 mA

Nominal Burden: Channel 1: 2 Ω
Channels 2, 3, 4: 13 Ω

Nominal Current: Channel 1: ±200 mA
Channels 2, 3, 4: ±50 mA

Measurement Range: Channel 1: 1–500 mA
Channels 2, 3, 4: 1–75 mA

Time-Code Input

Device accepts demodulated IRIG-B time-code input on Port 4.

IRIG Port Electrical Characteristics

Nominal Voltage: 5 Vdc

Maximum Voltage: 8 Vdc

Input Resistance: >2 kΩ

IRIG Pins Port 4

On (1) State: Vih ≥ 2.2 V

Off (0) State: Vil ≤ 0.8 V

Time Accuracy

Clock Drift With No Time Input: 4 minutes per year, typical

IRIG Accuracy: ±100 ns typical, ±200 ns guaranteed

Operating Temperature

EN 60068-2-1&2: –40° to +85°C (–40° to +185°F)

Note: Not applicable to UL applications.

Note: The color touchscreen and ride-through pack is impaired for temperatures below –20°C (–4°F) or above +70°C (+158°F).

Ride-Through Pack

Operating Temperature: –20° to +70°C (–4° to +158°F)

Operating Environment

Insulation/Protective Class: 1

Pollution Degree: 2

Overvoltage Category: III

Measurement Category: III

Indoor Use (Atmospheric Pressure: 80–110 kPa)

Maximum Humidity: 95% RH non-condensing

Maximum Altitude:	4000 m (3000 m if digital input voltage exceeds 150 V)
Ingress Protection Rating:	Front: IP40 IP54 with optional gasket and USB-C port cover Back: IP20

Dimensions

7.87 in (200 mm) height, 6 in (153.5 mm) width, 7.38 in (187.4 mm) depth

Weight

2.95 kg (6.5 lb)

Terminal Connections

Rear Screw-Terminal Tightening Torque

Current Input Terminal Block (Ring Terminals Are Recommended)

Minimum:	0.9 Nm (8 in-lb)
Maximum:	1.4 Nm (12 in-lb)

Connectorized

Minimum:	0.5 Nm (4.4 in-lb)
Maximum:	1.0 Nm (8.8 in-lb)

Compression Plug Mounting Ear

Minimum:	0.18 Nm (1.6 in-lb)
Maximum:	0.25 Nm (2.2 in-lb)

Connectorized terminals accept wire size 12–24 AWG.

User terminals or stranded copper wire should be at a minimum temperature rating of 105°C (221°F).

Processing Specifications

Voltage Transformer Phase Channels:	14.4 ksps, 1 Msps
Current Transformer Phase Channels:	14.4 ksps, 1 Msps
Universal Current Sensors Channels:	14.4 ksps, 1 Msps
Analog Input Channels:	14.4 ksps
Voltage Auxiliary Channel:	14.4 ksps
Energy Packets:	1 ksps derived from 1 Msps

Accuracy

Voltage Phase Inputs

AC Accuracy

1–600 V:	±0.04% ± 15 mV

DC Accuracy

1–600 V:	±2% ± 300 mV
Voltage Class:	IEC 61557-12 Class 0.1

Current Phase Inputs

AC Accuracy

0.01–20 A:	±0.04% ± 100 µA

Current Class

1 A Nominal:	IEC 61557-12 Class 0.2
2 A Nominal:	IEC 61557-12 Class 0.1
5 A Nominal:	IEC 61557-12 Class 0.1

Universal Current Sensors

AC Accuracy

1–20 A:	±3%
20–300 A:	±5%

DC Accuracy

10–300 A:	±5% ± 5 A

Analog Inputs

Accuracy (AC and DC)

Channel 1: 20–200 mA	±0.5%
Channel 2, 3, 4: 4–50 mA	±0.5%

Auxiliary Voltage Input

AC Accuracy

1–300 V:	±0.1% ± 1 mV

DC Accuracy

1–300 V:	±0.5% ± 50 mV

Energy

Accuracy

60–600 V, 0.1–20 A, 1 PF:	±0.08%
60–600 V, 0.1–20 A, 0.5 PF:	±0.16%

Active Energy Class

1 A Nominal:	IEC 61557-12 Class 0.2
2 A Nominal:	IEC 61557-12 Class 0.1
5 A Nominal:	IEC 61557-12 Class 0.1

Energy Packets (10 ms)

Accuracy

60–600 V, 0.1–20 A	±2%

Accuracy Deratings

The SEL-T35 accuracy specifications are derated as follows. Add the following allowances to the ratings above when applicable.

Voltage phase input AC accuracy with High Accuracy Mode disabled	±2% ± 300 mV
14.4 ksps streaming of voltage and current phase inputs with Port_*x*.CWS*y*_WavAppl = CTRL.	±1%
1 Msps streaming voltage and current phase inputs	±1%

Signal Bandwidth

14.4 ksps Voltage and Current Phase Inputs with Port_x.CWSy_WavAppl = PQ

Minimum Pass-Band Frequency:	4.5 kHz
Maximum Pass-Band Attenuation:	0.5%
> -3 dB Bandwidth:	0–6.2 kHz
Maximum Stop-Band Frequency:	9.5 kHz
Minimum Stop-Band Attenuation:	50 dB

14.4 ksps Voltage and Current Phase Inputs with Port_x.CWSy_WavAppl = CTRL

Maximum Rise Time (10–90%):	140 µs
Maximum Settling Time to 99% (Ts):	210 µs
Maximum Overshoot and Undershoot:	2%
> -3 dB Bandwidth:	0–3.5 kHz

1 Msps Voltage and Current Phase Inputs

Maximum Rise Time (10–90%):	2 µs
Maximum Settling Time to 99% (Ts):	3 µs
Maximum Overshoot and Undershoot:	2%
> -3 dB Bandwidth:	0–400 kHz

14.4 ksps Analog inputs and Auxiliary Voltage Input

> -3 dB Bandwidth:	0–3 kHz

Type Tests

Electromagnetic Compatibility Immunity

Product Standards:	EN 61557-12 EN 61326-1
Conducted Radio Frequency Immunity:	EN 61000-4-6, 150 kHz to 80 MHz, 1 kHz 80% AM 3 V rms
Electrical Fast Transient Burst:	EN 61000-4-4
Power, Input/Output, Voltage/Current Circuits:	±2 kV, 5 kHz
Communication:	±1 kV, 5 kHz
Electrostatic Discharge:	EN 61000-4-2 EN 61326-1 Contact Discharge: ±4 kV Air Discharge: ±8 kV
Emissions:	ICES-001 CFR 47 Part 15 EN 55011 EN 55032 EN 61326-1 Class A
Power Frequency Magnetic Field Immunity:	EN 61557-12 EN 61326-1 EN 62052-11 EN 61000-4-8 400 A/m
Power Supply Dips, Interruptions, and Ripple (AC):	EN 61000-4-11 EN 61000-4-17 EN 61326-1 Dips: 0% during 1 cycle, 0% residual for 0.5 to 25 cycles (10 cycle min.), 40% residual for 50 cycles, 70% residual for 25/30 cycles, 80% residual for 250/300 cycles Interruptions: 0% residual for 250/300 cycles Ripple: 15% of rated dc value 100/120 Hz
Power Supply Dips, Interruptions, and Ripple (DC):	EN 61000-4-29 Dips: 0% residual for 10 to 1000 ms (150 ms min) , 40% residual for 200 ms, 70% residual for 500 ms Interruptions: 0% residual for 5 s
Radiated RF Immunity:	EN 61000-4-3 EN 61326-1

Frequency (MHz)	Field Strength	Modulation
80–1000	10 V/m	AM 80% 1 kHz sine
1400–2000	3 V/m	AM 80% 1 kHz sine
2000–2700	1 V/m	AM 80% 1 kHz sine

Surge Immunity: EN 61000-4-5
EN 61326-1

Power Circuit: 5 pulses ±1 kV LL (2 Ω)
5 pulses ±2 kV LE (12 Ω)
Each @ 0°, 90°, 180°, 270°

Voltage/Current Circuits: 5 pulses ±1 kV LL (42 Ω)
5 pulses ±2 kV LE (42 Ω)

Ethernet: 5 pulses ±4 kV LE (2 Ω Shield)

EIA-232, EIA-485, IRIG-B: 5 pulses ±1 kV LE (2 Ω Shield)

Input/Output: 5 pulses ±2 kV LL (42 Ω), 5 pulses ±4 kV LE (42 Ω)

Environmental

Product Standards: EN 61557-12

Cold: Storage: Test Ab: 16 hours at –40°C

Damp Heat: Cyclic: Test Db: +25° to +55°C, 6 cycles, (12 + 12-hour cycle), 95% RH

Dry Heat: Storage: Test Bb: 16 hours at +85°C

Environmental: EN 60068-2-1
EN 60068-2-2
EN 60068-2-30
–40° to +85°C
5% to 95% RH (35°C dew point)

Object Penetration: EN 60529

Front Enclosed in Panel: IP40 (IP54 with IP rating enhancement kit)

Back (Terminals): IP20

Vibration: EN 60068-2-6
EN 60255-21-1
EN 61557-12
25 Hz, 0.35 mm, 20 min each in three direction (turned on)

Safety

Product Standards: CAN/CSA-C22.2 No. 61010-1-12
EN 61557-12
EN/UL 61010-1
EN/UL 61010-2-030
EN/UL 61010-2-201

Altitude: EN 61010-1
4000 m (3000 m if digital input voltage exceeds 150 V)

Dielectric Strength/Impulse: EN 61010-1

Routine Dielectric Test Levels

Current Inputs: 3.3 kVac

Voltage Inputs: 3.3 kVac

Digital Inputs and Outputs: 2.2 kVac

Analog Inputs: 2.1 kVac

Power Supply: 2.2 kVac

Ethernet Ports: 2.1 kVdc

Serial Ports: 1.50 kVdc

Flammability of Insulating Materials:	EN 61010-1 Meets applicable levels
Impulse:	EN 61010-1 Meets applicable levels
Insulation Resistance:	EN 61010-1 Meets applicable levels
Max Temperature of Parts and Materials:	EN 61010-1 Meets applicable levels, normal use
Protective Bonding/Continuity:	EN 61010-1 Meets applicable levels
Thermal Short-Time:	EN 62052-11

Test Levels

Current Inputs:	1250 A for 1/2 cycle, 500 A for 1 second, 100 A for 25 seconds
AC Voltage Inputs (600 V):	600 V L-N, 1039 V L-L continuous, 1500 V for 10 seconds

Technical Support

We appreciate your interest in SEL products and services. If you have questions or comments, please contact us at:

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Notes

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