SEL-T35

Time-Domain Power Monitor With Continuous Waveform Streaming

Capture every disturbance with the SEL-T35 and SEL-5703 Synchrowave® Monitoring software

- Continuously stream and record voltage and current waveforms.
- Monitor power quality in SEL Synchrowave software.
- Identify oscillations and anomalies early.
- Analyze energy transfer every millisecond.
- Monitor up to the 100th-order harmonic for extensive power quality analysis.
- Stream data during power outages for up to 7 seconds.

SEL

Product Overview

Captures Every Event

The SEL-T35 streams 14.4 kilosamples-per-second (ksps) voltage and current waveform measurements to Synchrowave software. This software continuously records the data, calculates metering and power quality values, and detects disturbances, such as large power swings or subsynchronous oscillations.

Streams Even During Outages

The integrated ride-through pack keeps the SEL-T35 operating for at least 7 seconds when the power supply drops out.

Front

Backlit pushbuttons

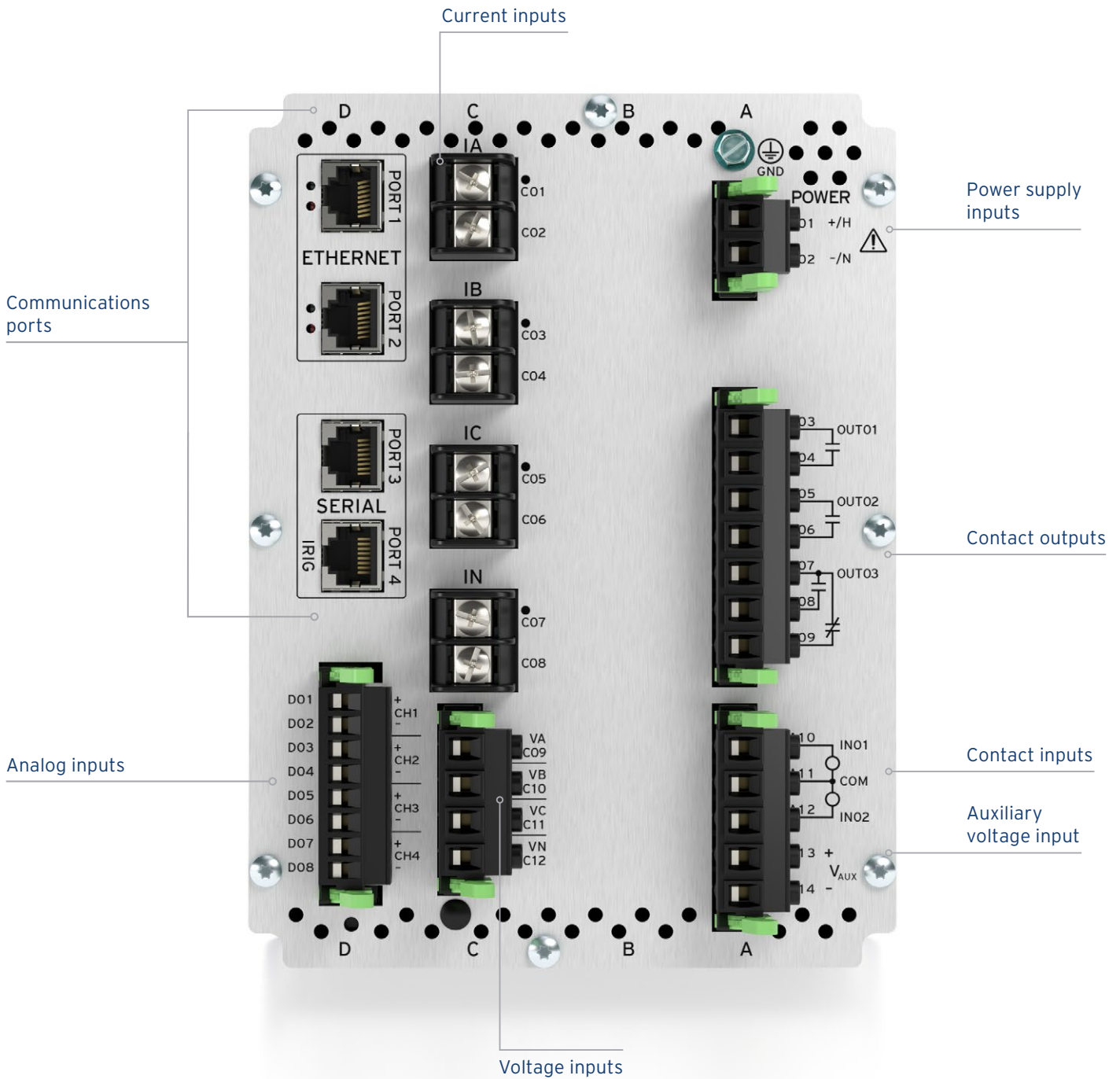Type-C USB port

Power supply ride-through pack
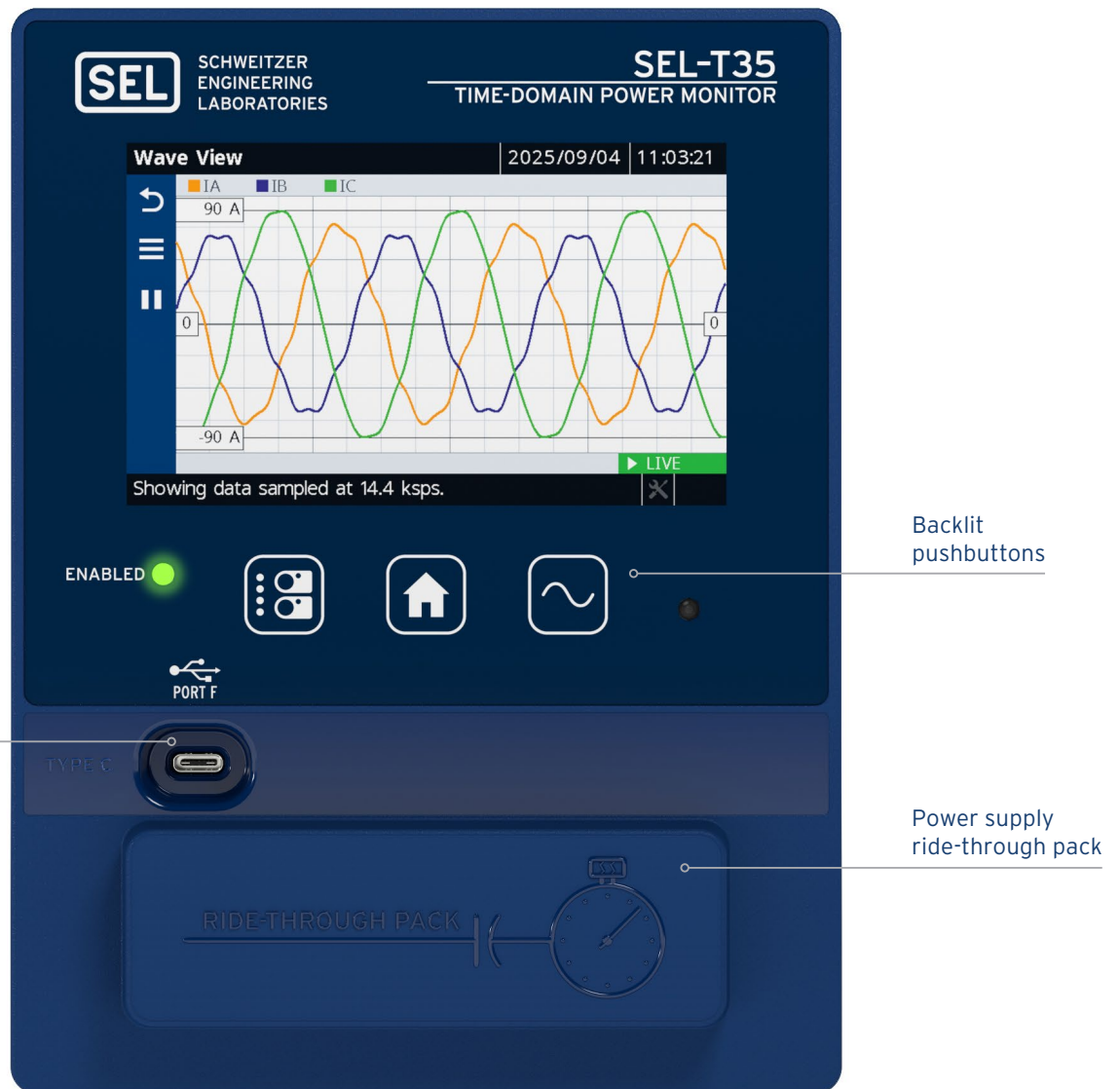
Integrates With Analog and Digital Inputs

An auxiliary 300 Vac/Vdc input can measure voltage on a station battery, generator, or bus. Four mA-level analog current inputs coupled with third-party transducers measure dc voltage, dc current, temperature, solar irradiance, and more. Universal binary inputs feature configurable ac or dc voltage assertion ranges.

Back

Current inputs

Power supply inputs

Communications ports

Contact outputs

Contact inputs

Analog inputs

Auxiliary voltage input

Voltage inputs

Key Features and Applications

Characterize Fast-Changing Loads

Identify and visualize rapid power fluctuations and voltage oscillations commonly observed at data centers performing AI training and inference. Visualizing power usage patterns and predicting short-term loads allows for better power management.

Identify Subcycle Transients

Record waveform streaming data to identify and visualize subcycle transients not detected by triggered event captures. Compare cycle-by-cycle waveform data to detect sudden abnormal wave shapes, voltage and current transients, and rapid voltage changes.

Quantify Inverter Efficiency

Monitor both the dc input and ac output of the inverter to determine conversion efficiency. On the dc side, connect sensors to measure voltage across the bus and current flowing into the inverter. These measurements can be taken directly using wired connections or by employing transducers for additional flexibility and isolation.

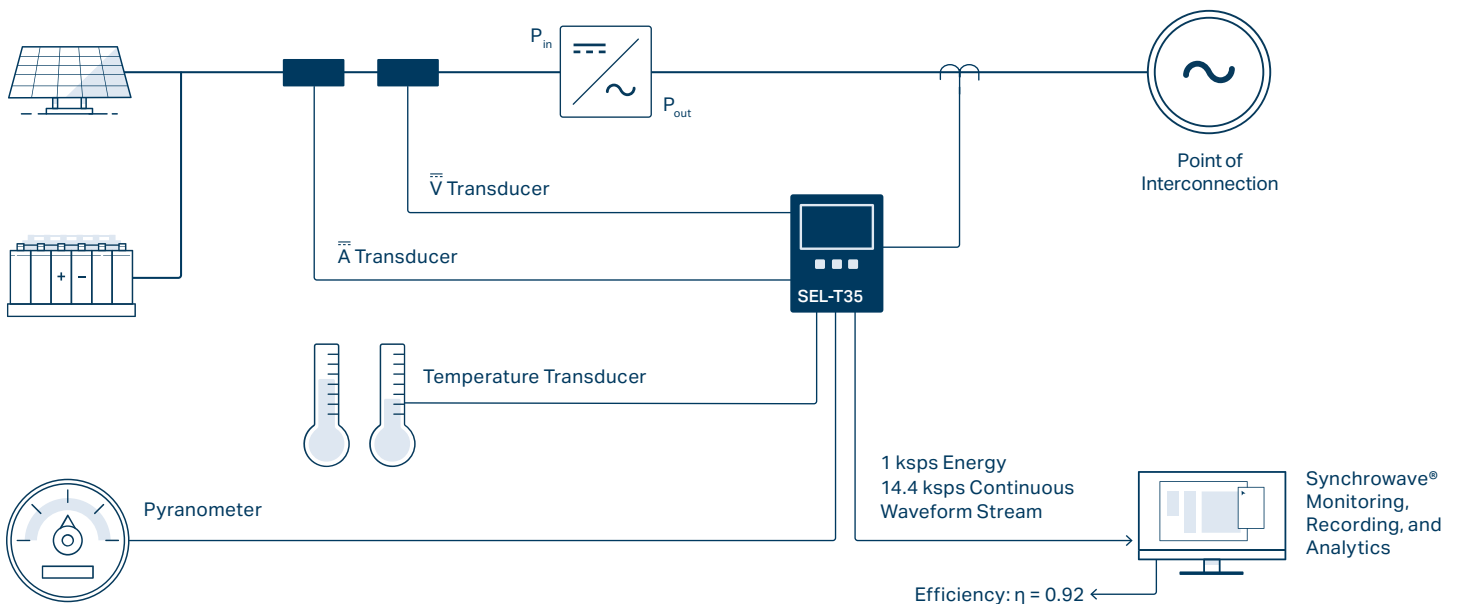### Detect Subsynchronous Oscillations

Identify low-frequency resonances on the streamed voltage and current signals. Generate notifications when resonance persists over a defined time window and resonance magnitude.

Predict Incipient Failure

Voltage disturbances of 1 millisecond or shorter can indicate an impending failure because of an underground conductor insulation breakdown, a tree branch contacting an overhead line, a failing PT, or increased resistance at a termination point. Synchrowave Monitoring software detects these disturbances and warns if the duration of these disturbances exceeds preprogrammed thresholds.

Perform Virtual Metering

Calculate voltage, current, power, frequency, power factor, harmonics, synchrophasors, and flicker from continuous waveform streaming using the included Synchrowave software.