
TRENDPOINT™
Platform Metering™

EnerSure ENKAPSIS™

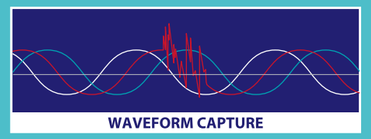
TrendPoint's EnerSure Enkapsis sets a new standard for Power Quality Meters (PQM) by delivering highly accurate measurements of all power metrics and a complete picture of a facility's power infrastructure. Enkapsis functionality extends beyond the harmonic data provided by traditional PQMs with support for the triggering and retrieval of voltage and current waveforms (Waveform Capture). Additionally, Enkapsis serves as the base for the entire suite of EnerSure products, allowing you to monitor distribution panels, switchgear, panel boards and busway systems within the critical facility via a single metering platform.

POWER QUALITY | Volts, Amps, Power Factor, Watts, kWh, kVAR, Current Harmonics, and Voltage Harmonics are all measured at a 0.5% accuracy with the EnerSure Enkapsis. Unlike other PQMs, the 0.5% accuracy standard includes amperage measurement with Current Transformers (CTs), so there's no question about the true accuracy of the measurements in a "real world" environment.

WAVEFORM CAPTURE | Enkapsis measures voltage and current waveforms at a rate of 133 samples per cycle, provides 8 complete cycles per capture and generates 7 waveforms per event (V1, V2, V3, I1, I2, I3, IN).

ENVIRONMENTAL | Driving uptime in the critical facility involves more than measuring power quality; environmental conditions are also part of the equation. Enkapsis enables the simple integration of temperature and humidity sensors via support for the flexible Dallas 1-wire platform.

COMMUNICATIONS | Enkapsis communicates via Modbus TCP, SNMP and BACnetIP via onboard ethernet and also offers native support for Modbus RTU. These protocols can be used simultaneously for concurrent and direct communication to multiple DCiM, BMS, and other front-end software systems, eliminating the need for middleware within the comms infrastructure of a critical facility.



WAVEFORM CAPTURE

Enkapsis Waveform Capture capabilities provide a visual representation of power consumption and power quality events in the critical facility.



DATA LOGGING

Enkapsis supports 9 onboard data logs recording 120 data points across every branch circuit at intervals as fast as 30 seconds. A standard microSD card records thousands of time-stamped data points with alarm indications correlated for sequence of events via onboard event logs.

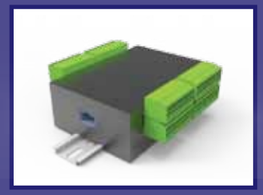
EnerSure ENKAPSIS™

Enkapsis is both a standalone 3-phase PQM and the base for the entire suite of EnerSure modular devices (EnerSure BCPM, EnerSure iBCPM, EnerSure Bus) used to provide utility grade data at the branch circuit on busway systems, panelboards, RPPs, PDUs, switchgear and distribution panels.



Platform Metering™

The EnerSure platform simplifies the installation, integration and operation of power monitoring deployments by extending a common chipset, UI, Map/MIB, firmware and software driver across meters designed for various gear within the critical facility.



EnerSure BCPM

EnerSure BCPM (Branch Circuit Power Meter) is the most flexible and adaptable branch circuit meter on the market. The modular design and the ability to mix and match split-core CTs of different ampacity and lead lengths on the same board allows EnerSure BCPM to work for new installs on switchgear and PDUs as well as retrofits to legacy panel boards. EnerSure BCPM provides utility grade, Class 1 accurate readings for Amperage, Voltage, Power Factor, kW and kWh on every monitored branch circuit.



EnerSure iBCPM

EnerSure iBCPM (integrated Branch Circuit Power Meter) represents the next generation of panelboard power metering by supporting split core CT's of varying ampacity within a strip footprint. EnerSure iBCPM is specifically designed for new installs on any vendor's panelboard with 3/4" spaced breakers and delivers the same Class 1, utility grade metrics as EnerSure BCPM.



EnerSure Bus

EnerSure Bus is a branch circuit meter in a footprint specifically designed for both retrofit and new installs on any overhead busway power distribution system. One, two or three pole circuits (up to 120 circuits total) can be simultaneously monitored in a single system by EnerSure Bus. 4-circuit and 8-circuit tap cards accomodate any configuration of data cabinets and busway systems.

Product Specifications

Enkapsis Power Quality Meter Specifications:

Measured Parameters	Accuracy	Scale
Volts	+/- 0.2%	.1 Volts
Amperage	+/- 0.2%	.01 Amps
Power Factor	+/- 0.15%	.001 PF
Watts	+/- 0.5%	1 Watt
Watt Hours	+/- 0.5%	.001 kWh
Total Harmonic Distortion Voltage and Current	+/- 0.2%	.1% THD
Volts-Amps Reactive	+/- 0.2%	.001 kVAR
Also provides values for Peak Amperage and Wattage, Demand, and Average value between polling cycle. All accuracy specifications are inclusive of the Current Transformers.		

Enkapsis Waveform Capture:

Sample Rate	133 times per cycle (7980hz)
Storage Capacity	2GB of waveform data with 4GB SD card. Each capture .BMP is 1.8MB
Data Type	.CSV .BMP from onboard web UI and auto-generated URL link
Waveforms Captures	V1, V2, V3, I1, I2, I3, IN with option to only capture the V and I on the faulted phase(s)

EnerSure BCPM, iBCPM, and EnerSure Bus Meter Specifications:

Measured Parameters	Accuracy	Scale
Volts	+/- 0.5%	.1 Volts
Amperage	+/- 0.5%	.01 Amps
Power Factor	+/- 0.2%	.001 PF
Watts	+/- 1%	1 Watt
Watt Hours	+/- 1 %	.001 kWh
All accuracy specifications are inclusive of the Current Transformers		

EnerSure Platform Communications:

Type	Specifications
Ethernet- 2 Ports (ETH0 and ETH1)	Dual Ethernet allowing daisy chain 10/100mbps *Future: Split network operation with built-in firewall*
USB	Dual USB ports (Port 1 is full charging port) to allow tablet HMI
RS-485	115k baud serial communications
Environ	Dallas 1-wire environmental sensors (Temp, Humidity, Air Flow, Pressure)
Bus	TrendPoint Bus port for EnerSure Bus and EnerSure iBCPM operation

EnerSure Platform Data Logging:

9 Onboard Data Logs	User defined data points, default configuration logs all meter data points (max 120 circuit)
Logging Rate	30 second intervals
Storage Capacity	2GB of logging data with 4GB SD card
Data Type	Modbus Read File Record, .CSV from web UI

EnerSure Platform Electrical Parameters:

Voltage	120- 600VAC (accuracy measurement to 50VAC)
Frequency	50/ 60Hz
Amperage	20- 32,000A (0-250mVAC CTs)
Internal Power Supply (Optional)	24VDC (30 watt) Output, 120- 480VAC Input Provided From Vref Internally in Enkapsis Case
External Power Supply (Optional)	24VDC (18, 30, 90, 120 watt) Output, 120-575VAC Input, Can Be Tapped Off Vref Terminal On Enkapsis Meter
Power Supply Requirements (Internal or External Options Provided)	24VDC (15watt) Separate control power not required. Control power can be provided by Vref



CTs

All devices across the EnerSure platform utilize split-core, internally burdened CTs that generate a 0 to 250mVac output signal. CTs with varying lead lengths in sizes from 75A to 10,000A can be mixed and matched on the same board and maintain utility grade accuracy (+/- 1% and +/-0.5%) from 1% to 100% of the CT rating. Custom window openings can be provided for higher amperage CTs.