

## Branch Series

# Multi-Circuit (Branch) Meter

Monitors up to 96 circuits

On board webserver and data logging

Customizable alarming features

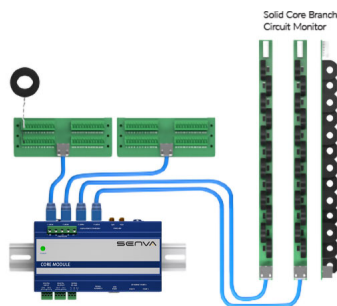


## DESCRIPTION

Senva is redefining Branch Circuit Monitoring with a next generation technology that simplifies installation and connectivity while providing instant access to data in a user friendly format. The versatile Core Module™ system is a single monitoring solution with peripherals optimized for Branch Circuit and Multi-Circuit Monitoring applications designed to reduce the cost and complexity associated with legacy multi-circuit monitors.

## APPLICATIONS

- Ideal for baseline consumption in premises (e.g., store-to-store comparisons for chains)
- Activity-based costing in commercial and industrial facilities
- More informative than an amperage measurement only
- Great for solid core, split core CTs, and analog for data center



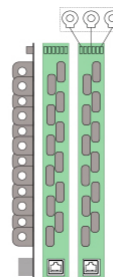
### Connectivity Options

- Modbus TCP/IP and RTU
- HTML
- BACnet<sup>1</sup>



### Data Acquisition

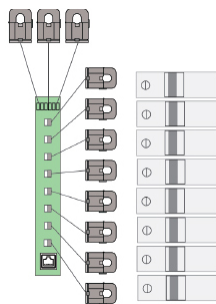
- Web Server**  
On board web server provides access to real time and logged data.
- Data Stream**  
Open protocols feed data to any third party monitoring system
- Cloud**  
View and manage data using the optional plug and play cloud application<sup>1</sup>
- Manual Export**  
Logged data can be manually exported from the Core Module™



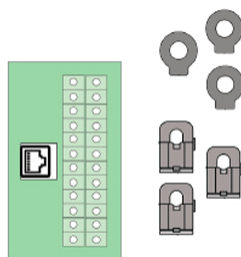
Options for solid core, split core CTs, Rogowski coils<sup>1</sup> & analog, discrete & pulse inputs

On board webserver and data logging

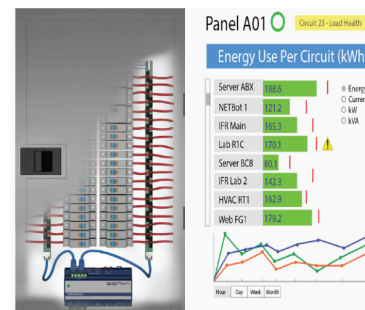
Solid Core Strip for new installations on panelboard branch circuit monitoring



Split Core Strip for retrofit on panelboard branch circuit monitoring



Multi-circuit module accepts 24 CTs (96 total)



Presence of Voltage detection accurately indicates breaker status - even under no load

## FEATURES

- Optimized for new and retrofit installations with no disruption to critical loads
- Monitors up to 96 circuits
- Options for solid core, split core CTs, and analog, discrete inputs.
- On-board web server provides immediate access to real-time and logged data
- Integrated data logging supports up to 64 GB storage; remotely accessible or manually exportable
- Customizable alarming features
- Select from multiple connectivity options, including Modbus TCP/IP, RTU
- Open protocols allow connection with any third-party monitoring system
- True 0.5% accuracy suitable for billing applications
- Presence of Voltage detection accurately indicates breaker status even under no load conditions
- True-Circuit Display mapping function presents data according to actual circuit configurations
- Detailed power and energy monitoring per circuit, including Waveform capture and THD

## ORDERING

### Core Module Monitoring Systems

CM02SV	Enhanced Core Module, 90-300 VAC L-N, 50/60 Hz (combined sensing and power supply input); supports 277V L-N / 480V 4W with neutral sources and 240 VAC / 415V 4W sources; use alternate models for 3W sources that do not have a neutral
CM02SV-480	Enhanced Core Module, 160-480 VAC L-L / 0.1A, 50 Hz (combined sensing and power supply input); used for 3W applications where neutral is not available
CM02SV-DC	Enhanced Core Module with 12-24VDC control power required; supports 3W and 4W sources; 90-300 VAC L-N / 160-480VAC L-L, 50/60 Hz sensing voltage
CTS-ENCL1	NEMA 1 Core Module Enclosure

### Solid Core CT Strip monitoring system for installations on new panelboards

All systems include 10mm x 100 A solid core CTs and + 3 auxiliary CT terminals per strip for main input CTs

#### 0.75" c-c CT strips

CT02101A	Standard 0.75" CT center 1 x 21 100A solid core CT strip
CT02101B	84 pole (2 panel) system with 4 x 21 x 100 A solid core CT strips with 0.75" C-C spacing; includes presence of voltage detection

#### 1.0" c-c CT strips

CTS121A	Standard 1.0" CT center 1 x 21 100A solid core CT strip
CTS121B	Enhanced 1.0" CT center 1 x 21 100A solid core CT strip (w/presence of voltage detection to detect if circuit is energized)

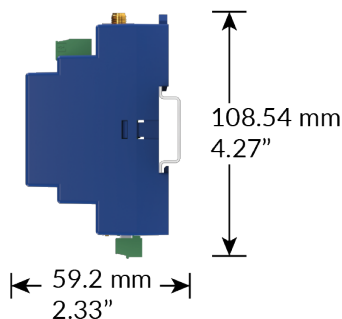
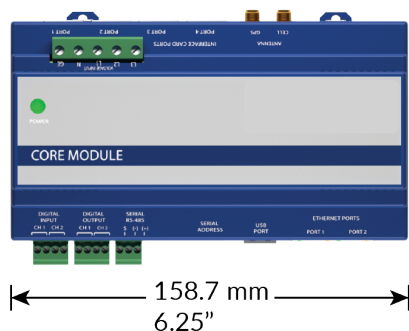
#### 18mm c-c CT strips

CTS218A	Standard 18mm CT center 1 x 18 100A solid core CT strip
CTS218B	Enhanced 18mm CT center 1 x 18 100A solid core CT strip (w/presence of voltage detection to detect if circuit is energized)
CTS221A	Standard 18mm CT center 1 x 21 100A solid core CT strip

CTS221B	Enhanced 18mm CT center 1 x 21 100A solid core CT strip (w/presence of voltage detection to detect if circuit is energized)
CTS223B	Enhanced 18mm CT center 1 x 23 100A solid core CT strip (w/presence of voltage detection to detect if circuit is energized)
<b>Retrofit Panelboard CT Interface Module (Floating Strip CT interface module) and Core Module monitor</b> Floating Strip CT interface boards reside in raceway and interface with 10mm x 75 A or 100 A split core CTs using plug-in quick connects; each	
CTS321A	24-channel Floating Strip split core CT interface board; utilizes branch CTs with connectors
CTSC01050	50 A x 10mm window split core current transformer, 250mm 300V AWG24 lead with Molex connector
CTSC01075	75 A x 10mm window split core current transformer, 250mm 300V AWG24 lead with Molex connector
CTSC010100	100 A x 16mm window split core current transformer, 250mm 300V AWG24 lead with Molex connector
<b>Multi-Circuit Monitoring Systems and Core Module monitor</b> The Multi-Circuit Monitoring system supports up to 4 x 24 CT Interface Cards (96 circuits) and accommodates any 0.33 Vout current transformers or native Rogowski coils.	
IOC24A1	24 Channel Digital Input Card
CTC24A1	24 channel Multi-Circuit Monitoring CT interface board; utilizes CTs with bare leads
<b>Current Transformers</b> see Current Transformer selection guide for details	

Current Transformer Range: 10-5,000 A; 10mm (3/8") to 254mm (10") diameter window

## DIMENSIONS



**Warning:** The datasheet is designed for reference only. Refer to installation instructions that accompany the product and heed all safety instructions. Product improvement is a continuing process at Senva. Changes may occur to products without prior notice.

SPECIFICATIONS				
INPUTS		MONITORED PARAMETERS		
Input power (standard)	90-277 VAC (480 VAC 4W+G) 50/60 Hz	Monitored Parameter	Circuit Level	Input Level1
Input power (enhanced)	480-600 VAC (3W or 4W+G) 50/60 Hz	phase per Current	•	•
Voltage connection terminals	22 - 14 AWG	Max. current per phase	•	•
Overload protection	Internally fused	Current demand (avg. current) per phase	•	•
Power consumption	<5W / 0.1 A @ 240 VAC	Current phase angle	•	•
DC power consumption	3W max	Voltage phase angle	•	•
Channels / circuit capacity	24 x 4 channels (96 circuits total)	Real power (kW) per phase	•	•
PERFORMANCE		Real power (kW) demand per phase	•	•
Accuracy	0.50%	Real power (kW) demand max	•	•
Sampling rate	> 3 kHz	Energy (kWh) per phase	•	•
COMMUNICATIONS		Power factor	•	•
Data protocols	Modbus TCP/IP (Ethernet), Modbus RTU (RS-485 2 wire), HTML (web server)	Power factor vector	•	•
Modbus serial specifications	9600, 19200, 38400 Baud (selectable)	Apparent power (kVA)	•	•
Ethernet ports	2 x RJ-45 10/100 Mbit	Reactive power (kVA)	•	•
USB port	USB 2.0 Type A	THDI	•	•
Web server	HTML via standard browser	THDV	•	•
WiFi option	802.11 g/n ; requires WiFi option	Voltage, L-L and average		•
Cellular option	CAT 1 / CAT M1; requires subscription	Voltage, L-N and average		•
ENVIRONMENTAL		Voltage, L-N and per phase		•
Operating temperature	0 to 60 °C (32 to 140 °F) (<95% RH non-condensing)	Waveform capture	•	•
Storage temperature	-40 to 70 °C (-40 to 158 °F)	Presence of Voltage3	•	•
Enclosure versions	NEMA 1/IP20 (indoor use); NEMA 4 / IP67 (outdoor use)	Ground current2	•	•
APPROVALS		1 - Input level data can be calculated by summing up branch CT measurements or directly measured using CTs.		
Agency approvals	ETL Listed, Cat. III, pollution degree 2, CE	2 - Required optional ground current CT connected to auxiliary CT input		

\* Product improvement is a continual process at Senva and product features and specification may change without prior notice. Refer to instructions that accompany the product for installation and wiring.