SAVANT

Savant® Standalone Energy Monitor Deployment Guide

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This guide will lead the installer through the process of installing, configuring, and adding a Savant Energy Monitor to a RacePoint Blueprint™ configuration. Savant Energy Monitors are connected to a home's existing electrical panel using clip-on current transformers, and to the Savant Host via the local network. They allow the user to monitor all aspects of energy usage including heating, appliances, lighting, and more. Savant Energy Monitoring can provide data on the home's overall energy use and production that is viewable any time - locally or remotely.

Products supported by this guide include:

- SmartEnergy Monitor [SEM-1024]
- Savant Standalone Energy Monitor [SEM-2015]

45 Perseverance Way, Hyannis, MA 02601
Savant.com | 508.683.2500

Contents

Important Safety Information - Read First

Before installing, configuring, or operating any equipment, Savant recommends that each dealer, integrator, installer, etc. access and read all relevant technical documentation. Savant technical documentation can be located by visiting Savant.com. Vendor documentation is supplied with the equipment.

Read and understand all safety instructions, cautions, and warnings in this document and the labels on the equipment.

Safety Classifications In this Document

NOTE:	Provides special information for installing, configuring, and operating the equipment.
IMPORTANT!	Provides special information that is critical to installing, configuring, and operating the equipment.
CAUTION!	Provides special information for avoiding situations that may cause damage to equipment.
WARNING!	Provides special information for avoiding situations that may cause physical danger to the installer, end user, etc.

Electric Shock Prevention

ELECTRIC SHOCK!	The source power poses an electric shock hazard that has the potential to cause serious injury to installers and end users.
ELECTRICAL DISCONNECT:	The source power outlet and power supply input power sockets should be easily accessible to disconnect power in the event of an electrical hazard or malfunction.

Weight Injury Prevention

WEIGHT INJURY!	Installing some of the Savant equipment requires two installers to ensure safe handling during installation. Failure to use two installers may result in injury.

Safety Statements

All safety instructions below must be read, understood, and carefully followed under all applicable circumstances when working with any Savant equipment.

1. **Follow all input power ratings marked on product near power input!**
2. If fuse replacement is required, replacement fuse should match fuse rating marked on the product.
3. Do not use equipment near water.
4. Clean only with dry cloth.
5. Do not block any ventilation openings or install near any heat sources such as heat registers, stoves, radiators, amplifiers, etc.
6. Refer all servicing to qualified service personnel. Servicing is required when any part of the apparatus has been damaged in any way, or fails to operate normally for any reason.
7. Use only attachments/accessories specified by the manufacturer, following all relevant safety precautions for any such attachments/ accessories.
8. For applicable equipment, use the included power cord with the grounding prong intact to insure proper grounding of the device.
9. If the provided plug does not fit the desired outlet, contact a licensed electrician to replace the obsolete outlet.
10. Protect any power cord from being walked on, pinched, strained, or otherwise potentially damaged, especially at the outlet or device connections.
11. Disconnect any outlet powered apparatus from its power source during lightning storms or when unused for long periods of time.
12. To completely disconnect equipment from AC mains power, disconnect the power supply cord plug from the AC receptacle on the device.
13. For any hardwired or fixed in-wall apparatus, carefully follow all wiring diagrams and instructions. All electrical wiring and servicing should be performed by a properly licensed electrician.

1. Deployment Steps

Follow the steps below to successfully deploy a Savant Energy Monitor. This page can be used as a checklist to mark progress as steps are completed.

Review product specifications and connection details ☐
See the device's Quick Reference Guide on the Savant Customer Community.

Install Energy Monitor ☐
See Installation

Add the Energy Monitor into a RacePoint Blueprint™ configuration ☐
See Blueprint

Enter circuit information into the Energy Monitor Data Table ☐
See Energy Monitor Data Table

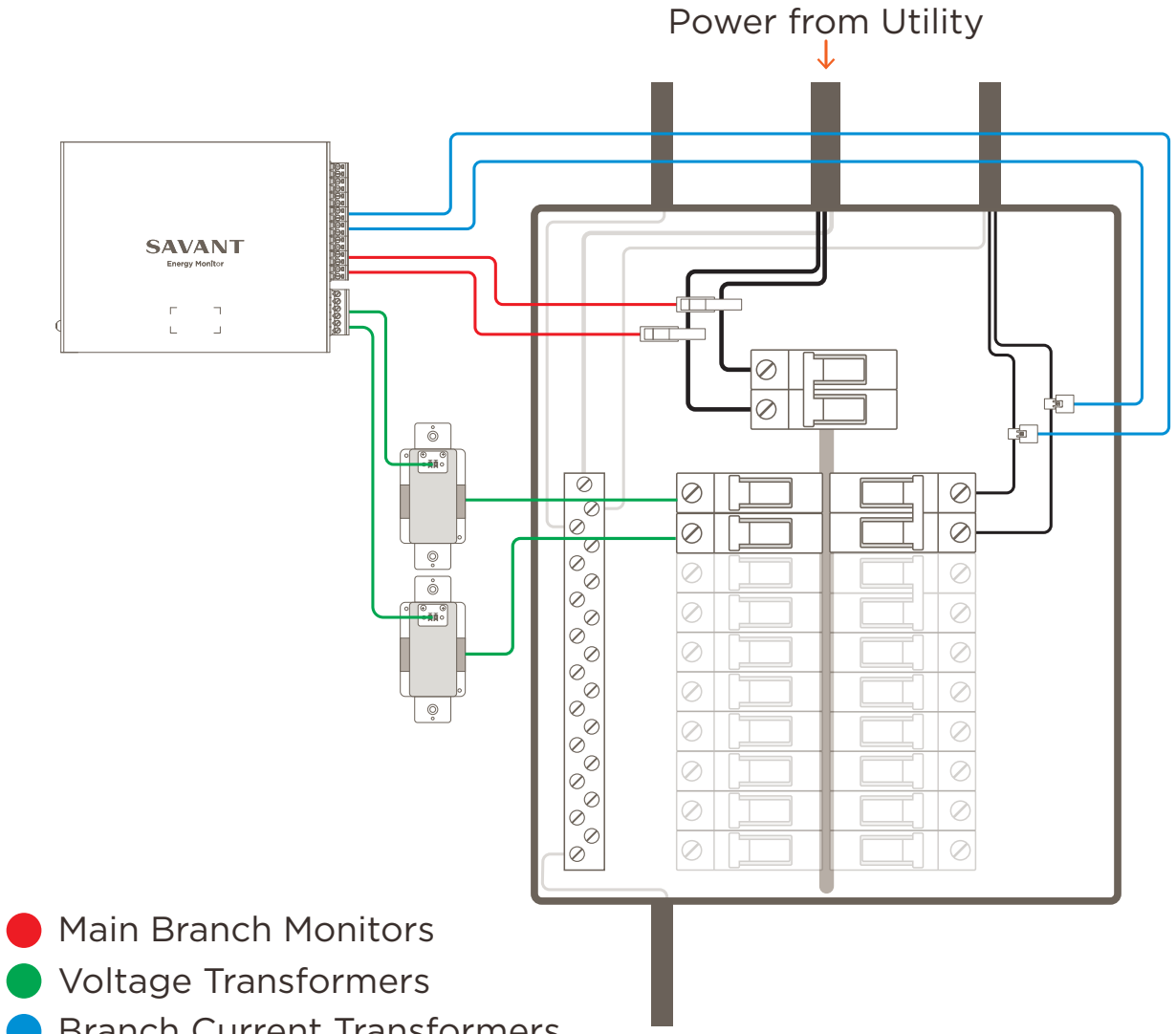
Supported Release

Device	Minimum Supported Release
SEM-1024	da Vinci 5.2.3
SEM-2015	da Vinci 9.1

IMPORTANT! Monitoring of a generator power source in a system that uses load management requires a SEM-2015.

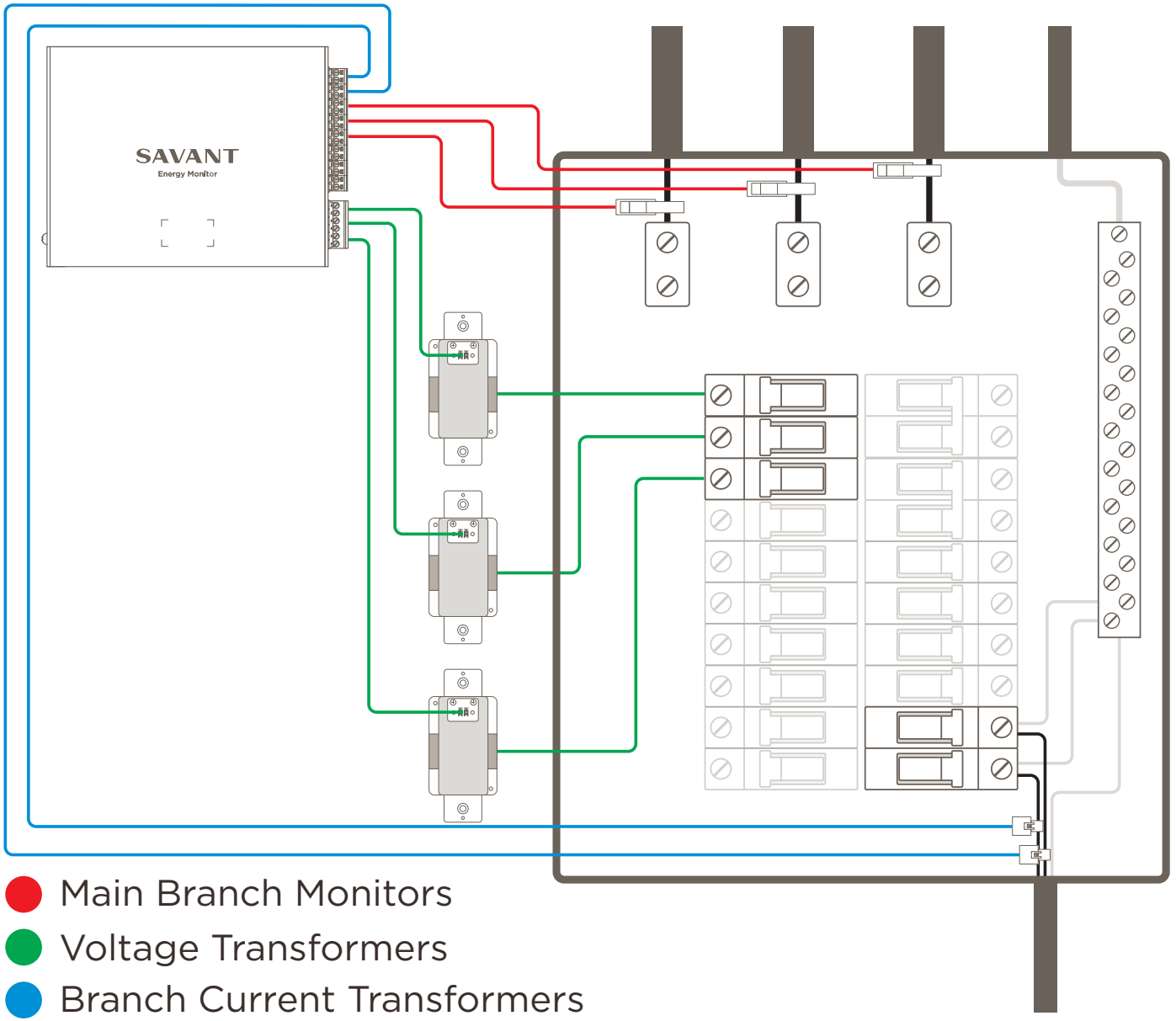
2. System Diagrams

2.1. Single Phase Consumption Only (Typical 200 Amp Service)



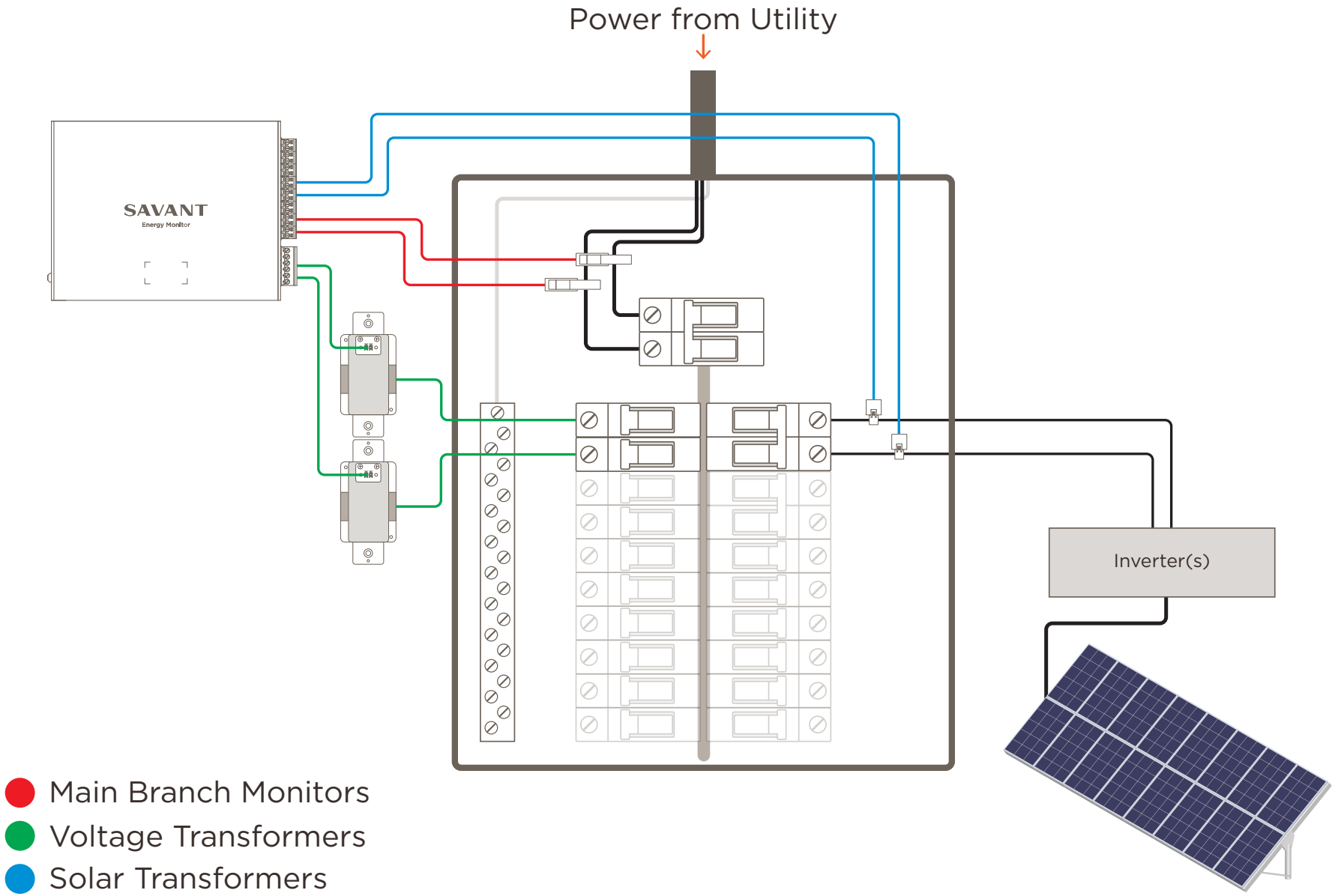
TIP! For single phase systems that only have one power line coming into the house. Only one voltage transformer is required. This normally is for 100 Amp service or below.

2.2. Three Phase Consumption Only



2.3. Single Phase with Power Generation

The image below shows Solar (Photovoltaic) generation. This example holds true for Wind, Geothermal, or Auxiliary Generators.



IMPORTANT! Monitoring of a generator power source in a system that uses load management requires a SEM-2015.

3. Installation

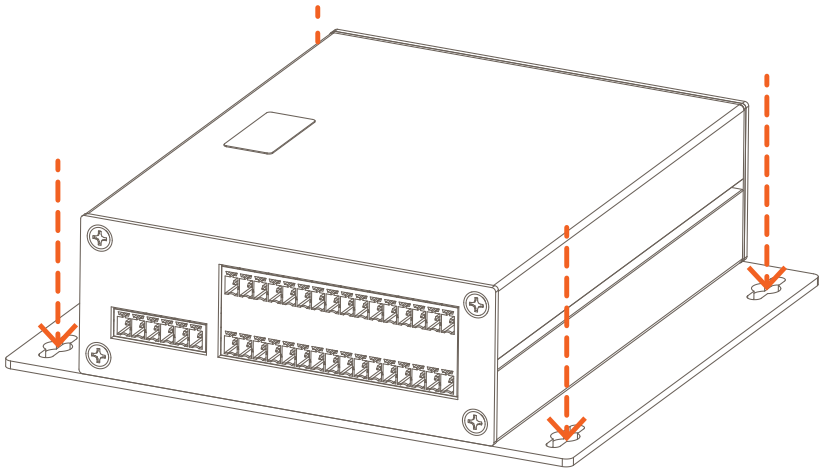
3.1. Flat Surface

SEM-2015

Mounts to a wall or similar surface. Mount chassis in a place that is dry, well ventilated, and out of direct sunlight.

The SEM-2015 comes with the mounting plate installed.

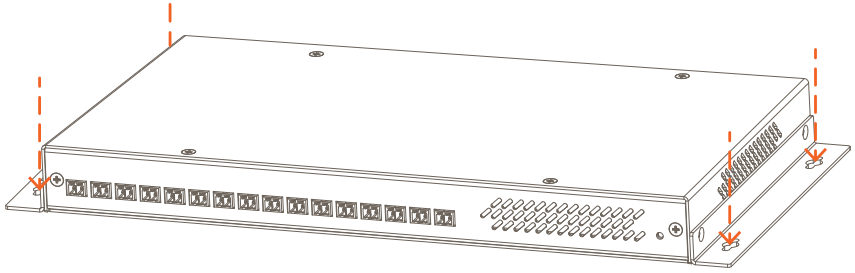
1. Set the SEM-2015 onto the wall where it will be mounted. The SEM-2015 can be positioned with ports facing vertically or horizontally. Level the unit and mark on the wall the mounting holes in the mounting plate.
2. If there is a sub-wall to screw into, screw unit to wall using appropriate screws. If no sub-wall is available, wall anchors can be used.



SEM-1024

Mounts to a wall or similar using the included chassis mounted side brackets and supplied M3 x 8mm flat head screws. Mount chassis in a place that is dry, well ventilated, and out of direct sunlight.

1. Remove side brackets and M3 x 8mm screws from shipping box.
2. Align the holes in the bracket with threaded holes on the two short sides of the SEM-1024 energy monitor.
3. Screw bracket to chassis using the supplied M3 x 8mm screws. Do not over-tighten.
4. Set the SEM-1024 onto the wall where it will be mounted. The SEM-1024 can be positioned with ports facing vertically or horizontally. Level the unit and mark on the wall the mounting holes in the two brackets.
5. If there is a sub-wall to screw into, screw unit to wall using appropriate screws. If no sub-wall is available, wall anchors can be used.

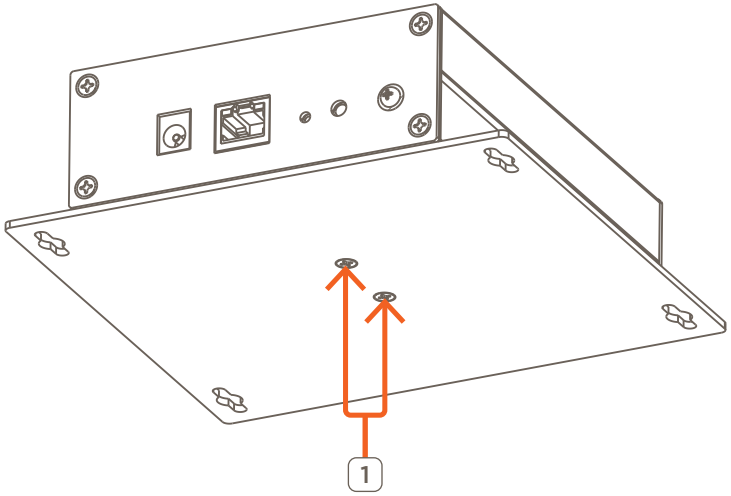


3.2. Din Rail

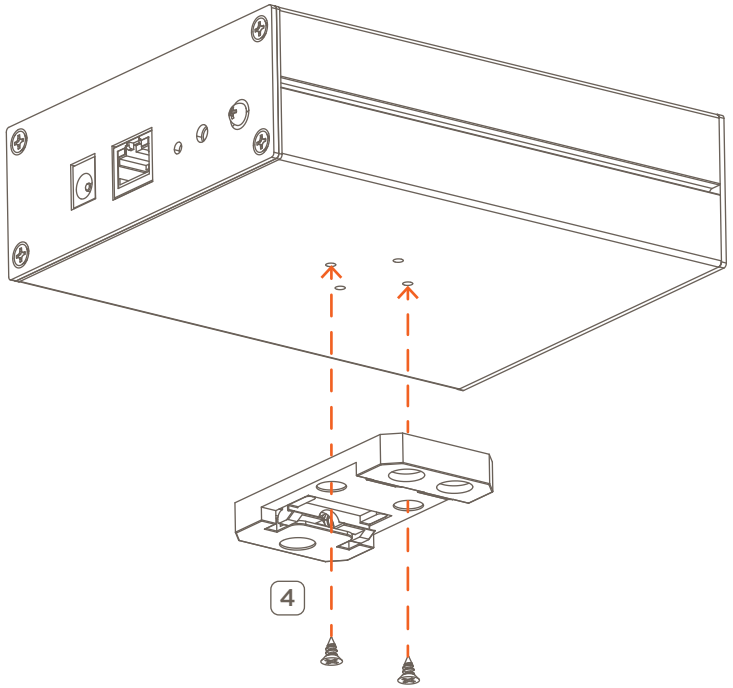
The SEM-2015 has an included universal din rail clip.

To install using a Din Rail do the following:

1. Remove the screws holding the mounting plate on the bottom of the unit.



2. Remove the mounting plate.
3. Align the Universal Din Rail Mounting Clip on the bottom of the unit.
   NOTE: The clip can be mounted facing either direction.
4. Attach using the screws from the mounting plate.



3.3. Voltage Transformers

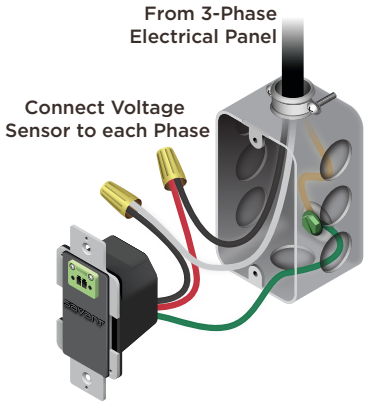
The SEM-VT01 is a highly accurate voltage transformer that reduces the input voltage by a factor of 0.00111. For example, if the input voltage is 120V AC, the output of the SEM-VT01 will be 0.133V_{RMS}. By reducing the voltage, the SEM-2015/SEM-1024 can monitor individual circuits with exceptional accuracy.

IMPORTANT INFO!

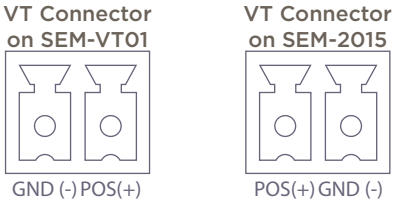
- One voltage transformer is required for each phase.
- Install SEM-VT01 voltage sensor as close as possible to the electric breaker panel.
- Between the voltage transformer and the SEM-2015/SEM-1024 it is best to have as short as a run as possible.
- Voltage transformers should be installed on there own breakers with no load attached.

Savant requires a licensed electrician be used to connect the SEM-VT01 to the high voltage side. Follow instructions below to install. The instructions assume the electrical outlet boxes are mounted and an electric circuit is run into the box.

1. Switch the circuit breaker to the circuit that the SEM-VT01 is being added to.



2. Using diagram to the right, make high voltage connections.
3. Screw the SEM-VT01 into the electrical box.
4. Using the supplied 2-pin screw down connectors and #18 AWG wire, install the wires into the 2-pin connector. Refer to the connector diagrams below when wiring.



5. For instructions on how to install wires into the 2-pin connectors, refer to step 4 of the Install Current Transformers section.
6. Once all connections are made, switch the breaker back ON.

HELPFUL INFO: Each voltage transformer is capable of supporting up to three SEM-2015 units, provided the following requirements are met:

- SEM-2015 units must be connected in a daisy chain pattern.
- Wiring used must be 18 AWG or greater twisted pair.
- Total run length must not exceed 8 ft (2.4 m).

Additional voltage transformers must be utilized when deploying more than 3 SEM-2015 units.

3.4. Current Transformers

⚠ **SAFETY PRECAUTIONS!** Before beginning the installation process, read through the following precautions.

- The installation of a current transformer requires making connections within an electrical panel. Savant recommends that a licensed electrician perform the installation.
- The install should obey all local electrical codes.
- Only current transformers offered from Savant are supported. These CT's are internally shunted and safer than other commercially available current transformers

Connecting Current Transformers

Follow instructions below when installing the current transformers into an electrical breaker panel.

1. Remove power from electrical panel by switching the main breaker to the **Off** position.
2. Remove the electrical panel front cover and set aside. With a voltage tester, verify power was removed to the individual breakers.
3. Install the current transformers over each conductor being monitored. Depending on the current transformer being used will determine how it is installed. See below.

20 and 50 Amp Current Transformers

A. Pry the clip on the side away from the housing and hinge open the current transformer.

B. Position the conductor being measured into the opening of the current transformer. Close the current transformer ensuring the clip on the side snaps into place.

⚠ **IMPORTANT!** To observe proper polarity, install the 20 and 50A current transformers with arrows pointing in the direction of current flow (towards the load).

C. Route the wire through a cable clamp on the side of the panel and run wire to the SEM-2015 chassis.

150 Amp Current Transformers

A. Squeeze the handle on side of current transformer until the opposite end opens.

B. Position the open end of current transformer over the conductor and release the handle so the wire settles inside the opening of current transformer.

⚠ **IMPORTANT!** To observe proper polarity, install the 150A or larger current transformers with the label on the current transformer facing the source of the power.

C. Route the wire through a cable clamp on the side of the panel and run wire to the SEM-2015/SEM-1024.

4. Following steps below, install the supplied 2-pin screw down connector onto the wires of each current transformer.

A. With a small slotted screwdriver, turn the screws on the connector counterclockwise (CCW) until the silver crimps open enough to slide the stripped wire into the square slots.

B. Strip back insulation on each wire to 1/4" and insert the stripped wire into proper connection. See the Current Transformer and Voltage Sensor Input Polarity section for polarity information.

C. Turn screws clockwise (CW) until the crimps tighten around each wire. Tug on wires to verify they are secure. Continue until all current transformers have a connector added.

5. Plug the connector into the appropriate current transformer input on the SEM-2015/SEM-1024.
6. Replace the breaker panel front cover once all current transformers are installed.
7. Switch main breaker to the **ON** position.

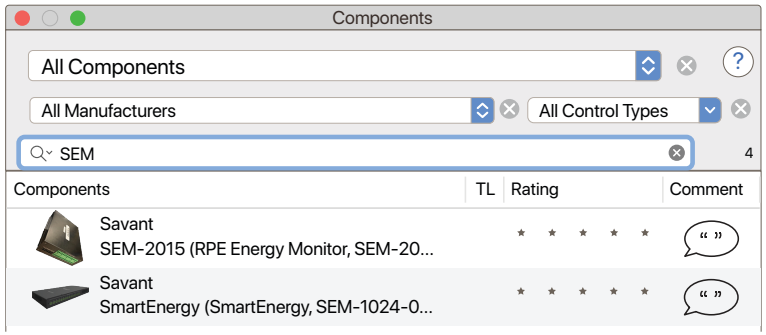
4. Blueprint

The subsections below describe the required steps for configuring a Savant Energy Monitor device within RacePoint Blueprint.

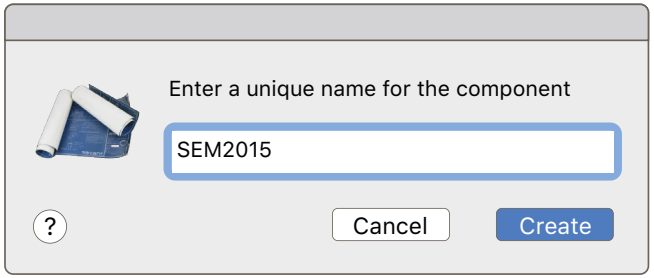
4.1. Adding a Energy Monitor to a Configuration

From on open Blueprint configuration do the following:

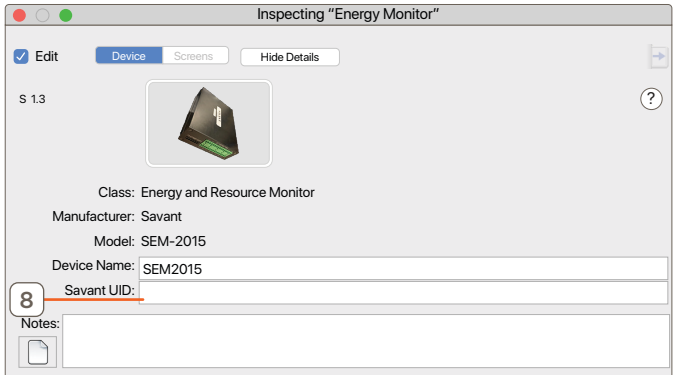
1. Click **Show Library**.
2. Search for **SEM**.



3. Highlight the matching Energy Monitor and drag into a **Shared Equipment zone** in the **Component List** pane.
4. Name the device.



5. Drag the Energy Monitor in the **Layout** window.
6. Select the Energy Monitor.
7. Open Inspector **(Command + I)**.
8. Enter the **UID**.



4.2. Energy Monitor Data Table

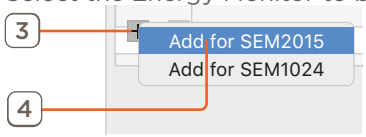
The Energy Monitor data table represents all circuits monitored by the Energy Monitor and must be configured manually. The following examples demonstrate how to configure the Energy Monitor Data Table for specific deployments. For more information on the Energy Monitor data table, see Appendix B: Energy Monitor Data Table Index.

Add Circuit (SEM-2015)

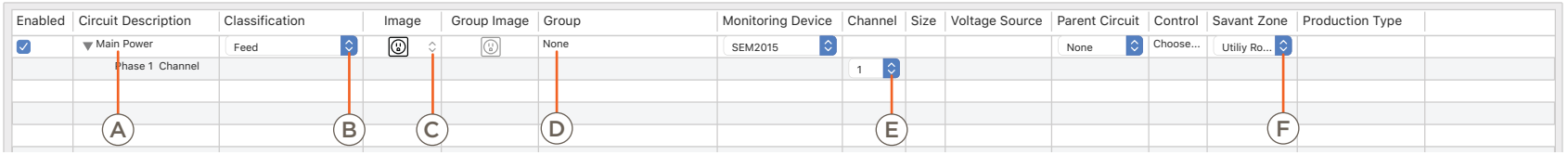
This example below demonstrates the configuring an Energy Monitor to measure the main feed. A typical single phase system will have 2 legs. The process for adding any circuit is largely the same, with two notable differences. The **Classification** column varies based on what circuit is being added and the quantity of **Phase Channels** is based on the number of slots the breaker uses in the panel.

From an open Blueprint configuration do the following:

1. Navigate to **Tools > Settings > Energy Monitor...**.
2. At the top of the table, use the **Energy Consumption** dropdown to select the maximum energy (in kW) limit to display in the Energy Consumption Gauge in the Savant App.
3. Click the **+** sign.
4. Select the Energy Monitor to be used.

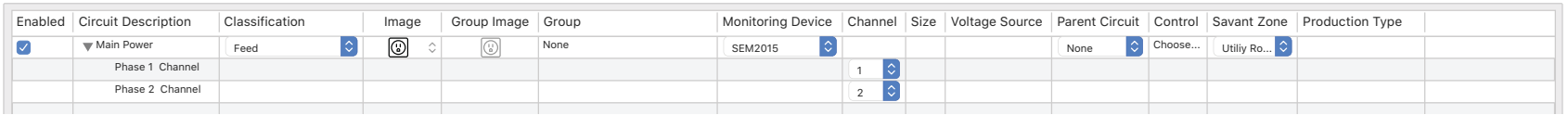


5. Click the **Circuit Description** disclosure triangle and configure the entry as follows:



A	**Circuit Description**	Circuit name in the Savant App.
B	**Classification**	Whether this circuit feeds, produces or consumes power.
C	**Image**	Image associated with the circuit in the Savant App.
D	**Image Group**	(Optional) Image to represent the group.
E	**Channel**	The physical port on the energy-monitor to which the current transformer for that circuit is connected.
F	**Savant Zone**	Which zone within the Savant App the circuit will be visible.

6. Click the ⊞ button at the bottom of the window and configure the **Channel** for the **Phase 2 Channel**. The image below shows the finished entry.



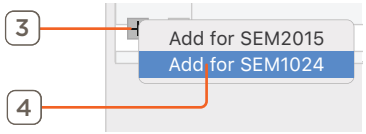
⚠ **IMPORTANT!** When configuring SEM-2015 devices, the size and voltage source must be defined within the component's web UI. Refer to the Web User Interface section below for details.

Add Circuit (SEM-1024)

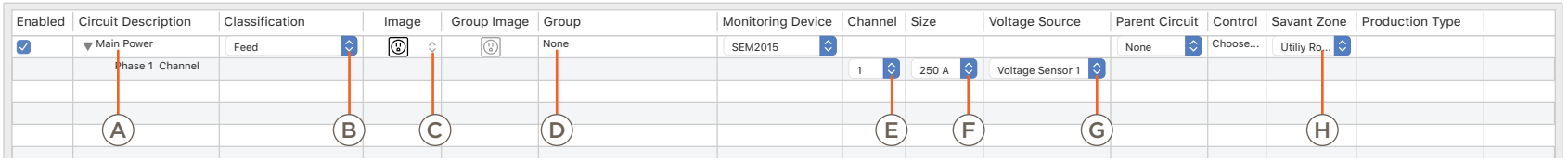
This example demonstrates how to measure the main feed for the house. A typical single phase system will have 2 legs. The process for adding any standard circuit is the same except the Classification is different based on what is being added. Then number of phase channels is based on the number of slots the breaker uses in the panel.

From an open Blueprint configuration do the following:

1. Go to **Tools > Settings > Energy Monitor...**
2. At the top of the table, use the **Energy Consumption** drop-down to select the maximum energy (in kW) limit to display in the Energy Consumption Gauge in the Savant App.
3. Click the +.
4. Select the Energy Monitor to be used.

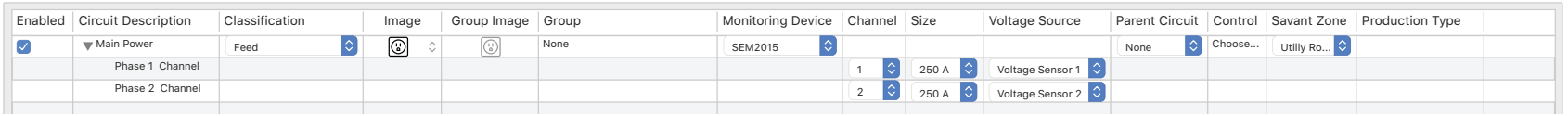


5. Click the **Circuit Description** disclosure triangle and configure the entry as follows:



(A)	**Circuit Description**	Circuit name in the Savant App.
(B)	**Classification**	Whether this circuit feeds or consumes power.
(C)	**Image**	Image associated with the circuit in the Savant App.
(D)	**Image Group**	Optional image to represent the group.
(E)	**Channel**	The physical port on the energy-monitor to which the current transformer for that circuit is connected.
(F)	**Size**	The matching capacity of the current transformers used for the circuit.
(G)	**Voltage Source**	The available voltage monitoring sources corresponding to the phase channels of the circuit.
(H)	**Savant Zone**	Which zone within the Savant App the circuit will be visible.

6. Click the ⊞ button at the bottom of the window.
7. Configure **Channel**, **Size**, and **Voltage Source** for the Phase 2 Channel. The image below shows the finished entry.



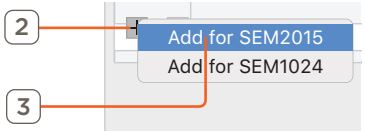
Adding a Child Circuit

Follow the steps below to add a child circuit where applicable. The same process applies for SEM-2015 and SEM-1024 devices, apart from minor differences described in the previous sections.

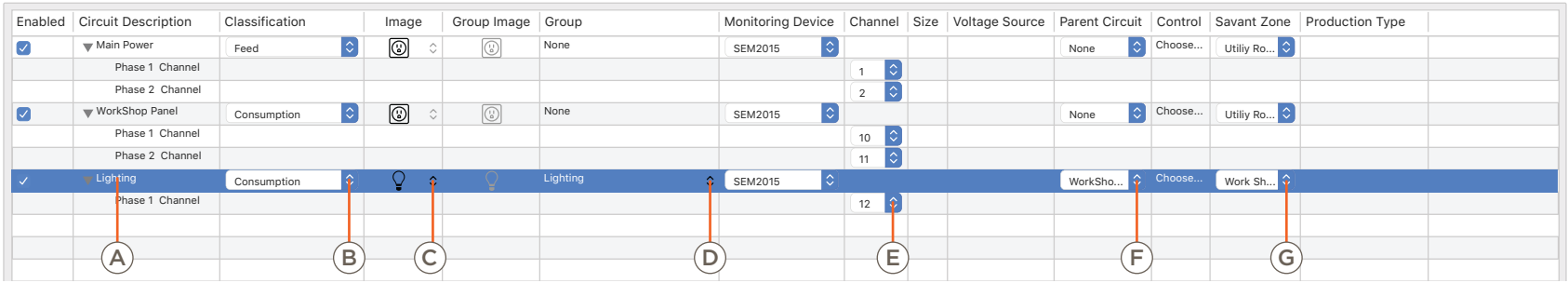
This example adds a Lighting circuit to a secondary panel to power a workshop. The image under step 4 shows the parent circuit for this sub-panel and the Main Power feed previously configured. This represents the feed to the sub-panel. However, this is not classified as a Feed circuit because its power consumption is a part of the main feed coming into to the house.

From an open Blueprint configuration do the following:

1. Go to **Tools > Settings > Energy Monitor...**.
2. Click the + sign.



3. Select the Energy Monitor to be used.
4. Double click on **Circuit Description** and configure the entry fields.



A	**Circuit Description**	Circuit name in the Savant App.
B	**Classification**	Whether this circuit feeds, produces or consumes power.
C	**Image**	Image associated with the circuit in the Savant App.
D	**Image Group**	Optional image to represent the group.
E	**Channel**	The physical port on the energy-monitor to which the current transformer for that circuit is connected.
F	**Size**	The matching capacity of the current transformers used for the circuit.
G	**Parent Circuit**	When using a current transformer on the Main Power Feed, select the appropriate parent circuit so that energy readings from this device do not double-report on the energy consumption total.
H	**Savant Zone**	Which zone within the Savant App the circuit will be visible.

Example Data Tables

Consumption Only (Key Loads)

The example below shows a completed Energy Monitor Data Table configured for monitoring of key loads only - the main power feed for the site is not monitored in this setup.

Enabled	Circuit Description	Classification	Image	Group Image	Group	Monitoring Device	Channel	Size	Voltage Source	Parent Circuit	Control	Savant Zone	Production Type
☑	Refrigerator	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						5						
☑	Stove	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						6						
☑	Dishwasher	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						7						
☑	A/C	Consumption			hvac	SEM2015				None	Choose...	Utiliy Ro...	
	Phase 1 Channel						8						
	Phase 2 Channel						9						
☑	Family Room	Consumption			Room	SEM2015				None	Choose...	Family R...	
	Phase 1 Channel						10						

Consumption Only (Main Feed + Key Loads)

This example shows the Main Power feed being monitored and the key loads. All of the key loads are child circuits of the Main feed. This will allow the user to know the total amount of power being used, as well as track the key loads in the house.

Enabled	Circuit Description	Classification	Image	Group Image	Group	Monitoring Device	Channel	Size	Voltage Source	Parent Circuit	Control	Savant Zone	Production Type
☑	Main Power	Feed			None	SEM2015				None	Choose...	Utiliy Ro...	
	Phase 1 Channel						1						
	Phase 2 Channel						2						
☑	Refrigerator	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						5						
☑	Stove	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						6						
☑	Dishwasher	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						7						
☑	A/C	Consumption			hvac	SEM2015				None	Choose...	Utiliy Ro...	
	Phase 1 Channel						8						
	Phase 2 Channel						9						
☑	Family Room	Consumption			Room	SEM2015				None	Choose...	Family R...	
	Phase 1 Channel						10						

Solar (Grid-Tied)

The example below shows a completed configuration that includes solar panels.

Enabled	Circuit Description	Classification	Image	Group Image	Group	Monitoring Device	Channel	Size	Voltage Source	Parent Circuit	Control	Savant Zone	Production Type
☑	Main Power	Feed			None	SEM2015				None	Choose...	Utiliy Ro...	
	Phase 1 Channel						1						
	Phase 2 Channel						2						
☑	Refrigerator	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						5						
☑	Stove	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						6						
☑	Dishwasher	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						7						
☑	A/C	Consumption			hvac	SEM2015				None	Choose...	Utiliy Ro...	
	Phase 1 Channel						8						
	Phase 2 Channel						9						
☑	Family Room	Consumption			Room	SEM2015				None	Choose...	Family R...	
	Phase 1 Channel						10						
☑	Gas Generator	Production			Solar	SEM2015				None	Choose...	Utiliy Ro...	Solar
	Phase 1 Channel						3						

Auxiliary Generator

The example below shows a completed configuration that includes an auxiliary gas generator.

Enabled	Circuit Description	Classification	Image	Group Image	Group	Monitoring Device	Channel	Size	Voltage Source	Parent Circuit	Control	Savant Zone	Production Type
☑	Main Power	Feed			None	SEM2015				None	Choose...	Utiliy Ro...	
	Phase 1 Channel						1						
	Phase 2 Channel						2						
☑	Refrigerator	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						5						
☑	Stove	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						6						
☑	Dishwasher	Consumption			Appliances	SEM2015				None	Choose...	Kitchen	
	Phase 1 Channel						7						
☑	A/C	Consumption			hvac	SEM2015				None	Choose...	Utiliy Ro...	
	Phase 1 Channel						8						
	Phase 2 Channel						9						
☑	Family Room	Consumption			Room	SEM2015				None	Choose...	Family R...	
	Phase 1 Channel						10						
☑	Gas Generator	Production			None	SEM2015				None	Choose...	Utiliy Ro...	Generator
	Phase 1 Channel						3						
	Phase 2 Channel						4						

IMPORTANT! Monitoring of a generator power source in a system that uses load management requires a SEM-2015.

Three Phase with Sub-Panel

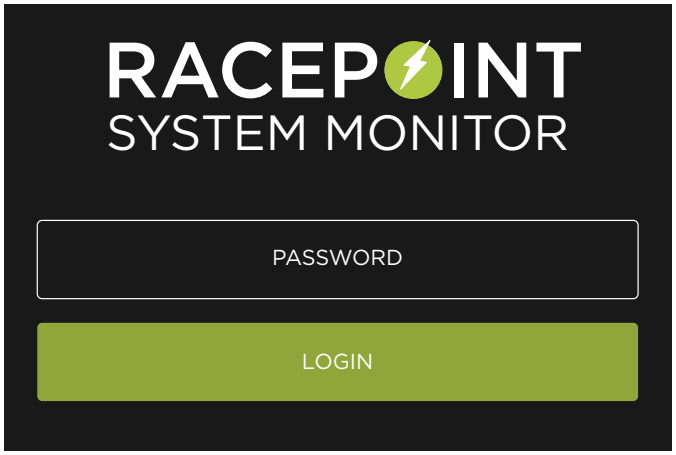
The example below shows a completed data table for a system that uses two SEM-2015s and has a secondary panel for a work shop.

Enabled	Circuit Description	Classification	Image	Group Image	Group	Monitoring Device	Channel	Size	Voltage Source	Parent Circuit	Control	Savant Zone	Production Type
☑	▼ Main Power	Feed			Grid	SEM2015 01				None	Choose...	Utiliy Ro...	
	Phase 1 Channel						1						
	Phase 2 Channel						2						
	Phase 3 Channel						3						
☑	▼ Refrigerator	Consumption			Appliances	SEM2015 01				None	Choose...	Kitchen	
	Phase 1 Channel						4						
☑	▼ Stove	Consumption			Appliances	SEM2015 01				None	Choose...	Kitchen	
	Phase 1 Channel						5						
☑	▼ Dishwasher	Consumption			Appliances	SEM2015 01				None	Choose...	Kitchen	
	Phase 1 Channel						6						
☑	▼ A/C	Consumption			hvac	SEM2015 01				None	Choose...	Utiliy Ro...	
	Phase 1 Channel						7						
	Phase 2 Channel						8						
☑	▼ Family Room	Consumption			Room	SEM2015 01				None	Choose...	Family R...	
	Phase 1 Channel						9						
☑	▼ Work Shop	Consumption			None	SEM2015 02				None	Choose...	Work Sh...	
	Phase 1 Channel						1						
	Phase 2 Channel						2						
☑	▼ Shop Lighting	Consumption			Lighting	SEM2015 02				Work Shop	Choose...	Work Sh...	
	Phase 1 Channel						3						
☑	▼ Left Wall Outlets	Consumption			Outlet	SEM2015 02				Work Shop	Choose...	Work Sh...	
	Phase 1 Channel						4						
☑	▼ Right Wall Outlets	Consumption			Outlet	SEM2015 02				Work Shop	Choose...	Work Sh...	
	Phase 1 Channel						5						
☑	▼ Floor Outlets	Consumption			Outlet	SEM2015 02				Work Shop	Choose...	Work Sh...	
	Phase 1 Channel						6						
☑	▼ Shop Heat Pump	Consumption			hvac	SEM2015 02				Work Shop	Choose...	Work Sh...	
	Phase 1 Channel						7						
	Phase 2 Channel						8						

5. Web User Interface (Web UI SEM-2015 Only)

The SEM-2015 includes a web-based user interface (web UI) with additional programming and configuration options, some of which are required for successful deployment. To access and configure the Web UI, follow the steps listed below from the Savant Development Environment (SDE/MacBook) while connected to the same local network as the SEM-2015.

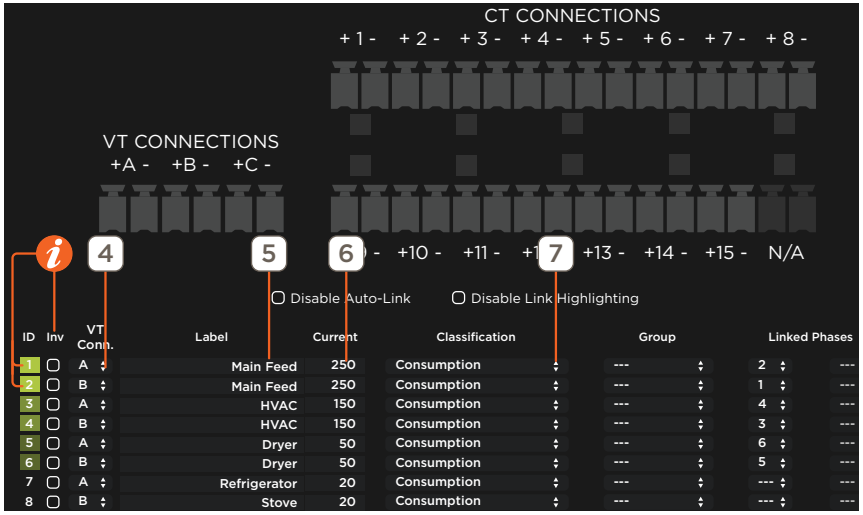
1. Locate the IP address for the SEM-2015 via System Monitor, or using any network scanning utility.
2. Open a web browser and enter the device IP into the address bar.



IMPORTANT NOTES:

- The first time connecting to the SEM-2015 the user is required to set a password.
- If the password needs to be reset, follow the Device Reset instructions found in the Standalone Energy Monitor (SEM-2015) Quick Reference Guide.

3. Enter device password (or set password if accessing for first time), then select **LOGIN** to continue.
4. Select the **Voltage Transformer Connection**.
5. Enter a label for the current transformer.
6. Enter the current rating of the current transformer.
7. Select the circuits **Classification**.
8. Repeat steps 4 though 7 for each current transformer in use.
9. Click **Deploy Config**.



Helpful Info!

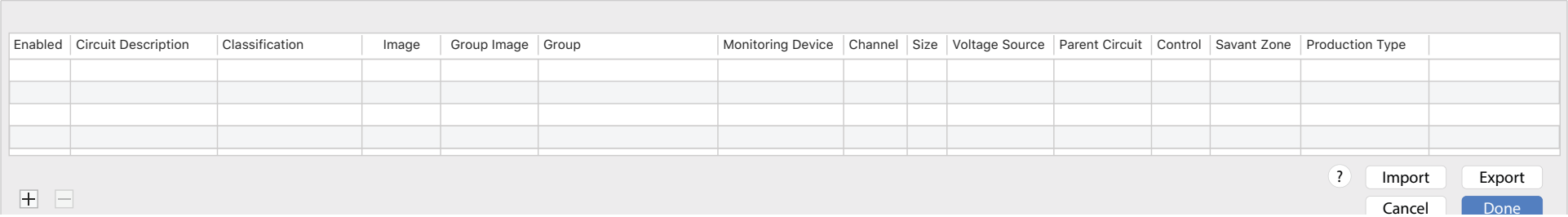
Inv (Invert)	If a current transformer reports a negative current value (potentially wired backward), check this option to multiply reported value by -1, making it positive.
Linked Phases	Combines readings from multiple current transformers when a circuit utilizes more than 1 phase.
Auto-Link	Links circuits with matching labels. To disable this feature, check **Disable Auto-Link**.
Link Highlighting	Shows matching green squares on linked current transformers. This feature can be disabled by checking the box labeled **Disable Link Highlighting**.

Appendix A: Accessories

SKU	Description	Image
SEM-VT01	SEM-VT01 is a Voltage sensor, for use in conjunction with Savant Energy Monitors.	
SEM-020A5	SEM-020A5 is a 5 pack of 20 Amp, split-core, clip-on current transformers.	
SEM-050A5	SEM-050A5 is a 5 pack of 50 Amp, split-core, clip-on current transformers.	
SEM-150A1	SEM-150A1 is a 150 Amp, split-core, clip-on current transformer.	
SEM-150A5	SEM-150A5 is a 5 pack of 150 Amp, split-core, clip-on current transformers.	

SKU	Description	Image
SEM-250A1	SEM-250A1 is a 250 Amp, split-core, clip-on current transformer.	
SEM-400A1	SEM-400A1 is a 400 Amp, split-core, clip-on current transformer.	
SEM-600A1	SEM-600A1 is a 600 Amp, split-core, clip-on current transformer.	

Appendix B: Energy Monitor Data Table Index



Enabled	Indicates whether or not the row is enabled. If the row is unchecked, that row will not generate a control interface within the Savant UI.
Circuit Description	Entered Description of the physical wiring to which one or more current transformers are attached. A circuit must consist of at least one phase channel, and may contain up to three. Phase channels can be added or removed by only selecting a phase channel within the circuit and pressing “+” or “-” located in the bottom left corner of the dialog. New circuits will have one phase added automatically.
Classification	**Consumption:** A circuit that consumes power, which is the most typical kind of circuit. **Production:** Used for any circuits that add power to monitored system. **Feed:** Designates that this circuit is the Main Power input from the utility company.
Image	The icon to appear in the Savant App for the selected load to be monitored. Available icons are: Geo-Thermal, Wind, Stove, Solar, Pool Garage, HVAC, Dish Washer, Washing Machine, None, Lighting, Hydro, Refrigerator, Room, Water Heater, and Appliances.
Group Image	An icon to describe the grouping of Circuits. Available icons include: Geo-Thermal, Wind, Stove, Solar, Pool Garage, HVAC, Dish Washer, Washing Machine, None, Lighting, Hydro, Refrigerator, Room, Water Heater, and Appliances.
Group	The group in which the circuit is listed within the Savant App. Select a predefined group (same list) or select the text field to enter a custom group name. Configured groups form the top level navigation options presented to the user.
Monitoring Device	The specific physical monitoring device, such as Energy and Resource Monitor that is connected to the circuit.
Channel	The physical port on the energy-monitoring device to which the current transformer for that circuit is connected.
Size	The capacity of the current transformers used for the circuit. This capacity must exactly match the 20A, 50A, 150A or other supported CT size physically clamped onto that circuit.
Voltage Source	The available voltage monitoring sources corresponding to phase channels of the circuit. **NOTE:** For the best and most accurate monitoring results, ensure that the voltage of each phase channel is accurately measured as close to the trunk as possible, and that every circuit phase channel is correctly matched to its corresponding voltage sensor. External Voltage Transformer sensors will provide more accurate voltage and power reporting, but must be physically connected to the correct phase and each phase channel must have the correct voltage sensor selected here.
Parent Circuit	Use this category when using a current transformer on the Main Power Feed, so that the energy reading from this device does not double-report on the energy consumption total.

Control (TrueControl II only)	⚠ **IMPORTANT!** TrueControl II is no longer supported. For circuits that have Savant-controllable resources, select **Choose...** to be presented with a Service or Zone selector. Convenient links will be presented within Savant's end-user Energy Monitoring UI to control these resources and impact energy utilization.
Savant Zone	The zone within the Savant App the circuit is visible.
Production Type	The type of power source for entries with the **Production** classification. Options include Generator, Solar, or Battery.
+	– If a circuit level row is selected or there is no selection, add a new circuit. – If a phase channel is selected, add a new phase (up to 3).
-	Remove a selected phase channel or circuit per selection.
Import	Imports a copy of the energy monitor table configuration that has previously been exported with the **Export** option. This function is useful for backing up before making changes, or it can be used for template management in installations that are very similar.
Export	Saves a copy of the Energy Monitor data table configuration for use with the **Import** function described above.
Cancel	Clears changes and closes the window.
Done	Saves changes and closes the window.

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