

SAVANT

Product Information and Regulatory Statement

Important Safety Information - Read First!

Before installing, configuring, or operating any equipment, all relevant technical documentation must be read, understood, and followed. Savant technical documentation may contain important product-specific installation, mounting, and safety instructions, and can be accessed through the Savant Store.

Scan the QR code or visit the URL below, enter the relevant product name or SKU in the **Search Savant** prompt, and select the product purchased to find documents, specifications and more.

https://store.savant.com/DefaultStore/ccrz__HomePage



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.

Déclarations de Sécurité

Toutes les instructions de sécurité ci-dessous doivent être lues, comprises et soigneusement suivies dans toutes les circonstances applicables lorsque vous travaillez avec un équipement Savant.

1. **Suivez toutes les puissances nominales indiquées sur le produit près de la puissance absorbée!**
2. Si le remplacement du fusible est nécessaire, le fusible de remplacement doit correspondre à la valeur nominale du fusible indiquée sur le produit.
3. N'utilisez pas d'équipement près de l'eau.
4. Nettoyer uniquement avec un chiffon sec.
5. Ne bloquez pas les ouvertures de ventilation et n'installez pas à proximité de sources de chaleur telles que les registres de chaleur, les cuisinières, les radiateurs, les amplificateurs, etc.
6. Confiez toutes les réparations à un technicien qualifié. Un entretien est requis lorsqu'une partie de l'appareil a été endommagée de quelque manière que ce soit ou ne fonctionne pas normalement pour une raison quelconque.
7. Utilisez uniquement les attaches / accessoires spécifiés par le fabricant, en suivant toutes les précautions de sécurité applicables à ces attaches / accessoires.
8. Pour l'équipement applicable, utilisez le cordon d'alimentation inclus avec la broche de mise à la terre intacte pour assurer une mise à la terre correcte de l'appareil.
9. Si la fiche fournie ne correspond pas à la prise souhaitée, contactez un électricien agréé pour remplacer la prise obsolète.
10. Protégez tout cordon d'alimentation contre les piétinements, les pincements, les tensions ou autres dommages potentiels, en particulier au niveau de la prise ou des connexions de l'appareil.
11. Débranchez tout appareil alimenté par une prise de courant de sa source d'alimentation pendant les orages ou lorsqu'il n'est pas utilisé pendant de longues périodes.
12. Pour déconnecter complètement l'équipement du secteur, débranchez la fiche du cordon d'alimentation de la prise secteur de l'appareil.
13. Pour tout appareil encastré ou câblé, suivez attentivement tous les schémas de câblage et les instructions. Tout le câblage électrique et l'entretien doivent être effectués par un électricien dûment agréé.



IMPORTANT NOTES:

- For product mounting, installation, safety instructions, technical specifications, and more, refer to the product Quick Reference Guide, available via the link or QR code noted above.
- For regulatory and compliance information, see reverse of this sheet and/or product packaging.

FCC Regulations

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for CLASS B digital devices, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try correcting the interference with one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect this equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement - Wireless and Handheld Devices Only

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

FCC and IC Identifier - Devices with Integrated Screen or User Interface Only

This device electronically displays the FCC declaration of conformity logo as well as the FCC and IC identifier. This information can be found on the device by accessing:

(Service menu) > About (A propos de)



IC Statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital apparatus complies with Canadian ICES-003/NMB-003.

This device complies with RSS-247 of Industry Canada. Operation is subject to the condition that this device does not cause harmful interference.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter, except tested built-in radios. The Country Code Selection feature is disabled for products marketed in the US/Canada.

Déclaration IC

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage, et
2. Cet appareil accepter toute interférence, y compris les interférences pouvant provoquer fonctionnement indésirable d'appareil.

Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux radiations de la FCC définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

Identificateur de la FCC et d'IC

Ce périphérique par voie électronique affiche le logo de déclaration de conformité FCC ainsi que l'identificateur de la FCC et d'IC. Cette information peut être trouvée sur le terminal en accédant à:

(Menu de service) > About (A propos de)



SAVANT

Smart Energy Monitor Module (Supports 1-inch On-Center Load Centers) Quick Reference and Installation Guide

Box Contents

- (1) Smart Energy Monitor Module (SEM)
 - GPM-H2SEM-xx w/Pigtail type neutral
- (1) 4-pin screw down plug-in connector (028-9395)
- (1) Product Information and Regulatory Insert (009-1950)
- (1) Quick Reference and Installation Guide (this document)

Accessories

Current Transformers

- ACTL-1250-250 Opt CO.2 250 Amp
- ACTL-1250-400 Opt CO.2 400 Amp
- ACTL-1250-600 Opt CO.2 600 Amp

Specifications

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	5% to 85% Relative Humidity (non-condensing)
Location	Indoor Use Only

Dimensions and Weights

	Length	Width	Height	Weight
Module	4.49 in. (11.41 cm)	1.98 in. (5.03 cm)	2.78 in. (7.06 cm)	.54 lbs (.24 kg)
Shipping	7.48 in. (19.0 cm)	4.17 in. (10.6 cm)	1.69 in. (4.29 cm)	1.0 lbs. (.45 kg)

Power

Input Power (powers the module)	120V AC (+/- 10%) @ 60 Hz, 0.1A (max)
Signal Input	0.333V AC @ 60Hz
Type of Action	Type 1 action

Standards

Wireless	Bluetooth 5 Low Energy (BLE) <ul style="list-style-type: none">- 2.4 GHz radio frequency
This meter will be tested and certified to the following standards:	
ANSI C12.20-2015	American National Standard for Electricity Meters - 0.5 Accuracy Class
ANSI C12.1-2014	American National Standard for Electric Meters - Code of electricity Metering

Regulatory

	FCC Part 15	UL	ICES 003
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Safety and Emissions



Contains FCC ID:	PUU-HQC2SEM
Contains IC:	10798A-HQC2SEM
RoHS	Compliant

Recommended Load Center Types

Refer to the [Features](#) section to the right for compatibility.

Electrical and Safety Characteristics

Pollution Degree	2
Purpose of Control	Energy Monitoring
Software	Class A
Impulse Voltage	2500V

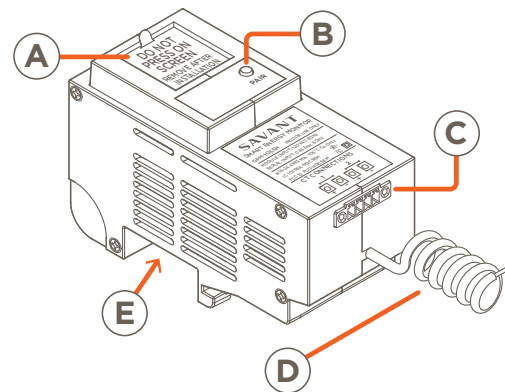
Construction of Control

Open Type	Independently mounted for flush mounting
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Minimum Supported Release

Savant OS	da Vinci 10.x
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Descriptions



Multi-Page LCD screen that offers the following information:

- Real-time energy usage.
- Firmware and Mac Address of the module.
- UID of the connected Host
- Real-time Bluetooth status connectivity icon.
- Module set-up and calibration screens.

A

PAIR Button - The PAIR button is a multi-use button. The duration that the button is pressed and held determines the function that gets initiated:

B

- **Press and Release** - Cycles through the screens available on the LCD (POWER > POWER > INFO 1 > INFO 2).
- **Press and hold** - Press and hold for 2 second to put the module into pairing mode. Press and hold for greater than 5 seconds to reset the module.

C

CT Connections - Connect a current transformer to each CT Connection input port labeled 1 and 2, observing polarity when making connections. Refer to the [Install the Current Transformer](#) section later in the document for additional wiring information.

D

Pigtail Neutral - Connect the pigtail type neutral wire to the neutral bar in the breaker panel.

E

120V AC Connection - Plug the module onto the 120V AC bus bar in the breaker panel. The voltage on this connection powers the module.

Features

- The GPM-H2SEM-00 Smart Energy Monitor modules is compatible with Schneider Homeline, Eaton BR, Siemens, and Powermark Gold load centers with a one-inch on-center bus bar.
- Energy monitoring; +/- 0.5% revenue grade accuracy / 1 sec sample time.
- The module communicates with a Panel Bridge Controller or Savant Power Director using Bluetooth Low Energy (BLE) technology.
- Color LCD display for easy identification.

ELECTRIC SHOCK! The 120V AC, 60 Hz source poses an electrical shock hazard that has the potential to cause serious injury to installers and end users.

CHOC ÉLECTRIQUE! La source alimentation électrique de 120 V AC, 60 Hz présente un risque d'électrocution susceptible de causer des blessures graves aux installateurs et aux utilisateurs finaux.

CAUTION! Risk of Electric Shock - More than one disconnect switch may be required to de-energize the device before servicing. Always disconnect the power to the module before making any connections.

ATTENTION! Risque de choc électrique - Plus d'un interrupteur de déconnexion peut être nécessaire pour mettre l'appareil hors tension avant l'entretien. Débranchez toujours l'alimentation du module avant d'effectuer des connexions.

IMPORTANT! A licensed electrician is required to install any of Savant's Power and Energy Monitoring Modules.

IMPORTANT! Un électricien agréé est requis pour installer l'un des modules de surveillance de l'alimentation et de l'énergie de Savant.

Important Information

- Each Smart Energy Monitor requires two spaces in an electrical breaker panel.
- All wiring in the United States must be installed in accordance with the latest adopted edition of the National Electrical Code (ANSI/NFPA 70, NEC)
- All wiring in Canada must be installed in accordance with the latest adopted edition of the Canadian Electrical Code (CSA C222.2 CEC, Part 1) and any provincial or local requirements.
- Use only Savant approved current transformers. A list of supported transformers is available in the [Accessories](#) section on the previous page.
- The largest current transformer offered from Savant supports wire up to a 750 kcmil conductor (with jacket is just under 1 inch in diameter).

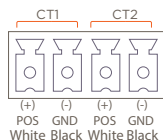
Installation into Breaker Panel

1. Remove power from the breaker panel by switching off the panel's main breaker.
2. Position and install the Smart Energy Monitor Module into the slots where it will be installed. Press firmly until fully seated onto the appropriate bus bars.
3. The next few sections describe how to install and wire a current transformer to the Smart Energy Monitor module.

Install the Current Transformer

The GPM-H2SEM module supports connecting up to two Savant-approved current transformers. See the approved list on the previous page. Instructions on wiring and orienting the current transformer are explained below.

1. Toggle the electrical panel's main breaker Off to remove power from the panel.
2. Remove the panel's front cover and set it aside. Verify that power is removed from the circuit breakers using a voltage tester.
3. Separate the current transformer by squeezing the knurled panel and pulling/rotating the top open.
4. Place the current transformers around each of the conductors being monitored.
 - Orient the current transformer so the arrow in the middle points towards the source i.e., breaker or utility meter.
5. Close the current transformer around the conductor. For added security, wrap a cable tie around the CT or run the tie through the loop on the front.
6. Route the twisted black and white wires around the breaker panel back to the Smart Energy Monitor module. Route the wires so they don't directly come in contact with a live bus bar or terminal.
7. Observing polarity, insert the wires into the supplied 4-pin connector and secure by turning screws clockwise. See the [Making Connections](#) section in this document for information on attaching wires to the connector.

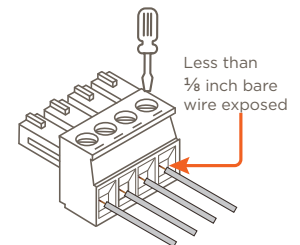


HELPFUL: A negative current will be measured if the wires are reversed or the current transformer is installed backward.

8. Repeat steps 3-7 to install a second current transformer if needed.
9. Ensure the 4-pin connector is fully seated into the SEM module and tighten the screws to .18 ft-lb (.25 N-m) max.
10. Toggle the main breaker back to the On position and re-apply power to the electrical panel. The Current Transformer and Smart Energy Monitor module are ready to monitor the power consumed by the circuit the CT is monitoring.

Making Connections

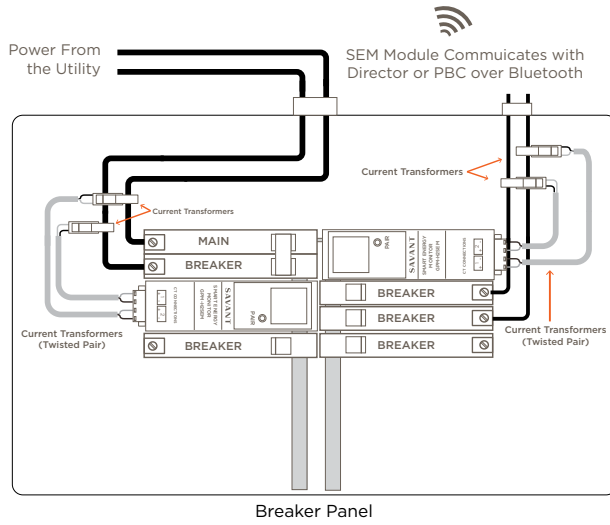
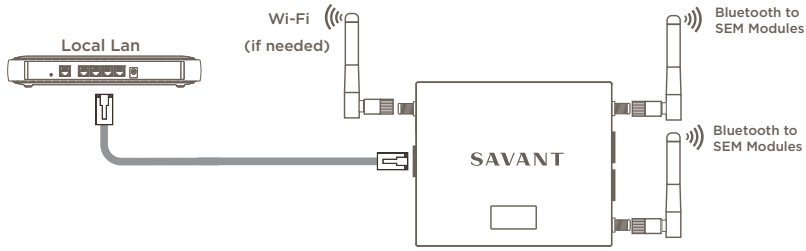
1. Remove power if power is applied.
2. Pull to remove the terminal block from the Smart Energy Monitor's rear panel.
3. With a small flat-bladed screwdriver, turn the screws on the top of the connector counterclockwise until the silver crimps on the front of the connector open enough to slide the wire into the square slot.
4. Strip back the insulation of each wire to ¼ inch (6.5 mm). Insert the stripped wire into the proper port. Do not allow more than ⅛ inch (3.2 mm) of bare wire exposed. See image.
5. Turn the screws clockwise until the silver crimps tighten around the wire. Tug on the wire a bit to verify the wire is installed securely.
6. Continue until all wires are installed.
7. Plug the terminal block into the appropriate port on the Smart Energy Monitor.
8. Repeat steps 2-7 for all wires from the current transformer.
9. Reapply power.



Additional Information

- Savant Power Deployment Guide - Sol-Ark

System Overview



SEM Display Descriptions

SAVANT

Smart Energy Monitor Module (Supports QO Style Load Centers) Quick Reference and Installation Guide

Box Contents

- (1) Smart Energy Monitor Module (SEM)
 - GPM-QP2SEM-xx w/Plug-on neutral
 - GPM-Q2SEM-xx w/Pigtail type neutral
- (1) 4-pin screw down plug-in connector (028-9395)
- (1) Product Information and Regulatory Insert (009-1950)
- (1) Quick Reference and Installation Guide (this document)

Accessories

Current Transformers

- ACTL-1250-250 Opt CO.2 250 Amp
- ACTL-1250-400 Opt CO.2 400 Amp
- ACTL-1250-600 Opt CO.2 600 Amp

Specifications

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	5% to 85% Relative Humidity (non-condensing)
Location	Indoor Use Only

Dimensions and Weights

	Length	Width	Height	Weight
Module (QO)	4.97 in. (12.63 cm)	1.45 in. (3.68 cm)	2.60 in. (6.61 cm)	.5 lbs (.23 kg)
Shipping	7.50 in. (19.05 cm)	4.30 in. (10.92 cm)	1.71 in. (4.34 cm)	1.0 lbs. (.45 kg)

Power

Input Power (powers the module)	120V AC (+/- 10%) @ 60 Hz, 0.1A (max)
Signal Input	0.333V AC @ 60Hz
Type of Action	Type 1 action



Standards

Wireless	Bluetooth 5 Low Energy (BLE) - 2.4 GHz radio frequency
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This meter will be tested and certified to the following standards:

ANSI C12.20-2015	American National Standard for Electricity Meters - 0.5 Accuracy Class
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Regulatory

	FCC Part 15	UL	ICES 003
Safety and Emissions			
Contains FCC ID:	PUU-HQC2SEM		
Contains IC:	10798A-HQC2SEM		
RoHS	Compliant		

Recommended Load Center Types

Refer to the [Features](#) section to the right for compatibility.

Electrical and Safety Characteristics

Pollution Degree	2
Purpose of Control	Energy Monitoring
Software	Class A
Impulse Voltage	2500V

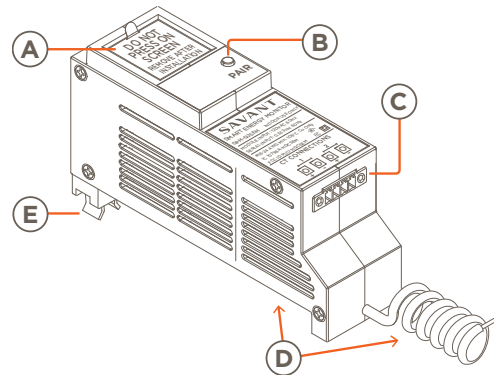
Construction of Control

Open Type	Independently mounted for flush mounting
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Minimum Supported Release

Savant OS	da Vinci 10.x
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PAIR Button - The PAIR button is a multi-use button. The duration that the button is pressed and held determines the function that gets initiated:

- **Press and Release** - Cycles through the screens available on the LCD (POWER > POWER > INFO 1 > INFO 2).
- **Press and hold** - Press and hold for 2 second to put the module into pairing mode. Press and hold for greater than 5 seconds to reset the module.

CT Connections - Connect a current transformer to each CT Connection input port labeled 1 and 2, observing polarity when making connections. Refer to the [Install the Current Transformer](#) section later in the document for additional wiring information.

Neutral - The model number of the module determines the type of neutral connection on the module:

- **Plug-on Neutral** - Positioned on the bottom of the module is a neutral clip that plugs directly onto the neutral bar.
- **Pigtail Neutral** - A neutral wire protrudes from the module's rear and gets wired to the neutral bar in the breaker panel.

120V AC Connection - Plug the module onto the 120V AC bus bar in the breaker panel. The voltage on this connection powers the module.

Features

- The GPM-Q2SEM-00 and GPM-QP2SEM Smart Energy Monitor modules are compatible with Schneider/Electric Square D™ QO™ load centers.
- Energy monitoring; +/- 0.5% revenue grade accuracy / 1 sec sample time.
- The module communicates with a Panel Bridge Controller or Savant Power Director using Bluetooth Low Energy (BLE) technology.
- Color LCD display for easy identification.

ELECTRIC SHOCK! The 120V AC, 60 Hz source poses an electrical shock hazard that has the potential to cause serious injury to installers and end users.

CAUTION! Risk of Electric Shock - More than one disconnect switch may be required to de-energize the device before servicing. Always disconnect the power to the module before making any connections.ring Modules.

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ATTENTION! Risque de choc électrique - Plus d'un interrupteur de déconnexion peut être nécessaire pour mettre l'appareil hors tension avant l'entretien. Débranchez toujours l'alimentation du module avant d'effectuer des connexions.

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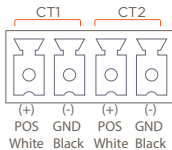
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1. Remove power from the breaker panel by switching off the panel's main breaker.
2. Position and install the Smart Energy Monitor Module into the slots where it will be installed. Press firmly until fully seated onto the appropriate bus bars.
3. The next few sections describe how to install and wire a current transformer to the Smart Energy Monitor module.

Install the Current Transformer

The GPM-Q2SEM and GPM-QP2SEM module supports connecting up to two Savant-approved current transformers. See the approved list on the previous page. Instructions on wiring and orienting the transformer are explained below.

1. Toggle the electrical panel's main breaker Off to remove power from the panel.
2. Remove the panel's front cover and set it aside. Verify that power is removed from the circuit breakers using a voltage tester.
3. Separate the current transformer by squeezing the knurled panel and pulling/rotating the top open.
4. Place the current transformers around each of the conductors being monitored.
 - Orient the current transformer so the arrow in the middle points towards the source i.e., breaker or utility meter.
5. Close the current transformer around the conductor. For added security, wrap a cable tie around the CT or run it through the loops on the front.
6. Route the twisted black and white wires around the breaker panel back to the Smart Energy Monitor module. Route the wires so they don't directly come in contact with a live bus bar or terminal.
7. Observing polarity, insert the wires into the supplied 4-pin connector and secure by turning screws clockwise. See the [Making Connections](#) section in this document for more information on attaching the wires to the connector.

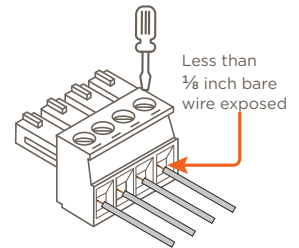


HELPFUL: A negative current will be measured if the wires are reversed or the current transformer is installed backward.

8. Repeat steps 3-7 to install a second current transformer if needed.
9. Ensure the 4-pin connector is fully seated into the SEM module and tighten the connector's mounting screws to .18 ft-lb (.25 N-m) max.
10. Toggle the main breaker back to the On position and re-apply power to the electrical panel. The Current Transformer and Smart Energy Monitor module are ready to monitor the power consumed by the circuit the CT is monitoring.

Making Connections

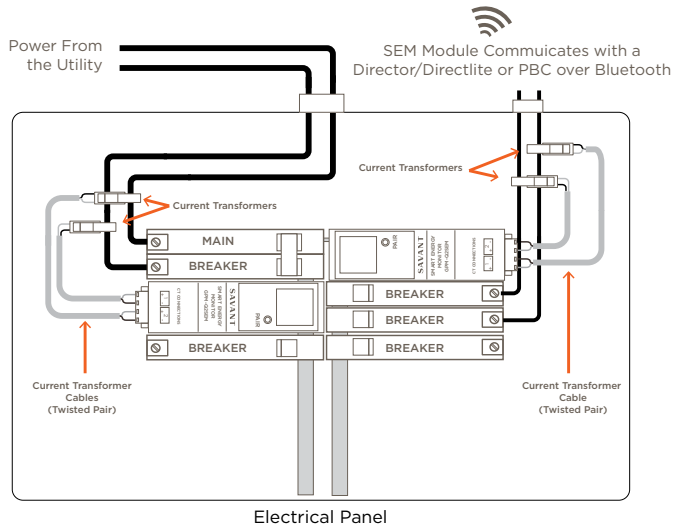
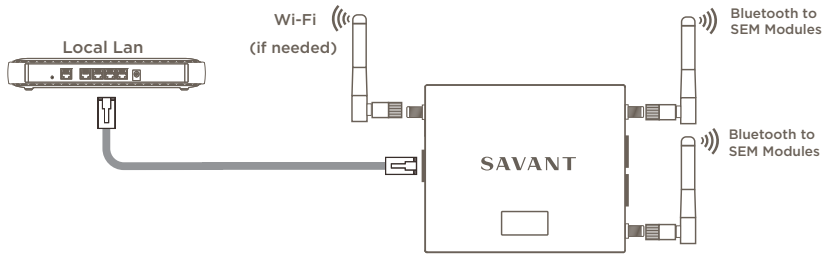
1. Remove power if power is applied.
2. Pull to remove the terminal block from the Smart Energy Monitor's rear panel.
3. With a small flat-bladed screwdriver, turn the screws on the top of the connector counterclockwise until the silver crimps on the front of the connector open enough to slide the wire into the square slot.
4. Strip back the insulation of each wire to ¼ inch (6.5 mm). Insert the stripped wire into the proper port. Do not allow more than ⅛ inch (3.2 mm) of bare wire exposed. See image.
5. Turn the screws clockwise until the silver crimps tighten around the wire. Tug on the wire a bit to verify the wire is installed securely.
6. Continue until all wires are installed.
7. Plug the terminal block into the appropriate port on the Smart Energy Monitor.
8. Repeat steps 2-7 for all wires from the current transformer.
9. Reapply power.



Additional Information

- Savant Power Deployment Guide - Sol-Ark

System Overview



SEM Display Descriptions

SAVANT

Smart Energy Monitor Module (Supports Eaton CH Style Load Centers) Quick Reference and Installation Guide

Box Contents

- (1) Smart Energy Monitor Module (SEM)
 - GPM-CP2SEM-xx w/Plug-on type neutral
 - GPM-C2SEM-xx w/Pigtail type neutral
- (1) 4-pin screw down plug-in connector (028-9395)
- (1) Product Information and Regulatory Insert (009-1950)
- (1) Quick Reference and Installation Guide (this document)

Accessories

Current Transformers

- ACTL-1250-250 Opt CO.2 250 Amp
- ACTL-1250-400 Opt CO.2 400 Amp
- ACTL-1250-600 Opt CO.2 600 Amp

Specifications

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	5% to 85% Relative Humidity (non-condensing)
Location	Indoor Use Only

Dimensions and Weights

	Length	Width	Height	Weight
Module	4.49 in. (11.4 cm)	1.97 in. (5.0 cm)	2.76 in. (7.0 cm)	.5 lbs (.23 kg)
Shipping	7.48 in. (19.0 cm)	4.17 in. (10.60 cm)	1.69 in. (4.29 cm)	1.0 lbs. (.45 kg)



Power

Input Power (powers the module)	120V AC (+/- 10%) @ 60 Hz, 0.1A (max)
Signal Input	0.333V AC @ 60Hz
Type of Action	Type 1 action

Standards

Wireless	Bluetooth 5 Low Energy (BLE) - 2.4 GHz radio frequency
This meter will be tested and certified to the following standards:	
ANSI C12.20-2015	American National Standard for Electricity Meters - 0.5 Accuracy Class
ANSI C12.1-2014	American National Standard for Electric Meters - Code of electricity Metering

Regulatory

	FCC Part 15	UL	ICES 003
Safety and Emissions			
Contains FCC ID:	PUU-HQC2SEM		
Contains IC:	10798A-HQC2SEM		
RoHS	Compliant		

Recommended Load Center Types

Refer to the [Features](#) section to the right for compatibility.

Electrical and Safety Characteristics

Pollution Degree	2
Purpose of Control	Energy Monitoring
Software	Class A
Impulse Voltage	2500V

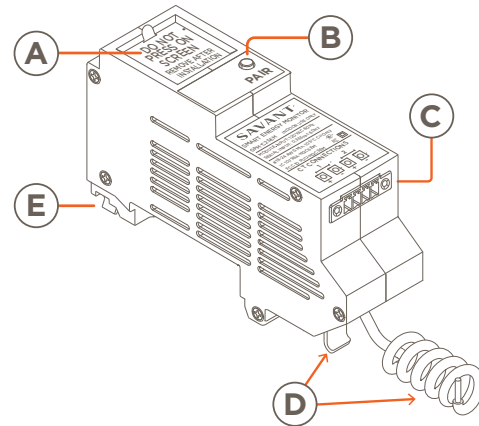
Construction of Control

Open Type	Independently mounted for flush mounting
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Minimum Supported Release

Savant OS	da Vinci 10.x
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Descriptions



Multi-Page LCD screen that offers the following information:

- Real-time energy usage.
- Firmware and Mac Address of the module.
- UID of the connected Host
- Real-time Bluetooth status connectivity icon.
- Module set-up and calibration screens.

A

PAIR Button - The PAIR button is a multi-use button. The duration that the button is pressed and held determines the function that gets initiated:

B

- **Press and Release** - Cycles through the screens available on the LCD (POWER > POWER > INFO 1 > INFO 2).
- **Press and hold** - Press and hold for 2 second to put the module into pairing mode. Press and hold for greater than 5 seconds to reset the module.

C

CT Connections - Connect a current transformer to each CT Connection input port labeled 1 and 2, observing polarity when making connections. Refer to the [Install the Current Transformer](#) section later in the document for additional wiring information.

D

Neutral - The model number of the module determines the type of neutral connection:

- **Plug-on Neutral** - Positioned on the bottom of the module is a neutral clip that plugs directly onto the neutral bar.
- **Pigtail Neutral** - A neutral wire protrudes from the module's rear and gets wired to the neutral bar in the breaker panel.

E

120V AC Connection - Plug the module onto the 120V AC bus bar in the breaker panel. The voltage on this connection powers the module.

Features

- All Eaton CH style Smart Energy Modules are compatible with Eaton CH 3/4 inch load centers.
- Energy monitoring; +/- 0.5% revenue grade accuracy / 1 sec sample time.
- The module communicates with a Panel Bridge Controller or Savant Power Director using Bluetooth Low Energy (BLE) technology.
- Color LCD display for easy identification.

ELECTRIC SHOCK! The 120V AC, 60 Hz source poses an electrical shock hazard that has the potential to cause serious injury to installers and end users.

CAUTION! Risk of Electric Shock - More than one disconnect switch may be required to de-energize the device before servicing. Always disconnect the power to the module before making any connections.

IMPORTANT! A licensed electrician is required to install any of Savant's Power and Energy Monitoring Modules.

CHOC ÉLECTRIQUE! La source alimentation électrique de 120 V AC, 60 Hz présente un risque d'électrocution susceptible de causer des blessures graves aux installateurs et aux utilisateurs finaux.

ATTENTION! Risque de choc électrique - Plus d'un interrupteur de déconnexion peut être nécessaire pour mettre l'appareil hors tension avant l'entretien. Débranchez toujours l'alimentation du module avant d'effectuer des connexions.

IMPORTANT! Un électricien agréé est requis pour installer l'un des modules de surveillance de l'alimentation et de l'énergie de Savant.

Important Information

- Each Smart Energy Monitor requires two spaces in an electrical breaker panel.
- All wiring in the United States must be installed in accordance with the latest adopted edition of the National Electrical Code (ANSI/NFPA 70, NEC)
- All wiring in Canada must be installed in accordance with the latest adopted edition of the Canadian Electrical Code (CSA C222.2 CEC, Part 1) and any provincial or local requirements.
- Use only Savant approved current transformers. A list of supported transformers is available in the [Accessories](#) section on the previous page.
- The largest current transformer offered from Savant supports wire up to a 750 kcmil conductor (with jacket is just under 1 inch in diameter).

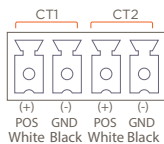
Installation into Breaker Panel

1. Remove power from the breaker panel by switching off the panel's main breaker.
2. Position and install the Smart Energy Monitor Module into the slots where it will be installed. Press firmly until fully seated onto the appropriate bus bars.
3. The next few sections describe how to install and wire a current transformer to the Smart Energy Monitor module.

Install the Current Transformer

The GPM-C2SEM and GPM-CP2SEM modules support connecting up to two Savant-approved current transformers. See the approved list on the previous page. Information on connecting and orienting the current transformer is explained below.

1. Toggle the electrical panel's main breaker Off to remove power from the panel.
2. Remove the panel's front cover and set it aside. Verify that power was removed from the circuit breakers using a voltage tester.
3. Separate the current transformer by squeezing the knurled panel and pulling/rotating the top open.
4. Place the current transformers around each of the conductors being monitored.
 - Orient the current transformer so the arrow in the middle points towards the source i.e., breaker or utility meter.
5. Close the current transformer around the conductor. For added security, wrap a cable tie around the CT or run it through the loops on the front.
6. Route the twisted black and white wires around the breaker panel back to the Smart Energy Monitor module. Route the wires so they don't directly come in contact with a live bus bar or terminal.
7. Observing polarity, insert the wires into the supplied 4-pin connector and secure by turning screws clockwise. See the [Making Connections](#) section in this document for information on attaching wires to the connector.

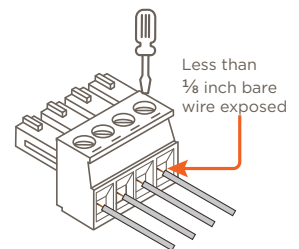


HELPFUL: A negative current will be measured if the wires are reversed or the current transformer is installed backward.

8. Repeat steps 3-7 to install a second current transformer if needed.
9. Ensure the 4-pin connector is fully seated into the SEM module and tighten to .18 ft-lb (.25 N-m) max.
10. Toggle the main breaker back to the On position and re-apply power to the electrical panel. The Current Transformer and Smart Energy Monitor module are ready to monitor the power consumed by the circuit the CT is monitoring.

Making Connections

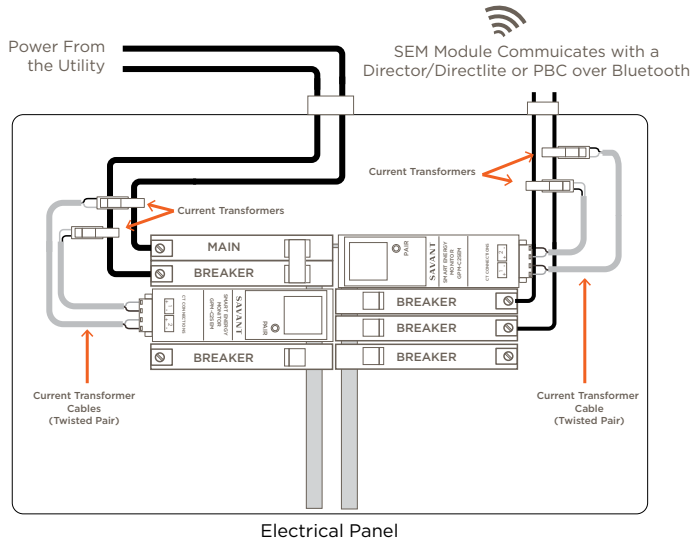
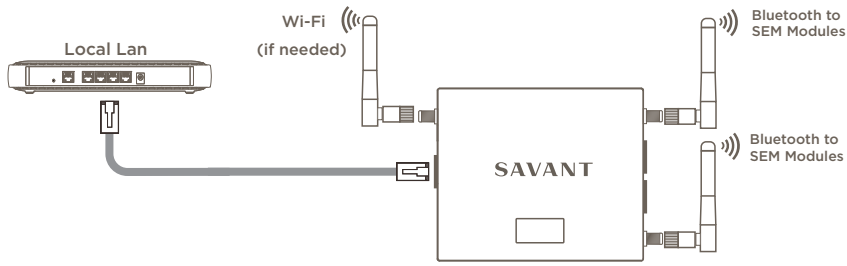
1. Remove power if power is applied.
2. Pull to remove the terminal block from the Smart Energy Monitor's rear panel.
3. With a small flat-bladed screwdriver, turn the screws on the top of the connector counterclockwise until the silver crimps on the front of the connector open enough to slide the wire into the square slot.
4. Strip back the insulation of each wire to ¼ inch (6.5 mm). Insert the stripped wire into the proper port. Do not allow more than ⅛ inch (3.2 mm) of bare wire exposed. See image.
5. Turn the screws clockwise until the silver crimps tighten around the wire. Tug on the wire a bit to verify the wire is installed securely.
6. Continue until all wires are installed.
7. Plug the terminal block into the appropriate port on the Smart Energy Monitor.
8. Repeat steps 2-7 for all wires from the current transformer.
9. Reapply power.



Additional Information

- Savant Power Deployment Guide - Sol-Ark

System Overview



SEM Display Descriptions

