

SAVANT

Single 30 Amp Power Module (2-Pole, 240V AC) (Supports 1-Inch On-Center Load Centers)

Quick Reference and Installation Guide

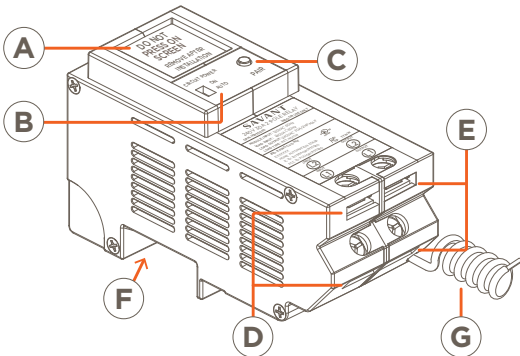
Box Contents

- (1) 30A Power Module (240VAC, 2 Pole) (GPM-H1R30240-21) w/Pigtail Neutral
- (1) Product Information and Regulatory Insert (009-1950)
- (1) Quick Reference and Installation Guide (this document)

Specifications

Environmental				
Temperature	-22° to +122° F (-30° to +50° C)			
Humidity	Up to 90% Relative Humidity (non-condensing)			
Location	Indoor use unless installed within a NEMA 3R rated enclosure			
Dimensions and Weights (net)				
	Length	Width	Height	Weight
Module	4.98 inch (12.65 cm)	1.98 inch (5.03 cm)	2.80 inch (7.11 cm)	.57 lbs (.26 kg)
Shipping	7.48 inch (19.0 cm)	4.17 inch (10.60 cm)	1.69 inch (4.29 cm)	1.0 lbs. (.45 kg)
Power				
Input Power (powers the module)	120V AC (+/- 10%) @ 60 Hz, 0.1A (max)			
Input Power (from feeder breaker)	240V AC @ max load power			
Load Power	7200VA max (240VAC 30A resistive load / 2HP max)			
Features of Automatic Action	Type 1.B action			
Standards				
Wireless	Bluetooth Low Energy (BLE) - 2.4 GHz radio frequency			
Regulatory				
Safety and Emissions	FCC Part 15	UL	ICES 003	
				
Contains FCC ID: PUU-QP1R30240	Contains IC: 10798A-QP1R30240			
RoHS	Compliant			
Recommended Load Center Types				
Refer to the Features section to the right for compatibility info				
Supported Load Types				
Standard Configuration	Relay ON/OFF type loads (home automation)			
Electrical and Safety Characteristics				
Screw Tighten Torque	3.0 Nm			
Wire Type	Copper (Cu) only			
Pollution Degree	2			
Purpose of Control	Operating Control, Smart Relay Control Module or the equivalent			
Construction of Control				
Open Type	Independently mounted for flush mounting			
Minimum Supported Release				
Savant OS	da Vinci 10.1.1			

Descriptions



LCD screen that displays the following:

A

- Power draw at output

- Firmware, Mac Address, and Regulatory Info

- UID of the Host that the module is communicating with

- Real-time Bluetooth status connectivity icon

B

Manual Load Switch - Toggle ON to switch the load on or AUTO for normal operation

C

PAIR Button - The duration the PAIR button is pressed determines its function:

Press and Release - Cycle through the screens available on the LCD (POWER > ENERGY > INFO 1 > INFO 2)

Press and hold (2 seconds) - Pairing mode

Press and hold (5 seconds) - Reset power module

D

Input Power Connections - Connect the outputs from the two feeder breakers to inputs L1 and L2 on the module. See [Wiring](#)

E

Output Power Connections - Connect a 240V AC load across outputs L1 and L2. See [Wiring](#)

F

120V AC Connection - Plugs onto the 120V AC bus bar in the electrical panel. This connection powers the module

G



TIP! Modules with an external neutral wire (pigtail) are supported in plug-on neutral type electrical panels. In these cases, the pigtail wire must be connected directly to the neutral bus bar.

Features

- Control capability for loads up to 7200 VA (volt-ampere).
- The GPM-H1R30240-21 module is compatible with Schneider Homeline, Eaton BR, Siemens, and CE Powermark Gold load centers with a one-inch on-center bus bar.
- Dynamic management of loads.
- Built-in energy monitoring; +/- .5% revenue grade accuracy / 1 sec sample time.
- Communicates over the air using Bluetooth Low Energy (BLE).
- Manual load switch on the front panel can toggle power to the output ON or OFF
- Color LCD display for easy identification and load status

Important Information

- The sum of the amperage of the breaker(s) feeding this module should not be larger than 30 amps
- The module supports loads up to 30 amps
- The number of spaces needed in the electrical panel is equal to the number of spaces required for the feeder breaker(s) plus the number of spaces needed for the module(s)
 - A single pole circuit breaker requires one space
 - A 2-pole feeder breaker requires two spaces
 - A GPM-HIR30240 power module requires two spaces
- On Eaton type panels, when plugging the module into an electrical panel, the module won't fully seat onto the bus bar if a wire is installed in the neutral bar directly under the module's neutral clip
- Savant does not recommend connect any mission critical loads (such as medical devices) to this module

Branch Circuit Minimum Size of Conductors (General circuit wiring, Copper Conductors)

15A	20A	30A	40A	50A	60A
#14 AWG	#12 AWG	#10 AWG	#8 AWG	#6 AWG	#4 AWG

NOTE: This wiring requirement was based on the National Electric Code (NEC) (ANSI/NFPA70), Canadian Electric Code, Part 1 (CEC), and local codes Minimum Size of Conductors.

ELECTRIC SHOCK! The 120/240V AC, 60 Hz source poses an electrical shock hazard that has the potential to cause serious injury to installers and end users.

CAUTION! Turn all disconnect switches providing power to the panel OFF and confirm to the panel is de-energized before servicing

IMPORTANT! A licensed electrician is required to install any Savant power module

Installation into an Electrical Panel

Savant recommends wiring power module connections before the module is installed into the panel so that connections can more easily be checked. Once installed, electrician should re-torque to ensure screws are tight. Refer to the [Wiring](#) section for appropriate connections.

1. Switch off the main breaker of the electrical panel to remove power from the panel
2. Position and install a 2-pole feeder breaker into any two slots in the panel. Press firmly until the breaker is fully seated onto the appropriate bus bars
3. Position and install the 30A power module into the electrical panel.

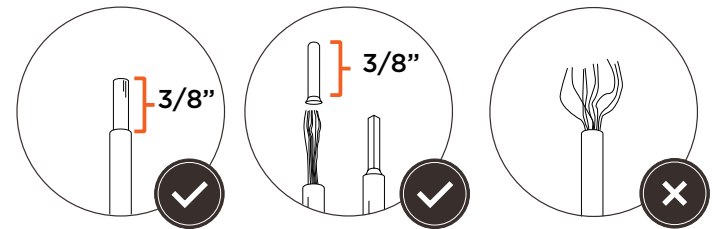
IMPORTANT! The neutral clip on the bottom of the 1 inch power modules must sit on a portion of the neutral bar where no neutral wire is installed beneath it. With a wire installed in the hole in the neutral bar just under the neutral clip, the module won't seat properly

4. Press firmly until the module is fully seated onto the appropriate bus bars. The power module is typically installed alongside the feeder breaker installed in step 2 but doesn't need to be

HELPFUL! This power module fills two slots in the electrical panel but connects to a single phase (120V AC). This connection powers the module

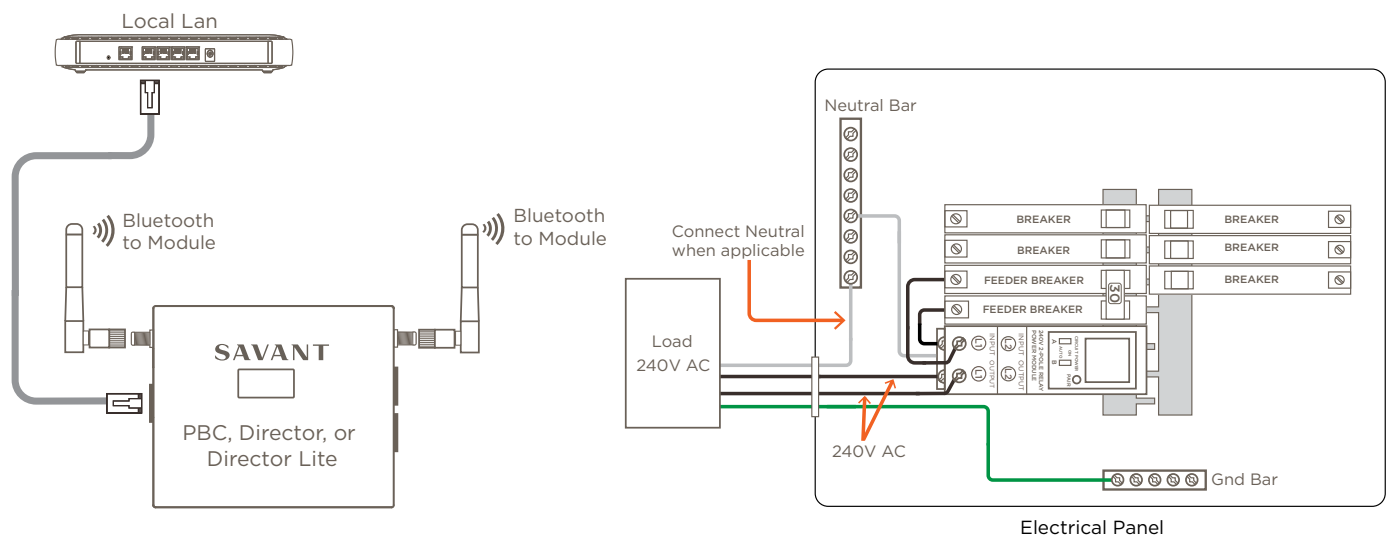
IMPORTANT!

- When making connections, an electrician must confirm that all wires sit cleanly on one side of the terminal screw
- Stranded wire must be neatly twisted to ensure proper connection Savant also recommends using a UL-approved ferrule



System Overview

An example of a basic system is shown below for reference. The controller (PBC, Director, Director Lite) communicates with the power module over Bluetooth and communicates with the Savant Host over Ethernet.



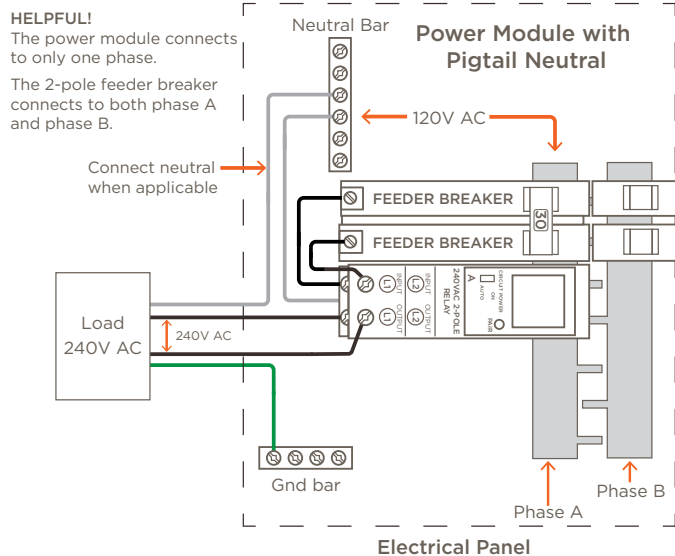
HELPFUL! The diagram shows an electrical panel that doesn't contain a plug-on neutral bus bar. However, both plug-on neutral and non plug-on neutral panels are supported

Wiring

The diagram below depicts basic module wiring. When making connections, observe all general electrical best practices including local wire sizing guideline codes. See the Branch Circuit Minimum Size Conductors section of [Important Information](#).

Non Plug-on Neutral Panel with Standard Breakers

Electrical panel without a plug-on neutral bus bar
(with standard type feeder breakers)



HELPFUL!

- Modules with a pigtail neutral wire can be used in electrical panels that support plug-on neutral. The electrician, however, must terminate the neutral wire of the power module to a neutral bar.
- A Class 2 Surge Protection device is recommended when installing all Savant equipment in areas that experience frequent lightning or other transient voltage and current producing phenomena.

Circuit Test Instructions

To test power module circuit control, the following equipment is required:

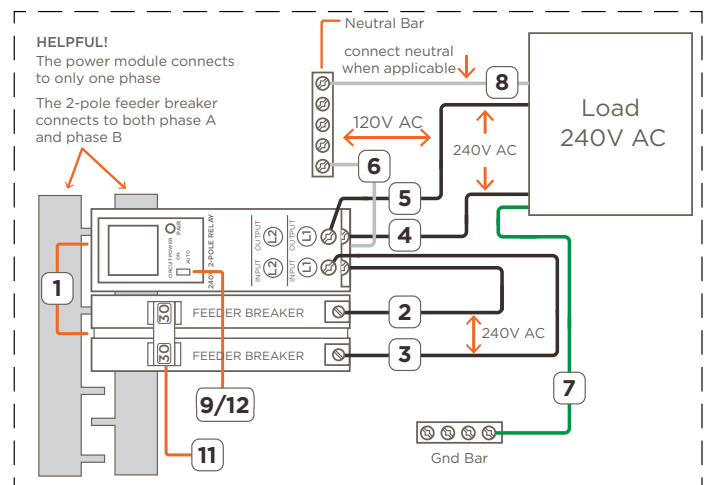
- 30 Amp Relay Power Module
- Load with maximum amperage of 30A
- Standard 2-pole, 30 amp circuit breaker
- Electrical test panel. The type of module determines the type of electrical panel (plug-on neutral or not)
- 120/240V AC power source



IMPORTANT!

- The 2-pole breaker connects across both phases in the breaker panel. The module, however, attaches to just one phase.
- The GPM-H1R30240-21 module can accept up to a #10 AWG wire. See the [Branch Circuit Minimum Size Conductors](#) section of [Important Information](#).

1. Plug the 30 amp 2-pole feeder breaker and the 30 amp power module into an electrical test panel
2. Connect the output from one of the feeder breakers to the L1 input on the module
3. Connect the output from the remaining side feeder breaker to the L2 input on the module
4. Connect one side of a load to the L1 output on the module
5. Connect the remaining side of the load to the L2 output on the module
6. On modules that contain a neutral wire, connect the neutral wire to the neutral bar
7. Connect the ground wire from the load to GND in the electrical panel
8. Connect the neutral from the load to the neutral bar (only when applicable)
9. Verify the CIRCUIT POWER switch on the power module is in the AUTO position
10. Apply power to the electrical panel (not shown in diagram)
11. Toggle the 30 amp 2-pole feeder breaker ON
12. To test, toggle the CIRCUIT POWER switch to the ON position and confirm the load powers ON. Toggle the CIRCUIT POWER switches to AUTO and verify the load powers OFF.



Additional Documentation

Further information is available in the documents listed below and can be accessed via the [Savant Customer Community](#).

- Panel Bridge Controller with PoE (PBC-P1000) QRG
- Savant Panelized Lighting Deployment Guide.
- Savant Power System Deployment Guide - Power & Light App

Notes
