

SAVANT

Single 30 Amp Power Module (2-Pole, 240V AC) (Supports QO Style Load Centers) Quick Reference and Installation Guide

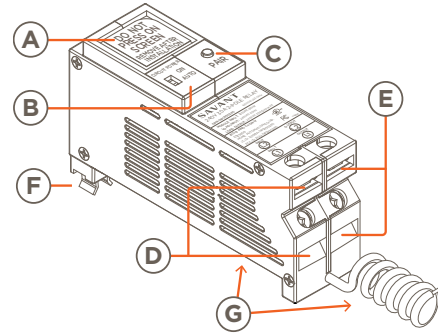
Box Contents

- (1) Single 30A Power Module (240VAC, 2 Pole)
 - GPM-QP1R30240-21 QO™ w/Plug-on Neutral
 - GPM-Q1R30240-21 QO™ 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 in a NEMA 3R rated enclosure
Dimensions and Weights (net)	
	Length Width Height Weight
Module	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)
Input Power (from feeder breaker)	240V AC @ max load power
Load Power	7200VA (240VAC 30A resistive load / 2HP max)
Features of Automatic Action	Type 1.B action
Standards	
Wireless	Bluetooth Low Energy (BLE) <ul style="list-style-type: none">- 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.	
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
Software	Class A
Impulse Voltage	2500V
Construction of Control	
Open Type	Independently mounted for flush mounting
Minimum Supported Release	
Savant OS	da Vinci 10.1.1

Descriptions



Multi-Page LCD screen that can display the following:

- A**
 - Power draw at the output.
 - Firmware, Mac Address, and Regulatory Info.
 - UID of the Host the module is communicating with.
 - Real-time Bluetooth status connectivity icon.

- B** **Manual Load Switch** - Toggle to the ON position to switch the load on. Toggle to AUTO for normal operation.

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:

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

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

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

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

Neutral - The power module's model number indicates 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 bus bar.
- G** - **Pigtail Neutral** - A neutral wire protrudes from the rear of the module and is wired to the neutral bus bar.

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-QP1R30240-21 and GPM-Q1R30240-21 modules are compatible with Schneider Electric/Square D™ QO™ load centers.
- 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).
- A Manual load switch on the front panel can toggle power to the output On and Off.
- Color LCD display for easy identification and load status.

Important Information

- The breaker(s) feeding this module should not be larger than 30 amps.
- This relay module can handle loads up to 30 amps.
- To determine the number of spaces needed in the electrical panel, add the number of spaces required for the feeder breakers with the spaces needed for the module.
 - A single pole circuit breaker requires one space.
 - A 2-pole circuit breaker requires two spaces.
 - Each GPM-QP1R30240-21 and GPM-Q1R30240-21 power module requires two spaces.
- Savant recommends not connecting any mission critical loads such as medical devices to this relay module.

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! Risk of Electric Shock - More than one disconnect switch may be required to de-energize the device before servicing.

IMPORTANT! A licensed electrician is required to install any of Savant's power modules.

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.

Installation into Breaker Panel

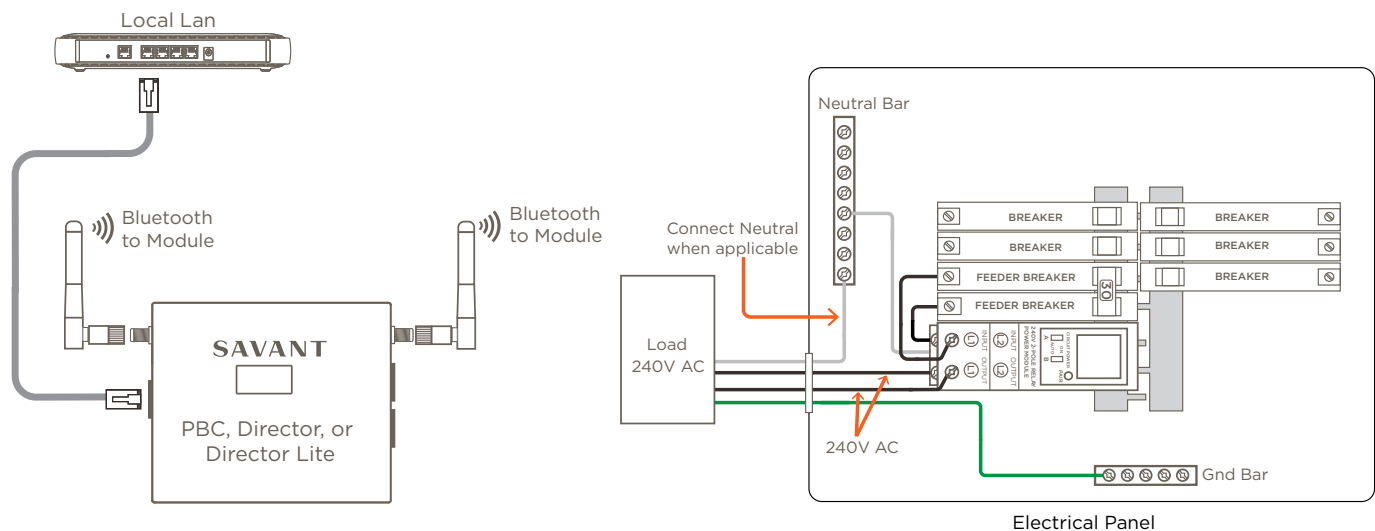
1. Switch off the electrical panel's main breaker to remove power from the panel.
2. Position and install a 2-pole feeder breaker into the panel. Press firmly until the breaker is fully seated onto the appropriate bus bars.
3. Position and install the 30A power module into the electrical panel. Press firmly until fully seated onto the appropriate bus bar. This module is typically installed alongside the 2-pole feeder breaker installed in step 2 but doesn't need to be.

HELPFUL! The GPM-QP1R30240-21 and GPM-Q1R30240-21 power module fills up two slots in the electrical panel but connects to just one phase (120V AC). This connection powers the module.

4. Refer to the [Wiring](#) section to make the appropriate connections.

System Overview

The complete system is shown below for reference. The controller (PBC, Director, or Director Lite) communicates with the power module over Bluetooth and communicates with the Savant Host over Ethernet.



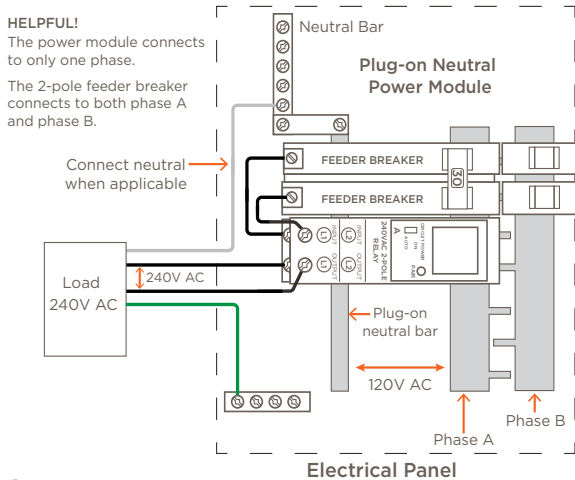
HELPFUL! The diagram shows an electrical panel that doesn't contain a plug-on neutral bus bar. However, both plug-on neutral and non plug-on neutral panels are supported.

Wiring

The next few diagrams cover a few of the basic installations. When making connections, observe all general electrical practices which includes the local wire sizing guideline codes. See the **Branch Circuit Minimum Size of Conductors** table on the previous page.

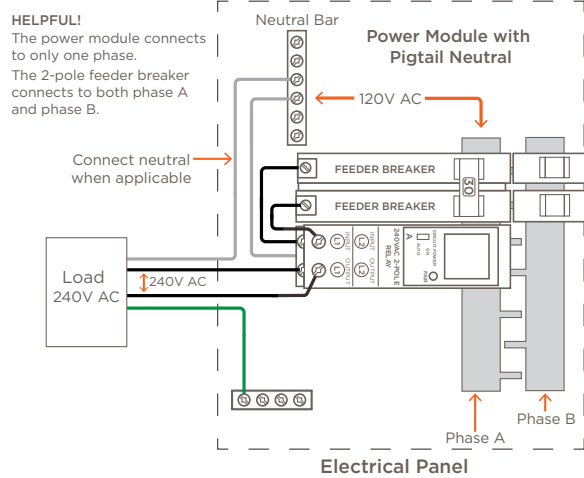
Plug-on Neutral Panel with Standard Breakers

Electrical Panel with plug-on neutral bus bar (with standard type feeder breakers)



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 Plug-On Neutral supported electrical panels. The electrician, however, must terminate the module's neutral wire to a neutral bus bar.
- A Class 2 Surge Protection Device is recommended when installing Savant's power or energy equipment in areas that experience frequent lightning or other transient voltage and current producing phenomena.

Circuit Test Instructions

Use the instructions below to test a power module. The setup requires:

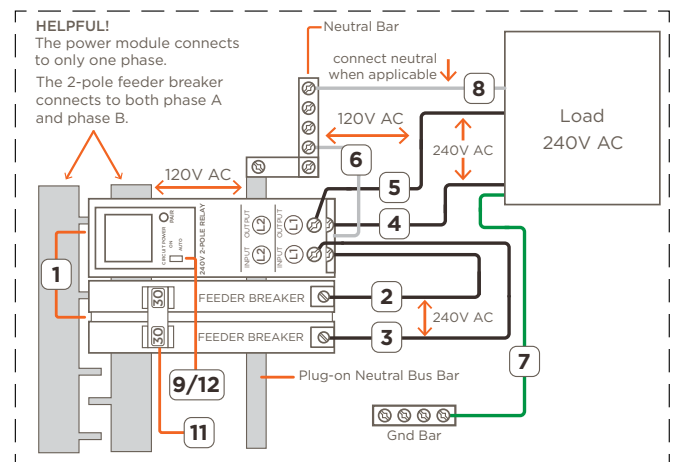
- 30 Amp Relay Module.
- Load with maximum amperage of 30A.
- Standard 2-pole, 30 amp circuit breaker.
- Breaker test panel. The type of module determines the type of breaker panel (plug-on neutral or not).
- 120/240V AC source



IMPORTANT!

- The 2-pole breaker connects across both phases in the breaker panel. The module, however, attaches to only one phase.
- The GPM-QP1R30240-21 and GPM-Q1R30240-21 modules can accept up to a #10 AWG wire. See the **Branch Circuit Minimum Size of Conductors** table on the previous page.

1. Plug the 30 amp 2-pole feeder breaker and a single 30 amp power module into an electrical test panel.
2. Connect the output from one of the feeder circuit breakers to the L1 input on the module.
3. Connect the output from the remaining side feeder circuit 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 wire to the neutral bar.
7. Connect the ground wire from the load to GND in the electrical panel.
8. Connect 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 breaker to On.
12. To test, toggle the CIRCUIT POWER switch to the ON position and observe the load switches On. Toggle the CIRCUIT POWER switches to AUTO and verify the load switches 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
