SAVANT

Single 30 Amp Relay Companion Module (2-Pole, 240V AC) (Supports Eaton CH Load Centers)
Quick Reference and Installation Guide

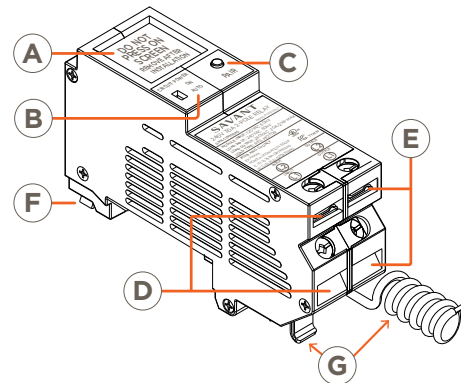### Box Contents

(1) 240VAC (2 Pole) Relay Companion Module (Eaton CH)
  – GPM-CP1R30240-21 w/Plug-on Neutral
  – GPM-C1R30240-21 w/Pigtail Neutral

(1) Product Information and Regulatory Insert (009-1950)

(1) Quick Reference and Installation Guide (this document)

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 (net)				
	Length	Width	Height	Weight
Module	4.96 inch (12.6 cm)	1.46 inch (3.7 cm)	3.39 inch (8.61 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	
All Eaton CH style modules fit into a ¾ inch Eaton CH load center.	

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

Descriptions

A	Multi-Page LCD screen that can display the following: – 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.
C	**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 various screens available on the LCD (POWER > ENERGY > INFO 1 > INFO 2). **Press and hold** - Press and hold for 2 seconds to put module into pairing mode. Press and hold for 5 seconds to reset.
D	**Input Power Connections** - Connect outputs from two 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 into the 120V AC bus bar in the breaker panel. The voltage on this connection powers the module.
G	**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.

Features

– Control capability for loads up to 7200 VA (volt-ampere).

– All Eaton CH style relay modules are compatible with Eaton CH ¾ inch 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) technology.

– 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.

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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 breaker panel spaces needed, add the number of spaces required for the circuit breakers with the spaces needed for the module.
    - A single pole circuit breaker requires one space.
    - Each 2-pole circuit breaker requires two spaces.
    - Each Companion 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 Relay Companion 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. Remove power from the breaker panel by switching off the panel's main breaker.
2. Position and install a 2-pole breaker into any two slots in the breaker panel. Press firmly until the breaker is fully seated onto the appropriate bus bars.
3. Position and install the Companion Relay Module into any two empty slots in the breaker panel. Press firmly until fully seated onto the appropriate bus bar. This module is typically installed alongside the 2-pole breaker installed in step 2.

ⓘ **HELPFUL!** This relay module fills two slots in the breaker panel but connects to only one phase (120V AC). See diagram below.

4. Use the diagrams below and make the appropriate connections. The diagram on the left is for the modules that contain a plug-on neutral clip. The diagram on the right is for modules that include a neutral wire.
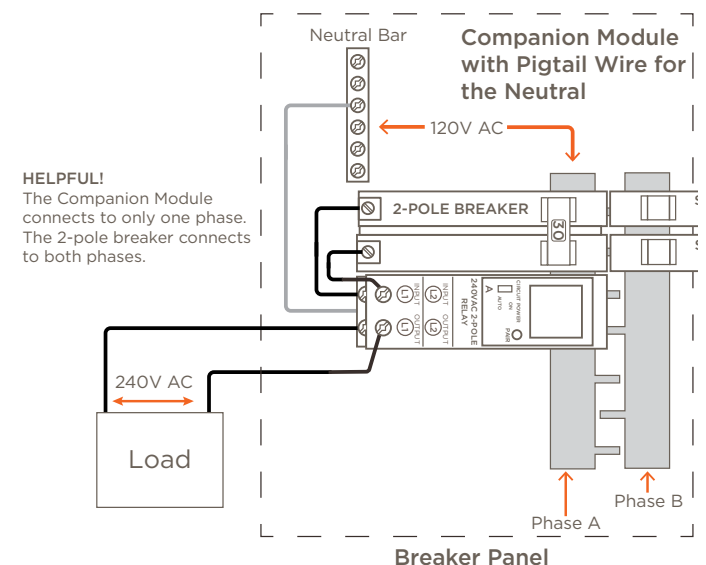
Wiring

Use the diagrams below for reference when wiring the Companion Modules

Wiring with Plug-on Neutral
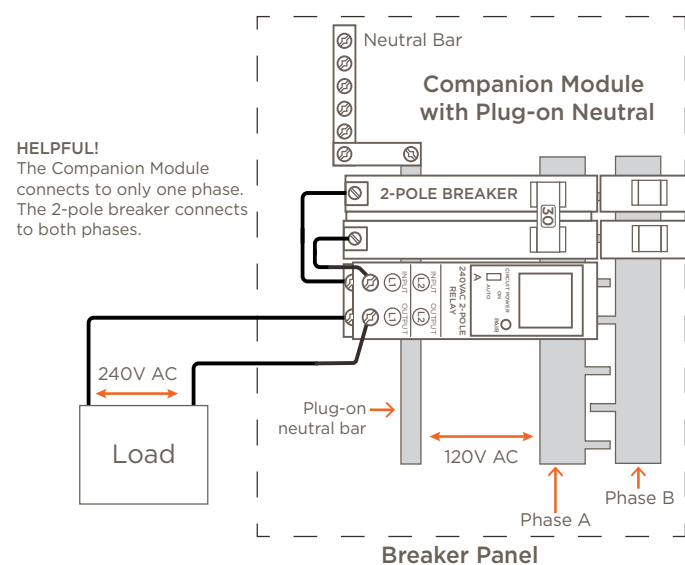
Wiring with Pigtail Neutral

⚠ **IMPORTANT!** When making connections, observe all general electrical best practices which includes the local wire sizing guideline codes. See the **Branch Circuit Minimum Size Conductors** table above.

Circuit Test Instructions

Use the instructions below to test the relay modules. The setup requires:

- 30 Amp Relay Companion 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. This is shown in the image below.
- The GPM-CP1R30240-21 and GPM-C1R30240-21 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 240V AC 2-Pole Companion Module and 30 amp 2-pole feeder breaker into the circuit breaker test panel.

2. Connect the output from one of the breakers on the 2-pole breaker to the L1 input on the module.

3. Connect the output from the remaining side of the 2-pole 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. Apply power to the breaker panel (not shown in diagram)

7. Toggle the 30 amp 2-pole breaker to On.

8. 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.
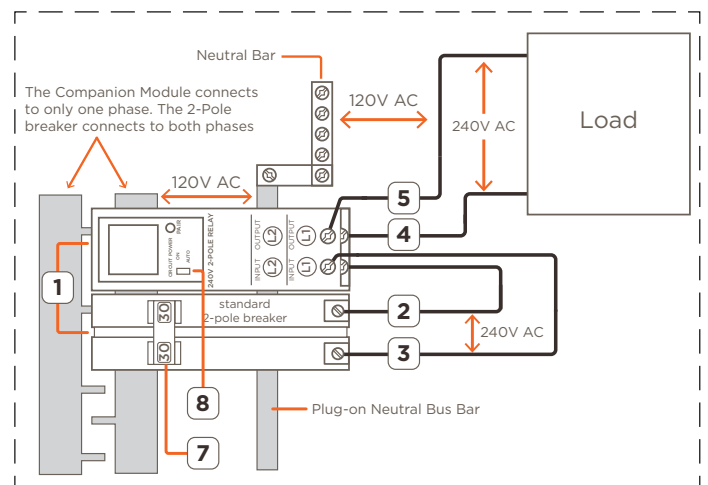
Additional Documentation

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.

Notes

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