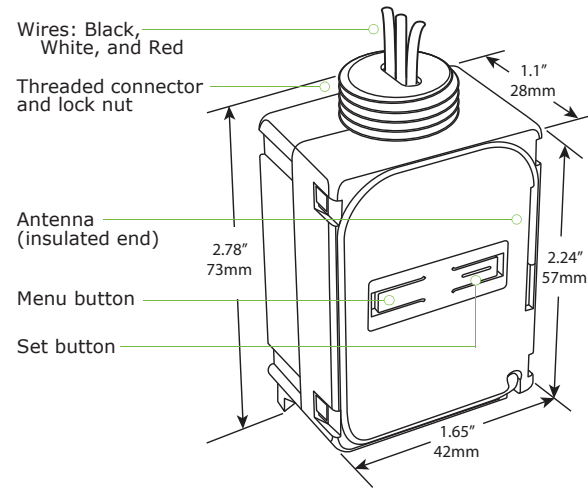


In-Line Switch Module



- | Package Contents | Tools Required |
|---|--|
| <ul style="list-style-type: none"> In-Line Switch Module Antenna sleeve | <ul style="list-style-type: none"> Screwdriver Wire nuts |

Product Description

The Verve In-Line Switch Module provides a simple and effective way to conserve energy and enhance convenience by intelligently switching lighting and other electrical loads.

The module communicates wirelessly with other Verve products used for occupancy detection and lighting control. The module is a line voltage control device compact enough to be mounted inside a standard electrical junction box or mounted to an electrical box or a lighting ballast through a standard knock-out using the threaded connector.

Features Include:

- Provides switching for lighting and other electrical loads
- Receives wireless messages from Verve devices to switch loads on/off
- Controls loads individually or as part of a scene or event
- Installs inside electrical box or mounts to box using threaded connector
- Addresses challenging RF environments with extendable antenna
- Sends wireless messages to other controlled devices; configurable transceiver

Specifications

Power Supply	120/277 VAC 50/60Hz
Maximum Load or Contact Ratings	General purpose: 16A@ 120/277VAC Resistive: 16A 120/277VAC Motor: ½ HP @ 120VAC Tungsten: 960 W @120VAC Ballast: 600W @ 120VAC
Power Consumption	1.1W full load, 500mW quiescent
Transmission Range	80ft. (25m)

Radio Frequency	315MHz
Dimensions	2.78" H x 1.65" W x 1.1" D (73mm x 42mm x 28mm)
Weight	3.2oz. (90g)
Environment	<ul style="list-style-type: none"> Indoor use only 32° to 104°F (0° to 44°C) 20% to 95% relative humidity (non-condensing)
Agency Compliance	cULus, FCC, and I.C.

1 Planning

Take a moment to plan for the module's successful operation and optimal communication with other system components.

- Always use a qualified installer
- Install in an appropriate location
- Take care not to damage the radio antenna that runs in a groove on the outside of the module
- Consider the construction materials in the space and obstacles that may interfere with RF signals

For detailed information, see the *Verve System Planning Guide* at www.vervelivingsystems.com.

2 Installing

estimated time: 20 minutes

Read and understand instructions completely before starting.

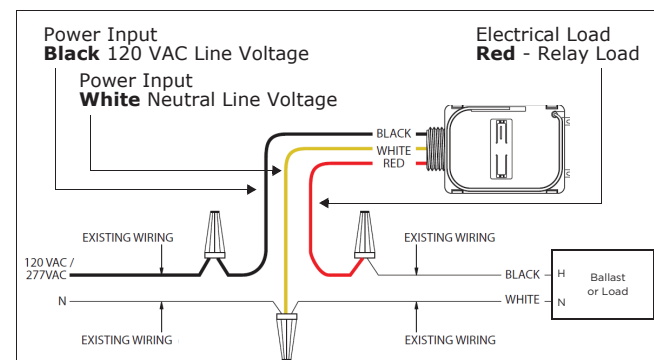


Warning: ELECTRICAL SHOCK HAZARD. High Voltage. This device must be installed by a qualified installer or electrician. Follow all applicable electrical codes for installation.

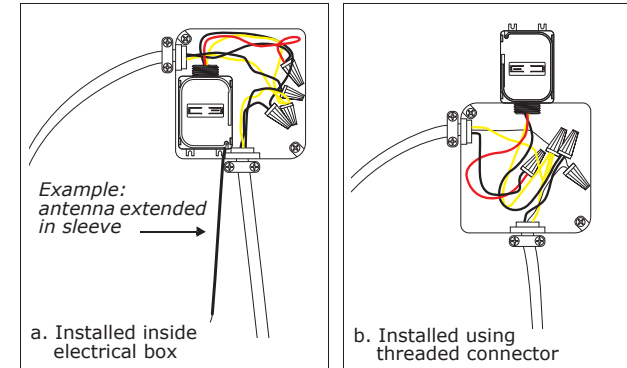
- Turn off power at the circuit breaker or fuse and test that power is off before wiring the device.

Note: Use a non-metal electrical enclosure for best wireless communication performance.
- Identify the wiring connection at the installation site to coordinate with the following wiring diagram.

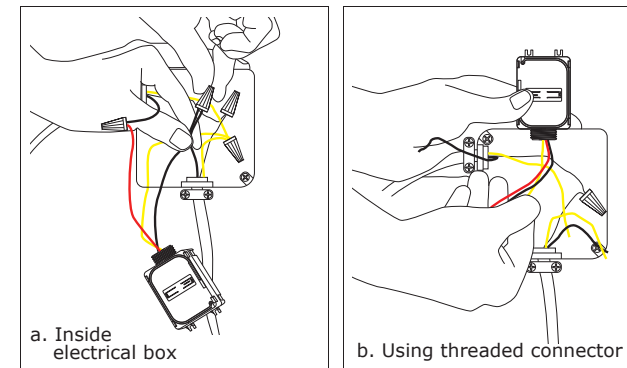
Note: For display purposes, white wire is shown as yellow.



- Determine which of the two installation methods is appropriate:
 - Installed inside the electrical box.
 - Insert the threaded connector through a ½" diameter knockout.
 - Thread the 3 module wires inside the electrical box and through the lock nut.



- Connect the wires using wire nuts and cap any bare wires.



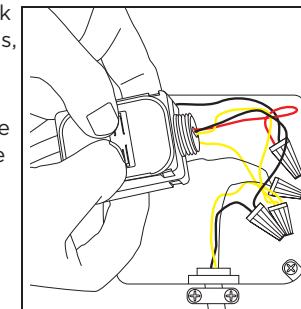
Note: After the module is linked and configured, you can secure it in the installed location, see step 8.

- Fold the wires neatly and either place the module in the box or secure the threaded connector with the lock nut.
- Position the module so that the setup interface and antenna face forward (out).

Tip: If the RF reception is poor, use the antenna sleeve provided to extend the antenna.
- Restore power to the circuit.

The LEDs on the module will blink and then the right LED will display solid red when the relay is open or green when the relay is closed (switch on).
- Use the setup interface to link devices and configure settings, see the Linking and Configuring sections.

Warning: Remove the module from the electrical box to use the setup interface.



3 Linking

Verve wireless systems are highly flexible; two or more compatible devices can be linked and configured to provide the desired control.

There are two basic types of devices in the Verve system; transmitters and transceivers.

- Transmitters** are simple energy-harvesting devices that send RF messages to communicate a condition, level, or state. Transmitters can only be linked to transceivers.
- Transceivers** are wire-powered controlling devices that send as well as receive RF messages. They also process relevant control logic, and actuate the appropriate outputs (switching a light on or off for example). Transceivers can be linked to transmitters as well as other transceivers. A Verve transceiver can have up to 30 devices linked to it.

The In-Line Switch Module is a Transceiver

To link devices, the transceiver must first be powered, within the transmission range, and set to accept links using the setup interface on the transceiver.

Next, the desired transmitter, or another transceiver, is triggered to send a special link message. The awaiting transceiver receives and stores the link permanently so the devices can interact to provide a variety of intelligent control options.

For detailed information on Verve system capabilities and options, see the *Verve System Planning Guide* at www.vervelivingsystems.com.

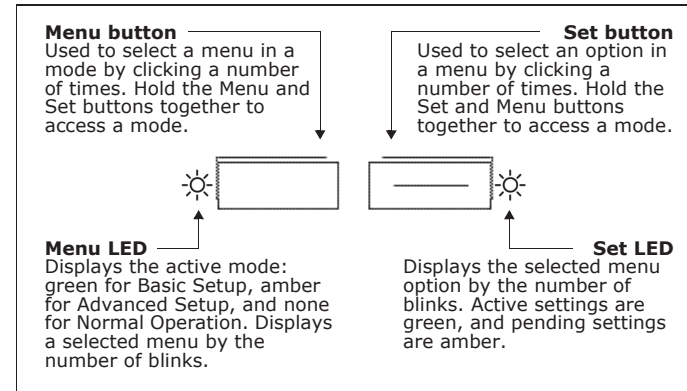
About the Setup Interface

The setup interface has two buttons, Menu and Set, that each have a corresponding 3-color LED (green, amber, red). This simple interface is used to link and configure devices as a system.

The buttons and LEDs are used to navigate and select linking and setup options through a 3-tier menu system consisting of different Modes > Menus > Options. The LEDs respond by showing solid or blinking lights of different colors to indicate active options and pending changes.

To use the interface, hold the module so both thumbs can click the buttons without obscuring the LEDs. The illustration and legend below describe how the buttons are used and the meaning of the LED responses.

Tip: To exit and start over from anywhere in a menu, click both buttons at the same time once.



- The Menu LED or Set LED display solid for a number of seconds in a certain color to indicate a mode or a confirmation.
- The Menu LED blinks a number of times in a color to indicate a selected menu.
- The Set LED blinks a number of times in a color to indicate an option.
- A number in a white box indicates the number of times to click the Menu button or Set button.
- A number in a black box indicates the number of seconds to hold down the Menu button or Set button.

To link a transmitter to a transceiver:

- Access Basic Setup mode.

Note: By default, the Accept Link option in the Linking menu is selected. Once activated, this option stays active for two minutes to provide time to link multiple devices.

Ready to accept links.

- From the transmitter to be linked, do one of the following:
 - Sensor: click the designated link button.
 - Key Card Switch: insert/remove the card 3 times quickly.
 - Rocker Pad: click the top button 3 times quickly.

Device linked successfully. Set LED displays solid green for 3 seconds.

Ready to accept new links.

- To exit to normal operation, hold both buttons for 1 second.

To link a transceiver to another transceiver:

When two transceivers are linked to share system activity events, either one of them can be used to send the link signal.

- Access Basic Setup mode on both devices.

Ready to accept links.

- On one of the devices, select the Send Link option.

- Send a link signal from that device.
- Devices linked successfully.

Note: For additional linking and unlinking options, see the *Verve System Planning Guide*.

4 Configuring

The default settings on the module support common control and installation scenarios. However, some occupancy settings can be adjusted on the module using the setup interface, if required.

For information about changing other settings, see the *Verve System Planning Guide*. The default settings are:

Setting	Default	Application
Auto-On	Automatically Determined	If linked to an occupancy sensor, the default is Enabled. If linked to a switch, the default is Disabled for manual control.
Vacancy Check	5 minutes	If linked to an occupancy sensor and a door sensor.
Switched Auto-Off	Disabled	If linked to a rocker pad or key card switch.
Motion Auto-Off	15 minutes	If linked to occupancy sensor.
Door/Window Ajar	2 minutes	If linked to an occupancy sensor.
Egress	30 seconds	If linked to a key card switch.

Vacancy Check

The vacancy check is a time delay that is activated when a door opens and closes. The linked loads will turn off, if the sensor(s) do not confirm occupancy within the time delay.

From the Vacancy Check menu, the active option is indicated by the number of green blinks on the Set LED; amber blinks indicate an unsaved change. Click the Set button an appropriate number of times to select an option.

Options	Clicks	Blinks
5 minutes (default)	1	1
15 minutes	2	2
30 minutes	3	3
60 minutes	4	4
120 minutes	5	5

To change the vacancy check option:

This example shows changing the option from 5 to 15 minutes.

- Access Basic Setup mode.
- Select the Vacancy Check menu.

- Select an option.
- Save the selection.

Auto-Off

There are two auto-off menus, one for occupancy sensors, and one for switched devices. For linked occupancy sensors, the default is 15 minutes. For linked rocker pads and key card switches, the default is Disabled to allow manual control.

Options	Clicks	Blinks
Disabled	1	1
5 mins.	2	2
15 mins.	3	3
30 mins.	4	4
60 mins.	5	5

From the auto-off timer menu, the active option is indicated by the number of green blinks on the Set LED; amber blinks indicate an unsaved change. Click the Set button an appropriate number of times to select an option.

To change the switched auto-off option:

This example shows changing the option from Disabled to 5 minutes.

- Access Basic Setup mode.
- Select the Switched Auto-Off menu.
- Select an option.
- Save the selection.

To change the motion auto-off option:

This example shows changing the option from 15 minutes to 5 minutes.

- Access Basic Setup mode.
- Select the Motion Auto-Off menu.
- Select an option.
- Save the selection.

Troubleshooting

Problem	Solution Checklist
The device does not power up	<ul style="list-style-type: none"> Check the wiring for errors Check the circuit breaker Use a voltage meter to confirm power
The device does not control linked load	<ul style="list-style-type: none"> Click the Set button to open/close the relay manually Turn off the power and then restore it

Problem	Solution Checklist
Cannot link other devices	<ul style="list-style-type: none"> Check if Accept Link option can be accessed Move closer to the device; it may be out of range Try linking a different device Check for environmental conditions that interfere with RF signals Verify the maximum number of devices (30) has not been exceeded
Cannot change settings on the device	<ul style="list-style-type: none"> Check if menu item can be accessed Check if changes can be saved
The device does not respond to wireless messages or selected settings	<ul style="list-style-type: none"> Check for environment or range issues Verify the device is linked according to good system planning Check if appropriate devices are linked according to good system planning Extend the antenna to amplify the range: remove it from the groove in the module, straighten it and slide it into the white antenna sleeve provided

FCC SZV-STM300C I.C. 5713A-STM300C
 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.
 E315672

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Liberty Hardware Mfg. Corp.
 Attn: Customer Service - Verve Living Systems
 140 Business Park Drive
 Winston Salem NC 27107

You may be required to provide other information or evidence of the defect. Any returned product that is replaced becomes the property of Liberty Hardware.

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