

smartRVcontrols USER MANUAL
More illustrations will be added soon. Check back for updates.

Thank you for choosing smartRVcontrols from RV Intelligence. We are campers and pride ourselves on making products we would buy and use ourselves; in fact, we made them for ourselves to begin with! We intend for our products to make your camping experience a little better by allowing you the most modern conveniences at affordable prices. Our products are envisioned, designed, and built in the United States!

Thank you from again, the RV Intelligence team!

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Your smartRVcontrols...

smartRVcontrols modules allow you to control almost any feature in your RV. Our module is designed to control 12-volt DC activated circuits. It can apply 12 Volts DC at 20 amps steady state, a ground, or an open circuit on either output. The device is configured via the smartRVapp to appropriately configure the outputs to control dc motors, lights, relays, valves, solenoids, etc. It can be used to directly drive a jack awning or slide and can handle both bulb and LED lights, 100 feet of RGBW LED strips, hydraulic valves, power valves, hose reels, bed lifts, hydraulic slide packs - just about anything. One smartRVcontrols module can control one item, so if you have more items to control, just add more smartRVcontrols. The smartRVapp can handle as many as you may need to make your RV smartphone controlled!

To help make installation easier and quicker we have created different optional installation wiring harnesses, and they are offered in three standard lengths, 1 foot, 2 feet and 5 feet. There is one for DC motors, that has an adapter that allows you to control a light from the same smartRVcontrols unit. There is one for lighting that can also work for relays, valves and

solenoids, it can connect to two items. There is one for RGBW LED strips, light up your whole RV today!

Using the smartRVapp

- 1) Make sure your smartRVcontrols unit is installed and turned on. You should see a solid Green indication of the front of the module.
- 2) Download the smartRVapp onto your smartphone from the Play Store or the Apple App Store.
- 3) Open the smartRVapp. Click the plus(+) sign and select “search for new devices.” It will search for smartRVcontrols devices, shown as SRVC and some unique numbers. Select the device to pair it to your phone.
- 4) The app will ask you for a PIN code. The device default code is 123456. The PIN code can be changed once connected. If the “unlock device” button appears, input the PIN code 123456 to unlock.
- 5) Your smartRVcontrols module should have a Blue and Red sequence of indicators, that shows that the module is now connected, but is not configured yet.
- 6) Select “Setup” on the next screen to configure the module, there might be an indication that there is a firmware update available, updates are done in the setup menu. The module indicator will flash to show you are in setup mode. On the setup screen you will find:
 - a) The firmware update controls will appear if a firmware update is available, they will disappear when the update is complete.
 - (a) ******WARNING: YOU MUST ALWAYS PERFORM A FIRMWARE UPDATE IF AVAILABLE, IT IS THE LATEST CODE REVISION FOR YOU DEVICE******
 - b) The name SRVC and some unique numbers and letters are shown, the characters are part of the modules unique address. You can edit the display name of the device by touching the current name.
 - c) Under Device Mode, select the “no config” button and choose what feature you want to control. Select from:
 - i) DC Motor
 - ii) 1 Channel Light
 - iii) 2 Channel Light
 - iv) RGB 1 (R+G)
 - v) RGB 2 (B+W)
 - vi) 1 Relay
 - vii) 2 Relay
 - viii) Hydraulic Valve
 - ix) Hydraulic Pump
 - x) Winch
 - xi) RV Valve
 - xii) Hose Reel
 - d) Under Switch Control Mode, select either Front of the module Controls or Rear remote Controls.
 - e) Under Front/Rear Control, there is a sensitivity indicator in which you can adjust the sensitivity setting of the motion sensor by sliding the cursor back and forth. #1 is the least sensitive to motion and #10 is the most sensitive to motion.
 - f) The Current PIN is shown, and you can select the “change PIN” button to add a new 6-digit numeric PIN.
 - g) At the bottom of this screen you can choose to delete the device from your phone’s memory.
- 7) Select “save” in the top right of the screen before closing that view.

- 8) Your smartRVcontrols module indicator will turn solid Blue indicating you are connected and ready activate, and your app is now ready to control the feature you selected.

Meaning of the colors of the lights on the indicator: The indicator is an RGB LED and is used to show you the status of the smartRVcontrols module.

- 1) Green: Your smartRVcontrols is on and has no problems but is not connected to the phone
- 2) Blue: Your smartRVcontrols is on and has no problems and is connected to the phone
- 3) Red: There is an issue: Device is not configured, device is locked, or it is in overcurrent
- 4) White: The smartRVcontrols are being controlled by the existing wall switch
- 5) Light Blue: The smartRVcontrols are being controlled by a phone via the app
- 6) Purple: Voltage supply is outside of the nominal operating range (9.5 volts - 14.5volts)
- 7) Yellow: There is a failure in internal communications

If more than one color is showing in sequence, the unit is indicating a specific activity in being performed or an error has occurred. If there are multiple activities and/or errors, the colors will sequence starting with green or blue, depending if you are connected or not. The indicator will turn off after about 5 minutes of no activity, connected to a phone or not. Any activity will turn the indicator back on and begin its timeout again.

Here are some examples:

- 1) Your phone is connected and the indicator is blue and you press the app button to activate your smartRVcontrols, the indicator will flash between blue and light blue, showing you are connected and controlling the smartRVcontrols from the app.
- 2) Your phone is not connected and the indicator is green and you activate the existing wall switch. The indicator will flash between green and white, showing that you are not connected and the manual switch is being activated.
- 3) Your phone is not connected and the indicator is green and you activate the existing wall switch, as the tow vehicle begins to move the RV. The feature will not activate, and the module indicator will flash between green and red, showing that you are not connected and the smartLOCK system is activated.
- 4) Your phone is connected and the indicator is blue and the tow vehicle begins to move the RV. You touch the feature on the app to try and connect to it. The feature will not activate, and the module indicator will flash between blue and red, showing that you are connected and the smartLOCK system is activated. Even if you unlock the feature, continued motion will cause it to relock.

smartLOCK™ safety system

The smartLOCK safety system is a patent pending design that constantly monitors all the parameters of our smartRVcontrols module. It measures how much voltage is being supplied, how much current is being used, the temperature inside the switch, the status of the power devices that control your feature, the motion of your trailer, all of it, all the time. If we detect a situation where things are not safe, or not advised, we stop the activity to protect you and your RV.

Here are two examples:

- 1) Somehow your smartRVcontrols from the app is activated (butt dial, grandkid, etc.) and your smartRVcontrols module is told to start working, but you are driving down the road, a disaster for a slide, awning or jack. Our patent pending smartLOCK will detect the motion of travel and determine that the conditions are not safe to operate that feature and will lock the module until the PIN is entered or the module is manually unlocked. Even if it is unlocked, if the unsafe condition persists, it will relock.
- 2) You are activating a slide, but is it not well lubricated and is binding, the current demand sharply increases and the amount of power delivered to the electric motor could strip the slide drive gear, damage the switch and wiring or blow a fuse. The smartLOCK safety system constantly measures the power delivered and will stop driving the motor and indicate that you are in overcurrent, without any damage to the smartRVcontrols module or your wiring and equipment. Once the problem is solved the smartRVcontrols module will resume operation as if nothing happened.

Installing your smartRVcontrols module

If you do not have experience working with wiring, crimping connectors or the installation of electrical equipment, we encourage you to contact your local RVIA certified service station and ask them to install your smartRVcontrols. For those people with the experience and/or confidence to install this kind of equipment, the following directions should make this process a smooth one. If you have any questions please contact RV Intelligence via our website chat or email info@rviqproducts.com.

There are three different ways to install and utilize your smartRVcontrols module. Each smartRVcontrols unit can control one different feature. For example, if you have two slides and an awning you want to control, you would need THREE smartRVcontrols, and the app can handle as many different units as you need.

The installation depends on your RV and control system. There are many different control solutions for RVs and below we cover the most common. If you are unsure of what to do or have any concerns, please contact RV Intelligence via our website chat or email info@rviqproducts.com. Please remember you can always go to an RVIA certified service station and ask them to install your smartRVcontrols.

There are three ways to use the smartRVcontrols. You can:

- 1) Use it to replace the current switch, adding smartphone controls
- 2) Use it with the existing switch, adding smartphone controls
- 3) Use it in a location where it is not accessible (ex: inside a cabinet or storage locker) and use smartphone controls only

Replacing your existing RV power switch on a jack, awning, or slide

In most cases, the smartRVcontrols are used to replace a switch that looks similar to this one:



The smartRVcontrols unit replaces this switch perfectly, covering the hole in the cabinet or control panel when installed. The smartRVcontrols unit has a built-in switch so that you have a physical switch and smartphone control all in one. There is an installation video for this scenario located here: [video link to be added soon](#)

To ensure safety smartLOCK technology prevents all types of problems, see our section on smartLOCK for details.

One feature available in the motor control mode is the ability to control a light with the same wires you are controlling a motor with. If you purchased our optional motor drive wiring harness, it is an adapter that allow you to quickly connect your smartRVcontrols to the jack, awning, or slide and control the light that may already be there or add one to enhance your experience. Please see this link ([link to be added](#)) to purchase an optional motor drive wiring harness. Note: do not just connect a light to the outputs, undesired results can occur.

You will need these things to install a smartRVcontrols unit: A Phillips screwdriver, wire cutters, wire strippers, an electrical multimeter, a crimper for standard automotive 0.250" quick disconnects, and at least four 0.250" quick disconnects. These should typically be the yellow ones for these applications. They are sized for 10 to 12-gauge wire (12-gauge stranded automotive wires, in at least four colors).

- 1) First, take the switch off the wall using a screwdriver.
 - a) Disconnect the wires by taking the end of the wires off the back of the switch or unplugging the connector.
 - b) Many switches have a plastic connector behind them, you can use these wires, or follow them to the next connection, which should be less than 12 inches away.

- 2) ******WARNING: RVs DO NOT FOLLOW A STANDARD WIRING COLOR CODE FOR DC WIRES, DO NOT EXPECT THE WIRES TO FOLLOW STANDARD AUTOMOTIVE COLORS (RED FOR 12Vdc AND BLACK FOR GROUND). IN MOST CASES BLACK IS 12V DC AND WHITE IS GROUND, BUT THEY CAN BE ANY COLOR. ADDITIONALLY, 120V AC WIRING IN THE RV USES THE SAME COLOR SCHEME, BLACK IS HOT (120V**

AC) AND WHITE IS RETURN (120V Ground). DO NOT ASSUME YOU ARE CORRECT BY THE COLOR OF THE WIRE. MEASURE USING A VOLTMETER TO ENSURE YOU ARE CONNECTING 12V DC AND DC GROUND, NOT 120V AC, THIS DOES VOID YOUR WARRANTY*****

- 3) Using a voltage meter, identify the 12Vdc and Ground - mark the wires and pull the fuse for the circuit.
 - a) Crimp a 0.250 quick disconnect to the Ground wire and connect it to the tab in the slot on the back of the smartRVcontrols that says "GND."
 - b) Crimp a 0.250 quick disconnect to the 12V DC wire and connect it to the tab in the slot on the back that says "12V 20A MAX"
 - (a) If you connect them backwards it will not harm the smartRVcontrols module. The indicator will not turn green.
 - c) If you are using our optional motor drive wiring harness
 - (a) The Red wire is connected it to the tab in the slot on the back that says "12V 20A MAX" the unstripped end is connected to the 12Vdc wire with the provided wire nut.
 1. The smaller Red wire is for using external switches.
 - (b) The Black wire is connected it to the tab in the slot on the back that says "GND" the unstripped end is connected to the Ground wire with the provided wire nut.
- 4) Using your voltage meter in resistance measurement, measure between the two electric motor wires, you should see a resistance of about 1.0 ohm. The more powerful the motor, the smaller the resistance. Making this measurement, you should not see a dead short or an open circuit.
 - a) Crimp 0.250 quick disconnects to the two electric motor wires and connect them to the tabs in slots on the back marked Output 1 and Output 2.
 - b) If you are using our optional motor drive wiring harness
 - (a) The Orange and Brown wires with Yellow quick disconnects and Yellow light output wires attached are plugged into the smartRVcontrols module into Output 1 and Output 2, and the wires from the motor with the 0.250 female crimp connectors are plugged into the Yellow male tabs on the other end Brown and Orange wires.
 - (b) The light is connected to the unstripped Yellow wire. It can be connected directly to the light switch output, and if the switch is off, the smartRVcontrols can control the light. If the switch is on, the light is on. If you are adding a light to a jack, awning, or slide, simply connect the unstripped wire to the light fixture and connect the ground wire on the fixture to ground.
- 5) Follow the procedure in the app to connect, pair, and configure the unit: you will need to select DC MOTOR to run a jack, awning, or slide, and FRONT SWITCHES to use the switches built into the smartRVcontrols unit.
- 6) Before you close it up, test the switches to ensure that the RED/BLUE switches perform the action you desire (in/out, up/down). If it does not, it can be corrected by swapping the two electric motor OUTPUT wires.
- 7) Test the app to ensure that the extend/down app button performs the correct action. If not, there is a setting to swap the app buttons to match the unit.
- 8) Test the motion detection by slightly shaking the smartRVcontrols unit. The unit should show a RED indication, GREEN/RED if not connected, BLUE//RED if connected. If connected to a

phone, the app should show that the device is locked. The smartRVcontrols can be unlocked by entering the password on the app, or hold one of the switch buttons for 10 seconds. Both result in a color wheel and the unit is returned to normal function. The motion detection sensitivity is a setting on the configuration page and can be made more or less sensitive.

(a) **IF THE MOTION DETECTION IS NOT FUNCTIONING, PLEASE CONTACT US IMMEDIATELY AND DO NOT USE THE SMARTRVCONTROLS UNIT. WE WILL PROVIDE A REPLACEMENT DEVICE AT NO COST. WE TEST EACH UNIT BUT INSIST THAT A TEST IS DONE WHEN CONTROLLING A MOTOR DRIVEN FEATURE TO ENSURE YOUR SAFETY.**

9) Screw the smartRVcontrols unit onto the wall, covering the hole left by the switch.

10) Enjoy the freedom of smartphone remote controls!

Working with your existing RV power switch for a jack, awning, or slide

In some cases, the smartRVcontrols module cannot replace the existing control switch because of available space or decor reasons. The smartRVcontrols module has the ability to use the existing switch to be a remote switch that controls the module in addition to the smartphone app. There is an installation video for this scenario located here: [video link to be added soon](#)

[To ensure safety your smartLOCK technology prevents all types of problems. See our section on smartLOCK for details.](#)

One feature available in the motor control mode is the ability to control a light with the same wires you are controlling a motor with. If you purchased our optional motor drive wiring harness, it should allow you to quickly connect your smartRVcontrols to the jack, awning, or slide and control the light that may already be there or add one to enhance your experience. Please see this link ([link to be added](#)) to purchase an optional motor drive wiring harness. The optional motor drive wiring harness also has all the needed connections for installation using the existing switch.

Some RVs use very small three-tab control switches and have a small module in the wiring behind the switch panel. These are small relay modules that actually control the slide or awning - the switch signals that module. The smartRVcontrols directly replaces this module, installing just as described below in the section, which is the same way the relay module is connected. The optional motor drive wiring harness has all premade wires to connect to the small control switch. There is an installation video for this scenario located here: [video link to be added soon](#)

Things you will need to install a smartRVcontrols unit: a Phillips screwdriver, wire cutters, wire strippers, an electrical multimeter, a crimper for standard automotive 0.250" quick disconnects, at least four 0.250" quick disconnects. These should typically be the yellow ones for these applications; they are sized for 10 to 12-gauge wire. When installing the smartRVcontrols using the existing switch you will need to add five additional quick disconnects. These can be RED or BLUE and a few feet of any small gauge wire, 18-20, is fine but any wire can be used to connect to the existing switch. The optional motor drive wiring harness has all three premade wires to connect to the original switch.



- 1) First, take the switch off the wall using a screwdriver.
 - a) Disconnect the wires by taking the end of the wires off the back of the switch or unplugging the connector.
 - b) Many switches have a plastic connector behind them, you can use these wires, or follow them to the next connection, which should be less than 12 inches away.

- 2) ****WARNING: RVs DO NOT FOLLOW A STANDARD WIRING COLOR CODE FOR DC WIRES, DO NOT EXPECT THE WIRES TO FOLLOW STANDARD AUTOMOTIVE COLORS (RED FOR 12Vdc AND BLACK FOR GROUND). IN MOST CASES BLACK IS 12V DC AND WHITE IS GROUND, BUT THEY CAN BE ANY COLOR. ADDITIONALLY, 120V AC WIRING IN THE RV USES THE SAME COLOR SCHEME, BLACK IS HOT (120V AC) AND WHITE IS RETURN (120V Ground). DO NOT ASSUME YOU ARE CORRECT BY THE COLOR OF THE WIRE. MEASURE USING A VOLTMETER TO ENSURE YOU ARE CONNECTING 12V DC AND DC GROUND, NOT 120V AC, THIS DOES VOID YOUR WARRANTY*****

- 3) Using a voltage meter, identify the 12Vdc and Ground - mark the wires and pull the fuse for the circuit.
 - a) Crimp a 0.250 quick disconnect to the Ground wire and connect it to the tab in the slot on the back of the smartRVcontrols that says "GND."
 - b) Crimp a 0.250 quick disconnect to the 12V DC wire and connect it to the tab in the slot on the back that says "12V 20A MAX".
 - (a) If you connect them backwards it will not harm the smartRVcontrols module. The indicator will not turn green.
 - (b) Add a length of the smaller gauge wire to the 0.250 quick disconnect for the 12V DC, place the Blue or Red 0.250 quick disconnect to the other end. This will be used to connect to the existing switch.
 - c) If you are using our optional motor drive wiring harness
 - (a) The Red wire is connected it to the tab in the slot on the back that says "12V 20A MAX" the unstripped end is connected to the 12V DC wire with the provided wire nut.
 1. The smaller Red wire is for the external switch center tab.

- (b) The Black wire is connected it to the tab in the slot on the back that says "GND" the unstripped end is connected to the Ground wire with the provided wire nut.
- 4) Using your voltage meter in resistance measurement, measuring between the two electric motor wires you should see a resistance of about 1.0 ohm. The more powerful the motor, the smaller the resistance. Making this measurement, you should not see a dead short or an open circuit.
 - a) Crimp 0.250 quick disconnects to the two electric motor wires and connect them to the tabs in slots on the back marked Output 1 and Output 2.
 - b) If you are using our optional motor drive wiring harness
 - (a) The Orange and Brown wires with Yellow quick disconnects and Yellow light output wires attached are plugged into the smartRVcontrols module into Output 1 and Output 2, and the wires from the motor with the 0.250 crimp connectors are plugged into the Yellow male tabs on the harness on the other end Brown and Orange wires.
 - (b) The light is connected to the unstripped Yellow wire. It can be connected directly to the light switch output, and if the switch is off, the smartRVcontrols can control the light. If the switch is on, the light is on. If you are adding a light to a jack, awning, or slide, simply connect the unstripped wire to the light fixture and connect the ground wire on the fixture to ground.
 - c) Create three wires from the small gauge wires with small 0.250 quick disconnects (two if you added the wire in step 2.b.ii). Connect them to existing switch, the wire going to the center tap (see images of power switch and standard DPDT) of the switch must be connected to 12Vdc. The other two wires are the two outputs and are connected to the back of the smartRVcontrols module in to the tabs in the slots marked Input 1 and Input 2.
 - d) If you are using our option wiring harness
 - (a) The Red wire with the Red quick disconnect is connected to the center tap of the existing switch. (see images of power switch and standard DPDT)
 - (b) The Orange and Brown wires with Red quick disconnects are plugged into the smartRVcontrols module in to Input 1 and Input 2 and the outputs of the switch (see images of power switch and standard DPDT) .
- 5) Follow the procedure in the app to connect, pair, and configure the unit: you will need to select DC MOTOR to run a jack, awning, or slide, and READ SWITCHES to use the existing switch to signal the smartRVcontrols unit.
- 6) Before you close it up, test the switch to ensure that the switch perform the action you desire (in/out, up/down). If it does not, it can be corrected by swapping the two electric motor OUTPUT wires Brown and Orange (larger gauge wire), or switch interface wires Brown and Orange (small gauge wire).
- 7) Test the app to ensure that the extend/down app button performs the correct action. If not, there is a setting to swap the app buttons to match the unit.
- 8) Test the motion detection by slightly shaking the smartRVcontrols unit. The unit should show a RED indication, GREEN/RED if not connected, BLUE//RED if connected. If connected to a phone, the app should show that the device is locked. The smartRVcontrols can be unlocked by entering the password on the app, or hold one of the switch buttons for 10 seconds. Both result in a color wheel and the unit is returned to normal function. The motion detection sensitivity is a setting on the configuration page and can be made or or less sensitive.

- (a) **IF THE MOTION DETECTION IS NOT FUNCTIONING, PLEASE CONTACT US IMMEDIATELY AND DO NOT USE THE SMARTRVCONTROLS UNIT. WE WILL PROVIDE A REPLACEMENT DEVICE AT NO COST. WE TEST EACH UNIT BUT INSIST THAT A TEST IS DONE WHEN CONTROLLING A MOTOR DRIVEN FEATURE TO ENSURE YOUR SAFETY.**

- 9) Place the wires and smartRVcontrols module in the void behind the switch and replace the switch.
 - a) The smartRVcontrols module can also be mounted near the switch. A small hole is cut in the wall and the wires between the two are run. This allows installations where there is no space behind the switch.
- 10) Enjoy the freedom of smartphone remote controls!

This smartRVcontrols module will be installed in a location without easy access, so I will be using it in smartphone mode only.

The smartRVcontrols are not able to be installed outside where they would be exposed to the weather, but it can be installed in a cabinet, locker, storage bay, or other hard to reach area as long as wireless signals can get to it. You can run many items from these locations, power dump valve, hose reels, winches, etc. The installation is exactly as replacing the switch.

Installing smartRVcontrols to control lights (Bulb and/or LED).

The smartRVcontrols module can control the lights and add many great benefits. The smartRVcontrols module allows for dimming and time clock functions to name a couple. Each smartRVcontrols module can operate up to two light circuits up to 10 amps each.

Please see this link ([link to be added](#)) to purchase an optional lighting wiring harness. The optional lighting wiring harness also has all the needed connections for installation using the existing switch.

Light switches in RVs provide 12V DC to a fixture or string of fixtures on one switch. Most inside fixtures in the string of fixtures have a second switch. It is assumed that these are left in the on position so the string of light fixtures can be controlled by the smartRVcontrols module.

Things you will need to install a smartRVcontrols unit: a Phillips screwdriver, wire cutters, wire strippers, an electrical multimeter, a crimper for standard automotive 0.250" quick disconnects, at least four 0.250" quick disconnects. These should typically be the BLUE ones for these applications; they are sized for 14 to 16-gauge wire. When installing the smartRVcontrols using the existing switch you will need to add three additional quick disconnects. These can be RED or BLUE and a few feet of any small gauge wire for each light to be controlled.



- 1) First, take the switch off the wall using a screwdriver.
 - a) Disconnect the wires by taking the end of the wires off the back of the switch. Usually they employ the same quick disconnects mentioned above.

- 2) ******WARNING: RVs DO NOT FOLLOW A STANDARD WIRING COLOR CODE FOR DC WIRES. IN MOST CASES BLACK IS 12V DC AND WHITE IS GROUND, BUT THEY CAN BE ANY COLOR. ADDITIONALLY, 120V AC WIRING IN THE RV USES THE SAME COLOR SCHEME, BLACK IS HOT (120V AC) AND WHITE IS RETURN (120V Ground). DO NOT ASSUME YOU ARE CORRECT BY THE COLOR OF THE WIRE. MEASURE USING A VOLTMETER TO ENSURE YOU ARE CONNECTING 12V DC AND DC GROUND, NOT 120V AC, THIS DOES VOID YOUR WARRANTY******

- 3) Using a voltage meter, identify the wire that has 12V DC and mark it. Then identify the wires and pull the fuse for the circuit. Light circuits do not have ground available. The smartRVcontrols module requires a ground
 - a) Using a voltmeter set for resistance, find a wire or piece of frame that is connected to ground.
 1. Using the quick disconnect, connect any gauge wire to the tab in the rear marked "ground". The unit will not function with a ground being connected.
 - b) If the wire you marked as 12V DC does not already have a quick disconnect on it, crimp a 0.250 quick disconnect to the 12V DC wire and connect to the tab in the slot on the back that says "12V 20A MAX"
 1. If you are using the existing switch(es), add a strand (two strands) of the small gauge wire to the crimp and leave enough length to connect to the switch from the location of the smartRVcontrols module.
 2. If you connect them backwards it will not harm the smartRVcontrols module. The indicator will not turn Green.
 - c) If you are using the optional lighting wiring harness
 1. The Red wire with the two smaller Red wires is connected to the tab marked "12V 20A MAX"
 2. The Black wire need to be connected to a ground, a wire nut and spade terminal are provided

- 4) Using your voltage meter in resistance measurement, measure the wire that goes to the light(s). You should see a resistance as measured to ground of hundreds of ohms for bulbs and a very large resistance of millions of ohms for LEDs. You should not see a short to ground.
 - a) If the wire that goes to the light does not have a quick disconnect tab on it, crimp 0.250 quick disconnects to the light wire.
 1. Connect it to the tab in slot on the back marked Output 1.
 - b) If you are using the optional lighting wiring harness
 1. The Yellow and Blue wires are connected to the tabs marked Output 1 and Output 2, the lights are connected to the tabs on the ends of the wires.
- 5) If you are using the external switch
 - a) Attach one of the smaller gauge quick disconnects to the wire crimped into the 12V DC connector in step 10.b. Connect this wire to one side of the existing switch.
 - b) Cut one piece of the small gauge wire, matching in length the power wire you just connected. Crimp the smaller quick disconnects to each end and connect them to the switch output and then to the tab in the slot marked INPUT 1.
- 6) Repeat this procedure for the second light, if two lights are to be controlled.
 - a) The second switch uses OUTPUT 2 and INPUT 2.
- 7) Follow the procedure in the app to connect, pair, and configure the unit: you will need to select ONE or TWO CHANNEL LIGHT and FRONT SWITCH when replacing the switch or REAR INPUTS when using the existing switch to control the smartRVcontrols module manually.
- 8) Before you close it up, test the switch to ensure it performs the action you desire. In one channel mode, the RED switch is light on and BLUE light off. In two channel mode, each switch controls a light and pressing the button toggles the light on and off.
- 9) Test the app to ensure that it works properly.
- 10) Screw the smartRVcontrols unit onto the wall, covering the hole left by the switch, or mount the smartRVcontrols module near the switch or behind the wall.
- 11) Enjoy the freedom of smartphone remote controls!

Using smartRVcontrols modules to drive RGBW LED strips

Low cost RGBW LED strips are readily available and come in two different varieties, common power and common ground.

The smartRVcontrols module can be configured to drive either type of RGBW LED strip. The only requirement is that the strip has built in resistors and works directly from 12V control (almost all of them have these resistors). Two smartRVcontrols modules are teamed together to control the LED strips. LED 1 controls the RED and GREEN colors, and LED 2 controls the BLUE and WHITE colors. All that is left to do is connect the common to either 12V DC or Ground as appropriate for the RGBW LED strips used. The app controls the color, intensity, and allows for connection to music, themes, or random color fading. Since the smartRVcontrols module is capable of 10 amps per channel, that is a total of 40 amps of LED power. Typical RGBW LED strips use about 1.1 amps per 3 feet (1.2A/meter); that means 36 three-foot strips can be driven or over 100 feet of RGBW LED strips.

Note: the strips are driven in parallel groups, the maximum individual strip current must be observed. Typically, the current limit is < 6 amps or 15 feet.

Note: not all LED strips are the same, these values are considered typical

The optional RGBW LED wiring harness has 10 standard 5 pin RGBW connectors to ensure you have enough outputs. RGBW installation directions are available on the web page of the RGBW LED wiring harness.

Using smartRVcontrols modules to drive relays, valves, and solenoids

Relays, valves, and solenoids are electrically identical to lights. Follow those directions.

The smartRVcontrols module can be configured to drive up to two items independently. Relays and valves have typical coil resistances in the 10s of ohms and can draw from 1-3 amps of 12V DC electrical current. If two or more relays, valves or solenoids are to be controlled together, they can be connected to the same output, as long as the required current does not exceed 10 amps.

FAQs

Do I have to have cellular coverage or Wi-Fi access to use the smartRVapp?

No, smartRVcontrols is connected by Bluetooth Low Energy (BLE).

Can I add another smartRVcontrols module to this app?

Yes, multiple smartRVcontrols can be operated with the app. You simply select the device you wish to operate from the device listing in the menu after selecting the plus(+) sign in the upper right corner.

What is the smartRVapp's working range?

Approximately 100 feet. Range is dependent on many factors; the application shows signal strength and will warn you if you are outside the effective range.

Can the smartRVcontrols be restored to factory defaults, no paired devices, and the PIN reset to 123456?

Yes, hold the two front switches on the module for about 10 seconds. The indicator will cycle through all the colors and the smartRVcontrol module will reset all features to factory default, clear all pairings, and resets the PIN to 123456.

My phone is not connecting to the smartRVapp.

Check that your phone's Bluetooth is turned on. You can turn on Bluetooth via the phone's settings menu.

I am trying to pair, but the app keeps saying that the pin/passkey is incorrect?

There are two situations where this could occur:

- 1) Someone has set the PIN to a value different from what you are entering.
- 2) There are already four paired smartphones, and that is the limit of the number of paired smart devices at any time.

The pairing failed and I cannot seem to make it connect. I just want to start over?

- 1) Delete the device from your app. Select “delete device,” select the device, and then confirm. Close the app to clear the memory.
- 2) Go to the Bluetooth icon on your phone, or through the settings menu, and delete or forget the smartRVcontrols device from the list of known Bluetooth devices.
- 3) Restart the pairing procedure.

TROUBLESHOOTING

Protection: Testing smartLOCK

While the unit is not attached to the wall, you can test the motion detection by slightly moving the smartRVcontrols unit. This motion should be detected and the unit should show a RED indication, GREEN/RED if not connected, BLUE//RED if connected. If connected to a phone, the app should show that the device is locked. The smartRVcontrols can be unlocked by entering the password on the app or hold one of the switch buttons for 10 seconds. Both result in a color wheel and the unit is returned to normal function. The motion detection sensitivity is a setting on the configuration page and can be made more or less sensitive.

IF THE MOTION DETECTION IS NOT FUNCTIONING, PLEASE CONTACT US IMMEDIATELY AND DO NOT USE THE SMARTRVCONTROLS UNIT. WE WILL PROVIDE A REPLACEMENT DEVICE AT NO COST. WE TEST EACH UNIT, BUT INSIST THAT A TEST IS DONE WHEN CONTROLLING A MOTOR DRIVEN FEATURE TO ENSURE YOUR SAFETY.

Power: Is my unit powered correctly?

The smartRVcontrols module requires 12V DC 20-amp service. If the power is correctly connected to the two tabs in the back, marked 12V DC and Ground, the LED indicator in front will be green. If it does not illuminate, check to ensure that you have 12V DC and Ground on the wires and that your crimps are successful. You can also try swapping the two wires. Reverse voltage does not harm the smartRVcontrols module; it simply will not function until 12V DC and Ground are on the correct pins. If adding any wires, ensure they meet the electrical current requirements of the device being controlled.

Overcurrent protection and shorts to ground: My unit is not working and I hear a whining noise coming from the smartRVcontrols module.

The smartRVcontrols module has inherent overcurrent/short circuit protection built into the unit. You cannot break it by shorting out the outputs; they protect themselves against over current, and you can tell by the high-pitched sound made by the electronics. Also, the LED indicator will add a Red to its light sequence, and if connected the app will display an overcurrent warning. Once the problem is corrected, the module will work normally.

While using the smartRVcontrols module to run a feature it “just stopped”. I tried the button again and it started working again, but it said I was in overcurrent protection. What happened?

The smartRVcontrols module has inherent overcurrent protection built into the unit. Motor driven RV features can run into many issues: poor lubrication, tacky gaskets, pitching and binding

slides or bent awnings, jacks that can generate enough force to twist your RV frame. The smartRVcontrols module actively monitors the total power sent to the RV feature you are controlling. Should that power exceed a safe level, the overcurrent warning is activated. The LED indicator will add a Red to its light sequence, and if connected the app will display an overcurrent warning. Once the problem is corrected, the module will work normally. Before smartRVcontrols modules, people would just hold down the power switch, “forcing” more power to the unit. Many bad things can happen in that scenario; broken drive gears, burned out wires, blown fuses, bent metal. The smartRVcontrols module only allows the proper amount of power to be delivered, ensuring safe operation of your RV feature. If your smartRVcontrols module continues to overcurrent, it is an indication that your feature needs service.

I just bought a coach with smartRVcontrols modules, and I want to reset the pairing and PIN.

The smartRVcontrols module can be reset to factory defaults by holding the two front switches on the module for about 10 seconds. The indicator will cycle through all the colors and the smartRVcontrols module will reset all features to factory default, clear all pairings, and resets the PIN to 123456.

What is the smartLOCK environmental safety system, and why do I need it: In most RVs the features (slides, awnings and jacks) all have power available to them while the RV is being transported. Very few RVs have a safety interlock that prevents operation while the RV is in motion. If something were to fall against the switch while the RV was in transit, or someone were to activate an old-fashioned key fob remote control, it could start to move, really, it is not hard to image the many disastrous results! The smartRVcontrols module not only adds the convenience of smartphone remote controls, but in addition our smartLOCK technology provides this essential safety interlock in your RV, for our smartphone app and even for the manual switch, solving this scary problem.