DIODE DYNAMICS

PERFORMANCE LIGHTING TECHNOLOGY

D-Switch Panel Installation Guide

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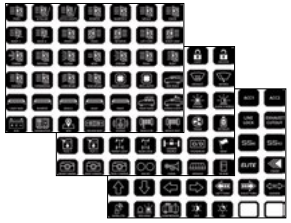
GETTING STARTED

Thank you for purchasing the Diode Dynamics D-Switch Panel for your vehicle. **Please read the operating instructions prior to use and observe all safety instructions.**

WHAT'S INCLUDED

D-Switch Hub

D-Switch Controller



D-Switch Sticker Sheet

Wiring Harnesses:

- 3-Meter Extension Harness
- Accessory Harness
- Controller Harness
- Hub Harness
- Negative and Positive Battery Wires

Mounting Bracket and Hardware:

- Double-Sided Adhesive Strips
- Fasteners and Screws
- Quick Splices
- Universal Mounting Bracket and Hardware

PRODUCT SPECIFICATIONS

Max Current: 125A
Voltage Input: DC 9 - 16V
Rated Voltage: 12VDC
Max Current: Channels 1 - 4: 15A (Per Channel) / Channels 5 - 8: 30A (Per Channel) / Backlight 15A (Total)
Waterproof Rating: IP67

D-SWITCH PANEL INSTALLATION

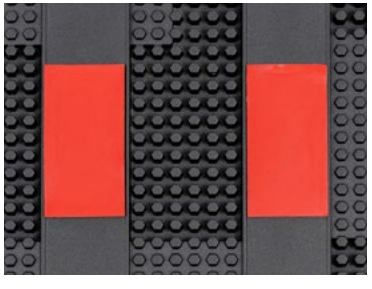
Tools Needed: Phillips #1 and #2 Screwdriver, 8mm Socket and Ratchet, T10 Torx, Pliers (optional), and Drill with Drill Bits (optional).

MOUNTING THE HUB

The D-Switch Hub is the switching bus and the main unit that supplies power to all of the connected outputs. Mount the Hub near the vehicle's battery.

There are **THREE** mounting solutions provided to mount the D-Switch Hub:

OPTION 1: Using the included M5 fasteners or pointed screws, mount the Hub to the desired location using the wings on either side of the Hub.



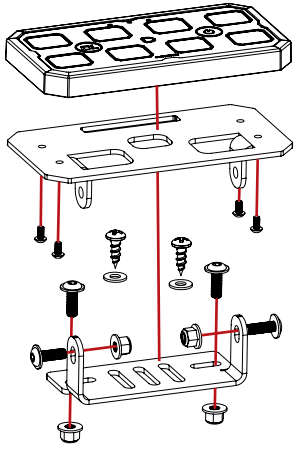
OPTION 2: Apply the double-sided adhesive strips to the flat areas on the bottom of the Hub. Use the Hub as a guide to position and secure it in the desired location.

OPTION 3: If a universal stand-off or vehicle-specific D-Switch Hub Mounting Kit was purchased, refer to the mounting kit installation guide to mount the Hub.

MOUNTING THE CONTROLLER

The D-Switch Controller is the main user interface panel used for turning On/Off output channels. Mount the controller inside the vehicle in a location that is easily visible and accessible to the user.

There are **TWO** mounting solutions provided to mount the D-Switch Controller:



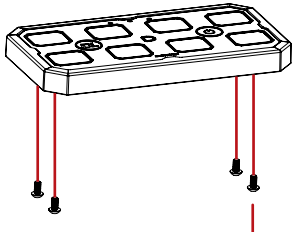
OPTION 1: UNIVERSAL MOUNT

1. Using the universal bracket as a guide, mark the drilling holes on the surface of the desired mounting location.

2. Using the supplied hardware, assemble and attach the universal bracket to the Controller.

3. Drill the mounting holes and mount the Controller and universal bracket to the desired location.*

4. Adjust the Controller and universal bracket to the desired angle and tighten down the hardware.



OPTION 2: FLUSH MOUNT

1. Using the four screw holes on the back of the Controller as a guide, mark the drilling holes on the surface of the desired mounting location.

2. Drill the mounting holes, sizes provided in the table below, and mount the Controller to the desired location.*

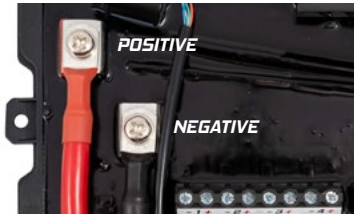
Screw Holes: 9/64"	**Center Wire Hole:** 7/8"

NOTE: User may need to supply their own M3 x 0.5 screws for thicker surfaces.

***NOTICE:** Diode Dynamics is not liable for any damages caused by drilling. Vehicle owner is responsible for determining suitable location.

CONNECTING THE HUB TO THE BATTERY

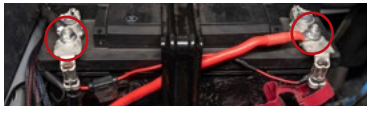
It is **NOT** recommended to connect to Hybrid Drive batteries. Also, be sure to check that the vehicle's battery is within the voltage range.



1. Attach the included battery cables (4AWG) to the respective positive and negative terminal blocks.

NOTE: The battery cables are side specific. The fuse block should be closer to the vehicle's battery, the 1/4" lug goes to the D-Switch, and the 3/8" lug goes to the battery.

2. Route the positive and negative battery wires through the opening on the Hub Lid and connect them to the vehicle's battery.

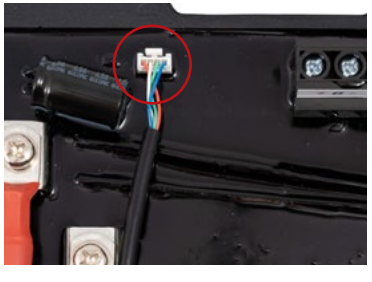


NOTE: For vehicles with a battery located outside the engine bay, an accessory kit with longer battery cables will be required.

CONNECTING THE HUB TO THE CONTROLLER

1. Connect the Controller Harness to the included 3-Meter Extension Harness.

NOTE: Align the arrows and DD logos on the M8 connectors, as shown below.

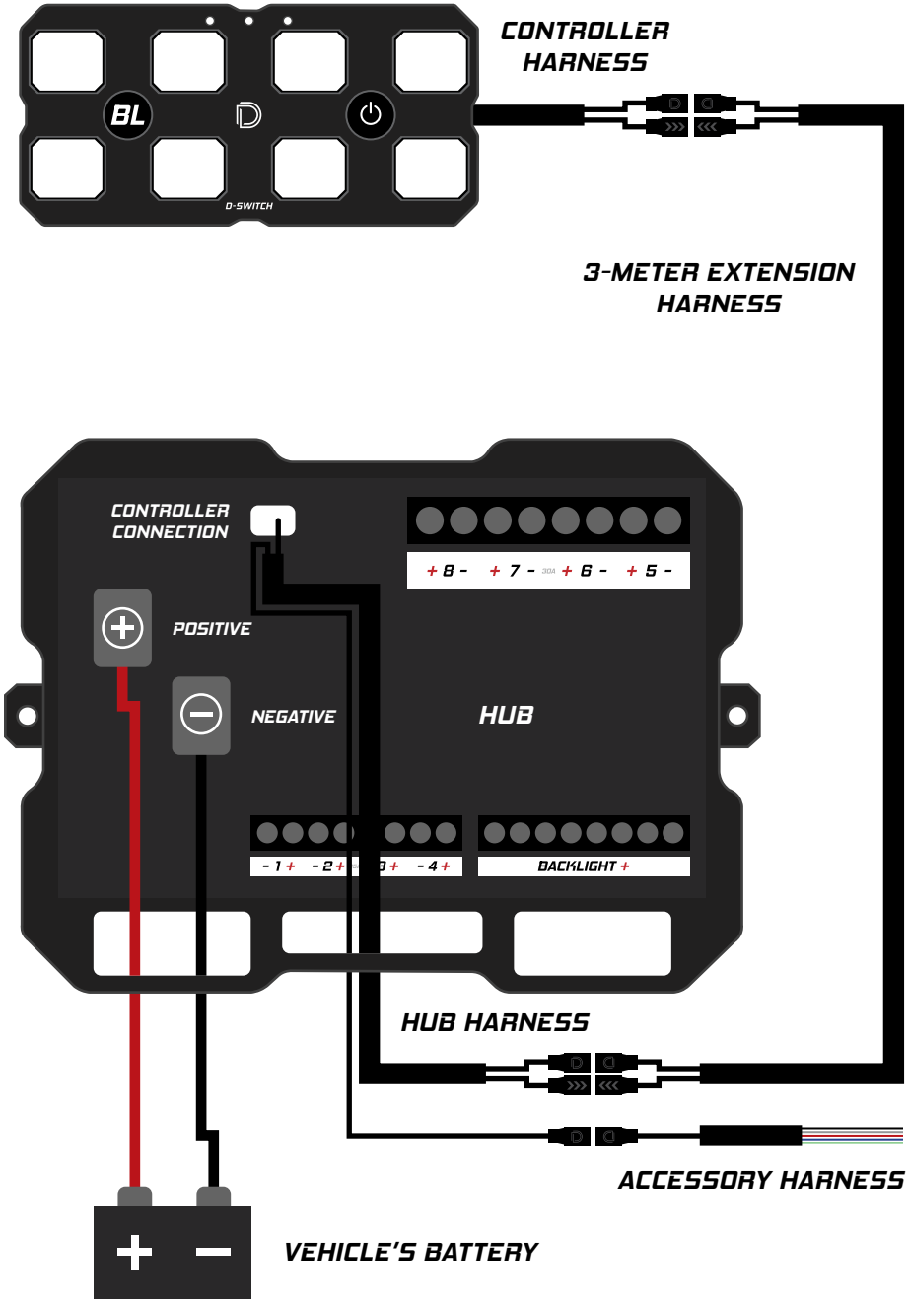


2. Route the 3-Meter Extension Harness to the Hub and connect it to the Hub Harness.

If the Hub Harness is not already connected to the Hub, connect the white 4-pin connector to the Hub.

NOTE: The singular M8 connector on the Hub Harness will be connected to the Accessory Harness on Page 7.

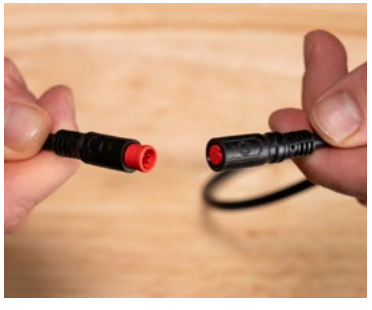
CONTROLLER



CONNECTING THE SENSOR WIRES

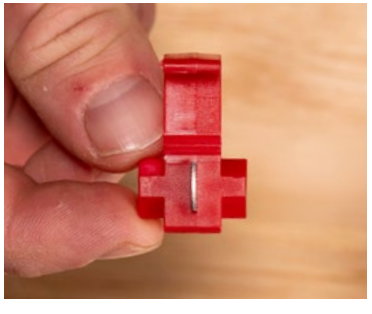
The D-Switch includes an Accessory Harness with five bare lead wires. These sensor wires are used to setup automations. The sensor wires require 12VDC discreet signals and will **NOT** work with CAN, LIN, or CXPI or any other message-based protocol.

WIRE COLOR	FUNCTION	PROGRAM FUNCTION
WHITE	Ignition	Will turn on/off the controller with ignition
BLUE	Night Mode	Will change brightness of controller backlight and can be programmable
RED	Sensor 1	Programmable
BLACK	Sensor 2	Programmable
GREEN	Sensor 3	Programmable



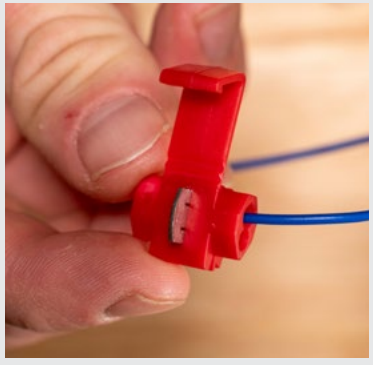
1. Connect the Accessory Harness (sensor wires) to the Hub Harness.

NOTE: Align the arrows and DD logos on the M8 connectors, as shown below.

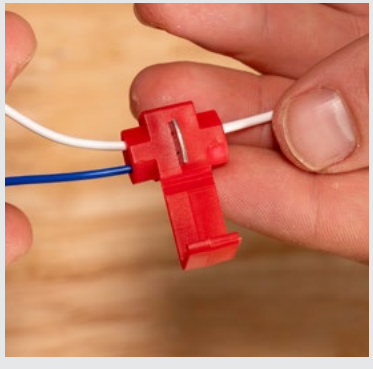


2. Using the included quick splice connectors, reference the table above and connect the wire leads as desired.

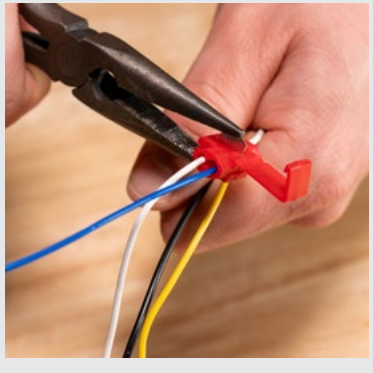
HOW TO USE QUICK SPLICE



1. Locate the sensor wire on the Accessory Harness and the desired program function wire on the vehicle.



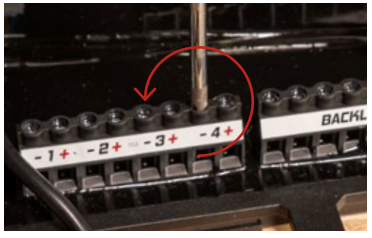
2. Using a quick splice connector, place the sensor wire into the “stopper” end or inner groove of the quick splice connector. Then take the program function wire and place it into the outer groove of the quick splice connector.



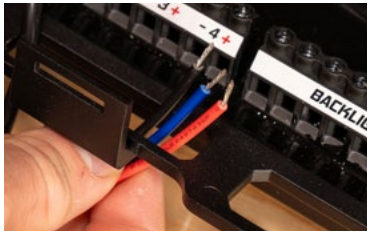
3. Using pliers, squeeze down on the metal part of the quick splice connector. Gently pull on the wires to check that they are secure before closing the connector and locking it in.

CONNECTING THE OUTPUT CHANNELS

The D-Switch Hub is equipped with eight channel outputs and a ninth dedicated bus to connect all your backlight/accent lights without using the main channel buttons. Channels 1-4 are rated for 15A per channel and Channels 5-8 are rated for 30A per channel. The backlight bus is rated for a total of 15A.

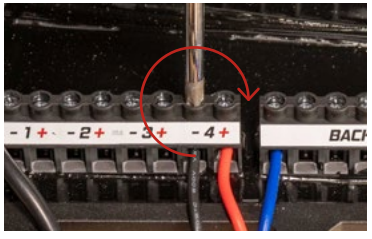


1. To connect an output lead to one of the terminals, use a Philips screwdriver to open the screw terminal by rotating it counter-clockwise.



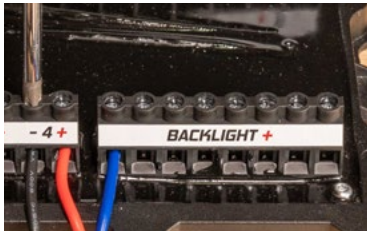
2. Feed the channel leads through one of the openings on the bottom of the Hub base.

NOTE: The screw terminals are designed to work with bare wire leads.



3. Insert the wire into the screw terminal and tighten by rotating the Phillips screwdriver clockwise until it is snug. Gently pull on the wire lead to test that it is secure.

NOTE: Each screw terminal is labeled with a (-) for ground wires, and a (+) for positive wires.



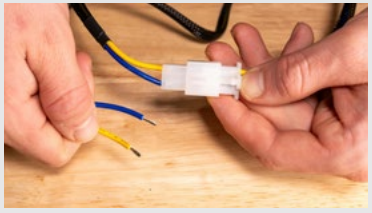
4. If equipped with a backlight, insert the backlight wires into any position on the backlight bus.

5. If connecting an output lead to terminals 5-8, the process will be the same as steps 1-4.

NOTE: The output lead will lay over the backlight bus.

INCREASING THE LOAD CAPACITY

If an output channel will exceed 30A such as a SS5 Pro CrossLink, a winch, or an air compressor, our recommendation is to utilize one of Diode Dynamics' Heavy Duty or Ultra Heavy Duty relay harnesses.



1. Using the included aux-adapter, replace the toggle switch and connect the leads to the D-Switch terminals.

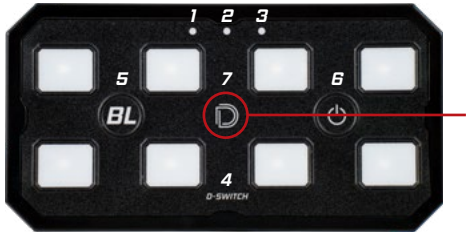
2. Refer to the application guide for further instructions.

CONTROLLER OVERVIEW

By default, each numbered button on the controller is linked to the correlating numbered output channel:

With the Dynamic Channel Assignment feature, the D-Switch can be configured via the app for any button to control any channel output including the backlight output. Refer to Pages 20-21 for further instructions.

The only non-programmable buttons on the controller are the "BL" button, which is preconfigured to turn the backlight output bus On/Off, and the Power button, which resets all outputs to the "Off" state. **These two buttons cannot be reconfigured.**

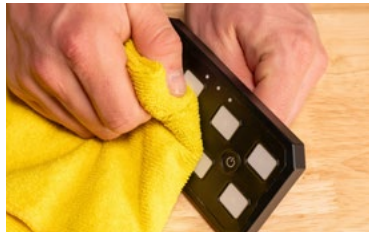


DD logo on controller will change from white to red, indicating a successful connection to the app.

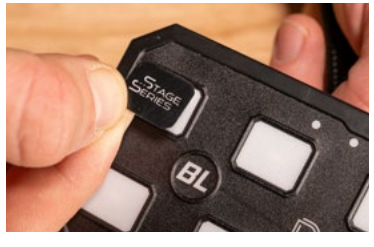
1	Indicator LED for Sensor Wire 1
2	Indicator LED for Sensor Wire 2
3	Indicator LED for Sensor Wire 3
4	Indicator LED for Backlight Bus
5	Backlight On/Off Button
6	Reset Button
7	Bluetooth Indicator LED

LABELING THE CONTROLLER BUTTONS

Sticker sheets are included to label the buttons on the controller.



1. Thoroughly clean and dry the buttons on the controller. Make sure to not touch the surface once it's dry.



2. Peel off the label and firmly press down on the button.

NOTE: Blank labels are provided to create custom labels.

APPLICATION GUIDE

The D-Switch Bluetooth Application can be used to control and program your D-Switch 8-Channel Switch Panel. Scan the QR Code below, or search for the **D-Switch** application in the Apple Store or Google Play Store and download it for free.

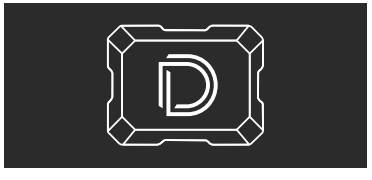
Apple Store

Google Play Store

Compatible with Android Auto

Compatible with Apple CarPlay

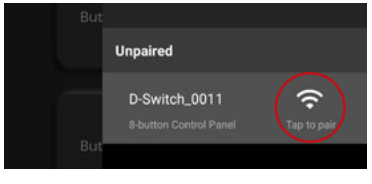
PAIRING THE D-SWITCH



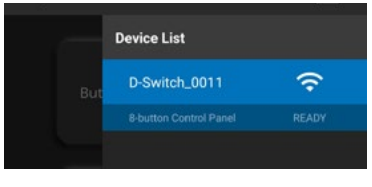
1. Open the the D-Switch app.

NOTE: Ensure Bluetooth is turned on for device pairing and operation.

2. Select the menu icon at the top of the main control screen. This will open the Device List.



3. In the Device List, the Device ID will appear under the Unpaired section with a signal indicator next to it. Tap the signal indicator to pair the device.

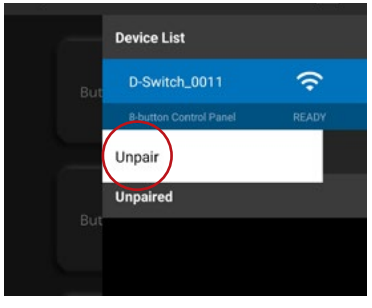


4. The Device ID should now be located under the Device List, indicating the D-Switch successfully paired. Close the Device List by selecting the menu icon again.

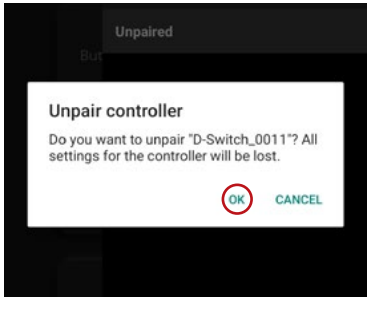
NOTE: Only one device can be connected to the Controller at a time.

UNPAIRING THE D-SWITCH

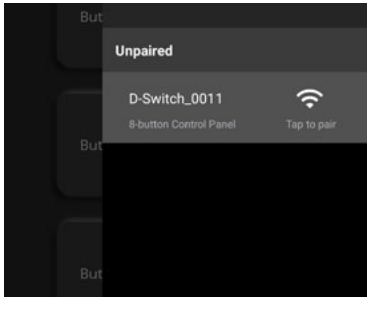
1. Select the menu icon at the top of the main control screen. This will open the Device List.



2. In the Device List, the Device ID will appear under the Device List section with a signal indicator next to it. Press and hold the Device ID until a sub-option appears. Then select Unpair.



3. A pop up message will appear to confirm unpairing the Controller. Select OK.



4. The Device ID should now be located under the Unpaired section, indicating the D-Switch successfully unpaired. Close the Device List by selecting the menu icon again.

USING THE CONTROL MENU

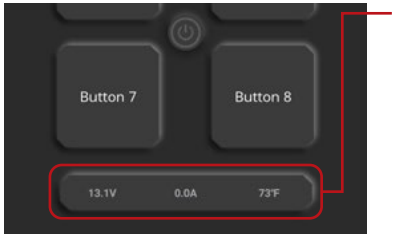
From the Control Menu, you have complete operational control of the D-Switch.

Tapping a button icon will toggle it On/Off. When active, the button's border will highlight to indicate its status.

NOTE: The border color can be customized in Settings.

Tapping the BL button will toggle the dedicated backlight output On/Off. When active, the button will turn white.

NOTE: When any button is turned On, the power icon will also activate. Tapping this icon will reset all outputs to the Off state.

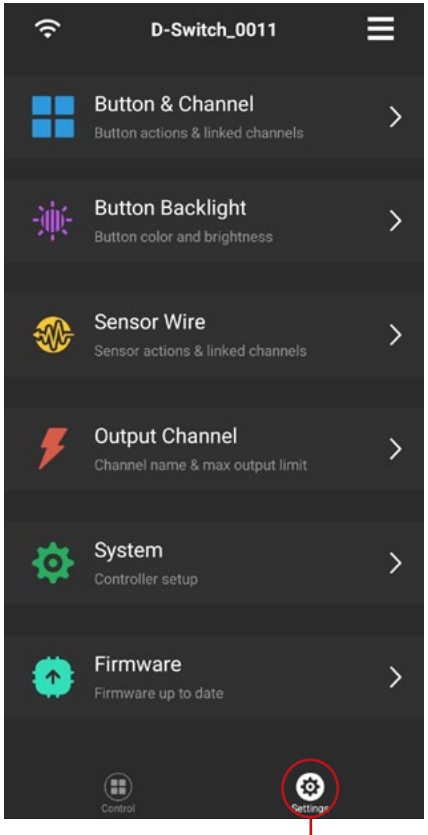


At the bottom of the screen, the status bar displays key information, including vehicle voltage, total output current, and the Hub's circuit board surface temperature.

SWITCHING BETWEEN THE CONTROL AND SETTINGS MENU

At the bottom of the app screen, you'll find two options: Control Menu and Settings Menu.

Control Menu



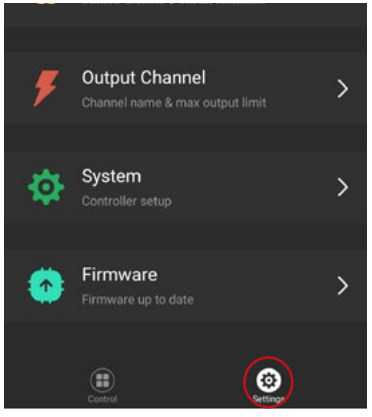
Settings Menu

Selecting one or the other will take you to either device control or global/device configuration settings.

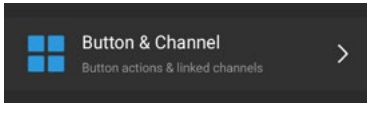
See instructions for the Settings Menu on the following pages.

CONFIGURING THE BUTTON AND CHANNEL SETTINGS

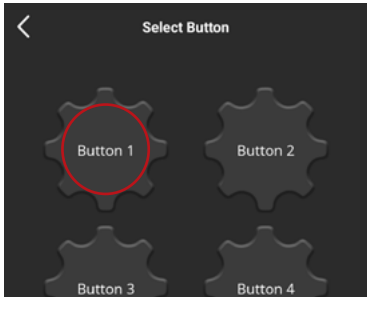
Each of the eight buttons in the Control Menu has its own set of configuration options.



1. From the main Control Menu, select the Settings Menu.

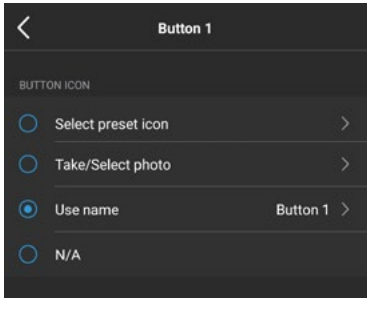


2. Select **Button and Channel** from the menu.



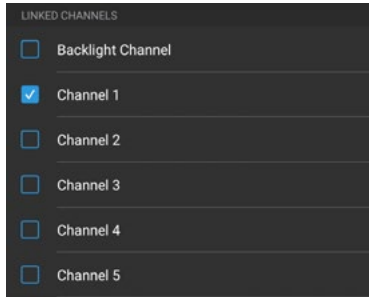
3. Select a button to configure.

Then select the desired option from each of the following sections:

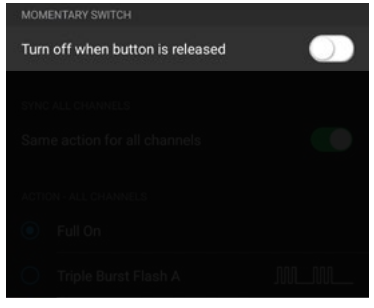


Button Icon: This is how the button will appear on the Control Menu.

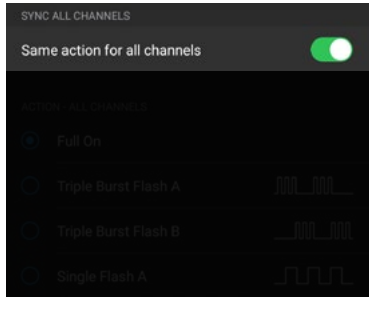
- **Select Preset Icon:** Choose a pre-made graphic that represents the button's function or output.
- **Take/Select Photo:** Use your mobile device's camera or Gallery/Photos to select an image.
- **Use Name:** Display text instead of a graphic to describe the button (default setting).
- **N/A:** No text or graphic will appear; the button will be blank on the Control Menu.



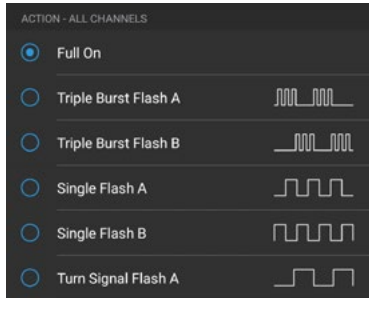
Linked Channels: This section links channels (also referred to as outputs) to the button. It's important to note that Button 1 is not fixed to Output 1—any button can be configured to control one or more outputs, including the backlight output.



Momentary Switch: Disabled by default, allowing the button to toggle On/Off with a single press. When enabled, this setting configures the button to be momentary, meaning the user must hold the button to keep it On. Once released, the button will turn Off.



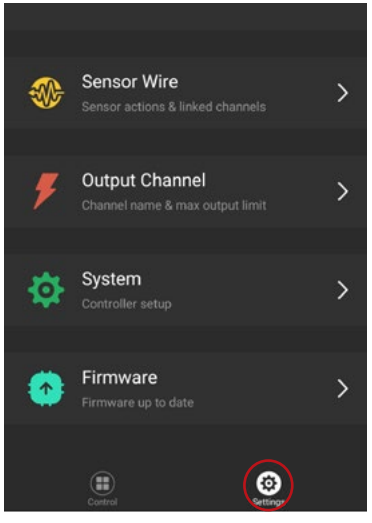
Sync All Channels: Enabled by default. When disabled, this function allows users with multiple linked channels to choose a different action for each channel individually.



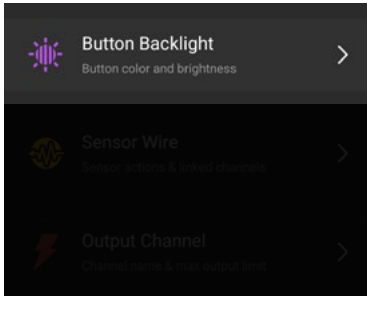
Actions: Set to Full On by default. This option allows you to select a Flash or PWM action to be associated with the channel output. When **Sync All Channels** is disabled, an individual selection will be available for each linked channel.

CONFIGURING THE BUTTON BACKLIGHT SETTINGS

The Button Backlight settings control the backlight illumination of the buttons on the physical controller.

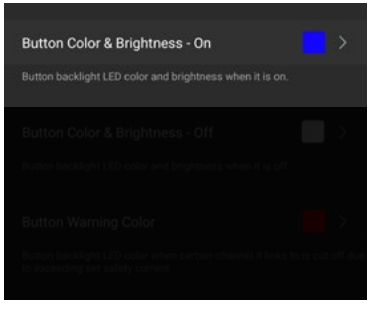


1. From the main Control Menu, select the Settings Menu.

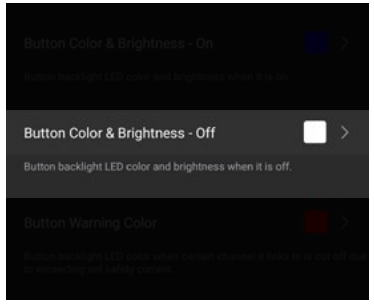


2. Select **Button Backlight** from the menu.

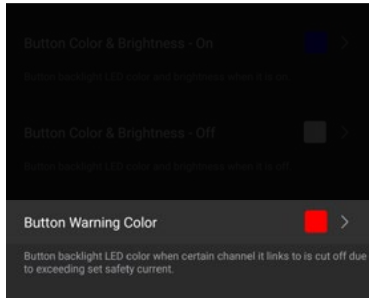
Then select the desired color and brightness level for each of the following sections:



Button Color & Brightness - On:
These settings allow you to configure the backlight color and brightness levels when a button is in the On state.

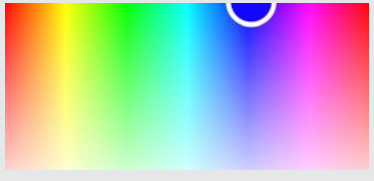


Button Color & Brightness - Off:
These settings allow you to configure the backlight color and brightness levels when a button is in the Off state.

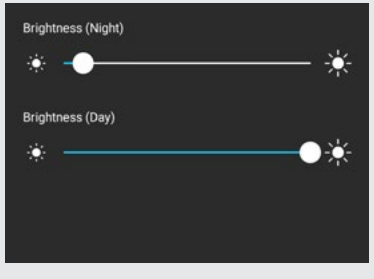


Button Warning Color: These settings allow you to configure the backlight color and brightness levels when a button is in the Error state.

COLOR AND BRIGHTNESS LEVELS



Each menu setting displays a color spectrum allowing the user to select the hue of choice.

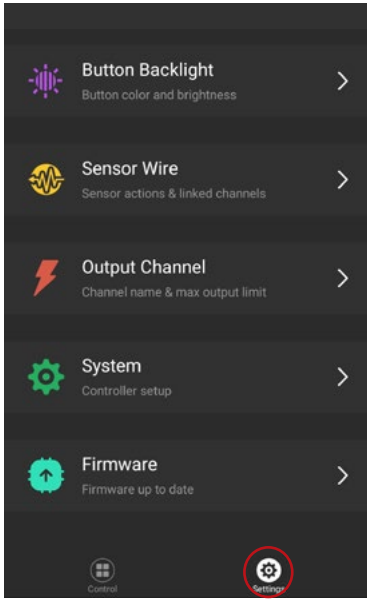


Button On and **Button Off** settings each have independent brightness sliders for Night and Day modes. These sliders allow the user to configure the brightness level of the control panel during day and night operation. The control panel will be in Day mode by default. When the **Night Mode** sensor wire detects a +12V, the control panel will switch into **Night Mode**.

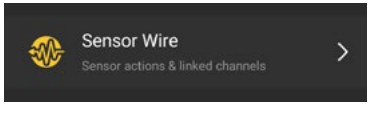
CONFIGURING THE SENSOR WIRE SETTINGS

The D-Switch features four bare sensor wires, which can be configured to automatically turn channel outputs On or Off using vehicle functions. The sensor wires are designed to be connected to OEM vehicle wires or other external triggers that use a constant +12VDC.

NOTE: This system does not work with LIN or CAN-based messages.

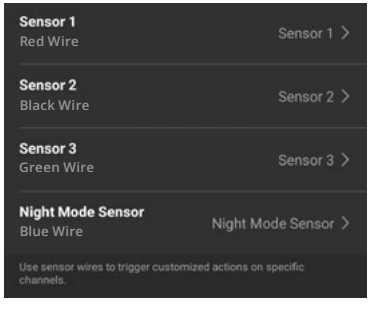


1. From the main Control Menu, select the Settings Menu.



2. Select **Sensor Wire** from the menu.

Then select the desired option from each of the following sections:

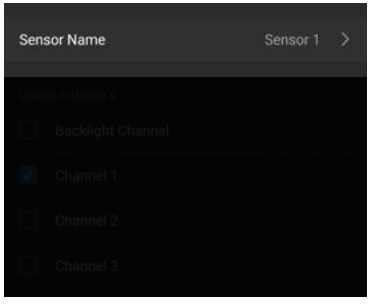


Sensor 1: Configuration settings for the red wire.

Sensor 2: Configuration settings for the black wire.

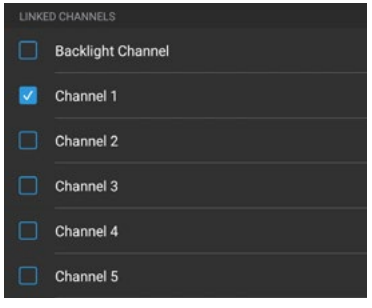
Sensor 3: Configuration settings for the green wire.

Night Mode Sensor: Configuration settings for the blue wire. The Night Mode Sensor is configured similarly to the other three sensor wires, with the added function of triggering the controller to enter Night Mode. We recommend connecting this wire to a parking light or sidemarker light.

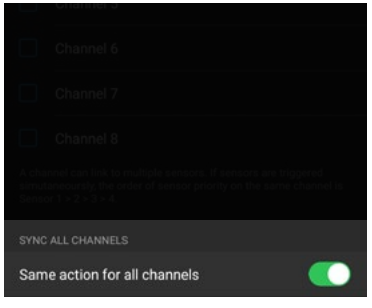


All sensor wires, including **Night Mode Sensor**, have the same configuration settings.

Sensor Name: This option allows users to rename the sensor wire.



Linked Channels: This section links channels (also referred to as outputs) to the sensor wire. Any sensor wire can be configured to control one or more channel outputs, including the backlight output.

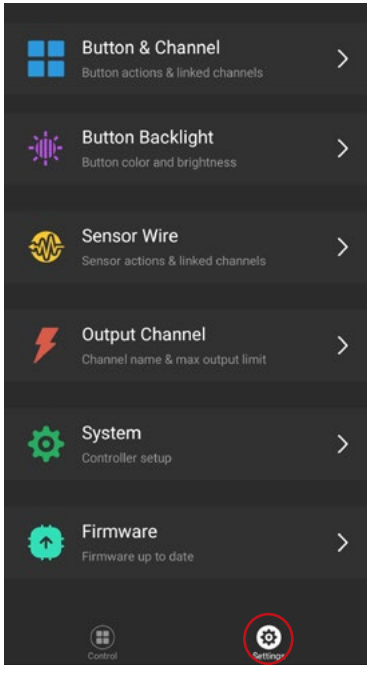


Sync All Channels: Enabled by default. When disabled, this function allows users with multiple linked channels to choose a different action for each channel individually.

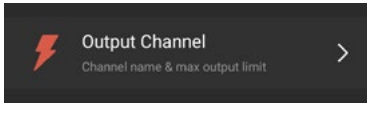
Actions: Set to Full On by default. This option allows you to select a Flash or PWM action to be associated with the channel output. When **Sync All Channels** is disabled, an individual selection will be available for each linked channel.

CONFIGURING THE OUTPUT CHANNEL SETTINGS

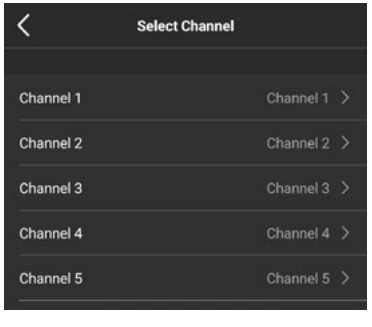
Output Channel Settings: Unlike the Button & Channel settings, which configure each individual button and its functionality, the eight output channels each have their own distinct properties.



1. From the main Control Menu, select the Settings Menu.

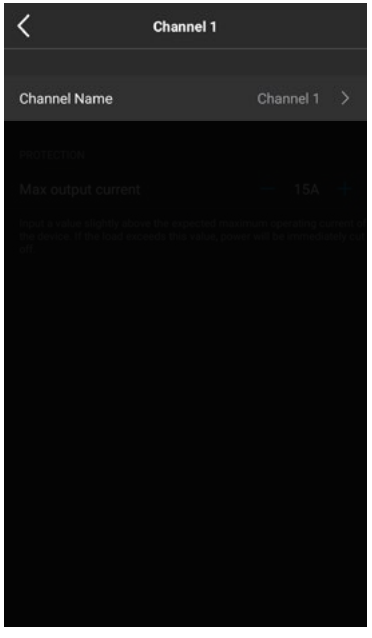


2. Select **Output Channel** from the menu.

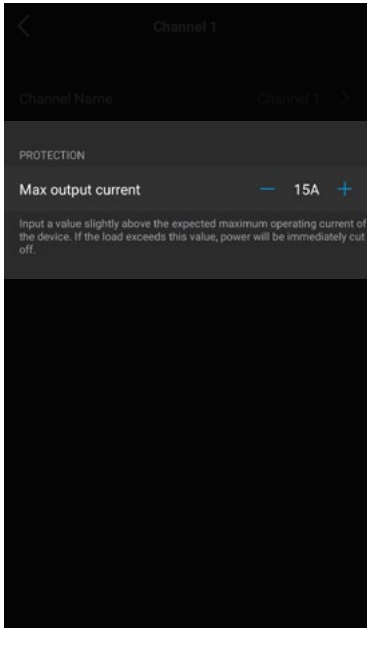


3. Select an output channel to configure. Enter the desired name and set the maximum output current.

NOTE: All eight channels share the same configuration settings.



Channel Name: Rename the output channel.



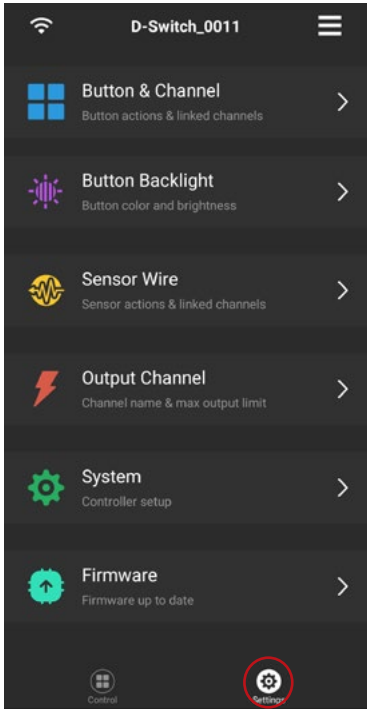
Max Output Current: This setting determines the threshold at which the output channel will automatically turn off to protect both the channel and the connected device.

- It's recommended to set the maximum output to 10% above the device's current rating. For example, if the output device is rated for 10A, set the max output current to 11A.
- Channels 1-4 can be adjusted between 3A-15A.
- Channels 5-8 can be adjusted between 3A-30A.

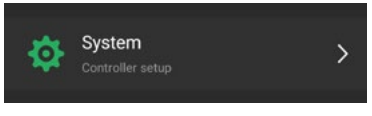
NOTE: If receiving a pop-up error message stating "Max Current Exceeded" in the app, please make sure the vehicle's motor is running to ensure proper function.

CONFIGURING THE SYSTEM SETTINGS

System Settings includes all global operational settings for the D-Switch that affect the entire unit, rather than individual buttons or channels.

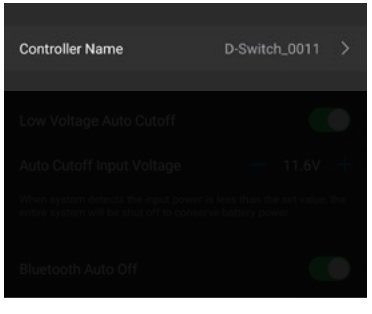


1. From the main Control Menu, select the Settings Menu.

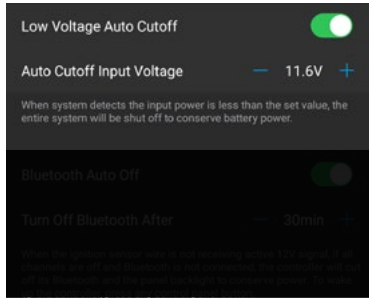


2. Select **System** from the menu.

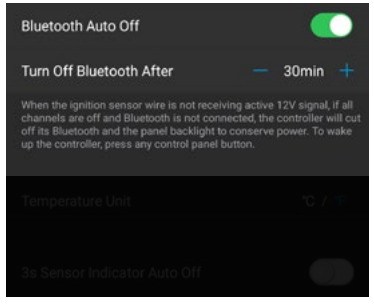
Then select the desired option from each of the following sections:



Controller Name: Rename the D-Switch and how it appears in the Device List.

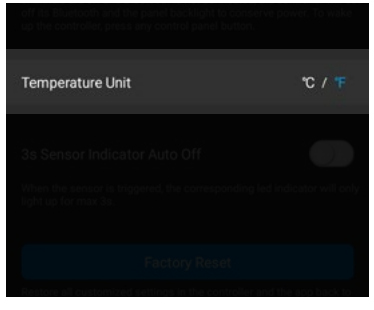


Auto Cutoff Input Voltage: The D-Switch continuously monitors the vehicle voltage, which can be viewed on the status bar of the main Control Menu. This option sets the threshold voltage at which the D-Switch will automatically turn off to help preserve the vehicle's battery.

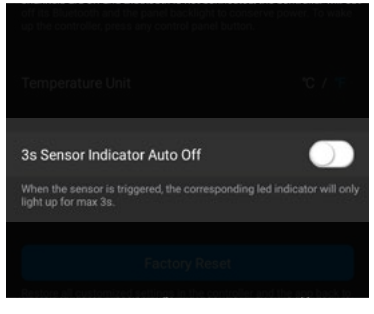


Bluetooth Auto Off: When the app is not connected to the controller, all channels are in the Off state, and no 12V is present on the ignition wire, the Bluetooth module and panel will enter sleep mode to conserve power. The panel can be reactivated at any time by pressing any button.

When enabled, the user can configure the timeout duration from 2 to 240 minutes.



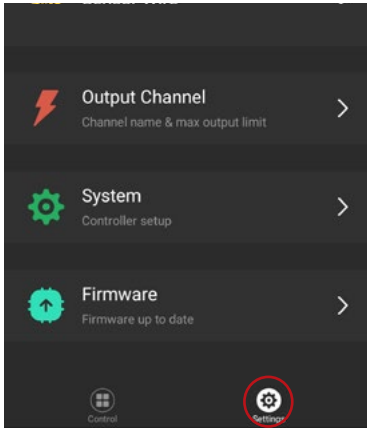
Temperature Unit: Configures the D-Switch to display temperature in [F] Fahrenheit or [C] Celsius.



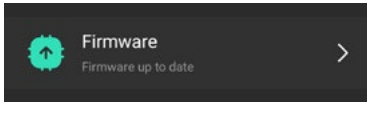
3s Sensor Indicator Auto Off: Configures the D-Switch to automatically turn off the sensor wire indicator located on top of the Controller after 3 seconds.

CONFIGURING THE FIRMWARE SETTINGS

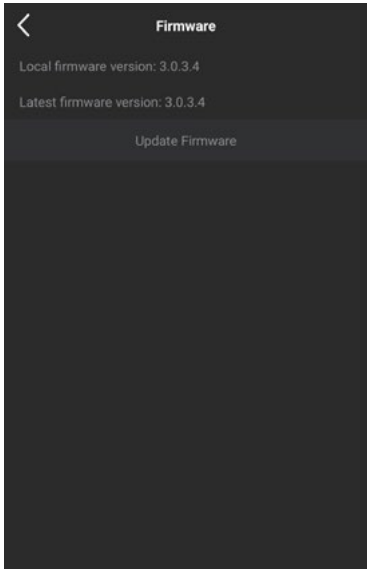
Firmware Settings allow the user to view the current firmware version and check for the latest available release.



1. From the main Control Menu, select the Settings Menu.



2. Select **Firmware** from the menu.



3. If there is a newer version firmware available, select this to manually update.

CONNECTING THE D-SWITCH TO ANDROID AUTO AND APPLE CARPLAY

The D-Switch Bluetooth Application is now compatible with Android Auto and Apple CarPlay, allowing you to access your custom D-Switch button layout right from your vehicle's infotainment screen for seamless in-dash control.

NOTE: Custom momentary switches will not work with Android Auto and Apple CarPlay.

ANDROID AUTO

Add or Remove the D-Switch App on Android Auto:

1. Select the **Settings Menu** on the Android phone.
2. Select **Connected Devices** from the menu.
3. Select **Connection Preferences** from the menu.
4. Select **Android Auto** from the menu.
5. Select **Customize Launcher** from the menu.
6. To **enable,** ☑ check the D-Switch App in the application list or to **disable,** ☐ uncheck to D-Switch App in the application list.

See instructions for Apple CarPlay on the following page.

APPLE CARPLAY

Add or Remove the D-Switch App on Apple CarPlay:

1. Select the **Settings Menu** on the iPhone.
2. Select **General** from the menu.
3. Select **CarPlay** from the menu.
4. Select the **CarPlay Account Name** in use, from the menu.
5. Select **Customize** from the menu.
6. To **enable,** scroll down to **More Apps** and tap the ⊕ Plus Icon next to the D-Switch App in the application list or to **disable,** tap the ⊖ Minus Icon next to the D-Switch App in the application list.

NOTE: For more information on using or troubleshooting Android Auto or Apple CarPlay with smartphone apps, please refer to **Android** or **Apple Support.**

TROUBLESHOOTING

- If the button on the controller is flashing red and will not power on:
  - Try increasing the maximum current on that channel (refer to pages 24-25).
  - If the current is already at its maximum, the accessory may require a relay harness.
  - Reset the alarm by turning the unit off and then back on.
- If the channel output does not turn on when the button is pressed:
  - Check the polarity of the output accessory and ensure it is properly connected.
  - Verify the button and channel settings (refer to pages 18-19) to ensure the button is correctly linked to the appropriate channel.
- If the controller does not turn on:
  - Check that the vehicle voltage is above the auto-cutoff threshold (refer to pages 26-27).
  - Check the 125A fuse on the battery cable.
  - Ensure all M8 connections are secure.
- If the sensor wire is connected but does not turn on any lights:
  - Confirm that the wire being tapped has 12VDC, using a voltmeter.
  - Inspect the quick splice for proper connection. Quick splices are suitable for 18-22 AWG wire.
- If needed, the D-Switch can be grounded to the chassis, instead of the battery:
  - Confirm that the ground is solid with a bare metal surface.

NEED MORE HELP?

Scan the QR code to link to our YouTube Channel!

We continuously bring in vehicles to our testing garage in order to create step-by-step videos to walk you through the installation process on your specific vehicle. Scan the QR code to see all of our installation videos. Be sure to subscribe to our channel to stay up-to-date on the newest products and videos from Diode Dynamics!

WARRANTY AND CONTACT

SATISFACTION GUARANTEE:

At Diode Dynamics, we want to ensure every customer is satisfied with their purchase. Therefore, we offer a straightforward satisfaction guarantee:
If you aren't satisfied with your purchase, for any reason, just contact us within 30 days of your purchase and we will arrange a refund of your purchase price, or exchange the items with no hassle.

3-YEAR REPLACEMENT LIMITED WARRANTY:

Diode Dynamics warrants that its products will be free from defects in material and workmanship for a period of three (3) years after the date of purchase, subject to exceptions, limitations, and stipulations. For approved warranty claims, Diode Dynamics will replace the defective product with the same product or, if it has been discontinued, one comparable in performance and value.

If you have an issue with any product, we will diagnose the issue with you, and you may be required to answer questions or assist in the diagnosis. If Diode Dynamics determines that your product is defective in material or workmanship, Diode Dynamics will issue an RMA number. An RMA number must be issued before any items are returned.

FCC ID: 2BPIL-DD8373:

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.

CONTACT US:

Please contact **Diode Dynamics** should you have any questions about the installation or wiring process:

contact@diodedynamics.com
314-205-3033
10:00-5:00 Monday-Friday, CST

This installation guide is for the following SKU:

DD8373 D-Switch 8-Channel Switch Panel

D-Switch Panel Installation Guide

D-SWITCH APPLICATION

Scan the QR Code below, or search for the **D-Switch** application in the Apple Store or Google Play Store and download it for free.

Apple Store

Google Play Store

D-SWITCH INSTALLATION

Scan the QR Code below to link to our YouTube Channel!

CONTACT US

contact@diodedynamics.com | 314-205-3033 10:00-5:00 Monday-Friday, CST
3870 Millstone Pkwy, St. Charles, MO 63301