



# WR Wireless Switch Instruction Manual

Please read this manual carefully prior to installation to follow correct fitting procedure.  
Store this manual in safe location for future reference.

PN : **WR-3**

## Before installation

This product is an optional accessory for harnesses with a relay specifically designed for IPF off-road lamps. Operation is not warranted if connected to an IPF harness without a relay or to products of other manufacturers, as this may cause failures to the product.

Main unit has a splash-proof design equivalent to IPX4.

Connector on the main unit side of the harness is water proof, however, the wiring ends and attached fuse case are not.

## Precautions for safety and use

This product is for 12V use only, and not for 24V use.

It is recommended that this product be installed by a professional.

Make sure to turn off the engine, lamp switches and disconnect the negative terminal of the battery before installation.

Please ensure that connectors and terminals are securely connected.

DO NOT disassemble or modify the main unit or parts as this may cause failures or water ingress.

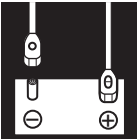





## Regulations

This product complies with Japanese Radio Act (Built-in module with certified technical standards compliance). Not for use outside Japan.

## Component parts

No.	Name of product	Qty.
①	WR Wireless Switch main unit	1
②	Harness	1
③	Fuse assembly	2
④	Terminal connector kit (3 x paired connector terminal and 4 x male flat terminal)	1
⑤	Double-sided tape	2

## Wiring method

	Before the installation work, you must remove the (-) terminal of the battery. If the vehicle mounts 2 batteries, remove both (-) terminals.		Install the relay and harness in a position where it will not make contact with high temperature surface. (Such as engine, radiators, or supercharger, exhaust pipes.)		All the connectors and terminals should be solidly connected.
	Do not pull strongly the harness and connectors.		Install the harness and cords in a position where it will not be scratched, bent or pressed such as in moving parts (Pedals / Wires / Doors / Belts / Pulleys). In some cases, it may cause the vehicle to catch fire.		Harness and cords should be securely tied by cable ties or tapes.

## **Caution**

Incorrect wiring connections may result in a short circuit (this may cause trouble).  
Depending on radio wave conditions, this product may not be usable due to interference.  
This product is a wireless device using 2.4 GHz band. 2.4 GHz band is widely used for wireless communications in industrial and consumer applications, including unmanned aerial vehicles (drones, etc.) and Wi-Fi devices, as well as Bluetooth® wireless technology used in this product.  
Before using this product, check to see if there are no devices using the 2.4 GHz band in the vicinity.  
If radio interference occurs between this product and any other device, change location or stop using it.

## **1. Connect wires to harness of the lamp on/off switch**

Wiring methods vary depending on conditions of IPF off-road lamp set up.  
Refer to the following and make required wiring connections.

### **Caution**

Please note that the flat terminals may be loose fit due to differences in thickness between terminals. If loose, adjust the gap by tightening the female terminal with longnose pliers or similar.

Wiring method example 1 :

### **When the lamp on/off switch terminals are flat and one switch is used.**

Connect wires shown in **Fig. 1** .

Disconnect all three wires connected to the lamp on/off switch, connect each flat terminal to the corresponding wire and connect it to the WR Switch with a connector terminal.

It links to Switch 1 if the blue wire of the lamp on/off switch is connected to the yellow wire of the WR switch.

It links to Switch 2 if connected to the green wire.

### **Warning**

As a safety precaution, make sure to use supplied fuse between the blue wire of the lamp on/off switch and the yellow or green wire of the WR Switch.

Wiring method example 2 :

### **When the lamp on/off switch terminals are flat and one switch is used and interlocking wiring is already installed.**

Connect wires shown in **Fig. 2** .

When changing from the connection linked to ACC or IGN or high beam, connect the red wire (with insulating treatment) of the lamp on/off switch to the red wire of the WR Switch using a flat terminal supplied.

Then, disconnect all three wires connected to the lamp on/off switch, connect each flat terminal to the corresponding wire and connect it to the WR Switch with a connector terminal.

It links to Switch 1 if the blue wire of the lamp on/off switch is connected to the yellow wire of the WR switch.

It links to Switch 2 if connected to the green wire. Turn on "Vehicle Linkage" on "Setting" of the app and enable interlocking control.

### **Warning**

As a safety precaution, make sure to use supplied fuse between the blue wire of the lamp on/off switch and the yellow or green wire of the WR Switch.

Wiring method example 3 :

**When the lamp on/off switch terminals are flat and two switches (lamps) are used.**

Connect wires to one of the on/off switches shown in **Fig. 1**.

Connect the other on/off switch as shown in **Fig. 3**.

For the connections shown in **Fig. 3**, connect only the blue wire of the lamp on/off switch to the wire of the WR Switch using a flat terminal and a connector terminal.

Insulate/waterproof the red wire (+ 12V) and the black wire (GND) as they are not used.

**Warning**

As a safety precaution, make sure to use supplied fuse between the blue wire of the lamp on/off switch and the yellow or green wire of the WR Switch.

Wiring method example 4 :

**When the lamp on/off switch itself has no terminals and the harness comes directly from the switch.**

Connect wires shown in **Fig. 4**.

Disconnect the black and black/white wires leading to the lamp's on/off switch from the connector terminals, and cut the yellow wire, leaving the fuse in place.

Connect the removed black wire to the black wire of the WR Switch and the black/white wire to the yellow or green wire of the WR Switch using the supplied fuse, using connector terminals.

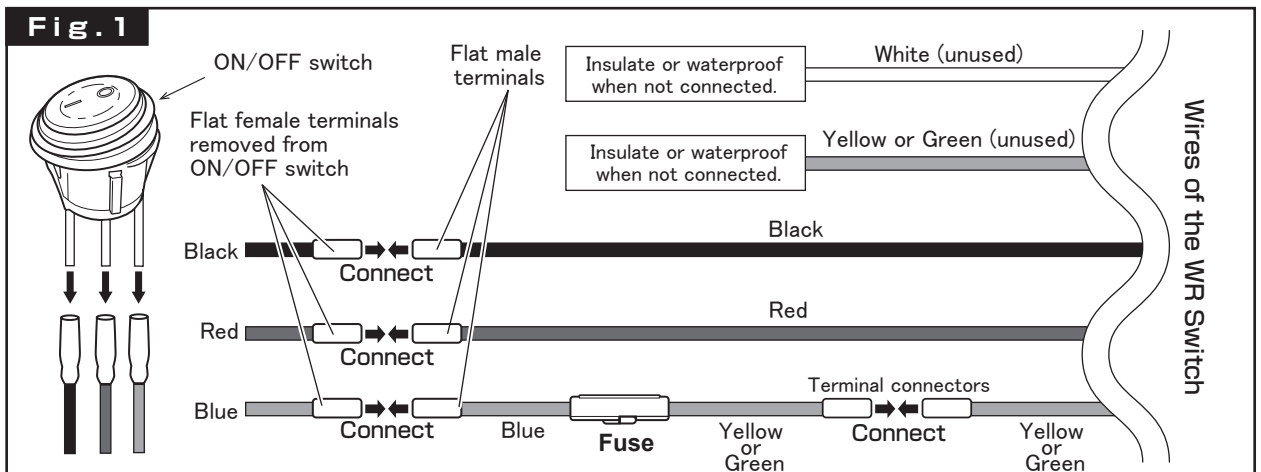
Connect the disconnected yellow wire to the red wire of the WR Switch using a connector terminal.

It links to Switch 1 if the black/white wire of the lamp on/off switch is connected to the yellow wire of the WR switch. It links to Switch 2 if connected to the green wire.

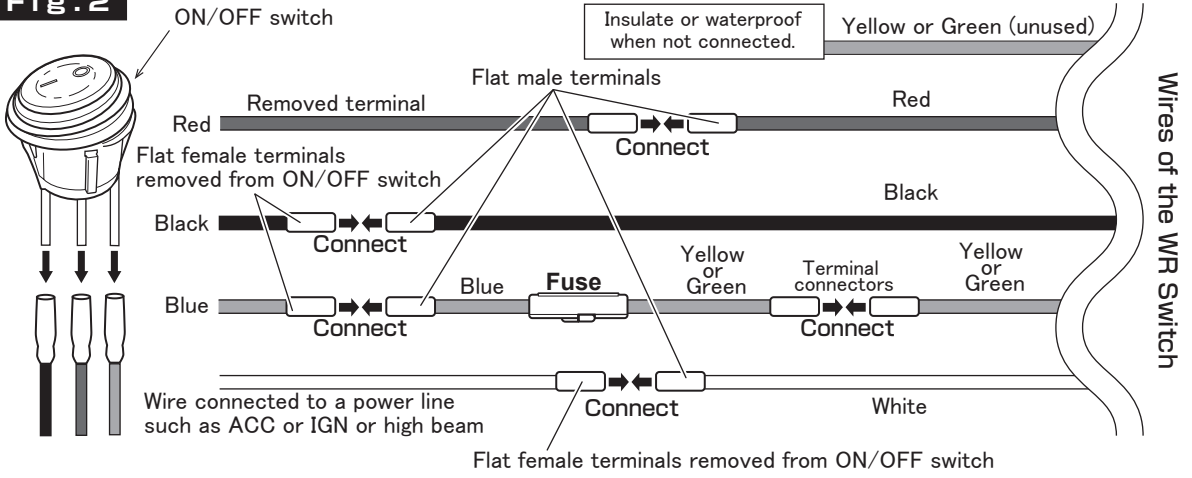
**Warning**

Note that some wires will be connected with different colors.

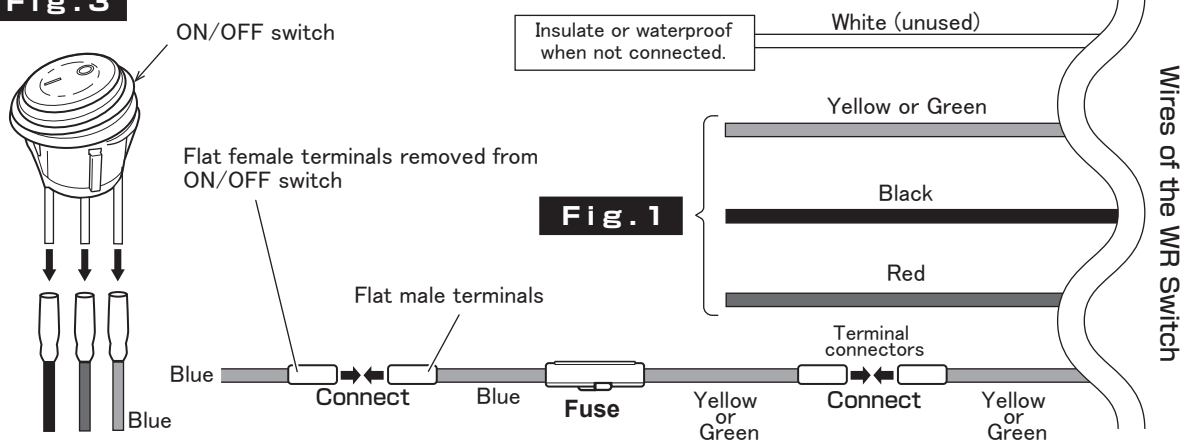
As a safety precaution, make sure to use supplied fuse between the black/white wire of the lamp on/off switch and the yellow or green wire of the WR Switch.



**Fig. 2**

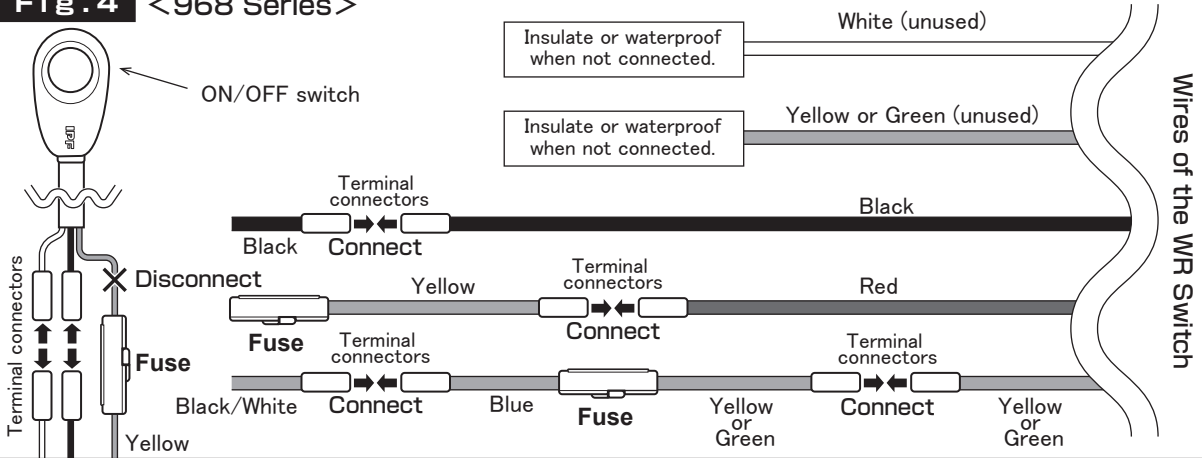


**Fig. 3**



**Fig. 1**

**Fig. 4 <968 Series>**



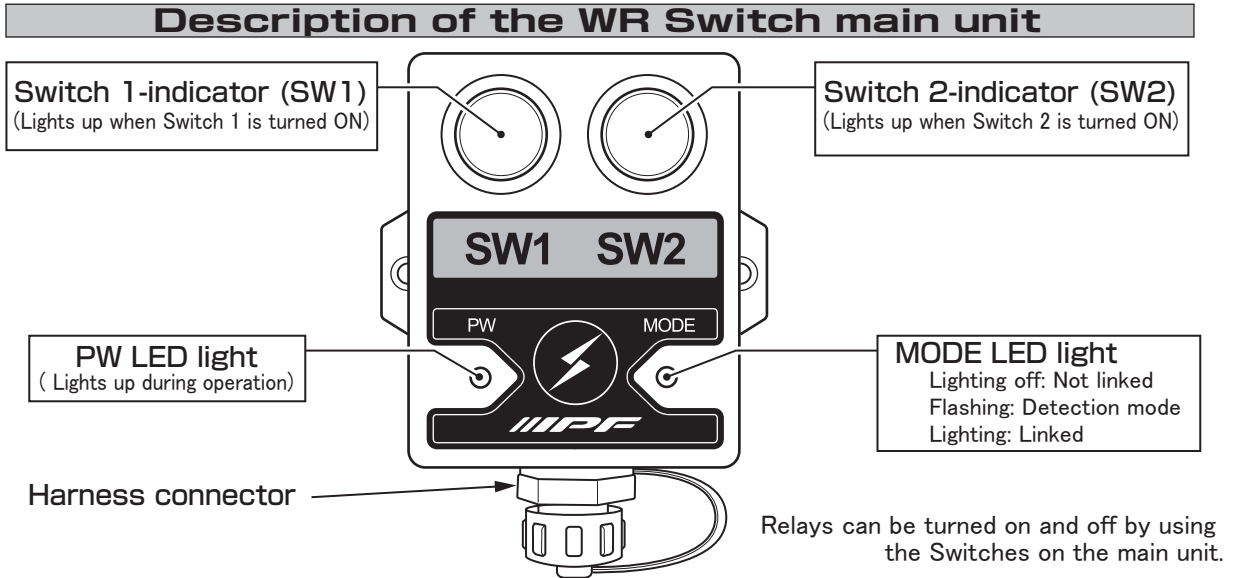
## 2. Mount the WR Switch main unit

After wiring is completed, mount the main unit in a suitable place away from water and high temperatures, using supplied double-sided tape or separately prepared cable ties and screws.

Avoid attaching double-sided tape to the nameplate label on the back side of the unit.

Because the nameplate label is recessed from the surrounding area, which may cause the double-sided tape to become slightly uneven, resulting in the tape not being as strong as it should be.

When securing the main unit with cable ties or screws, use those that can fit the mounting hole diameter of approx. 3 mm. Do not put excessive strain on the harness connector when mounting the main unit.



## Specifications

Operating voltage	:	10V-18V
Standby current (when linked)	:	Average approx. 3mA
Operating temperature	:	-20° C to +60° C
Main unit weight ( harness not included )	:	Approx. 50g

## Reference (Harness I/F)

Wiring color	Usage	Connection to	Remarks
Red	Main unit positive power supply	Battery, etc.	For 12V only (not for 24V)
Black	Negative main unit wiring	Battery, body ground, etc.	
Yellow	Switch 1 (SW1) output control	Relay (coil)	+12V output / max. 0.5A / fuse required
Green	Switch 2 (SW2) output control	Relay (coil)	+12V output / max. 0.5A / fuse required
White	External interlocking input	ACC/IGN/etc.	For 12V only (not for 24V)

Connect Switch 1 (SW1) and Switch 2 (SW2) to 12V relays (24V relays will not work).

For safety reasons, make sure to use supplied 0.5A fuses for the switches control outputs.

Insulate/waterproof unconnected wires.

## How to use IPF CONNECT app for WR Switch

### ⚠ Precautions for use

PIN code, password, and other security features have not been incorporated to prioritize ease of use and connectivity.

Please note that anyone using the app can link to and use the WR Switch while in detection mode.

### Smartphone requirements

This app is designed to work with smartphones with Bluetooth® 4.2 or later, iOS 9.0 or later, or Android 5.0 or later OS. However, compatibility is not guaranteed for all smartphones that meet the above requirements.

### How to use IPF CONNECT app

#### 【Preparation】

WR Switch automatically activates the detection mode when connected to the power source.

Click the link below and install IPF CONNECT app on your smartphone.



Place your smartphone with the app installed close to the WR Switch while in detection mode and activate it. After displaying "Searching", if the app finds a WR switch in detection mode

(If there is no WR Switch in detection mode in the vicinity, "WR-3 not found" will be displayed).

When connecting, the distance between the WR Switch and your smartphone should be within 3m when there is nothing to block it.

Tap the "Link" button (see Fig. 1) on the top left after switching to this the operation screen.

New link is completed when the communication indicator under the IPF logo in this operation screen (see Fig. 2) turns from gray to blue after the word "Linking" appears.

At this point, MODE LED light on the WR Switch turns from flashing to lighting.



Fig. 1 Link button



Fig. 2 Communication indicator

**【Basic operation】**

Tap any switch button once and it will change from gray to red.

This action gives +12V output for relay control to the harness control output of the WR Switch.

Red indication on Switch button is light ON condition, and gray indicates light OFF condition.

Tap again and the switch changes from red to gray, turning off +12V output.

Switch 1 button on top activates SW1 control output (yellow wire of harness).

Switch 2 button on bottom activates SW2 control output (green wire on harness).

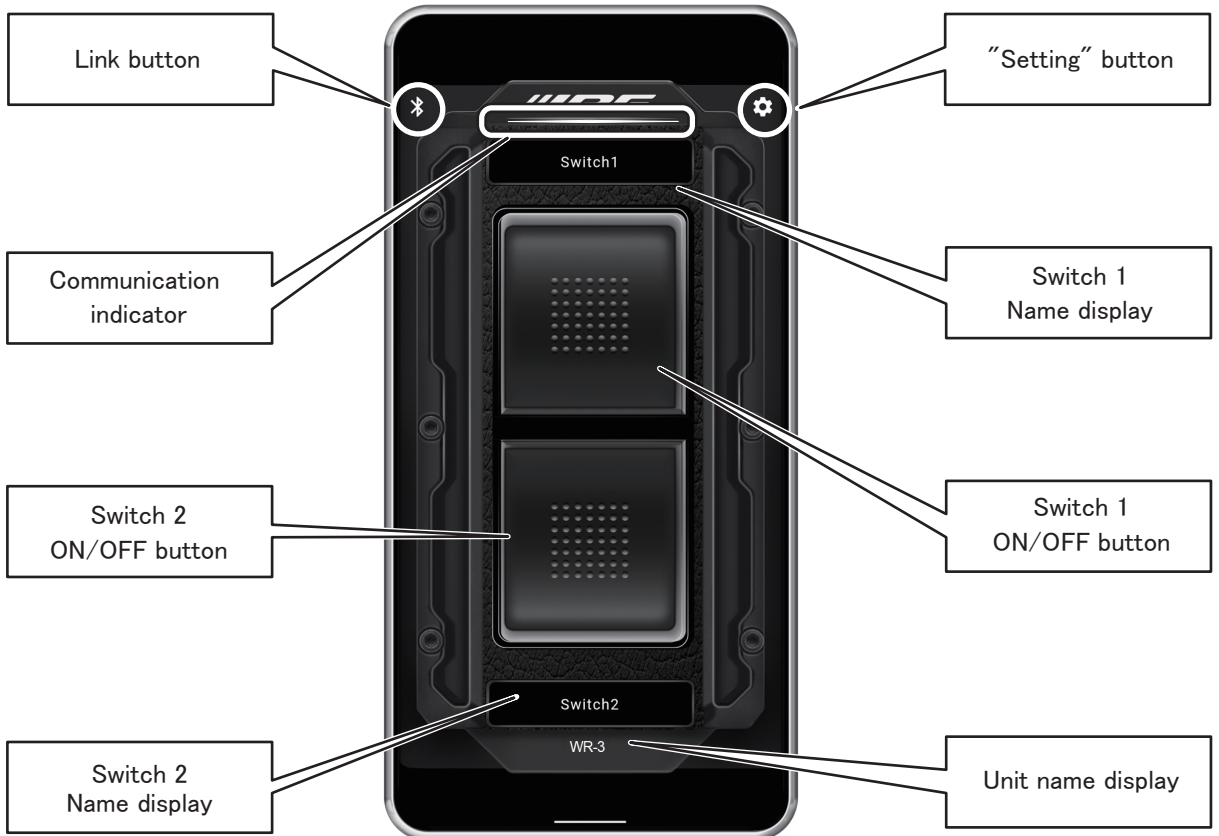


Fig. 3 Operation screen details

Note: Switch names and main unit name can be changed. For more information, see page 8,  **Useful tips.**

▷ **When the operation screen will not open ("WR-3 not found" is displayed).**

Check to see if PW LED light of the WR Switch you are trying to link is on (in operation) and MODE LED light is flashing (in detection mode).

**When PW LED light is off**

No power connected to the main unit.

Recheck connections of the main unit connector and polarity of the harness terminals (flat terminals/connector terminals).

**When MODE LED light is on**

A link has already been made with another smartphone.

Close down the app of the smartphone or deactivate its Bluetooth® connection to break existing link. MODE LED light will turn from lighting to flashing. This means that a new link is ready.

**When MODE LED light is off**

Link is inactive. Press SW1 and SW2 on the WR Switch once at the same time.

This will activate the detection mode. MODE LED light will start flashing and a new link will be ready.

To search again, tap the "Research" button under "WR-3 not found" display with your smartphone close to the WR Switch main unit.

▷ **If this still does not work, try the following steps.**

1. Check to see if Bluetooth® on your smartphone is active.  
Please refer to your user manual, as each smartphone has different instructions.  
In addition, for Android smartphones, the permissions of the WR Switch app include location information. This app does not use location information, but due to Bluetooth® specifications, it requires permission to use it.  
Please note that for Android smartphones with an OS of Android 12 or later, both "Location" and "Nearby devices" permissions are required.
2. Close IPF CONNECT app once.  
Please refer to your user manual, as each smartphone has different instructions.
3. Press SW1 and SW2 on the WR Switch once at the same time.  
Check that MODE LED light turns off from flashing and press both SW1 and SW2 again at the same time.
4. Mode LED, which was off, will start flashing and turn into detection mode.  
Activate the app on your smartphone.



## **Caution**

To prevent possible misuse, it will not link to WR Switches with a weak/distant radio signal.

Only one smartphone can be linked to and control a WR Switch.

Operation screen will display multiple (scroll to check the other Switches).

Choose to connect one of the Switches and tap the "Link" button on.

If the distance between your smartphone and the WR Switch is too far and they are unable to reach each other, the communication indicator under the IPF logo will turn from blue to gray and you will not be able to control the switches.

In this case, the communication between your smartphone and the WR Switch is incomplete, please close the distance between them.

When the signals reach each other, the communication indicator under the IPF logo turns from gray to blue and the switch can be activated.

When closing the app once and opening it again, some of your "Setting" options may be cleared. (One Shot/Alternate/Vehicle Linkage)

Please reset your "Setting" when restarting the app.

Please note that you are not able to do the following:

- Control two or more WR Switches at the same time with a smartphone.
- Switch and control links of multiple WR Switches at will with a smartphone.
- Link and control a WR Switch from two or more smartphones at the same time.



## **Useful tips on how to use IPF CONNECT app**

Switch names on your app can be changed. Default names are Switch1 and Switch2.

Tap on name displays to enter text.

Press "Confirm" and your new name will be reflected on your app's display.

Main unit name can also be changed from the default name WR-3 in the same way as for switches.

Name change of the main unit will not be reflected until you restart it.

Please note that the name of your main unit can be seen by other persons' devices.

Take care with the name you use.

Adding a brightness level control module (sold separately) to the harness allows you to use this product to turn on the dimming feature of the 600 series light bars.

Connecting the wiring of the dimmer switch directly to the WR Switch will not work.

Please make sure to add a brightness level control module (sold separately).

IPF CONNECT app automatically reconnects with existing link of your WR Switch if it is found in the communication range while in detection mode.

Once out of communication range, it will automatically reconnect as soon as it is close enough to connect.