

# touch panel - 1 ZONE control LENNY-PAN-BO



### Smart LED control system

New smart LED **color control system** with 2.4GHz remote control.

Auto synchronisation and auto transmission functions.

The device adopts low power consumption technologies and one controller can manage several receivers at the same time. The system does not produce interference as it uses a very low level transmission signal. Suitable for simple installations in both domestic and professional environments.

**Owners manual** 



Smart LED control system

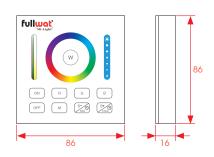
Technical specifications	3
<b>Single color</b> Touch panel functions Mobile control	5
<b>Tunable white</b> Touch panel functions Mobile control	6
RGB Touch panel functions Mobile control	7
<b>RGBW</b> Touch panel functions Mobile control	9
<b>RGBWW</b> Touch panel functions Mobile control	11
Led Strip-controller connection	13
List of LENNY-DRV-LS2 modes and functions for RGB / RGBW / RGBWW	15
List of LENNY-DRV-WL5 modes and functions for RGB / RGBW / RGBWW	15
System linking and unlinking	16
Device auto-sync	17
Auto-transmitting function	17
Installation diagram	18
Mobile phone pairing	20
Alexa linking	24
Google Home linking	25
Google Assistant linking	26
Compatibility table	27
Table of controls by zones	28



Smart LED control system

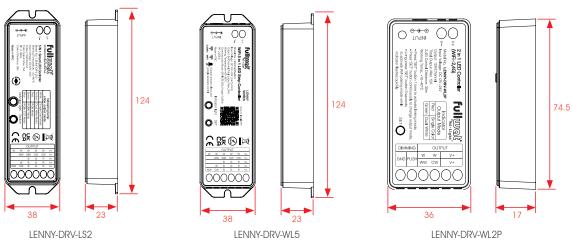
### **Technical specifications**

Touch panel		
Model	LENNY-PAN-BO	
Voltage	3V (2 AAA batteries)*	
Emitting power	6dBm	
Standby current	20uA	
Working temperature	-10~40°C	
Working frequency	2.4GHz	
Aprox. operational distance	30m	



\* Not included.

DIRECT CURRENT DRIVERS							
	LENNY-DRV-LS2 LENNY-DRV-WL5 LENNY-DRV-WL2P						
Description	5 in 1 receiver	WiFi 5 in 1 receiver	WiFi 2 in 1 receiver				
Voltage	DC12V~2	4V (terminal block & jack p	olug inputs)				
Output max. current	6A per channel 12A per channel						
Total current	15A 12A				15A		12A
Working temperatue	-20~60°C -10~40°C						
Working frequency	2.4GHz						
Aprox. operational distance	30m						
Connection mode	Common anode						
WIFI	Requires gateway LENNY-WIFOX1						



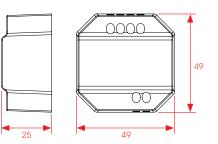
LENNY-DRV-WL5



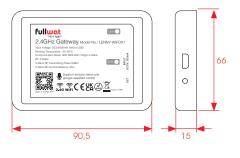
Smart LED control system

ALTERNATE CURRENT DRIVER	TRIAC controller
Model	LENNY-TRIAC1
Input voltage	AC 100-240V 50/60Hz
Output voltage	AC 100-240V
Ouput current	MAX 1.36A
Output power	150W@100VAC; 300W@240VAC
Regulation method	Wireless RF, push button, APP
RF range	30m
Working temperature	-10-40°C
WIFI	Requires gateway LENNY-WIFOX1

### **Technical specifications**



WIFI GATEWAY	
Model	LENNY-WIFOX1
Working voltage	DC5V/500mA (Micro USB)
Working temperature	-20~60°C
Communication	WiFi-IEEE 802.11b/g/n 2.4GHz
Working frequency	2.4GHz
Transmission power	6dBm



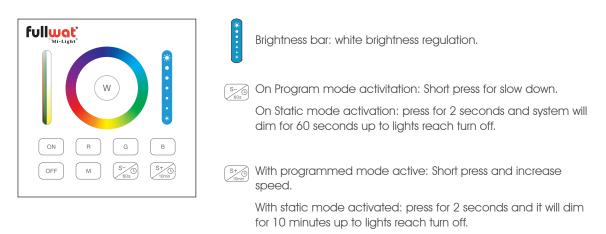
\* Suggested AC/DC adaptors (not included): MWMU10GS FU-ADPY10-5-USB



Smart LED control system

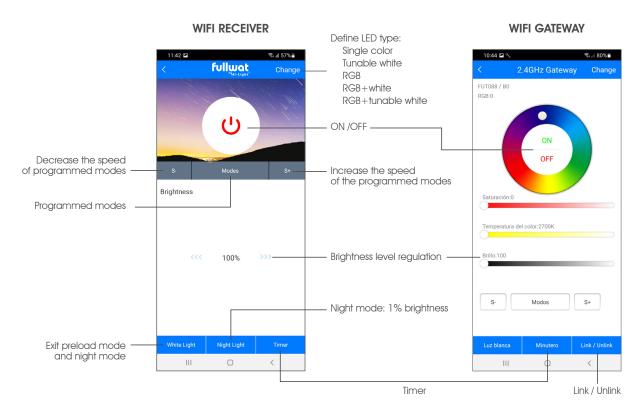
### SINGLE COLOR

#### Touch panel functions: LENNY-PAN-BO



#### Mobile control

For control via mobile phone, Alexa, Google Home or Google Assistant, a WIFI gateway is required, either built into the receiver or using the LENNY-WIFOX1 gateway.

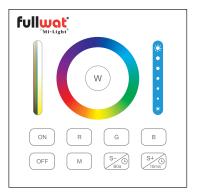




Smart LED control system

### **TUNABLE WHITE**

#### Touch panel functions: LENNY-PAN-BO



 Brightness bar: white brightness regulation.

 Image: Dynamic white bar: Dynamic white mixing from the warmest to the coolest tone.

 Image: Dynamic white bar: Dynamic white mixing from the warmest to the coolest tone.

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 Image: Dynamic white bar: Dynamic white mixing from the warmest to the coolest to the speed.

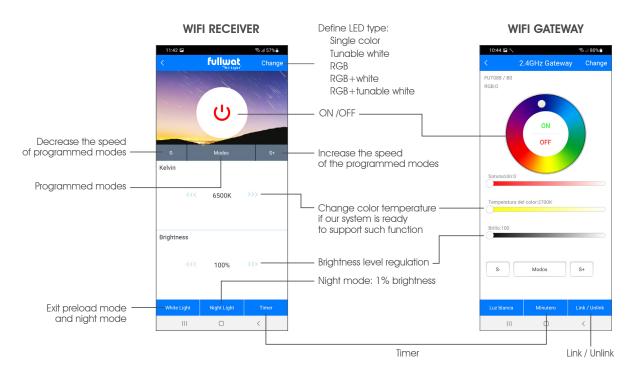
 Image: Dynamic white bar: Dynamic white press for 2 seconds to the tore of the speed.

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#### Mobile control

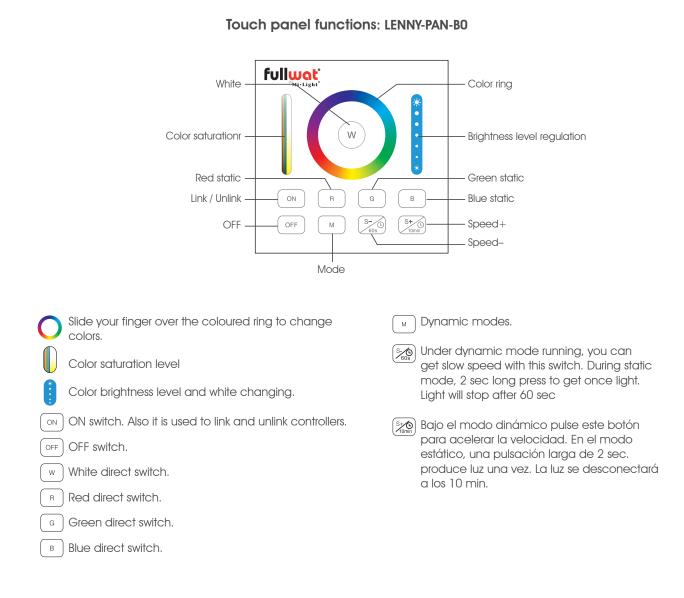
For control via mobile phone, Alexa, Google Home or Google Assistant, a WIFI gateway is required, either built into the receiver or using the LENNY-WIFOX1 gateway.





Smart LED control system

### RGB



- Select color: Touch color wheel on desired color (e.g.blue).
- Color saturation: Adjust color saturation (0% chosen color, 100% very saturated color).
- Brightness bar: Adjust brightness level.
- White: With any color selected from color wheel, click on "W" to set full white with R+G+B mixing.
  - Brightness slide bar: White brightness level setting.
  - Tunable white: Once white activated, use "color "saturation bar" to set different white tones from RGB leds mixing.
- With a static color activated, saturation (slide "Color saturation" bar) and brightness can be adjusted. You can reach Upwards 100% and downwards 0% levels.



Smart LED control system

### RGB

#### Mobile control

For control via mobile phone, Alexa, Google Home or Google Assistant, a WIFI gateway is required, either built into the receiver or using the LENNY-WIFOX1 gateway.

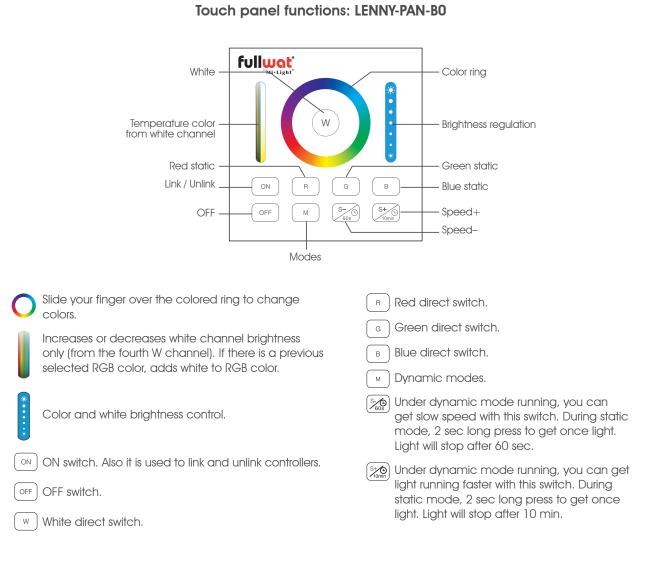


- Select color: Touch color wheel on desired color (e.g. blue).
- Saturation: Adjust color saturation (0% chosen color, 100% very saturated color).
- Brightness level: Adjust brightness level.
- White color: Bring out white color using R+G+B mixing combination (If maximum level is required, set saturation bar at highest level).
- Tunable white: System allows to simulate dynamic white levels using RGB leds.



Smart LED control system

### RGBW



- Select color: Touch color wheel on desired color (e.g. blue).
- Brightness level: Adjust brightness level.
- Only white activation : Click on "White" to reach pure white.
- Color+White activation: Set desired color on the color wheel then adjust white with saturation slide bar (0% on the left side, then white channel OFF, 100% on the right side, then white fully ON).
  Note: Once brightness level has been selected, if we push "W" then it will be switched ON at selected level.
- Color + White and selected color cancelation: Push W.
- Color + White and white setting cancelation: White channel slide bar on the left (0%).(downwards).
- With a static color on, the saturation (Slide "Color saturation" bar) and brightness can be adjusted. You can reach Upwards 100% and downwards 0% levels.



#### Smart LED control system

### RGBW

#### Mobile control

For control via mobile phone, Alexa, Google Home or Google Assistant, a WIFI gateway is required, either built into the receiver or using the LENNY-WIFOX1 gateway.



- Select color: Touch color wheel on desired color (e.g. blue).
- "Saturation" bar: Adjust color saturation (0% chosen color, 100% very saturated color).
- Brightness level: Adjust brightness level.
- White light: Only white channel activation set.
  - The "Brightness slide bar" is used to set desired brightness level.
- Color + White activation: Choose color with "color slide wheel" and set white level with saturation bar (0% white channel off, 100% white channel set at max level).
- Remove Color + white and Color levels: Press "White light".



Smart LED control system

### RGBWW

#### Touch panel functions: LENNY-PAN-BO fullwat White Color ring Tunable white W Brightness regulation Red static Green static Link / Unlink -ON R G В Blue static S+ Speed+ OFF -OFF М Speed-

R

G

В

м

Red direct switch.

Blue direct switch.

Dynamic modes.

Under dynamic mode running, you can

Light will stop after 60 sec.

light. Light will stop after 10 min.

get slow speed with this switch. During static mode, 2 sec long press to get once light.

Under dynamic mode running, you can get

light running faster with this switch. During static mode, 2 sec long press to get once

Green direct switch.

Modes

Slide your finger over the colored ring to change colors.

To adjust the dynamic white, the "W" key must first be selected and then this bar must be used to change the color. If, in addition to white, a color (RGB) is active, this key is used to adjust the brightness of the white (in previously selected dynamic white).

Brightness level in color or white modes.

ON switch. Also it is used to link and unlink controllers.

OFF OFF switch.

 For dynamic white changing, use "tunable white" bar from your remote control.

- Select color: Touch color wheel on desired color (e.g. blue).
- Brightness level: Adjust brightness level.
- Dynamic white control: Press W key (if other color is selected previously, it will be switched off). Use slide touch "dynamic bar" until your get desired tone.
- Color + White activation: Select desired white tone first (see previous steps). Once white shade tone is reached you must choose color using "color wheel".
  - Color + Dynamic white mixing and white removing: slide "dynamic white" bar. Upwards is 100% (selected white tone will be turned on to the maximum) and downwards is 0% ( white will be turned off and only color selected will remain).
  - Color + Dynamic white and color removing: press "White" key and set desired white tone.
- With a static color on, the saturation (slide "Color saturation" bar) and brightness can be adjusted. You can reach Upwards 100% and downwards 0% levels.



#### Smart LED control system

### RGBWW

#### Mobile control

For control via mobile phone, Alexa, Google Home or Google Assistant, a WIFI gateway is required, either built into the receiver or using the LENNY-WIFOX1 gateway.



#### Working mode

- Select color: Touch color wheel on desired color (e.g.blue)
- Brightness level: Adjust brightness level.
- Tunable white: Slide your finger over "tunable white bar" to get desired white tone.
- Note: If there is a previous selected level from color slide wheel, it will switch off.
- Color + Dynamic White: Choose desired color with slide wheel and adjust white tone desired with saturation bar (0% white channel off, 100% white channel at highest level).

- Note: If dynamic white color is desired, please firstly set dynamic white mode.

- Color + dynamic white and turn white off: Set saturation bar at lowest level 0%.
- Color + dynamic white and color off: Select dynamic white tone with "Kelvin grade" bar and color will be switched off.

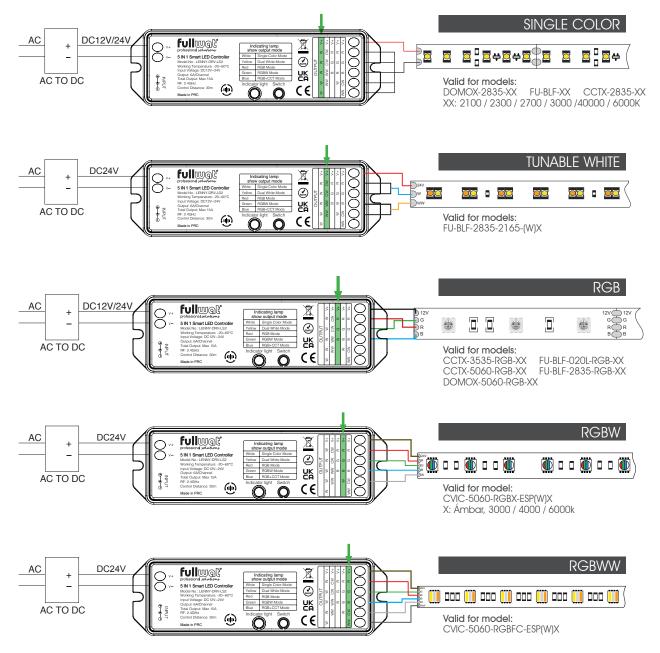


Smart LED control system

Led Strip-controller connection

#### Connection drawing

#### 5 in 1 driver LENNY-DRV-LS2 / LENNY-DRV-WL5



"Switch" button can be used to indicate which type of product is being managed. To do so, press the "Switch" or "SET" button with a short touch until color from "indicator light" is required one.

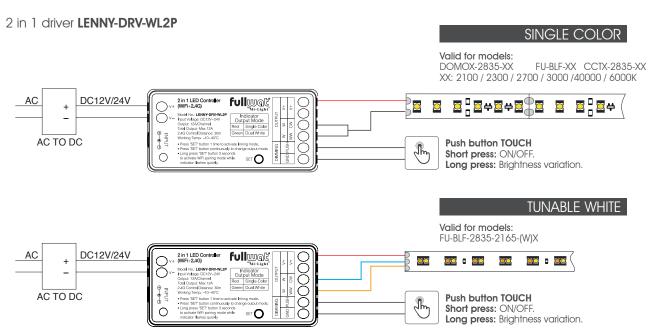
	Single color	Tunable white	RGB	RGBW	RGBWW
Indicator light	$\bigcirc$	<u> </u>	•		



### Smart LED control system

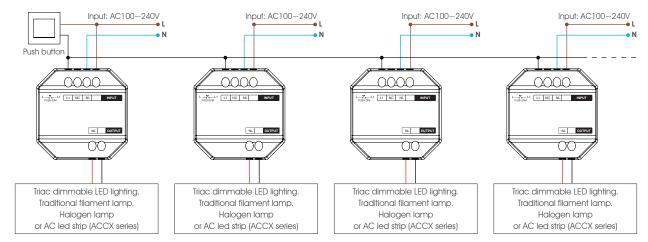
#### Led Strip-controller connection

#### Connection drawing



Press "SET" continuously to switch between single color and tunable white mode.

#### LENNY-TRIAC1 Push button control



#### Functioning

Short press: Switches the connected device ON/OFF.

Long press (press and hold): increases or decreases the intensity of the light.

#### Connection

The maximum number of TRIACs is 25 pieces and maximum wiring distance from the push button is 20m. To control everything with a single push button, LENNY-TRIACs must be connected in cascade according to the connection diagram.



Smart LED control system

List of LENNY-DRV-LS2 and LENNY-DRV-WL5 modes and functions for RGB / RGBW / RGBWW

Number	Dynamic mode	Brightness / Saturation / Speed
1	Mardi Gras	
2	Automatic colors changing	
3	Sam	
4	Gemma	
5	Twlight	Adjustable
6	American	
7	Super super Tuesday	
8	Party	
9	Splash colors	



### Smart LED control system

#### System linking and unlinking

Note: The light only works after the controller is paired with one or more receivers.

fullwol

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Linking. Place Remote controller close to the desired driver to be paired.

link/unliknk

button

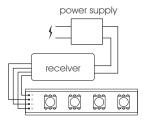
rapidh

2. Press ON button on the

remote control 3 times within

a maximum period of 3 sec.

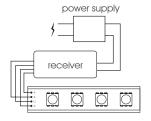
Before starting linking process, configure receiver according to the type of LED strip. Refer to "wiring diagram" section (previous point) from the manual.



 Switch off power supply and after 10 seconds, switch it on again.

**Note:** For LENNY-DRV-WL2P or LENNY-TRIAC1, press the SET button once to enter pairing mode.

#### Unlinking

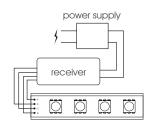


 Switch off power supply and after 10 seconds, switch it on again.

**Note:** For LENNY-DRV-WL2P or LENNY-TRIAC1, press the SET button once to enter pairing mode.



 Press ON button on the remote control 5 times within a maximum period of 3 sec.



power supply

4

ÖÖ

pairina.

receiver

3. The light will flash 3 times

slowly to indicate successful

 The light will flash 10 times quickly to indicate that unlinking is successful.



If light does not flash quickly, the bonding is not done. Repeat the process until this occurs.

If light does not flash slowly,

Repeat the process until this occurs.

the bonding is not done.

#### Attention

# 1. Please check if input voltage is compatible with voltage supported by the driver. Pay special attention not to cross positive and negative poles.

#### Reversed connection will damage the controller.

- 2. Do not connect the cables while the power supply is on. Turn it on when you are sure of connections are correct and there is no short circuit is possible.
- 3. Avoid placing driver controller in areas influenced by electromagnetic fields or close to devices that produce electromagnetic fields. Also, do not place driver controller in areas shielded by metal surfaces or where metal surfaces come between the control and the controller.

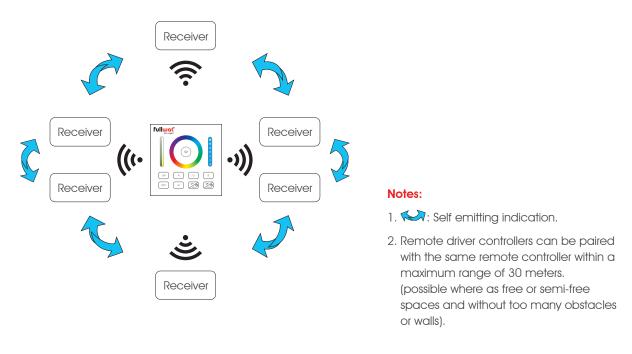
This would affect operating distance effectiveness.



### Smart LED control system

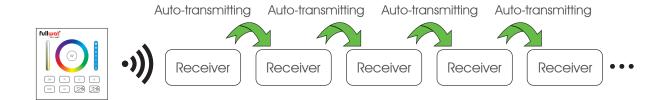
#### Device auto-sync

Different receiver drivers can be connected to operate with the same remote controller and operate in the same modes.



#### Auto-transmitting function

A single remote controller may transmit control signals in succession to other driver controllers provided if maximum coverage distance of 30m is respected between them.



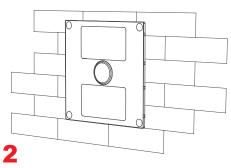


Smart LED control system

Installation diagram - LENNY-PAN-BO

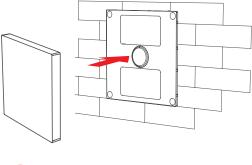


Remove rear adhesive foil tape



Place bracket on the wall with your desired position.



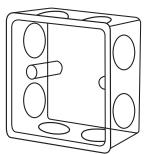


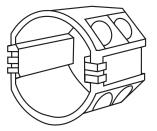
4 Place main panel on the front of the bracket.

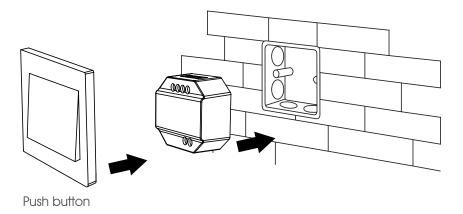


Smart LED control system

Installation diagram - LENNY-TRIAC1









### Smart LED control system

### Mobile phone pairing

Download and install the application on your mobile phone:

a. Via QRI code

b. Searching the Play Store for "MiBoxer".



Note:

Also compatible with the application: SMART LIFE

To link our installation with our mobile phone, we will need one of these drivers:

- LENNY-DRV-WL5
- LENNY-DRV-WL2P
- LENNY-DRV-LS2 + LENNY-WIFOX1
- LENNY-TRIAC1 + LENNY-WIFOX1

Register in MiBoxer:

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and the second se	< Country Selection	< User Register	< User Register
	्, Search	Spain >	Spain
	Sierra Leone	E-mail	
	Singapore	Please set the log-in password 55	%
	Siovakia c	Please input verification code Get	Please isput verification code (45)
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	Suriname		as dfghjkli
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	Sweden x		1 z x c v b n m <
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isert your email adress	Insert your country	Choose password	Accept condition and terms

We will receive an e-mail with a registration verification code, which we will have to enter in the application to finish registering account.

In order to use the application, we must activate GPS on our mobile phone (either Android or Apple).

Once on the main screen and our session started, we must add the device. To do this:

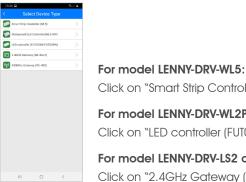




### Smart LED control system

#### Mobile phone pairing

Select device model:



Click on "Smart Strip Controller (WL5)".

#### For model LENNY-DRV-WL2P:

Click on "LED controller (FUT035W-FUT039W)".

For model LENNY-DRV-LS2 or model LENNY-TRIAC1: Click on "2.4GHz Gateway (WL-Box1)".

9.50 < A	No 2018 dd Device	
Set indi	ating light blinking	
Setting Method Power the device, is	ang press SET 3 seconds	
8: 	- (hy	
Ensure t	he pilot lamp blinking	
Ш	0 <	

#### For model LENNY-DRV-WL5:

Disconnect power supply from LENNY-DRV-WL5 for 10 sec. After 10 seconds, power the controller and within the first three seconds, press and hold "SET" button on the receiver until LED on the receiver flashes.

#### For models LENNY-DRV-WL2P / LENNY-DRV-LS2 / LENNY-TRIAC1:

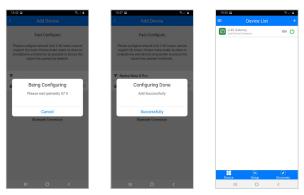
Press SET button on device or on WIFI gateway for 3 seconds to activate WIFI signal.

In both cases, on the phone screen, click on "Ensure pilot lamp blinking".



Enter network name and password.

Attention: only 2.4GHz network is supported (no 5G) and click on "Start configuration".



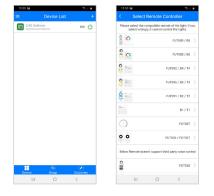
A countdown will appear and once paired, it will indicate that pairing has been successful.

Our device will appear in the list of paired devices.



### Smart LED control system

#### Mobile phone pairing

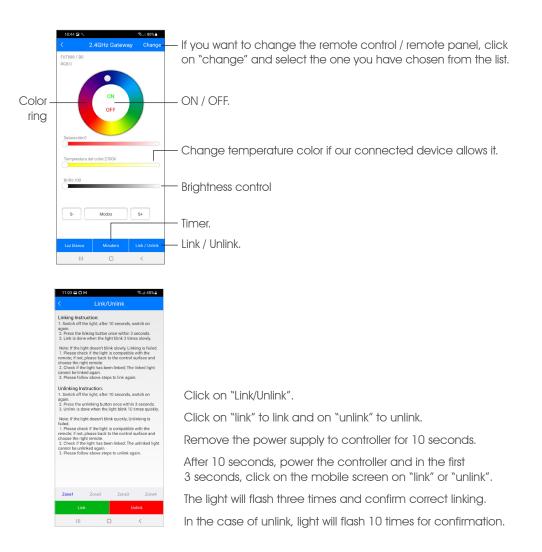


# Wether we have to use the WIFI gateway (LENNY-WIFOX1):

We must link the driver to be controlled via the APP. To do this, click on 2.4GHz gateway.

First we must choose whether we are going to configure one or more zones. In this case, as it is a zone, we enter the "change" section and select FUT088/B0.

On the screen of our mobile phone we will see image as follows:

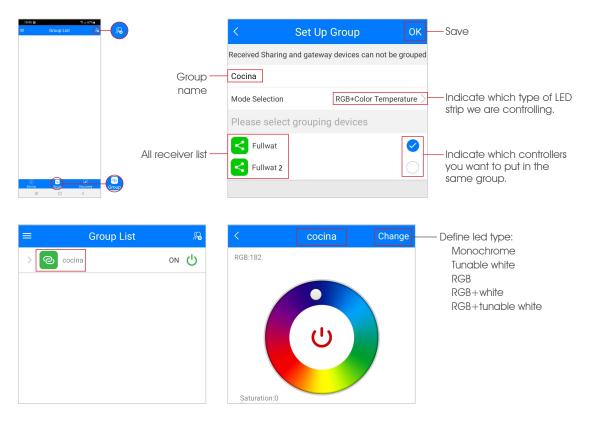




### Smart LED control system

#### Mobile phone pairing

The application allows us to create groups with different receivers. This will allow us to control several receivers at the same time: turn ON / OFF / change the color, etc.



=	Devic	e List	+
<b>2</b> 40	Fullwat bfa977b6606727f0eb0b9u	+	ол 🖒
13:	11 🖪 🛎 🖽 🔹		≋.⊪ 32% 🗋
=	Devic	e List	+
teway 6727f0eb0t	99u	ол 🕛	Edit Delete
	Modify De	vice Name	
	2.4G Gateway		
	Cancel	Oł	<
	Modify De	vice Name	_
	Fullwat		_
	Cancel	OF	<
=	Devic	e List	+
<b>2</b>	Fullwat bfa977b6606727f0eb0b9u		ол 🖒

Once we have linked our receiver we can change our device name. This is interesting if we are going to control it with Alexa, Google Assistant or Google Home.

To do so, we press and hold name of the device on the screen and move it to the left. We will see an "edit" and a "delete". Click on "Edit", change the name and "Ok".

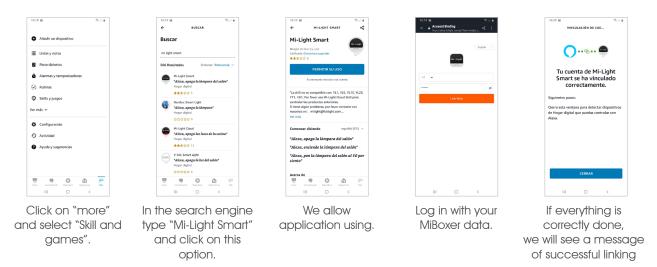


#### Smart LED control system

### **ALEXA** linking

To control system with Alexa, a wifi gateway is required, either built into receiver or using LENNY-WIFOX1 gateway. Install Alexa app and log in using your account.

We need to install Mi-Light Smart skill. To do so:

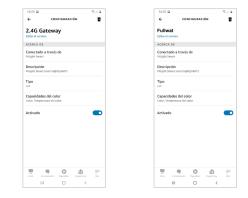


Once reached step as above, Alexa will detect our receiver automatically and we will be able to change its name, include it in a group or control it by voice.

If receiver is not detected automatically, we can push "detect devices" via Alexa app function.

Now you can work with standard ALEXA managing.





We can rename device to be able to control that device only instead the whole group, command Alexa to turn off/on the device, etc.



### Smart LED control system

#### **GOOGLE HOME linking**

To control system with Google Home, a wifi gateway is required, either built into the receiver or using LENNY-WIFOX1 gateway.

Install Google Home app and log in with your Google account. If you have not yet configured your home, you can do this now or later.

We need to install Mi-Light Smart skill. To do this:



Click on "more".



You may get a link warning message. Click on "Link" to accept.



"Configure device".



Log in with your MiBoxer data.



Look for the "Mi-Light Smart" application in the list of applications.



If we do it correctly, a successful linking message will appear.

Once we have reached this point, the linking is done.



On the main Google Home screen, our home will appear with our device.



We can rename device to make "name it" easier.



Clicking on the device icon, you are reaching another page where you can control the lights too.



### Smart LED control system

#### **GOOGLE ASSISTANT** linking

To control system with Google Assistant, a wifi gateway is required, either built into the receiver or using LENNY-WIFOX1 gateway.

And Install Google Assistant application via PlayStore on your phone:

•	Asistente de Google Google LLC Productividad E Para todos	★★★★ 462.314 ≗
ĕ	Añadir a la lista de deseos	Instalar

We must configure it to recognize your voice. Then enter "settings" in the application and click on "Voice Match". The application will ask you to repeat two phrases several times.

Once this is done, we will be able to "call" our device using "Ok Google". For example, "Ok Google turn on Fullwat" and LED strips connected to Fullwat receiver will light up properly.



### Smart LED control system

	Single color	сст	RGB	RGBW	RGBWW	"Mobile app Alexa Google Home"	Zone
LENNY-DRV-LS2	LENNY-MD-085	LENNY-MD-085				LENNY-WIFOX1	1
LENNY-DRV-LS2S	LENNY-MD-086	LENNY-MD-086	LENNY-MD-086	LENNY-MD-086	LENNY-MD-086	gateway is required	1
5-in-1 standard	LENNY-MD-087						1
receiver	LENNY-MD-088	LENNY-MD-088	LENNY-MD-088	LENNY-MD-088	LENNY-MD-088		1
	LENNY-PAN-BO	LENNY-PAN-BO	LENNY-PAN-BO	LENNY-PAN-BO	LENNY-PAN-BO		1
	LENNY-PAN-K1	LENNY-PAN-K1					1
	LENNY-MD-007	LENNY-MD-007					4
	LENNY-MD-092	LENNY-MD-092	LENNY-MD-092	LENNY-MD-092	LENNY-MD-092		4
	LENNY-PAN-B4	LENNY-PAN-B4	LENNY-PAN-B4	LENNY-PAN-B4	LENNY-PAN-B4		4
	LENNY-MD-089	LENNY-MD-089	LENNY-MD-089	LENNY-MD-089	LENNY-MD-089		8
	LENNY-PAN-B8	LENNY-PAN-B8	LENNY-PAN-B8	LENNY-PAN-B8	LENNY-PAN-B8		8
LENNY-DRV-WL5	LENNY-MD-085	LENNY-MD-085				included	1
5 in 1 wifi receiver	LENNY-MD-086	LENNY-MD-086	LENNY-MD-086	LENNY-MD-086	LENNY-MD-086		1
	LENNY-MD-087						1
	LENNY-MD-088	LENNY-MD-088	LENNY-MD-088	LENNY-MD-088	LENNY-MD-088		1
	LENNY-PAN-BO	LENNY-PAN-BO	LENNY-PAN-BO	LENNY-PAN-BO	LENNY-PAN-BO		1
	LENNY-PAN-K1	LENNY-PAN-K1					1
	LENNY-MD-007	LENNY-MD-007					4
	LENNY-MD-092	LENNY-MD-092	LENNY-MD-092	LENNY-MD-092	LENNY-MD-092		4
	LENNY-PAN-B4	NY-PAN-B4 LENNY-PAN-B4 LENNY-PAN-B4 LENNY-PAN-B4 LENNY-PAN-B4		4			
	LENNY-MD-089	LENNY-MD-089	LENNY-MD-089	LENNY-MD-089	LENNY-MD-089		8
	LENNY-PAN-B8	LENNY-PAN-B8	LENNY-PAN-B8	LENNY-PAN-B8	LENNY-PAN-B8		8
LENNY-DRV-WL2P	LENNY-MD-085	LENNY-MD-085				included	1
2 in 1 receiver	LENNY-MD-086	LENNY-MD-086					1
with wifi and	LENNY-MD-087						1
push button	LENNY-MD-088	LENNY-MD-088					1
	LENNY-PAN-BO	LENNY-PAN-BO					1
	LENNY-PAN-K1	LENNY-PAN-K1					1
	LENNY-MD-007	LENNY-MD-007					4
	LENNY-MD-092	LENNY-MD-092					4
	LENNY-PAN-B4	LENNY-PAN-B4		1			4
	LENNY-MD-089	LENNY-MD-089					8
	LENNY-PAN-B8	LENNY-PAN-B8				-	8
LENNY-TRIAC1	LENNY-MD-085			1		LENNY-WIFOX1	1
Driver TRIAC	LENNY-MD-086					gateway is required	1
	LENNY-MD-087						1
	LENNY-MD-088						1
	LENNY-PAN-BO					-	1
	LENNY-PAN-K1						1
	LENNY-MD-007						4
	LENNY-MD-092						4
	LENNY-PAN-B4						4
	LENNY-MD-089						8
	LENNY-PAN-B8		1				8

### Compatibility table



Smart LED control system



