# 30W 1CH Zigbee NFC Enabled LED Driver(Constant Current)



Important: Read All Instructions Prior to Installation

**Function introduction** 





### **Product Data**

	LED Channel	1						
	DC Voltage	10-54V, Max.60V						
	Current	250-850mA via NFC setting; Min.current gear lower to 0.1mA,Default 700mA						
Output	Current Accuracy	±3%( ±1%@Certain full load) @ full load						
	Rated Power	Max. 30W						
	Voltage Range	220-240VAC/ 176-280VDC						
	Frequency Range	0/50/60Hz						
	Power Factor (Typ.)	> 0.96 @ 230VAC Full load*						
	Total Harmonic Distortion	THD ≤ 12% (@ full load / 230VAC)*						
	Efficiency (Typ.)	> 83% @ 230VAC full load*						
Input	AC Current (Typ.)	0.16A Max.						
	Inrush Current (Typ.)	Max. 6.04A at 230VAC; 72µs duration						
	Leakage Current	< 5mA /230VAC						
	Standby Power Consumption	< 0.5W						
	Anti Surge	L-N:2KV						
	Dimming Interface	Zigbee						
Control	Dimming Range	0.01%-100%@ Max current						
Control	Dimming Method	Amplitude/CCR dimming						
	Dimming Curve	Linear/ Logarithmic optional						

	Short Circuit	Yes, recovers automatically after fault condition is removed						
Protection	Over Current	Yes, recovers automatically after fault condition is removed						
	Over Temperature	Yes, recovers automatically after temperature drop						
	Working Temp.	-25℃ ~ +60℃						
	Max. Case Temp.	TC=90°C						
Environment	Working Humidity	10% ~ 95% RH non-condensing						
	Storage Temp. & Humidity	-40°C ~ +80°C, 10% ~ 95% RH						
	Safety Standards	EN61347-1, EN61347-2-13, GB 19510.1-2009, GB 19510.14-2009						
	Withstand Voltage	I/P-O/P: 3.75KVAC						
Safety & EMC	Isolation Resistance	I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH						
	EMC Emission	En55015, EN61 1200550.1159.1219.10018-030638-27.42151.6-120023E3T 17743-2021						
	EMC Immunity							
Others	MTBF	191350H, MIL-HDBK-217F @ 230VAC full load and 25°C ambient temperature						
Others	Dimension	245x30x21mm (L*W*H)						
	Warranty	5 Years						

<sup>\*:</sup> PF/THD/Eff shall be different per different testing setup and equipment.

## Safety & Warnings

- DO NOT install with power applied to the device.
- DO NOT expose the device to moisture.

<sup>•</sup> Dimmable LED driver, ZigBee device based on ZigBee 3.0 protocol

<sup>•</sup> Dimmable LED driver with linear metal housing. Max. output power 30W

<sup>• 250-850</sup>mA current selectable via NFC program tool. Min.current gear lower to 0.1mA

<sup>•</sup> Dimming curve/Power on state/Soft start/Soft off via NFC program tool

<sup>•</sup> Class II power supply, isolated design

<sup>•</sup> High power factor and efficiency

<sup>·</sup> To switch and dim LED lighting luminaries

<sup>•</sup> Amplitude/CCR dimming, smooth and deep dimming

<sup>•</sup> ZigBee end device that supports Touchlink commissioning

<sup>•</sup> Can directly pair to a compatible ZigBee remote via Touchlink

<sup>•</sup> Supports zigbee green power and can bind max. 20 zigbee green power switches

<sup>•</sup> Compatible with universal ZigBee gateway products

<sup>•</sup> IP20 rating, suitable for indoor LED lighting applications

<sup>• 5</sup> years warranty

#### **Operation--Zigbee Network**

- 1.Do wiring according to connection diagram correctly.
- 2. This ZigBee device is a wireless receiver that communicates with a variety of ZigBee compatible systems. This receiver receives and is controlled by wireless radio signals from the compatible ZigBee system.

#### 3. Zigbee Network Pairing through Coordinator or Hub (Added to a Zigbee Network)

Step 1: Remove the device from previous zigbee network if it has already been added to, otherwise pairing will fail

**Step 2**: From your ZigBee Controller or hub interface, choose to add lighting device and enter Pairing mode as instructed by the controller.

**Step 3**: power on the device, it will be set into network pairing mode (connected light flashes twice slowly), the network pairing mode will last until the device is added to a zigbee network.

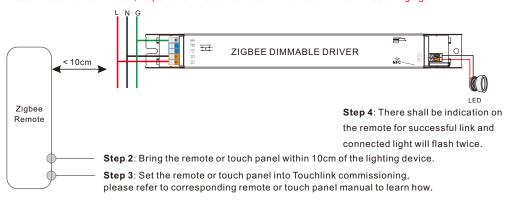


**Step 4**: Connected light will blink 5 times and then stay solid on, then the device will appear in your controller's menu and can be controlled through controller or hub interface.

#### 4. TouchLink to a Zigbee Remote

**Step 1: Method 1:** re-power on the device 4 times to start Touchlink commissioning immediately, 180S timeout, repeat the operation.

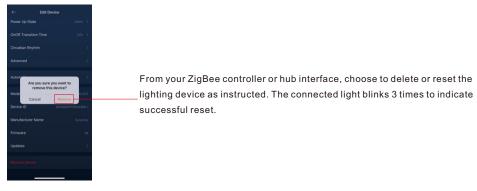
**Method 2**: If the device is already added to a network, it will be set into Touchlink commissioning immediately, 180S timeout. Once timeout, re-power on the device to set it into touchlink commissioning again.



Note: 1) Directly TouchLink (both not added to a ZigBee network), each device can link with 1 remote.

- 2) TouchLink after both added to a ZigBee network, each device can link with max. 30 remotes.
- 3) To control by both gateway and remote, add remote and device to network first then TouchLink.
- 4) After TouchLink, the device can be controlled by the linked remotes.

## 5. Removed from a Zigbee Network through Coordinator or Hub Interface



#### 6. Factory Reset Manually

Step 1: Enable Pairing via NFC App or re-power on the device for 5 times continuously.



**Step 2**: Connected light will blink 3 times to indicate successful reset.

Note: 1) If the device is already at factory default setting, there is no indication when factory reset again .

2) All configuration parameters will be reset after the device is reset or removed from the network.

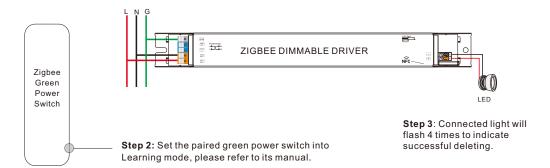
#### 7. Learning to a Zigbee Green Power Switch

**Step 1**: Re-power on the device 4 times to start Learning to GP switch mode (connected light flashes twice), 180 seconds timeout, repeat the operation.



#### 8. Delete Learning to a Zigbee Green Power Switch

**Step 1**: Re-power on the device 3 times to start delete Learning to GP switch mode (connected light flashes slowly), 180 seconds timeout, repeat the operation.



#### 9. ZigBee Clusters the device supports are as follows:

#### Input Clusters

• 0x0000: Basic • 0x0003: Identify • 0x0004: Groups • 0x0005: Scenes • 0x0006: On/off

• 0x0008: Level Control • 0x0300: Color Control • 0x0b05: Diagnostics

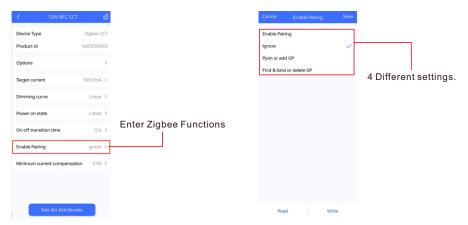
#### **Output Clusters**

• 0x0019: OTA

#### 10. OTA

The device supports firmware updating through OTA, and will acquire new firmware from zigbee controller or hub every 10 minutes automatically.

Function setting Via "SR NFC TOOL"



## 1) Enable Pairing

- A. Enable the Zigbee NFC drivers enter the pairing mode and add it into the Zigbee network.
- B. Factory reset. Enable the configured Zigbee NFC driver into configuring mode.
- C. Besides, you can re-power the device 5 times to enable this section as well.

# 2) Ignore

A. Remember, once you need to write other parameters into the NFC driver, you should select this section, so as not to change the driver's state.

# Pjoin or add GP

- A. This section as known as "Enable Touchlink & GP mode".
- B. Select this section and write it into the Zigbee NFC driver, the driver will enter Touchlink mode and GP Mode.

Note: You can both have Touchlink and GP functions as long as you matched with Touchlink function first.

C. Besides, you can re-power the device 4 times to enable this section as well.

## 4) Find & bind or delete GP

- A. This section as known as "Enable Find&Bind / Delete GP".
- B. Select this section and write it into the Zigbee NFC driver, the driver will enter Find&Bind mode, and it will delete previous GP bonding .
- C. Besides, you can re-power the device 3 times to enable this section as well.

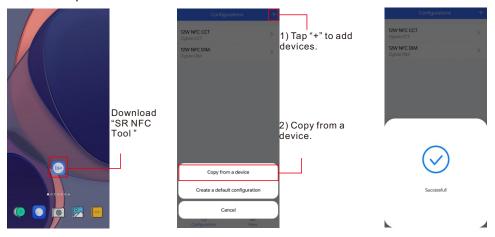
#### With NFC Programming devices

#### Note

- 1) Do wiring according to the wiring diagram.
- 2) Recommend setting parameters without power-on devices .
- 2) Please make sure your mobile phone has NFC function and enable it .

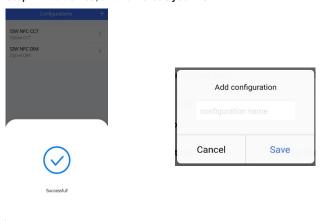
### Working with "SR NFC Tool" APP

Step 1: Download the APP (searching "SR NFC Tool" from App Store and Google Playstore) . Then open the APP .



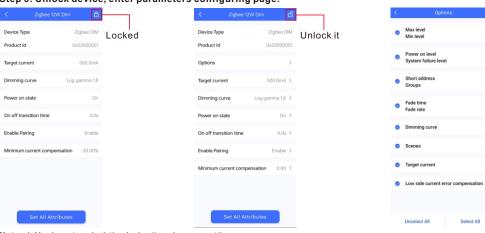
- Note: 1. Please Make sure that you have enabled NFC function with your mobile phone/ tablet
  - 2. Please Make sure that the "NFC position" is matched.
  - 3. Please do not power on the device before setting.
  - 4. If you can't download "SR NFC Tool". Please contact with us.

Step 2: Add device, and name it as you wish.





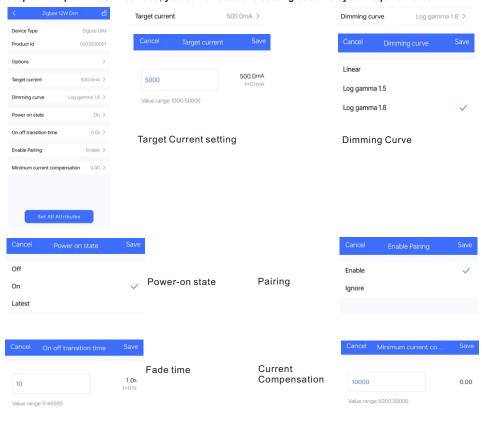
Step 3: Unlock device, enter parameters configuring page.



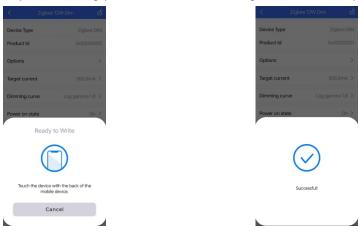
Note: 1. You have to unlock the device then do some settings

2. Only when the corresponding function is selected, the function interface will be displayed.

#### Step 4: Few parameter interface, you can choose the setting based on your requirements.



Step 5: After setting, please save the selected configuration via NFC and power on the device.



#### Tips

- 1. NFC function doesn't require any power driver.
- 2. Many functions can be configured by NFC. Kindly check your desired functions.
- 3. You can create a default profile with the "+" button.

## **Wiring Diagram**

## Application 1 (Without PUSH)



### Application 2 (With PUSH)

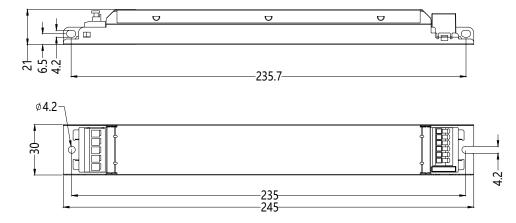


## **AC Push Function**

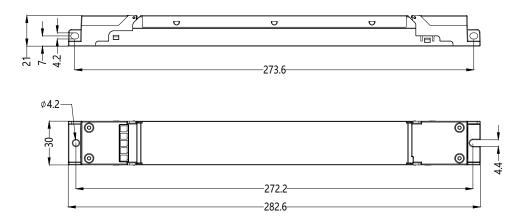
- 1) Click the button to switch ON/OFF
- 2) Press and hold down the button to increase or decrease light intensity to desired level and release it, then repeat the operation to adjust light intensity to opposite direction. The dimming range is from 1% to 100%.

### **Product Dimension**

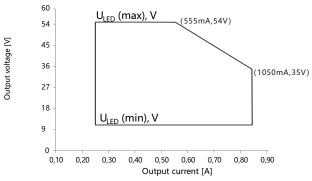
### Without End Cap



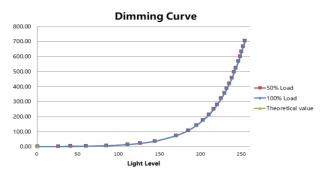
### With End Cap



# **Operating window**



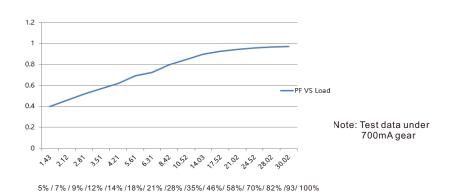
## **Dimming Curve**



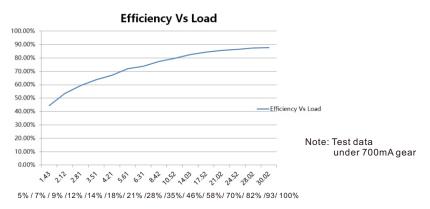
Note: Test data under 700mA gear

## **Driver Performance**

## **PF VS Load**

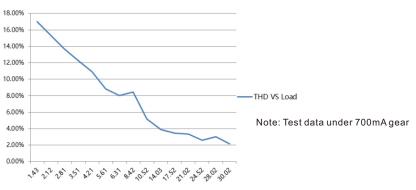


### **Driver Performance**



### **Driver Performance**

### **THD VS Load**



5% / 7% / 9% / 12% / 14% / 18% / 21% / 28% / 35% / 46% / 58% / 70% / 82% / 93 / 100%

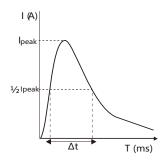
## **Expected Lifetime**

Module Number	Output current	Та	30 °C	40 °C	45 °C	•••	60 °C
SRPL-ZG9105N-30CC250-850	250 – 850 mA	Тс	46 ℃	55 ℃	61 °C	•••	90 °C(max)
SRPL-ZG9105N-30CCT250-850	250 – 850 mA	Lifetime	> 100,000 h >	100,000 h	> 80,000 h	ı	> 30,000 h

The LED driver is designed for a lifetime stated above under reference conditions. The relation of tc to ta temperature depends also on the luminaire design.

# **MCB Load Quantity**

Module Number   Ipeak Tw		Twidth	Max.quantity of LED Driver per MCB														
			B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25
SRPL-ZG9105N-30CC250-850	6.04A	72µs	30	39	48	60	75	35	45	56	70	87	40	52	64	80	100
SRPL-ZG9105N-30CCT250-850	6.04A	72µs	30	39	48	60	75	35	45	56	70	87	40	52	64	80	100



#### Note:

- 1. Those MCB parameters are based on ABB S200 series circuit breakers.
- $2. For different brands and models of miniature circuit breakers, \\ the quantity of drivers will have difference.$
- Please do not exceed the above-mentioned quantity during on-site installation, and the specific load quantity shall be subject to on-site installation.
- 4.When the installation environment temperature of MCBs exceeds  $30^{\circ}\mathcal{C}$  or when multiple MCBs are installed side by side, the number of mounted drives will be reduced, which requires recalculation.
- 5. Type C MCB's are strongly recommended to use with LED lighting

## Update log

Date	Version	Update content	Update by
2024-3-26	V1.0	Initial Version	Romeo

Note: Subject to change without notice. Please contact us if you have any questions.