12W DALI DT8 NFC Enabled LED Driver(Constant Current)

DALI2 | TÜV SÜD | CCC25 | CE | UKCA | [triangle mark] | CCC | [mark] | EL SELV | warranty 5 years | RoHS COMPLIANT | SR-Data 251/252/253

Important: Read All Instructions Prior to Installation

Function introduction

SVM <0.01 | PstLM <0.02

DALI signal input
AC Push input

LED Output

DALI Dimmable Driver

AC/DC power input
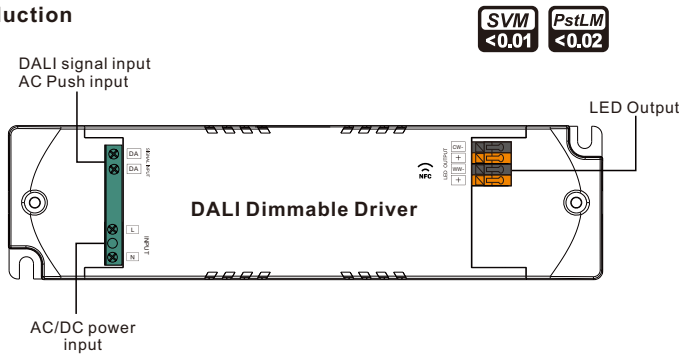
Product Data

Output	LED Channel	2
	DC Voltage	6-42V, Max. 50V
	Current	100-700mA via NFC tool; Min.current gear lower to 0.1mA, default 300mA
	Current Accuracy	±3%(±1%@Certain full load) @ full load
	Rated Power	Max. 12W
Input	Voltage Range	220-240VAC/220-240VDC
	Absolute Voltage Range	196-264VAC/196-264VDC
	Frequency Range	0/50/60Hz
	Power Factor (Typ.)	> 0.95 @ 230VAC Full load*
	Total Harmonic Distortion	THD ≤ 12% (@ full load / 230VAC)*
	Efficiency (Typ.)	>77% @ 230VAC full load*
	AC Current (Typ.)	0.1A Max.
	Inrush Current (Typ.)	Max. 3.96A at 230VAC; 90μs duration
	Leakage Current	< 5mA /230VAC
	Standby Power Consumption	< 0.5W
	Anti Surge	L-N:2KV
Control	Dimming Interface	DALI Device Type 8 (DALI consumption < 2mA)/ AC Push
	Dimming Range	0.01%-100%@ Max current
	Dimming Method	Amplitude/CCR dimming
	Dimming Curve	Linear/ Logarithmic optional

Protection	Short Circuit	Yes, remove the fault conditions and re-power the device.
	Over Current	Yes, remove the fault conditions and re-power the device.
	Over Temperature	Yes, remove the fault conditions and re-power the device.
Environment	Working Temp.	-25℃ ~ +45℃
	Max. Case Temp.	Tc=85℃
	Working Humidity	10% ~ 95% RH non-condensing
	Storage Temp. & Humidity	-40℃ ~ +80℃, 10% ~ 95% RH
Safety & EMC	Safety Standards	EN61347-1, EN61347-2-13, GB/T 19510.1-2023, GB/T 19510.213-2023
	Withstand Voltage	I/P-O/P: 3.75KVAC
	Isolation Resistance	I/P-O/P: 100M Ohms / 500VDC / 25℃ / 70% RH
	EMC Emission	EN55015, EN61000-3-2, EN61000-3-3, GB 17625.1-2022, GB/T 17743-2021
	EMC Immunity	EN61547, EN61000-4-2,3,4,5,6,8,11
Others	MTBF	191350H, MIL-HDBK-217F @ 230VAC full load and 25℃ ambient temperature
	Dimension	135x35x20mm (L*W*H)
	Warranty	5 Years

*: PF/THD/Eff shall be different per different testing setup and equipment.

• In compliance with IEC 62386-101:2014, IEC 62386-102:2014, IEC 62386-207 Ed2， IEC 62386-209:2011
• Built-in DALI-2 interface, DALI DT8 device
• Dimmable LED driver. Max. output power 12W
• 100-700mA current selectable via NFC program tool. Min.current gear lower to 0.1mA
• DALI Address/Group/Scene setting via NFC program tool.
• Class Ⅱ power supply, full isolated plastic case
• High power factor and efficiency
• To switch and dim Tunable White LED lighting fixtures
• Amplitude/CCR dimming, smooth and deep dimming
• Compatible with universal DALI masters that support DT8 commands
• Error report function
• DALI-251/252/253 Enabled,DALI data inside
• IP20 rating, suitable for indoor LED lighting applications
• 5 years warranty

Safety & Warnings

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

Operation

With DALI master

1. DALI Address
1 DALI address for 2 channels output are assigned by DALI Master controller automatically, please refer to user manuals of compatible DALI Masters for specific operations.
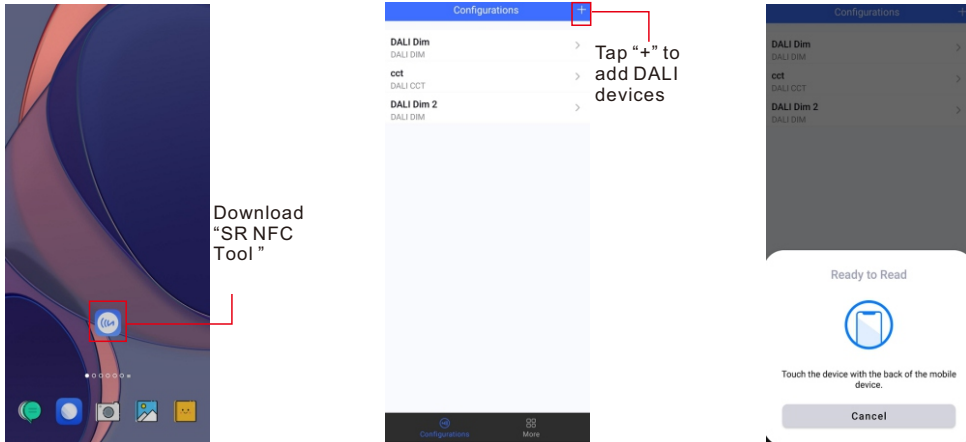
With NFC Programming devices

Note
1) Do wiring according to the wiring diagram and power on the DALI system .

2) Recommend setting parameters without power-on the DALI devices .

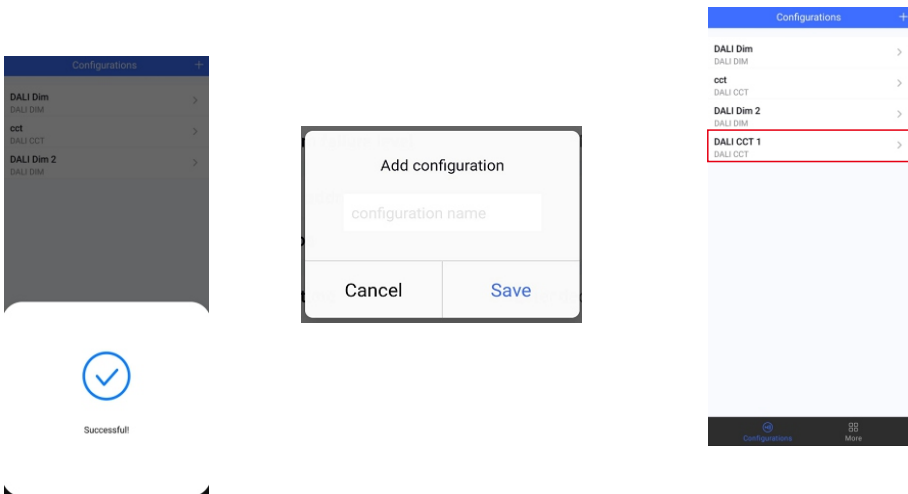**2) Please make sure your mobile phone has NFC function and enable it .**

Working with "SR NFC Tool" APP

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

Download "SR NFC Tool "

Tap "+" to add DALI devices

Configurations +
DALI Dim / DALI DIM
cct / DALI CCT
DALI Dim 2 / DALI DIM

Configurations +
DALI Dim / DALI DIM
cct / DALI CCT
DALI Dim 2 / DALI DIM

Ready to Read

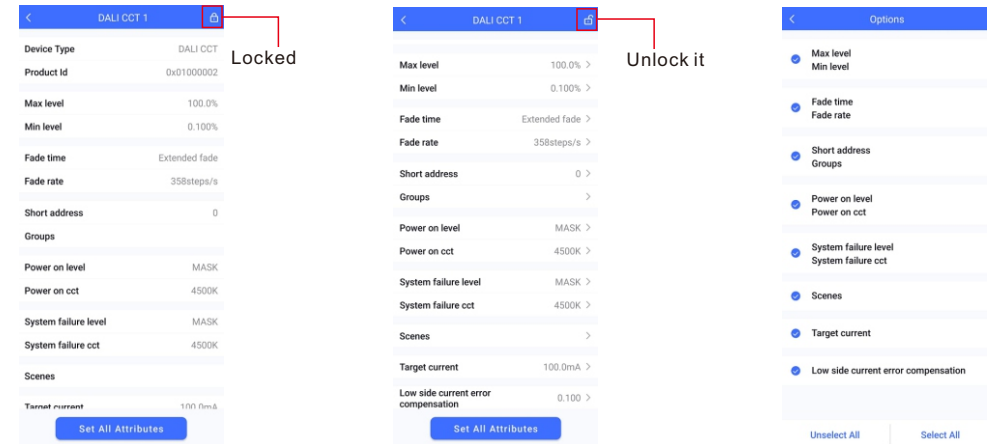Touch the device with the back of the mobile device.

Cancel

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.

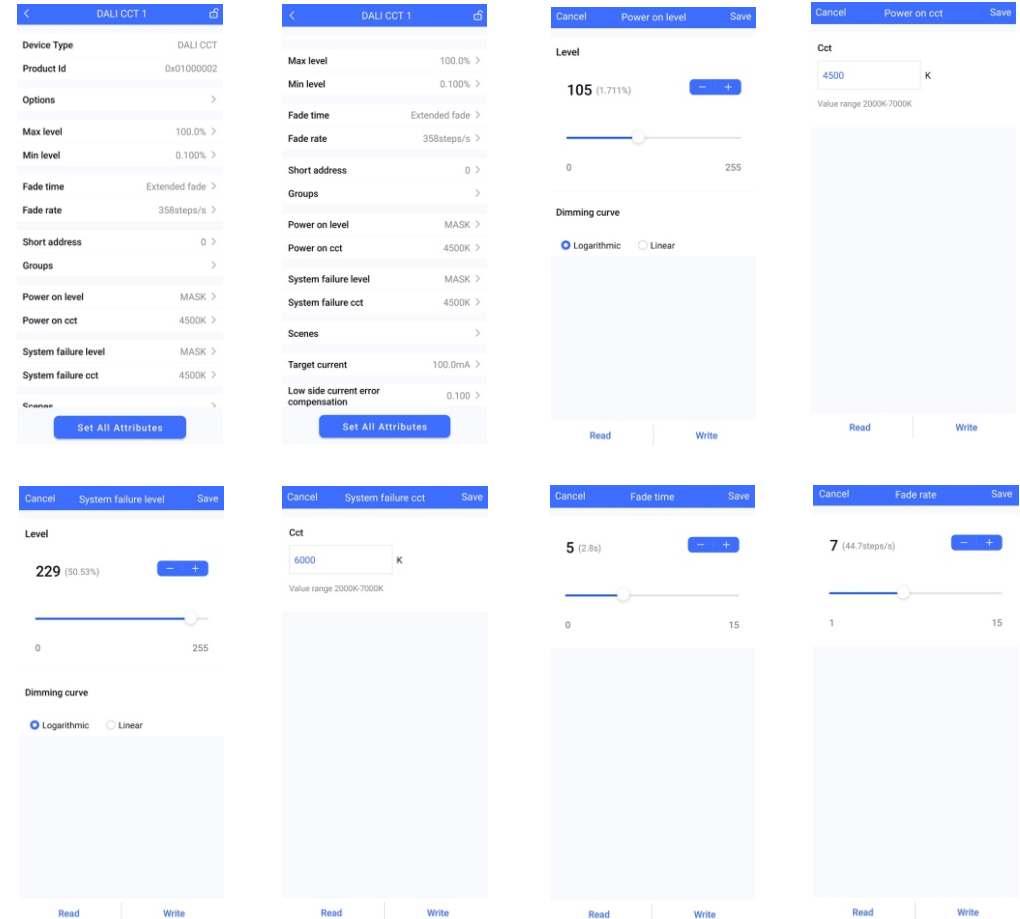**Step 2: Add device, and name it as you wish.**

Configurations
DALI Dim / DALI DIM
cct / DALI CCT
DALI Dim 2 / DALI DIM

Add configuration

configuration name

Cancel   Save

Configurations +
DALI Dim / DALI DIM
cct / DALI CCT
DALI Dim 2 / DALI DIM
DALI CCT 1 / DALI CCT

Successful!

Step 3: Unlock device, enter parameters configuring page.

Locked   Unlock it

DALI CCT 1	
Device Type	DALI CCT
Product Id	0x01000002
Max level	100.0%
Min level	0.100%
Fade time	Extended fade
Fade rate	358steps/s
Short address	0
Groups	
Power on level	MASK
Power on cct	4500K
System failure level	MASK
System failure cct	4500K
Scenes	
Target current	100.0mA

Set All Attributes

DALI CCT 1	
Max level	100.0%
Min level	0.100%
Fade time	Extended fade
Fade rate	358steps/s
Short address	0
Groups	
Power on level	MASK
Power on cct	4500K
System failure level	MASK
System failure cct	4500K
Scenes	
Target current	100.0mA
Low side current error compensation	0.100

Set All Attributes

Options
- Max level / Min level
- Fade time / Fade rate
- Short address / Groups
- Power on level / Power on cct
- System failure level / System failure cct
- Scenes
- Target current
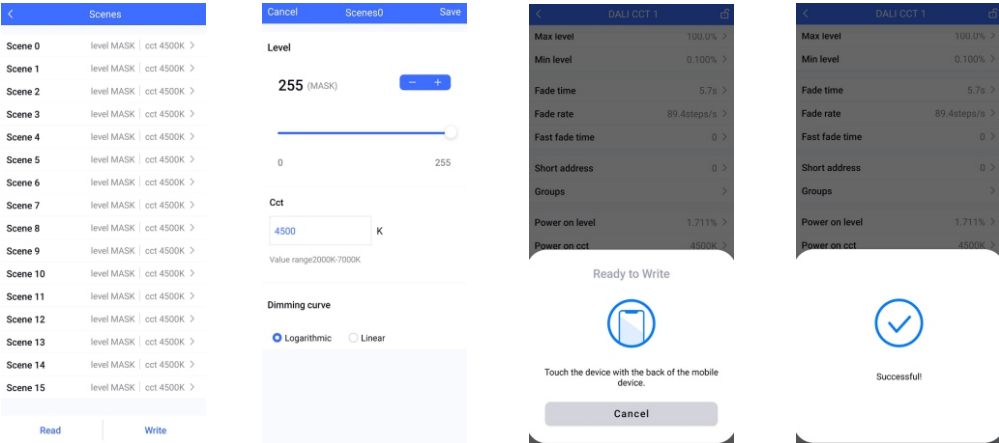- Low side current error compensation

Unselect All   Select All

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.

DALI CCT 1	
Device Type	DALI CCT
Product Id	0x01000002
Options	
Max level	100.0%
Min level	0.100%
Fade time	Extended fade
Fade rate	358steps/s
Short address	0
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Power on level	MASK
Power on cct	4500K
System failure level	MASK
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Scenes	

Set All Attributes

DALI CCT 1	
Max level	100.0%
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Fade time	Extended fade
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Short address	0
Groups	
Power on level	MASK
Power on cct	4500K
System failure level	MASK
System failure cct	4500K
Scenes	
Target current	100.0mA
Low side current error compensation	0.100

Set All Attributes

Cancel   Power on level   Save
Level
105 (1.711%)   − +
0   255
Dimming curve
○ Logarithmic   ○ Linear

Read   Write

Cancel   Power on cct   Save
Cct
4500   K
Value range 2000K-7000K

Read   Write

Cancel   System failure level   Save
Level
229 (50.53%)   − +
0   255
Dimming curve
○ Logarithmic   ○ Linear

Read   Write

Cancel   System failure cct   Save
Cct
6000   K
Value range 2000K-7000K

Read   Write

Cancel   Fade time   Save
5 (2.8s)   − +
0   15

Read   Write

Cancel   Fade rate   Save
7 (44.7steps/s)   − +
1   15

Read   Write

**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. **All of our DALI drivers are in the best performance within our DALI master/ DALI IoT gateway.**

4. **This is a 2-channel output product, so we recommend ensuring that both loads are connected and have the same loads for each channel at the same time during testing.**

4.1 If you have to connect 1 channel to test, please follow the following moves (**before powering on**).

4.1.1 If you are connected to "+/WW" (signal channel), please make sure to set **"power on CCT"** of NFC Driver to 2700k (DALI default value),and write to the device.

4.1.2 If you are connected to "+/CW" (signal channel), please make sure to set **"power on CCT"** of NFC Driver to 6500k (DALI default value),and write to the device.

CLO AND CORRIDOR DIM(CD) FUNCTION INSTRUCTION

1.Open APP, and Find the CLO/CD functions
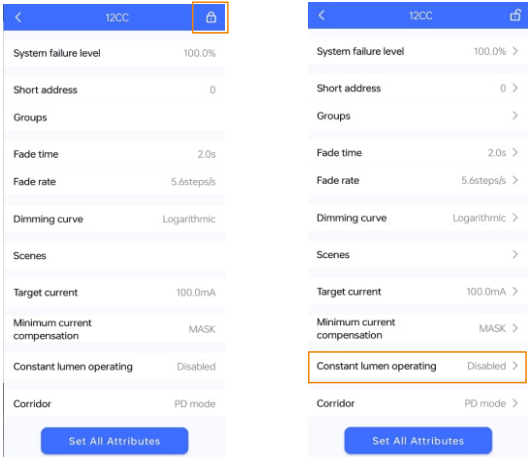
Read From the NFC Driver   Unlock it,and Click here to enter CLO settings

Enable or Disable CLO function

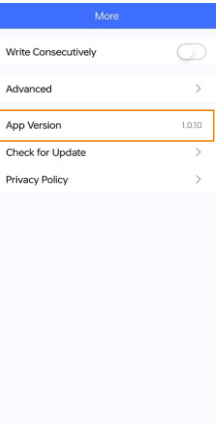## 2.Enter CLO Setting homepage
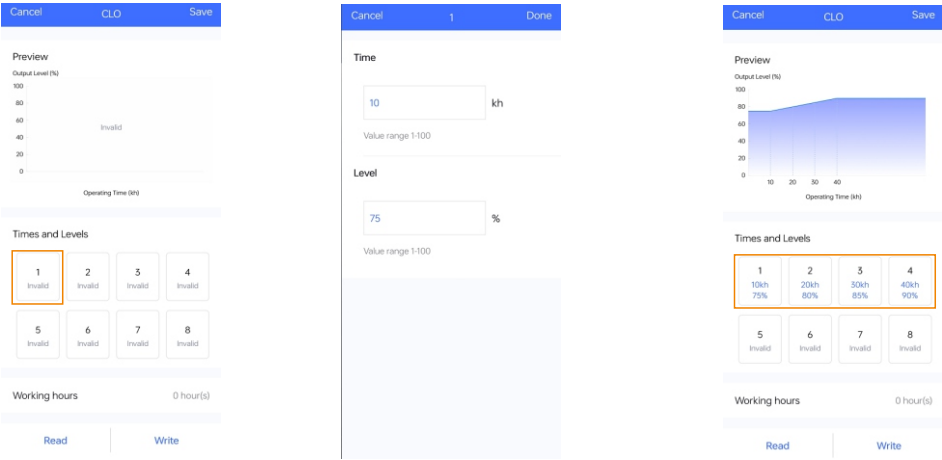
Enable CLO function   Click "1",and set its time and level   Set your desired time and levels. Graphic display

Tips:

Working hours : Ability to calculate the working hours of a single driver.

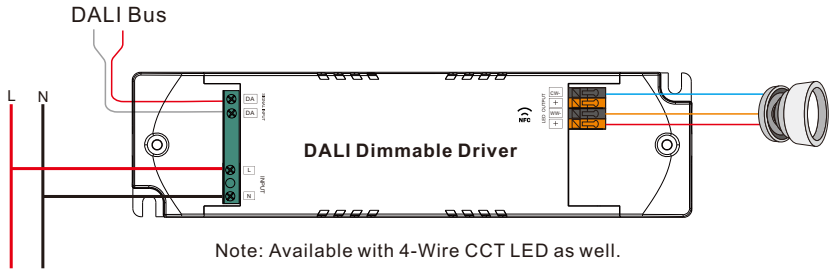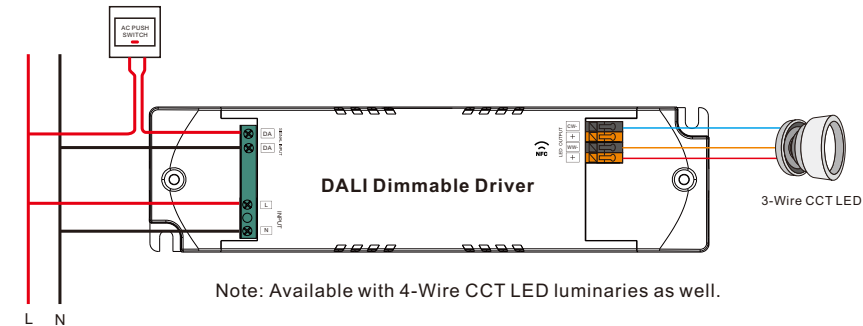## Additional Remarks

1. **Please make sure your APP version is 1.0.10 or higher.**

2. **Please make sure NFC driver's firmware is available with CLO functions.**

Wiring Diagram
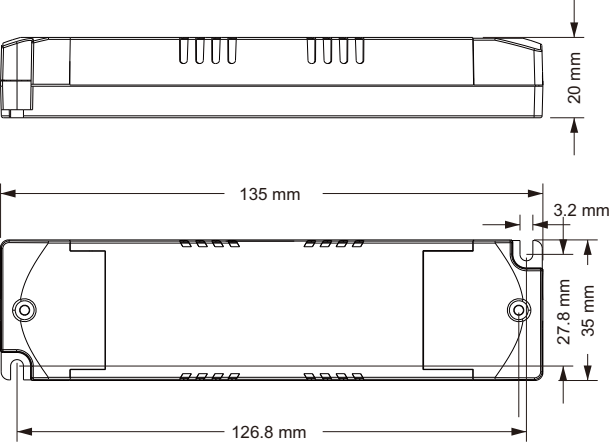
1. With DALI bus

  1）With 3-wire CCT LED luminarie

DALI Bus

L N

DALI Dimmable Driver

NFC

Note: Available with 4-Wire CCT LED as well.

2. With AC PUSH dimmer

AC PUSH SWITCH

DALI Dimmable Driver

NFC

3-Wire CCT LED

L N
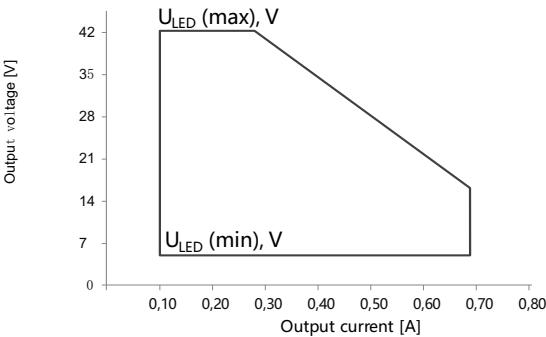
Note: Available with 4-Wire CCT LED luminaries as well.

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%.

3) Double click the button to switch between brightness mode and color temperature mode.

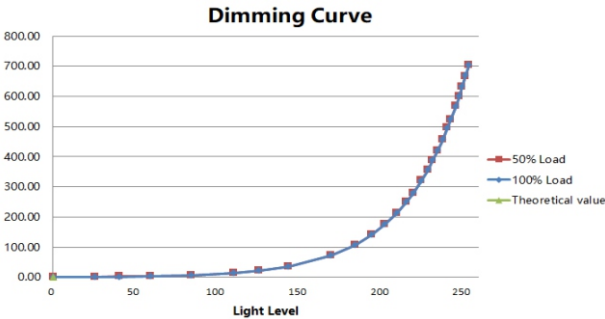4) Press and hold down the button to change color temperature under color temperature mode.
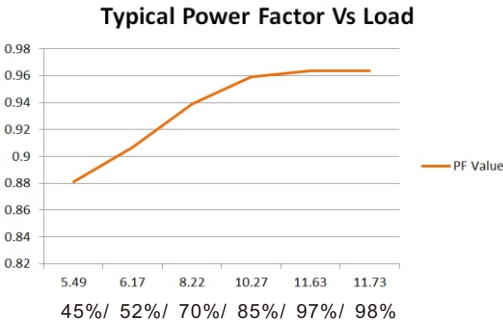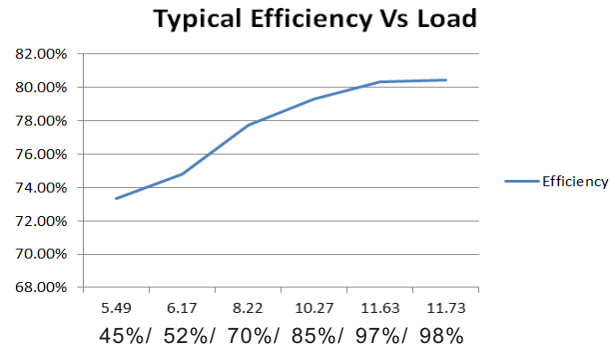
Product Dimension

20 mm

135 mm

3.2 mm

27.8 mm 35 mm

126.8 mm

Operating window

Output voltage [V]

U_{LED} (max), V

U_{LED} (min), V

42
35
28
21
14
7
0

0,10 0,20 0,30 0,40 0,50 0,60 0,70 0,80

Output current [A]

Dimming Curve

Dimming Curve

800.00
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00

0   50   100   150   200   250

Light Level

- 50% Load
- 100% Load
- Theoretical value

Note: Test data under 700mA gear

Driver Performance

Typical Power Factor Vs Load

0.98
0.96
0.94
0.92
0.9
0.88
0.86
0.84
0.82

5.49 6.17 8.22 10.27 11.63 11.73

45%/ 52%/ 70%/ 85%/ 97%/ 98%

— PF Value

Note: Test data under 700mA gear

Driver Performance

Typical Efficiency Vs Load

5.49	6.17	8.22	10.27	11.63	11.73
45%/	52%/	70%/	85%/	97%/	98%

Note: Test data under 700mA gear

Driver Performance

THD VS Load

0.89 1.18 1.48 1.78 2.36 2.66 3.54 4.43 5.88 7.33 8.79 10.22 11.64
7%/ 10%/ 12%/ 15%/ 20%/ 22%/ 30%/ 37%/ 49%/ 61%/ 73%/ 85%/ 97%
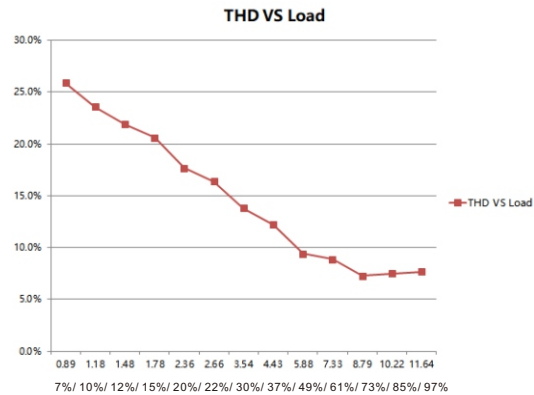
Note: Test data under 700mA gear

Expected Lifetime

Module Number	Output current						
SRP-2305N-12CC100-700	100 – 700 mA	Ta	30 °C	40 °C	45 °C	•••	
		Tc	50 °C	60 °C	65 °C	•••	85 °C
SRP-2309N-12CCT100-700	100 – 700 mA	Lifetime	> 100,000 h	> 100,000 h	> 100,000 h		> 40,000 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	Twidth	Max.quantity of LED Driver per MCB														
			B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25
SRP-2305N-12CC100-700	3.96A	90μs	37	49	60	75	94	63	81	100	125	156	80	104	128	160	200
SRP-2309N-12CCT100-700	3.96A	90μs	37	49	60	75	94	63	81	100	125	156	80	104	128	160	200
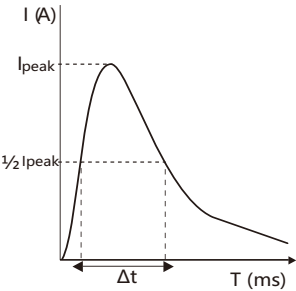
Note:

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.

3. 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°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
2023-6-17	V1.7	Update CLO function	Romeo

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