50W DALI D4i DT6 NFC 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 | 650-1300mA via NFC setting; Min.current gear lower to 0.1mA | | | | |
| Output | Current Accuracy | ±3%@ full load | | | | |
| | Rated Power | Max. 50W | | | | |
| | Voltage Range | 120-277VAC | | | | |
| | Frequency Range | 50/60Hz | | | | |
| | Power Factor (Typ.) | > 0.95 @ 230VAC Full load* | | | | |
| | Total Harmonic Distortion | THD ≤ 13% (@ full load / 230VAC)* | | | | |
| | Efficiency (Typ.) | > 85% @ 230VAC full load* | | | | |
| Input | AC Current (Typ.) | 0.3A Max. | | | | |
| | Inrush Current (Typ.) | Max. 26.6A at 230VAC; 144µs duration | | | | |
| | Leakage Current | < 5mA /230VAC | | | | |
| | Standby Power Consumption | < 0.5W | | | | |
| | Anti Surge | L-N:2KV | | | | |
| | Dimming Interface | DALI Device Type 6 (DALI consumption < 2mA)/ AC Push | | | | |
| Questional | 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℃ |
| F action and | Max. Case Temp. | TC=90°C |
| Environment | Working Humidity | 10% ~ 95% RH non-condensing |
| | Storage Temp. & Humidity | -40℃ ~ +80℃, 10% ~ 95% RH |
| | 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 |
| Safety & EMC | 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 |
| Othere | MTBF | 191350H, MIL-HDBK-217F @ 230VAC full load and 25°C ambient temperature |
| Others | Dimension | 285x30x21mm (L*W*H) |
| | Warranty | 5 Years |
| | | |

DALI Infos

| Min. | Тур. | Max. |
|-------|-------------------------------------|---|
| IEC62 | 386-101, 102, 207, 250, 251, 252 | 2, 253 |
| 0.1% | Logarithmic (default) | 100% |
| 9.5V | 16V | 22.5V |
| -6.5V | 0 | 6.5V |
| 0 | | 2mA |
| 12Vdc | 16Vdc | 22Vdc |
| 1 | 55mA | 60mA |
| | IEC62 0.1% 9.5V -6.5V 0 | IEC62386-101, 102, 207, 250, 251, 253 0.1% Logarithmic (default) 9.5V 16V -6.5V 0 0 12Vdc |

*: 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

Built-in DALI-2 interface, DALI DT6 device

- Dimmable LED driver with linear metal housing. Max. output power $50 \ensuremath{\mathsf{W}}$

650-1300mA current selectable via NFC program tool. Min.current gear lower to 0.1mA

DALI Address/Group/Scene setting via NFC program tool.

 \bullet Class ${\rm I\hspace{-0.1em}I}$ power supply, isolated design

• High power factor and efficiency

• To switch and dim LED lighting luminaries

Amplitude/CCR dimming, smooth and deep dimming

Compatible with universal DALI masters that support DT6 commands

• DALI-250/251/252/253 Enabled, DALI data inside.

• IP20 rating, suitable for indoor LED lighting applications

5 years warranty

Operation

With DALI master

1. DALI Address

1 DALI address for 1 channel output is assigned by DALI Master controller automatically, please refer to user manuals of compatible DALI Masters for specific operations.

With NFC Programming devices

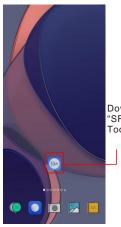
Note

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 .

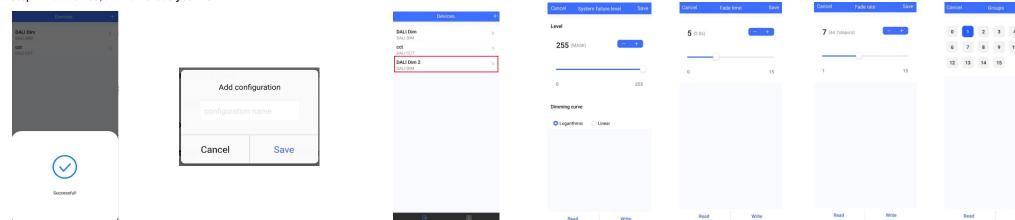


| | | Devices | + | <u> </u> | | |
|------------------------------|---|------------|---|------------------------|---|---------------------------|
| | DALI DIM DALI DIM CCL DALI CCT | | > | Tap "+" to add DALI | DALI Dim DALI DIM CCL DALI CCT | |
| | | | | devices | | |
| | | | | | | |
| Download SR NFC Tool " | | | | | | |
| | | | | | R | eady to Read |
| - | | | | | Touch the devi | ce with the back of the m |
| | () Devices | 88 More | | | | Cancel |
| | | | | 1 | | |

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.

| < | DALI Dim 2 | | < | DALI Dim 2 | 6 | | < | Options |
|------------------------------|-----------------------|--------|-----------------------|-------------------|------------|-----------|---|--|
| Device Type | DALI DIM | Locked | Device Type | | DALI DIM | Unlock it | • | Max level Min level |
| Product Id Target current | 0x01000001 300.0mA | | Product Id Options | | 0x01000001 | | 0 | Power on level System failure level |
| | | | Target current | | 300.0mA > | | 0 | Short address Groups |
| | | | | | | | 0 | Fade time Fade rate |
| | | | | | | | 0 | Dimming curve |
| | | | | | | | 0 | Scenes |
| | | | | | | | 0 | Target current |
| | | | | | | | • | Low side current error compensation |
| | | | | | | | | |
| Set | All Attributes | | s | et All Attributes | | | | 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.

| | | | | | | Cancel Power | |
|----------------|------------------|-----------------|------------------------|------------------------|-------------|-----------------|---------------|
| уре | DALI DIM | | Options | > | | Level | |
| | 0x01000001 | | Max level | 100.0% > | | 255 (MASK) | |
| | > | | Min level | 0.100% > | | 233 (MASK) | |
| | 100.0% > | | Power on level | MASK > | | | |
| | 0.100% > | | System failure level | mask > | | 0 | 2 |
| | mask > | | Short address | 0 > | | | |
| | MASK > | | Groups | > | | Dimming curve | |
| | 0 > | | Fade time | Extended fade > | | O Logarithmic | Linear |
| | > | | Fade rate | 358steps/s > | | | |
| | Extended fade > | | Dimming curve | Logarithmic > | | | |
| | 358steps/s > | | Scenes | > | | | |
| | Logarithmic > | | Target current | 300.0mA > | | | |
| | > | | Low side current error | 0.100 > | | | |
| | | | | | | | |
| fa | ilure level Save | Cancel Fa | ade time Save | Cancel Fade | e rate Save | Cancel | Groups |
| i | ure level Save | Cancel F: | ade time Save | Cancel Fade | e rate Save | Cancel 0 1 2 | Groups 3 4 |
| i | lure level Save | | | | | | |
| ill | | | | | | 0 1 2 | 3 4 |
| ilure | | | | | | 0 1 2 6 7 8 | 3 4 9 10 |
| fa | | 5 (2.8s) | - + | 7 (44.7steps/s) | - + | 0 1 2 6 7 8 | 3 4 9 10 |
| em fa | - + | 5 (2.8s) | - + | 7 (44.7steps/s) | - + | 0 1 2 6 7 8 | 3 4 9 10 |
| | - + | 5 (2.8s) | - + | 7 (44.7steps/s) | - + | 0 1 2 6 7 8 | 3 4 9 10 |
| | - + | 5 (2.8s) | - + | 7 (44.7steps/s) | - + | 0 1 2 6 7 8 | 3 4 9 10 |
| | - + | 5 (2.8s) | - + | 7 (44.7steps/s) | - + | 0 1 2 6 7 8 | 3 4 9 10 |
| | - + | 5 (2.8s) | - + | 7 (44.7steps/s) | - + | 0 1 2 6 7 8 | 3 4 9 10 |
|) | - + | 5 (2.8s) | - + | 7 (44.7steps/s) | - + | 0 1 2 6 7 8 | 3 4 9 10 |
| | - + | 5 (2.8s) | - + | 7 (44.7steps/s) | - + | 0 1 2 6 7 8 | 3 4 9 10 |
| MASK) SURVE | - + | 5 (2.8s) | - + | 7 (44.7steps/s) | - + | 0 1 2 6 7 8 | 3 4 9 10 |

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

| | Scenes | Cancel | Target current | Save | < DALI Dir | n 2 🗗 | < DALI Dim | 12 |
|----------|--------------|-----------------|----------------|--------------------|---------------------------|--------------------|----------------------|----|
| ene 0 | level MASK > | | | | Options | > | Options | |
| ene 1 | level MASK > | 3000 | | 300.0mA 1=0.1mA | Max level | 100.0% > | Max level | |
| cene 2 | level MASK > | Value range 100 | 00-50000 | | Min level | 0.100% > | Min level | |
| cene 3 | level MASK > | | | | - | | | |
| cene 4 | level MASK > | | | | Power on level | MASK > | Power on level | |
| cene 5 | level MASK > | | | | System failure level | MASK > | System failure level | |
| cene 6 | level MASK > | | | | Short address | 0 > | Short address | |
| cene 7 | level MASK > | | | | Groups | > | Groups | |
| cene 8 | level MASK > | | | | Fade time | 5.7s > | Fade time | |
| ene 9 | level MASK > | | | | | | | |
| cene 10 | level MASK > | | | | Ready to 1 | Write | | |
| ene 11 | level MASK > | | | | \sim | | \sim | |
| cene 12 | level MASK > | | | | (|) | (\checkmark) |) |
| cene 13 | level MASK > | | | | | | Ċ | |
| cene 14 | level MASK > | | | | Touch the device with the | back of the mobile | Successfu | |
| Scene 15 | level MASK > | | | | device. | | Successio | |
| | | | | | Cance | I. | | |
| Read | Write | Read | | Write | | - | • | |

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/ gateway.



| | , | Cancel | 1 | Done | | Cancel | CI | _0 | Sav |
|-----------------------|------------------------|---------------|------|------|--|-------------------------------------|------------------|-------------------------|------------------|
| freview | | Time | | | | Preview | | | |
| put Level (%) I | 1 | 10 | | kh | | Output Level (%) 100 80 60 | | | |
| | | Value range 1 | 100 | | | 40 20 0 | 20 30 | 40 | |
| Operating To | me (kh) | 75 | | % | | Times and | Operating | Time (kh) | |
| 1 2 nvalid Invalid | 3 4 Invalid Invalid | Value range 1 | -100 | | | 1 10kh 75% | 2 20kh 80% | 3 30kh 85% | 4 40kh 90% |
| 5 6 Invalid | 7 8 Invalid | | | | | 5 Invalid | 6 Invalid | 7 Invalid | 8 Invalid |
| ing hours | 0 hour(s) | | | | | Working ho | ours | | 0 hour(s |
| Read | Write | | | | | Rea | d | v | Vrite |

Graphic display

Tips:

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

3.Corridor dim(CD) function

| System failure level | 100.0% | System failure level | 100.0% > | | | |
|---------------------------------|-------------|------------------------------|---------------|-----------|----------|--|
| System failure level | 100.0% | System failure level | 100.0% 2 | | | |
| Short address | 0 | Short address | 0 > | | | |
| Groups | | Groups | > | Cancel | Corridor | |
| Fade time | 2.0s | Fade time | 2.0s > | | Connaor | |
| Fade rate | 5.6steps/s | Fade rate | 5.6steps/s > | | | |
| Dimming curve | Logarithmic | Dimming curve | Logarithmic > | Mode | | |
| Scenes | | Scenes | > | ⊖ cd | O PD | |
| Target current | 100.0mA | Target current | 100.0mA > | | | |
| Minimum current compensation | MASK | Minimum current compensation | MASK > | PD: PUSI | H DIM | |
| Constant lumen operating | Disabled | Constant lumen operating | Disabled > | CD: Corri | dor DIM | |
| Corridor | PD mode | Corridor | PD mode > | | | |
| Set All Attribut | tos | Set All Attrib | utes | | | |

CLO AND CORRIDOR DIM(CD) FUNCTION INSTRUCTION

1.Open APP, and Find the CLO/CD functions

| < 12CC | ۵ | < 12CC | e e |
|---------------------------------|-------------|------------------------------|---------------|
| System failure level | 100.0% | System failure level | 100.0% > |
| Short address | 0 | Short address | 0 > |
| Groups | | Groups | > |
| Fade time | 2.0s | Fade time | 2.0s > |
| Fade rate | 5.6steps/s | Fade rate | 5.6steps/s > |
| Dimming curve | Logarithmic | Dimming curve | Logarithmic > |
| Scenes | | Scenes | > |
| Target current | 100.0mA | Target current | 100.0mA > |
| Minimum current compensation | MASK | Minimum current compensation | MASK > |
| Constant lumen operating | Disabled | Constant lumen operating | g Disabled > |
| Corridor | PD mode | Corridor | PD mode > |
| Set All Attribut | es | Set All Attr | ibutes |
| Read From the I | NFC Driver | Unlock it,and | Click here to |

4.Enter CD Setting homepage

| Cancel | Corridor | Save |
|---------------------|----------------------------|--------------|
| Mode | | |
| O CD | O PD | |
| Preview | | |
| 100 80 | | |
| 60 40 | | |
| 20 0 Fade in | Occupied Fade out Prolonge | d Dim to off |
| Fade in time | | |
| | | |
| 5 Value range 0- | S | |
| | | |
| Occupied tir | me | |
| Read | ı v | Vrite |



Graphic display

Enter CD mode

Tips:

- 1. You should select either CD mode or PD mode, but not both.
- 2. Under CD mode, you can realize it with normal (3rd party) AC sensor.
- 3. Default mode: PD mode.

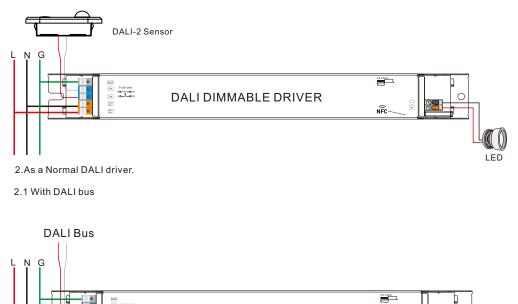
Additional Remarks



 Please make sure your APP version is 1.0.10 or higher.
Please make sure NFC driver's firmware is available with CLO / CD functions.

Wiring Diagram

1. As a D4i Driver

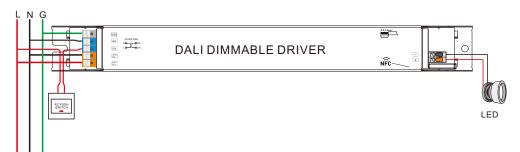


DALI DIMMABLE DRIVER

NFC

LED

2.2 With PUSH dimmer



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%.

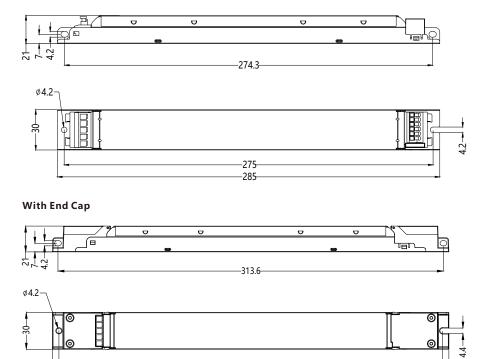
Safety & Warnings

• DO NOT install with power applied to the device.

• DO NOT expose the device to moisture.

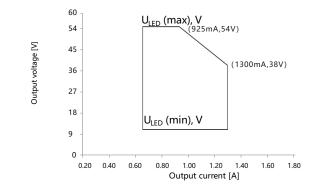
Product Dimension

Without End Cap

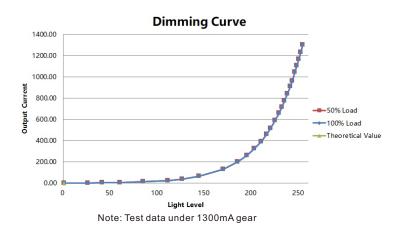


-312.2--322.6-



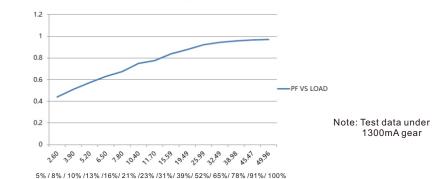


Dimming Curve

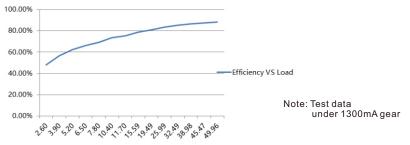


Driver Performance





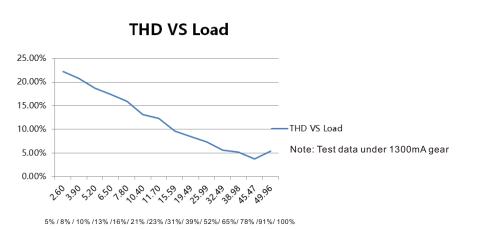
Driver Performance



5% / 8% / 10% /13% /16%/ 21% /23% /31%/ 39%/ 52%/ 65%/ 78% /91%/ 100%

Efficiency VS Load

Driver Performance



Expected Lifetime

| Module Number | Output current | Та | 30 °C | 40 °C | 45 °C | ••• | 60 °C |
|----------------------------|----------------|----------|---------------|-------------|------------|-----|------------|
| SRPL-2305iN-50CC650-1300U | 650 – 1300 mA | Tc | 48 °C | 58 °C | 64 °C | ••• | 90 °C(max) |
| SRPL-2309iN-50CCT650-1300U | 650 – 1300 mA | Lifetime | > 100,000 h > | > 100,000 h | > 80,000 h | 1 | > 25,000 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 | lpeak | Twidth | | | | | | | | | | | | | | | |
|----------------------------|-------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | B10 | B13 | B16 | B20 | B25 | C10 | C13 | C16 | C20 | C25 | D10 | D13 | D16 | D20 | D25 |
| SRPL-2305iN-50CC650-1300U | 26.6A | 144µs | 17 | 22 | 27 | 34 | 42 | 23 | 30 | 37 | 47 | 58 | 27 | 35 | 43 | 53 | 67 |
| SRPL-2309iN-50CCT650-1300U | 26.6A | 144µs | 17 | 22 | 27 | 34 | 42 | 23 | 30 | 37 | 47 | 58 | 27 | 35 | 43 | 53 | 67 |

Note:

- 1. Those MCB parameters are based on ABB S200 series circuit breakers.
- $\ensuremath{\text{2.For}}$ 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 $30^\circ C$ 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

I (A)

Ipeak

1/2 Ipeak

Δt

T (ms)

| Date | Version | Update content | Update by |
|----------|---------|------------------|-----------|
| 2023-9-1 | V1.5 | Parameter Update | Romeo |

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