

# SPECIFICATION

**Product Name:**     **DALI 2 Dimmable LED driver**

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**Model No.:**     **KL50CC-PDii**

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**Issue Date:**     **May 15, 2025**

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|-----------------------|
| CUSTOMER     APPROVED |
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| Version | Product Name /<br>Product Model | Reason / content for<br>change                 | Stage               | Date       |
|---------|---------------------------------|------------------------------------------------|---------------------|------------|
| A0      | KL50CC-PDii<br>LED driver       |                                                | Design verification | 2024-03-06 |
| A1      | KL50CC-PDii<br>LED driver       | Change the logo                                |                     | 2024-07-17 |
| A2      | KL50CC-PDii<br>LED driver       | Update Automatic<br>circuit breaker            |                     | 2025-01-06 |
| A3      | KL50CC-PDii<br>LED driver       | Add color<br>temperature<br>adjustment methods |                     | 2025-05-15 |
|         |                                 |                                                |                     |            |
|         |                                 |                                                |                     |            |
|         |                                 |                                                |                     |            |
|         |                                 |                                                |                     |            |
|         |                                 |                                                |                     |            |

## Specification for DALI 2 Dimmable LED Driver KL50CC-PDii C.C.



- Flicker-free for whole dimming range
- Stand-by power below 0.5W
- Primary dimming with push button
- Built-in DALI interface DT8
- Centrally-supplied DC emergency operation DT19
- Protection: short circuit / over temperature/ over voltage
- Derating current for over high ambient temperature
- Push dim with memory function
- 5 year warranty

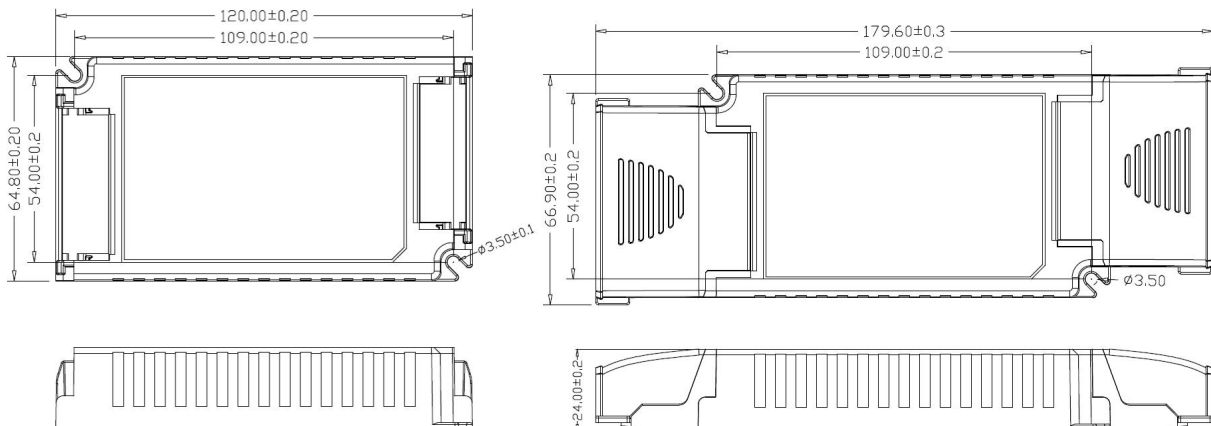
### 1. Parameters

|        |                                                              |                                                           |     |     |     |     |     |   |
|--------|--------------------------------------------------------------|-----------------------------------------------------------|-----|-----|-----|-----|-----|---|
| Input  | Operating Voltage                                            | 198-264VAC 50Hz /60Hz                                     |     |     |     |     |     |   |
|        | Rated Input Voltage                                          | 220-240VAC 50Hz /60Hz                                     |     |     |     |     |     |   |
|        | DC Input Voltage range                                       | 200-240VDC                                                |     |     |     |     |     |   |
|        | Input Cuttent                                                | 0.25A Max.                                                |     |     |     |     |     |   |
|        | Input Inrush Current                                         | <15A (Half current pulse width 100US) @230VAC             |     |     |     |     |     |   |
|        | Power Factor                                                 | ≥0.95 @230VAC (Full load)                                 |     |     |     |     |     |   |
|        | Total harmonic distortion                                    | Typical: 13% (@230Vac, 100% load)                         |     |     |     |     |     |   |
|        | Stand-by Power                                               | ≤0.5W (@230Vac)                                           |     |     |     |     |     |   |
|        | Efficiency                                                   | 87%Max. @230VAC (Full load)                               |     |     |     |     |     |   |
|        | Wiring Method                                                | Push terminal, wire cross section:0.75-1.5mm <sup>2</sup> |     |     |     |     |     |   |
|        | Loop-in&Loop-out quantity                                    | 17PCS (@230Vac)                                           |     |     |     |     |     |   |
|        | Automatic circuit breaker<br>(Calculate current in the wire) | type                                                      | B10 | B13 | B16 | B20 | B25 | / |
| Number |                                                              | 20                                                        | 25  | 30  | 40  | 50  | /   |   |
| type   |                                                              | C10                                                       | C13 | C16 | C20 | C25 | C32 |   |
| Number |                                                              | 28                                                        | 40  | 45  | 55  | 70  | 90  |   |

|        |                                                    |                                                     |  |  |                    |  |  |  |
|--------|----------------------------------------------------|-----------------------------------------------------|--|--|--------------------|--|--|--|
| Output | Operating mode                                     | Constant Current                                    |  |  |                    |  |  |  |
|        | Load type                                          | LED                                                 |  |  |                    |  |  |  |
|        | Ripple requirement (Flickering or flickering-Free) | Flicker value: less than 2% for whole dimming range |  |  |                    |  |  |  |
|        | Start up time                                      | <0.7s (@230Vac)                                     |  |  | <0.5s (@ DC Input) |  |  |  |
|        | No-load output voltage                             | 70VDC Max.                                          |  |  |                    |  |  |  |
|        | Load output voltage range                          | 12-53VDC                                            |  |  |                    |  |  |  |
|        | Full load output power                             | 50W Max.                                            |  |  |                    |  |  |  |
|        | Load output current                                | 700~1200mA : For details<Current gear setting>      |  |  |                    |  |  |  |

|                                                                                                            |                                    |                                                                            |
|------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------------------------------------------|
| <b>Output</b>                                                                                              | Constant current/voltage Precision | Constant Current Precision $\pm 5\%$                                       |
|                                                                                                            | Wiring method                      | Push terminal, wire cross section: $0.75-1.5\text{mm}^2$                   |
| <b>Control Method</b>                                                                                      | Primary PUSH Dimming               | Primary PUSH dimming (Max.lead length: 20M)                                |
|                                                                                                            | 1-10V Dimming                      | NO                                                                         |
|                                                                                                            | Dimming Range                      | Primary PUSH & DALI dimming: 0%-100%                                       |
|                                                                                                            | Potentiometer                      | NO                                                                         |
|                                                                                                            | DALI Dimming                       | DALI dimming (Max.lead length: 300M)                                       |
| <b>Exception Protection Requirements</b>                                                                   | Output over temperature protection | Yes, without self recovery function (Can be inquired)                      |
|                                                                                                            | Output short circuit protection    | Yes, without self recovery function (Can be inquired)                      |
| <b>Operating Environment</b>                                                                               | Operating temperature/ humidity    | $-25^{\circ}\text{C}\sim 50^{\circ}\text{C}$ Humidity:85% (Non-condensing) |
|                                                                                                            | Storage temperature/ humidity      | $-40^{\circ}\text{C}\sim 80^{\circ}\text{C}$ , Humidity:10% - 95%          |
|                                                                                                            | Max. case temp (Tc)                | $85^{\circ}\text{C}$                                                       |
| <b>Safety &amp; EMC</b>                                                                                    | EMC standard                       | EN55015 EN61547 EN61000-3-2 EN61000-3-3                                    |
|                                                                                                            | DALI protocol standard             | IEC62386-101 / 102 / 207 DT6 / 209 DT8 / 220 DT19                          |
|                                                                                                            | Safety standard                    | EN61347-1 EN61347-2-13                                                     |
|                                                                                                            | Certification                      | CE                                                                         |
|                                                                                                            | Withstand voltage                  | 3750Vac, 5mA, 60s (Input "L N"- Output "SEC")                              |
| <b>Others</b>                                                                                              | Degrees of protection              | IP20                                                                       |
|                                                                                                            | Type of protection                 | Class II                                                                   |
|                                                                                                            | Built-in installation              | $120*64.8*24\text{mm}$                                                     |
|                                                                                                            | Independent installation           | $179.6*66.9*24\text{mm}$                                                   |
|                                                                                                            | Blackout memory function           | Yes, PUSH blackout memory                                                  |
|                                                                                                            | PUSH dimming synchronization       | 15 units Max.                                                              |
|                                                                                                            | Packaging requirement              | white box+ Instructions Clapboard Outer Carton (K=A)                       |
|                                                                                                            | Weight                             | 155g                                                                       |
|                                                                                                            | Life                               | 5 year @Ta full load                                                       |
| Note: All parameters are tested at the input voltage of 230Vac and 25 degree environment unless specified. |                                    |                                                                            |

## 2. Dimension (Unit: mm)



### 3. Wiring Diagram

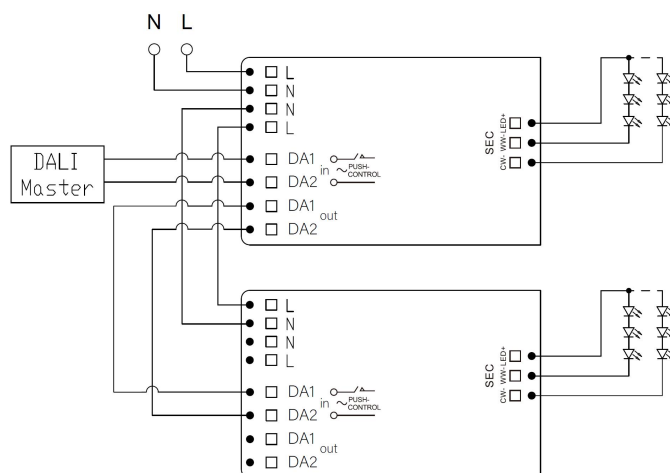


Fig. A DALI Dimming

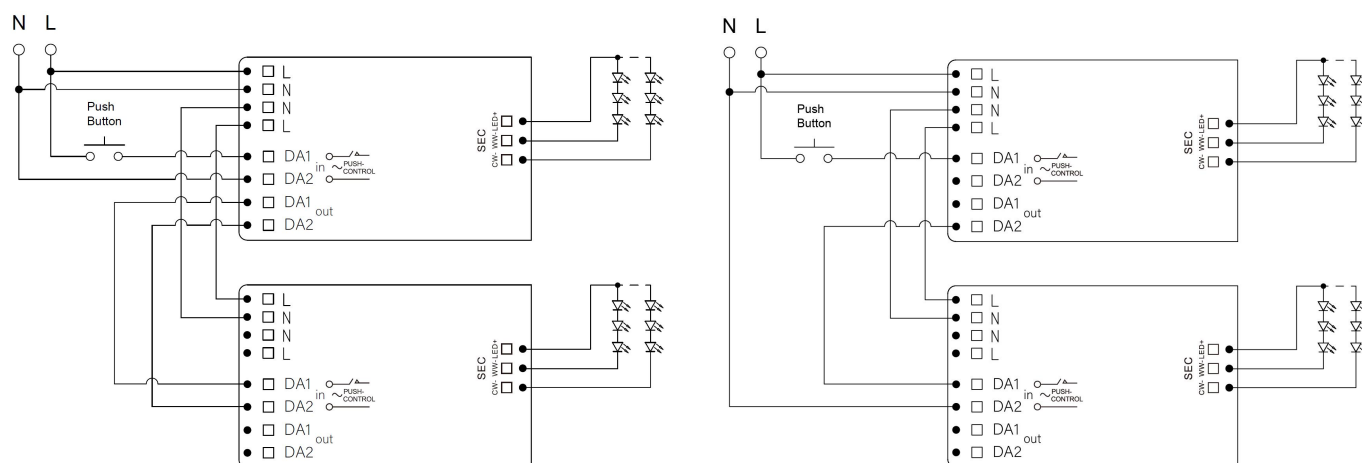
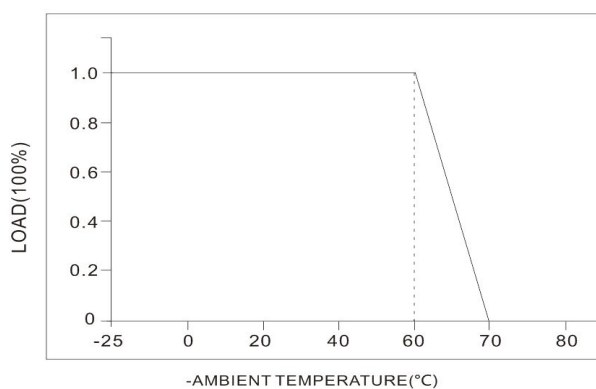
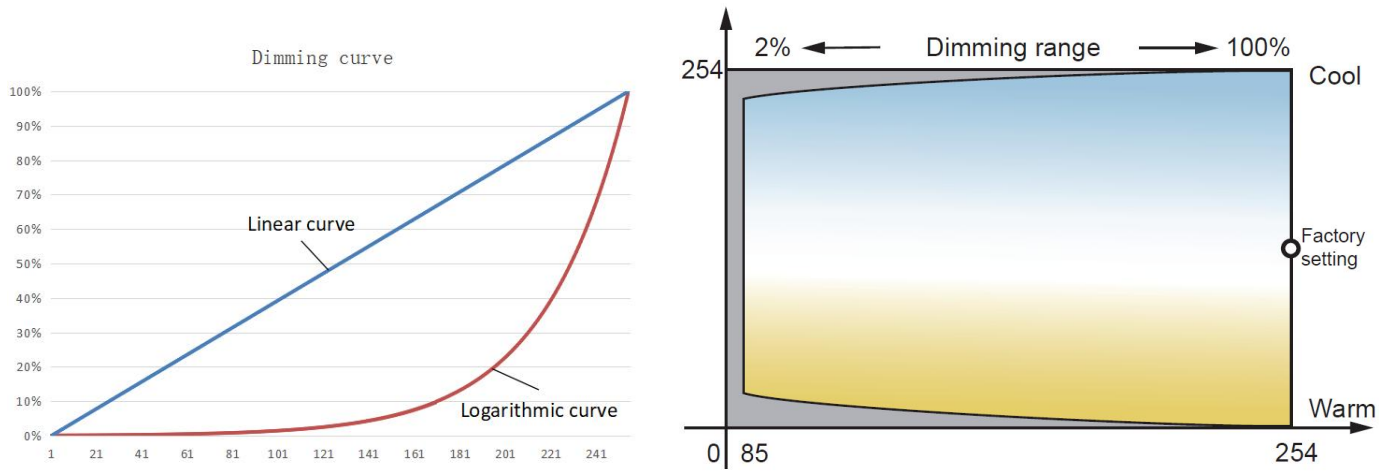


Fig. B Push Dimming

### 4. Derating



## 5. Dimming curve



## 6. Current gear setting:

| Current(mA) | DIP |    |    |    | Pomax (W) | Uout (V) |
|-------------|-----|----|----|----|-----------|----------|
|             | 1   | 2  | 3  | 4  |           |          |
| 700         | -   | -  | -  | -  | 37.1      | 12~ 53   |
| 750         | ON  | -  | -  | -  | 40.0      | 12~ 53   |
| 800         | -   | ON | -  | -  | 42.4      | 12~ 53   |
| 850         | -   | -  | ON | -  | 45.0      | 12~ 53   |
| 900         | -   | -  | -  | ON | 47.7      | 12~ 53   |
| 950         | ON  | -  | -  | ON | 49.4      | 12~ 52   |
| 1000        | ON  | ON | ON | -  | 50.0      | 12~ 50   |
| 1050        | ON  | ON | -  | ON | 49.3      | 12~ 47   |
| 1100        | ON  | -  | ON | ON | 49.5      | 12~ 45   |
| 1150        | -   | ON | ON | ON | 49.4      | 12~ 43   |
| 1200        | ON  | ON | ON | ON | 49.2      | 12~ 41   |

## 7. ON/OFF & Description of Dimming Operation

- Short press the PUSH switch (short press time 0.1S-1S), the LED driver will turn on or off.
  - Dimming: Press and hold the PUSH switch (1S-8S), the LED driver can achieve dimming, brightening or dimming, the dimming range is 2-100%.
  - Color temperature adj:
- Step 1, PUSH turns off the lights; Step 2, press and hold PUSH to adjust the color temperature starting from the current brightness; Release PUSH, press and hold PUSH again, and adjust the color

temperature in the opposite direction; No operation for 5 seconds, exit color adjustment mode.

D. Memory: PUSH dimming has dimming memory function.

E. Dimming synchronization: The power connected to the same PUSH switch can be synchronized by pressing and holding the PUSH switch for longer than 15S

F. DALI dimming mode: Connect the power supply to the DALI system, and it can be dimmed by the DALI host. The dimming range is 0-100%.

## **8. matters needing Attention**

1) The LED string must be connected to the load before turning on the input power, otherwise the LED string may be damaged.