

SPECIFICATION

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

Model No.: **KL12CC-PDiIN**

Issue Date: **September 25, 2025**

CUSTOMER APPROVED



Version	Product Name / Product Model	Reason / content for change	Stage	Date
A0	KL12CC-PDiiN DALI LED driver		Design verification	2025-02-07
A1	KL12CC-PDiiN DALI LED driver	Update parameters	Design verification	2025-09-25

Specification for DALI 2 Dimmable LED Driver KL12CC-PDiIN C.C.



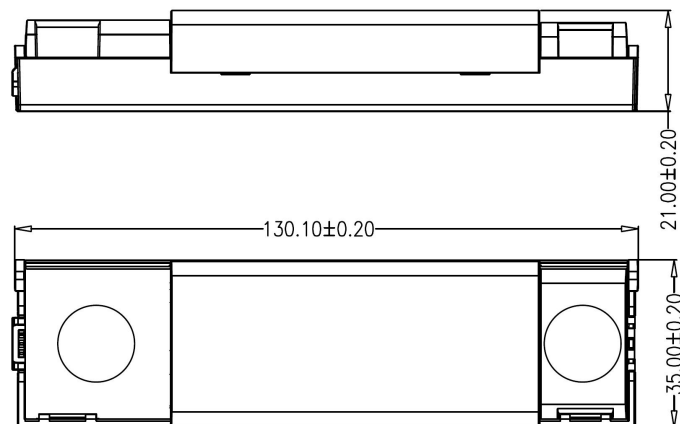
- Flicker-free for whole dimming range
- Stand-by power below 0.5W
- NFC technology for wireless programming
- Primary dimming with push button
- Built-in DALI interface DT8
- CLO compensation
- Protection: short circuit / over temperature/ over voltage
- Derating current for over high ambient temperature
- Push dim with memory function
- Quick-wiring, Convenient and time-saving
- 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 Current	0.13A Max.						
	Input Inrush Current	<15A (Half current pulse width100μs) @230Vac						
	Power factor(@230V100% load)	≥ 0.9C						
	Total harmonic distortion	Typical:15% (@230Vac, 100% load)						
	Stand-by power	≤0.5W (@230Vac when DALI turn off)						
	Efficiency(@230Vac,100% load)	82% Max.						
	Wiring Method	0.75-1.5mm ²						
	Automatic circuit breaker (Calculate current in the wire)	type	B10	B13	B16	B20	B25	/
Number		30	40	55	70	80	/	
type		C10	C13	C16	C20	C25	C32	
Number		65	80	95	125	150	190	
Output	Operating mode	Constant Current						
	Load type	LED						
	Ripple requirement (Flickering or Flickering-Free)	Flicker value: less than 5% for whole dimming range						
	Start up time	<1s (@230Vac); <0.5s (@200Vdc)						
	No-load output voltage	48V DC Max.						
	Load output voltage range	12-42V DC						
	Full load output power	12W						
	Load output current	100-500mA						
	Constant current / voltage Precision	Constant Current Precision ±5%						
	Wiring method	Push terminal, wire cross section:0.5-1.5mm ²						

Control Method	DALI Dimming	DALI dimming (Max.lead length: 300M)
	Primary PUSH Dimming	Primary PUSH dimming (Max. lead wire length: 20m)
	Dimming range	Primary PUSH & DALI dimming: 0%-100%
Exception Protection Requirements	Output over temperature protection	Yes, without self recovery function (Can be inquired)
	Output short circuit protection	Yes, with self recovery function (Can be inquired)
Operating Environment	Operating temperature/ humidity	-25℃~60℃ Humidity: 85% (Non-condensing)
	Storage temperature/ humidity	-40℃~80℃, Humidity: 85% (Non-condensing)
	Max. case temp (Tc)	85℃
Safety & EMC	EMC standard	EN55015 EN61547 EN61000-3-2 EN61000-3-3
	DALI protocol standard	IEC62386-101 / 102 / 207 DT6 / 209 DT8 / 251 / 252 / 253
	Safety standard	EN61347-1 EN61347-2-13
	Certification	CE, CB, ENEC
	Withstand voltage	3750Vac, 5mA, 60s (Input "L N"- Output "SEC")
Others	Degrees of protection	IP20
	Type of protection	Class II
	Installation type	Independent installation
	Dimension	130*35*21mm
	Blackout memory function	Yes, PUSH blackout memory
	PUSH dimming synchronization	Parallel: 15 units Max. Series: 25 units Max.
	Packaging requirement	PE bag + kraft box + manual + partition + outer box (K=A)
	Weight	75±5g
	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

Channel Mode: 1 address for 2 channel (209 DT8); 2 address for 2 channel (207 DT6);
1 address for 2 channel (207 DT6)

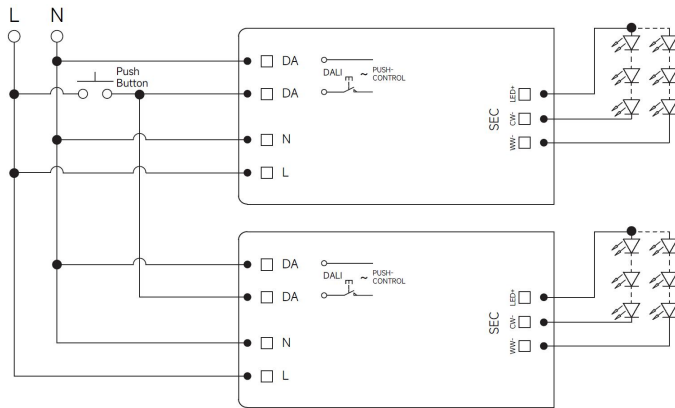


Fig. A: Push Dimming (Parallel)

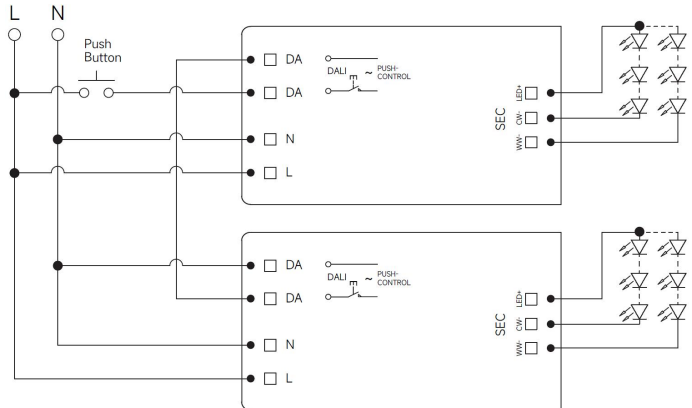


Fig. B: Push Dimming (series)

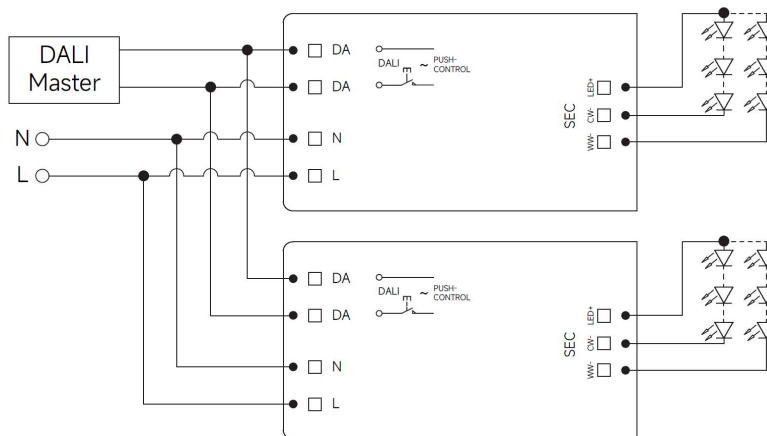


Fig. C: DALI Dimming

Channel Mode: 1 address for 1 channel (207 DT6)

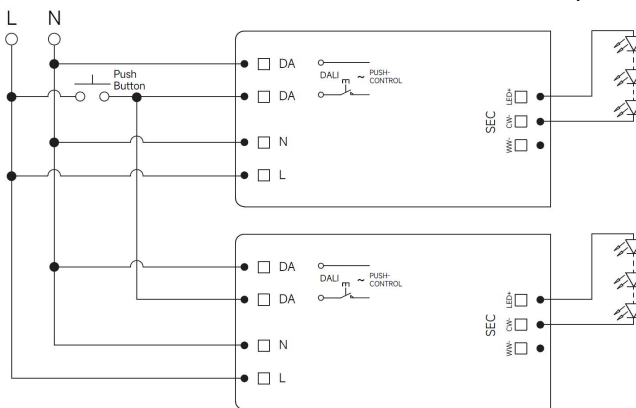


Fig. A: Push Dimming (Parallel)

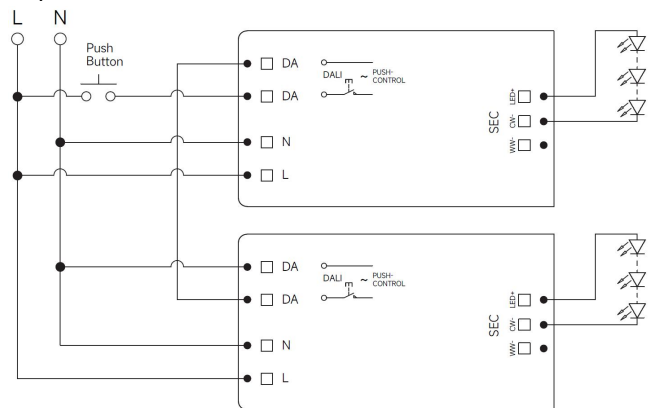


Fig. B: Push Dimming (series)

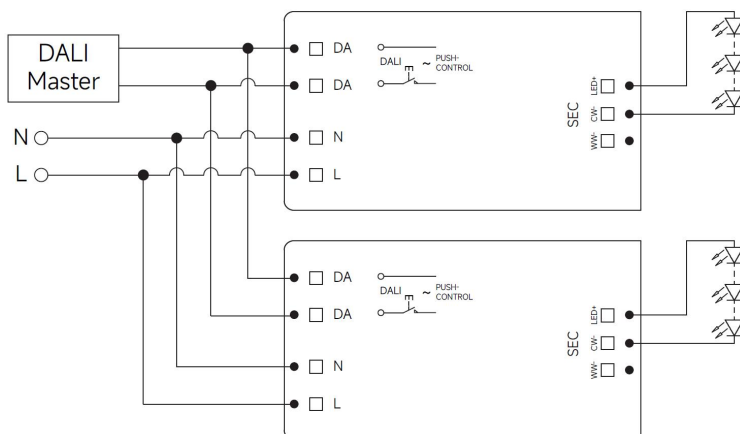
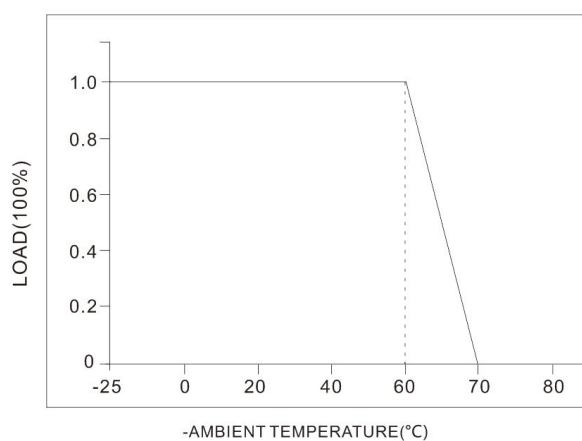
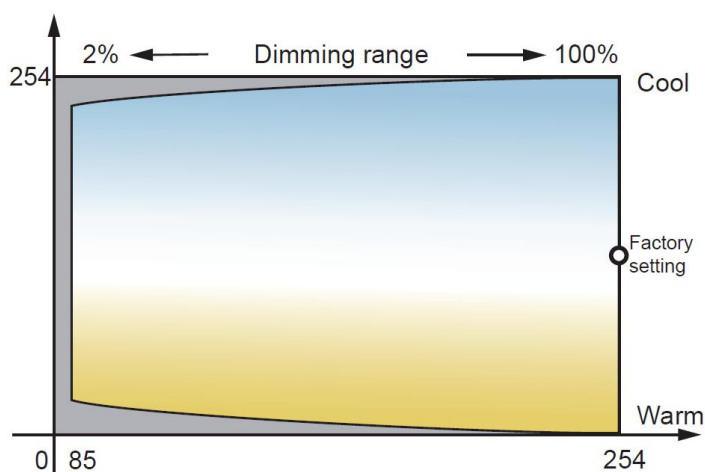
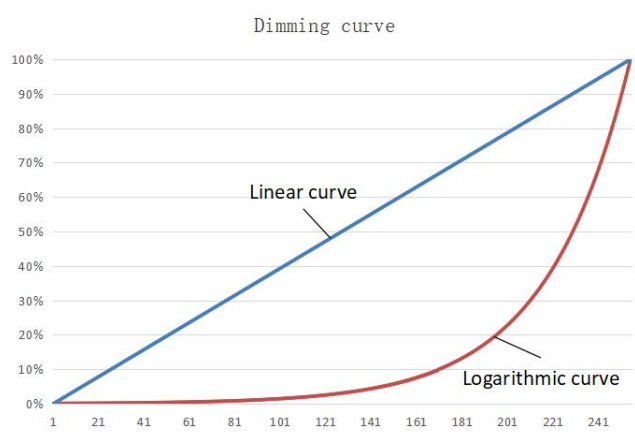


Fig. C: DALI Dimming

4. Derating



5. Dimming curve



6. Current setting:

Table of Typical Corresponding Parameters for Current

KL12CC-PDiIN		
Current(mA)	Pomax(W)	Uout(V)
100	4.2	12~ 42
150	6.3	12~ 42
200	8.4	12~ 42
250	10.5	12~ 42
300	12.0	12~ 40
350	11.9	12~ 34
400	12.0	12~ 30
450	12.2	12~ 27
500	12.0	12~ 24

The typical current data sets are for reference when selecting LED fixture models. More current levels can be set by NFC using mobile APP adjustable in 1mA step.



Scan the code to download Merrytek NFC

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.
- 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.

2) After the LED drive input is powered off, there will be a residual voltage at the output, which can be maintained for about 3 minutes.

3) Before setting the parameters by NFC, please make sure the driver is powered off.