

SPECIFICATION

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

Model No.: **KL50C-PDiIN**

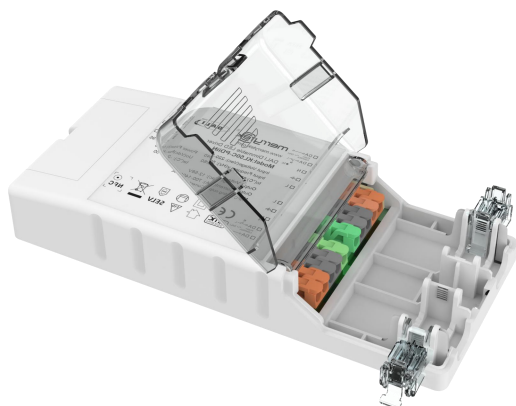
Issue Date: **January 15, 2025**

CUSTOMER APPROVED



Version	Product Name / Product Model	Reason / content for change	Stage	Date
A0	KL50C-PDiiN DALI LED driver		Design verification	2025-01-15

Specification for DALI 2 Dimmable LED Driver KL50C-PDiN C.C.



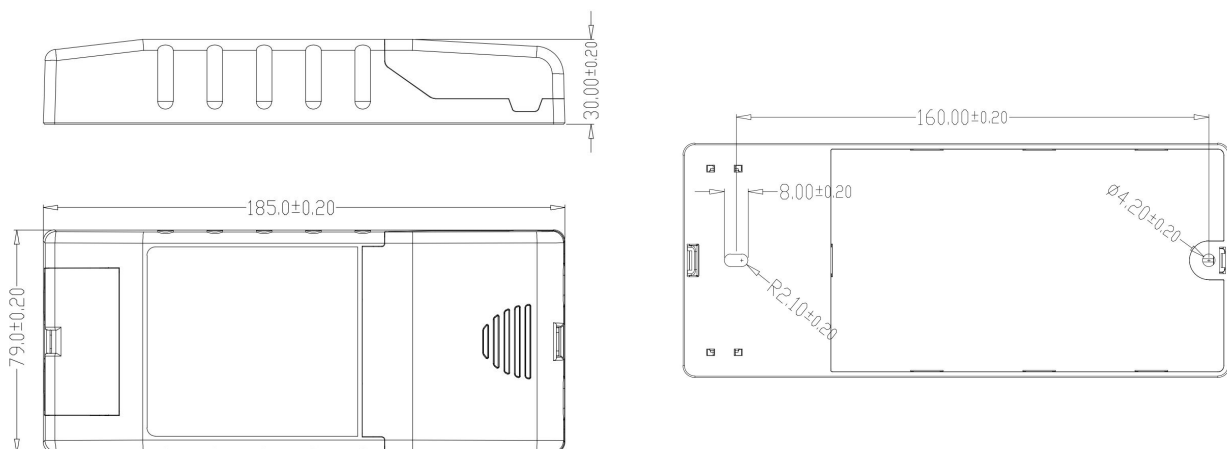
- Flicker-free for whole dimming range
- NFC technology for wireless programming
- Stand-by power below 0.5W
- Built-in DALI interface DT6
- Centrally-supplied DC emergency operation DT19
- Protection: short circuit / over temperature/ over voltage
- CLO compensation
- Derating current for over high ambient temperature
- Push dim with memory function
- Looping design, 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	0.3A Max.					
	Input Inrush Current	<25A (Half current pulse width100μs) @230Vac					
	Power factor(@230V,100% load)	≥ 0.95					
	Total harmonic distortion	Typical: 15% (@230Vac, 100% load)					
	Stand-by power	≤0.5W (@230Vac when DALI turn off)					
	Efficiency(@230Vac,100% load)	88%					
	Wiring Method	Wire cross section:0.75-2.5mm ²					
	Loop-in&Loop-out quantity	22PCS (@230Vac)					
	Automatic circuit breaker (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 5% for whole dimming range					
	Start up time	<1s (@230Vac); <0.5s (@200Vdc)					
	No-load output voltage	75V DC Max.					
	Load output voltage range	12-58Vdc					
	Full load output power	50W Max.					
	Load output current	700-1400mA					
	Constant current/voltage Precision	Constant Current Precision ±5%					
	Wiring method	Wire cross section:0.75-1.5mm ²					

Control Method	Primary PUSH Dimming	Primary PUSH dimming (Max. lead wire length: 20m)
	DALI Dimming	DALI dimming (Max. lead length: 300m)
	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, without self recovery function (Can be inquired)
Operating Environment	Operating temperature/ humidity	-25℃~50℃ 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	IEC62386-102, IEC62386-207 DT6 / 220 DT19 / 251 / 252 / 253
	Safety standard	EN61347-1 EN61347-2-13
	Certification	CE
	Withstand voltage	3750Vac, 5mA, 60s (Input "L N"- Output "SEC")
Others	Degrees of protection	IP20
	Type of protection	Class I
	Installation type	Independent installation
	Dimension	185*79*30mm
	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	266±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

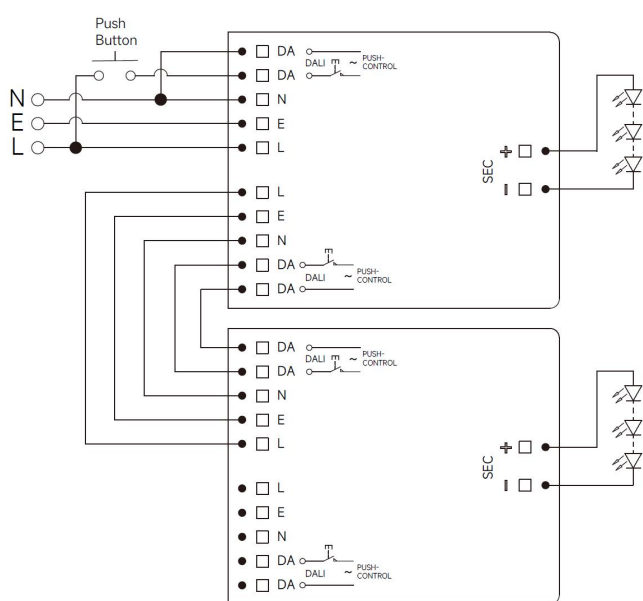


Fig. A: Push Dimming (Parallel)

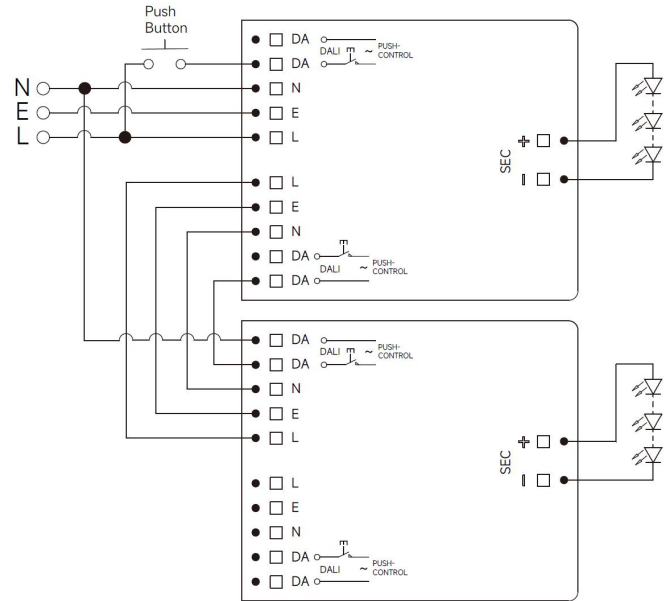


Fig. B: Push Dimming (series)

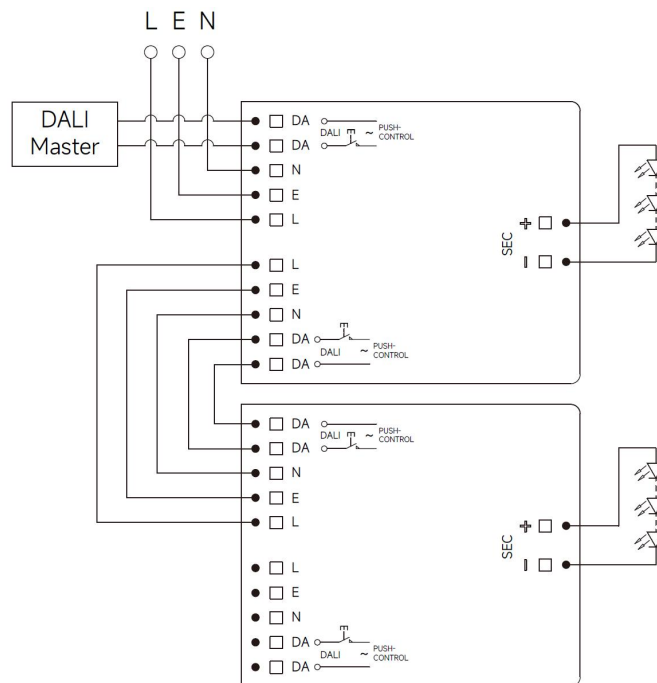
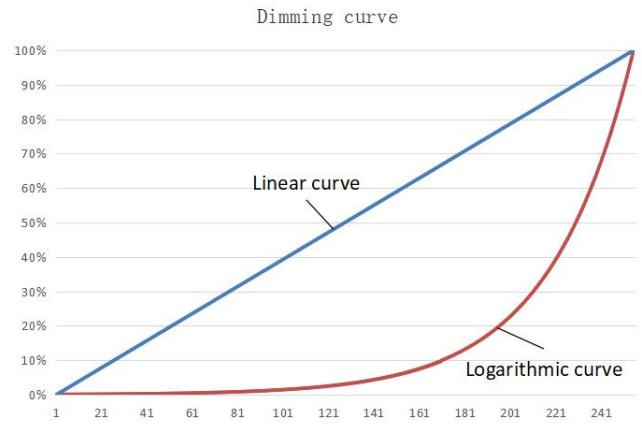
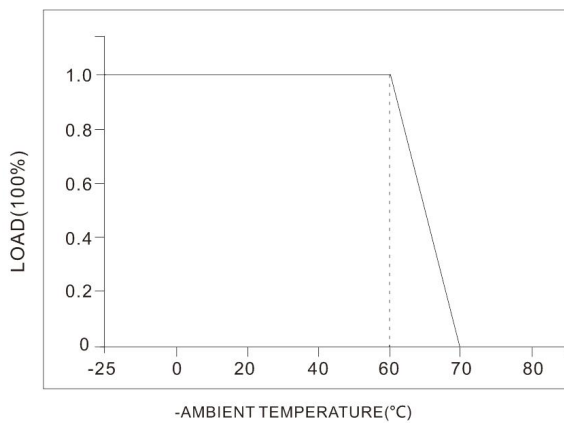


Fig. C: DALI Dimming

4. Derating & Dimming curve



5. Current gear setting:

Table of Typical Corresponding Parameters for Current

KL50C-PDiIN		
Current(mA)	Pomax(W)	Uout(V)
700	40.6	12~ 58
750	43.5	12~ 58
800	46.4	12~ 58
850	49.3	12~ 58
900	50.4	12~ 56
950	50.4	12~ 53
1000	50.0	12~ 50
1050	50.4	12~ 48
1100	49.5	12~ 45
1150	49.5	12~ 43
1200	50.4	12~ 42
1250	50.0	12~ 40
1300	49.4	12~ 38
1350	50.0	12~ 37
1400	50.4	12~ 36

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

6. ON/OFF & Description of Dimming Operation

- A. Short press the PUSH switch (short press time 0.1s-1s), the LED driver will turn on or off.
- B. Dimming: Press and hold the PUSH switch (1s-8s), the LED driver can achieve dimming, brightening or dimming, the dimming range is 2-100%.
- C. Memory: PUSH dimming has dimming memory function.
- D. Dimming synchronization: The power connected to the same PUSH switch can be synchronized by pressing and holding the PUSH switch for longer than 15s
- E. 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%.

7. 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.