

SPECIFICATION

Product Name: DALI 2 Dimmable LED driver

Model No.: KL10C-PDiN; KL20C-PDiN; KL35C-PDiN

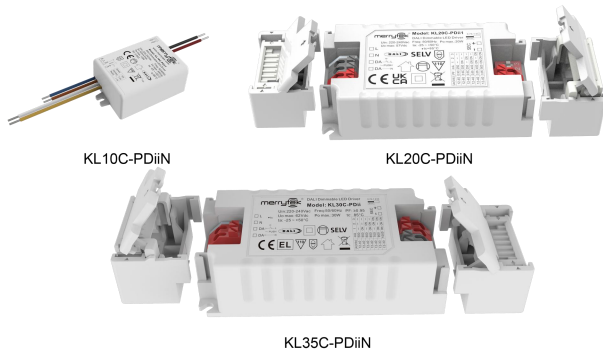
Issue Date: January 15, 2025

CUSTOMER APPROVED



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

Specification for DALI 2 Dimmable LED Driver Micro NFC series 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 DT6
- Centrally-supplied DC emergency operation DT19
- CLO compensation
- Protection: short circuit / over temperature/ over voltage
- Derating current for over high ambient temperature
- Push dim with memory function
- 5 year warranty

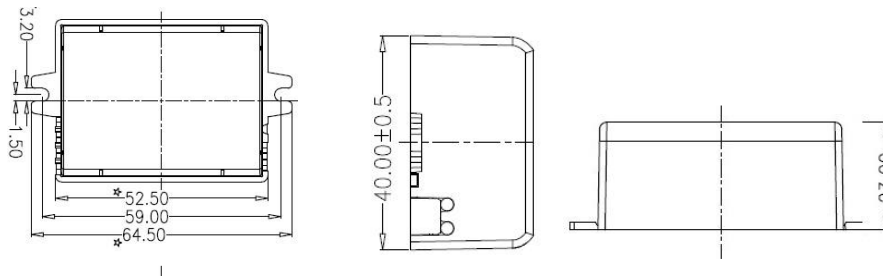
1. Parameters

	Micro series	KL10C-PDiIN	KL20C-PDiIN	KL35C-PDiIN				
Input	Operating Voltage	198-264Vac 50Hz/60Hz						
	Rated Input Voltage	220-240Vac 50Hz/60Hz						
	DC Input Voltage range	200-240Vdc						
	Input Current	0.06A Max.	0.11A Max.		0.19A Max.			
	Input Inrush Current	<15A (Half current pulse width100μs) @230Vac						
	Power factor(@230V100% load)	≥ 0.9C	≥ 0.93		≥ 0.95			
	Total harmonic distortion	Typical:15% (@230Vac, 100% load)						
	Stand-by power	≤0.5W (@230Vac when PUSH or DALI turn off)						
	Efficiency(@230Vac,100% load)	81%	86%		87%			
	Wiring Method	0.75mm ²	0.75-1.5mm ²					
	Automatic circuit breaker	KL10C-PDiIN (Calculate current in the wire)						
		type	B10	B13	B16	B20	B25	/
		Number	40	50	65	85	100	/
		type	C10	C13	C16	C20	C25	C32
		Number	70	90	110	140	170	220
		KL20C-PDiIN (Calculate current in the wire)						
		type	B10	B13	B16	B20	B25	/
		Number	25	35	45	55	65	/
		type	C10	C13	C16	C20	C25	C32
		Number	60	70	80	110	130	160
KL35C-PDiIN (Calculate current in the wire)								
type		B10	B13	B16	B20	B25	/	
Number		25	30	40	50	60	/	
type		C10	C13	C16	C20	C25	C32	
Number		40	55	60	80	105	130	

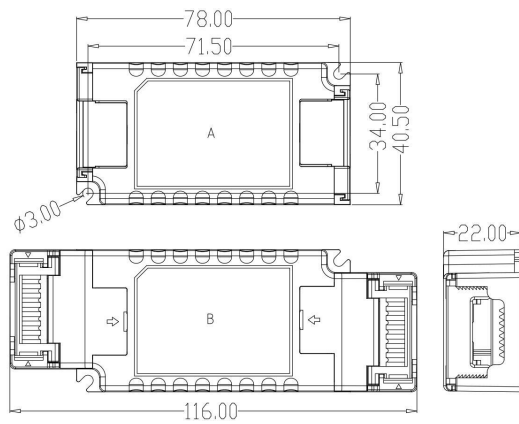
Output	Operating mode	Constant Current		
	Load type	LED		
	Ripple requirement (Flickering or Flickering-Free)	Flicker value: less than 5% for whole dimming range		
	Start up time	<1s (@230Vac); <0.5s (@200Vdc)		
	No-load output voltage	50V DC Max.	55V DC Max.	55V DC Max.
	Load output voltage range	3-40V DC	3-45V DC	3-40V DC
	Full load output power	10W	20W	35W
	Load output current	150-350mA	100-550mA	500-1050mA
	Constant current/voltage Precision	Constant Current Precision ±5%		
	Wiring method	0.5mm ²	Push terminal, wire cross section: 0.75-1.5mm ²	
Control Method	Primary PUSH Dimming	Primary PUSH dimming (Max.lead length: 20M)		
	Dimming Range	Primary PUSH & DALI dimming: 0%-100%		
	DALI Dimming	DALI dimming (Max.lead length: 300M)		
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:10% – 95%		
	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 / 251 / 252 / 253 IEC62386-220 DT19 (KL20C-PDiiN, KL35C-PDiiN)		
	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 II		
	Installation type	Independent installation & built-in installation		
	With crimping	/	116*40.5*22mm	136*42.5*24mm
	Without crimping	64.5*40*23mm	78*40.5*22mm	96*42.5*24mm
	Blackout memory function	Yes, PUSH blackout memory		
	PUSH dimming synchronization	Parallel: 15 units Max. Series: 25 units Max.		
	Packaging requirement	PE bag + Instruction + kraft box + clapboard + outer carton (K=A)		
	Weight (With crimping)	/	86.9±5g	115.1±5g
	Weight (Without crimping)	54±5g	100.5±5g	132.7±5g
	Life	5 year @Ta full load		

Note: All parameters are tested at the input voltage of 230Vac and 25 degree environment unless specified.

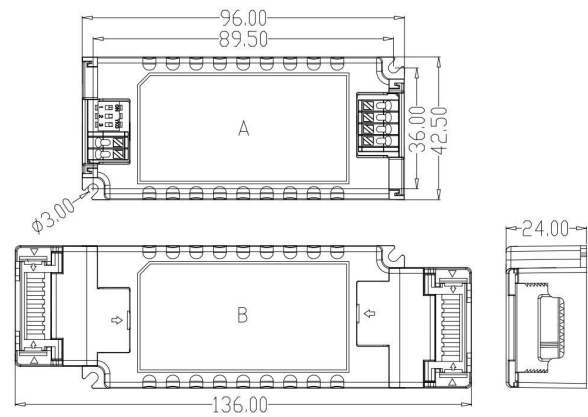
2. Dimension (Unit: mm)



KL10C-PDiIN



KL20C-PDiIN



KL35C-PDiIN

3. Wiring Diagram

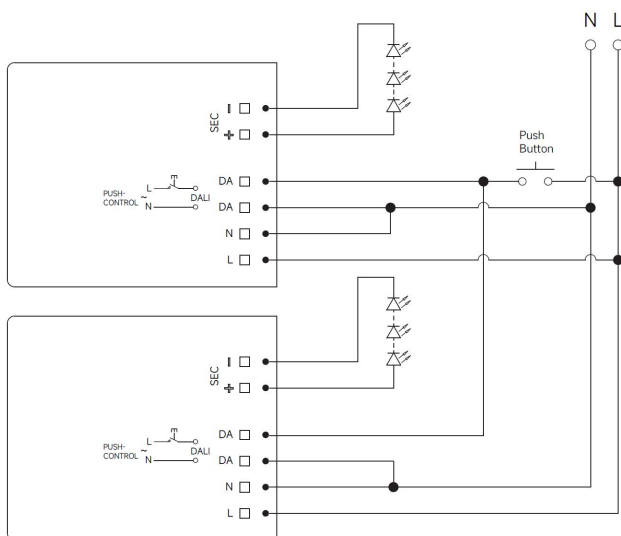


Fig. A: Push Dimming (Parallel)

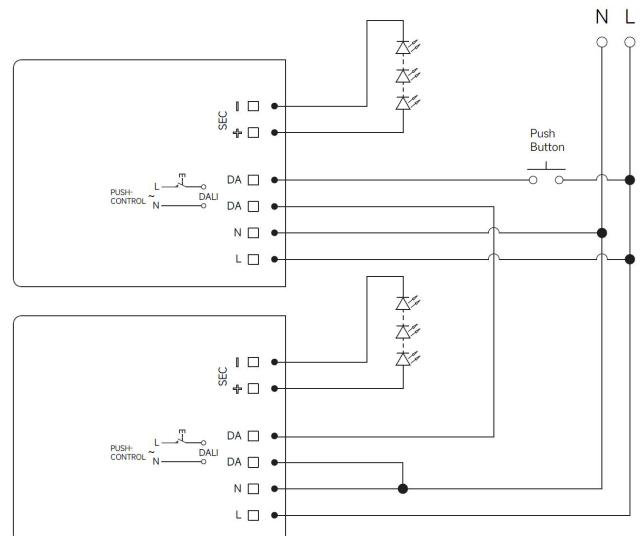


Fig. B: Push Dimming (series)

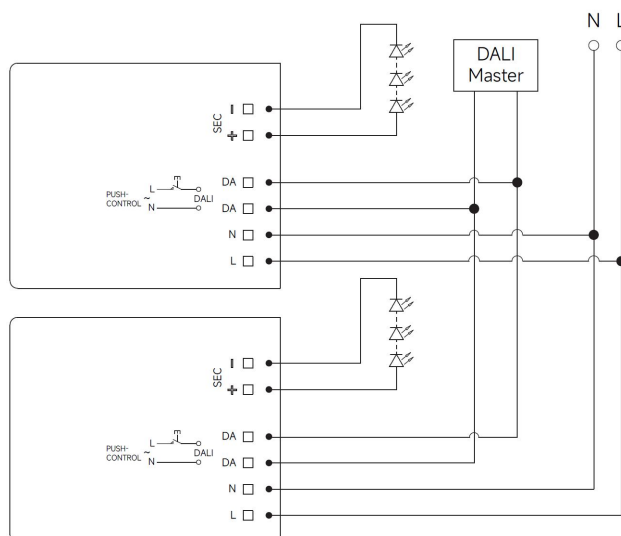
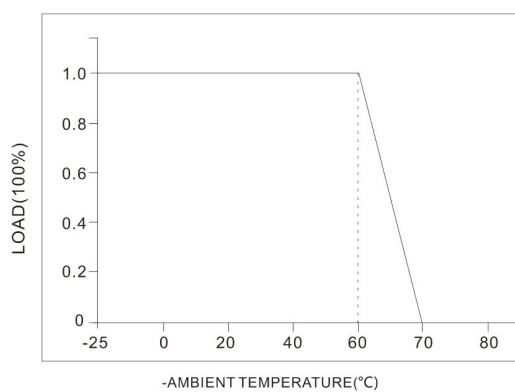
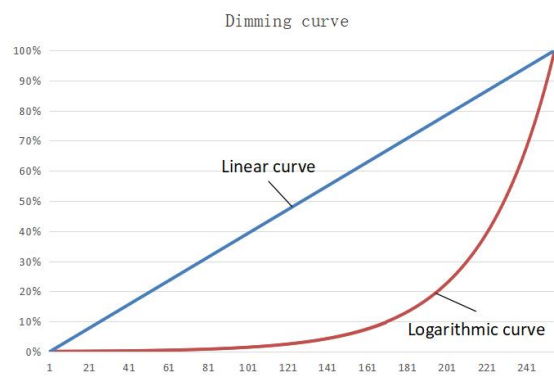


Fig. C: DALI Dimming

4. Derating



5. Dimming curve



6. Current setting:

Table of Typical Corresponding Parameters for Current

KL10C-PDiiN		
Current(mA)	Pomax(W)	Uout(V)
150	6.0	3~ 40
200	8.0	3~ 40
250	10.0	3~ 40
300	9.9	3~ 33
350	10.2	3~ 29

KL35C-PDiiN		
Current(mA)	Pomax(W)	Uout(V)
500	20.0	3~ 40
550	22.0	3~ 40
600	24.0	3~ 40
650	26.0	3~ 40
700	28.0	3~ 40
750	30.0	3~ 40
800	32.0	3~ 40
850	34.0	3~ 40
900	35.1	3~ 39
950	35.2	3~ 37
1000	35.0	3~ 35
1050	34.7	3~ 33

KL20C-PDiiN		
Current(mA)	Pomax(W)	Uout(V)
100	4.5	3~ 45
150	6.8	3~ 45
200	9.0	3~ 45
250	11.3	3~ 45
300	13.5	3~ 45
350	15.8	3~ 45
400	18.0	3~ 45
450	20.3	3~ 45
500	20.0	3~ 40
550	19.8	3~ 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

7. 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%.

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.