



Constant Voltage Driver

Model: FV60W24CG DALI



Model	Input Current	Input Power	Output Power Range	PF	Efficiency (full load)	Output Current	Output Voltage
FV60W24CG DALI	≤0.35A	≤70W	15-60W	≥0.95	≥90%	0-2500mA	24V

* Test result @230V, 50Hz, Full Load.

1. Parameters

Category	Item	Technical Norm
Features	Output Type	Constant Voltage
	Dimming Type	DALI-2
	Dimming range	1-100%
	Output Features	Isolation
	IP Grade	IP20
	Insulation Class	Class II
Input	Rated Input Voltage	220-240VAC
	Range of Input Voltage	180-264VAC or 180-280VDC
	Frequency	50/60Hz
	Input Current	≤0.35A
	Input Power	≤70W
	Power Factor	≥0.95
	THD	≤15%
	No-load Power Consumption	≤0.5W
	Stand-by power	≤0.5W
	Inrush Current	≤18A/2.8us
Output	Output Voltage	24VDC
	No Load Voltage	25.2VDC Max.
	Output Current	0-2500mA, suggestion for DALI dimming operation current :625-2500mA
	Max. Output Power	60W Max. suggestion for DALI dimming operation watt :15-60W
	Efficiency	≥90%(230VAC, full load)
	Voltage Ripple	3% (230VAC, full load (Vmax-Vmin) / (Vmax+Vmin))
	Voltage Accuracy	±3%
	Line Regulation	±1%
	Load Regulation	±2%

	Voltage Accuracy	±3%
	Started Delay Time	≤0.65S (230VAC, full load)
Control Method	PUSH dimming terminal	PUSH dimming terminal (Max. lead wire length: 20m,same port of DALI)
	DALI function	DALI dimming (Max. lead wire length: 300m) logarithm or linear dimming curve selectable
	Dimming range	DALI dimming: 1%-100%
Protection	Short Circuit Protection	Auto Recovery
	Overload Protection	Auto Recovery
	No-load Protection	Auto Recovery
	Insulation voltage	3000V 5mA 60S between P-S
	Insulation resistance	>100M ohm @ 500VDC
	Leakage current	< 250μA, I/P to O/P or I/P to PE @230V input
Environment	Ta/Operation Temperature	-20....+50℃
	Ts/Storage Temperature	-40....+85℃
	Tc/Enclosure Temperature	85℃
	Humidity	10%....90%RH
	Atmospheric pressure	86-108KPa
Construction	Connection Method	terminal block
	Installation	Independent
	PRI Wire preparation	0.75-1.5 [□]
	SEC Wire preparation	0.75-1.5 [□]
	Dimension	170*57*18mm (L*W*H)
Standards	Certification	CE
	Safety Standards	EN61347-1:2015,EN61347-2-13:2014/A1:2017,EN62493:2015, AS61347.2.13:2018,AS/NZS 61347.1:2016 Inc A1
	EMC Standards	EN55015:2013/A1:2015,EN61000-3-2:2014,EN61000-3-3:2013,EN61547:2009
	Performance	EN62384,IEC62386-101{ed2.0}-2014, EN 62386-207{ed1.0}-2009, BS EN 62386-102{ed2.0}-2014
	Surge	L-N/2KV
Others	RoHS	complied to 2011/65/EU
	Life Time	50000h @Ta=50℃
	Warranty	5years , F.R. < 10000ppm
	Noise	≤ 28dB @Background noise ≤18dB, Interval≥15cm

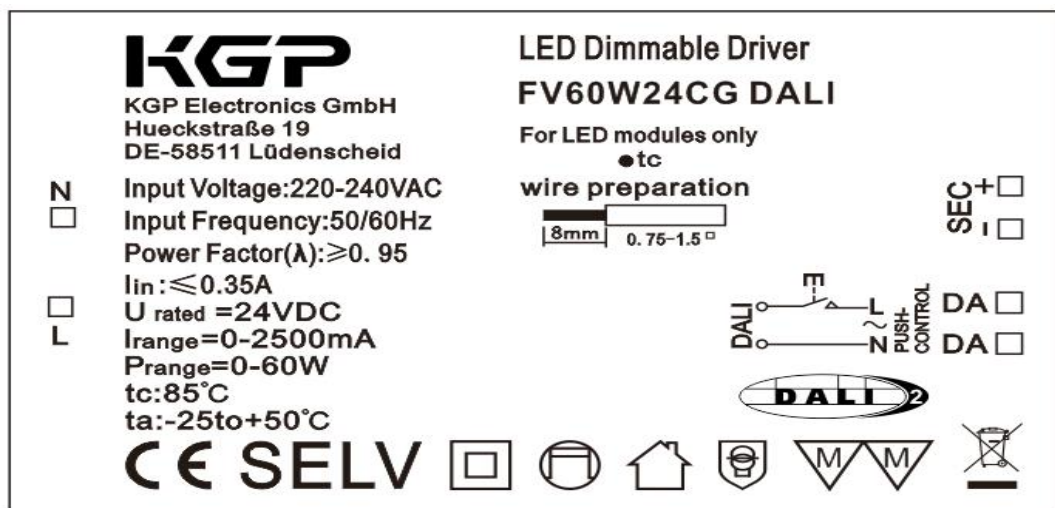
Remark:

1. All Parameters, if not specified, are measured at 230VAC/50Hz and 25℃ ambient temperature.
2. LED Driver is a component of the luminaires, Luminaires and wire layout will affect the EMC, please check the EMC with end products again.
3. Output ripple should be measured at the output end which has with 0.1uF/50V ceramic capacitance and 47uF/50V Aluminum capacitance connected in parallel. Measured using oscilloscope with bandwidth limited to 20MHz.

2. Connected quantities of different current Breaker

TYPE	Connected quantities of different current Breaker						Input Voltage	Inrush Current (A)	Time (μs)
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		56	72	89	111	139	@230VAC	10.8	26.4
TYPE C		89	116	142	178	222			
TYPE D		142	185	228	284	356			

3. Label



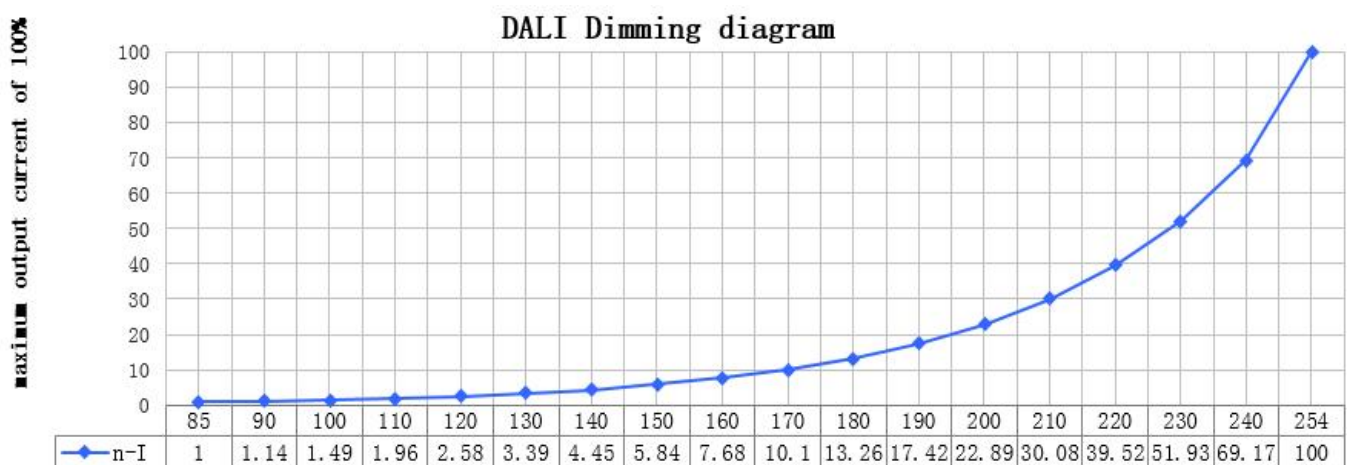
4. DALI dimming curve

4.1 formula for DALI dimming.

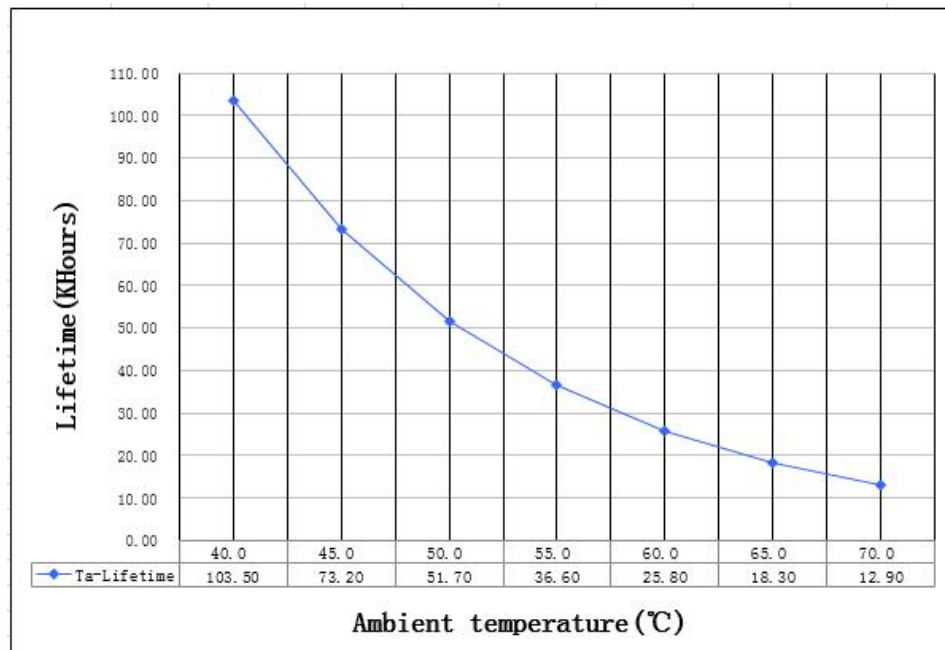
$$X(n) = 10^{\left\{ \left[\frac{(n-1)}{(253/3)} \right] - 1 \right\}}$$

Here, n means the target dimming stage of the total 254 stages.

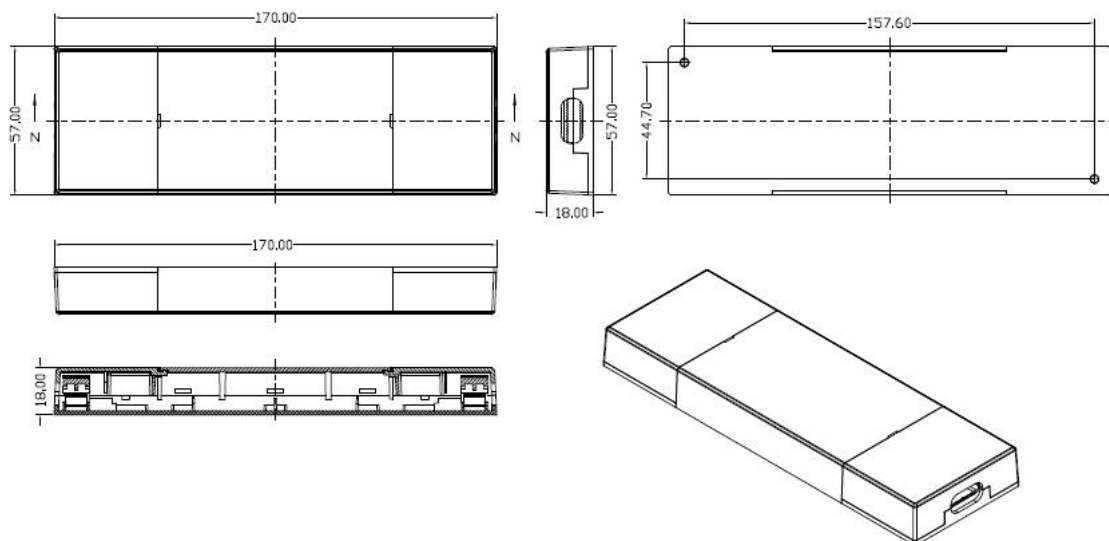
X(n) means the percent of the maximum output current



5. Lifetime curve



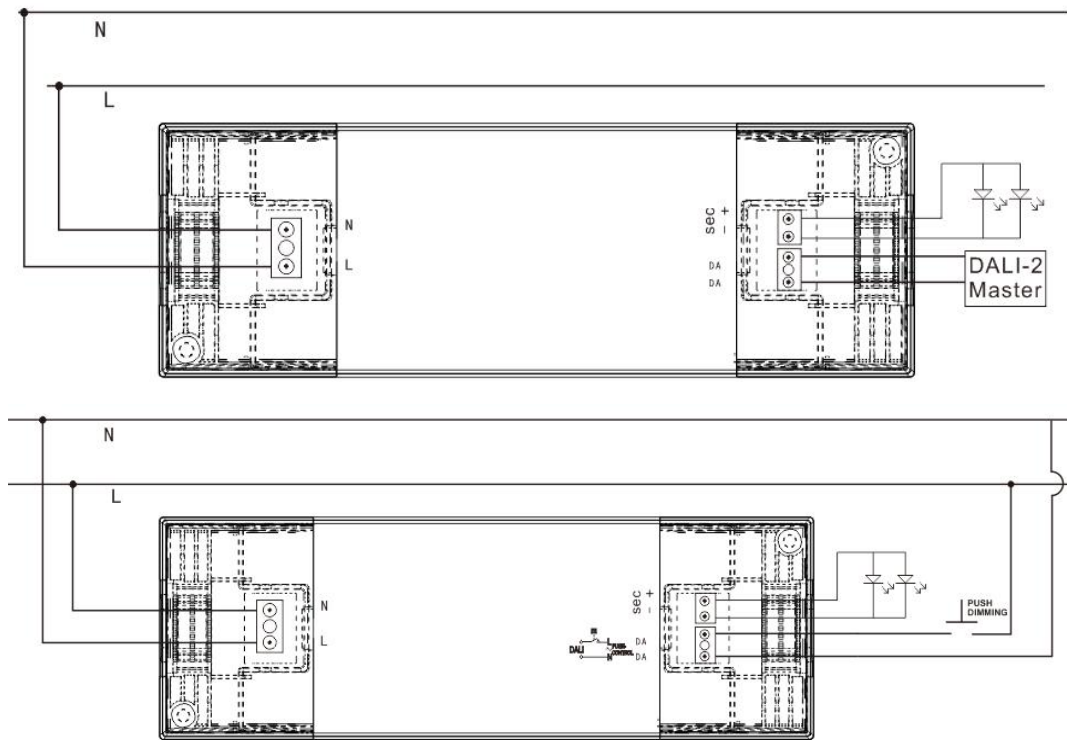
6. Dimension



7. Packing information

Carton L*W*H(mm)	Pcs/Carton	Net weight/ Pcs(kg)	Net weight/ Carton(kg)	Gross weight / Carton(kg)
305*215*305	50	0.16	8	8.54

8. Wiring Diagram



9. PUSH dimming

8.1 On / off:

Short push (120ms-600ms) on the switch

Stepless dimming: long push (> 0.6sec) on the switch

8.2 Power-on memory function

When the LED driver is powered on, it will restore the memory before the LED driver is powered off. (brightness remembers the brightness after the last dimming is stable, and the brightness during dimming is not memorized).

8.3 Light on/off

If the light is on, the light will be off after a short press. If the light is off, the light will be on after a short press. The time range of short press is 120-600ms.

8.4 PUSH Dimming

Press and hold the push switch for a long time, the light will enter the dimming state, if the previous time is dimming, it will automatically turn to dimming the next time. After releasing the reset button, the dimming stops and the current illuminance is maintained. The dimming range is 3.8%-100%. The default is to dim when the power is first long-press. If the brightness of the power-on is the maximum brightness, the first long-press is to dim. (Long press 0.6-3S to start dimming.)

8.5 Forced synchronization

Long press for 10 seconds to turn on all the lights and turn on the same brightness (50%), and continue to quickly short press will not change. After a short period of time without short press operation, the module exits the synchronization mode, and the short press restores the switch function.

8.6 PUSH Dimming rate

Long press the push switch 10S to switch the dimming rate to 3S, Long press the push switch 20S to switch the



FV60W24CG DALI

dimming rate to 6S, and it can also be changed by MAGIC or production software

10. Wiring instructions

- All connections must be kept as short as possible to ensure good EMI behaviour
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Advice the maximum length of output wires is 3 m
- Secondary switching is not permitted (Except for constant voltage)
- Incorrect wiring can damage LED modules.
- The wiring must be protected against short circuits to earth (sharp edged metals parts, metal cable clips, louver, etc.)

11. REVISION HISTORY

DATE	REV.	REMARK
2022-05-31	V1.0	Initial release.
2024-07-18	V1.1	Update parameters.