

250W DALI+PUSH Dimming power supply



■ Approve

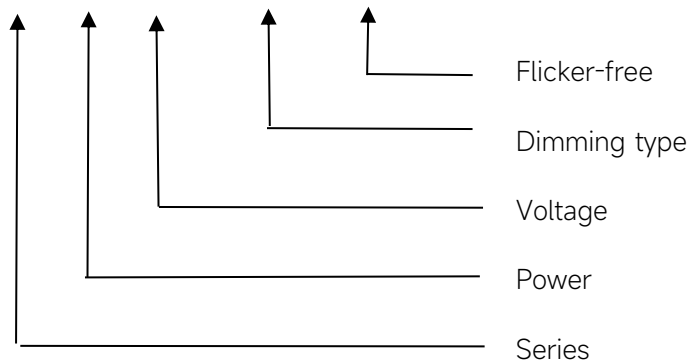


◆ Description

LS-250-24 DALI-2 LI is a 250W constant voltage LED driver that operates from 198-264Vac input with 24V output voltage. With it's compact dimensions from 431 x 45 x 30.5mm it is easy to integrate in LED strips products. To ensure trouble-free operation, protection is provided against output short circuit, over Load. and over Temperature.

◆ Model code

LS-250-24 DALI-2 LI



Features

- Class II, SELV, independent
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OTP
- Power Factor: ≥ 0.95
- Efficiency: $> 91\%$
- 5 years warranty
- Support DALI-2, Push Dimming

Applications

- LED strips

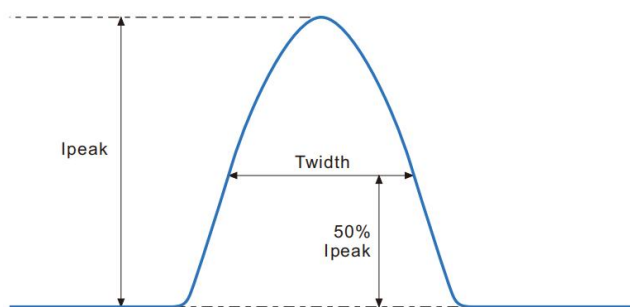
◆ Specification

Output	Constant Voltage	24VDC
	Current Range	10.41A MAX
	Voltage Accuracy	±3.5%
	Output HF voltage ripple(≥1KHz)	±1%
	Output LF voltage ripple(≤120Hz)	±1%
	SVM	≤0.4@Full Load
	Pst	≤1@Full Load
	Efficiency(Typ.)	>91%@Full load,220-240V
Input	Rated input voltage	220-240V
	Range of input voltage	198-264VAC
	Range of input voltage(VDC)	176-280VDC
	Frequency(Hz)	0/50/60 Hz
	Displacement factor	≥0.9
	Power Factor	≥0.95@Full load,230V
	Input Current max	1.5AMAX. @Full Load,198VAC
	Start-up time	< 0.8S
	No Load Power	≤0.5W
	Standby Power	≤0.5W@DALI OFF signal is in effect
	Network standby power	≤0.5W
	THD (Typ.)	< 10% @220-240VAC, Full load
Dimming	Dimming	YES
	Dimming mode	DALI-2 IEC 62386-101,102,207 & Push
	Dimming depth	1%
	Dimming current range	1-100%
Protection	Over Load Protection	105-150% rated output power YES/Auto Resume
	Short circuit Protection	YES/Auto Resume
	Over Temperature Protection	YES/Auto Resume
Capability	Surge capability (L-N)	1KV
Environment	Operating Temperature	-20°C...+45°C
	Humidity	20%-90%RH
	Tc	85°C
	Storage Temperature	-20°C...+60°C
	Life time	≥50000h@Tc=80°C, full load
	Ripple&Noise	≤25dB(A)@20cm
Surface	Dimension	431 x 45 x 30.5(LXWXH)mm
	material	PC

Standards	Safety	IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2- 13;AS/NZS 61347- 1, AS/NZS 61347-2- 13;EN61347- 1, EN61347-2- 13, EN62384
	EMC	EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN55015, EN61000-3-2, EN61000-3-3, EN61547,EN 62493;EN61000-4-5
	ErP	Erp2.0 EU 2019/2020
	RoHS	RoHS (2011/65/EU) (EU)2015/863
Note	<p>1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.</p> <p>2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.</p> <p>3.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered.</p> <p>4.The EMI test method is to pad the board, place the led strips in S-shape, and the length of the lead from the power supply to the lamp belt is 20cm.</p> <p>5.The start time is measured when the cold machine is started, and a quick switch may extend the start time.</p> <p>6.DC input does not guarantee EMI performance.</p>	

◆ Inrush Current

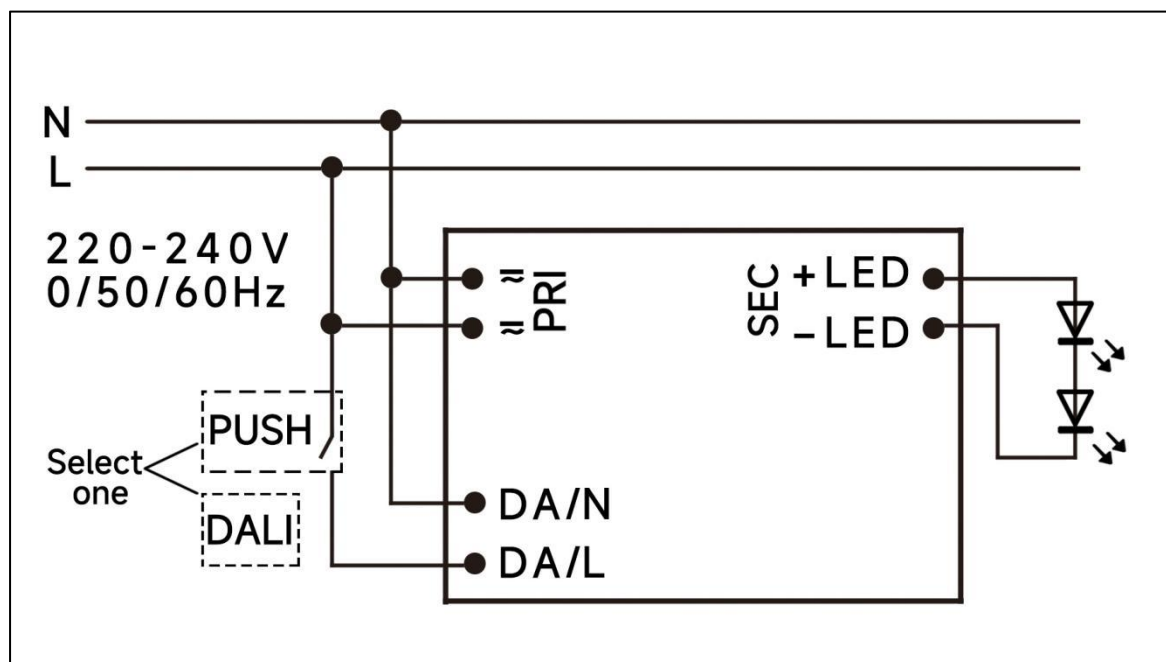
I_{peak}	Twidth	B10	B16	B20	C10	C16	C20
33.4A	220μs	5pcs	8pcs	10pcs	5pcs	8pcs	10pcs



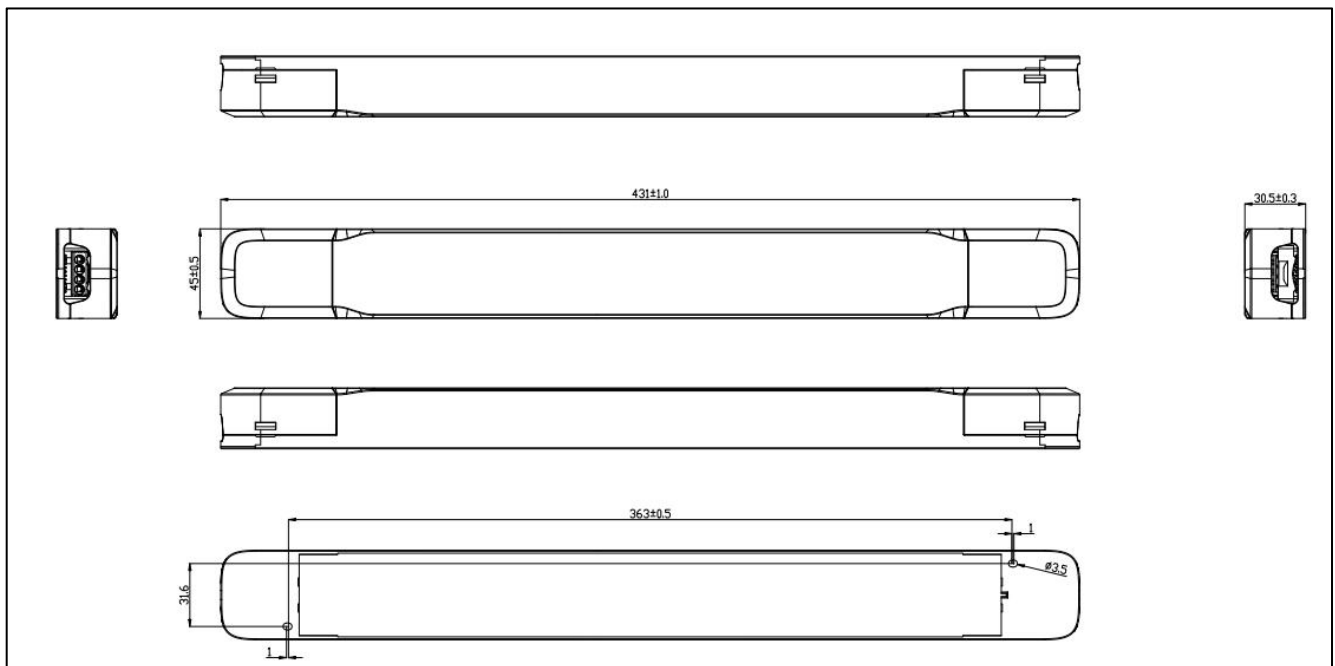
Remarks:

- 1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- 2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

◆ Wiring diagram



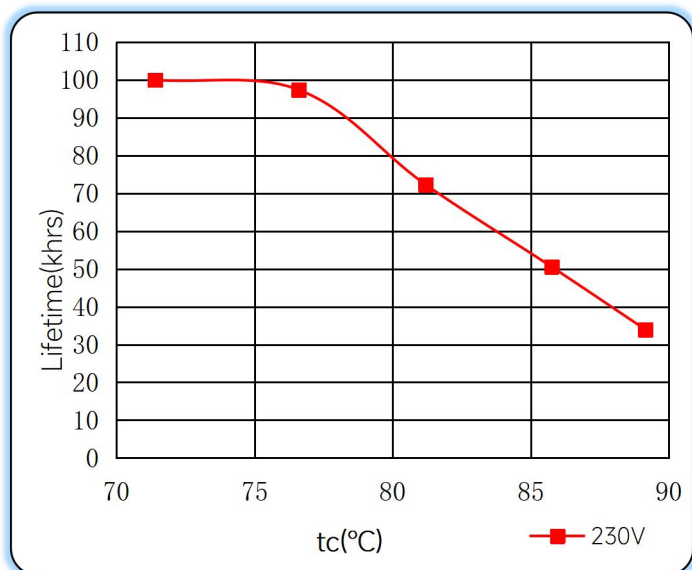
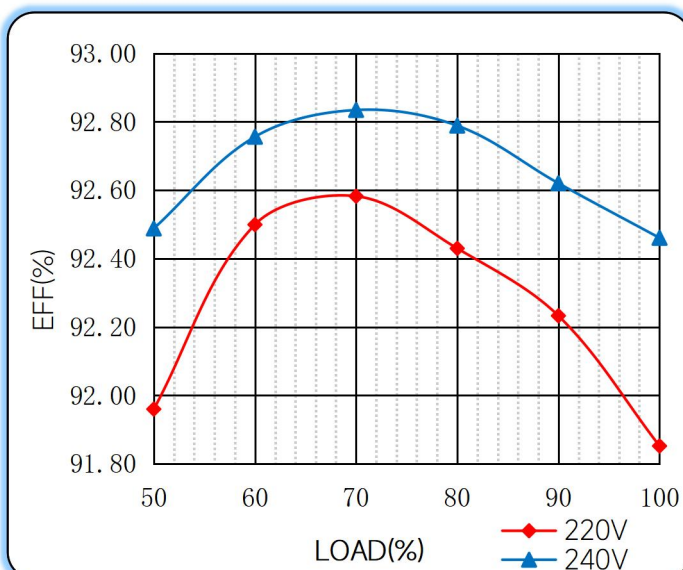
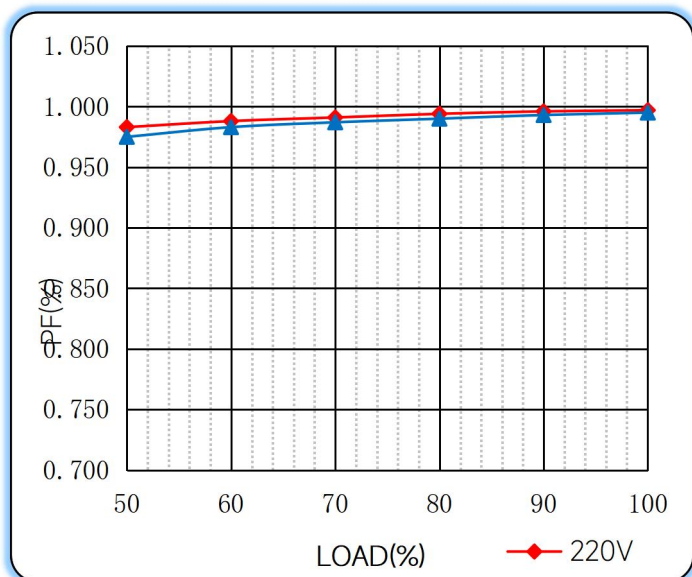
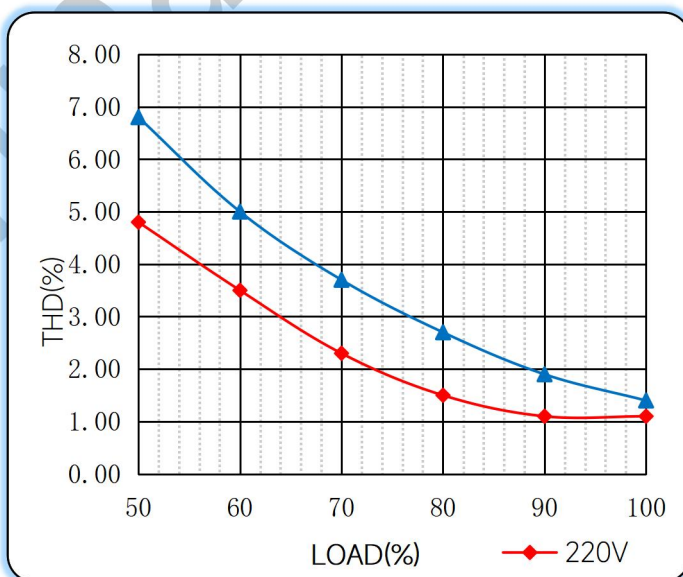
◆ 2D diagram



Wiring & Connections

Specification item		Value (Unit)
Input	Input wire cross-section	0.5...1.5 mm ²
	Input wire gauge.	16...20 AWG
	Input wire strip length	7...9mm
Output	Output wire cross-section	1.0...2.5 mm ²
	Output wire gauge.	14...18AWG
	Output wire strip length	7...9mm

◆ Curve for LS-250-24 DALI-2 LI

Lifetime vs. Temperature Curve

Efficiency vs. Load

Power Factor Characteristics

THD vs. Load


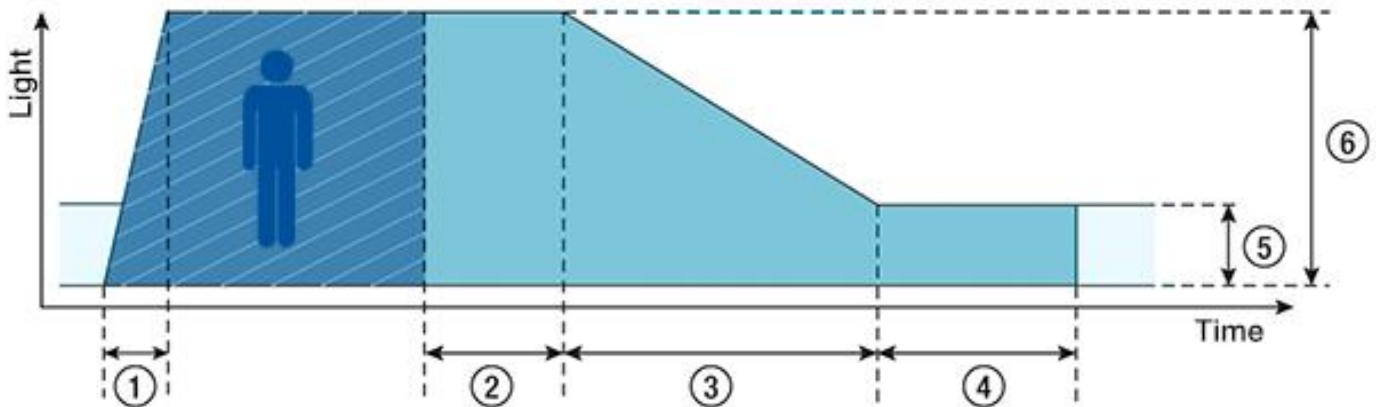
◆ Push dimming operation

Action	Action duration	Function
Short push	<0.5s	Turn on/off
Short push twice	<0.5s	LED on: Save current brightness level LED off: Delete saved level and turn on at 100% brightness
Short push five times	<3s	Quit Corridor mode
Long push	0.5-14s	Dimming up or down
Long push	15s-2mins	Sync all LEDs to be 100% brightness
Long push	>2mins	Enter Corridor mode - LED keep 100% brightness for 2mins. Then brightness will turn to be 10% within 32s if no action during 2mins 100% brightness.

Note:

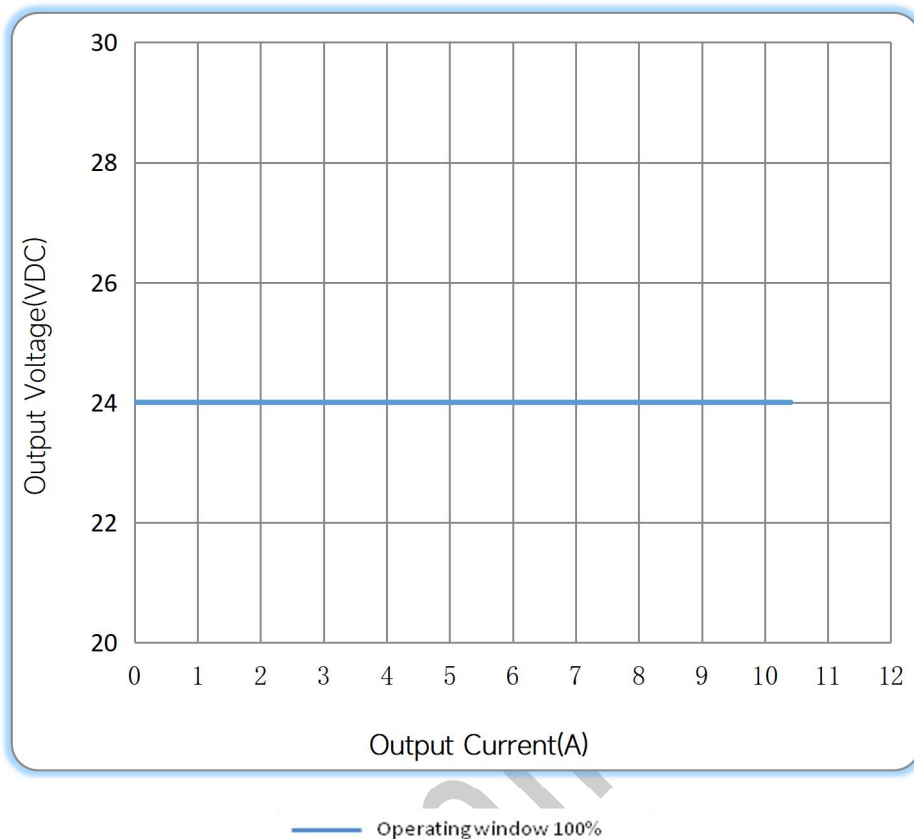
- 1.The factory default brightness is at 100%.
- 2.Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
- 3.The maximum length of the cable from the push button to the last driver is 200 meters.

◆ Corridor mode



- ◆ ① **Fade-in time(0.5s)**: the time that starts as soon as the presence of a person is detected. During the fade-in time the luminous intensity is faded up to the presence value.
- ◆ ② **Run-on time(120s)**: the time that starts as soon as the presence of a person is no longer detected. If the presence of a person is detected again during the run-on time the run-on time is restarted from zero. If no presence is detected during the run-on time the fade time is started as soon as the run-on time expires.
- ◆ ③ **Fade time(32s)**: the time during which the luminous intensity is faded from the presence value to the absence value.
- ◆ ④ **Switch-off delay (Never Off)**: the time during which the absence value is held before the lighting is switched off. Depending on the profile selected the switch-off delay may have different values or may not be defined.
- ◆ ⑤ **Absence value(default: 10 %)**: the luminous intensity when there is no person present.
- ◆ ⑥ **Presence value (default: 100 %)**: the luminous intensity when persons are present.

◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/02/18
Start-up time	< 0.5S	< 0.7S	B	2023/07/20
Life time	≥50000h@Tc=85°C, full load	≥50000h@Tc=80°C, full load		
Start-up time	< 0.7S	< 0.8S	C	2023/07/27

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