

## 12W DALI + PUSH Dimming power supply



■ Approve

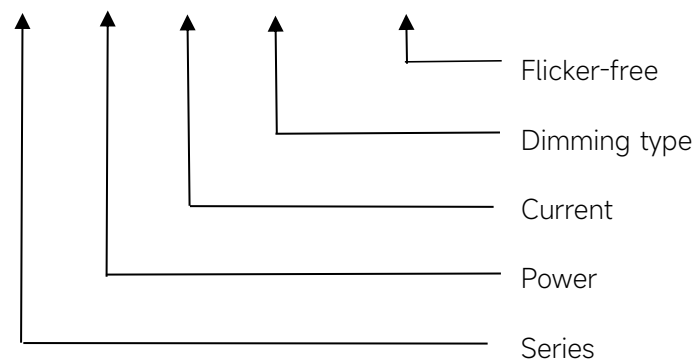


### ◆ Description

FLS-12-350 DALI2 LD is a 12W constant current LED driver with 120 to 350mA output current and a forward voltage range from 9 to 42Vdc. The output current is adjustable by DIP Switch. With it's dimensions from 119 x 40 x 21.5 mm. It is easy to integrate in LED strips, LED panel, spot and down light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

### ◆ Model code

#### FLS-12-350 DALI-2 LD



#### Features

- Class II, SELV, Built-in/Independent (With side caps)
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor : 0.9C
- Efficiency : 82%
- Support DALI-2, Push Dimming
- 5 years warranty

#### Applications

- LED panel, Spot light, Down light

## ◆ Specification

Output	Constant Current (mA)	120	150	180	200	250	280	300	350
	Voltage Range (VDC)	9-42							
	Unload voltage Max.	57VDC							
	Current Accuracy	±7%				±5%			
	Output LF current ripple(≤120Hz)	±5%							
	SVM	≤0.4							
	P <sub>st</sub>	≤1							
	Efficiency(Typ.)	82%@Full Load,230VAC							
Input	Rated input voltage	220-240VAC							
	Range of input voltage	198-264VAC							
	Rated input voltage(DC)	198-280VDC							
	Frequency(Hz)	0/50/60 Hz							
	Displacement factor	≥0.7							
	Power Factor	>0.9@Full Load,230VAC							
	Input Current	0.12A							
	Start-up time	< 0.7S							
	No Load Power	≤0.5W							
	Standby Power	≤0.5W							
	Network standby power	≤0.5W							
	THD (Typ.)	<10%@Full Load,230VAC							
Dimming	Dimming	YES							
	Dimming mode	DALI-2 (IEC 62386-101,102,207) & Push Dimming (Corridor Function)							
	Dimming depth	1%							
	Dimming current range	1 ~100%							
Protection	Over Load Protection	103-120%							
		YES/Latch off							
	Over Voltage Protection	> 57VDC							
		YES/Latch off							
	Short circuit Protection	YES/Latch off							
	Over Temperature Protection	YES/Auto Resume							
Environment	Operating Temperature	-20℃~+45℃							
	Humidity	20%-90%RH							
	T <sub>c</sub>	80℃							
	Storage Temperature	-25℃~+60℃							
	Lifetime	>50000h,@T <sub>c</sub> =65℃							
Surface	Dimension	85X40X21.5mm(With side caps :119X40X21.5mm)							
standards	EN 61347-1; EN61347-2-13; EN62384; EN55015; EN61000-3-2 ; EN61000-3-3; EN 61547;								

Others	ErP	EU 2019/2020
	RoHS	RoHS (2011/65/EU) (EU)2015/863
Note	1.All parameters NOT specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature. 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. 3.Data are typical values obtained from test samples. 4.Switch and dimmer are not recommended to connect between this product output and luminaries.	

## ◆ Parameter

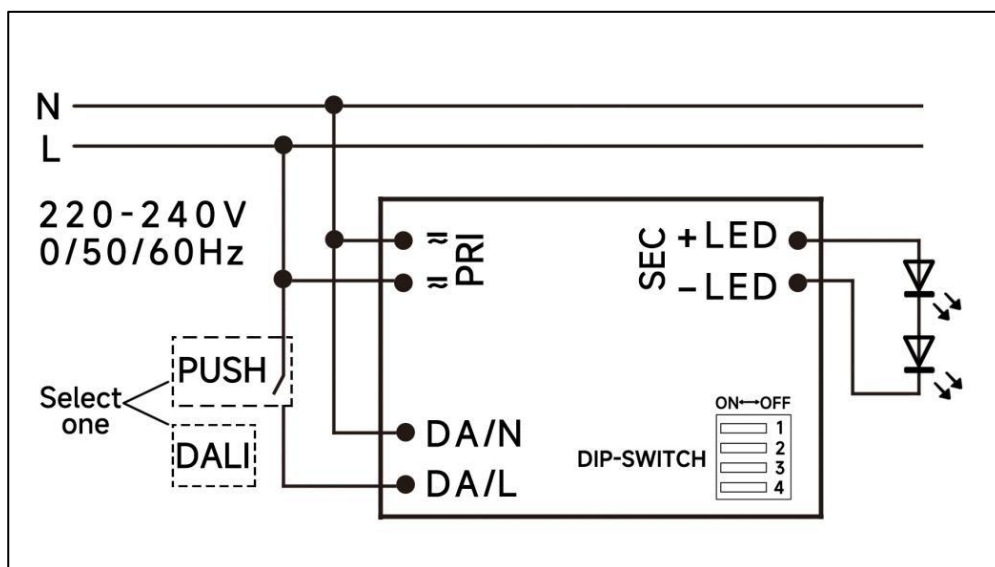
Number	Output	Switch position		
	Current(mA)	1	2	3
1	120	--	--	--
2	150	ON	--	--
3	180	--	ON	--
4	200	ON	ON	--
5	250	--	--	ON
6	280	ON	--	ON
7	300	--	ON	ON
*8	350	ON	ON	ON

\* Factory default

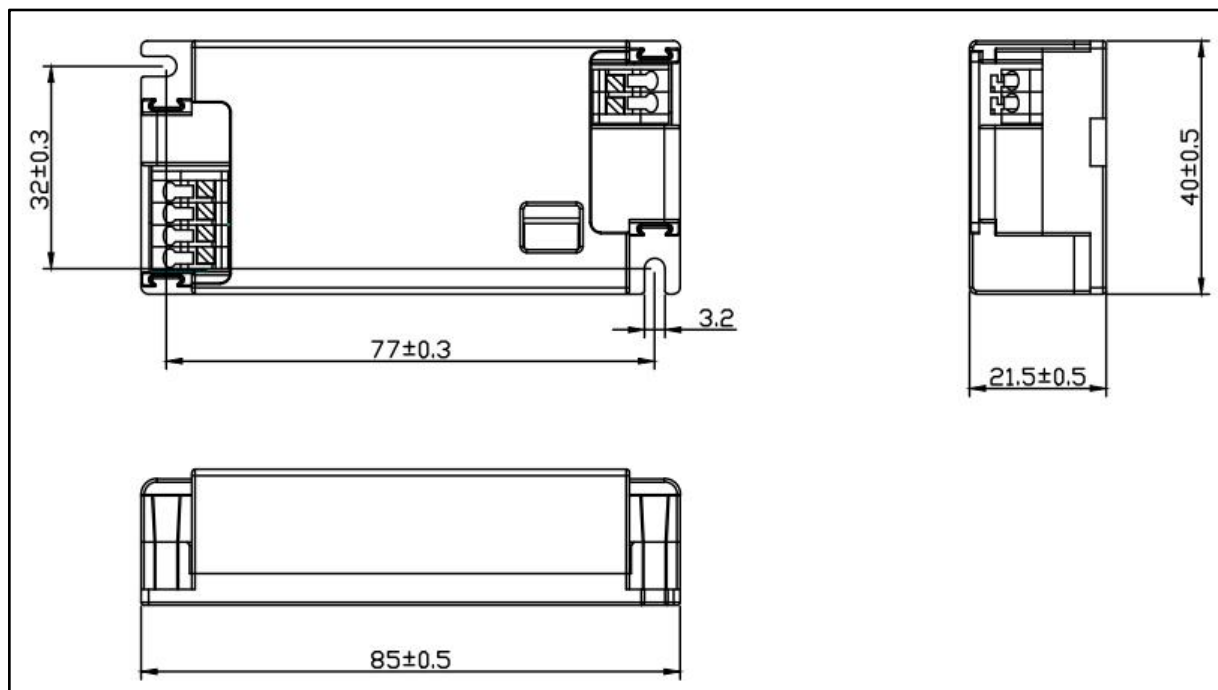
## ◆ Circuit Breaker

I <sub>peak</sub>	T <sub>width</sub>	B10	B16	B20	C10	C16	C20
3.3A	41.2μs	66pcs	106pcs	133pcs	66pcs	106pcs	133pcs

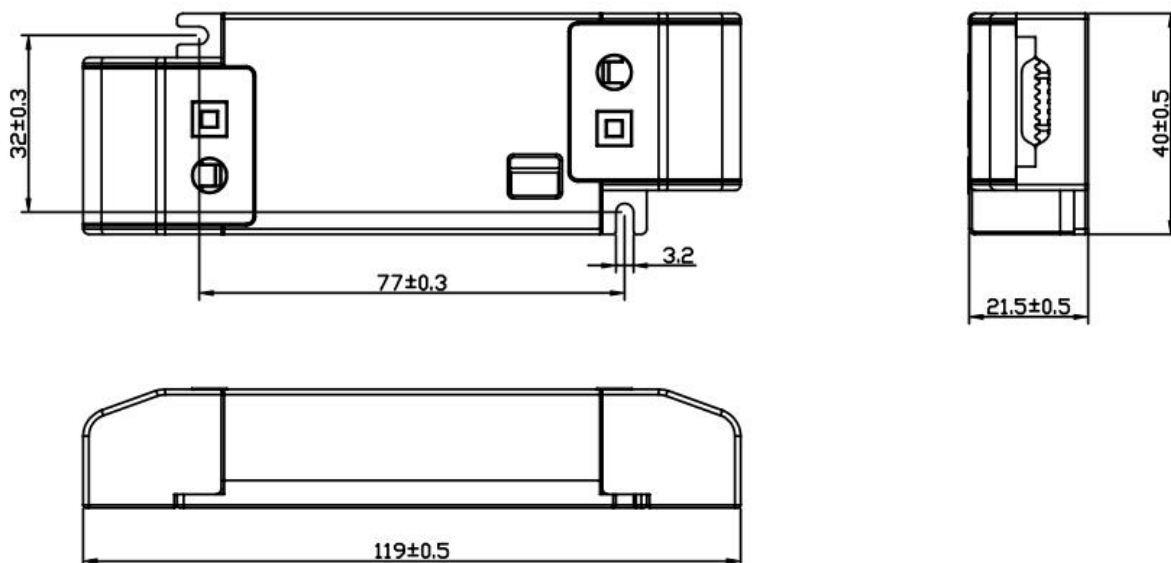
## ◆ Wiring diagram



## ◆ 2D diagram



With side caps



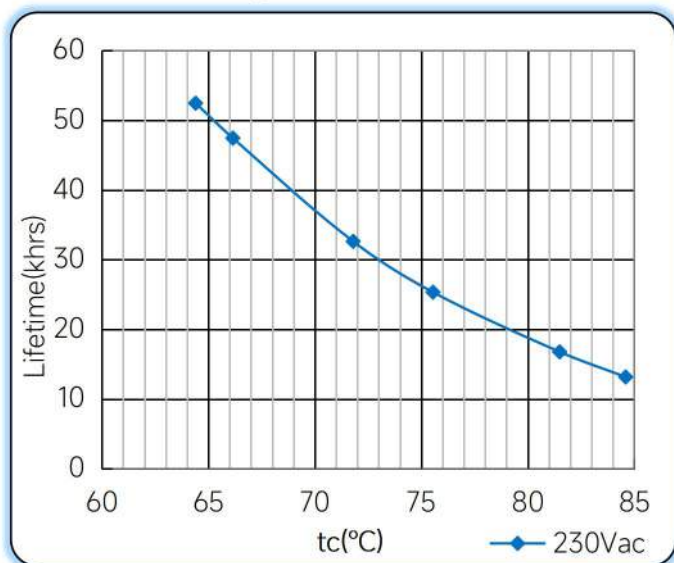
coding:1320212042

## ◆ Wiring & Connections

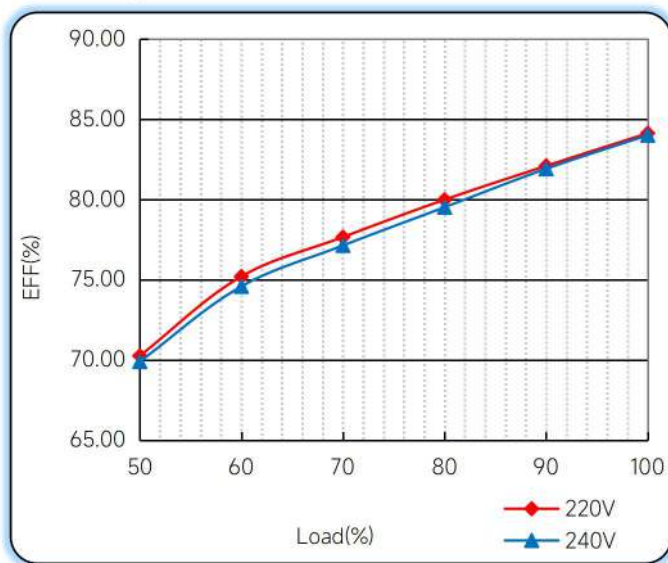
Specification item		Value (Unit )
Input	Input wire cross-section	0.5...1.5 mm <sup>2</sup>
	Input wire gauge.	16...20 AWG
	Input wire strip length	8...9mm
Output	Output wire cross-section	0.5...1.5 mm <sup>2</sup>
	Output wire gauge.	16...20 AWG
	Output wire strip length	8...9mm

## ◆ Curve for FLS-12-350 DALI-2 LD, $I_o=350\text{mA}$

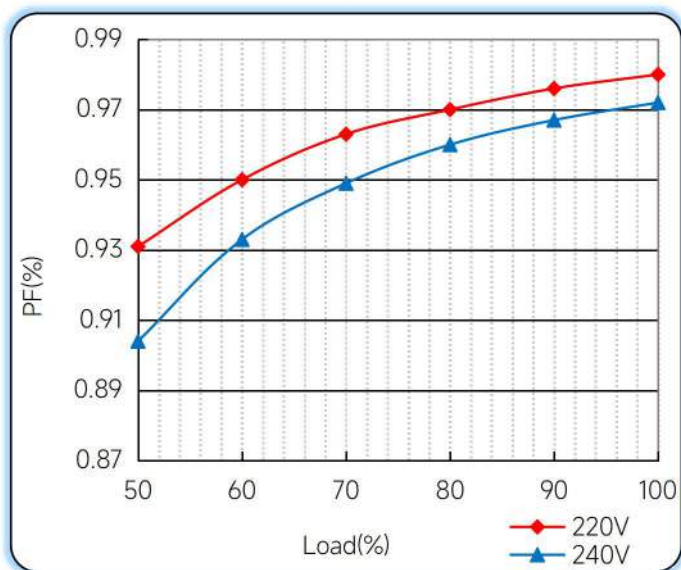
### Lifetime vs. Temperature Curve



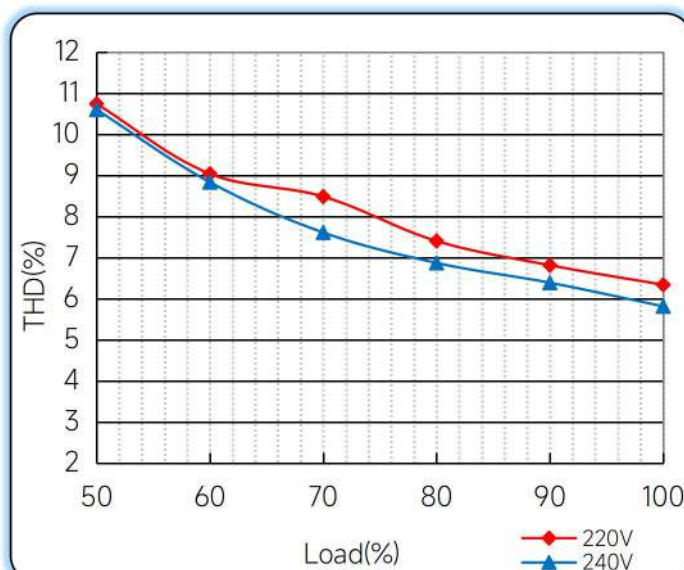
### Efficiency vs. Load



### Power Factor Characteristics



### THD vs. Load



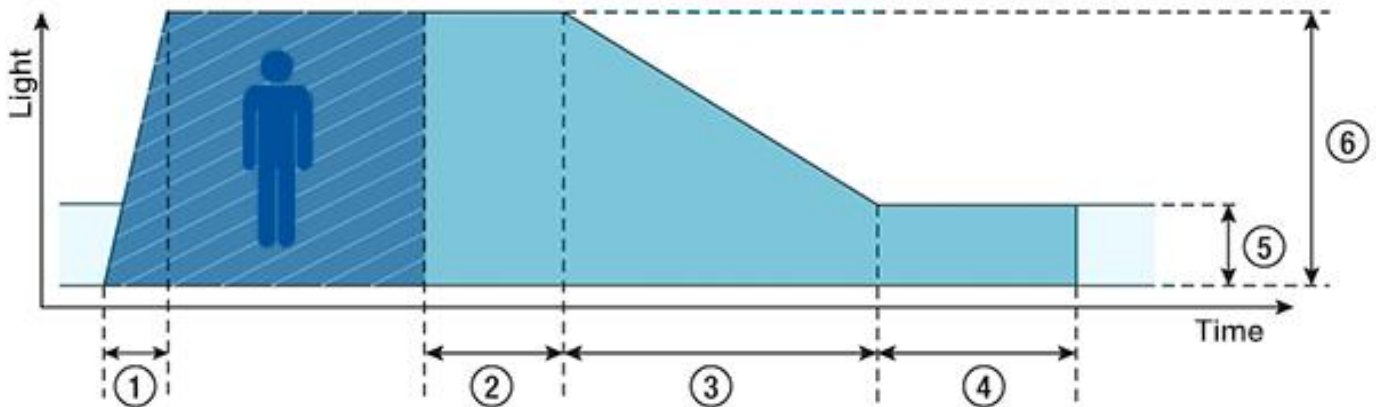
## ◆ Push dimming operation

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.

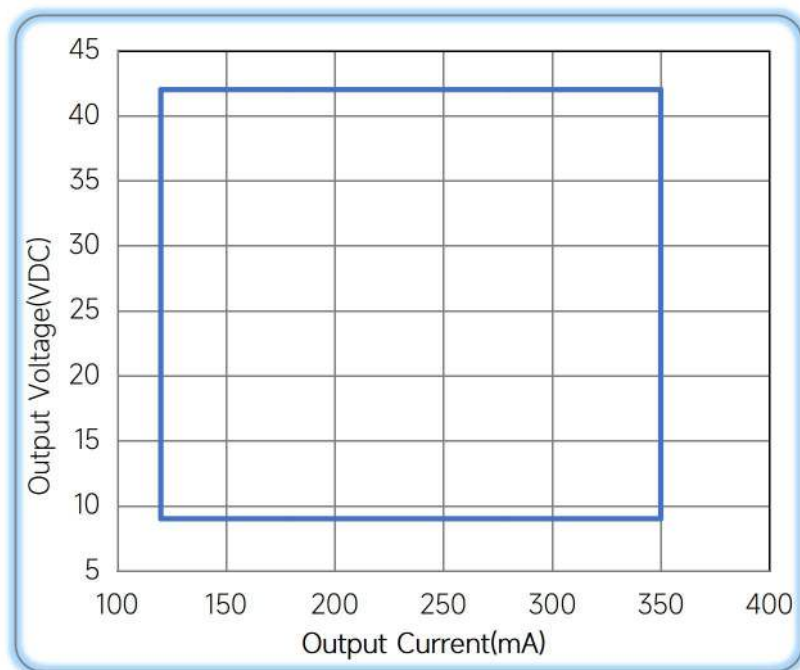
## ◆ Corridor mode



- ◆ 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



Operating window 100%

## ◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2022/02/15
Start-up time	0.5S	0.7S	B	2022/08/12
2D diagram		Added	C	2023/06/02

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Manual