

## 42W DALI + PUSH Dimming power supply



### Features

- For luminaries of protection Class I, II, SELV, Built-in/Independent (With side caps)
- Input Voltage: 220-240VAC, 176-280VDC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: > 0.95
- Efficiency: 90%
- Support DALI-2, Push Dimming
- Suitable for emergency lighting acc. to EN 50172
- EOfi=100%
- 22mm height
- DALI maintainace(Part 251,252,253)
- 5 years warranty

### Applications

- LED panel, LED down light
- LED spot light

■ Approve

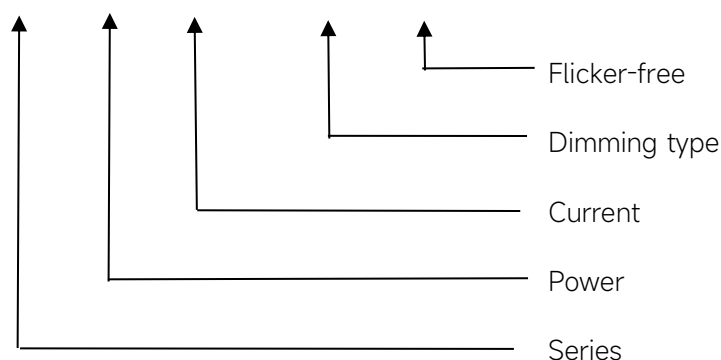


### ◆ Description

FLS-42-1050 DALI-2 LD1 PRO is a 42W constant current LED driver with 150 to 1050mA output current and a forward voltage range from 2.5 to 49Vdc. The output current is adjustable by DIP Switch. With it's dimensions from 98 x 43 x 22mm. It is easy to integrate in LED Panel and down light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

### ◆ Model code

#### FLS-42-1050 DALI-2 LD1 PRO



## ◆ Specification

Output	Constant Current (mA)	150-200	250-700	750	800-900	950-1000	1050
	Voltage Range(VDC)	2.5-49V		2.5-48V	2.5-45V	2.5-42V	2.5-40V
	Unload voltage Max.(VDC)	60VDC					
	Current Accuracy	±7%	±5%				
	Output current ripple(≤120Hz)	±3%					
	SVM	≤0.4@Full Load					
	P <sub>st</sub>	≤1@Full Load					
	Efficiency(Typ.)	90%@full load, 900mA@230VAC					
	EOFI	100%					
Input	Rated input voltage(VAC)	220-240V					
	Range of input voltage(VAC)	198-264VAC					
	Range of input voltage(VDC)	176-280VDC					
	Frequency(Hz)	0/50/60 Hz					
	Displacement Factor	≥0.9@full load, 230Vac					
	Power Factor	>0.95@full load, 230Vac					
	Input Current max	0.27A max					
	Start-up time(AC mode)	< 0.8S					
	Start-up time(DC mode)	< 0.6S					
	Switch over time(AC/DC mode)	< 0.6S					
	Standby Power	≤0.3W, @220Vac					
	Network Standby Power	≤0.3W,@220Vac					
	THD (Typ.)	<10%@full load,230Vac					
	Dimming	Dimming	YES				
Dimming mode		DALI-2 (IEC 62386-101,102,207,251,252,253) &Push Dimming (Corridor Function)					
Dimming depth		7mA@150-700mA    1%@ 750-1050mA					
Dimming current range		1-100%					
Dimming method		1%-12.5% @PWM dimming, 12.5%-100% @AM dimming					
Protection	Over Load Protection	103-120% YES/latch off					
	Over Voltage Protection	60VDC YES/latch off					
	Short circuit Protection	YES/latch off					
	Over Temperature Protection	YES/Auto Resume					
capability	Surge capability (L-N)	1KV					
	Surge capability (L/N-Ground)	2KV					
Environment	Operating Temperature	-20°C~~+40°C@1000-1050mA -20°C~~+45°C@150-950mA					
	Humidity	20%-90%RH					
	T <sub>c</sub>	85°C					

	Storage Temperature	-40°C~+80°C
	Life time	> 50000h,@TC=80°C
	Noise	≤25dB(A)@20cm
Surface	Dimension	98 x 43 x 22 mm (With side caps) : 132 X43X22mm
	material	PC
Standards	EN 61347-1,EN 61347-2-13; EN IEC 55015,EN IEC 61000-3-2,EN 61000-3-3 ;EN 61547; AS/NZS 61347.1,AS 61347.2.13 ;IEC 61347-1,IEC 61347-2-13; GB 19510.1,GB 19510.14, GB/T 17743,GB 17625.1	
DALI	EN 62386-101 (DALI-2) EN 62386-102 (DALI-2) EN 62386-207 (DALI-2,including part251,252,253)	
Others	ErP	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 &amp; Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF &amp; 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.DALI protocol comprises 16 groups and 64 addresses.Up to 32 drivers can perform the PUSH dimming at the same time when utilizing one push button.</p> <p>5.Suitable for emergency lighting systems according to EN50172.</p> <p>6.Switch and dimmer are not recommended to connect between this product output and luminaries.</p>	

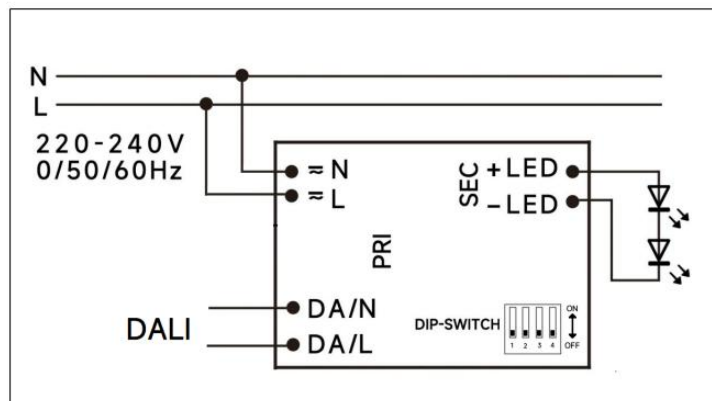
## ◆ Parameter

Number	Output				Switch position			
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2	3	4
1	150mA	2.5-49VDC	60VDC	7.35W	--	--	--	--
2	200mA			9.8W	ON	--	--	--
3	250mA			12.25W	--	ON	--	--
4	300mA			14.7W	ON	ON	--	--
5	350mA			17.15W	--	--	ON	--
6	400mA			19.6W	ON	--	ON	--
7	500mA			24.5W	--	ON	ON	--
8	600mA			29.4W	ON	ON	ON	--
9	700mA			34.3W	--	--	--	ON
10	750mA	2.5-48VDC		36W	ON	--	--	ON
11	800mA	2.5-45VDC		36W	--	ON	--	ON
12	850mA			38.25W	ON	ON	--	ON
13	900mA			40.5W	--	--	ON	ON
14	950mA	2.5-42VDC		39.9W	ON	--	ON	ON
15	1000mA			42W	--	ON	ON	ON

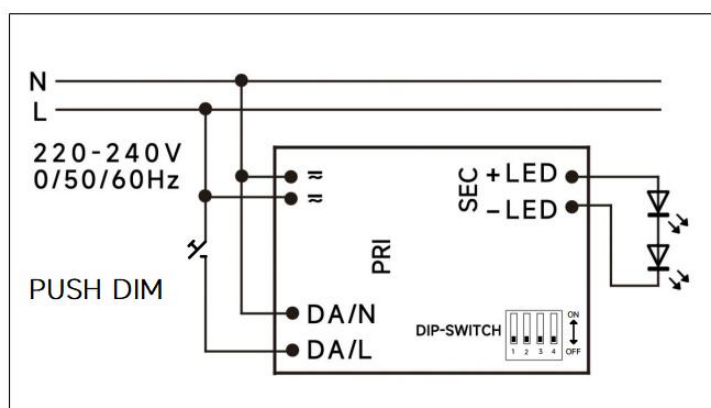
*16	1050mA	2.5-40VDC		42W	ON	ON	ON	ON
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\* Factory default

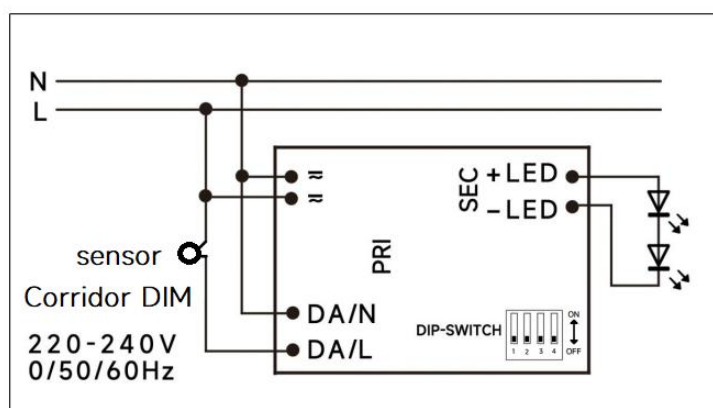
## ◆ Wiring diagram



DALI dimming application

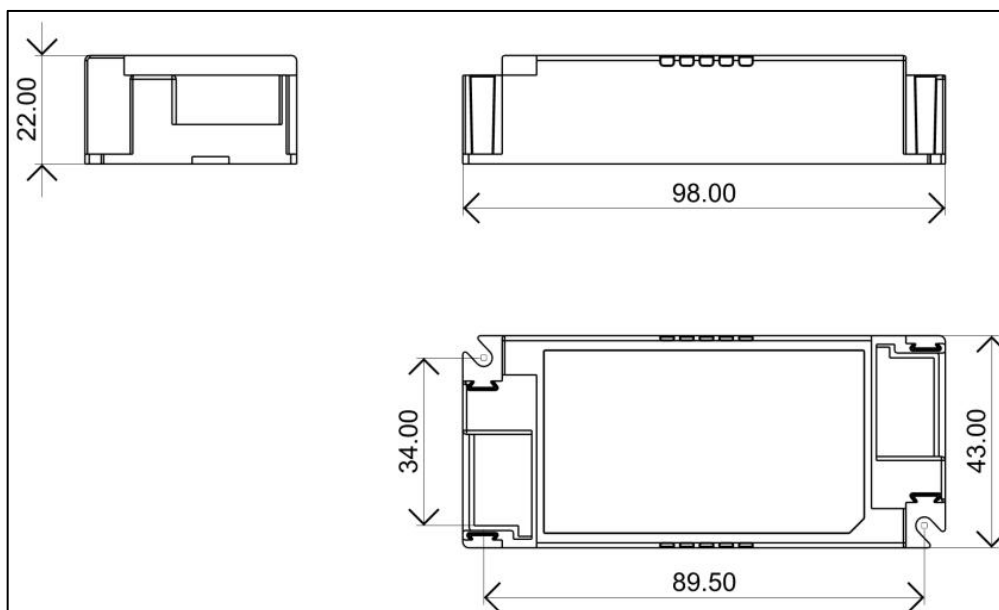


PushDIM dimming application

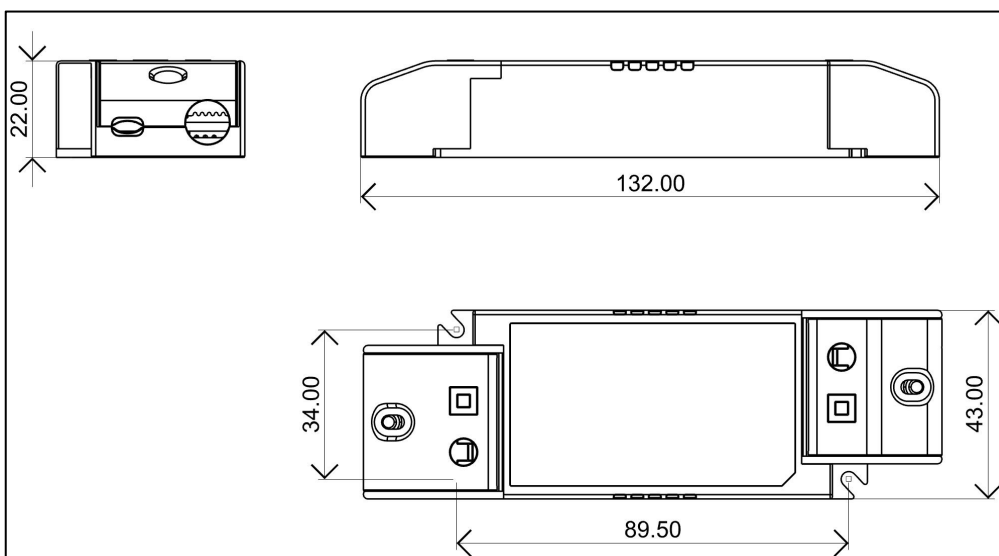


Corridor DIM dimming application

## ◆ 2D diagram



With side caps



## ◆ 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	7...9mm
Output	Output wire cross-section	0.5...1.5 mm <sup>2</sup>
	Output wire gauge.	16...20 AWG
	Output wire strip length	7...9mm

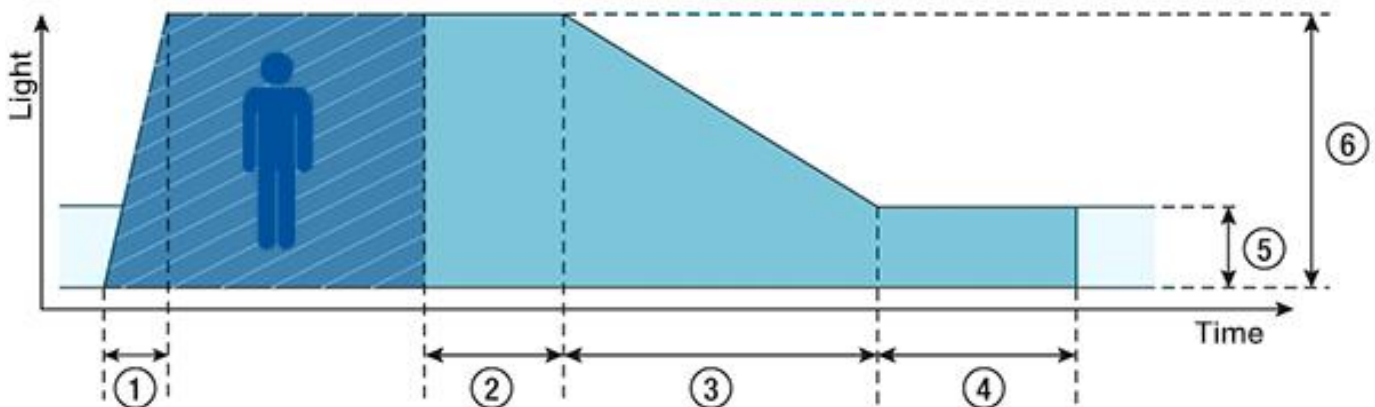
## ◆ Push dimming operation

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:

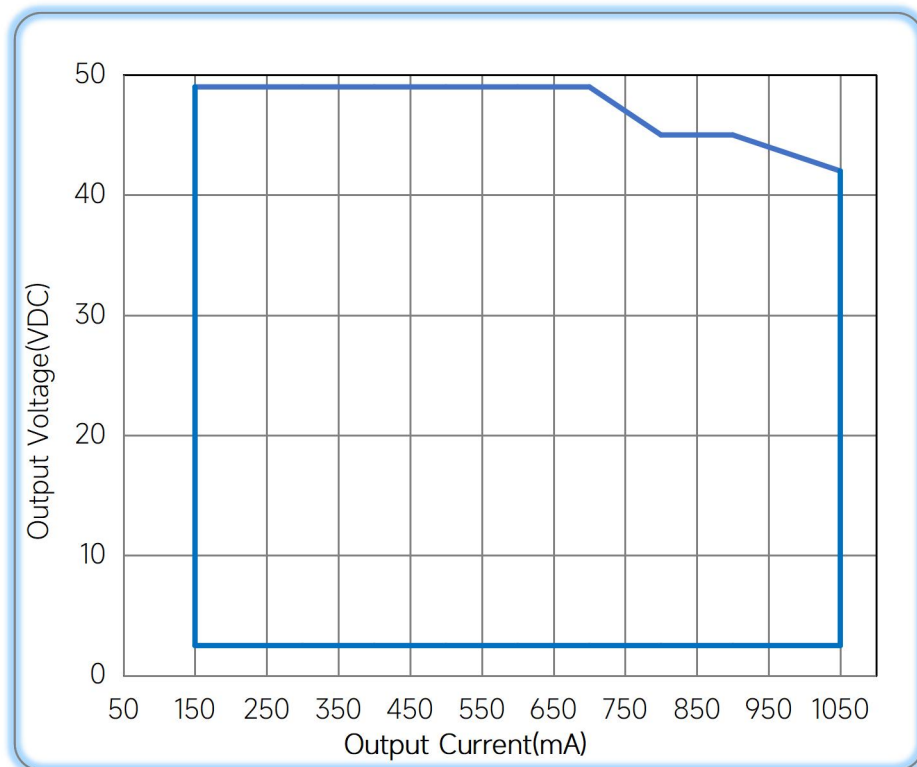
- 1.The factory default brightness is at 100%.
- 2.Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
- 3.The maximum length of the cable from the push button to the last driver is 200 meters.

## ◆ 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%

— Minimum dimming current

## ◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/06/30
Specification		Update	B	2023/10/14

Remark: The final interpretation of the contents of the specification belongs to Astralux.

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