ASTRALUX

42W FDS-DALI-2 Dimming power supply

Features

- For luminaries of protection Class II, SELV
- Input Voltage 220-240VAC、176-280VDC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: 0.95
- Efficiency: 89%
- Adjustable Output Current with dip-switch
- Support DALI-2 (Part 251,252,253)
- Suitable for emergency lighting acc. to EN 50172
- EOFi=100%
- 5 years warranty

Applications

- Track light

■Approve

CBC€ 〈₭ 05 EL

DALI 2 SELV

◆ Description

FDS-42-1050 DALI-2 LD PRO is a 42W constant current LED driver with 300 to 1050mA output current and a forward voltage range from 2.5 to 42Vdc. The output current is adjustable by DIP Switch. With it's compact dimensions from 202 x 31.1 x 42.2 mm. It is easy to integrate in track light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

FDS-42-1050 DALI-2 LD PRO

- Flicker-free
- Dimming type
- Current
- Power
- Series
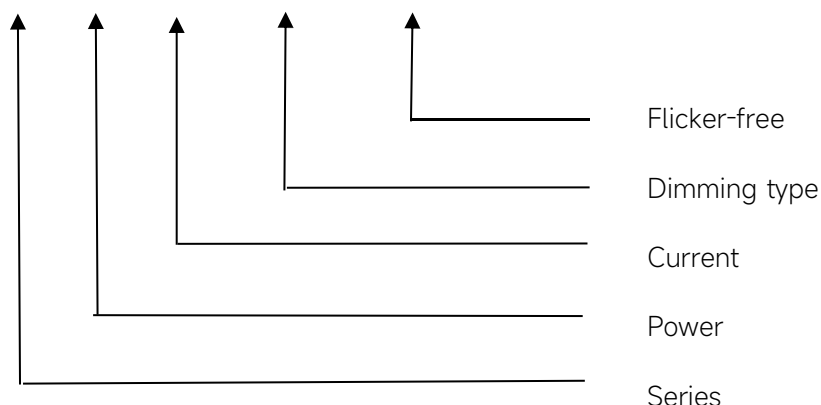
◆ Specification

Output	Constant Current （mA）	300-1000mA	1050mA
	Voltage Range（VDC）	2.5-42VDC	2.5-40VDC
	Unload voltage Max.	59VDC	
	Current Accuracy	±5%	
	Output LF current ripple(≤120Hz)	±3%	
	SVM	≤0.4@Full Load	
	P_{st}	≤1@Full Load	
	Efficiency(Typ.)	89%	
Input	Rated input voltage	220-240V	
	Range of input voltage(VAC)	198-264VAC	
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition	
	Range 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	0.27A max	
	Start-up time	＜0.8S	
	Switch over time(AC/DC mode)	＜0.4S	
	No Load Power	≤0.3W	
	Standby Power	≤0.3W, @230Vac	
	Network standby power	≤0.3W,@230Vac	
	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	5mA@300-500mA，1%@550-1050mA	
	Dimming current range	1~100%	
Protection	Over Load Protection	103-120%	
		YES/Latch off	
	Over Voltage Protection	59VDC	
		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℃~+35℃	
	Humidity	20%-90%RH	
	Tc	80℃	

|	Storage Temperature	-20℃~+60℃
	Lifetime	>50000h,@Tc=70℃；>100000h,@Tc=55℃
	Noise	≤25dB(A)@20cm
Surface	Dimension	202X31.1X42.2(LXWXH)mm
	material	PC
Standards	Safety	IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2- 13;EN61347- 1, EN61347-2- 13, EN62384
	EMC	EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN61000-4-2,3,4,5,6,8,11, EN61547
	Energy Efficiency	Erp2.0 EU 2019/2020
	RoHS	RoHS (2011/65/EU) (EU)2015/863
DALI performance	EN 62386-101 (DALI-2) EN 62386-102 (DALI-2) EN 62386-207 (DALI-2,including part251,252,253)	
Note	1.All parameters not specially mentioned are measured at 230VAC input , full load and 25℃ 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.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. 4.EL compatible with IEC 61347-2-13 Annex J, compatible with EN 60598-2-22 emergency lighting fixtures, compatible with EN 50172 central battery system applications.	

◆ Parameter

Number	Output				Switch position			
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2	3	4
1	300mA			12.6W	--	--	--	--
2	350mA			14.7W	ON	--	--	--
3	400mA			16.8W	--	ON	--	--
4	450mA			18.9W	ON	ON	--	--
5	500mA			21W	--	--	ON	--
6	550mA	2.5-42V	59VDC	23.1W	ON	--	ON	--
7	600mA			25.2W	--	ON	ON	--
8	650mA			27.3W	ON	ON	ON	--
9	700mA			29.4W	--	--	--	ON
10	750mA			31.5W	ON	--	--	ON
11	800mA			33.6W	--	ON	--	ON

12	850mA			35.7W	ON	ON	--	ON
13	900mA			37.8W	--	--	ON	ON
14	950mA			39.9W	ON	--	ON	ON
15	1000mA			42W	--	ON	ON	ON
*16	1050mA	2.5-40V		42W	ON	ON	ON	ON

* Factory default

◆ Inrush Current

I^{peak}	T_{width}	B10	B16	B20	C10	C16	C20
7.46A	**34μs**	29pcs	47pcs	59pcs	29pcs	47pcs	59pcs
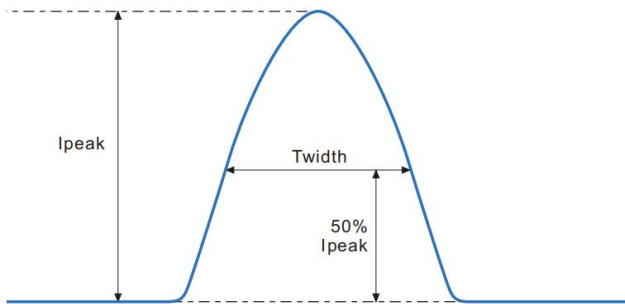
Remarks:
1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

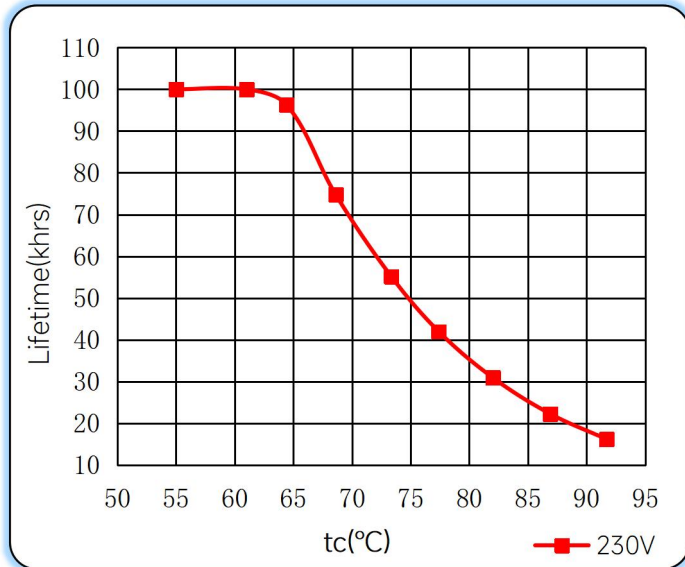# ◆ Wiring diagram
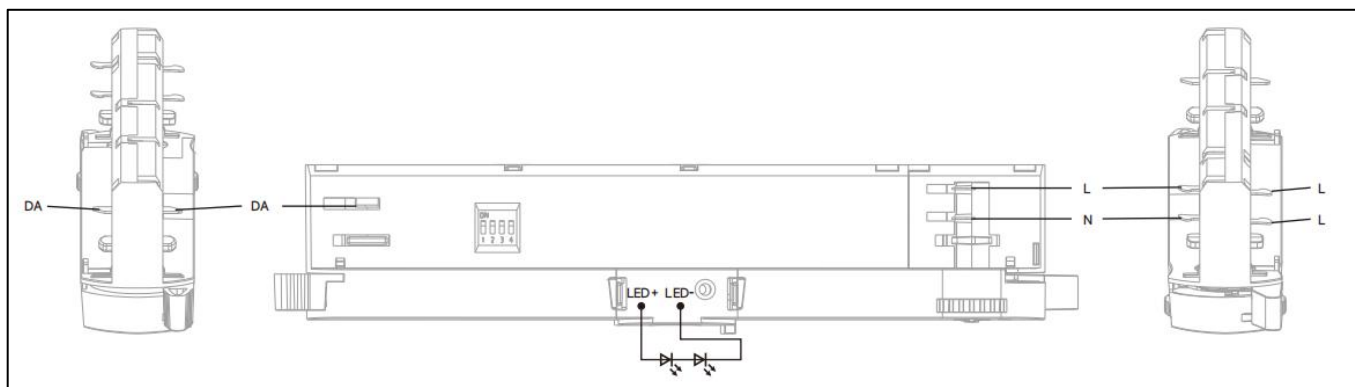
◆ 2D diagram
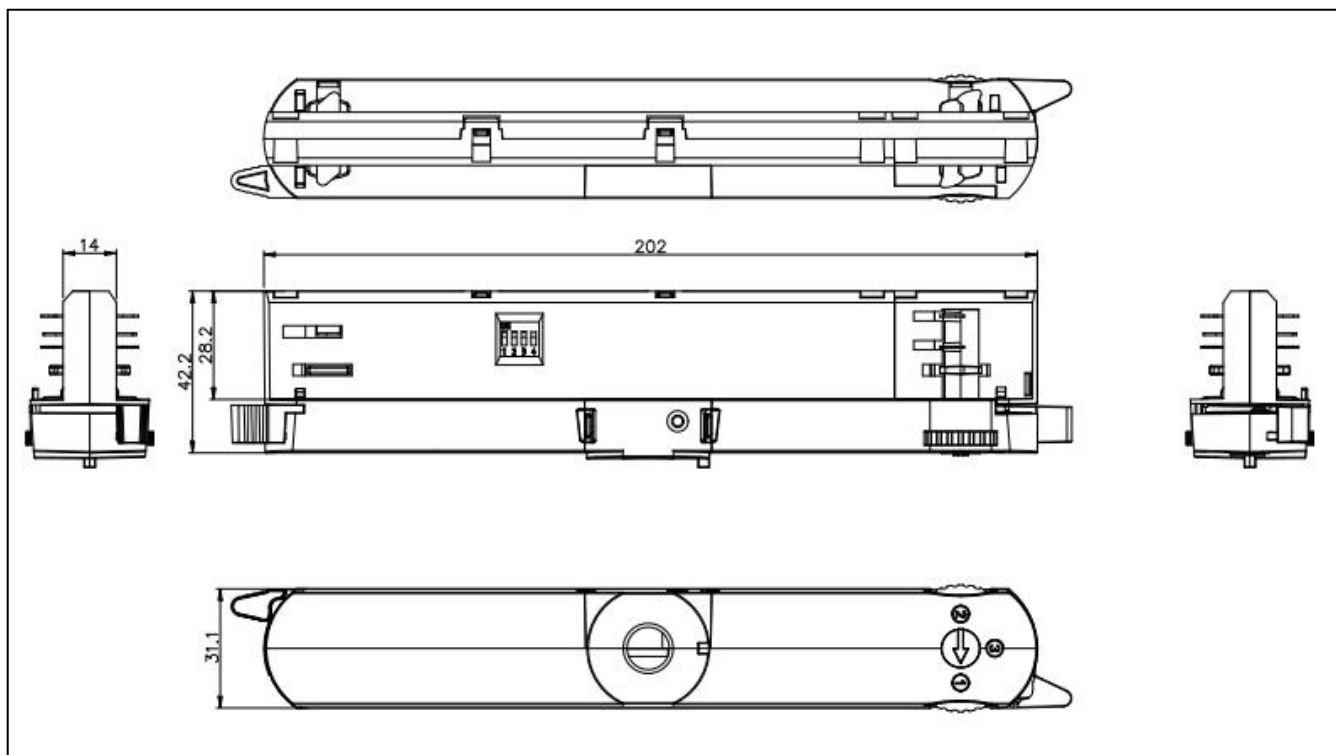
◆ Wiring & Connections

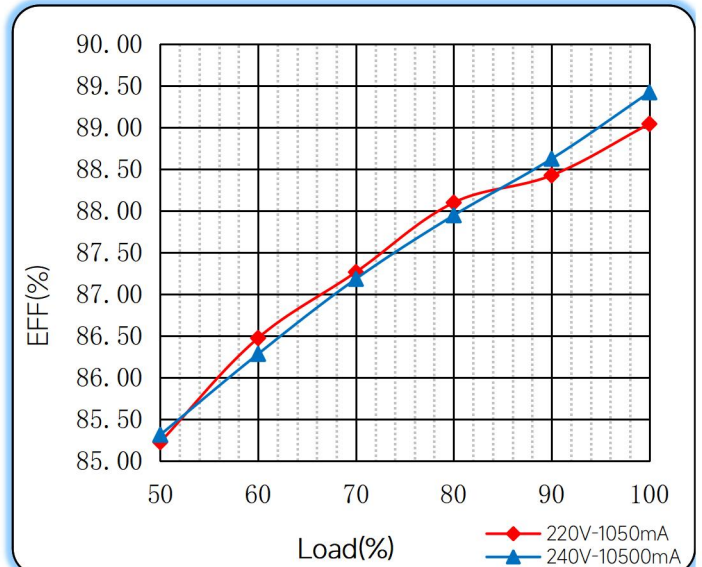|	Specification item	Value （Unit ）
Output	Output wire cross-section	0.5...1.5 mm²
	Output wire gauge.	16...20 AWG
	Output wire strip length	8...9mm

◆ Matching brand

Brand	AAG
	ERCO
	Unipro
	Powergear
	GLOBAL

Stock code : 002922

Article information 2024/ 05 /10   REV: A   astralux-driver.com   DZ-YF3-02-09A

◆ Curve for FDS-42-1050 DALI-2 LD PRO，Io=1050mA

Lifetime vs. Temperature Curve

Efficiency vs. Load

Power Factor Characteristics

THD vs. Load

Stock code : 002922

Article information 2024/ 05 /10　　　　　REV: A　　　　astralux-driver.com　　　　DZ-YF3-02-09A
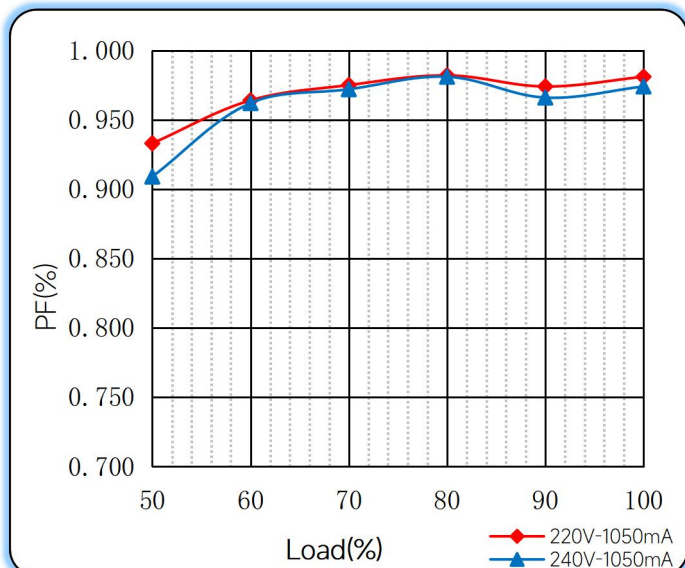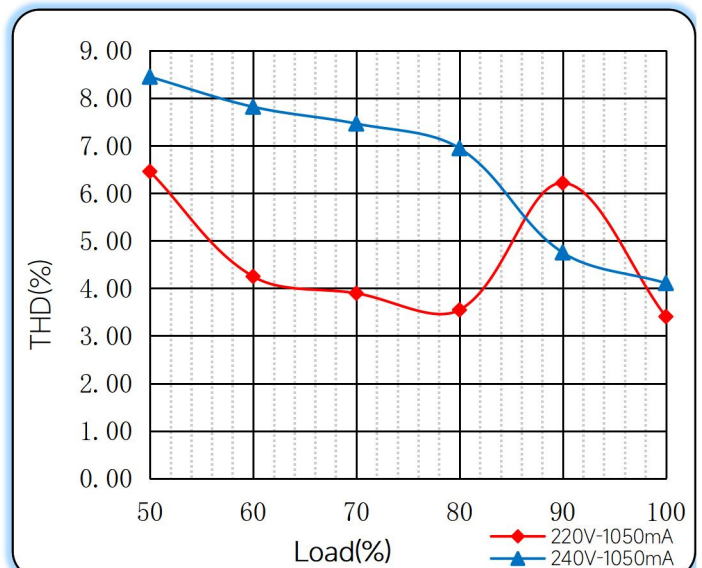
◆ Push dimming operation

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
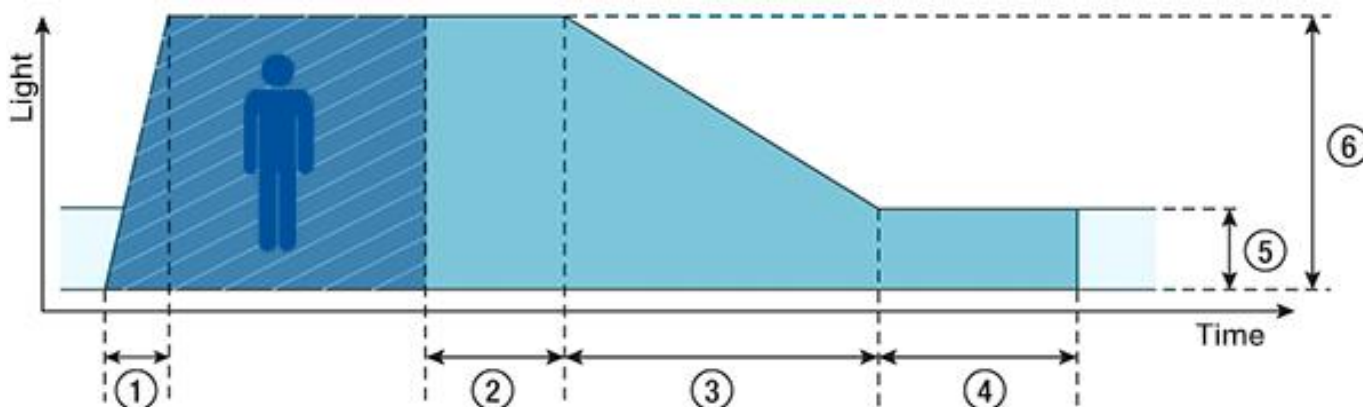
◆ **①Fade-in time(0.5s):** the time that starts as soon as the presence of a person is detected. During the fade-in time the luminous intensity is faded up to the presence value.

◆ **②Run-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.

◆ **③Fade time(32s):** the time during which the luminous intensity is faded from the presence value to the absence value.

◆ **④Switch-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.

◆ **⑤Absence value(default: 10 %):** the luminous intensity when there is no person present.

◆ **⑥Presence value (default: 100 %):** the luminous intensity when persons are present.

◆ Operating window
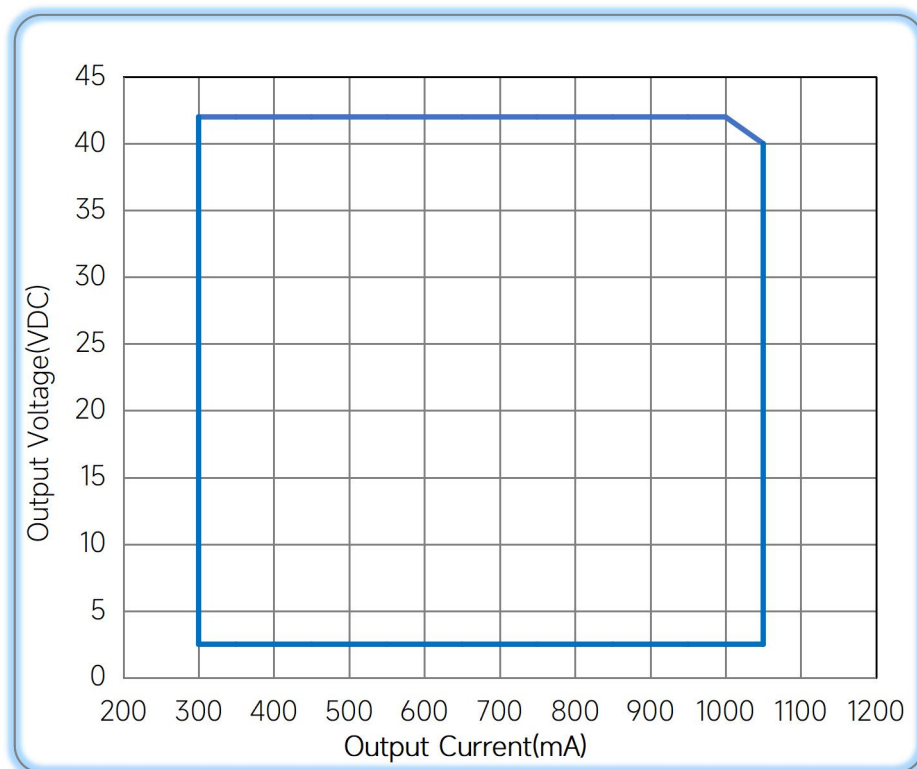
◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/05/10
Add EL			B	2024/01/08

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

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