150W DALI + PUSH Dimming power supply

■Approve

Features

- For luminaries of protection Class I/II, Non-Isolated design, Built-in
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor 0.95
- Efficiency ： 95%
- Adjustable Output Current with dip-switch
- Support DALI-2,Push Dimming
- 5 years warranty

Applications

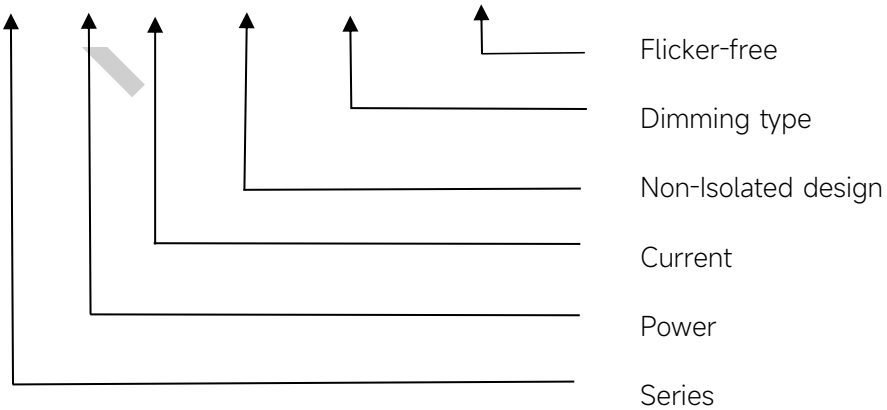
- Linear light

◆ Description

FMS-150-1050 N-S DALI-2 LD is a 150W constant current LED driver that operates from 198-264Vac input with 300 to 1050mA output current and a forward voltage range from 50 to 220Vdc. The output current is adjustable by dip-switch. With it's compact dimensions from 280 x 30 x 21 mm. It is easy to integrate in linear light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

FMS-150-1050 N-S DALI-2 LD



◆ Specification

Output	Constant Current	300mA	350mA	400mA	...	1000mA	1050mA
	Voltage Range	50-220			...	50-150	50-142.9
	Unload voltage Max.	<250V RMS					
	Current Accuracy	±5%					
	Output LF current ripple(≤120Hz)	±3%					
	SVM	≤0.4					
	P_{st}	≤1					
	Efficiency(Typ.)	95%@Full Load,230V					
	EOFI	15%					
Input	Rated input voltage	220-240V					
	Range of input voltage	198-264VAC					
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition					
	Rated input voltage(DC)	176-280VDC					
	Frequency(Hz)	0/50/60 Hz					
	Displacement factor	≥0.9					
	Power Factor	>0.95@Full Load,230V					
	Input Current	0.9A max.					
	Start-up time	< 0.8S					
	Switch over time(AC/DC mode)	< 0.4S					
	No Load Power	≤0.3W					
	Standby Power	≤0.3W					
	Network standby power	≤0.3W					
	THD (Typ.)	10%@Full Load,230V					
Dimming	Dimming	YES					
	Dimming mode	DALI-2 (IEC 62386-101,102,207,251,252,253) & Push Dimming (Corridor Function)					
	Dimming depth	1%					
	Dimming current range	1 ~100%					
Protection	Over Load Protection	103-120%					
		YES/Latch off					
	Over Voltage Protection	<250V RMS					
		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	-25℃~+50℃					
	Humidity	20%-90%RH					
	Tc	85℃					

	Storage Temperature	-25℃~+60℃
	Lifetime	>50000h,@Tc=80℃
	Noise	≤25dB(A)@20cm
Surface	Dimension	280 x 30 x 21(LXWXH)mm
	material	metal case
Standards	Safety	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;AS/NZS 61347- 1, AS/NZS 61347-2- 13;AS 61347.2.13;EN62384;
	EMC	GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN55015, EN61000-3-2, EN61000-3-3, EN61547,EN 62493;EN61000-4-5;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	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. 3.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered. 4.Switch and dimmer are not recommended to connect between this product output and luminaries.	

◆ Parameter

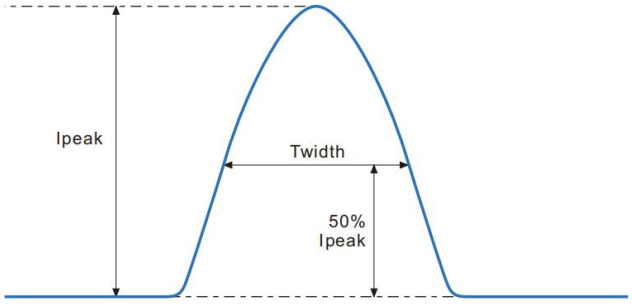
Number	Output				Switch position			
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2	3	4
*1	300mA	50-220	250	66	--	--	--	--
2	350mA			77	ON	--	--	--
3	400mA			88	--	ON	--	--
4	450mA			99	ON	ON	--	--
5	500mA			110	--	--	ON	--
6	550mA			121	ON	--	ON	--
7	600mA			132	--	ON	ON	--
8	650mA			143	ON	ON	ON	--
9	700mA	50-214.3		150	--	--	--	ON
10	750mA	50-200		150	ON	--	--	ON

11	800mA	50-187.5	150	--	ON	--	ON
12	850mA	50-176.5	150	ON	ON	--	ON
13	900mA	50-166.7	150	--	--	ON	ON
14	950mA	50-157.9	150	ON	--	ON	ON
15	1000mA	50-150	150	--	ON	ON	ON
16	1050mA	50-142.9	150	ON	ON	ON	ON

* Factory default

◆ Inrush Current

I^{peak}	Twidth	B10	B16	B20	C10	C16	C20
A	μs	pcs	pcs	pcs	pcs	pcs	pcs

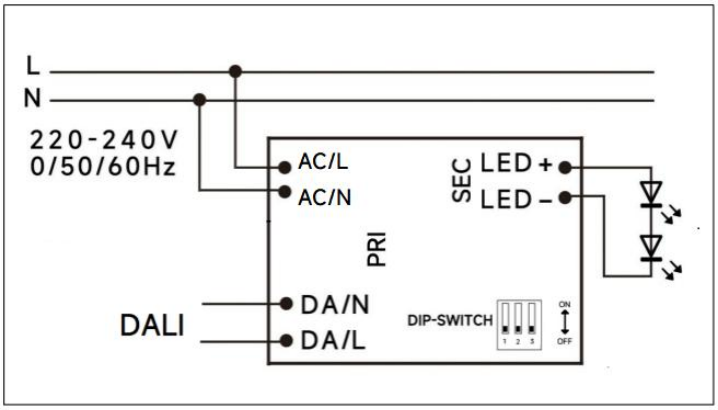


Remarks:

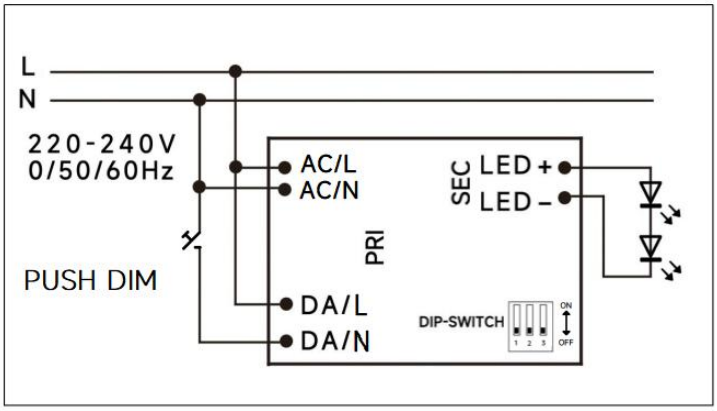
1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.

2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

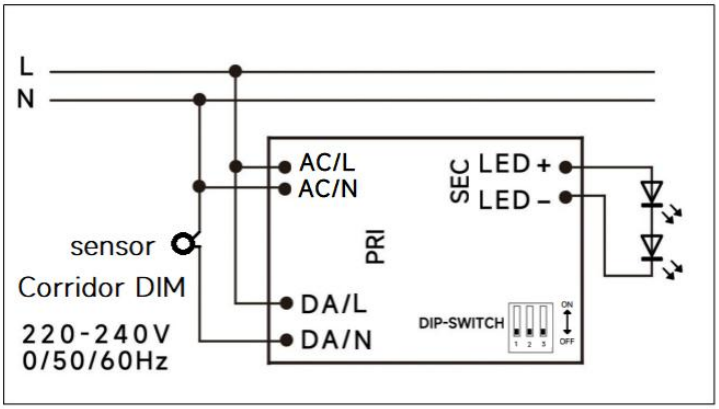
◆ Wiring diagram



DALI dimming application

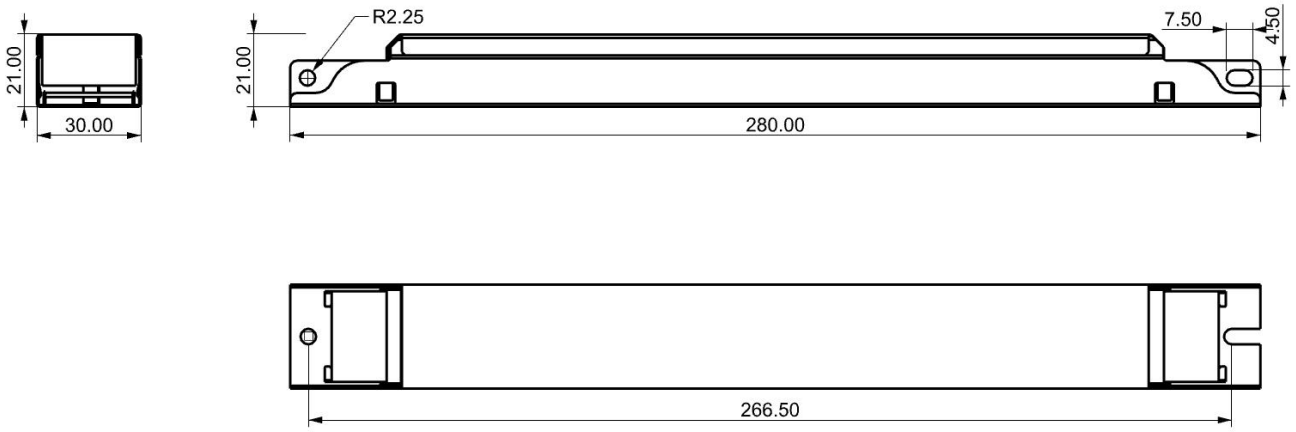


PushDIM dimming application



Corridor DIM dimming application

◆ 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	0.5...1.5 mm^2
	Output wire gauge.	16...20 AWG
	Output wire strip length	0.5...1.5 mm^2

Note:Solid wire is risky to use on an angled terminal.Stranded wire is recommended for this kind of use.

◆ Curve for FMS-150-1050 N-S DALI-2 LD, Io=1050mA

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.

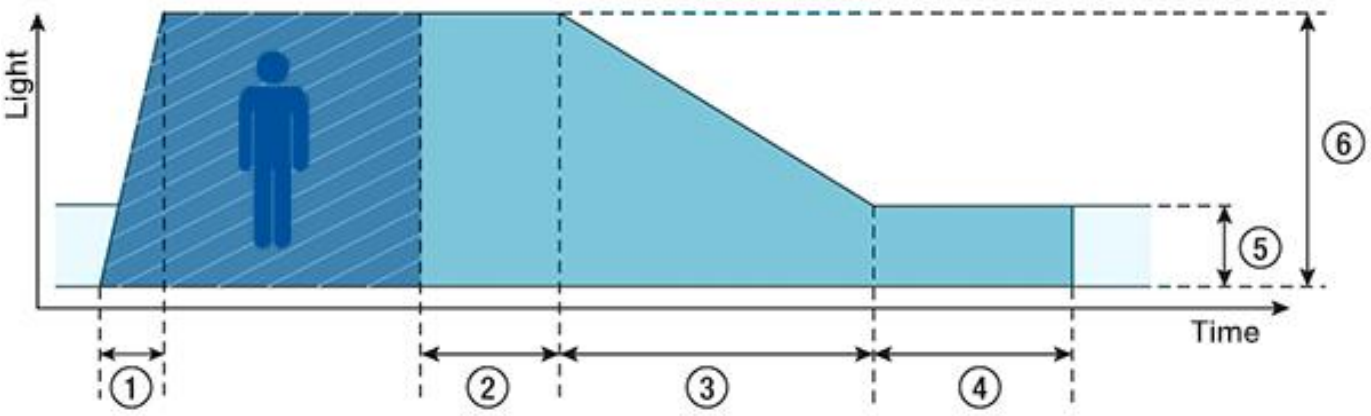
Note:

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

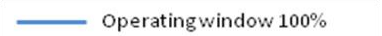
3.The maximum length of the cable from the push button to the last driver is 200 meters.

◆ Corridor mode



- 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	2023/10/20

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

E-mail: sales@astralux-driver.com
Website : www.astralux-driver.com