

## Product Description

99DALI2050042 is a 20W constant current LED driver. It has DALI dimming and PUSH dimming functions. The input voltage range is 198-264Vac. The output current can be adjusted via the DIP switch from 250mA to 500mA, in steps of 50mA.

## Features

- IP20
- Suitable for Class II light fixtures
- Constant current output and output current adjustable via DIP switch
- DALI or PUSH dimmable; logarithmic or linear dimming curve selectable on DALI interface
- Built-in active PFC function
- Standby power consumption <0.5W
- 0.1% dimming depth
- 5-year warranty (please refer to the warranty condition)

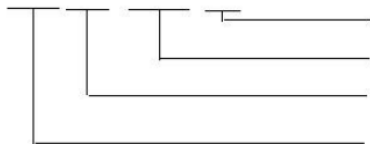


## Applications

- Horticultural lighting
- Indoor office lighting
- Decorative lighting
- Commercial lighting
- Residential lighting

## Product Naming

LF- AAD020- 0500- 42



42: maximum output voltage: 42V  
0500: maximum output current: 500mA  
020: rated power: 20W  
AAD: DALI LED driver

## Electrical Characteristics

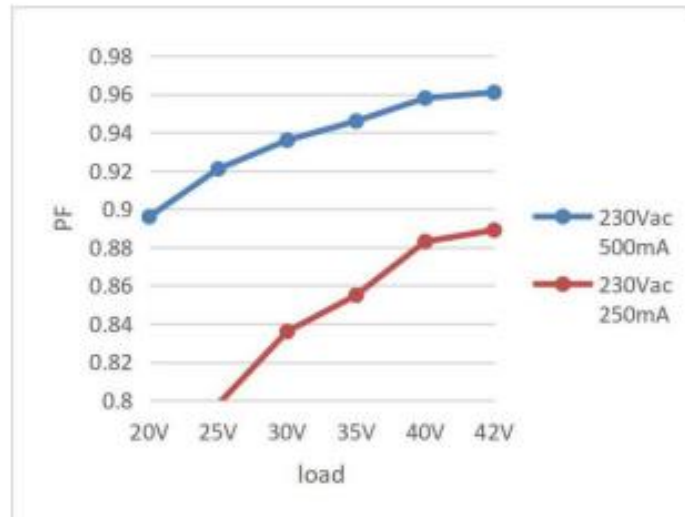
Model		99DALI2050042						
Output	Output Voltage (DC)	9-42V						
	Output Current	Adjustable via DIP switch; please refer to the DIP Switch Table						
		250mA	300mA	350mA	400mA	450mA	500mA	
	Flicker Index	IEC-Pst ≤1, CIE SVM ≤0.9, modulation depth ≤1% Complies with the flicker-free standard (IEEE Std 1789-2015)						
	Ripple Current	<10% (rated current)			<5% (rated current)			
	Current Tolerance	±5%						
	Temperature Drift	±5%						
	Start-up Time	<1.5S@230Vac						
Input	Input Voltage	220-240Vac (narrowband; full load)						
	DC Input Voltage	180-280Vdc						
	Input Frequency	47Hz-63Hz						
	Input Current	0.2A Max						
	Power Factor	≥0.90	≥0.92	≥0.93	≥0.94	≥0.95	≥0.96	
	THD	≤15%@230Vac (DC42V full load)						
	Efficiency	≥77%	≥79%	≥81%	≥82%	≥83.5%	≥85%	
	Inrush Current	≤14A&74uS@230Vac						
	Load Quantity Carried by the Circuit Breaker	Circuit Breaker Model	B10		C10		B16	C16
		Quantity (pcs)	33		33		53	53
	Surge Protection	L-N: 1kV; PUSH: 600V						
	Leakage Current	≤0.7mA						
	Standby Power Consumption	≤0.5W (when DALI OFF signal is effective)						
Protections	Open Circuit	<59V						
	Short Circuit	Hiccup mode (auto-recovery)						
Environment Descriptions	Working Temperature	-20℃ - +45℃						
	Working Humidity	20-90%RH (no condensation)						
	Storage Temperature/Humidity	-30℃ - 80℃ (six months under class I environment);						
		10-90%RH (no condensation)						
Atmospheric Pressure	86kPa~106kPa							



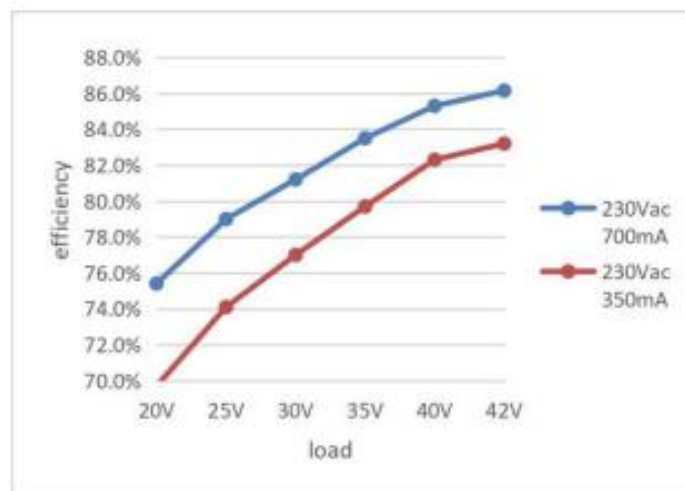
Safety & Electromagnetic Compatibility	Certifications	TUV-ENEC, CE, CB, RCM, CCC
	Withstanding Voltage	I/P-O/P: 3.75kV 5mA 60S
	Insulation Resistance	I/P-O/P: >100MΩ@500Vdc
	Safety Standards	ENEC: EN61347-1: 2015, EN 61347-2-13: 2014/A1: 2017, EN 62384: 2016/A1: 2009 CE-LVD: EN 61347-2-13: 2014/A1: 2017, EN 61347-1: 2015, EN 62493: 2015 RCM: AS 61347.2-13: 2018 CB: IEC 61347-1: 2015, IEC61347-2-3: 2014, IEC 61347-2-13: 2014/AMD1: 2016 CCC: GB19510.1-2009, GB19510.14-2009
	EMI	CE-EMC/RCM: EN55015, EN61000-3-2, EN61000-3-3 CCC:GB/T17743, GB17625.1, GB17625.2
	EMS	CE-EMC/RCM: EN61000-4-2, 3, 4, 5 (lightning strike 1kV), 6, 11 CCC: GB/T17626.2, 3, 4, 5 (lightning strike 1kV), 6, 11
Others	IP Rating	IP20
	RoHS	RoHS 2.0 (EU) 2015/863
	Warranty Condition	5 years (Tc≤80.5℃)
	DALI Standard	IEC 62386-101 102 207: DALI 2.0
Remarks	<ol style="list-style-type: none"> <li>1. It is recommended that customer should install over voltage, under voltage and surge protection devices in the power supply circuits of the light fixtures to ensure safety before connecting to electricity.</li> <li>2. When adjusting the output current via the DIP switch, please disconnect input AC power supply first so as to use the DIP switch without the input AC power supply connected.</li> <li>3. The PC cover, casing, end caps and other parts of the LED driver inside the LED light fixture must conform to UL94-V0 flammability standard or above.</li> <li>4. As an accessory, the LED driver is not the only factor determining the EMC performance of the LED light fixture. The structure and the wiring of the light fixture are also relevant. Thus it's strongly recommended the LED light fixture manufacturer should re-confirm the EMC of the whole LED light fixture.</li> <li>5. Unless otherwise stated, the parameters above are test results under these conditions: ambient temperature 25℃, humidity 50%, 100% load, maximum output current and input voltage 230Vac.</li> </ol>	

## Product Characteristic Curves

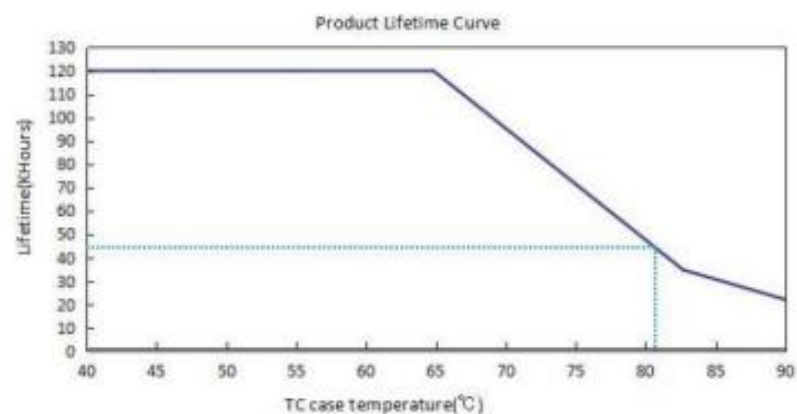
### ■ PF Curve



### ■ Efficiency Curve



### ■ Lifetime Curve



## Dimming Operation Instructions

### ■ Product Terminals

#### INPUT

DA1 PUSH	Input terminal of DA1 and PUSH dimming
DA2 PUSH	Input terminal of DA2 and PUSH dimming
AC-L	Input terminal of AC live wire
AC-N	Input terminal of AC neutral wire

#### OUTPUT

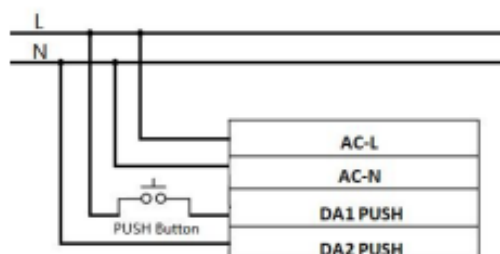
LED+	Positive electrode output of the driver
LED-	Negative electrode output of the driver

### ■ Product DIP Switch

I rated (CC)	1	2	3
500mA	OFF	OFF	OFF
450mA	OFF	OFF	ON
400mA	OFF	ON	OFF
350mA	OFF	ON	ON
300mA	ON	OFF	OFF
250mA	ON	OFF	ON

Remark: except the settings mentioned in the table above, other DIP switch settings are default to be the maximum current 500mA.

### ■ Wiring Diagram of PUSH Dimming



**⚠** Remark: when using PUSH dimming function, please make sure to power on AC-L/AC-N before powering on the PUSH terminal, otherwise the PUSH terminal may be burnt out.

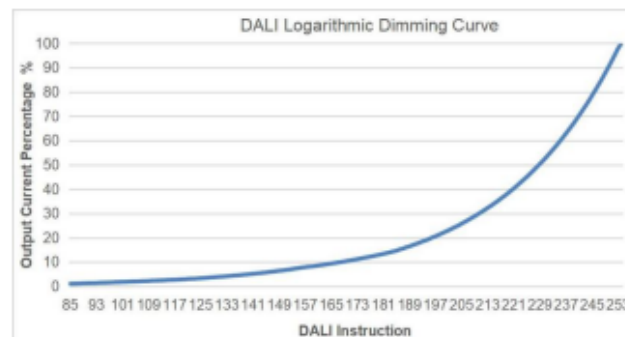
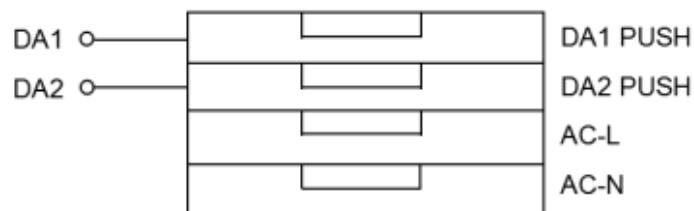
### ■ PUSH Dimming Operation Instructions

Operations	Operation Time	Functions
Instant Push	0.1-0.5 sec	Light on / off
Long Push	0.6-9 sec	Dim up / down
Reset Push	> 9 sec	Reset to PUSH 50% brightness

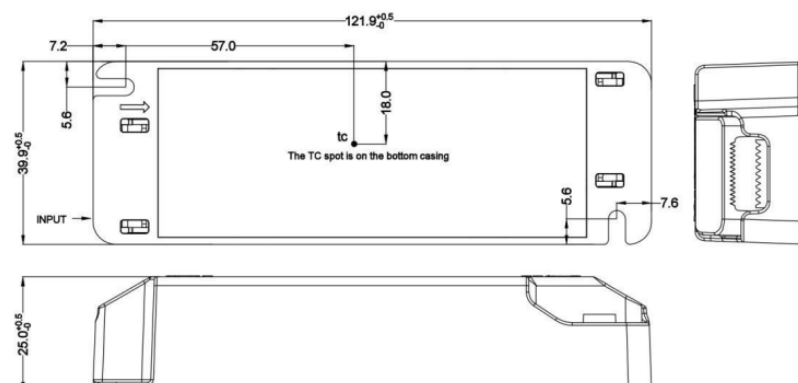
- The PUSH operation won't cause any variations if it's less than 0.1S.
- Connect the PUSH switch in series between AC-L terminal and DA1 terminal; short circuit AC-N and DA2 terminals.
- Minimum dimming depth of PUSH dimming: 1% (lout)
- The PUSH dimming mode has the memory function in case of any power failure. Power on the driver again and the light will return to the state before the power failure.
- Maximum wire length between the PUSH switch and the farthest LED driver: 135m;  
wire diameter: 16-22AWG
- Maximum quantity of LED driver connected in parallel in DALI dimming and PUSH dimming modes: 64

#### ■ DALI Dimming Operation Instructions

- Default setting: 100% brightness.
- Connect the DALI signal to DA1 and DA2 terminals.
- DALI protocol includes 16 groups and 64 IP addresses.
- Minimum dimming depth of DALI dimming: 0.1% (lout).



#### Structure & Dimensions (unit: mm)



## **Attention**

- Please use this product according to its specifications otherwise there may be malfunction.
- Use light fixtures that have not been certified or are not compatible with the LED drivers may cause fire or other hazards.
- Man-made damage, any use beyond the specification and non-original-factory modification are not covered by warranty.