

# LITP0031-B

## Features

- DALI & PUSH dimmable
- 0.1% dimming depth; standby power consumption <0.5W
- Large terminal for 2.5mm<sup>2</sup> screw-free wiring
- 2 sets of L/N at the input convenient for multiple light fixtures connected in parallel
- Output current adjustable via DIP switch
- Flicker free; IP20; isolated
- Suitable for Class II light fixtures (panel light)
- 5-year warranty (please refer to the warranty condition)



## Applications

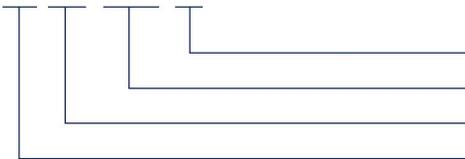
· Indoor office lighting · decorative lighting · commercial lighting · residential lighting

## Descriptions

LF-ABD040-1050-42 is a 40W constant current DALI dimmable LED driver. Its input voltage ranges from 220 to 240Vac and output current is adjustable via DIP switch from 550 to 1050mA with every 50mA as a step. Besides, it has all-round protections, including over voltage protection and short circuit protection.

## Product Model

LF - ABD 040 - 1050 - 42



- 42: maximum output voltage: 42V
- 1050: maximum output current: 1050mA
- 040: output power: 40W
- ABD: DALI dimmable LED driver

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### ■ Electrical Characteristics

Model		LF-ABD040-1050-42										
Output	Output Voltage	20-42V									20-40V	20-38V
	Output Current	550mA	600mA	650mA	700mA	750mA	800mA	850mA	900mA	950mA	1000mA	1050mA
	Flicker Index	Complies with IEEE Std 1789-2015										
	Current Tolerance	±5%										
	Temperature Drift	±10%										
	Start-up Time	<1.5S										
Input	Input Voltage	220-240Vac (voltage limit: 198-264Vac)										
	DC Input Voltage	180-264Vdc										
	Input Frequency	0/50/60Hz										
	Input Current	0.3A max.										
	PF	≥0.92	≥0.94	≥0.95								
	THD	<15%										
	Efficiency	≥85%			≥86%				≥87%			
	Inrush Current	<25A&120uS										
	Loading Quantities of Circuit Breaker	Model	B10			C10		B16		C16		
		Quantity (pcs)	22			22		35		35		
	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	Operating Temperature	-20°C~+45°C										
	Operating Humidity	20-90%RH (without condensation)										
	Storage Temperature/ Humidity	-40°C~+80°C (6 months in Class I environment); 10-90%RH (without condensation)										
	Atmospheric Pressure	86-106kPa										

### ■ Electrical Characteristics

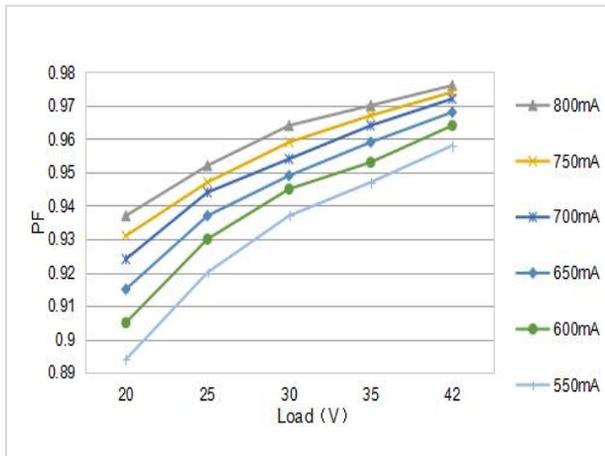
<b>Safety and EMC</b>	Certifications	TUV-ENEC, CE, CB, RCM, CCC
	Withstanding Voltage	I/P-O/P: 3.75kV 5mA 60S
	Insulation Resistance	I/P-O/P: >100MΩ@500Vdc
	Safety Standards	ENEC: EN61347-1: 2015, EN 61347-2-13: 2014/A1:2017, EN 62384: 2016/A1: 2009 CE-LVD: EN 61347-2-13: 2014/A1: 2017, EN 61347-1: 2015, EN 62493: 2015 CB: IEC 61347-1: 2015, IEC61347-2-3: 2014, IEC 61347-2-13: 2014/AMD1: 2016 RCM: AS 61347.2-13: 2018 SAA: AS61347.2-13: 2018 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
<b>Other Parameters</b>	IP Rating	IP20
	RoHS	RoHS 2.0 (EU) 2015/863
	Warranty Condition	5 years (Tc ≤86.6°C)
	DALI Standard	IEC62386-101 102 207: DALI 2.0
	Noise Level	≤29dB (this data is measured in a soundproof room and the noise collector should be 10CM away from LED driver)
<b>Testing Equipment</b>	AC power source: CHROMA6530, digital power meter: CHROMA66202, oscilloscope: Tektronix DPO3014, DC electronic load: M9712B, LED board, constant temperature and humidity chamber, lightning surge generator: Everfine EMS61000-5B, rapid group pulse generator: Everfine EMS61000-4A, spectroanalyzer: KH3935, hi-pot tester: EEC SE7440, flicker tester (flicker-free coefficient test) Everfine LFA-3000, etc.	
<b>Testing Remarks</b>	If there are no special remarks, the above parameters are tested at the ambient temperature of 25°C, humidity of 50%, full load and input voltage of 230Vac.	

### ■ Electrical Characteristics

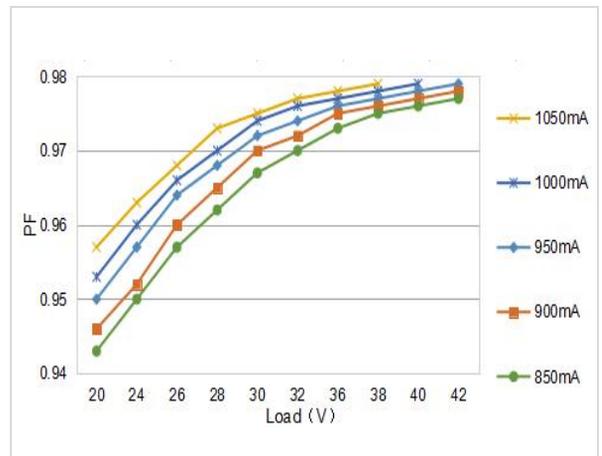
<b>Additional Remarks</b>	<ol style="list-style-type: none"> <li>1. It is recommended that user install the over voltage protection, under voltage protection and surge protection devices in the power supply circuits of light fixtures to ensure electricity safety.</li> <li>2. The LED driver used in combination with the end device is one of the accessories of the whole light fixture, and the EMC of the whole light fixture is not only susceptible to the driver itself, but to the LED light fixture and the whole light fixture's wiring. Thus, the manufacturer of LED light fixture should re-confirm the EMC of the whole light fixture before the whole light fixture is finished.</li> <li>3. The test conditions of the circuit breaker configuration quantity are the same as those of the inrush current.</li> <li>4. Lifud reserves the right to interpret any of the above parameters.</li> </ol>
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### ■ Product Characteristic Curves

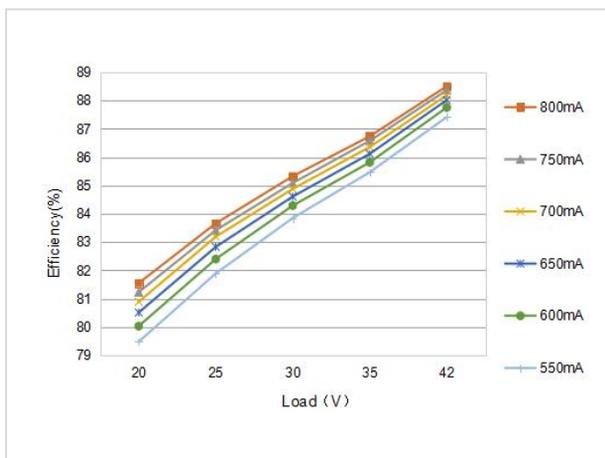
PF Curve 1



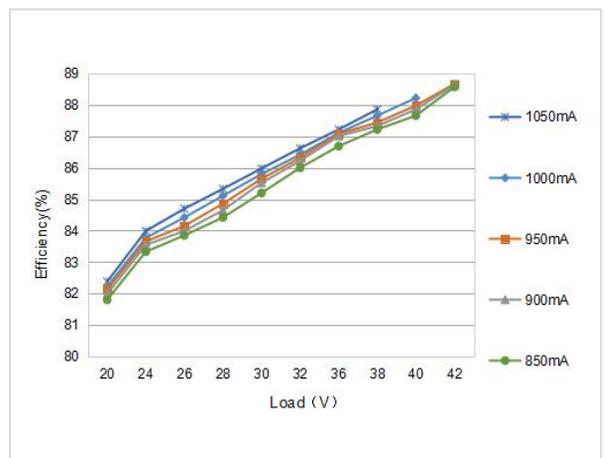
PF Curve 2



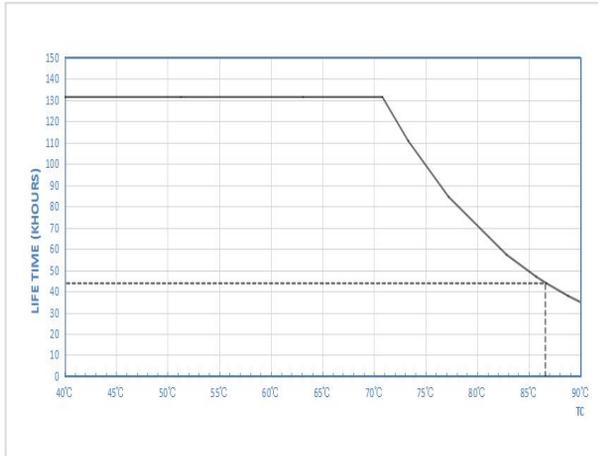
Efficiency Curve 1



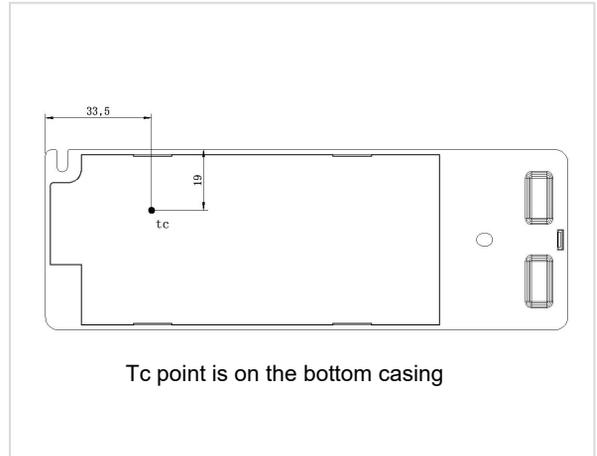
Efficiency Curve 2



### Product Characteristic Curves



Tc Point Test Diagram



### Product Terminal & DIP Switch Definitions

#### Product Terminals

INPUT		OUTPUT	
DA1/PUSH	DA1/PUSH dimming input	/	/
DA1/PUSH	DA1/PUSH dimming input	/	/
DA2/PUSH	DA2/PUSH dimming input	/	/
DA2/PUSH	DA2/PUSH dimming input	/	/
AC-L	Input terminal of AC live wire	/	/
AC-L	Input terminal of AC live wire	/	/
AC-N	Input terminal of AC neutral wire	/	/
AC-N	Input terminal of AC neutral wire	/	/
	Fixed connector	LED+	Positive electrode of driver's output
	Fixed connector	LED-	Negative electrode of driver's output

## ■ Product Terminal & DIP Switch Definitions

### Product DIP Switch

Vo DC	I rated (CC)	1	2	3	4
20-38V	1050mA	OFF	OFF	OFF	OFF
20-40V	1000mA	OFF	OFF	OFF	ON
20-42V	950mA	OFF	OFF	ON	OFF
20-42V	900mA	OFF	OFF	ON	ON
20-42V	850mA	OFF	ON	OFF	OFF
20-42V	800mA	OFF	ON	OFF	ON
20-42V	750mA	OFF	ON	ON	OFF
20-42V	700mA	OFF	ON	ON	ON
20-42V	650mA	ON	OFF	OFF	OFF
20-42V	600mA	ON	OFF	OFF	ON
20-42V	550mA	ON	OFF	ON	OFF

Remark: ① Do not use the DIP switch when the driver is powered on; disconnect input AC power supply if needed.  
 ② Except the known DIP switch modes, the default value of other DIP switch modes is 1050mA (max).

## ■ Dimming Operation Instructions

### PUSH Dimming Operations

Operation	Duration	Function
Instant Push	0.1-0.5 sec	LED light on/off
Long Push	0.6-9 sec	Dim up/down
Reset Push	>9 sec	Reset to 50% brightness

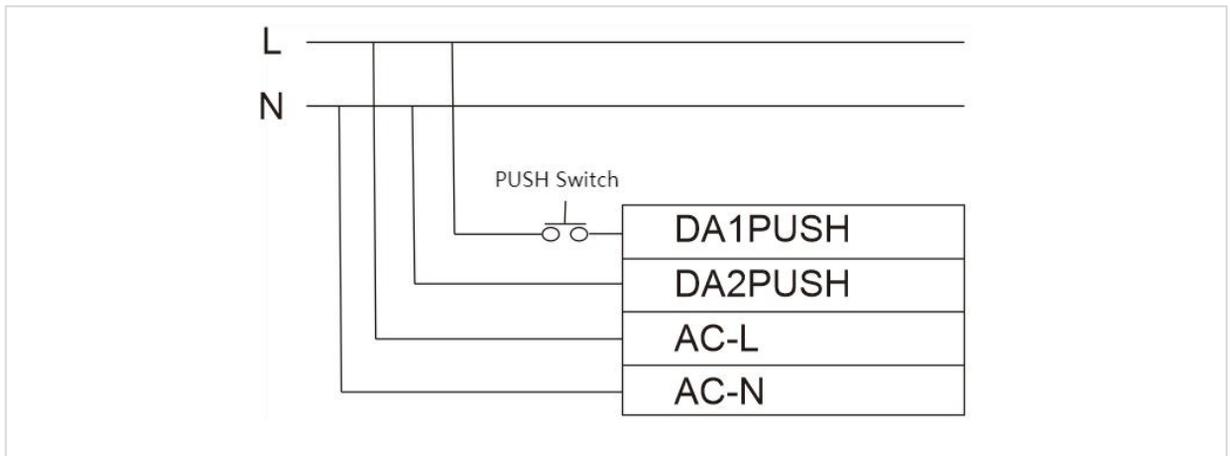
## ■ Dimming Operation Instructions

### PUSH Dimming Operations

The PUSH operation won't cause any variations if it's less than 0.1 sec.

- Connect the PUSH switch in series between AC-L and DA1 terminals; short circuit AC-N and DA2 terminals;
- Minimum dimming depth of PUSH dimming: 1% (I<sub>out</sub>);
- 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: 12-24AWG
- Default setting: DALI mode; when switching to PUSH mode, long press the PUSH button for 3 sec.

### Wiring Diagram of PUSH Dimming

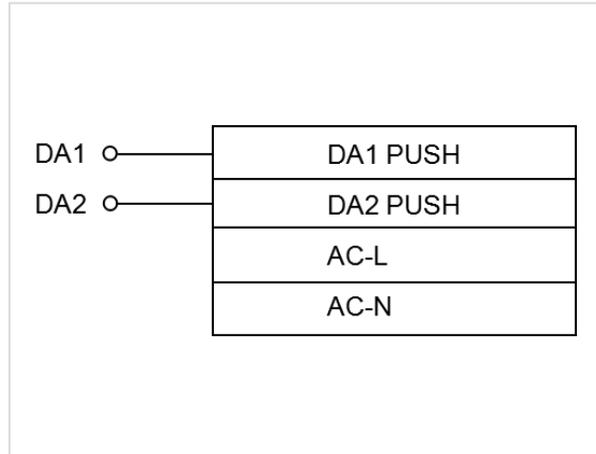


### Remarks

- Connect PUSH switch between AC-L and DA PUSH in series and connect DA2 PUSH to AC-N.
- Make sure that AC-L and AC-N are not directly connected to DA1 PUSH and DA2 PUSH terminals.
- Make sure that PUSH switch is off before the AC is powered on; operate PUSH after the AC is powered on.
- Make sure the PUSH switch is off before disconnecting the AC.
- If you have any questions about the wiring and operation, please confirm with Lifud FAE.
-  Wrong wiring or operation may cause damage to the driver.

## ■ Dimming Operation Instructions

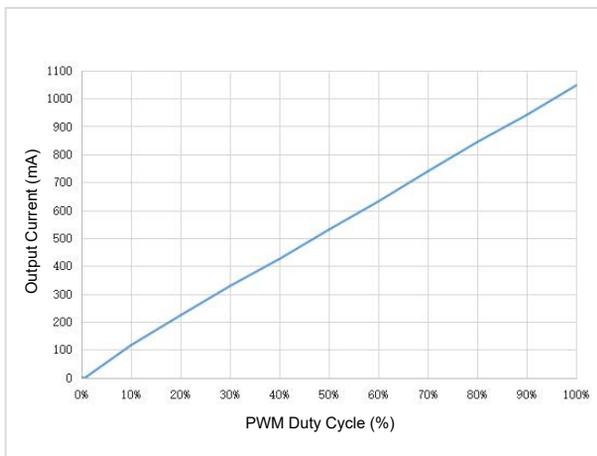
### Wiring Diagram of DALI Dimming



### DALI Dimming Operations

- Default setting: 100% brightness
- Connect DALI signal to DA1 PUSH and DA2 PUSH terminals.
- DALI protocol includes up to 16 group scenes.
- Maximum quantity of LED drivers connected in parallel in DALI dimming mode: 64 pcs
- Minimum dimming depth of DALI dimming: 0.1% (Iout&Vout max).

Linear Dimming Curve



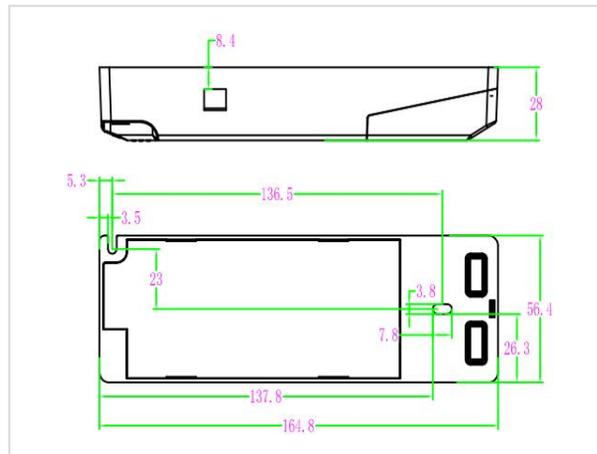
Logarithmic Dimming Curve



- Choose only ONE as opposed to use DALI or PUSH at the same time in case of the damage of DALI dimmer.

### ■ Structure & Dimensions (unit: mm; tolerance: $\pm 0.5\text{mm}$ )

Model	Overall Appearance (L*W*H)	Distance Between 2 Positioning Holes	Diameter of Positioning Hole
LF-ABD040-1050-42	164.8*56.4*28 mm	136.5 mm	3.8 mm



### ■ Packaging Specifications

Model	LF-ABD040-1050-42
Carton Size	385*285*210 mm (L*W*H)
Quantity	6 pcs/layer; 5 layers/ctn; 30 pcs/ctn
Weight	0.126 kg/pc; 9.32 kg/ctn

## ■ Transportation and Storage

### 1. Transportation

- Suitable transportation means: vehicles, boats and aeroplanes.
- In transit, it is necessary to prepare awnings for rain or sun protection. Moreover, please keep civilized loading and unloading to prevent the vibration or impact of LED driver as much as possible.

### 2. Storage

- The storage of LED driver shall conform to the standard of Class I environment. When using LED drivers which have been stored for more than 6 months, please re-test them firstly. Do not use them unless they are tested to be qualified.

## Cautions

- Please use Lifud LED driver according to its parameters in the specification, otherwise the LED driver may malfunction.
- Using any incompatible light fixtures or those that have not been certified may cause fire, explosion or other risks.
- Man-made damage is beyond the scope of Lifud warranty service.

Remark: Lifud Technology Co., Ltd. reserves the right to interpret any contents of this specification.