Features

- DALI or PUSH dimmable, time dimming
- Output current and parameters adjustable via NFC or Lifud programmer
- Supports DALI-2 ext. Part 251, 252, 253
- Protective features: input overvoltage, input undervoltage, output overload, output open circuit, over-temperature and output short circuit protection
- Luminaire temperature guard via external NTC resistor
- Driver temperature guard via internal OTP protection
- Surge protection: L-N: 6kV; L/N-PE: 10kV
- According to Zhaga Book 13, 24, 25
- IP20; suitable for Class I/II light fixtures (IP>54)
- Lifetime up to 100,000h

Applications

· Street lighting · city lighting · industry lighting

Descriptions

LF-ACD075A-1050-115 is a 75W (max.) DALI NFC dimmable constant current LED driver. Its rated input voltage ranges from 220 to 240Vac. Its output current is adjustable from 200 to 1050mA. It has protective features of input overvoltage, output open circuit, output overload, output short circuit protection and internal & external temperature protection.

Product Model

LF - ACD 075A -1050 - 115
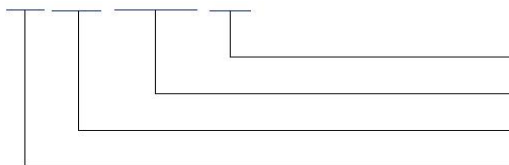
- 115: max. output voltage: 115Vdc
- 1050: max. output current: 1050mA
- 075: output power: 75W; A: DALI-2 series
- ACD: LED driver series

■ Electrical Characteristics

Model	LF-ACD075A-1050-115			
Output	Output Voltage	35-115V			
	Output Current	200-1050mA① (default: 700mA②)			
	Ripple Current (≤100Hz)	±3.3%			
	Flicker Index	IEC-Pst≤1, CIE SVM≤0.4, according to IEEE Std 1789-2015			
	Current Tolerance	±5%			
	Temperature Drift	±10%			
	Start-up time	<1.5s			
Input	Rated Input Voltage	220-240Vac			
	Input Voltage Range	180-264Vac			
	DC Input Voltage	180-264Vdc③			
	Input Frequency	0/50/60Hz			
	Input Current	0.5A Max. @AC input 0.1-0.43A@DC input			
	PF	≥0.95			
	THD	≤10%			
	Efficiency	≥92%			
	Inrush Current	≤45A&170uS			
	Loading Quantity on Circuit Breaker	Model	B10	C10	B16	C16
		Quantity (pcs)	11	14	19	23
	Leakage Current	≤3.5mA			
	Standby Power Consumption	≤0.5W (DALI OFF)			
Environment Descriptions	Operating Temperature	-40℃~+55℃			
	Operating Humidity	20-90%RH (no condensation)			
	Storage Temperature/ Humidity	-40℃~+80℃ (6 months in Class I environment); 10-90%RH (no condensation)			
	Atmospheric Pressure	86-106kPa			
Surge	L-N	6kV			
	L/N-PE	10kV			
	PUSH	0.5kV			

■ **Electrical Characteristics**

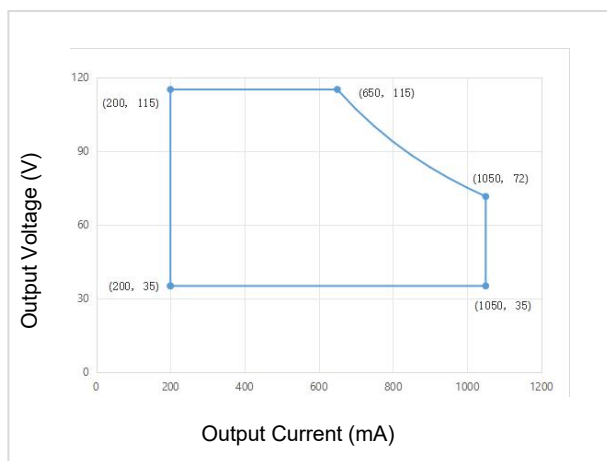|		
Safety and EMC	Certifications	ENEC, CE, CB, UKCA, RCM, SAA, DALI-2
	Withstanding Voltage	I/P-O/P: 3.75kV&5mA&60S; I/P-PE: 1.5kV&5mA&60S;O/P-PE: 1.5kV&5mA&60S; I/P-DA1/DA2: 1.5kV&5mA&60S; O/P-DA1/DA2: 1.5kV&5mA&60S
	Insulation Resistance	I/P-O/P: >100MΩ@500VDC; I/P-PE: >100MΩ@500VDC; O/P-PE: >100MΩ@500VDC; I/P-DA1/DA2: >100MΩ@500VDC; O/P-DA1/DA2: >100MΩ@500VDC
	Safety Standards	CB: IEC61347-1:2015, IEC61347-1:2015/AMD1:2017, IEC61347-2-13:2014, IEC61347-2-13:2014/AMD1:2016 CE-LVD: EN 61347-2-13:2014/A1:2017, EN 61347-1:2015, EN 62493:2015 ENEC: EN61347-1:2015, EN 61347-2-13:2014/A1:2017, EN 62384：2020 RCM: AS 61347.2-13:2018 SAA:AS 61347.1:2016+A1:2018 AS 61347.2.13:2018 UKCA-LVD: EN 61347-1:2015/A1:2021, EN 61347-2-13:2014/A1:2017
	EMI	CE-EMC/RCM: EN55015, EN61000-3-2, EN61000-3-3 UKCA-EMC: EN IEC 55015:2019/A11:2020, EN 61547:2009, EN IEC 61000-3-2:2019/A1:2021, EN 61000-3-3:2013/A2:2021
	EMS	CE-EMC/RCM: EN61000-4-2,3,4,5,6,11
Other Parameters	IP Rating	IP20
	RoHS	RoHS 2.0 (EU) 2015/863
	Tc Max	90℃
	Lifetime	Up to 100,000h (refer to the service life table)
	Warranty Condition	8 years (Tc≤82℃)
	DALI Standard	IEC62386-101, 102, 207, 251, 252, 253
	Noise Level	≤25dB (The noise collector should be placed at 10cm away from the LED driver during the test in a quiet room)
Testing Equipment		AC power source: CHROMA6530, digital power meter: CHROMA66202, oscilloscope: Tektronix DPO3014, DC electronic load: M9712B, LED board, constant temperature and humidity chamber; Everfine EMS61000-5B, fast transient generator: Everfine EMS61000-4A, spectroanalyzer: KH3935, hi-pot tester: EEC SE7440, flicker tester (flicker-free coefficient test): Everfine LFA-3000, etc.
Compatibility of DALI Dimming④		Yuanhao Master, Simon Master, Philips Master DDBC120-DALI, OSRAM Master, Helvar Master 905 Router, Tridonic Master and HDL MC64-DALI431 Master
Testing Remark		If there are no special remarks, the above parameters are tested at the ambient temperature of 25℃, humidity of 50%, maximum output power and input voltage of 230Vac/50Hz.

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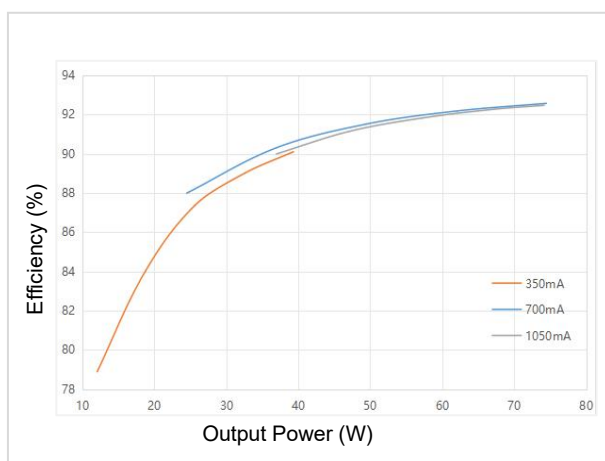
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■ **Electrical Characteristics**

Additional Remarks	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. 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. 3. The PC cover, casing and end cap for assembling the LED driver in the light fixture must meet the fire rating of UL94-V0 or above. 4. The total output power of the driver can not exceed the rated maximum power during use, otherwise it can not be guaranteed. 5. The test conditions of the circuit breaker configuration quantity are the same as those of the inrush current. 6. Lifud reserves the right to interpret any of the above parameters. Remark: ① When the output current is 1050mA, the load voltage of LED driver ranges from 35 to 72Vdc; when the load voltage is >72Vdc, the LED driver outputs with the maximum power of 75W. Please see the chart. ② The default current of LED driver is 700mA and its output current can be set by Lifud programmer and DALI programming software(or FEIG NFC reader). ③ DC input is only for emergency. ④ When using other DALI masters, please test their compatibilities with Lifud LED driver in advance.

■ **Product Characteristic Curves**

Working Window Curve

Efficiency Curve

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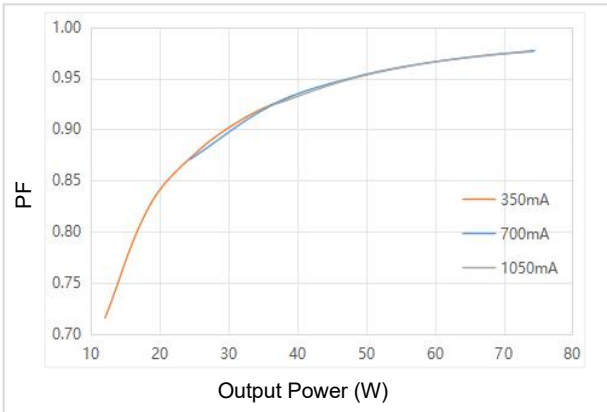Website: www.lifud.com   Telephone: +86(0)755 8373 9299   Email: sales@lifud.com

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■ Product Characteristic Curves

PF Curve

THD Curve
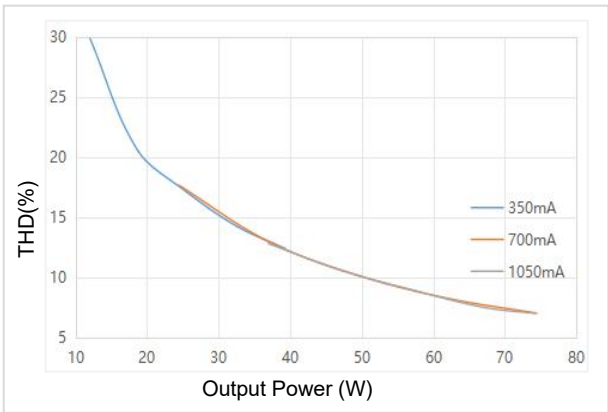
Lifetime Curve
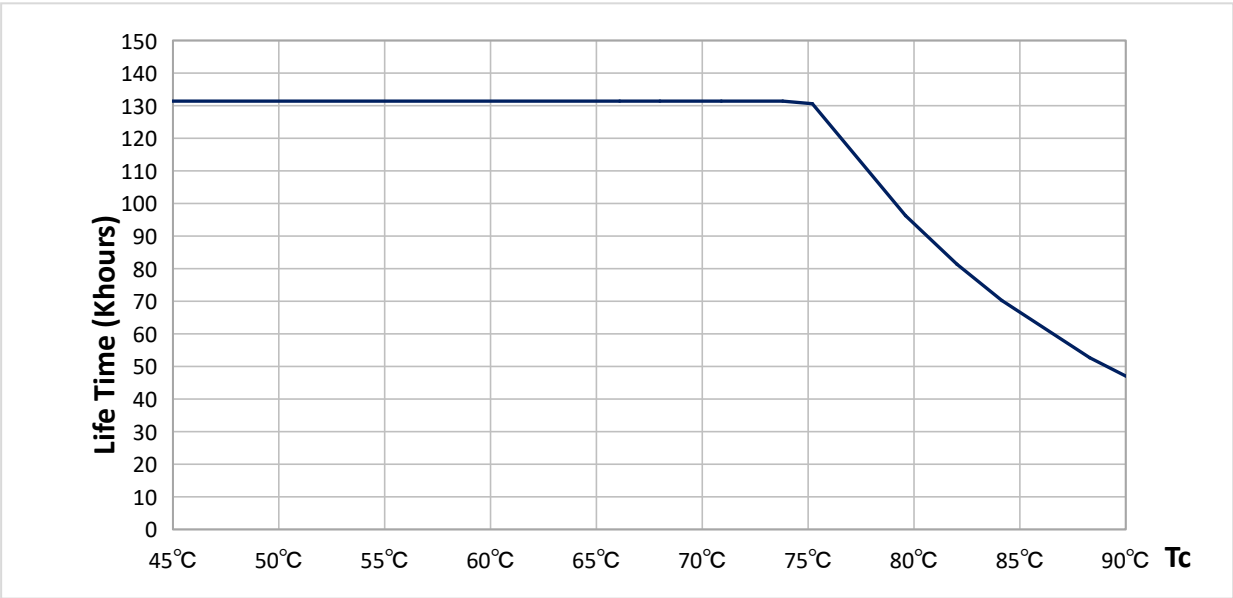
■ **Product Characteristic Curves**

Service Life

Model	Iout	Pout	Ta	45℃	50℃	55℃
LF-ACD075A-1050-115	1050mA	75W	Tc	72℃	77℃	82℃
			Lifetime	>100,000h	>100,000h	>70,000h

Note: The design life of the LED driver is as described above under reference conditions. The failure probability is less than 10%.
The relationship between Tc and Ta also depends on the design of the luminaire.

Tc Point (unit: mm)
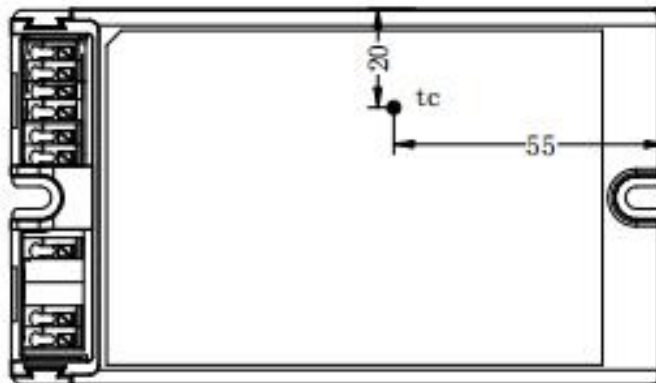
The Tc point is at the top of the LED driver

■ Protective Characteristics

Protective Type				Min.	Typ.	Max.	Introduction
External over-temperature protection	Mode 1	If the temperature is too high, the current will drop first and then the light will be off.	R1 (Start to decrease the current)	/	1.65kΩ	/	When the external NTC resistance decreases to R1, the external thermal protection will be triggered and the output current will gradually decrease.
			R2 (Stop decreasing the current)	/	1.27kΩ	/	When the external NTC resistance decreases to R2, the output current will drop to the programmed protection current value and stop decreasing (default 50%Io).
			R3 (Turn off the light)	/	1.1kΩ	/	When the external NTC resistance decreases to R3, the light will be off. A restart of the AC is required to restore it.
	Mode 2	If the temperature is too high, the light will be off.	R3 (Turn off the light)	/	1.1kΩ	/	When the external NTC resistance decreases to R3, the light will be off. A restart of the AC is required to restore it.
Internal over-temperature protection	Mode 1	If the temperature is too high, the current will drop first and then the light will be off.	T1 (Start to decrease the current)	82℃	85℃	88℃	When the internal temperature rises to T1, the internal thermal protection will be triggered and the output current will gradually decrease.
			T2 (Stop decreasing the current)	85℃	88℃	91℃	When the internal temperature rises to T2, the output current will decrease to the programmed protection current value (default is 50%Io)
			T3 (Turn off the light)	88℃	91℃	94℃	When the internal temperature rises above T3, the light will be off, and when the temperature drops below T1, the light can be automatically turned on.
	Mode 2	If the temperature is too high, the light will be off.	T3 (Turn off the light)	88℃	91℃	94℃	When the internal temperature rises above T3, the light will be off, and the AC needs to be restarted to restore the light.
Open Circuit				<150V			
Short Circuit				Hiccup mode (auto-recovery)			

■ **Protective Characteristics**

| Protective Type		Min.	Typ.	Max.	Introduction
Input undervoltage protection	Protective voltage	145Vac	150Vac	155Vac	When the input voltage is lower than the protective voltage, the light will be off.
	Restore voltage	156Vac	160Vac	165Vac	When the input voltage is higher than the restore voltage, the light can be automatically turned on.
Input overvoltage protection	Protective voltage	310Vac	320Vac	330Vac	When the input voltage is higher than the protective voltage, the light will be off.
	Restore voltage	261Vac	270Vac	278Vac	When the input voltage is lower than the restore voltage, the light can be automatically turned on.

Remark: The recommended NTC model is NTSE0103FHM57A with a resistance of 10kΩ

■ **Protective Characteristics Schematic**

Schematic Diagram of Input Undervoltage Protection
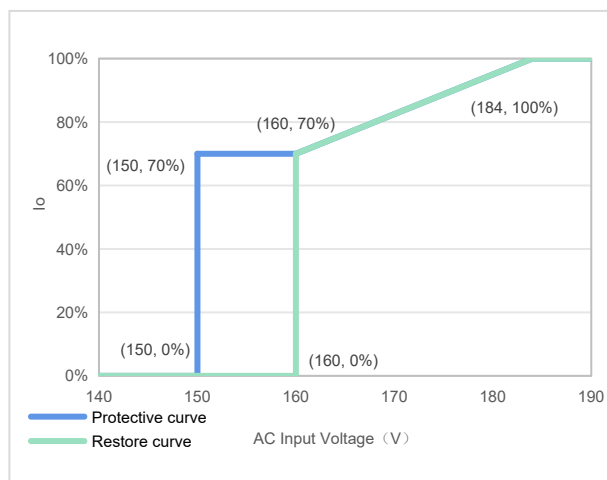
Schematic Diagram of Input Overvoltage Protection
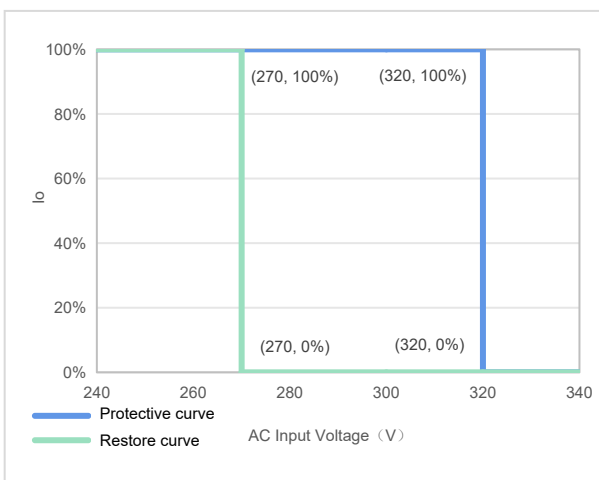
Remark: It is not allowed to operate outside the input voltage range for a long time.

■ **Time Dimming Introduction**

Time dimming control includes 3 kinds of modes: Traditional Timer, Self Adapting-Midnight and Self Adapting Percentage. When the time dimming control starts, it will enter Traditional Timer mode by default. There are 6 segments in each mode, and you can set the brightness of each segment, the running time of the first to fifth segments, and the fade time for switching between two segments.

■ Time Dimming Introduction
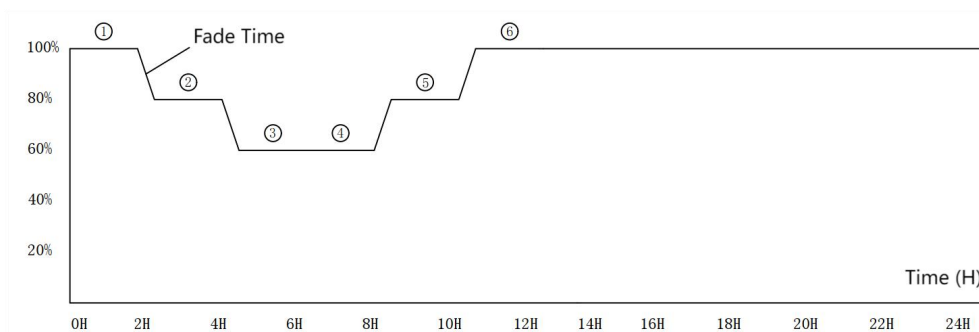
Traditional Timer: Follows the programmed timing curve after power on.

Self Adapting-Midnight: Automatically adjusts the dimming curve based on the on-time of each of the past 3 days (if difference <15 minutes), assuming that the center point of the dimming curve is local midnight time.

Self Adapting-Percentage: Automatically adjusts the on-time of each step by a constant percentage of the initialization time and operational use time according to the actual on-time of the past 3 days (if difference <15 mins).

■ Programmer Tools and Software

Product	Name	Brand	Model	Softwares
	NFC desktop programmer	FEIG	ID CPR30+	Lifud SmartSet
	NFC handheld programmer	FEIG	ID ISC.PRH101-USB	Lifud SmartSet
	NFC batch programmer	FEIG	ID ISC.LRM1002-E ID ISC.ANT300/300-A	Lifud SmartSet
	Lifud programmer	LIFUD	LF-SCS080C	Lifud SmartSet
	Mobile NFC APP	LIFUD	/	Lifud NFC

■ Programmer Setting Instructions

Read/write and Parameter Configuration

Programming project	Default settings	Parameters settings	Read/Write
Product information	-	No	Read
Output current	700mA (default)	Yes	Read/Write
Operating mode	Automatic detection (DALI/PUSH)	Yes	Read/Write
Time dimming	Inactivated	Yes	Read/Write
Over-Temperature Protection	Activated	Yes	Read/Write
DALI Part 251	Activated	Yes	Read/Write
DALI Part 252	Activated	Can only be reset	Read/Write
DALI Part 253	Activated	Can only be reset	Read/Write

■ Programmer Setting Methods

① NFC

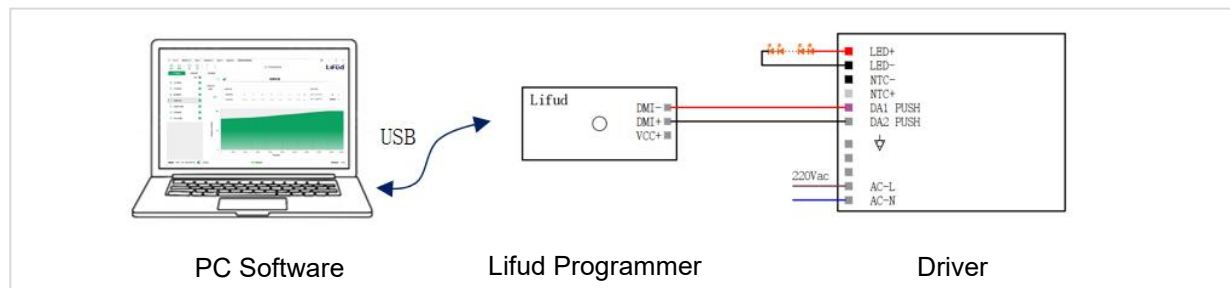PC Software   NFC Programmer   Driver

Note: When using the NFC reader, the driver is not allowed to operate while powered on. The driver must be powered off and completely discharged before it can read and write normally.

② Lifud Programmer

PC Software   Lifud Programmer   Driver

Note: When using the programmer, the driver must be powered on with AC for normal reading and writing.

■ **Programmer Setting Methods**

③ **Mobile NFC APP**


QR Code for NFC APP Download

Note: When using the NFC app, the driver is not allowed to operate while powered on. The driver must be powered off and completely discharged before it can read and write normally.

■ **Product Terminal Definition**

Input		Output	
⏚	Earth wire	LED+	Positive terminal output of LED driver
/	/	LED-	Negative terminal output of LED driver
/	/	NTC-	Negative terminal of NTC temperature sensor
AC-N	AC neutral wire input	NTC+	Positive terminal of NTC temperature sensor
AC-L	AC live wire input	DA1 PUSH	DALI 1/PUSH dimming input
/	/	DA2 PUSH	DALI 2/PUSH dimming input

■ **NTC/DALI Control Instructions**

Wiring Diagram of NTC/DALI Dimming
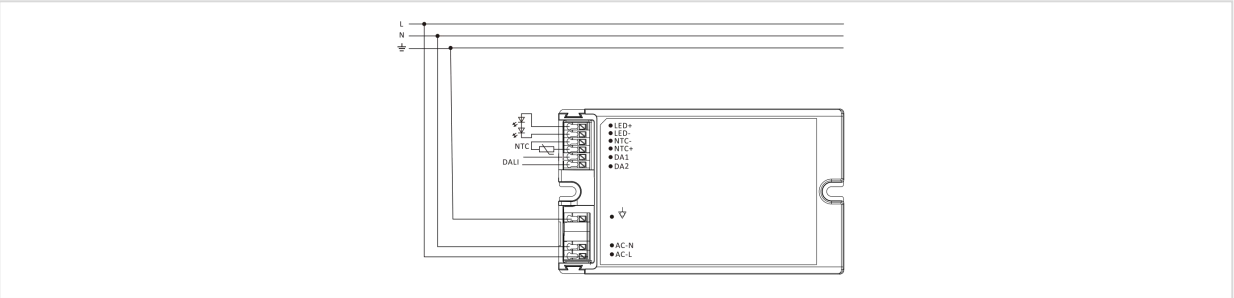
■ NTC/DALI Control Instructions

Operations of NTC Control

- Connect the NTC resistor to the NTC+ terminal and NTC- terminal. When the NTC resistor detects the high temperature of the luminaire cavity, the resistance value will drop to about 1.6KΩ. There will be no output from the driver, and the driver needs to be re-powered after protection action in order to return to normal.
- Typical value of NTC resistance protection point at room temperature is 1.6KΩ.
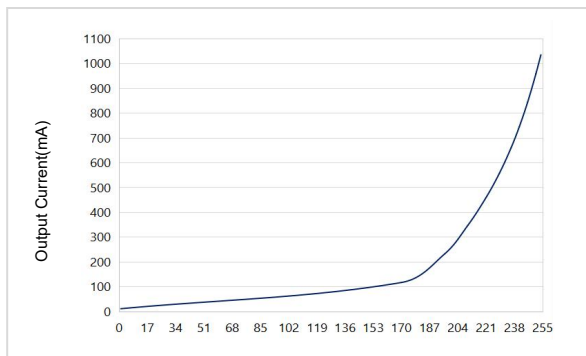
Operations of DALI Dimming

- Default setting brightness is 100%.
- Connect DALI signal to DA1 PUSH and DA2 PUSH.
- DALI protocol includes Max.16 scene groups.
- Maximum number of LED drivers connected in parallel in DALI dimming mode: 64 pcs.
- Minimum dimming depth of DALI dimming: 3%.

DALI Dimming Curve
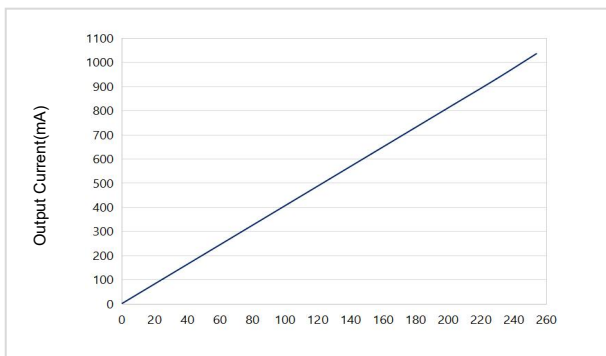
linear dimming

logarithmic dimming

- ⚠ The DALI and PUSH dimming functions cannot be used simultaneously; otherwise, the DALI dimmer will be damaged.

■ Operations of PUSH Dimming

Wiring Diagram of PUSH Dimming

Remarks
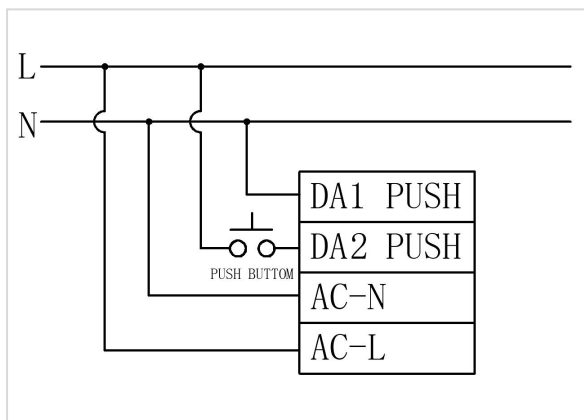
- Connect PUSH switch between AC-L and DA1 PUSH in series and connect DA2 PUSH to AC-N.
- Make sure that AC-L and AC-N are NOT directly connected to DA1 PUSH and DA2 PUSH terminals.
- Make sure that PUSH switch is off before the AC is powered on; operate PUSH after the AC is powered on.
- Make sure the 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.

■ Operations of PUSH Dimming

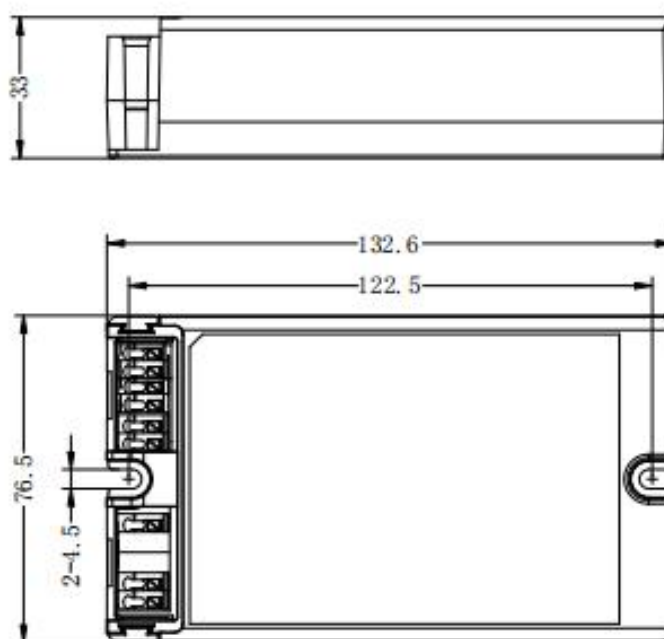| Operation	Duration	Function
Instant Push	0.1-0.5 sec	LED light on/off
Long Push	0.6-9 sec	LED light dims up/down
Reset Push	>9 sec	Reset the brightness of luminaire to 50%

- The PUSH operation won't cause any variations on LED driver if it's less than 0.1S.
- Minimum dimming depth of PUSH dimming: 3%
- The PUSH dimming mode has the memory function in case of any power failure. When the LED driver is powered on again, the light will return to the previous state before power failure.
- The present dimming direction of PUSH dimming is opposite to the former one.
- Max. wire length from the PUSH switch to the farthest LED driver: 135m; wire diameter: 12-24AWG.

■ Structure & Dimensions (unit: mm)

Model	Overall Appearance (L*W*H)	Distance Between 2 Locating Holes (L)	Diameter of Locating Hole (D)
LF-ACD075A-1050-115	132.6*76.5*33 mm (±0.5mm)	122.5 mm (±0.5mm)	4.5 mm

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■ **Packaging Specifications**

Model	LF-ACD075A-1050-115
Carton Size	280*217*95mm (L*W*H)
Quantity	12 pcs/layer; 1 layers/ctn; 12 pcs/ctn
Weight	0.264±5% kg/pc; 3.576±5% 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 on 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 content of this specification.

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