Features

- DALI or PUSH dimmable
- Current adjustable via DIP switch
- 1% dimming depth; standby power consumption <0.5W
- Supports corridor function (corridor DIM), CLO and emergency escape lighting system
- Isolated; flicker free
- Suitable for Class II light fixtures
- 5-year warranty (please refer to the warranty condition)

Applications

· Indoor office lighting · commercial lighting · residential lighting

Descriptions

LF-ADD009-0200-42 is a 9W DALI or PUSH dimmable constant current LED driver supporting corridor function (corridor DIM), CLO and emergency escape lighting system via Lifud programmer. Its input voltage ranges from 220 to 240Vac and output current is adjustable via DIP switch from 100 to 200mA. It has all-round protections: open circuit protection and short circuit protection.

Product Model

LF - ADD 009 - 0200 - 42
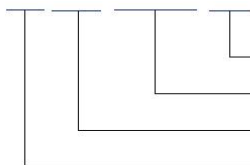
- 42: max. output voltage: 42Vdc
- 0200: max. output current: 200mA
- 009: output power: 9W
- ADD: DALI dimmable LED driver

■ **Electrical Characteristics**

Model		LF-ADD009-0200-42			
Output	Output Voltage	9-42Vdc			
	Output Current	100mA	150mA	180mA	200mA
	Flicker Index (Modulation Depth)	IEC-Pst ≤1, CIE SVM ≤0.4 According to IEEE Std 1789-2015			
	Current Tolerance	±10%	±7%		±5%
	Temperature Drift	±10%			
	Start-up Time	<2S			
Input	AC Input Voltage	220-240Vac (voltage limit: 198-264Vac)			
	DC Input Voltage	180-264Vdc			
	Input Frequency	0/50/60Hz			
	Input Current	0.1A Max@AC input; 0.005-0.011A@DC input			
	PF	>0.90			
	THD	<20%			
	Efficiency	≥78.5%			
	Inrush Current	<14A&120uS			
	Load Quantity on Circuit Breaker	Model	B10	C10	B16	C16
		Quantity (pcs)	53	89	85	142
	Leakage Current	<0.7mA			
	Standby Power Consumption	≤0.5W (when PWM OFF signal is effective)			
Protection Characteristics	Open Circuit	<59V			
	Short Circuit	Hiccup mode (auto-recovery)			
Environment Descriptions	Operating Temperature	-30℃ - +45℃			
	Operating Humidity	20-95%RH (no condensation)			
	Storage Temperature/ Humidity	-30℃ - 80℃ (6 months in Class I environment); 20-75%RH (no condensation)			
	Atmospheric Pressure	86-106kPa			

■ **Electrical Characteristics**
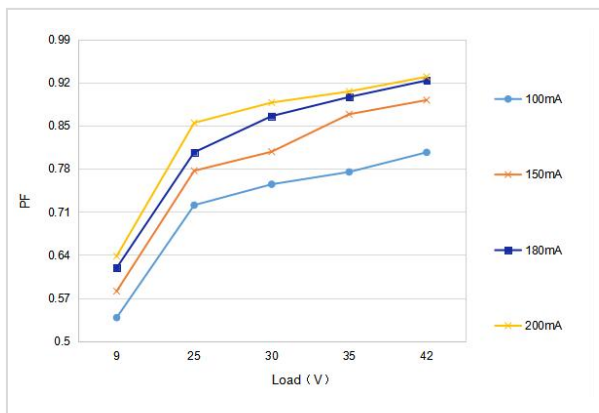
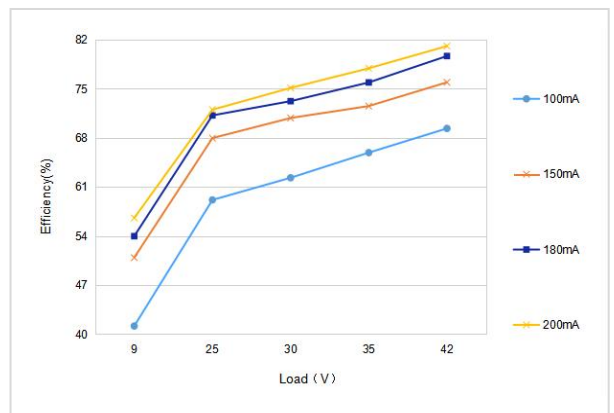|		
Safety & EMC	Certifications	TUV-ENEC, CE, CB, RCM, EL, UKCA, CCC
	Withstand Voltage	I/P-O/P: 3.75kV 5mA 60S; I/P-DA1/DA2: 1.5kV 5mA 60S O/P-DA1/DA2: 1.5kV 5mA 60S
	Insulation Resistance	I/P-O/P: >100MΩ@500VDC; I/P-DA1/DA2: >100MΩ@500VDC O/P-DA1/DA2: >100MΩ@500VDC
	Safety Standards	ENEC: EN61347-1:2015, 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 EL: IEC 61347-2-13:2014 Annex J UKCA: BS EN IEC 55015:2019+A11:2020, BS EN 61547:2009, BS EN IEC 61000-3-2:2019, BS EN 61000-3-3:2013/A2:2021 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
	DALI Inrush	DA1-DA2: 0.5kV
Other Parameters	IP Rating	IP20
	RoHS	RoHS 2.0 (EU) 2015/863
	DALI Standard	IEC62386-101 102 207: DALI2.0
	Noise Level	≤29dB (this data is measured in a soundproof room and the noise collector should be 10CM away from LED driver)
	Warranty	5 years (Tc≤74℃)
Test Equipment		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.
DALI Dimming Compatibility ①		Yuanhao Master, Philips Master DDBC120-DALI, OSRAM Master, Helvar Master 905 Router, Tridonic Master-24138923, HDL MC64-DALI431 Master
Test Remark		If there are no special remarks, the above parameters are tested at the ambient temperature of 25℃, humidity of 50%, max. output load and input voltage of 230Vac/50Hz.

■ Electrical Characteristics

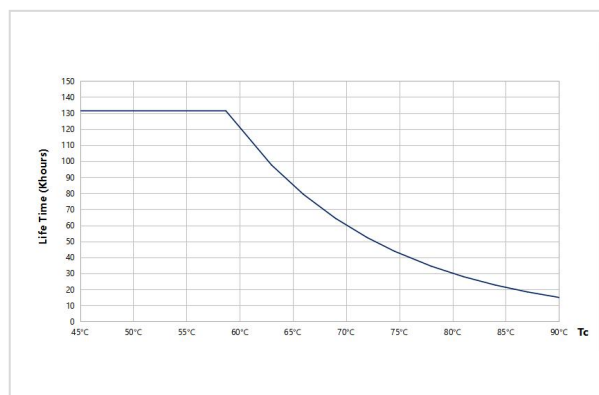| Additional Remarks	1. It is recommended that user install the over voltage protection, under voltage protection and surge protection devices in the power supply circuits of light fixtures to ensure electricity safety. 2. The LED driver used in combination with the end device is one of the accessories 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 number of LED drivers that can be connected to a circuit breaker and the inrush current are tested under the same conditions. 4. 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. 5. Please disconnect AC when switching the current shift; connect AC after adjusting the DIP switch to the according current. 6. In the case of DC input, the driver is only for emergency escape lighting system. 7. Lifud reserves the right to interpret any of the above parameters. Remark: Using other brands of DALI hosts requires verification of compatibility.

■ Product Characteristic Curves

PF Curve

Efficiency Curve

Lifetime Curve

Tc Point Test Diagram
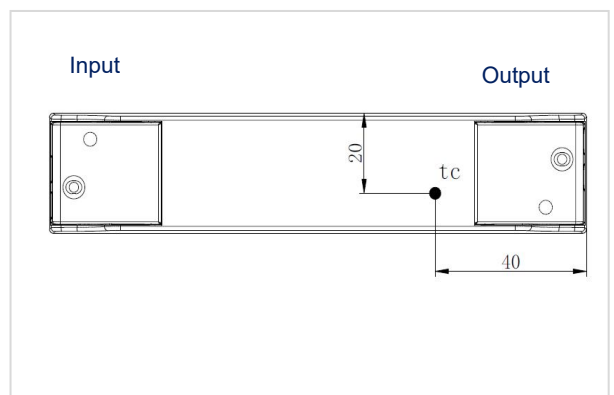
■ **Product Definitions**

Product Terminals

| INPUT		OUTPUT	
DA2/PUSH (Black)	DALI/PUSH dimming input	LED+ (Red)	Positive terminal output of LED driver
DA1/PUSH (Red)	DALI/PUSH dimming input	LED- (Black)	Negative terminal output of LED driver
AC-N (Grey)	Input terminal of AC neutral wire		
AC-L (Grey)	Input terminal of AC live wire		

Product DIP Switch

Vo DC	I rated (CC)	1	2
9-42V	200mA	OFF	OFF
	180mA	OFF	ON
	150mA	ON	OFF
	100mA	ON	ON

Remark: when adjusting the output current via the DIP switch, please disconnect input AC first so as to use the DIP switch without the input AC connected.

■ **Dimming Operation Instructions**

Wiring Diagram of PUSH Dimming
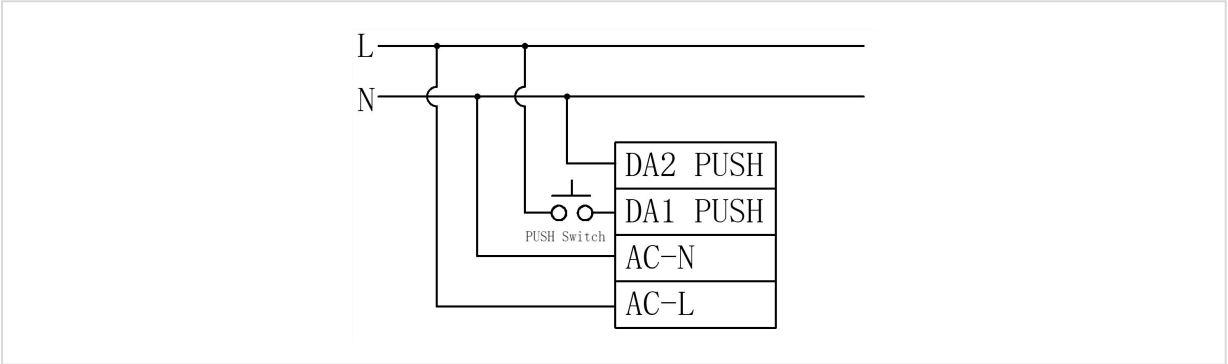
PUSH Dimming Operations

- Connect the PUSH switch in series between AC-L and DA1 PUSH terminals; connect AC-N to DA2 PUSH terminal.
- Do not directly connect AC-L and AC-N to DA1/PUSH and DA2/PUSH terminals.
- Before the mains is connected, please ensure that the PUSH switch is disconnected. After that, the PUSH operation can be performed.
- Before the mains is disconnected, please ensure that the PUSH switch is disconnected.
- Shall you have any questions about the wiring or the other operation method, please contact Lifud FAE team.
- ⚠ Any improper wiring or other operation method may lead to the damage of driver.
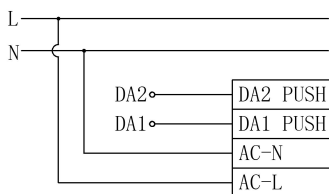
■ Dimming Operation Instructions

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 the light
Reset Push	>9 sec	Reset to 50% brightness

- The PUSH operation won't cause any variations on LED driver if it's less than 0.1S.
- Min. dimming depth of PUSH dimming: 1% (Iout&Vout max)
- 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 PUSH dimming direction is opposite to the fomer one.
- In AUTO mode, press for 3+ mins to switch to corridor lighting.

Wiring Diagram of DALI Dimming

DALI Dimming Operations

- Default setting: 100% brightness
- Connect DALI signal to DA1 PUSH & DA2 PUSH terminals.
- DALI protocol includes up to 16 group scenes
- Max. quantity of drivers connected in parallel in DALI dimming mode: 64 pcs.
- Min. dimming depth of DALI dimming: 1% (Iout & Vout max)

DALI Dimming Curve (linear)
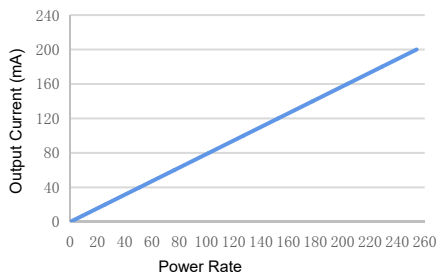
DALI Dimming Curve (logarithmic)
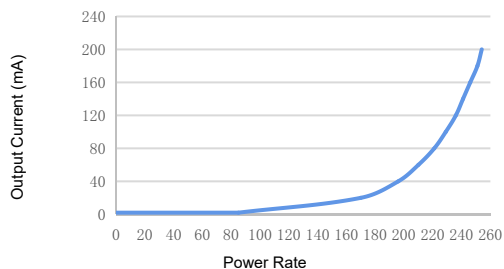
⚠ Choose only ONE as opposed to use DALI or PUSH at the same time in case of the damage of DALI master.

■ Dimming Operation Instructions

Wiring Diagram of Corridor Dimming (sensor switch)
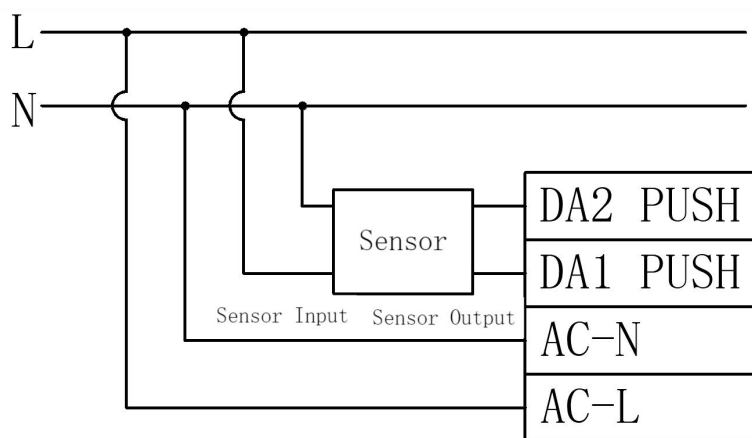
Operations for Entering Corridor Lighting Mode

- **Approach 1:** use Lifud programmer to enable the driver's corridor lighting mode and set parameters.
- **Approach 2:** keep pressing PUSH for 3+ mins so as to switch to the corridor lighting mode.
- **Approach 3:** set the sensor's hold time for 3+ mins (keep moving in the effective sensing area for 3+ mins) to enable the corridor lighting mode.

Remarks:

1. In the automatic detection mode, the driver can be switched from PUSH mode to corridor lighting mode by approach 2 and 3, its brightness will dim up to 50%; long press for 3 mins and then it dims down and then dims up, which means the driver has entered the corridor lighting mode.

2. After activating the corridor dimming mode, PUSH DIM is turned off.

3. In the case of AC input and any level of brightness in the corridor lighting mode, switching to DC and then reconnecting AC (mains) will restart the corridor lighting mode.

Operations for Exiting Corridor Lighting Mode

- **Approach 1:** connect to DALI master and send DALI command, the driver will return to the DALI dimming mode.
- **Approach 2:** connect to the PUSH switch and continuouslty press it 10 times within 10 secs, the driver will return to the PUSH dimming mode.
- **Approach 3**: use Lifud programmer to choose other modes and exit corridor lighting mode.

Remarks:

1. The 3-sec or above single press or release will cause the press number (10 times) to be counted as 0.

2. The approach 1 and 2 **CANNOT** be used if the corridor lighting mode of driver is set via Lifud programmer.

■ Dimming Operation Instructions

Working Process of Corridor Dimming Mode
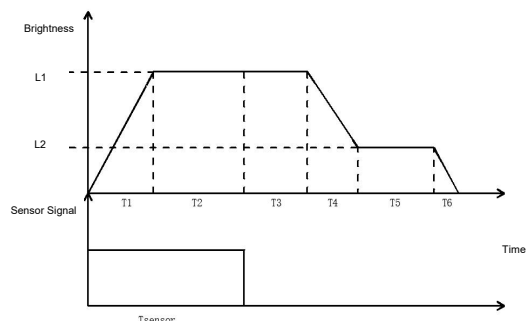
		Default Value	Available Setting Scope
T1	Fade-in time of sensing	1 sec	0-100 sec(s)
T2	Hold time of sensing	Depends on sensor	Depends on sensor
T3	Wait time of sensing	180 secs	0-59999 sec(s); 60000 secs (∞)
T4	Fade-out time of sensing	5 secs	0-100 sec(s)
T5	Unattended time	60000 secs (∞)	0-59999 sec(s); 60000 secs (∞)
T6	Fade-out to off time	0 sec	0-100 sec(s)
L1	Sensing brightness	100%	0-100%
L2	Unattended brightness	10%	0-100%

Operations for Emergency Escape Lighting System

When there is no mains input, the driver switches to the emergency escape lighting system; driver's output: 15% (Io max)

Emergency input voltage: 180-264Vdc

Remarks:

1. The emergency output current is settable via Lifud programmer and programming software.

2. Max. setting: 15%.

3. When the emergency escape lighting function is off, in the case of DC input, the driver will have no output.

4. In the case of mains input, the brightness is random when using PUSH dimming, disconnect AC (mains) and connect DC, the driver will enter the emergency escape lighting system; disconnect DC and connect AC (mains), the light brightness will remain the one set via PUSH switch when mains is connected.

5. In the case of mains input, the brightness is random when using DALI dimming, disconnect AC (mains) and connect DC, the driver will enter the emergency escape lighting system; disconnect DC and connect AC (mains), the light brightness will return to DALI powering-on brightness.

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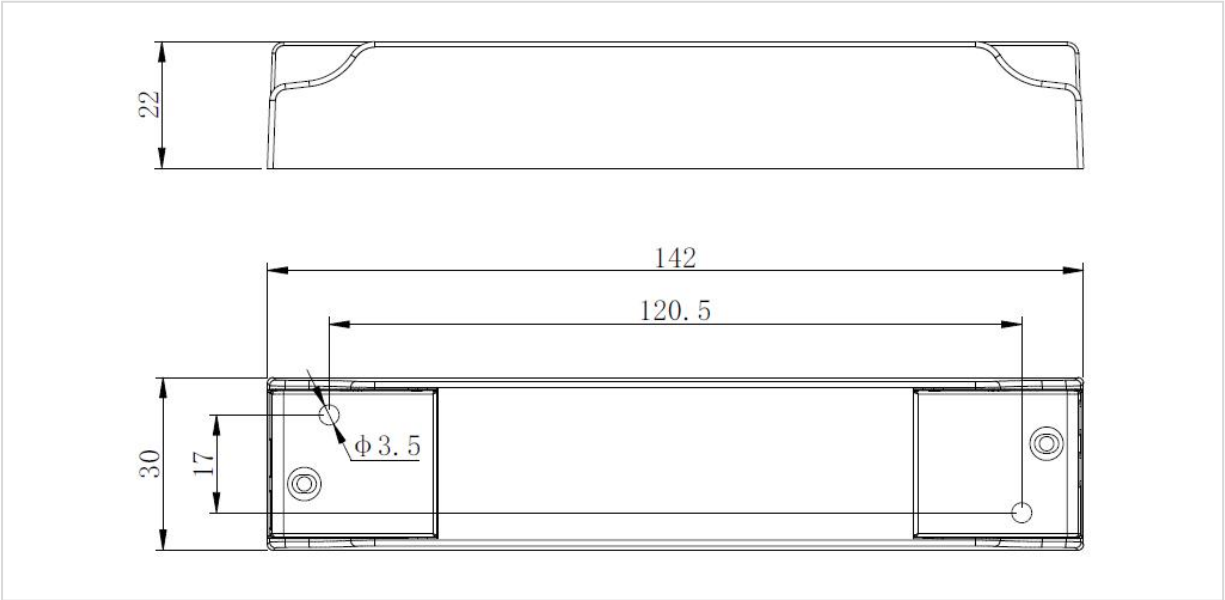
■ **Structure & Dimensions (unit: mm; tolerance: ±0.5mm)**

Product Dimensions

Model	Overall Appearance (L*W*H)	Center-to-center Spacing of Positioning Hole	Diameter of Positioning Hole
LF-ADD009-0200-42	142*30*22 mm	120.5 mm	3.5 mm

Structure Diagram

■ **Packaging Specifications**

Model	LF-ADD009-0200-42
Carton Size	385*285*210 mm (L*W*H)
Quantity	12 pcs/layer; 8 layers/ctn; 96 pcs/ctn
Weight	0.067 kg/pc; 6.98 kg±5%/ctn

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■ Transportation & 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 Tecnology Co., Ltd. reserves the right to interpret any content of this specification.