

85W DALI + PUSH + 0-10 Dimming power supply



■ Approve



Features

- For luminaries of protection Class I or II, SELV, Built-in/Independent (With side caps)
- Input Voltage 120-277VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: 0.95
- Efficiency : 90%
- Adjustable Output Current with dip-switch
- Support DALI-2, Push dimming, 0-10 RX PWM
- Suitable for emergency lighting acc. to EN 50172
- EoFi=15%
- DALI maintainance (Part 251, 252, 253)
- 5 years warranty

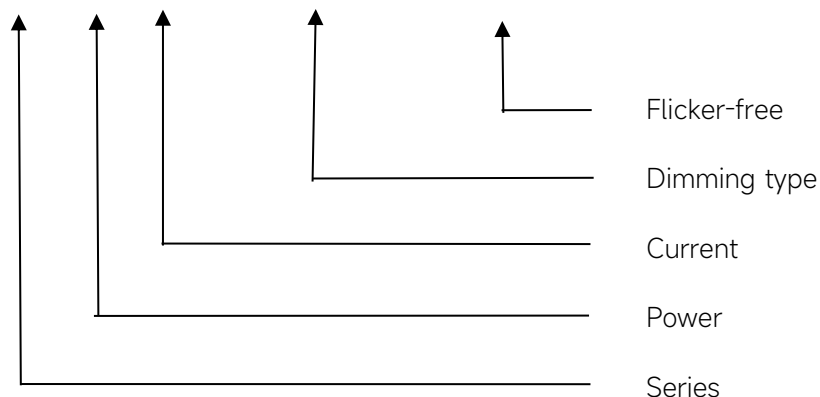
Applications

◆ Description

FMX-85-2100 DALI-2 0-10 LD is a 85W constant current LED driver that operates from 100-305Vac input with 700 to 2100mA output current and a forward voltage range from 9 to 54Vdc. The output current is adjustable. by dip-switch. With its compact dimensions from 360 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

FMX-85-2100 DALI-2 0-10 LD



◆ Specification

Output	Constant Current	700mA	800mA	...mA	2100mA
	Voltage Range	9-54VDC		...VDC	9-40.5VDC
	Unload voltage Max.	60VDC			
	Current Accuracy	±5%			
	Output LF current ripple(≤120Hz)	±5%			
	SVM	≤0.4			
	Pst	≤1			
	Efficiency(Typ.)	90% @230Vac ; 88%@120Vac: full load			
	EOFI	15%			
Input	Rated input voltage(AC)	120-277VAC			
	Rated input voltage(DC)	220-240VDC			
	Range of input voltage(AC)	100-305VAC			
	Maximum voltage	315VAC@1 h maximum,unit might not operate in this abnormal condition			
	Range input voltage(DC)	176-280VDC			
	Frequency(Hz)	0/50/60 Hz			
	Displacement factor	>0.95			
	Power Factor(Typ.)	0.95 @full load,120-277VAC			
	Input Current	1A max.			
	Start-up time	< 0.8S			
	Switch over time(AC/DC mode)	< 0.5S			
	No Load Power	≤0.5W@230VAC			
	Standby Power	≤0.5W@230VAC			
	Network standby power	≤0.5W@230VAC			
	THD (Typ.)	≤10%@120-240VAC,Full load			
Dimming	Dimming	YES			
	Dimming mode	DALI-2 (IEC 62386-101,102,207,251,252,253) & Push Dimming (Corridor Function) & 0-10V			
	Dimming depth	10mA@700-1000mA; 1%@1050-2100mA			
	Dimming current range (DALI-2 & Push)	1%~100%			
	Dimming current range (0-10V)	0,1%~100%			
Protection	Over Load Protection	103-120%			
		YES/Latch off			
	Over Voltage Protection	60VDC			
		YES/Latch off			
Capability	Short circuit Protection	YES/Auto Resume			
	Over Temperature Protection	YES/Auto Resume			
Capability	Surge capability (L-N)	1KV			

	Surge capability (L/N-Ground)	2KV
Environment	Operating Temperature	-25°C~+60°C@700-1400mA -25°C~+55°C@1500-2100mA
	Humidity	10%-90%RH
	Tc	85°C
	Storage Temperature	-25°C~+90°C
	Lifetime	>50000h, @Tc=80°C, 2100mA >75000h, @Tc=80°C, 1400mA
	Ripple&Noise	25dB(A)@20CM
Surface	Dimension	360 x 30 x 21(LXWXH)mm
	material	metal case
Standards	Safety	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2- 13;EN61347- 1, EN61347-2- 13, EN62384
	EMC	GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN61000-4-2,3,4,5,6,8,11, EN61547
	ErP	Erp2.0 EU 2019/2020
	RoHS	RoHS (2011/65/EU) (EU)2015/863
DALI performance	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°C 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.DALI protocol comprises 16 groups and 64 addresses.Up to 32 drivers can perform the PUSH dimming at the same time when utilizing one push button. 5.Unload voltage Max. is measured 5 seconds after power-on. 6.EL compatible with IEC 61347-2-13 Annex J, compatible with EN 60598-2-22 emergency lighting fixtures, compatible with EN 50172 central battery system applications. 7.All Eaglerise power supply are complied with EMI regulations. Since they are belong to component and will be installed inside system enclosure. When they are integrated into a system, the EMI characteristics of the system must be re-verified again.	

◆ Parameter

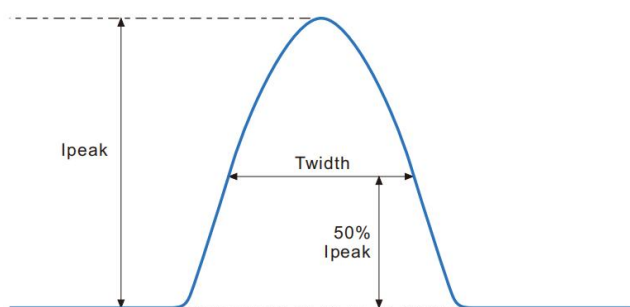
Number	Output				Switch position			
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2	3	4
1	700mA	9-54VDC	60VDC	37.8W	--	--	--	--
2	700mA				ON	--	--	--
3	800mA	9-54VDC		43.2W	--	ON	--	--

4	900mA	9-54VDC		48.6W	ON	ON	--	--
5	1000mA	9-54VDC		54W	--	--	ON	--
6	1100mA	9-54VDC		59.4W	ON	--	ON	--
7	1200mA	9-54VDC		64.8W	--	ON	ON	--
8	1300mA	9-54VDC		70.2W	ON	ON	ON	--
9	1400mA	9-54VDC		75.6W	--	--	--	ON
10	1500mA	9-54VDC		81W	ON	--	--	ON
11	1600mA	9-53VDC		84.8W	--	ON	--	ON
12	1700mA	9-50VDC		85W	ON	ON	--	ON
13	1800mA	9-47.2VDC		85W	--	--	ON	ON
14	1900mA	9-44.7VDC		85W	ON	--	ON	ON
15	2000mA	9-42.5VDC		85W	--	ON	ON	ON
*16	2100mA	9-40.5VDC		85W	ON	ON	ON	ON

* Factory default

◆ Inrush Current

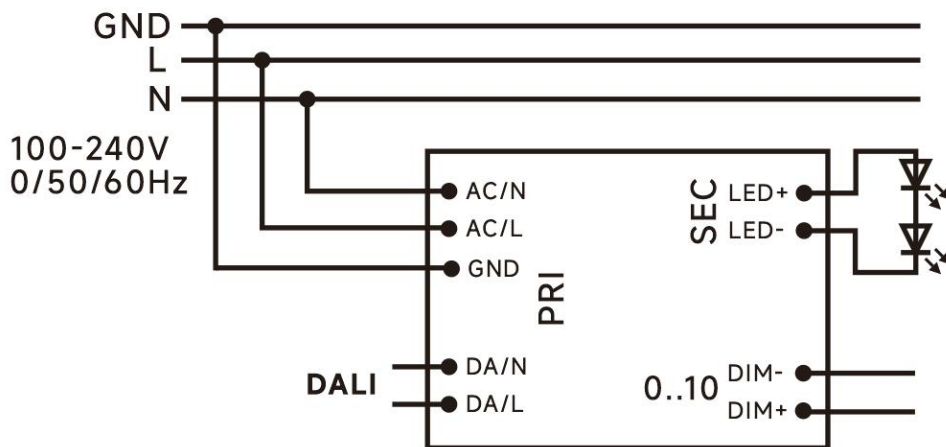
I _{peak}	T _{width}	B10	B16	B20	C10	C16	C20
44.2A	464μs	3pcs	6pcs	7pcs	6pcs	10pcs	12pcs



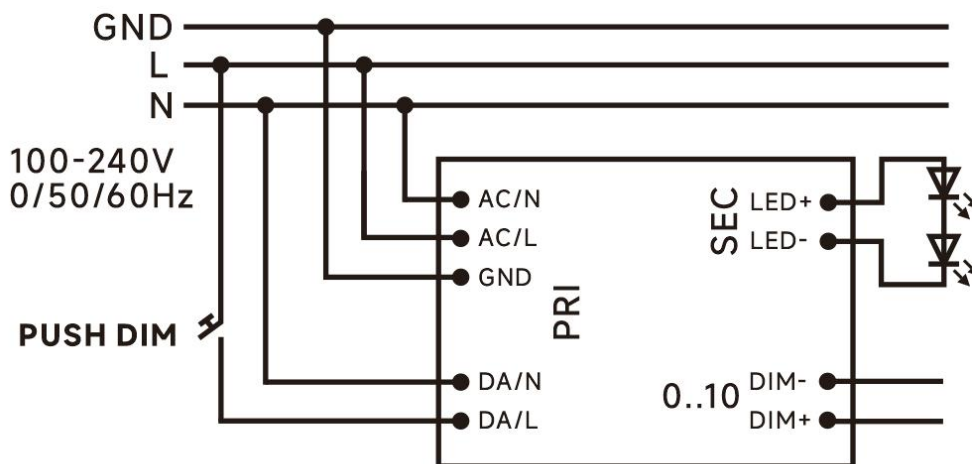
Remarks:

- 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.

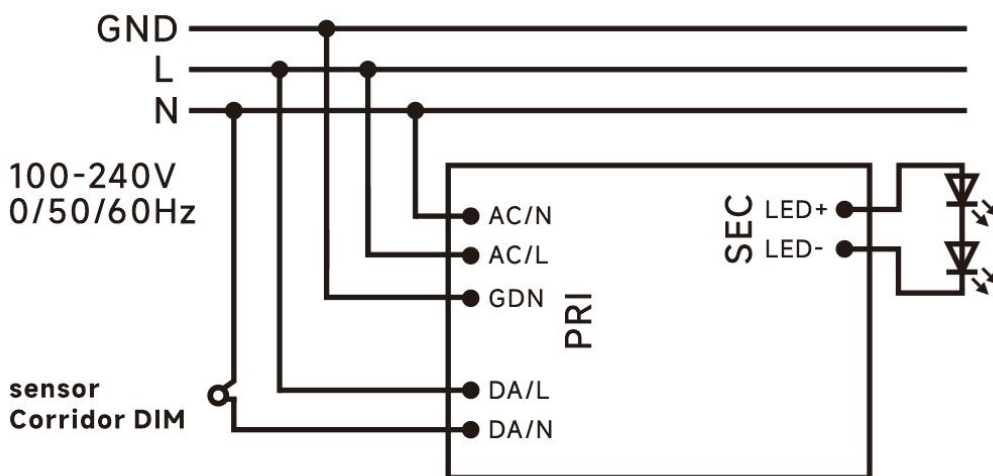
◆ Wiring diagram



DALI dimming application

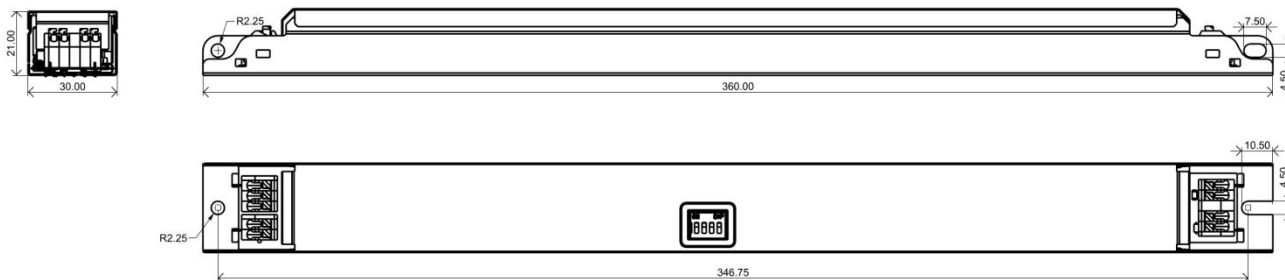


Push DIM dimming application



Corridor DIM dimming application

◆ 2D diagram



◆ Wiring & Connections

Specification item		Value (Unit)
Input	Input wire cross-section	0.5...1.5 mm ² (With A side caps: 0.75...1.5 mm ²)
	Input wire gauge.	16...20 AWG (With A side caps: 16...22 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	7...9mm

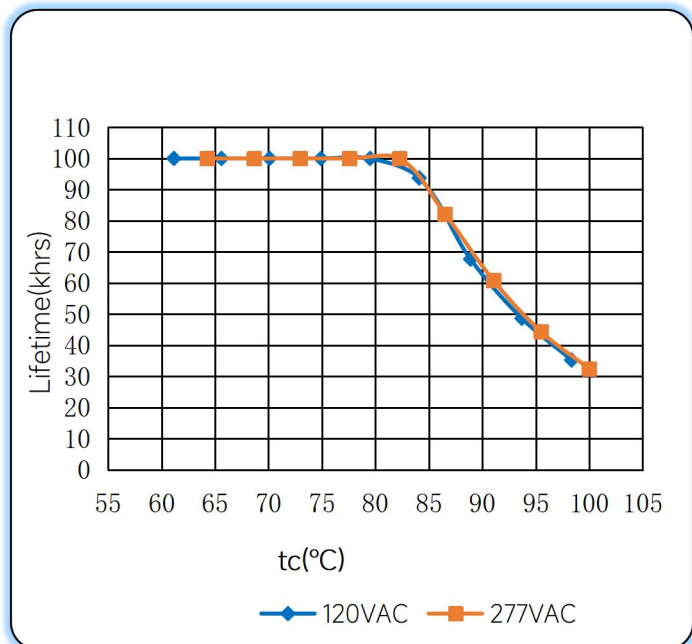
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Packaging

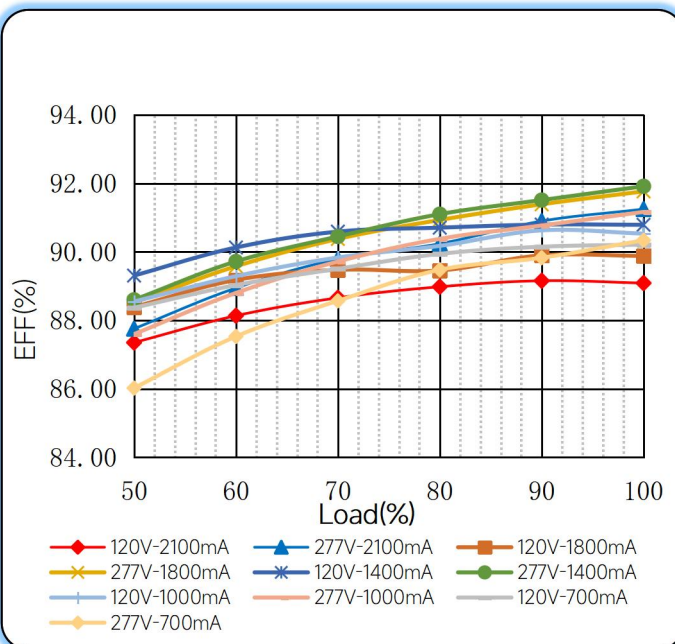
Model	Product Dimensions(mm)	weight/piece(Kg)	Outer carton dimension(mm)	Quantity/carton	Net weight/carton(Kg)	Gross weight/carton(Kg)
FMS-85-2100 DALI-2 0-10 LD	360 x 30 x 21mm	0.291	305 x 265 x 125mm	36	10.476	10.86

◆ Curve for FMX-85-2100 DALI-2 0-10 LD, $I_o=700/1000/1400/1800/2100\text{mA}$

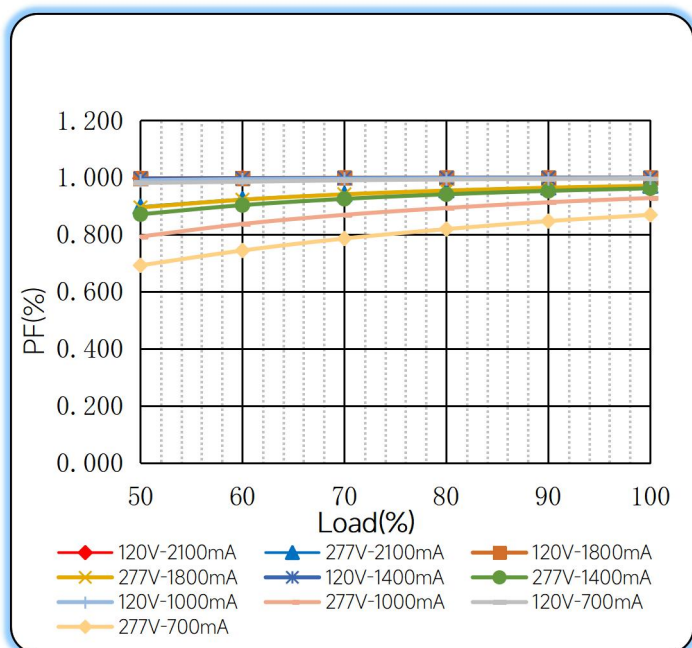
Lifetime vs. Temperature Curve



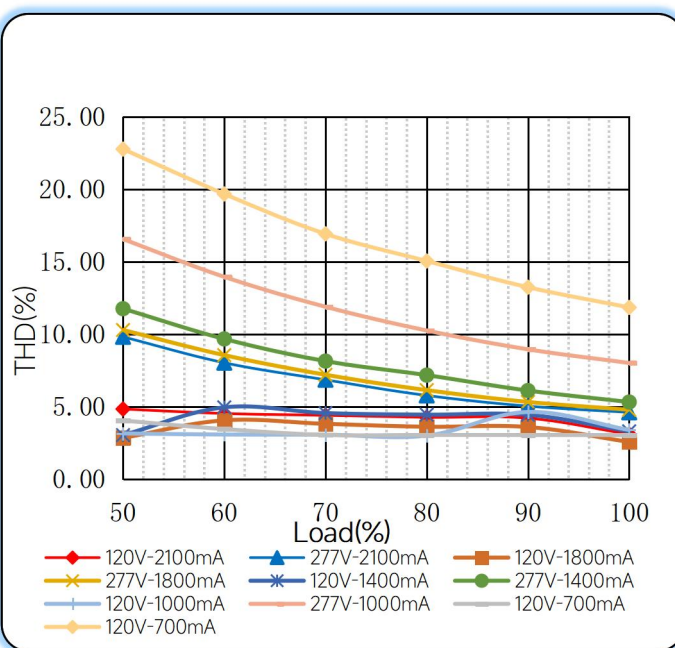
Efficiency vs. Load



Power Factor Characteristics

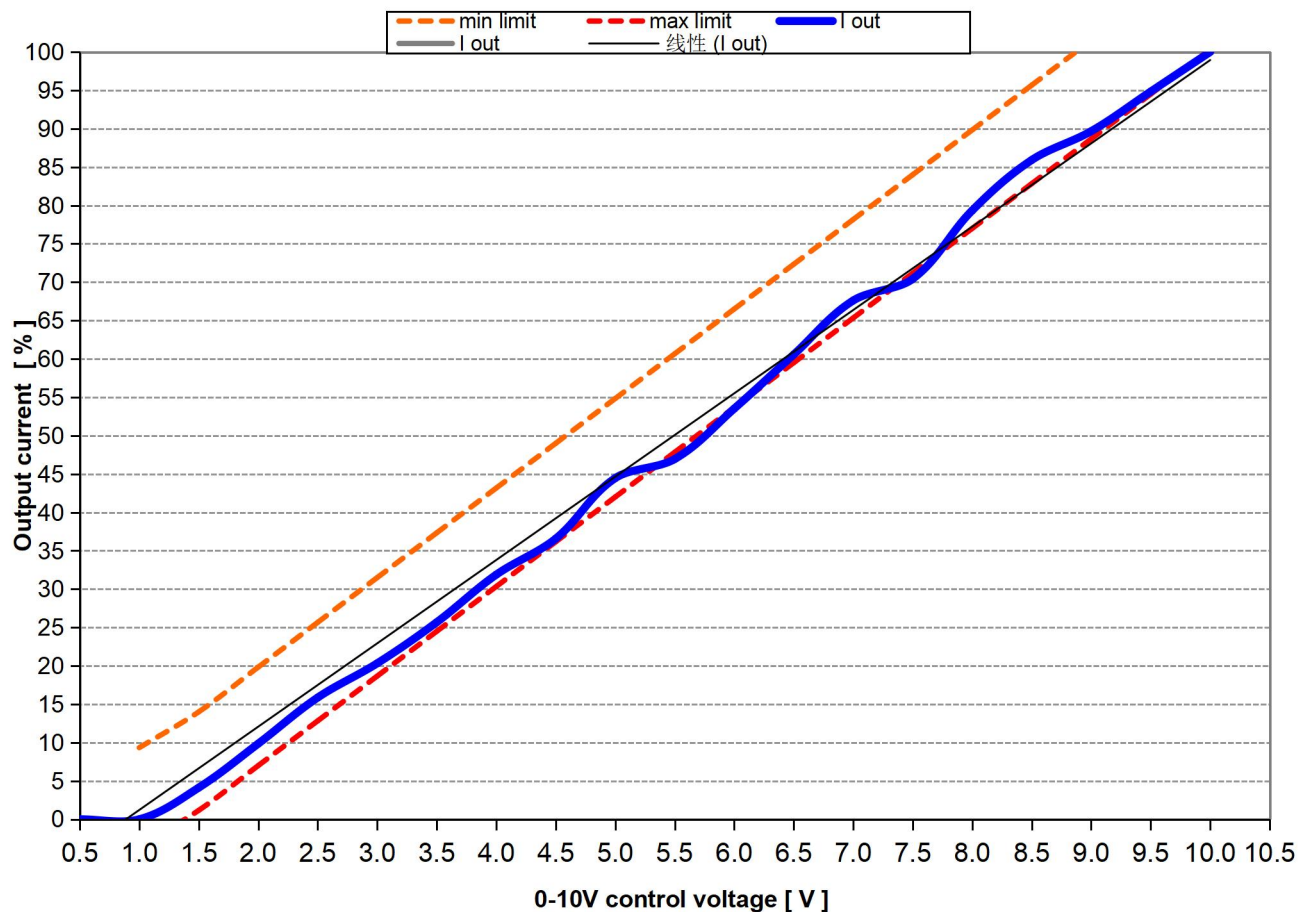


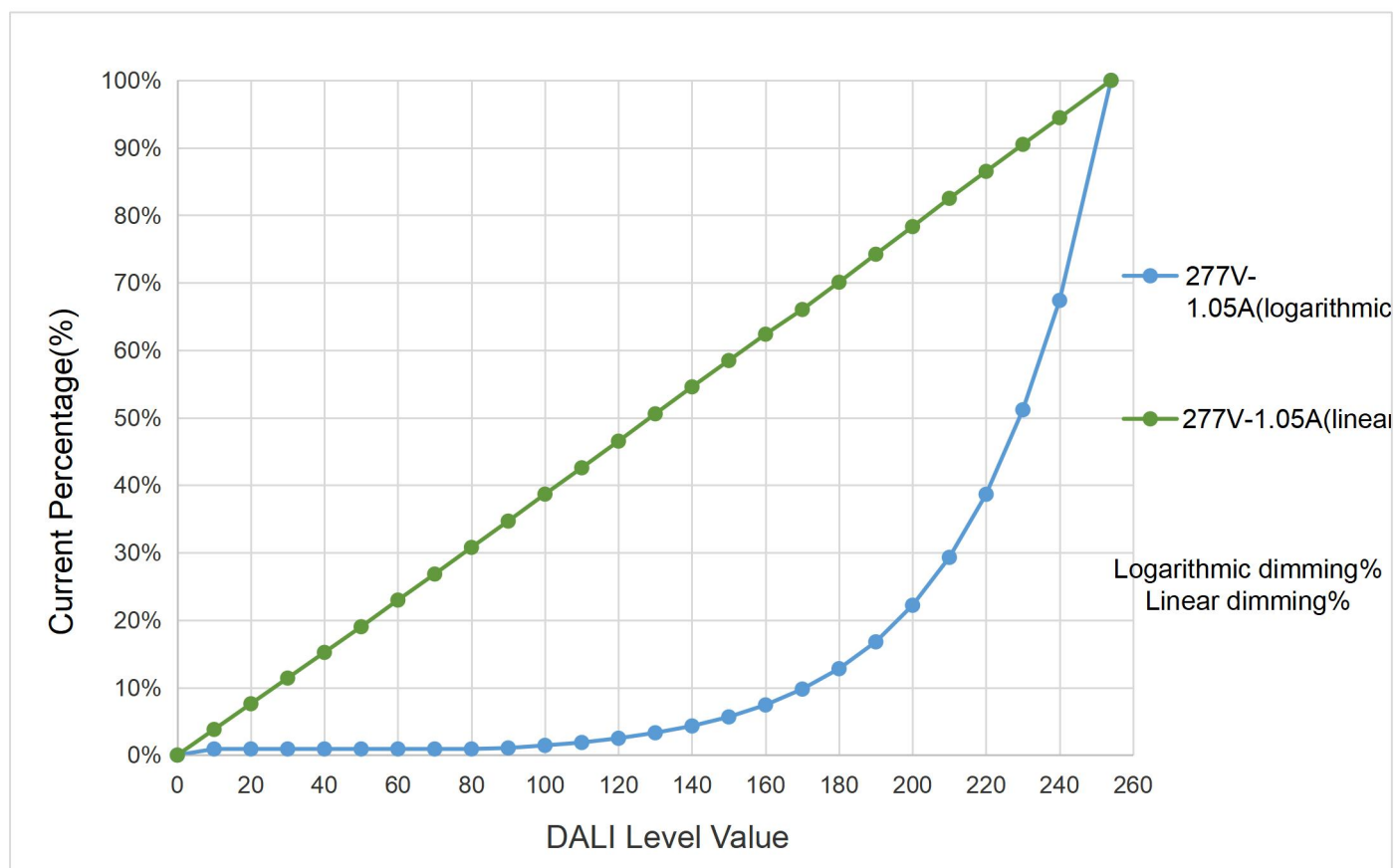
THD vs. Load



◆ Dimming Curve

Output @ 0-10V control voltage





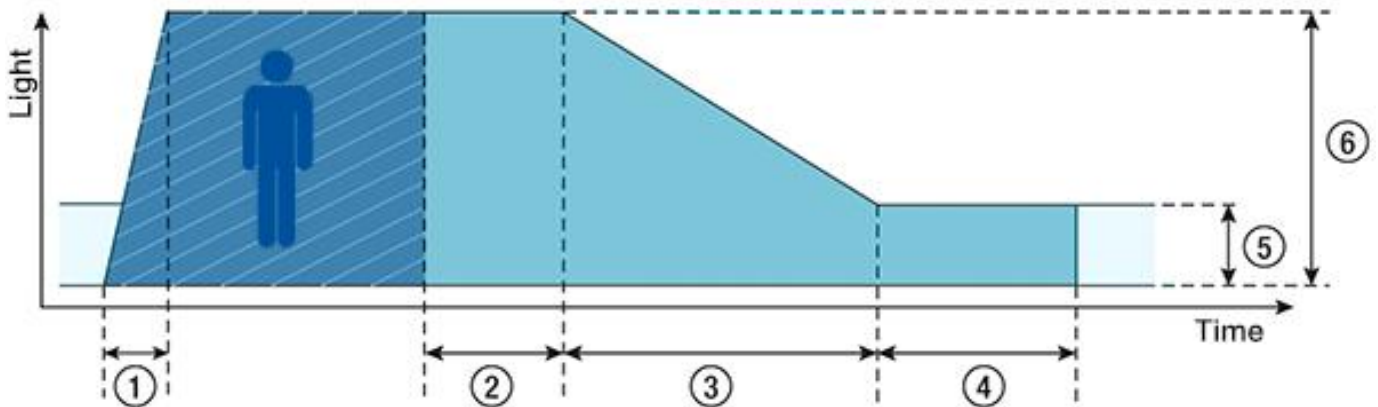
◆ Push dimming operation

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:

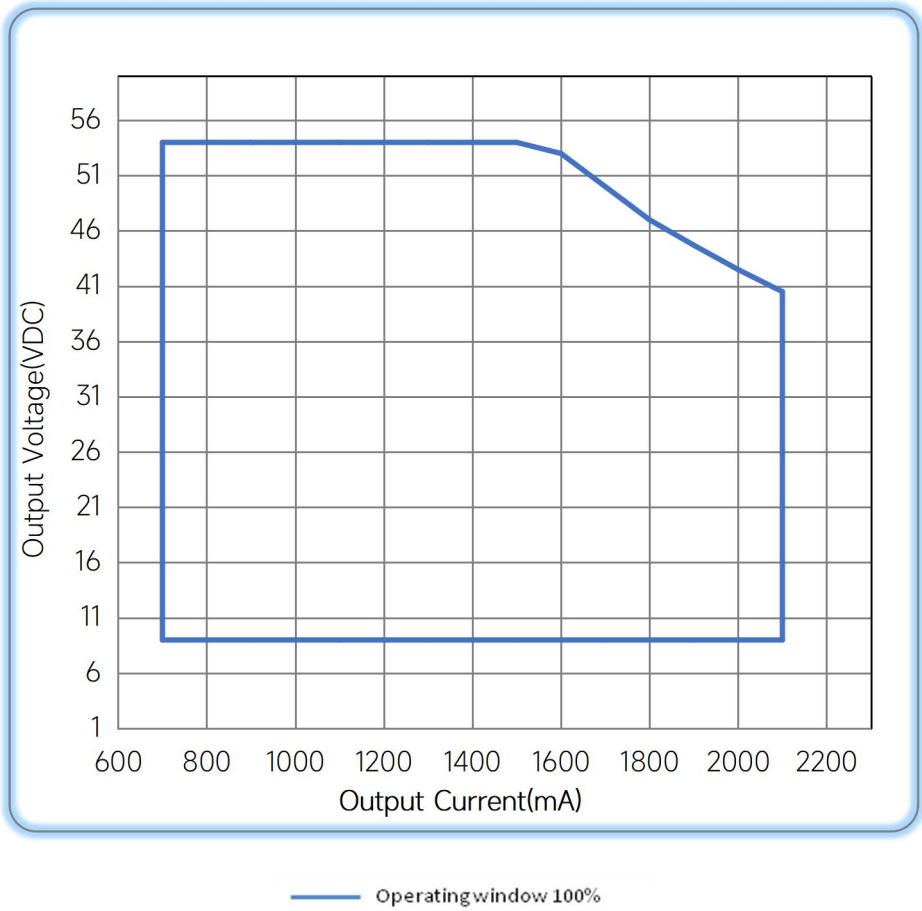
- 1.The factory default brightness is at 100%.
- 2.Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
- 3.The maximum length of the cable from the push button to the last driver is 200 meters.

◆ Corridor mode



- ◆ **① Fade-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.
- ◆ **② Run-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.
- ◆ **③ Fade time(32s):** the time during which the luminous intensity is faded from the presence value to the absence value.
- ◆ **④ Switch-off delay (level=10%.Non-configurable):** 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.
- ◆ **⑤ Absence value(default: 10 %):** the luminous intensity when there is no person present.
- ◆ **⑥ Presence value (default: 100 %):** the luminous intensity when persons are present.

◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/05/05
Wiring diagram		Update	B	2025/11/10

Remark:The final interpretation of the contents of the specification belongs to Eaglerise Electric & Electronic (China) Co., Ltd.

Tel: +86-0757-86256822, +86-0757-86256831

E-mail: sales@eaglerise.com

Website : <https://lighting.eaglerise.com>

