

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



Features

- For luminaires 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 maintenance (Part 251, 252, 253)
- 5 years warranty

Applications

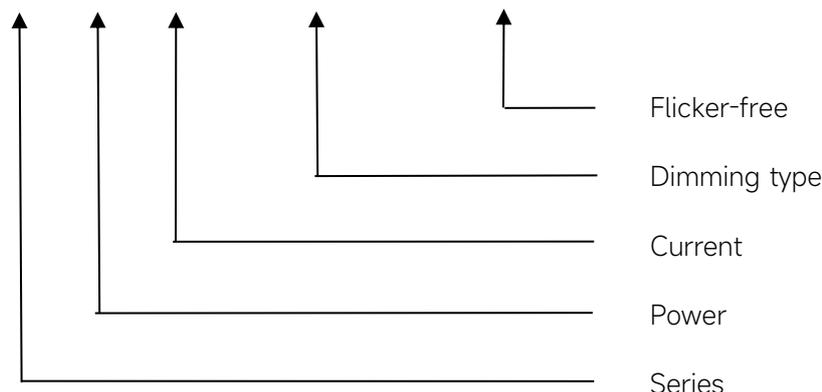
- Linear light

◆ 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			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			
	EOF1	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			
	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
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	<p>1.All parameters NOT specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.</p> <p>2.Ripple & Noise are measured at 20MHz of bandwidth.</p> <p>3.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements , EMC is not considered.</p> <p>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.</p> <p>5.Unload voltage Max. is measured 5 seconds after power-on.</p> <p>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.</p> <p>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.</p>	

◆ Parameter

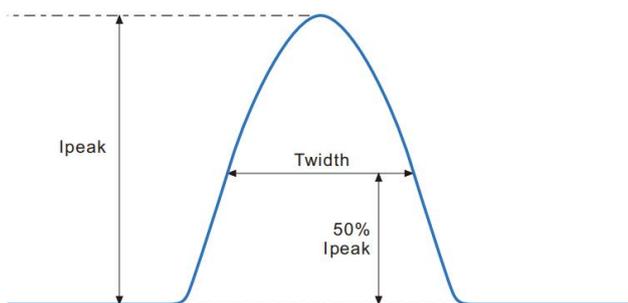
Number	Output				Switch position			
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2	3	4
1	700mA	9-54VDC	60VDC	37.8W	--	--	--	--
2	700mA				ON	--	--	--
3	800mA	9-54VDC		43.2W	--	ON	--	--

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

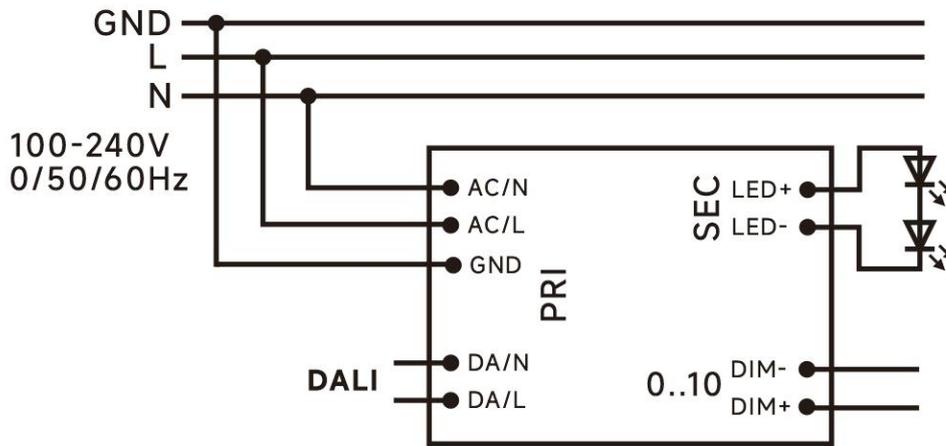
I_{peak}	Twidth	B10	B16	B20	C10	C16	C20
44.2A	464μs	3pcs	6pcs	7pcs	6pcs	10pcs	12pcs



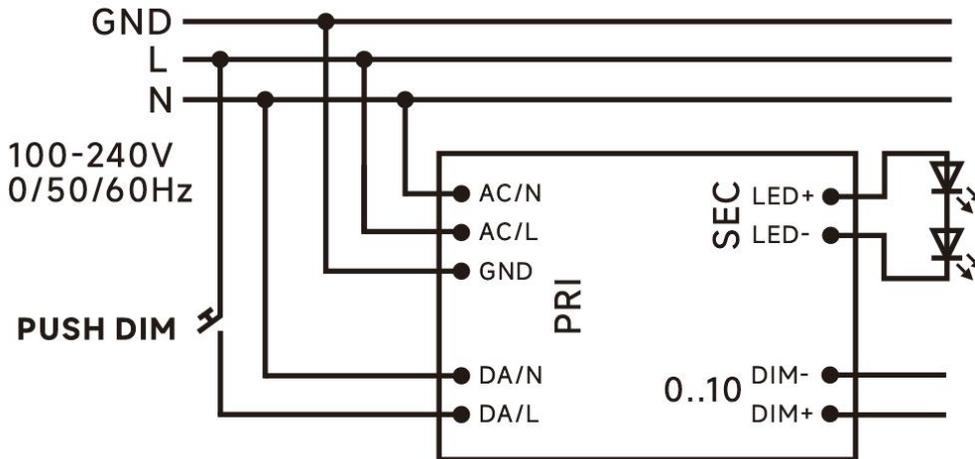
Remarks:

- 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.

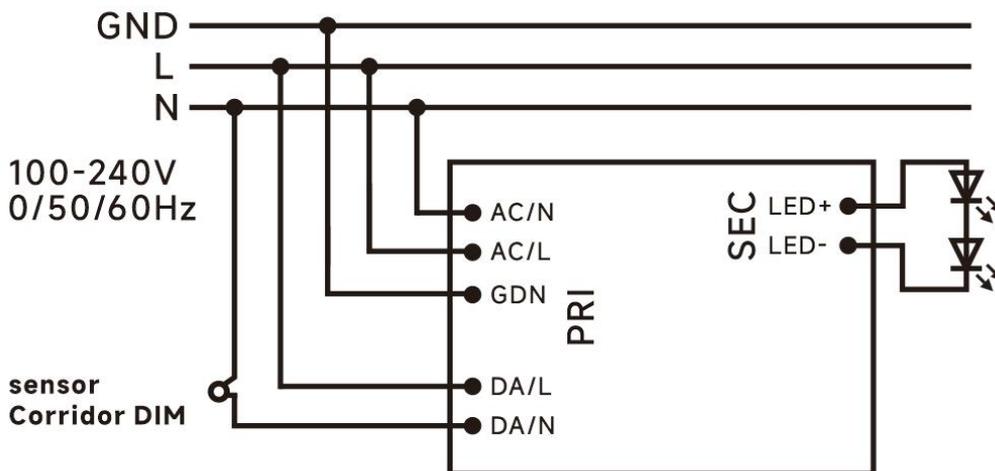
◆ **Wiring diagram**



DALI dimming application

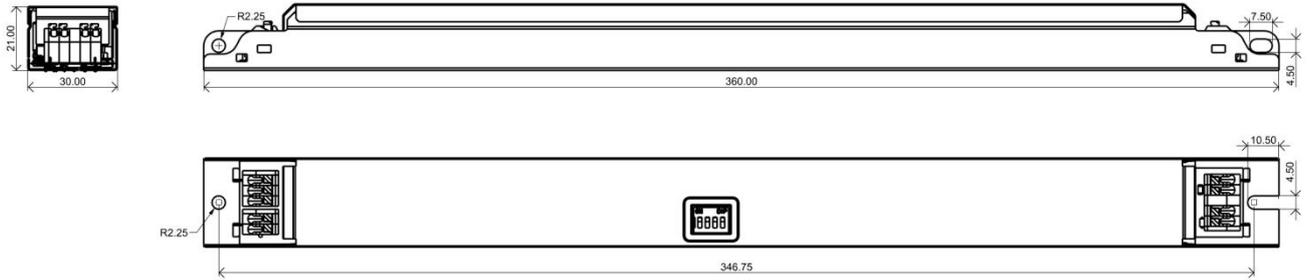


Push DIM dimming application



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

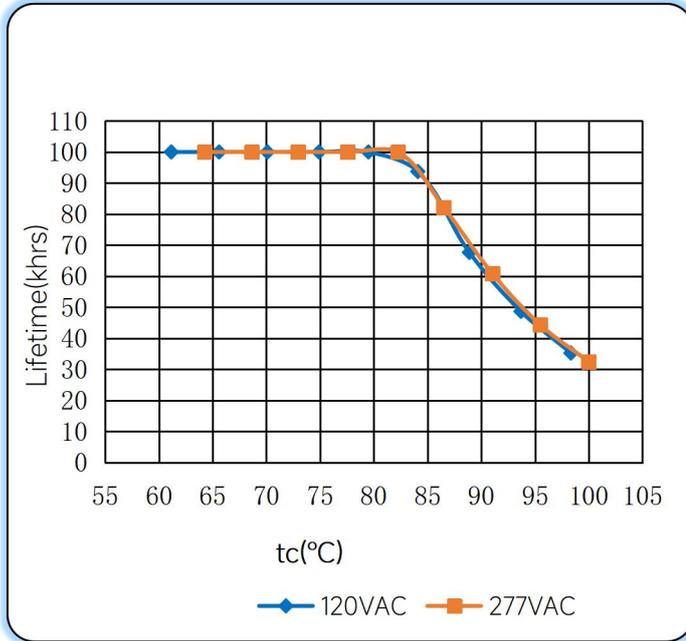
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Packaging

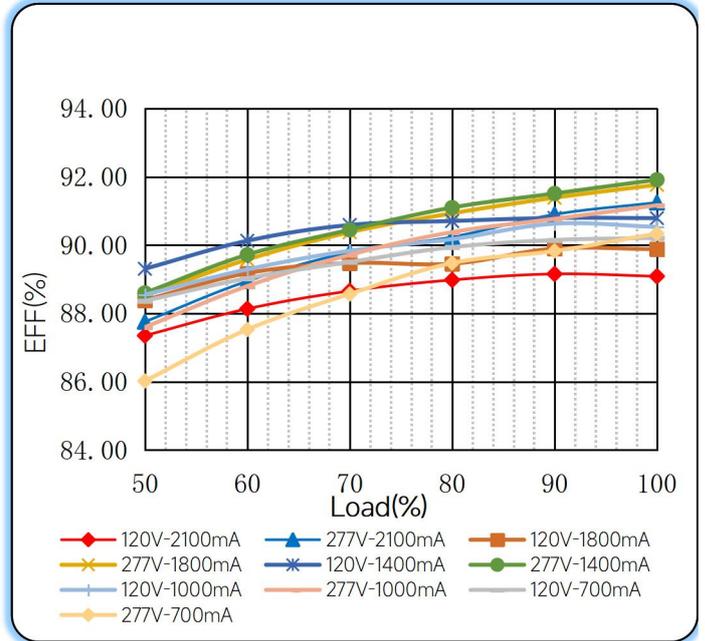
Model	Product Dimensions(mm)	Weight /piece(Kg)	Outer carton dimension(mm)	Quantity /carton	Net weight/carton(Kg)	Gross weight/carton(Kg)
FMX-85-2100 DALI-2 0-10 LD	360 x 30 x 21mm	0.291	Inside:370x275x215 Outside:380x285x225	36	10.476	10.86

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

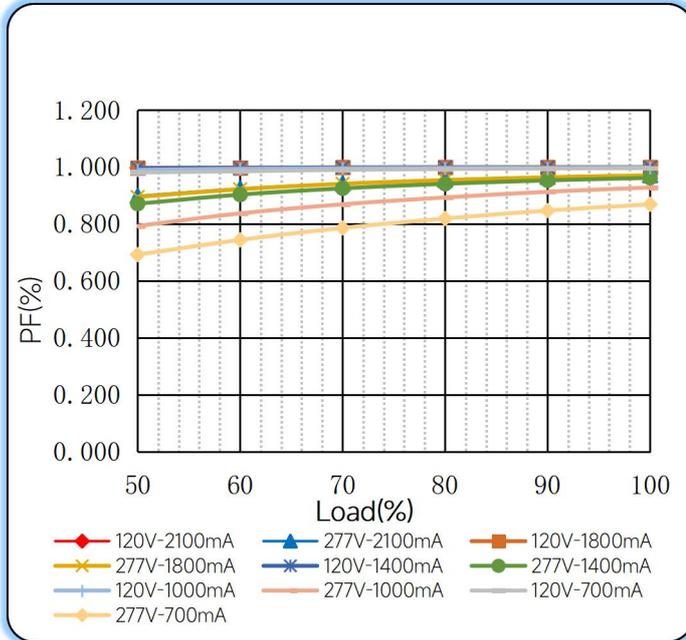
Lifetime vs. Temperature Curve



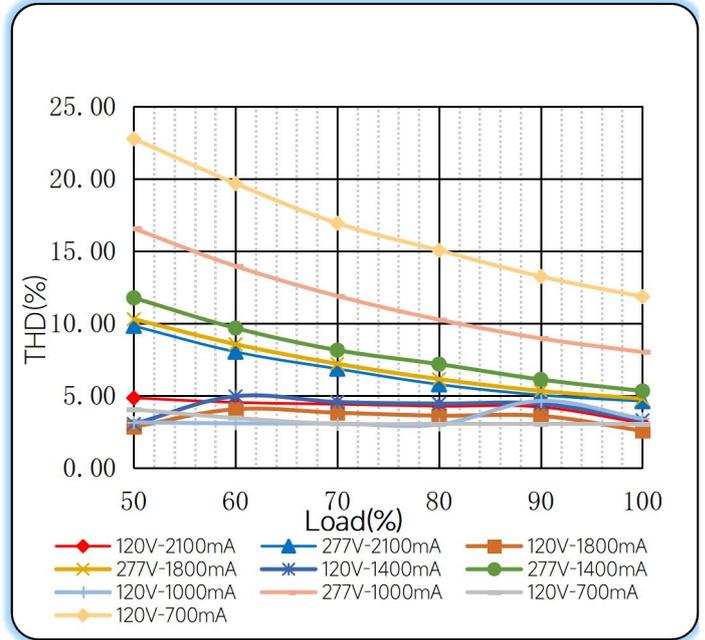
Efficiency vs. Load



Power Factor Characteristics

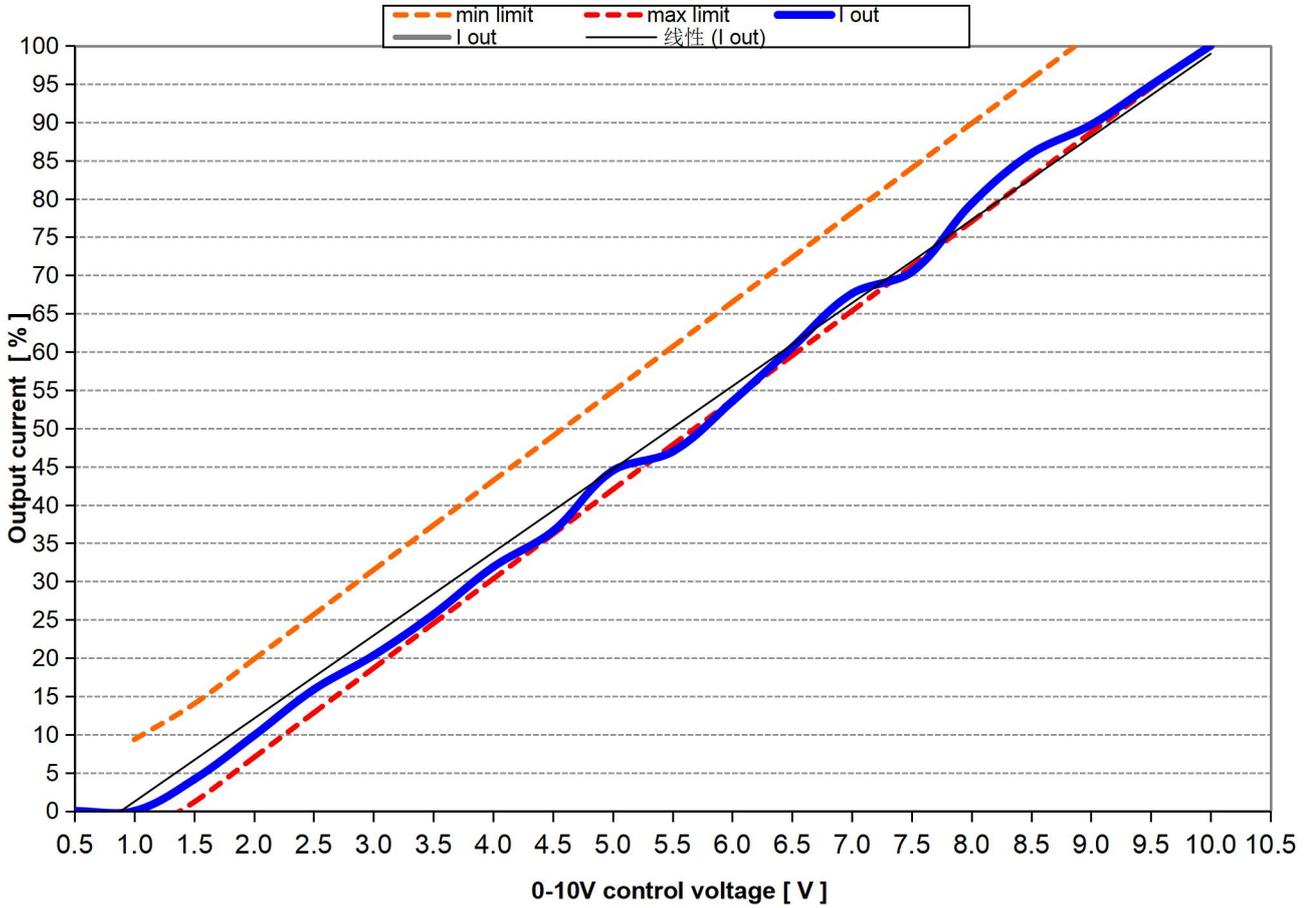


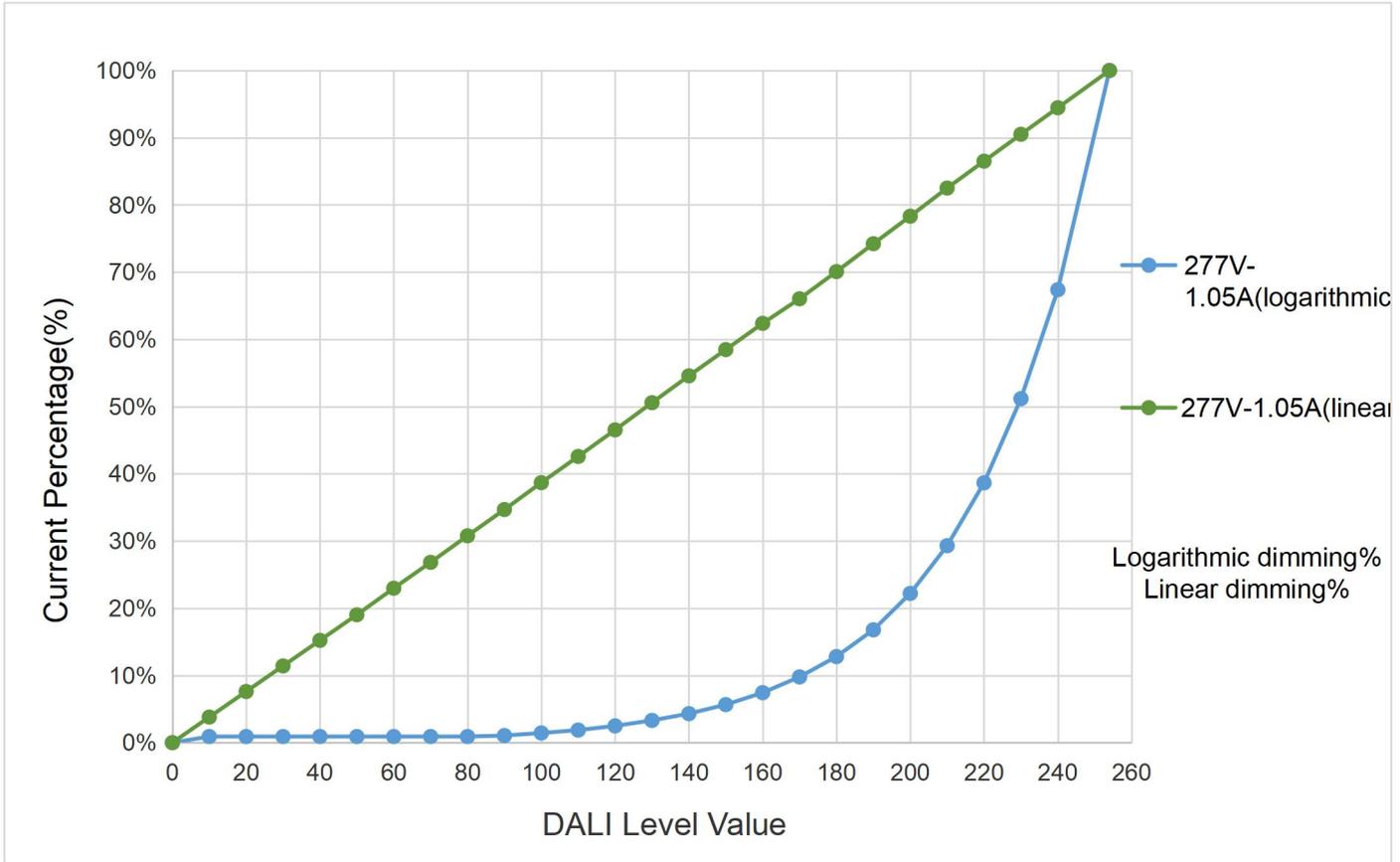
THD vs. Load



◆ **Dimming Curve**

Output @ 0-10V control voltage





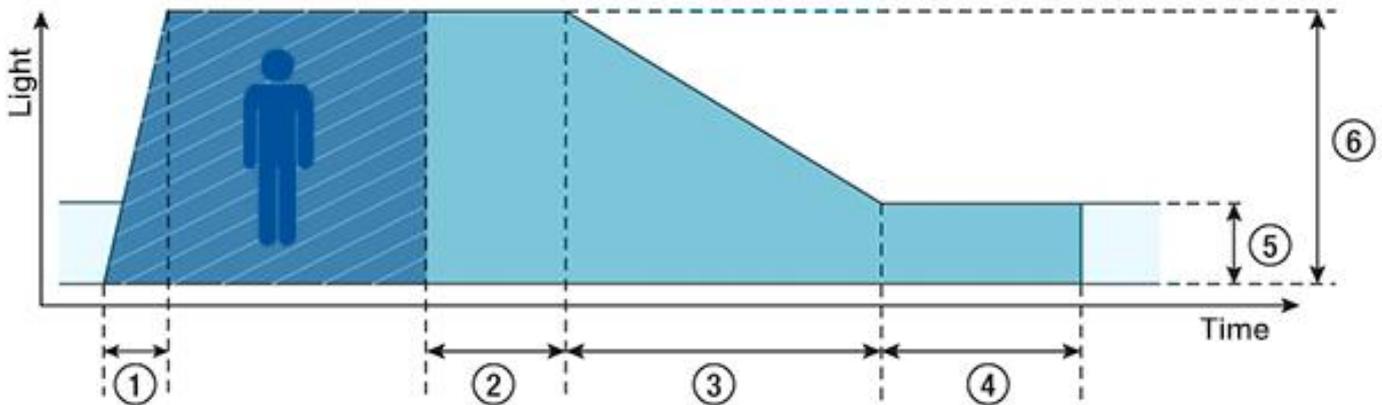
◆ Push dimming operation

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:

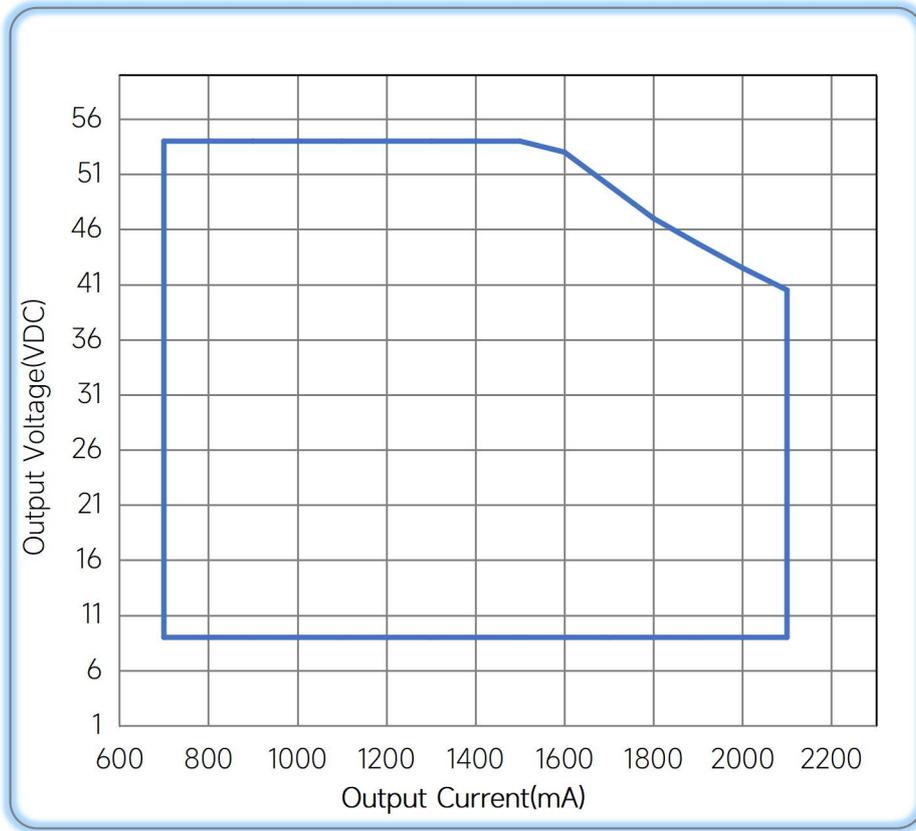
- 1.The factory default brightness is at 100%.
- 2.Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
- 3.The maximum length of the cable from the push button to the last driver is 200 meters.

◆ 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**



— Operating window 100%

◆ **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.

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