

42W DALI + PUSH Dimming power supply



Features

- For luminaries of protection Class I, II, SELV, Built-in/Independent (With side caps)
- Input Voltage: 220-240VAC, 176-280VDC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: > 0.95
- Efficiency: 90%@900mA,full Load,230Vac
- Support DALI-2,Push Dimming
- Suitable for emergency lighting acc. to EN 50172
- EOfi=100%
- 22mm height
- DALI maintainace(Part 251,252,253)
- 5 years warranty

Applications

- LED panel, LED down light
- LED spot light

■ Approve

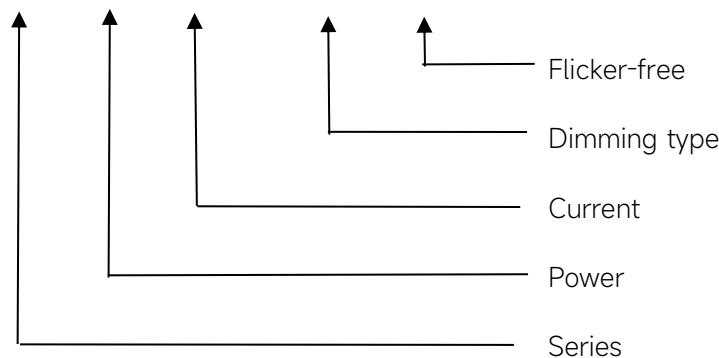


◆ Description

FLS-42-1050 DALI-2 LD PRO is a 42W constant current LED driver with 300 to 1050mA output current and a forward voltage range from 2.5 to 49Vdc. The output current is adjustable by DIP Switch. With it's dimensions from 98 x 43 x 22mm. It is easy to integrate in LED Panel and down light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

FLS-42-1050 DALI-2 LD PRO



◆ Specification

Output	Constant Current (mA)	300-500mA	550-900mA	950-1000mA	1050mA
	Voltage Range(VDC)	9-49VDC	2.5-45VDC	2.5-42VDC	2.5-40VDC
	Unload voltage Max.(VDC)	60VDC			
	Current Accuracy	±5%			
	² Output current ripple(≤120Hz)	±3%			
	SVM	≤0.4@Full Load			
	P _{st}	≤1@Full Load			
	Efficiency(Typ.)	90%@900mA,full Load,230Vac			
	EOFI	100%			
Input	Rated input voltage(VAC)	220-240VAC			
	Range of input voltage(VAC)	198-264VAC			
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition			
	Range of input voltage(VDC)	176-280VDC			
	Frequency(Hz)	0/50/60 Hz			
	Displacement Factor	≥0.9@full load, 230Vac			
	Power Factor	>0.95@full load, 230Vac			
	Input Current max	0.27A max			
	Start-up time(AC mode)	< 0.8S			
	Start-up time(DC mode)	< 0.6S			
	Switch over time(AC/DC mode)	< 0.6S			
	Standby Power	≤0.3W, @220Vac			
	Network Standby Power	≤0.3W,@220Vac			
	THD (Typ.)	<10%@full load,230Vac			
Dimming	Dimming	YES			
	Dimming mode	DALI-2 (IEC 62386-101,102,207,251,252,253) &Push Dimming (Corridor Function)			
	Dimming depth	7mA@300-700mA, 1%@750-1050mA			
	Dimming current range	1-100%			
	Dimming method	1%-12.5% @PWM dimming, 12.5%-100% @AM dimming			
Protection	Over Load Protection	103-120% YES/Latch off			
	Over Voltage Protection	60VDC YES/Latch off			
	Short circuit Protection	YES/Latch off			
	Over Temperature Protection	YES/Auto Resume			
capability	Surge capability (L-N)	1KV			
	Surge capability (L/N-Ground)	2KV			
Environment	Operating Temperature	-20°C~+40°C@1000-1050mA -20°C~+45°C@300-950mA			

	Humidity	20%-90%RH
	Tc	85°C
	Storage Temperature	-40°C~+80°C
	Life time	> 50000h,@TC=80°C
	Noise	≤25dB(A)@20cm
Surface	Dimension	98 x 43 x 22 mm (With side caps) : 132 X43X22mm
	material	PC
Standards	Safety	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;AS/NZS 61347- 1, AS/NZS 61347-2- 13;AS 61347.2.13;EN62384;
	EMC	GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN55015, EN61000-3-2, EN61000-3-3, EN61547,EN 62493;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11, EN61547
	Energy Efficiency	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 by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.</p> <p>3.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>4.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered.</p>	

◆ Parameter

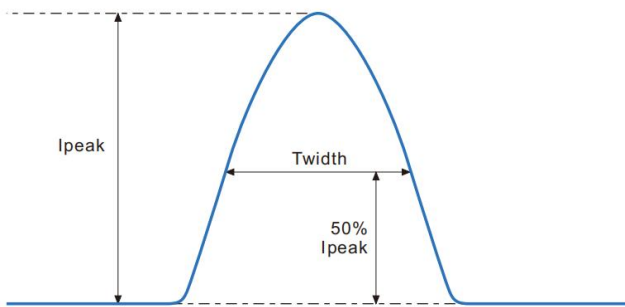
Number	Output				Switch position			
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2	3	4
1	300mA	9-49 VDC	60VDC	14.7W	--	--	--	--
2	350mA			17.2W	ON	--	--	--
3	400mA			19.6W	--	ON	--	--
4	450mA			22.1W	ON	ON	--	--
5	500mA			24.5W	--	--	ON	--
6	550mA	2.5-45VDC		24.8W	ON	--	ON	--
7	600mA			27W	--	ON	ON	--
8	650mA			29.3W	ON	ON	ON	--
9	700mA			31.5W	--	--	--	ON
10	750mA			33.8W	ON	--	--	ON
11	800mA			36W	--	ON	--	ON

12	850mA	2.5-42VDC	38.3W	ON	ON	--	ON
13	900mA		40.5W	--	--	ON	ON
14	950mA		39.9W	ON	--	ON	ON
15	1000mA		42W	--	ON	ON	ON
*16	1050mA		42W	ON	ON	ON	ON

* Factory default

◆ Inrush Current

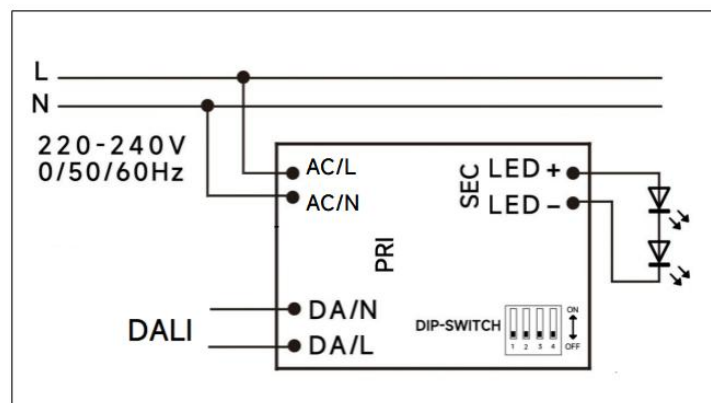
I ^{peak}	T ^{width}	B10	B16	B20	C10	C16	C20
6.12A	36μs	29pcs	47pcs	59pcs	29pcs	47pcs	59pcs



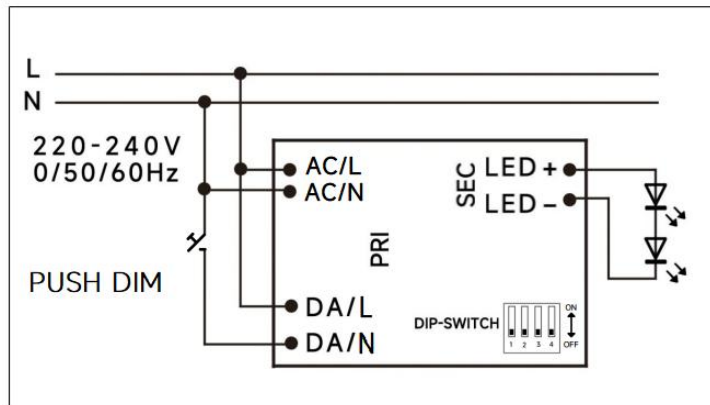
Remarks:

- 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.

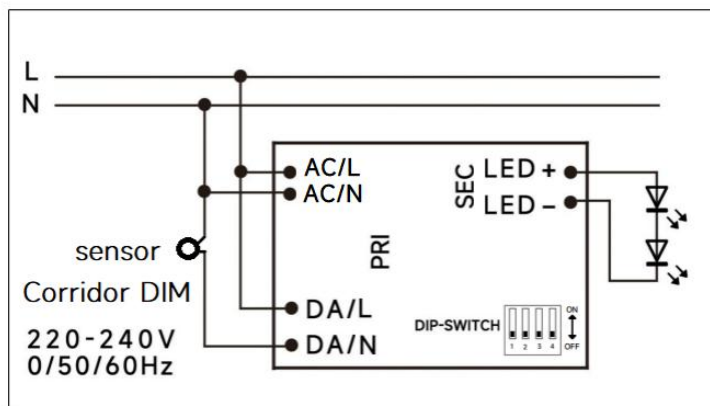
◆ Wiring diagram



DALI dimming application

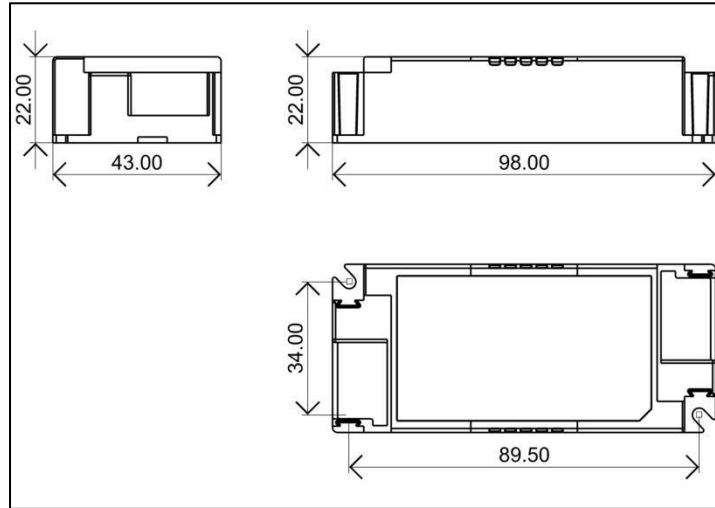


PushDIM dimming application

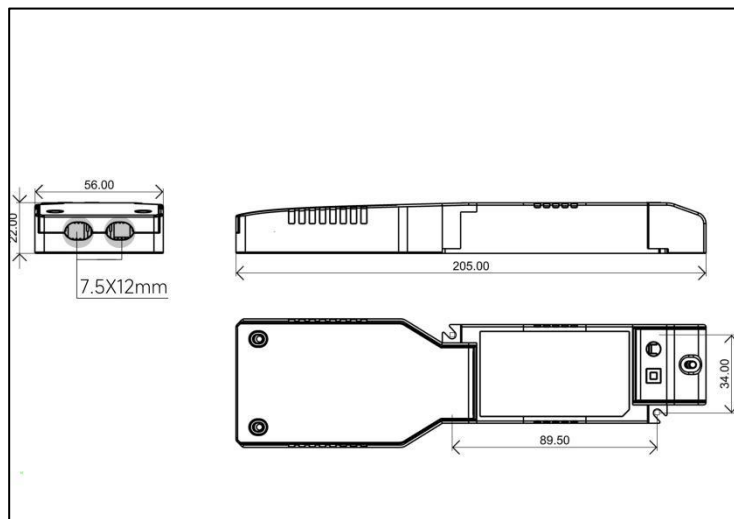
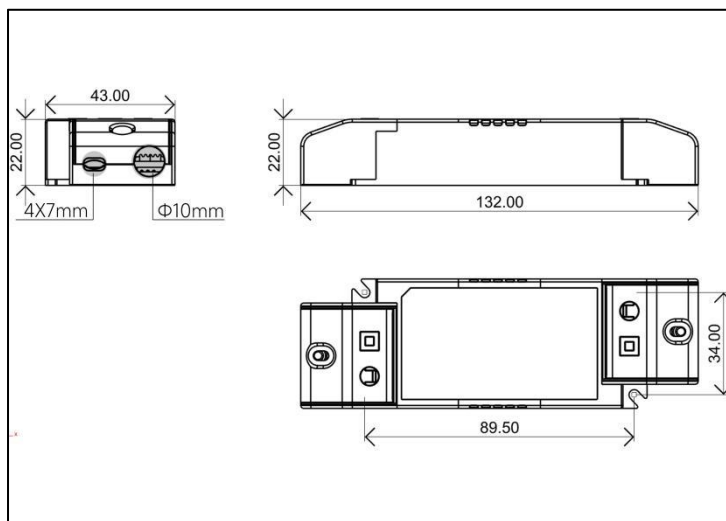


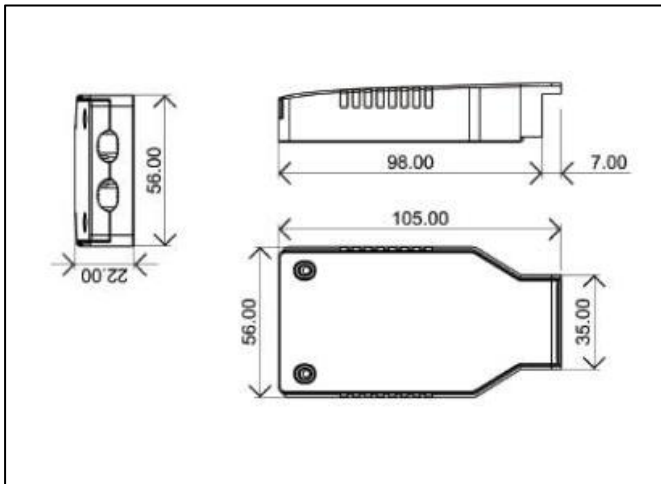
Corridor DIM dimming application

◆ **2D diagram**

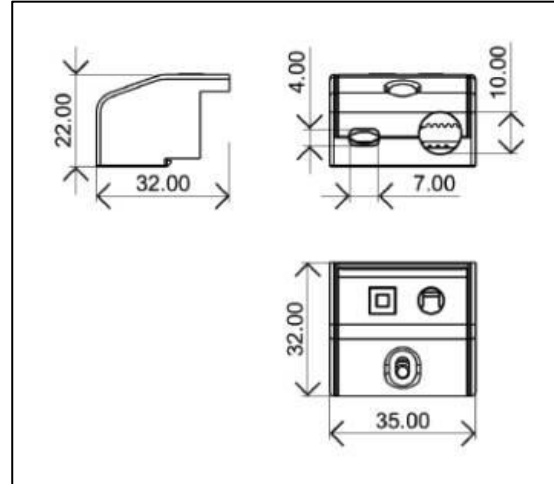


With side caps





A caps

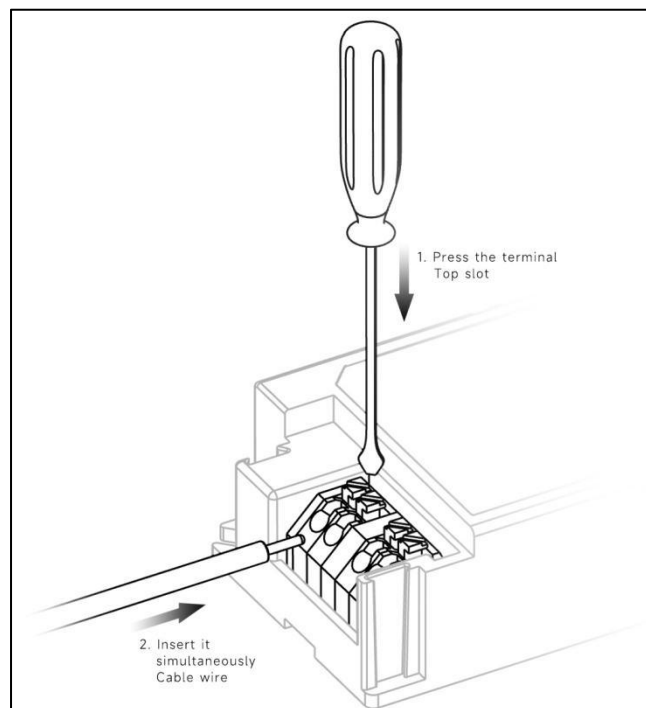


B caps

132021T0209	Top,Grey Side Cap and Bottom
132021T0209-2	Top,White Side Cap and Bottom
1270100280	Screws for Big Side Cap
126016T0009	5P Terminal for Big Side Cap

132021T0198	Top,Grey,without" Don't Cover" mark+Bottom,White
132021T0198-1	Top,Grey,with" Don't Cover" mark+Bottom ,Big,White
132021T0198-3	Top,White,with" Don't Cover" mark+ Side Cap Bottom ,White
1270100280	Screws

Terminal



◆ Wiring & Connections

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

◆ Recommended wire

Small side cap of small hole	Wire type
0.5mm ²	H03VVH2-F 2 core&3 core
	H03VV-F 2 core&3 core
0.75mm ²	H03VVH2-F 2 core&3 core
	H03VV-F 2 core&3 core
	H05VV-F 2 core
1.0mm ²	H05VVH2-F 2 core
1.5mm ²	CCC 08(RV-90)

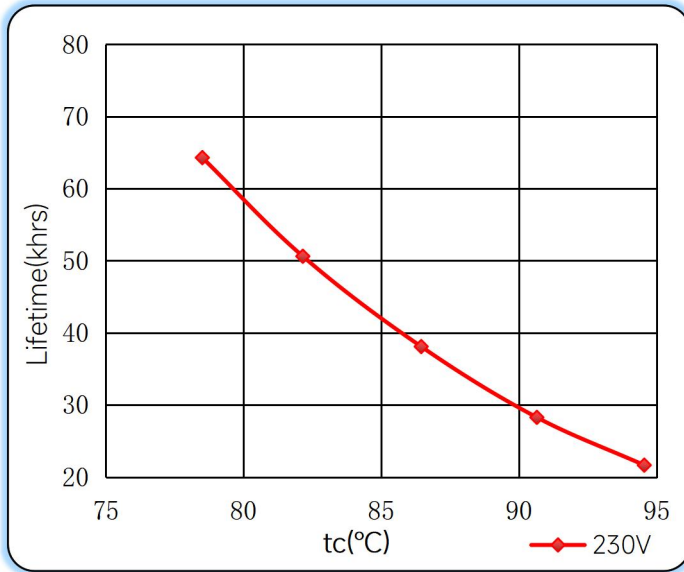
Small side cap of big hole	Wire type
0.75mm ²	H05VV-F 2 core&3 core&4 core
1.0mm ²	H05VV-F 2 core&3core
1.5mm ²	H05VV-F 2 core&3core

Big side cap	Wire type
0.5mm ²	H03VVH2-F 2 core&3 core
	H03VV-F 2 core&3 core
0.75mm ²	H03VVH2-F 2 core&3 core
	H03VV-F 2 core&3 core
	H05VV-F 2 core&3 core&4 core
1.0mm ²	H05VVH2-F 2 core&3 core
1.5mm ²	CCC 08(RV-90)
	H05VV-F 2 core&3core

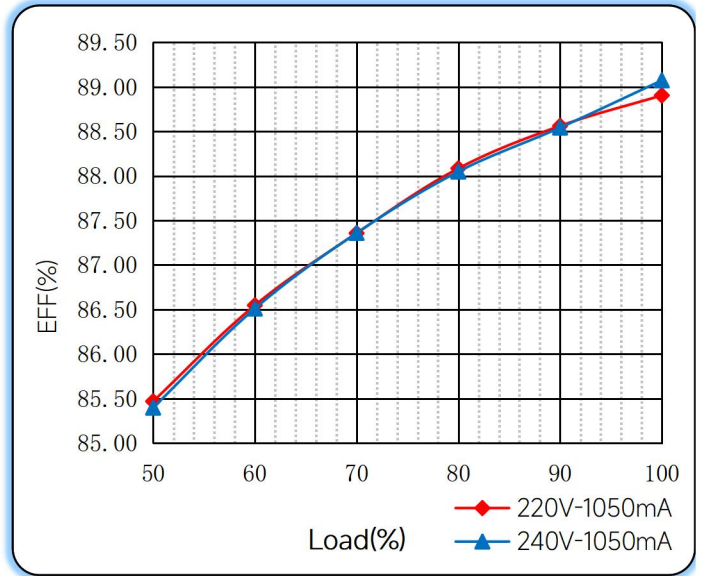
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Curve for FLS-42-1050 DALI-2 LD PRO, $I_o=1050mA$

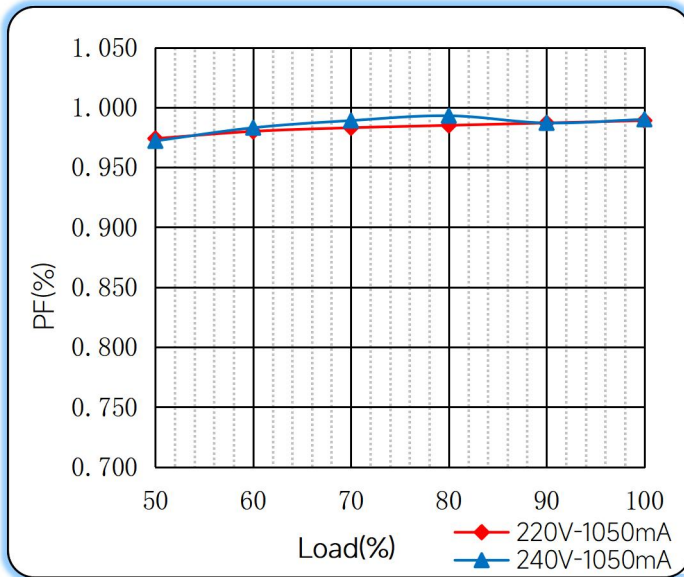
Lifetime vs. Temperature Curve



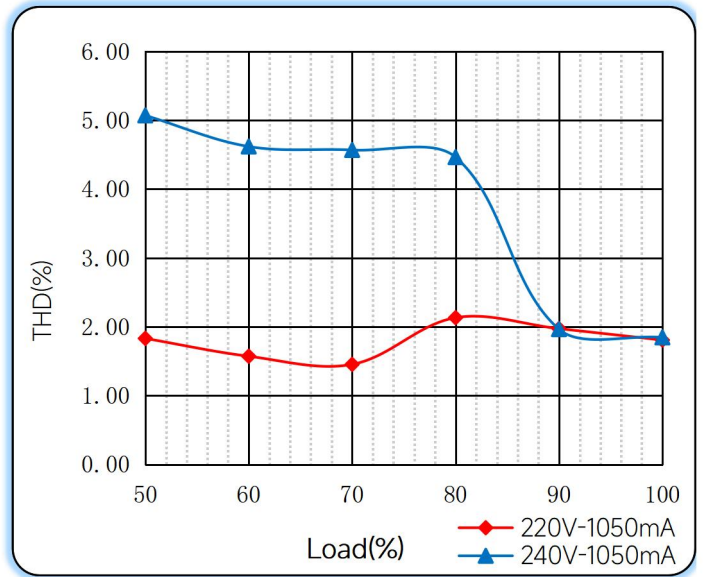
Efficiency vs. Load



Power Factor Characteristics



THD vs. Load



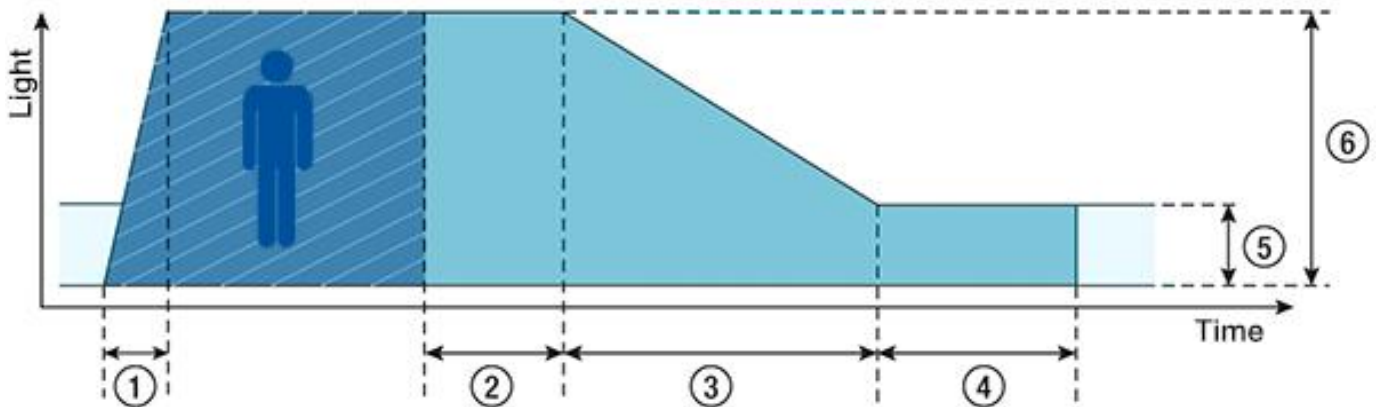
◆ Push dimming operation

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:

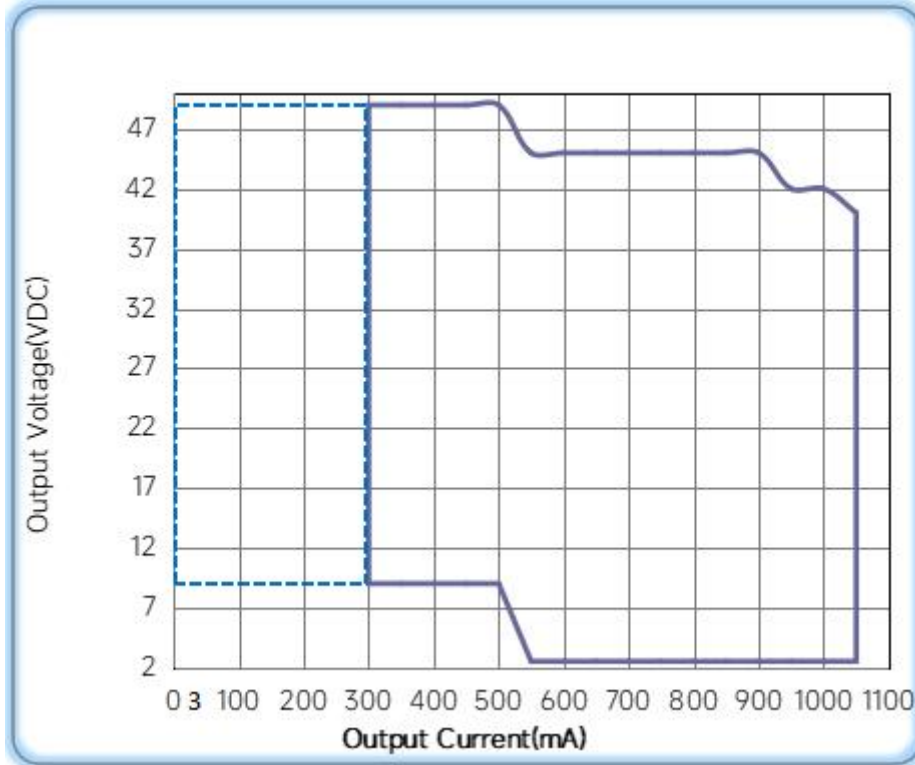
- 1.The factory default brightness is at 100%.
- 2.Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
- 3.The maximum length of the cable from the push button to the last driver is 200 meters.

◆ 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 (Never Off)**: 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% - - - Minimum dimming current

◆ **Revision Updates**

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/05/23
Specification		Updated	B	2023/06/27
Life time	> 50000h,@Tc=85°C	> 50000h,@Tc=80°C	C	2023/09/06

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

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