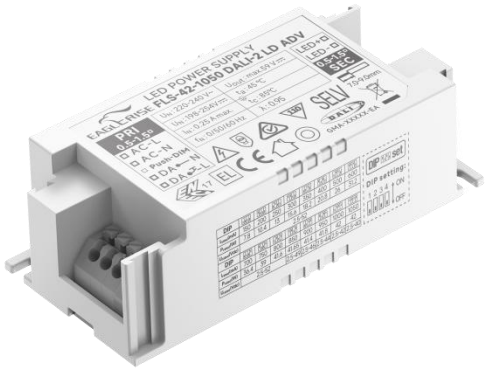
42W DALI + PUSH Dimming power supply



Features

- For luminaries of protection Class Ⅰ, Ⅱ, SELV, built-in/independent（With side caps
- Input Voltage： 220-240VAC
- Protections：SCP/OLP/OVP/OTP
- Power Factor：>0.95
- Efficiency： >87%
- Support DALI-2,Push Dimming
- 5 years warranty

Applications

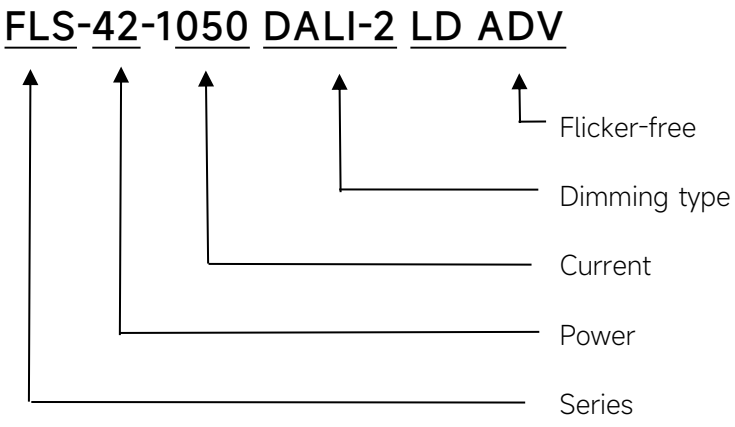
- LED panel、LED down light

■Approve

◆ Description

FLS-42-1050 DALI-2 LD ADV is a 42W constant current LED driver with 150 to 1050mA output current and a forward voltage range from 2.5 to 52Vdc. The output current is adjustable by DIP Switch. With it's dimensions from 97 x 43 x 30 mm 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



◆ Specification

Output	Constant Current (mA)	150mA	200mA	.....	1000mA	1050mA
	Voltage Range(VDC)	2.5-52VDC	2.5-52VDC	.....	2.5-42VDC	2.5-40VDC
	Unload voltage Max.(VDC)	59VDC				
	Current Accuracy	±5%				
	Output HF current ripple(≥1KHz)	±5%				
	Output LF current ripple(≤120Hz)	±3%				
	SVM	≤0.01@Full Load				
	P_{st}	≤0.05@Full Load				
	Efficiency(Typ.)	＞87%@full load				
Input	Rated input voltage(VAC)	220-240VAC				
	Range of input voltage(VAC)	198-264VAC				
	Range of input voltage(VDC)	198-280VDC				
	Frequency(Hz)	0/50/60 Hz				
	Displacement factor	≥0.9@full load				
	Power Factor(Typ.)	>0.95@full load				
	Input Current max	0.26A max				
	Start-up time	＜0.7S				
	No Load Power	≤0.5W				
	Standby Power	≤0.5W				
	THD (Typ.)	＜10%@full load				
Dimming	Dimming	YES				
	Dimming mode	DALI-2 (IEC 62386-101,102,207) & Push Dimming (Corridor Function) *				
	Dimming depth	1%				
	Dimming current range	1 ~100%				
Protection	Over Load Protection	103-120%				
		YES/Latch off				
	Over Voltage Protection	59VDC				
		YES/Latch off				
	Short circuit Protection	YES/Latch off				
	Over Temperature Protection	YES/Auto Resume				
Environment	Operating Temperature	-20℃~+45℃				
	Humidity	20%-90%RH				
	Tc	85℃				
	Storage Temperature	-40℃~+80℃				
	Life time	＞50000h,@TC=85℃				
Surface	Dimension	97 x 43 x 30 mm (With side caps) : 131X43X30mm				

standards	EN 61347-1; EN61347-2-13; EN62384; EN55015; EN61000-3-2 ; EN61000-3-3; EN 61547;	
Others	ErP	EU 2019/2020
	RoHS	RoHS (2011/65/EU) (EU)2015/863
Note	1.All parameters NOT specially mentioned are measured at 230VAC input , full load and 25℃ of ambient temperature. 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. 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.	

◆ Parameter

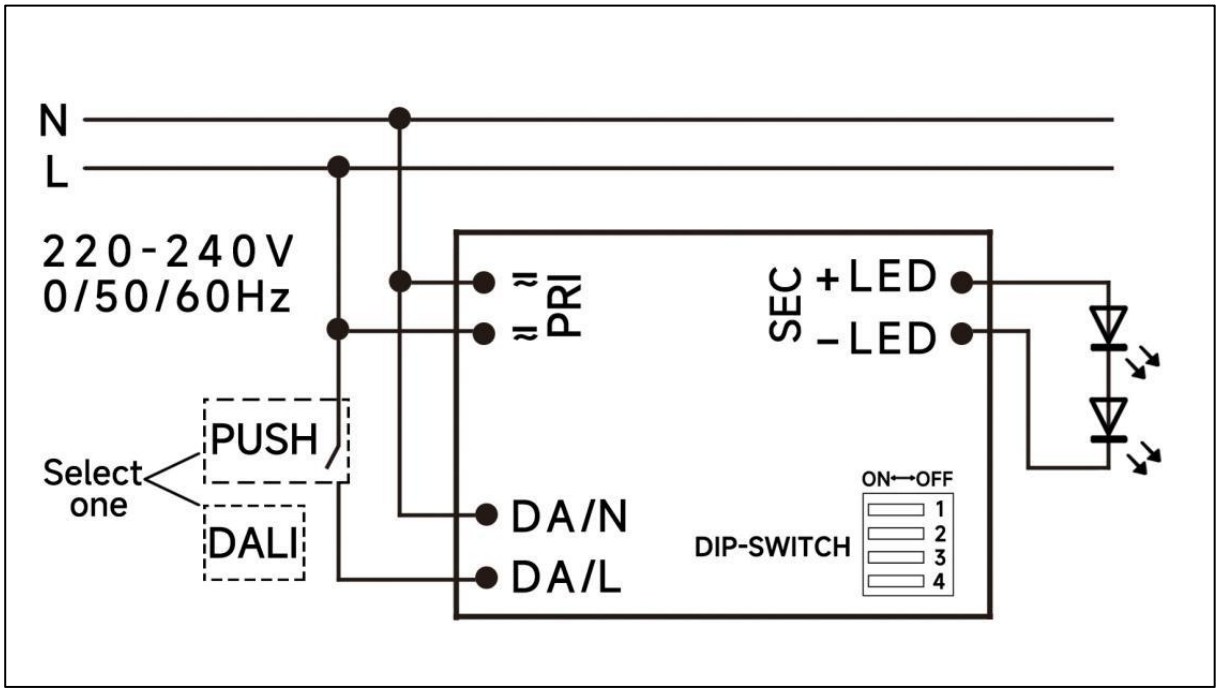
Number	Output				Switch position			
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2	3	4
1	150mA	2.5-52VDC	59VDC	7.8W	--	--	--	--
2	200mA			10.4W	ON	--	--	--
3	250mA			13W	--	ON	--	--
4	300mA			15.6W	ON	ON	--	--
5	350mA			18.2W	--	--	ON	--
6	400mA			20.8W	ON	--	ON	--
7	500mA			26W	--	ON	ON	--
8	600mA			31.2W	ON	ON	ON	--
9	700mA			36.4W	--	--	--	ON
10	750mA			39W	ON	--	--	ON
11	800mA			41.6W	--	ON	--	ON
12	850mA	2.5-49VDC		41.65W	ON	ON	--	ON
13	900mA	2.5-46VDC		41.4W	--	--	ON	ON
14	950mA	2.5-44VDC		41.8W	ON	--	ON	ON
15	1000mA	2.5-42VDC		42W	--	ON	ON	ON
*16	1050mA	2.5-40VDC		42W	ON	ON	ON	ON

* Factory default

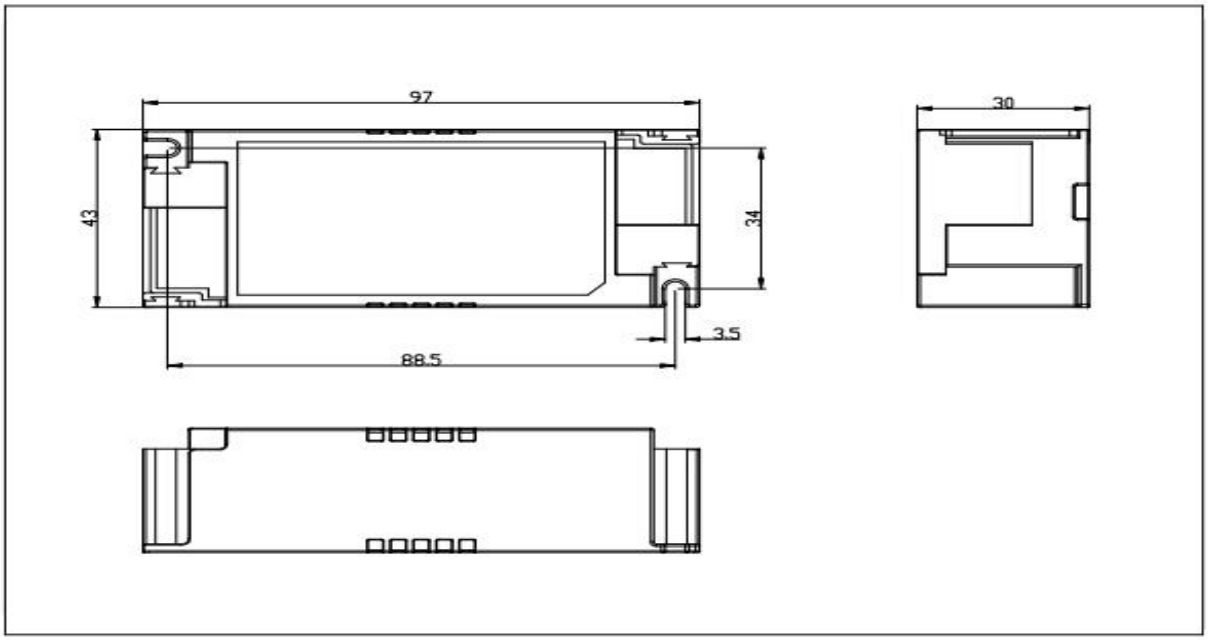
◆ Circuit Breaker

I^{peak}	Twidth	B10	B16	B20	C10	C16	C20
5.36A	48μs	30pcs	49pcs	61pcs	30pcs	49pcs	61pcs

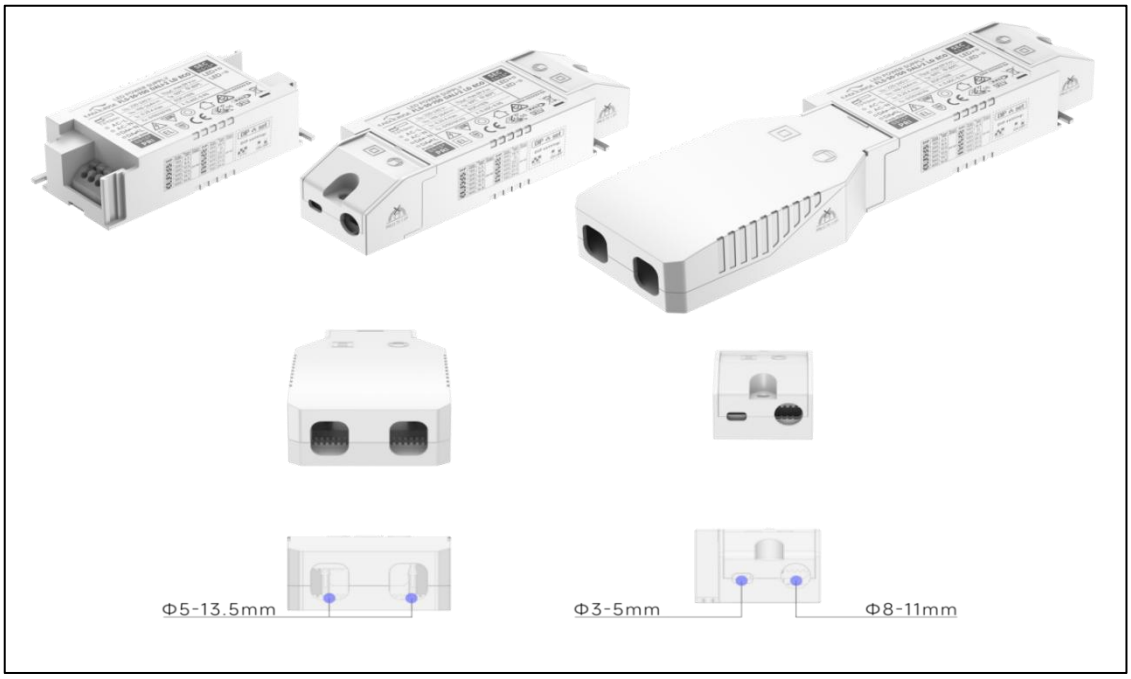
◆ Wiring diagram

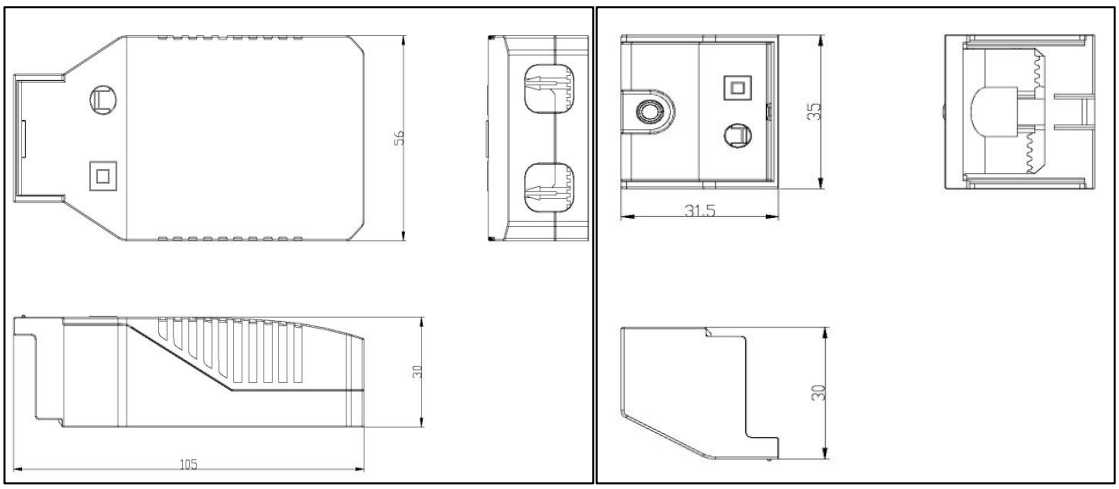


◆ 2D diagram



With side caps





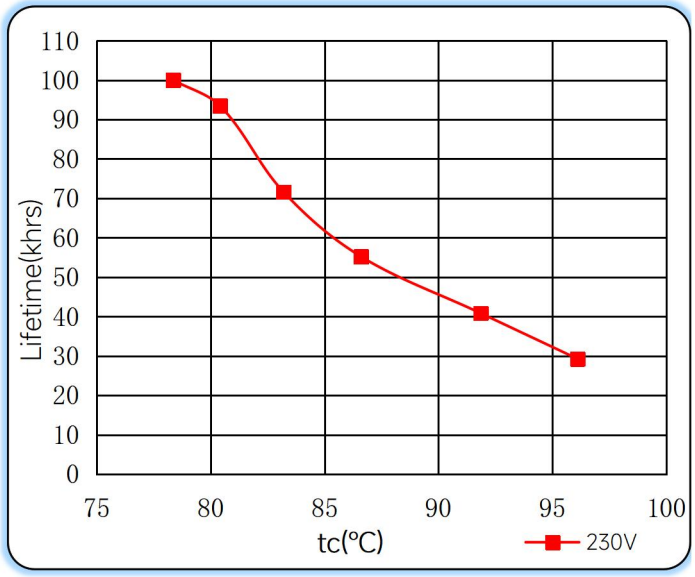
A caps B caps

◆ Wiring & Connections

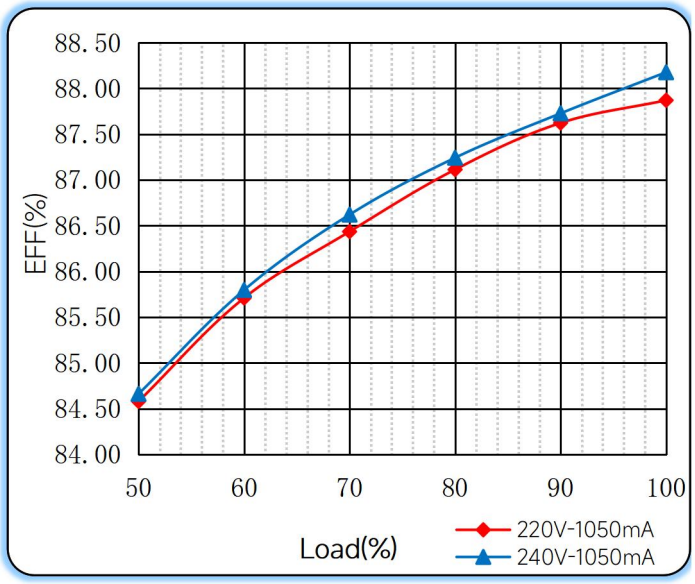
Specification item		Value （Unit ）
Input	Input wire cross-section	0.5...1.5 mm2 （With A side caps：0.75...2.5 mm2）
	Input wire gauge.	16...20 AWG （With A side caps：14...20 AWG ）
	Input wire strip length	7...9mm
Output	Output wire cross-section	0.5...1.5 mm2
	Output wire gauge.	16...20 AWG
	Output wire strip length	7...9mm

◆ Curve for FLS-42-1050 DALI-2 LD ADV, Io=1050mA

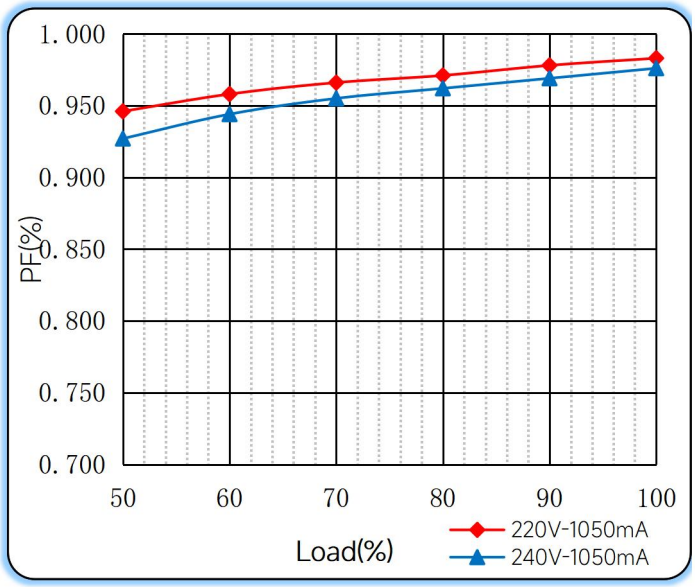
Lifetime vs. Temperature Curve



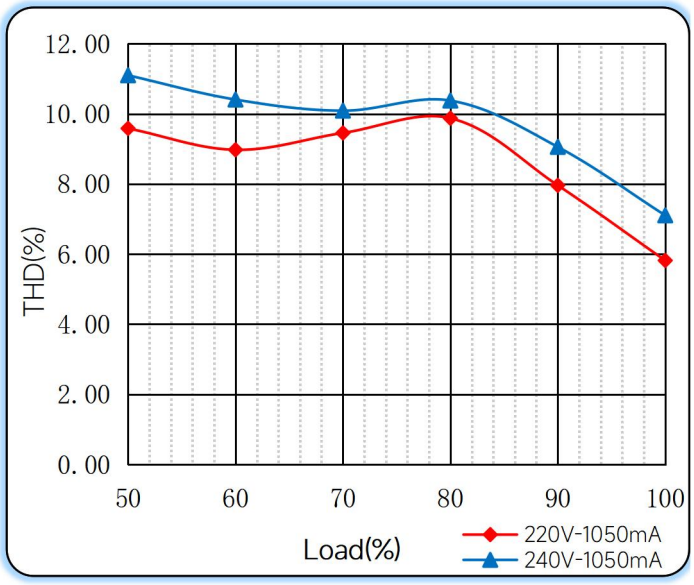
Efficiency vs. Load



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	<0.5s	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.

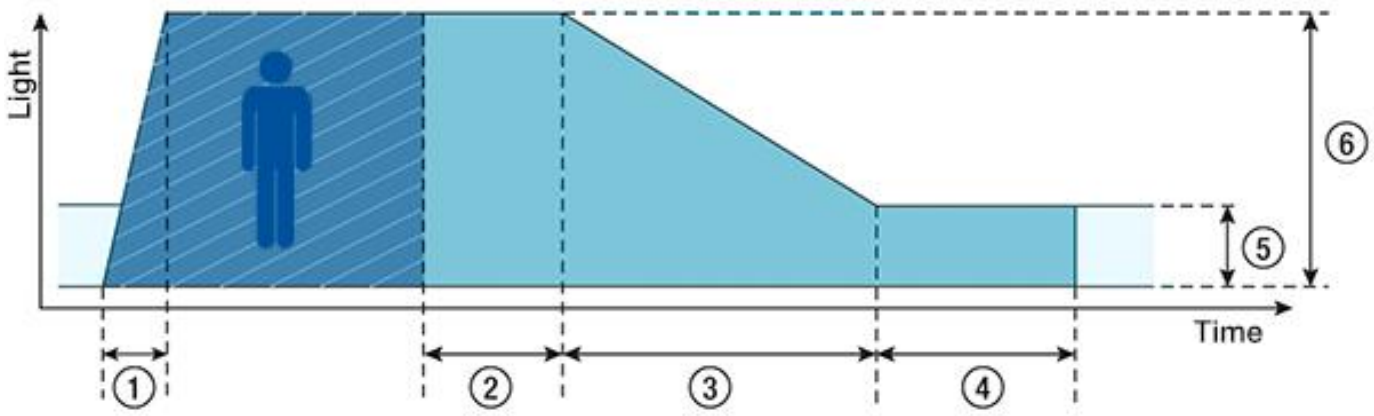
Note:

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

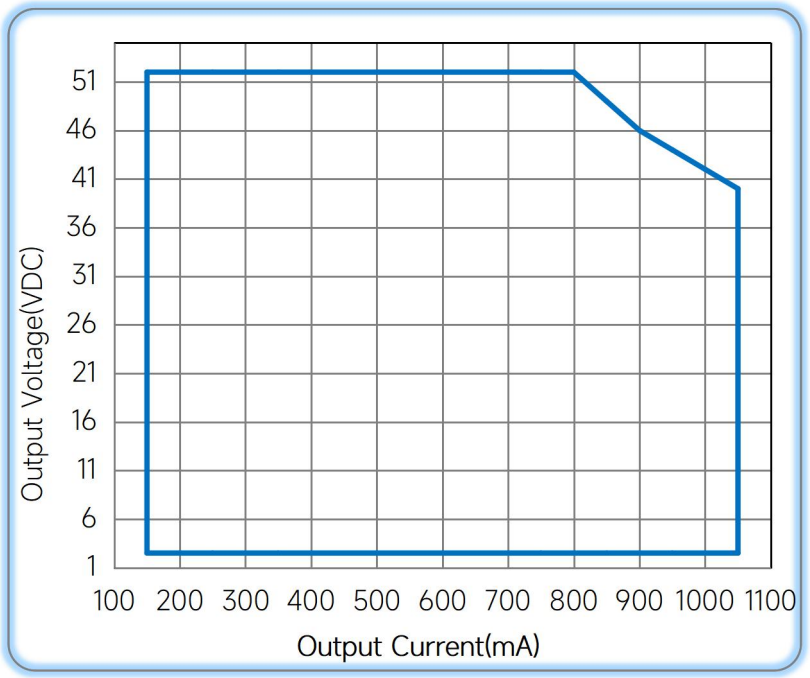
3.The maximum length of the cable from the push button to the last driver is 200 meters.

◆ Corridor mode



- **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.
- **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.
- **Fade time(32s):** the time during which the luminous intensity is faded from the presence value to the absence value.
- **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.
- **Absence value(default: 10 %):** the luminous intensity when there is no person present.
- **Presence value (default: 100 %):** the luminous intensity when persons are present.

◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2022/09/09
Protection		Latch off	B	2023/02/06

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