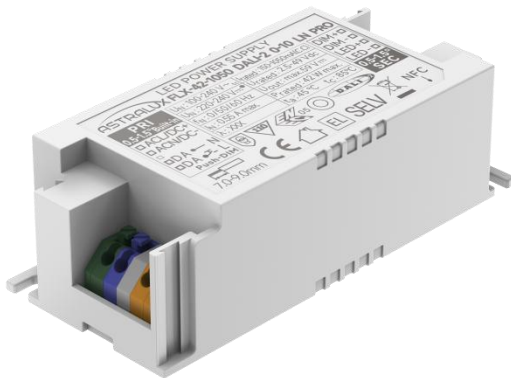


42W DALI + 0-10V+PUSH Dimming power supply



■ Approve



Features

- For luminaires of protection Class II, SELV, Built-in/Independent (With side caps)
- Input Voltage: 100-240VAC, 176-280VDC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: > 0.95
- Efficiency: 89%@full load,230VAC; 87%@Full load,120VAC
- Support DALI-2,Push Dimming,0-10V
- Suitable for emergency lighting acc. to EN 50172
- EOfi=15%
- DALI maintainace(Part 251,252,253)
- 5 years warranty

Applications

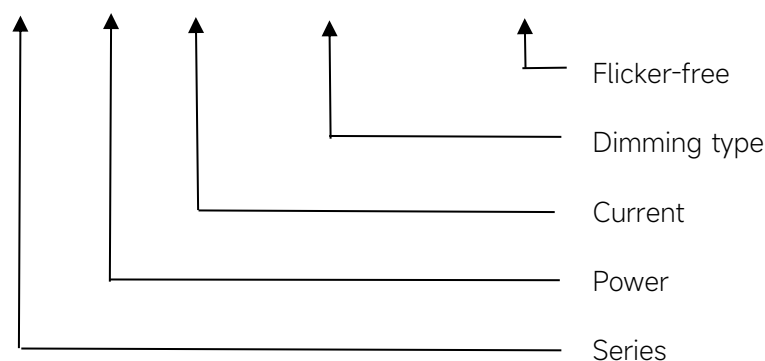
- LED panel, LED down light
- LED spot light

◆ Description

FLX-42-1050 DALI-2 0-10 LN PRO is a 42W constant current LED driver with 150 to 1050mA output current and a forward voltage range from 2.5 to 49Vdc. The output current is adjustable by NFC. With its 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

FLX-42-1050 DALI-2 0-10 LN PRO



◆ Specification

Output	Constant Current (mA)	150-800mA	801-950mA	951-1050mA
	Voltage Range(VDC)	2.5-49VDC	2.5-44VDC	2.5-40VDC
	Unload voltage Max.(VDC)	59VDC		
	Current Accuracy	±7%@150-300mA;±5%@300-700mA;±3%@700-1050mA		
	Output HF current ripple(≥1KHz)	±10%		
	Output LF current ripple(≤120Hz)	±3%		
	SVM	≤0.1@Full Load		
	P _{st}	≤0.05@Full Load		
	Efficiency(Typ.)	89%@full load,230VAC; 87%@Full load,120VAC		
	EOFI	15%		
Input	Rated input voltage(VAC)	100-240VAC		
	Range of input voltage(VAC)	90-277VAC		
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition		
	Rated input voltage(VDC)	220-240VDC		
	Range of input voltage(VDC)	176-280VDC		
	Frequency(Hz)	0/50/60 Hz		
	Displacement factor	≥0.9@full load		
	Power Factor(Typ.)	0.95@full load		
	Input Current max	0.55A max		
	Start-up time	< 0.8S		
	Switch over time(AC/DC mode)	< 0.5S		
	Standby Power	≤0.5W, @230Vac		
	Network Standby Power	≤0.5W,@230Vac		
	THD (Typ.)	< 10%@full load		
Dimming	Dimming	YES		
	Dimming mode	DALI-2 (IEC 62386-101,102,207,Part 251,252,253) & Push Dimming (Corridor Function) & 0-10V		
	Dimming depth	5mA@≤500mA; 1%@ > 500mA		
	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	59VDC		
		YES/Latch off		
	Short circuit Protection	YES/Latch off		
capability	Over Temperature Protection	YES/Auto Resume		
	Surge capability (L-N)	1KV		
	Surge capability (L/N-Ground)	NA		

Environment	Operating Temperature	-20°C~+45°C
	Humidity	20%-90%RH
	Tc	85°C
	Storage Temperature	-40°C~+80°C
	Life time	> 50000h,@TC=80°C,120/230VAC
	Ripple&Noise	≤25dB(A)@20cm
Surface	Dimension	97 x 43 x 30 mm(With side caps) : 131X43X30mm
	material	PC
Standards	Safety	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2- 13;AS/NZS 61347- 1, AS/NZS 61347-2- 13;AS 61347.2.13;EN62384;UL 8750; UI1310
	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;FCC PART 15B
	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.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>6.All Astralux 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>	

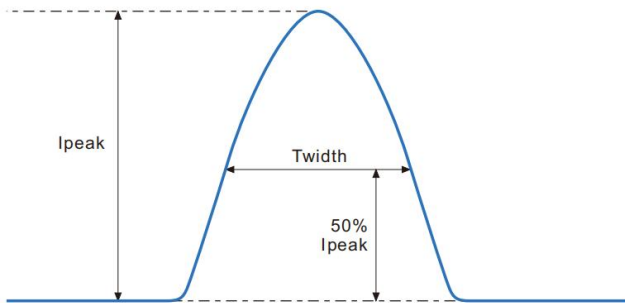
◆ Parameter

Number	Output			
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)
1	150-800mA	2.5-49VDC	59	39.2
2	801-950mA	2.5-44VDC	59	41.8
*3	951-1050mA	2.5-40VDC	59	42

* Factory default

◆ Inrush Current

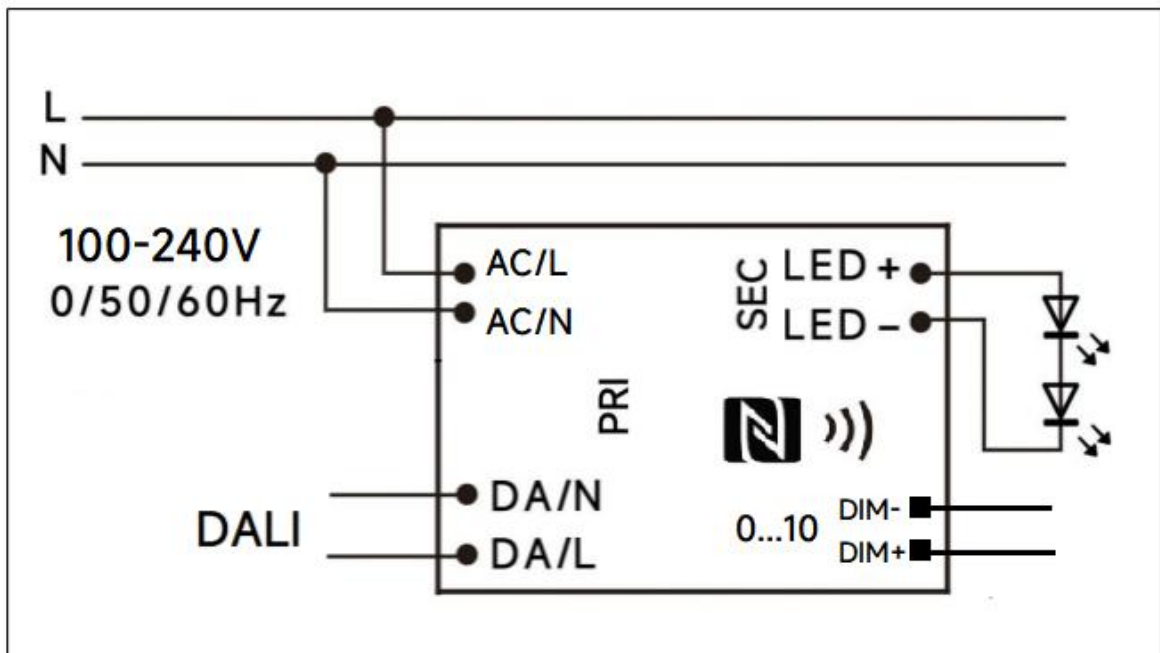
I_{peak}	Twidth	B10	B16	B20	C10	C16	C20
11A	26.4μs	14pcs	23pcs	29pcs	14pcs	23pcs	29pcs



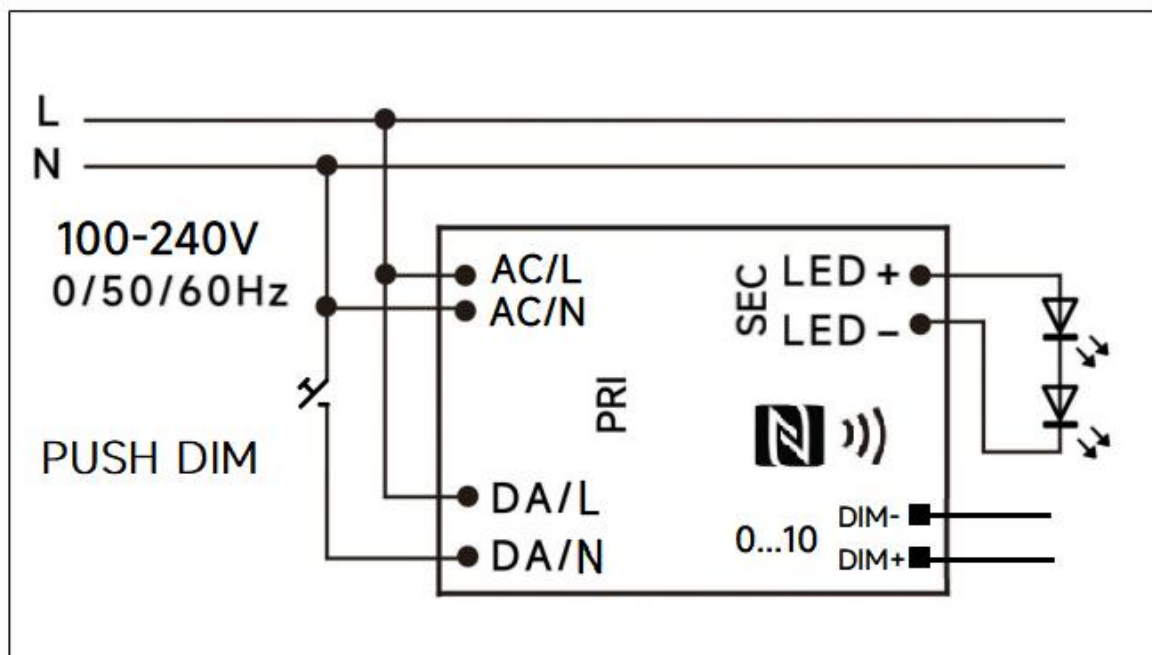
Remarks:

- 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.

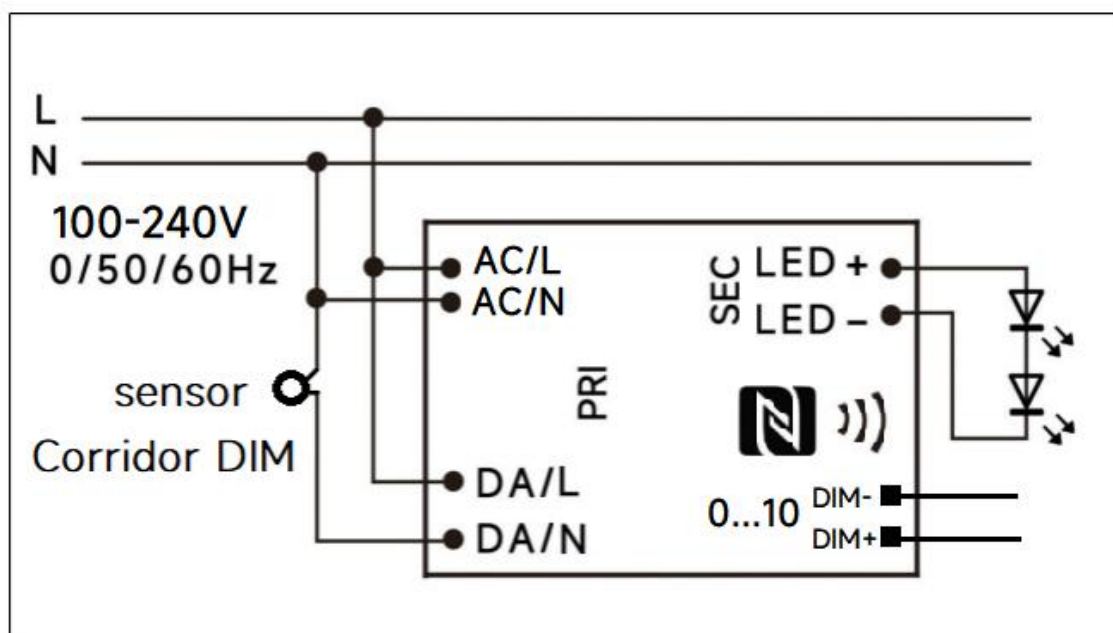
◆ Wiring diagram



DALI dimming application

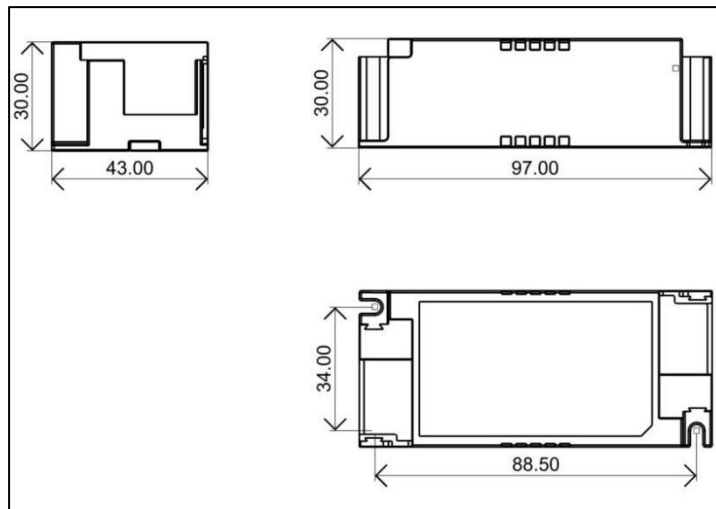


PushDIM dimming application

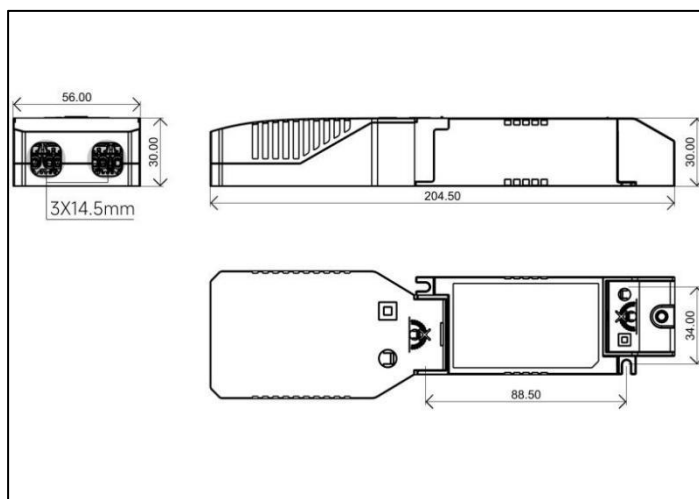
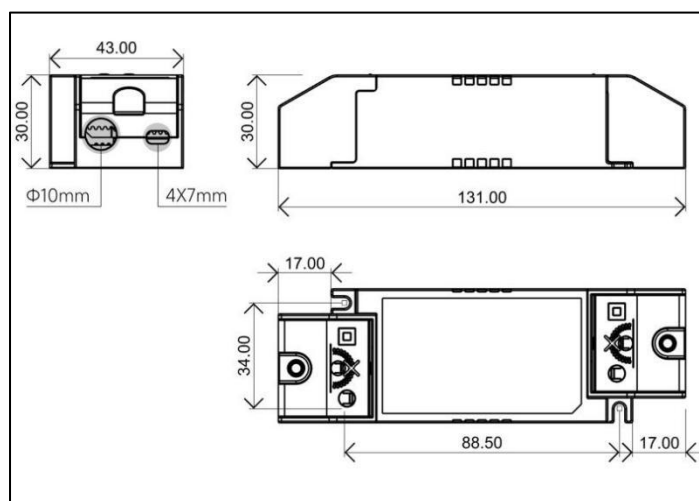


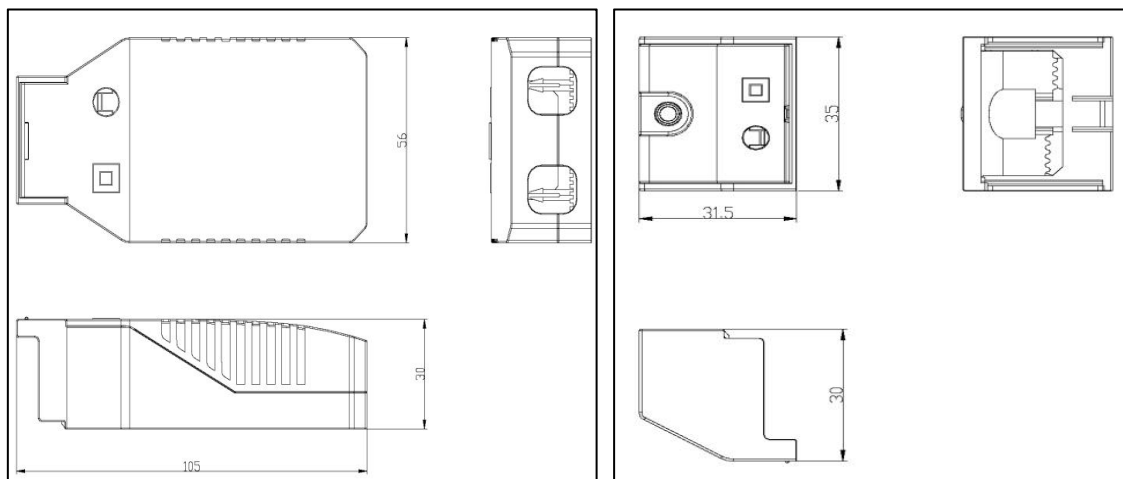
Corridor DIM dimming application

◆ 2D diagram



With side caps





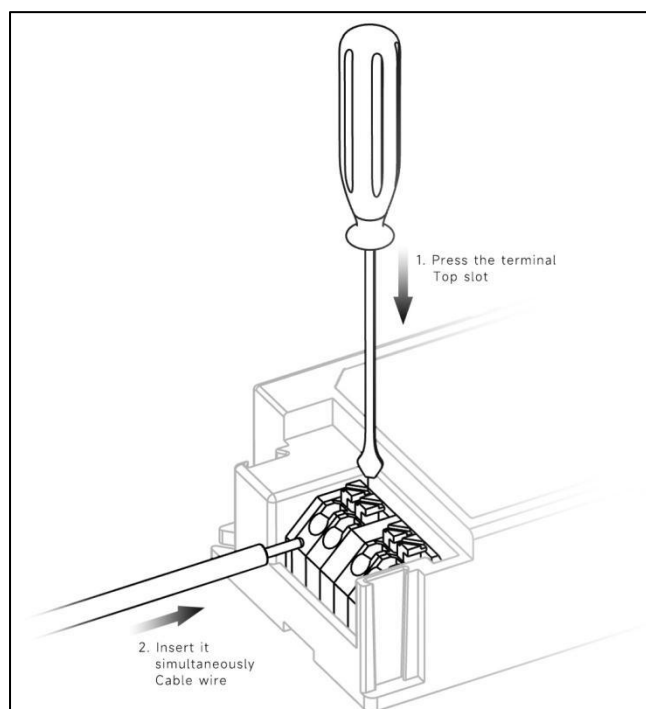
A caps

B caps

132021T0033-1	Bottom,Big,White
132021T0034-2	Top,Big,Grey
132021T0079-2	Top,Big,White
126016T0009	5P Terminal
132038T0046	Crimp Plate

132021T0197	Small, Grey ,with "Don't Cover" mark
132021T0181	Small, white,with "Don't Cover" mark
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)

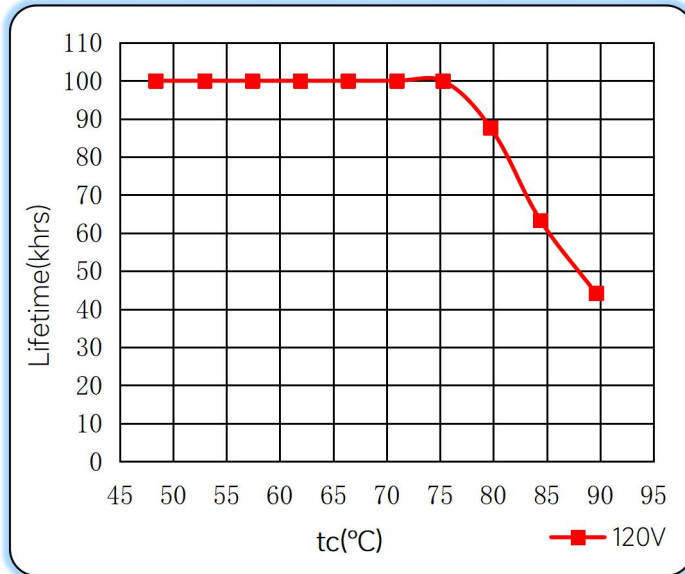
Small side cap of big hole	Wire type
0.75mm ²	H05VV-F 2 core&3 core&4 core
1.0mm ²	H05VV-F 2 core&3core
1.5mm ²	H05VV-F 2 core&3core

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

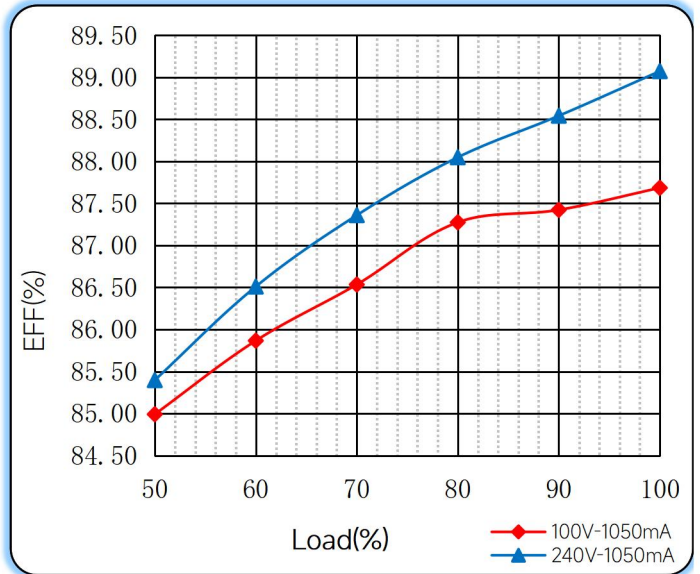
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Curve for FLX-42-1050 DALI-2 0-10 LN PRO, $I_o=1050\text{mA}$

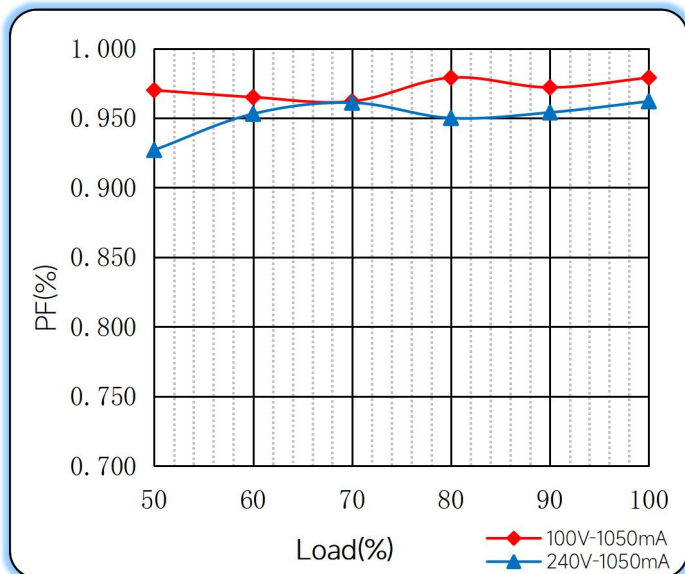
Lifetime vs. Temperature Curve



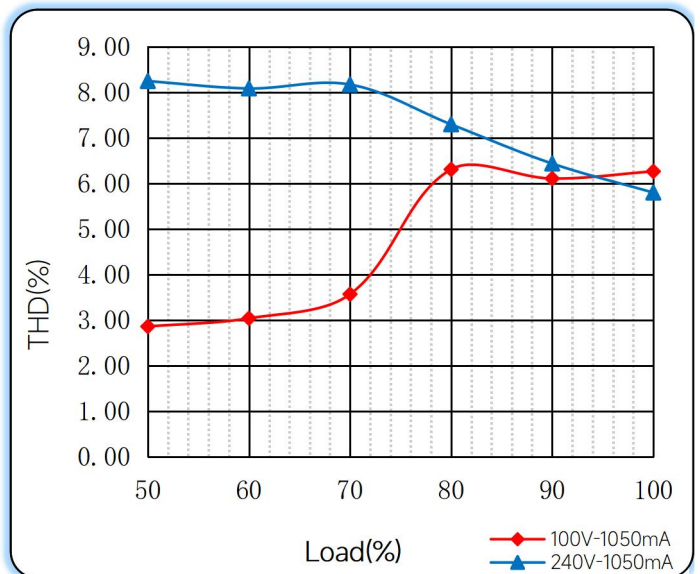
Efficiency vs. Load



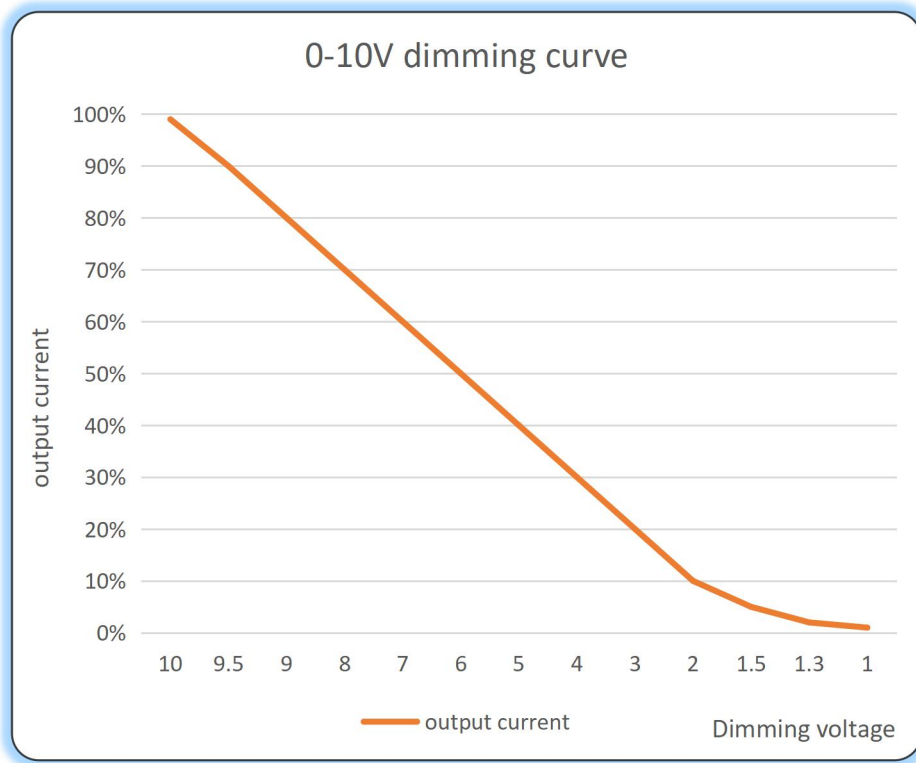
Power Factor Characteristics



THD vs. Load



◆ 0-10 dimming Curve

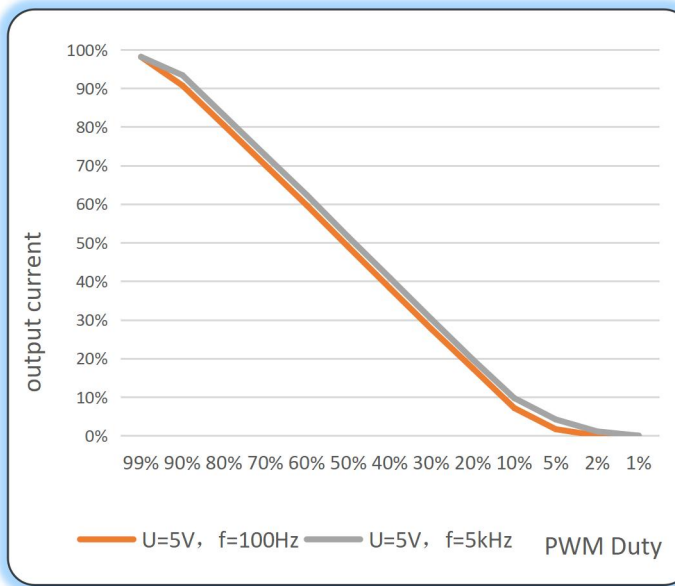


0-10V dimmer Note:

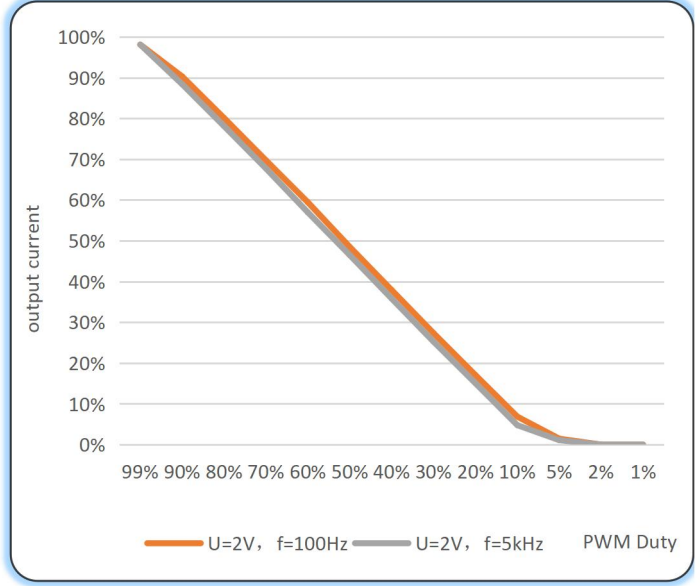
When the accessed 0-10V dimmer is an active dimmer, it is necessary to make the positive pole of the dimmer access to DIM+ and the negative pole access to DIM-, otherwise it may cause the 0-10V dimming function to be impaired.

◆ PWM dimming Curve

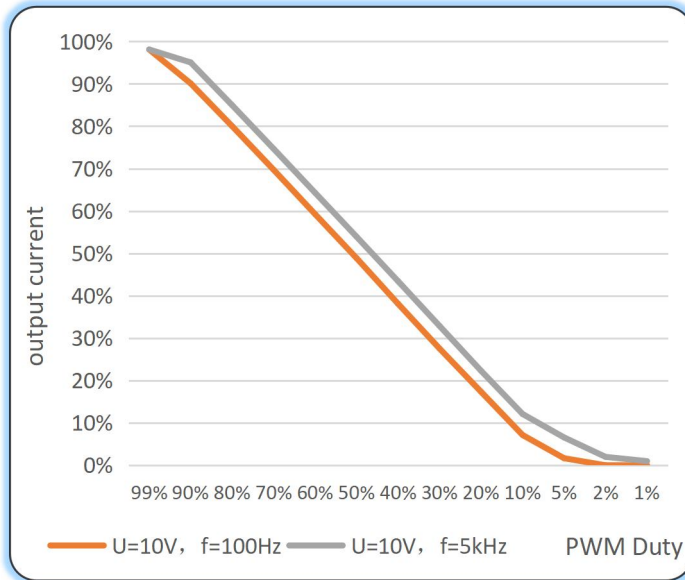
U=5V, f=100Hz



U=2V, f=100Hz



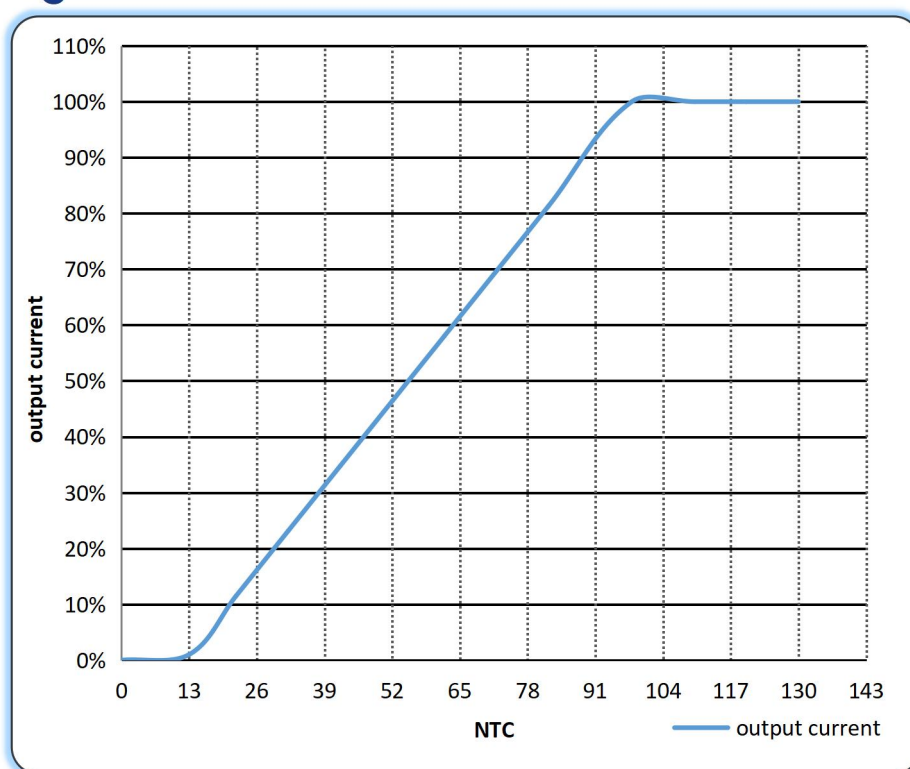
U=10V, f=100Hz



Note:

1. PWM amplitude of 2V-10V range, duty cycle of 1%-99% range.
2. PWM frequency range support 100Hz-5kHz.

◆ Rx dimming Curve



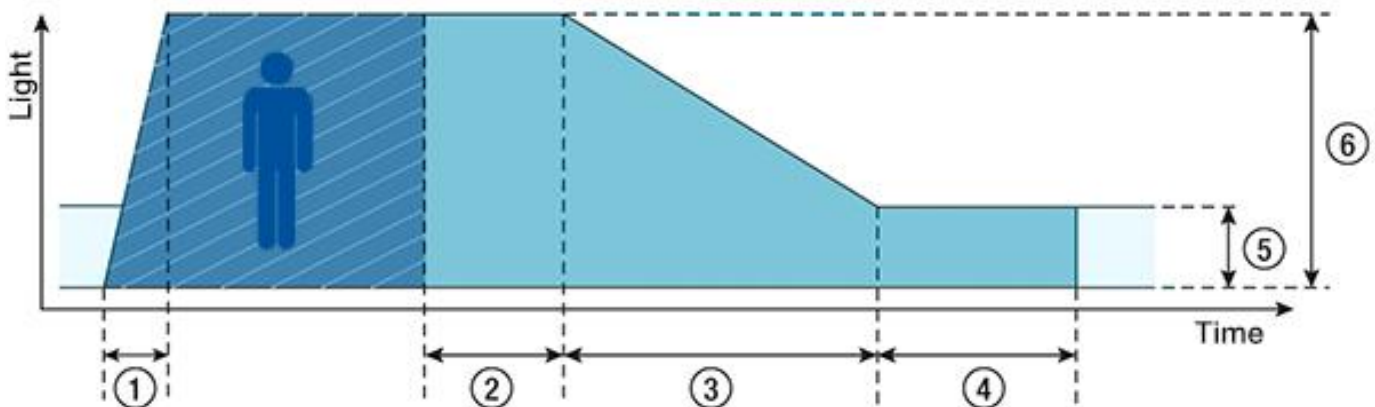
◆ Push dimming operation

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:

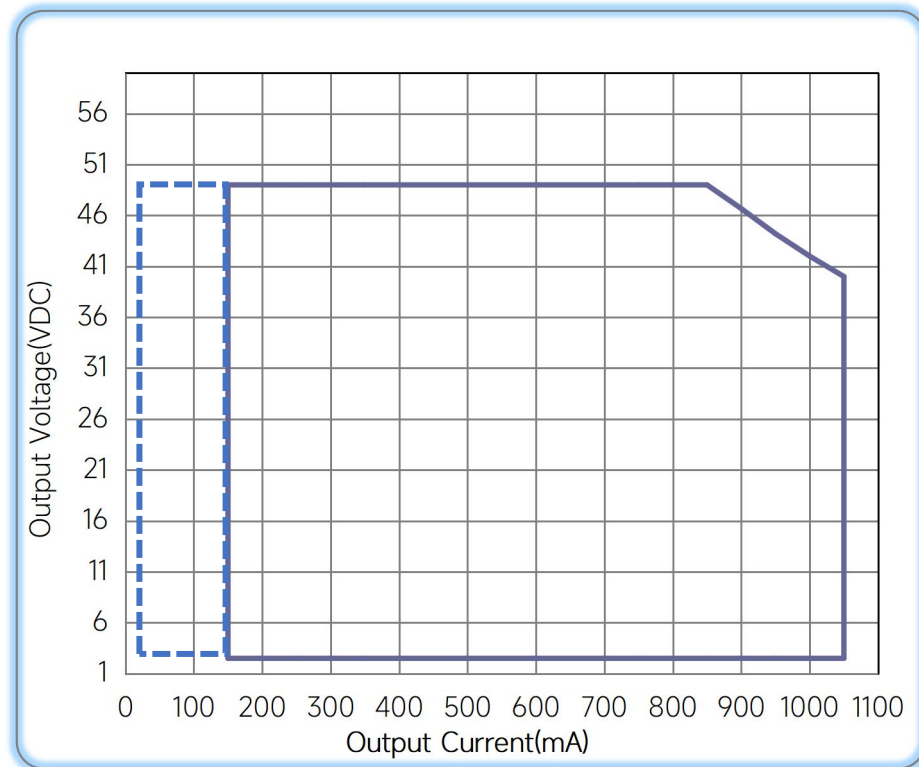
- 1.The factory default brightness is at 100%.
- 2.Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
- 3.The maximum length of the cable from the push button to the last driver is 200 meters.

◆ 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	2023/09/16
Update			B	2024/03/29
Life time	> 50000h,@TC=85°C	> 50000h,@TC=80°C	C	2024/06/17

Remark:The final interpretation of the contents of the specification belongs to Astralux.

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