

Features

- Rated input voltage: 200-240Vac ~ 50/60Hz
- Constant voltage output of 12/24/36/48Vdc
- Max. PF≥0.95
- Function selection:
 - None: Normal constant voltage output
 - S version: 0-10V three-in-one dimming
 - D version: DALI 2.0 dimming + PUSH dimming
 - D8 version: DALI 2.0 dimming + PUSH + CCT dimming
- Standby power consumption ≤ 0.5W
- Min dimming level 0.1% (S/D/D8 Version)
- Surge protection : Common mode 2 KV
- Short circuit, over-temperature, over-voltage, over-load protection
- 5-year warranty
- DALI standard: IEC 62386-101 102 207 209 : DALI 2.0



Product introduction

Road lighting, industrial lighting, venue lighting, floodlighting, landscape lighting, building and structure lighting

Model list

Model NO.	Rated Input voltage	Output Power Max.	Output Voltage	Current range	Eff. (Typ.)	T.H.D	PF.
DL-50H-V12-RAN	200-240Vac / 50/60Hz	50W	12Vdc	0-4.17A	≥85%	< 10%	≥0.95
DL-50H-V24-RAN	200-240Vac / 50/60Hz	50W	24Vdc	0-2.09A	≥86.5%	< 10%	≥0.95
DL-50H-V36-RAN	200-240Vac / 50/60Hz	50W	36Vdc	0-1.39A	≥86.5%	< 10%	≥0.95
DL-50H-V48-RAN	200-240Vac / 50/60Hz	50W	48Vdc	0-1.05A	≥86.5%	< 10%	≥0.95
DL-50H-V12S-RAN	200-240Vac / 50/60Hz	50W	12Vdc	0-4.17A	≥85%	< 10%	≥0.95
DL-50H-V24S-RAN	200-240Vac / 50/60Hz	50W	24Vdc	0-2.09A	≥86%	< 10%	≥0.95
DL-50H-V36S-RAN	200-240Vac / 50/60Hz	50W	36Vdc	0-1.39A	≥86%	< 10%	≥0.95
DL-50H-V48S-RAN	200-240Vac / 50/60Hz	50W	48Vdc	0-1.05A	≥86%	< 10%	≥0.95
DL-50H-V12D-RAN	200-240Vac / 50/60Hz	50W	12Vdc	0-4.17A	≥85%	< 10%	≥0.95
DL-50H-V24D-RAN	200-240Vac / 50/60Hz	50W	24Vdc	0-2.09A	≥86%	< 10%	≥0.95
DL-50H-V36D-RAN	200-240Vac / 50/60Hz	50W	36Vdc	0-1.39A	≥86%	< 10%	≥0.95
DL-50H-V48D-RAN	200-240Vac / 50/60Hz	50W	48Vdc	0-1.05A	≥86%	< 10%	≥0.95
DL-50H-V12D8-RAN	200-240Vac / 50/60Hz	50W	12Vdc	0-4.17A	≥85%	< 10%	≥0.95
DL-50H-V24D8-RAN	200-240Vac / 50/60Hz	50W	24Vdc	0-2.09A	≥86%	< 10%	≥0.95
DL-50H-V36D8-RAN	200-240Vac / 50/60Hz	50W	36Vdc	0-1.39A	≥86%	< 10%	≥0.95
DL-50H-V48D8-RAN	200-240Vac / 50/60Hz	50W	48Vdc	0-1.05A	≥86%	< 10%	≥0.95

Note:

1. The test conditions for the above parameters: Ta = 25°C, 230Vac input, and the test was conducted after the equipment was operated at full load for 30 minutes.
2. It includes setting error, linear regulation rate and load regulation rate.
3. The measurement method for ripple and noise: Use a 12" twisted pair cable, and the terminals should be connected in parallel with 0.1μF and 47μF capacitors respectively. The measurement is carried out within a 20MHz bandwidth.

Input characteristics

Parameter	Min.	Typ.	Max.	Note
Rated input voltage	200Vac	230Vac	240Vac	-
Input voltage range	180Vac	-	264Vac	DC input range 254-374Vdc
Rated frequency	47Hz	50/60Hz	63Hz	-
Power factor	0.90	0.95	-	100% load,@ 230Vac
	0.85	0.90	-	60%-100% load,@230Vac
T.H.D.	-	-	10%	100% load,@ 230Vac
	-	-	20%	60%-100% load,@230Vac
Input current	-	-	0.35A	100% load,@180Vac
Inrush current	-	-	46A	cold start (25°C),@230Vac,
Stand by consumption	-	-	0.5W	S/D/D8 Version
Configuration of 16A circuit breaker	Type B / 9 units; Type C / 13 units (@230Vac)			

Output characteristics

Parameter	Min.	Typ.	Max.	Note
Accuracy of output voltage	-	±2%	-	0-100% load,@230vac
Line regulation	-	±1%	-	0-100% load,@230vac
Load regulation	-	±1%	-	Rated load, @ 230Vac
Starting time	-	-	500ms	Rated input voltage
Hold time	16ms	-	-	Rated load, @ 230Vac
Output ripple voltage	-	120mV	-	V12 output model
	-	240mV	-	V24 output model
	-	280mV	-	V36 output model
	-	300mV	-	V48 output model
Flick free	PstLM	1	-	100% load and the light powered by DONE
	SVM	0.4	-	

Dimming characteristics

Dimming function		Min.	Typ.	Max.	Note
0-10V dimming (optional) S version	Safe applied voltage range	0V	9.9V	10V	When the external voltage is greater than or equal to 12V, the dimming function will be disabled
	Dimming output range	0%	-	100%	When the external voltage is greater than or equal to 0.55V, the dimming function is activated and the load outputs power; When the external voltage is less than or equal to 0.3V, the dimming function is deactivated and the load does not output power.
PWM dimming (optional) S version	PWM duty ratio	5%		100%	When the external PWM duty cycle is $\geq 5\%$, the dimming function is enabled and there is output from the load (with PWM voltage $\leq 10.5V$)
	PWM duty ratio	2%	3%	4%	When the external PWM duty cycle is less than or equal to 4%, the dimming function is disabled and the load does not output any power. (The PWM voltage is less than or equal to 10.5V)
	PWM duty ratio	0%	-	100%	When the duty cycle is 99%, the output power is at its maximum
	PWM Duty cycle	300Hz	-	2000Hz	-
Potentiometer dimming (Version S)	Resistance of the external resistor	0K Ω	-	100K Ω	-
	Dimming output range	0%	-	100%	-
DALI 2.0 Dimming (DT6 Version)	Dimming range	1‰	-	100%	Support the lowest dimming depth of 1‰
CCT/PUSH Dimming (DT8 Version)	Dimming range	1‰	-	100%	Support the lowest dimming depth of 1‰

Protection

Function	Function instructions
Output overload protection	1.4-1.8 Protection mode:hiccup mode,recovers automatically after fault condition is removed
Output short circuit protection	Hiccup mode:recovers automatically after fault condition is removed
Over temperature protection	Self-recovery mode: when the housing temperature is greater than 90℃, the output power off,Recovery occurs automatically after the exception is removed
Output over-voltage protection	Output voltage > Rated voltage 1.08-1.2; hiccup mode,It can be automatically restored after a restart

Environmental

Environmental categories	Parameter
Working temperature,humidity	-40 ~ +55℃, 20 ~ 90% RH,@ 230Vac
Safety regulation shell temperature	-40 ~ +90℃
Storage temperature,humidity	-40 ~ +80℃, 10 ~ 95% RH
Vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	230Khrs min. MIL-HDBK-217F (Ta=25℃)
Lifetime	TC = 75℃,@ 230Vac, 100% load for 70,000 hours. For more details, please refer to the Life-time/TC curve

Safety and EMC

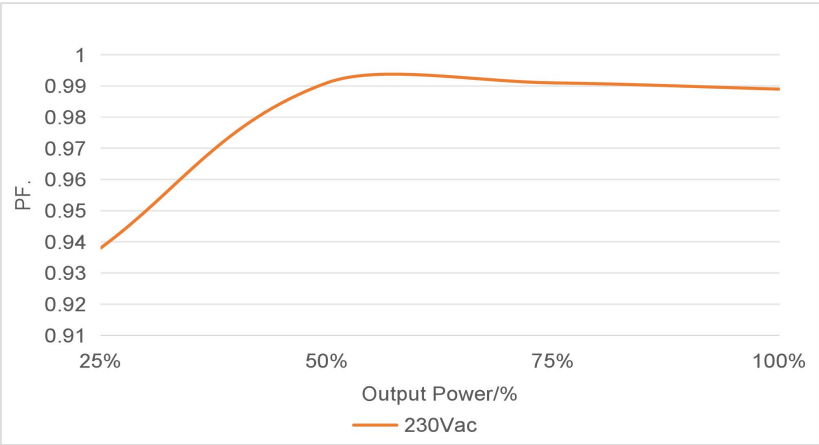
Safety categories	Standard
Safety	GB19510.1, GB19510.14, EN61347-1, EN61347-2-13, IEC61347-1, IEC61347-2-13, AS/NZS61347.1, AS61347.2.13, EN 62384
EMC	EN 55015, EN 61000-3-2, GB/T 17743, GB17625.1, EN 61000-3-3
DALI-2 protocol standard	IEC62386-101/102/207 (D version)
Surge protection	common mode L-N: ± 2 KV (2 Ω),Refer toIEC61000-4-5 2014
High-pot test	I/P-O/P: 3.75KVac
Insulation impedance	I/P-O/P: 100M Ohms/500VDC/25℃/70%RH
Leakage Current	<0.7mA,@240Vac

Remark:

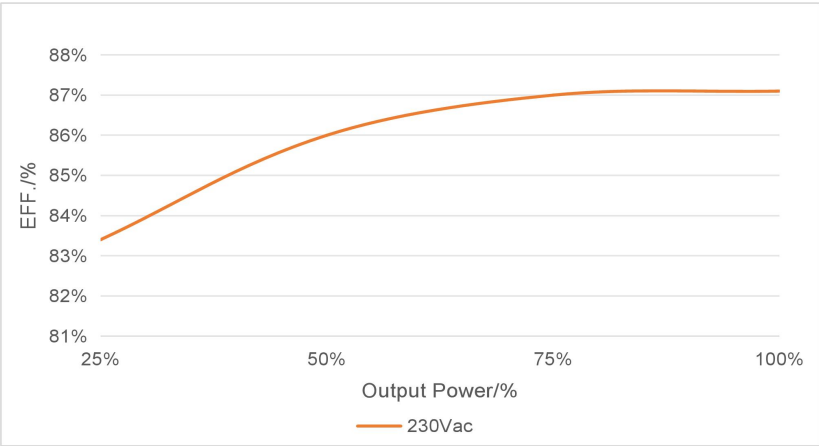
- 1.The power supply is considered a component which will be installed into the terminal equipment.
- 2.The EMC is affected by the entire equipment.
- 3.The terminal equipment must be reconfirmed to meet the EMC directives.

Parametric curves

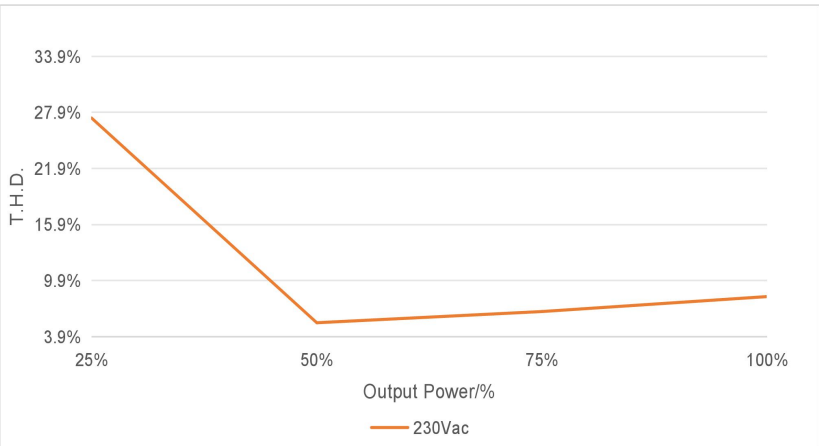
Power Factor/Output Power



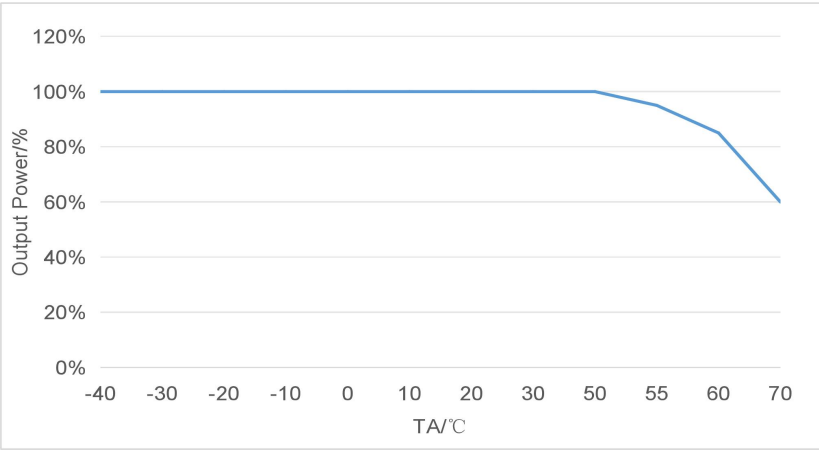
Efficiency/Output Power



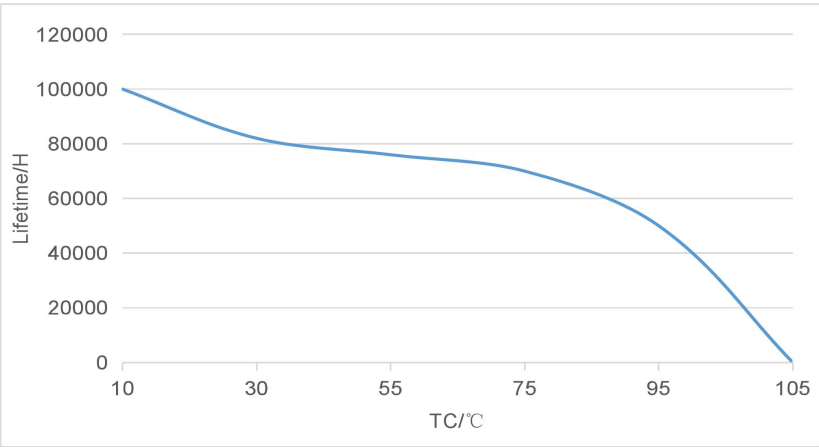
T.H.D./Output Power



Output Power/TA

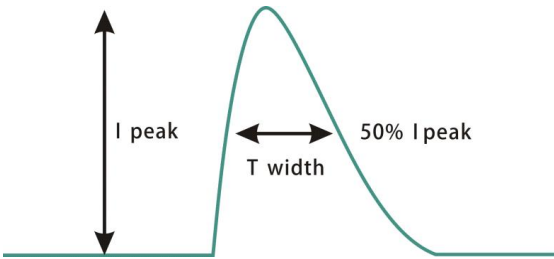


Lifetime/TC



Inrush current

Input voltage	Peak current	T(@50% Peak current)
200Vac	43A	140us
240Vac	45A	144us



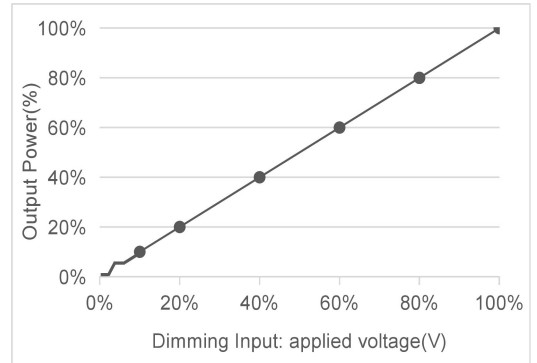
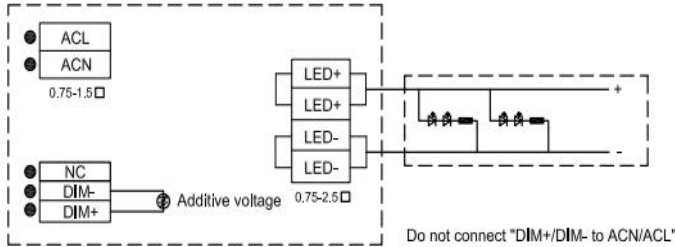
Terminal definition

Input		Output	
ACN	AC Live Wire L Input Terminal	LED+	Power LED Load Output Positive Pole
ACL	AC Neutral Wire N Input Terminal	LED-	Power LED Load Output Negative Pole
CCT	Color Temperature Adjustment Input Terminal	CW-	Power LED Load Cold Light Output Negative Pole
DA-	DALI/Three-in-One DIM- Dimming Signal Input Terminal/PSUH Dimming Signal Input Terminal	WW-	Power LED Load Warm Light Output Negative Pole
DA+	DALI/Three-in-One DIM+ Dimming Signal Input Terminal/PSUH Dimming Signal Input Terminal		

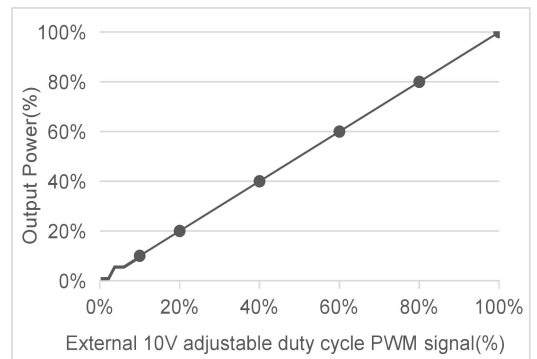
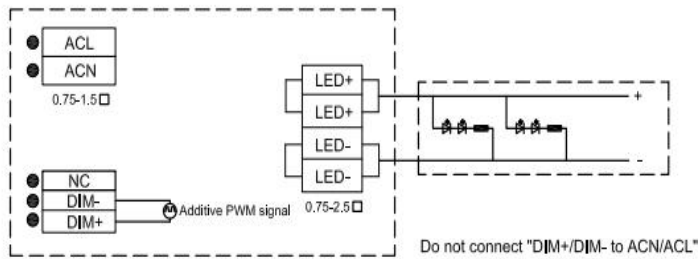
0-10V three-in-one dimming function (S Version)

1. The output current can be adjusted by connecting a resistor 10-100K or 0-10V DC voltage or 10V PWM signal between DIM+ and DIM-.
2. It is recommended to directly connect the LED. This series is not suitable for additional drivers.
3. Dimmer port output current: 100uA(typical value).

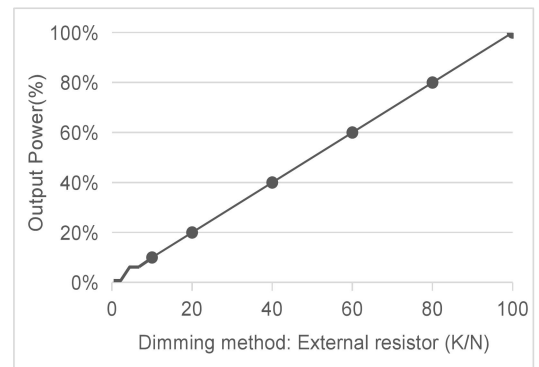
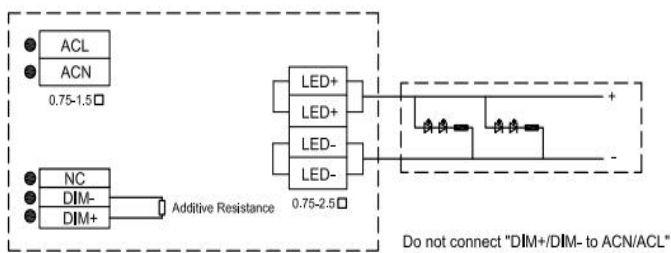
0-10V Dimming:



PWM Dimming(Apply PWM frequency: 300Hz–2kHz):



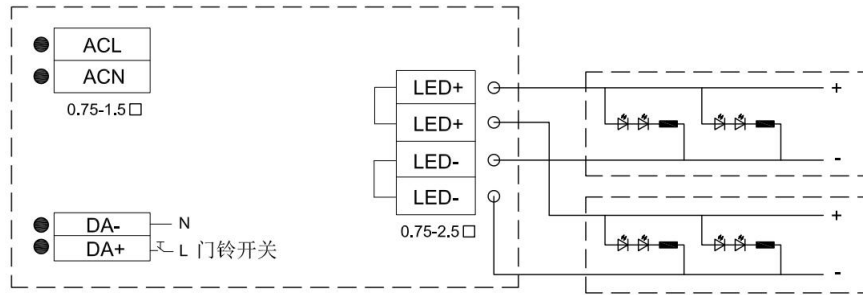
Resistance Dimming:



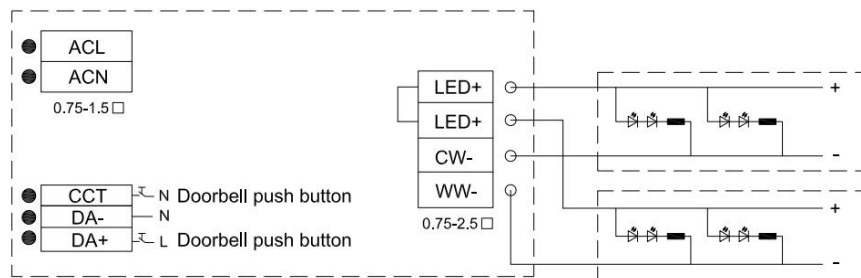
Note:

1. The three-in-one dimming signal and load output are by default in a positive logic linear relationship.
2. If other logic relationships (such as logarithmic,exponential, negative logic, etc.) are required, they need to be customized in advance..

PUSH Dimming Function (D version DT6) Wiring Diagram



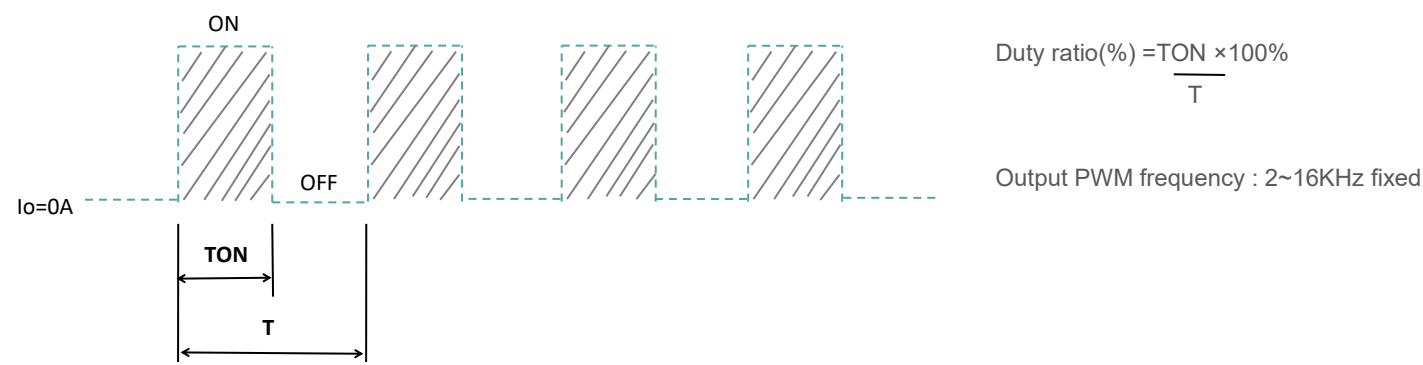
CCT/PUSH Dimming Function (D version DT8) Wiring Diagram



PUSH Dimming Notes:

1. Power-On Memory: Records the brightness at the last power-on (The LED driver will restore to the brightness state before the last off-light).
2. Turn On/Off: Press the doorbell switch (CCT or PUSH) briefly for 0.6 seconds to alternate between turning on and off the LED driver.
3. Dimming: Press the doorbell switch for more than 0.6 seconds, then use PUSH to alternate dimming to the brightest/darkest. Use CCT to alternate dimming to switch color temperature CW-/WW- to the brightest/darkest.
4. Reset: Press the doorbell switch for more than 10 seconds to reset all power supplies in the system to the same brightness, dimming direction, and dimming speed (default is 3 seconds from brightest to darkest/darkest to brightest).
5. Low-speed Dimming PUSH Settings: Press the doorbell switch for more than 20 seconds to modify the dimming speed to low speed (6 seconds from brightest to darkest).
6. CCT/PUSH Allows Direct Connection to a High Voltage $\leq$ AC 264V for Dimming Switching, but does not allow buttons with indicator lights. It is recommended to use reset switch types (such as doorbell switches).
7. When using CCT/PUSH, it is necessary to power on ACL/ACN first, then power on CCT/PUSH for operation. The reverse power-on sequence is prone to cause control logic confusion and DALI module damage.
8. DALI and CCT/PUSH Switching: After removing the CCT/PUSH doorbell switch wiring, connect the DALI dimming signaler to the DALI module. The DALI dimming mode can be switched when the DALI dimming signal is received. In non-dimming mode, the current LED load state remains unchanged.

Dimming output mode



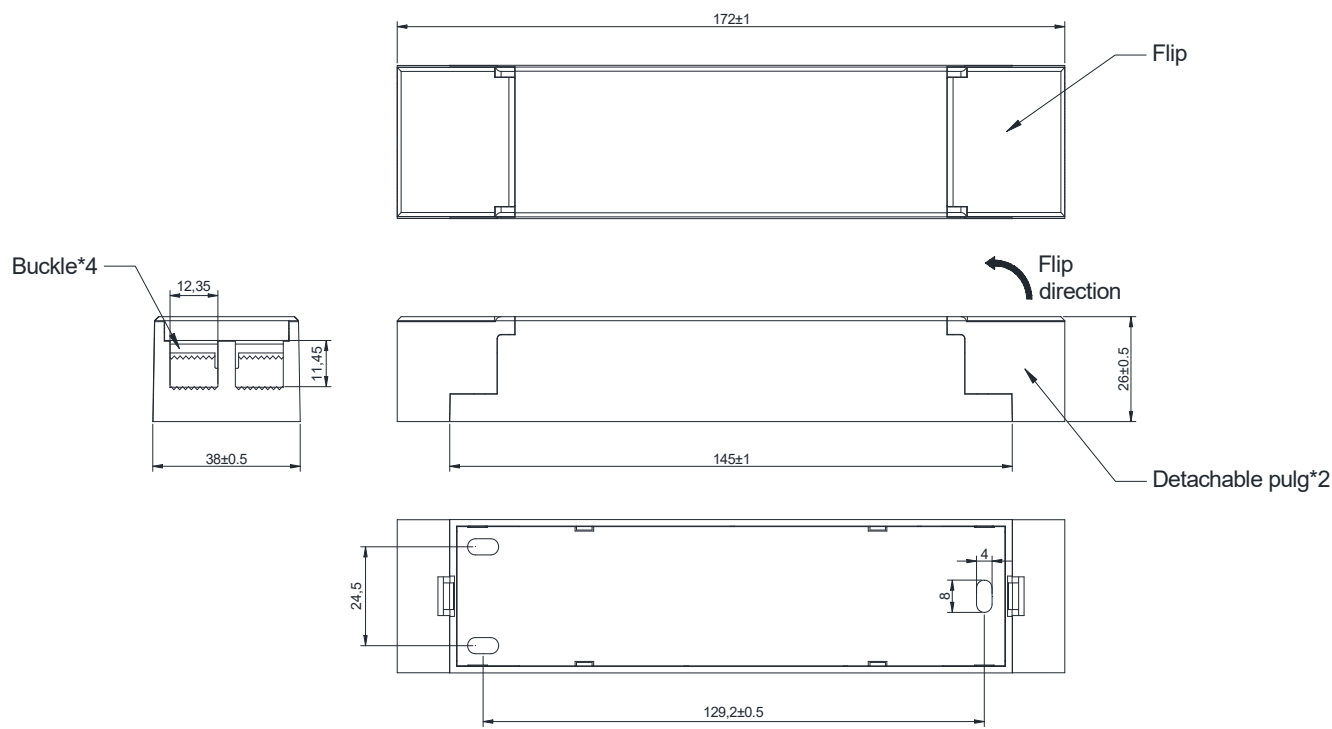
Note:

- 1. S version: 0-10V/Rx/PWM dimming output; D version: DALI dimming output. Both are PWM output modes.
- 2. When the output load is $\leq 10\%$, the output frequency is changed:
 - A. Load: 10% - 100% output PWM frequency for: 2 ~ 16 KHZ.
 - B. Load 10% - 1‰ : output PWM frequency for: 16 ~ 2 KHZ.

Mechanical specification

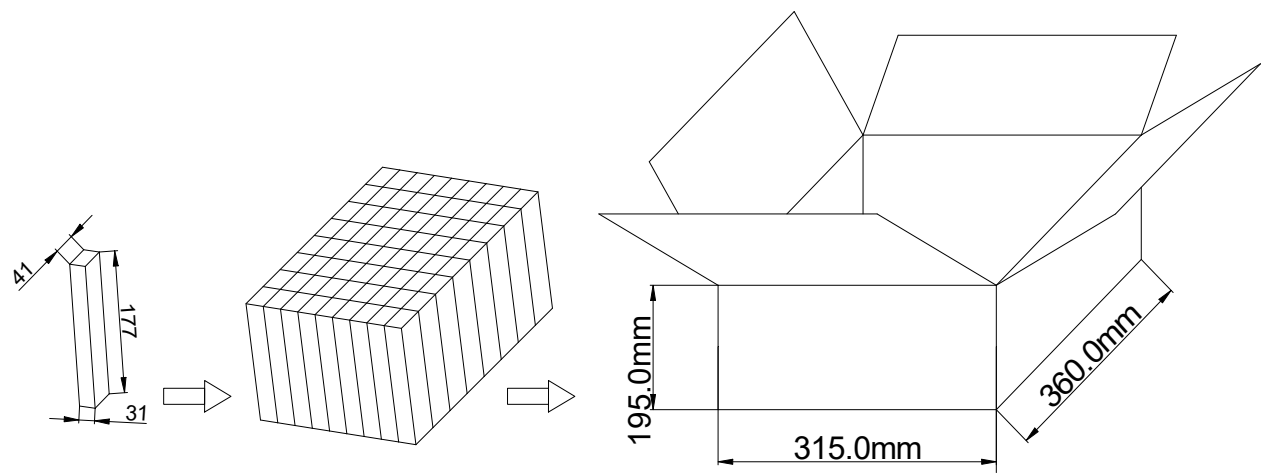
Size&Weight

Size&weight	L172*W38*H26mm	125.6g
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Packaging

Packaging(mm)	L360*W315*H195	72 PCS / Carton
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- Note:
- 1. One Carton 1 layers and 72 pcs each layer, total 72 pcs/carton.
 - 2. According to the certificate obtained by the LED DRIVER, the LED DRIVER with the English label is sold in Europe, America and India.
 - 3. The LED DRIVER with Chinese label is only used for China market.