

SPECIFICATION

Product name : LAG-50H-450A

Release date : 2023/11/6

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	LAG-50H-450A Series	REV	V1.0

Features

- Class I type for insulation
- Input voltage range:200-240V ~ 50/60Hz
- Efficiency 96% (Typ.)
- Constant current output ,with power limitation for control mode
- Version 1: Half glue (IP42); (optional IP65)
Version 2: bare plate construction (XP series)
- Surge level:
differential mode : 4kV
common mode :6kV
- guaranteed Lifetime : 5 year warranty for half glue; 3 year warranty for bare plate



Applications

Industrial lighting、Venue lighting

Model list

Model NO.	Rated Input voltage	Max Output power	Output voltage	The default current	Eff.
LAG-50H-450A	200-240V 50/60Hz	50W	410-450Vdc	0.11A	≥96%
LAG-50H-450A-XP	200-240V 50/60Hz	50W	410-450Vdc	0.11A	≥96%

Note:

1. Test conditions: Ta=25℃, under 230Vac input,after running for 30 minutes with full load .

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Input characteristics

Parameter	Min	Typ.	Max	Remark
Rated input voltage	-	230Vac	-	-
Input voltage range	200Vac	-	240Vac	-
Rated frequency range	-	50/60Hz	-	-
Power factor	0.95	-	-	@230Vac input ,with full load
T.H.D.	-	-	15%	@230Vac input ,with full load
Input current	-	-	0.30A	@180Vac input ,with full load
Inrush current	-	-	70A	230Vac, cold start (25°C)

Output characteristics

Parameter	Min	Typ.	Max	Remark
Rated current LAG-50H-450A LAG-50H-450A-XP	- - -	0.11A 0.11A	- -	@230Vac input ,with full load
Output current range LAG-50H-450A LAG-50H-450A-XP	0.09A	-	0.13A	@230Vac input ,with full load
Output voltage range LAG-50H-450A LAG-50H-450A-XP	410V	-	450V	-
Rated power@230Vac) LAG-50H-450A LAG-50H-450A-XP	-	50W 50W	-	@230Vac input ,with full load
No-load voltage LAG-50H-450A LAG-50H-450A-XP	-	-	520V	-

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Output characteristics

Parameter	Min	Typ.	Max	Remark
Efficiency@230Vac LAG-50H-450A LAG-50H-450A-XP	-	96%	-	@230Vac input ,with full load
Accuracy of output current	-5%	-	+5%	For constant-power range , with full load
Line regulation	-3%	-	+3%	full load
Load regulation	-3%	-	+3%	full load
Starting time	-	-	500ms	Full load@230Vac

Note: 1.The output current is limited by the input and output voltage, please refer to “I-V WORKING AREA” for details;

Protections

Protection	description
Over temperature protection	Could recover automatically; Bare plate test when the IC temperature is greater than 100 ± 3 C, the output power gradually decreases as the IC temperature increases.
Input under-pressure protection	When the input voltage is less than 180 Vac, the output power gradually decreases with the decrease of the input voltage.
Output overload protection	Overload protection is triggered when the load voltage is greater than 500 ± 5 Vdc; Protection mode: hiccup restart, which can be automatically restored after the load abnormal conditions are removed.

Note:

1. Unless otherwise specified, all parameters should be measured at the condition of 230Vac (50Hz) input ,with rated load ,and ambient temperature of 25°C;
2. Including setting error, linear adjustment rate and load adjustment rate;

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Environmental characteristics

Environmental categories	Parameter
Working temperature	-40 ~ +55℃@200-240Vac((Refer to "Service Life Curve"))
Safety case temperature	-40 ~ 90℃
Working humidity	20 ~ 95% RH,non-condensing
Storage temperature、humidity	-40~+80℃, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	230Khrs min. MIL-HDBK-217F (Ta=25℃)
Lifetime	50000 hours @230Vac,80% load, Tcase=75℃,.Refer to” Tcase VS Lifetime” curve for details.

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 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3
Surge level	Differential mode L-N ±4KV(2Ω),common mode L, N-PE±6KV (12Ω) Refer toIEC61000-4-5 2014
High-pot test	I/P-PE :1.5KVac
Insulation impedance	I/P-PE:100MΩ / 500VDC; I/P-O/P:100MΩ / 500VDC / 25℃/ 70% RH
Leakage current	<5mA@230Vac

Note:

1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.

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I-V Working area

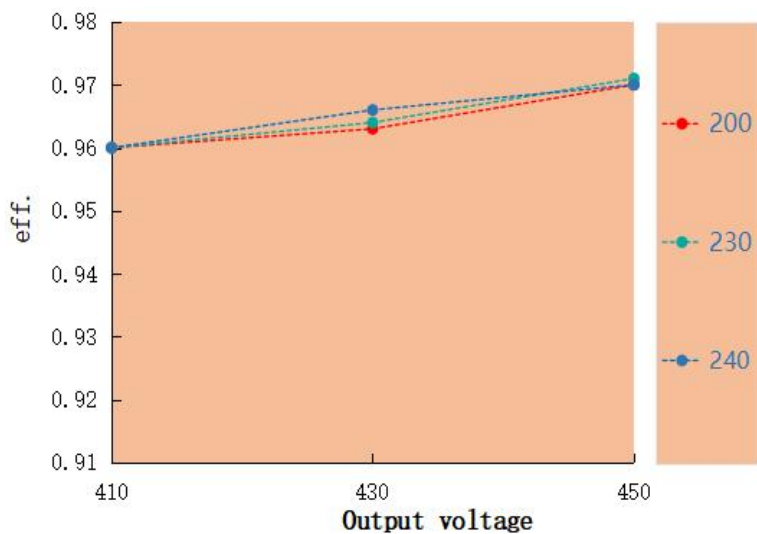
LAG-50H-450A

Load	输出								
Load working Voltage	410V	415V	420V	425V	430V	435V	440V	445V	450V
Io_MAX	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A
Po_MAX	45.1W	45.6W	46.2W	46.7W	47.3W	47.8W	48.4W	48.9W	50W

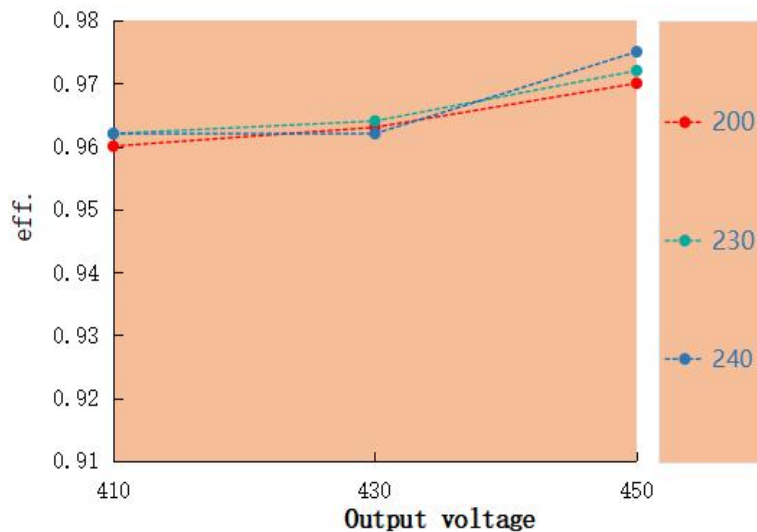
LAG-50H-450A-XP

Load	输出								
Load working Voltage	410V	415V	420V	425V	430V	435V	440V	445V	450V
Io_MAX	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A
Po_MAX	45.1W	45.6W	46.2W	46.7W	47.3W	47.8W	48.4W	48.9W	50W

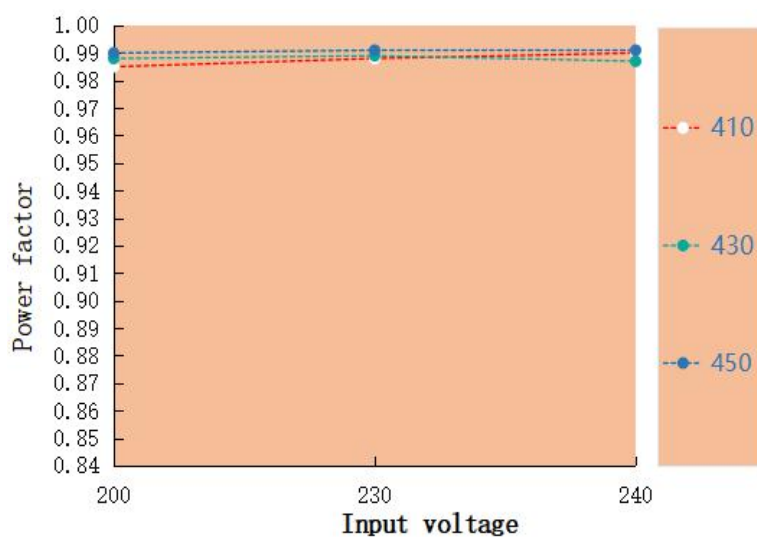
Eff. VS Output voltage LAG-50H-450A



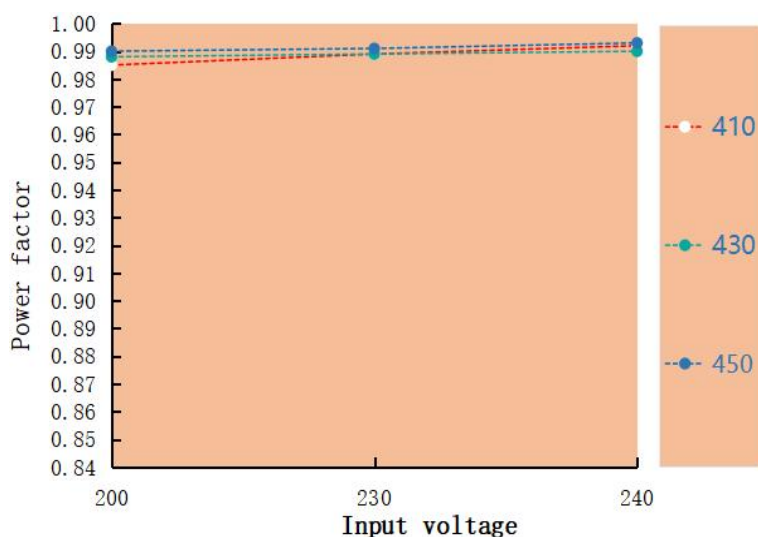
Eff. VS Output voltage LAG-50H-450A-XP



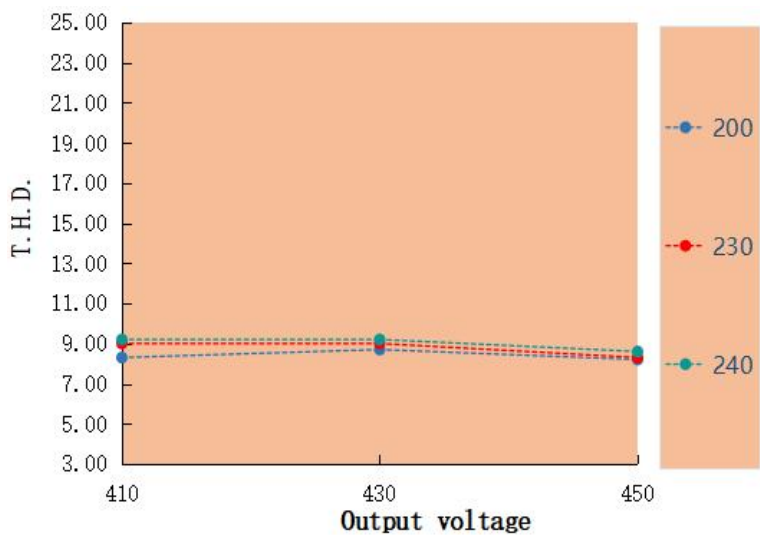
Power factor VS Input voltage LAG-50H-450A



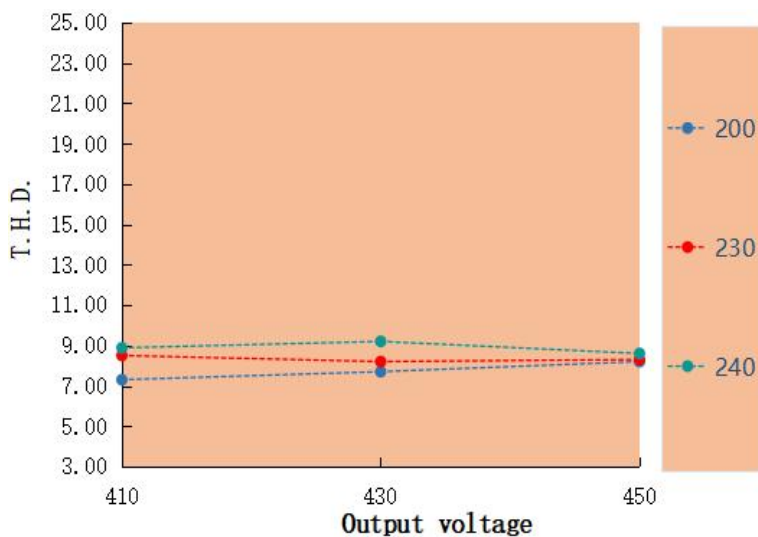
Power factor VS Input voltage LAG-50H-450A-XP



T.H.D. VS Output voltage LAG-50H-450A

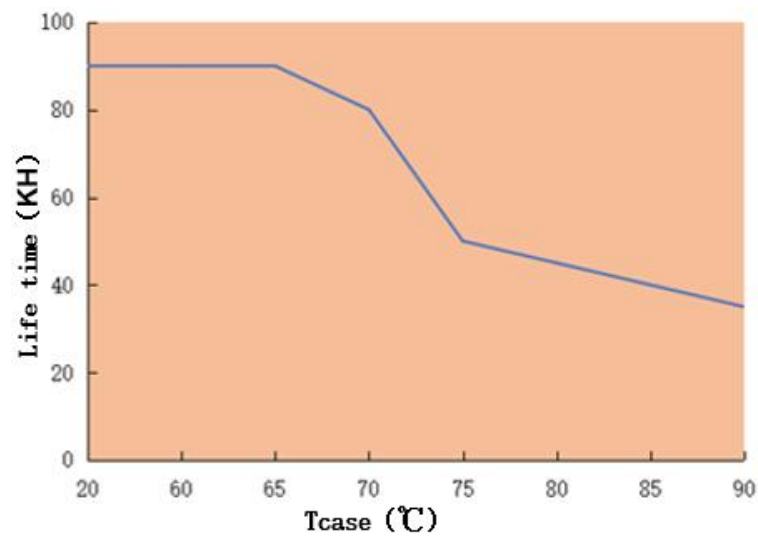


T.H.D. VS Output voltage LAG-50H-450A-XP

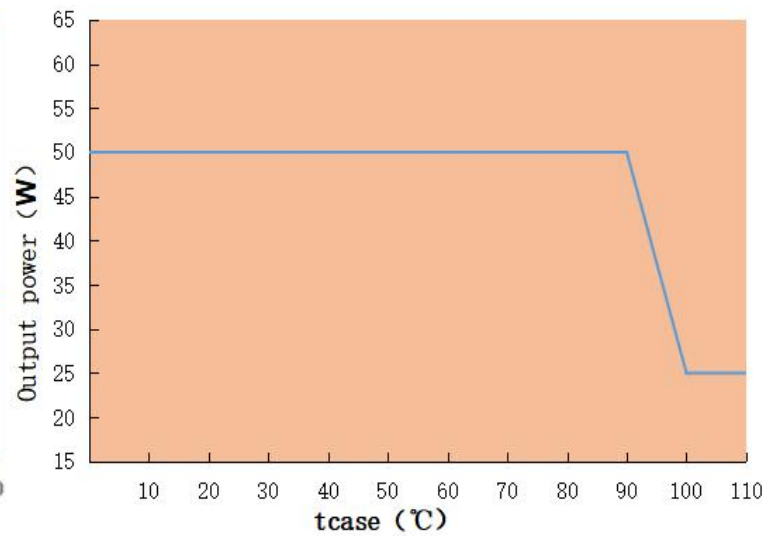


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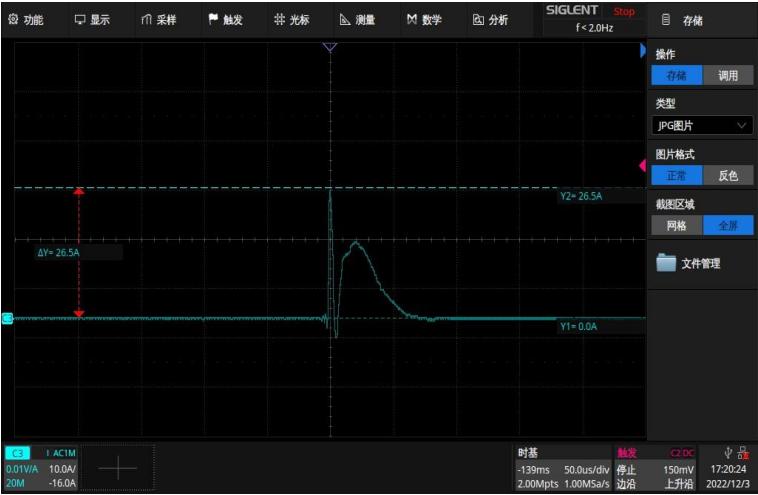
Tcase VS Life time LAG-50H-450A



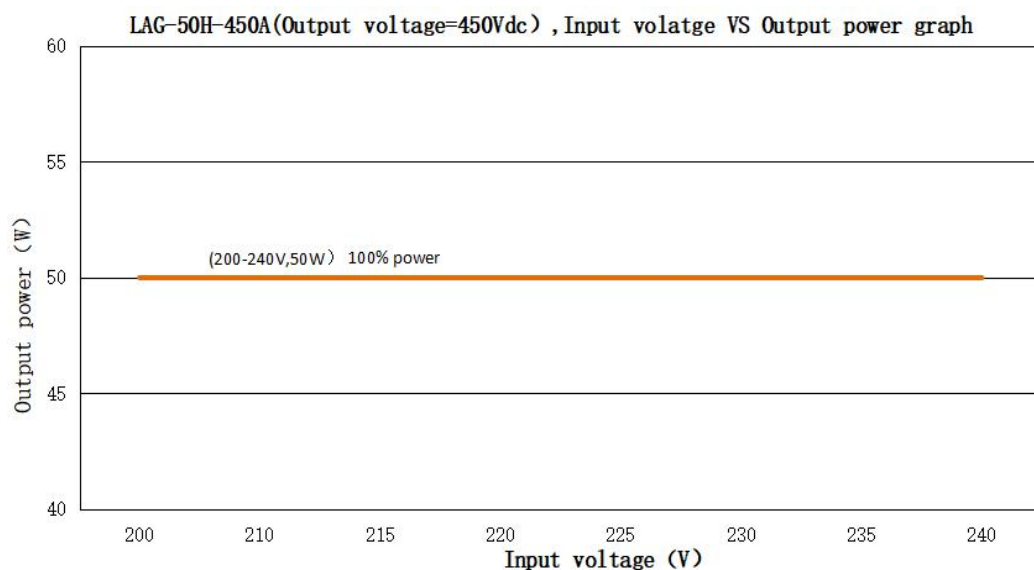
Output power VS Tcase LAG-50H-450A



Surge curve LAG-50H-450A



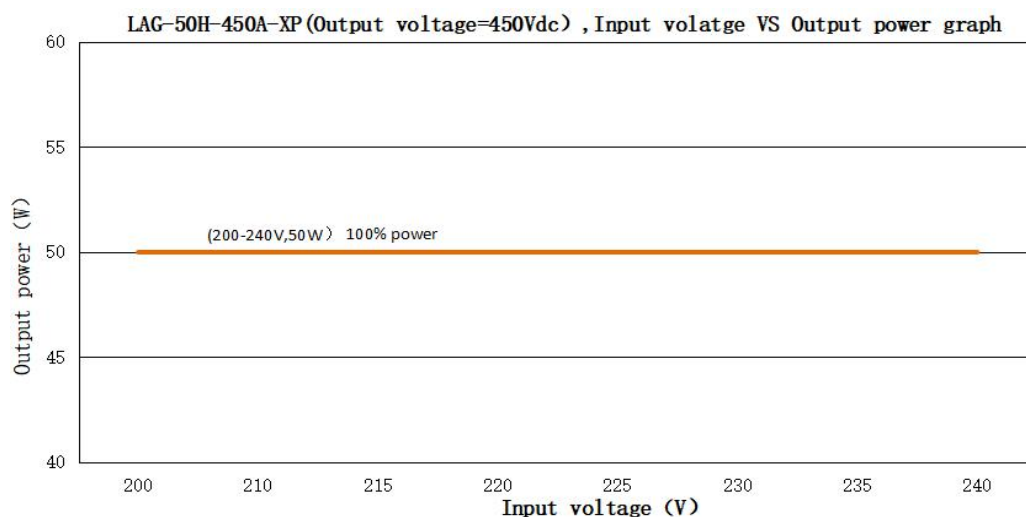
Output power VS Input voltage



LAG-50H-450A(Vdc=470Vdc, the rated output current & power under different input voltage)

Input Voltage	200Vac	210Vac	215Vac	220Vac	225Vac	230Vac	235Vac	240Vac
Io	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A
Po	50W	50W	50W	50W	50W	50W	50W	50W

Output power VS Input voltage



LAG-50H-450A-XP(Vdc=470Vdc, the rated output current & power under different input voltage)

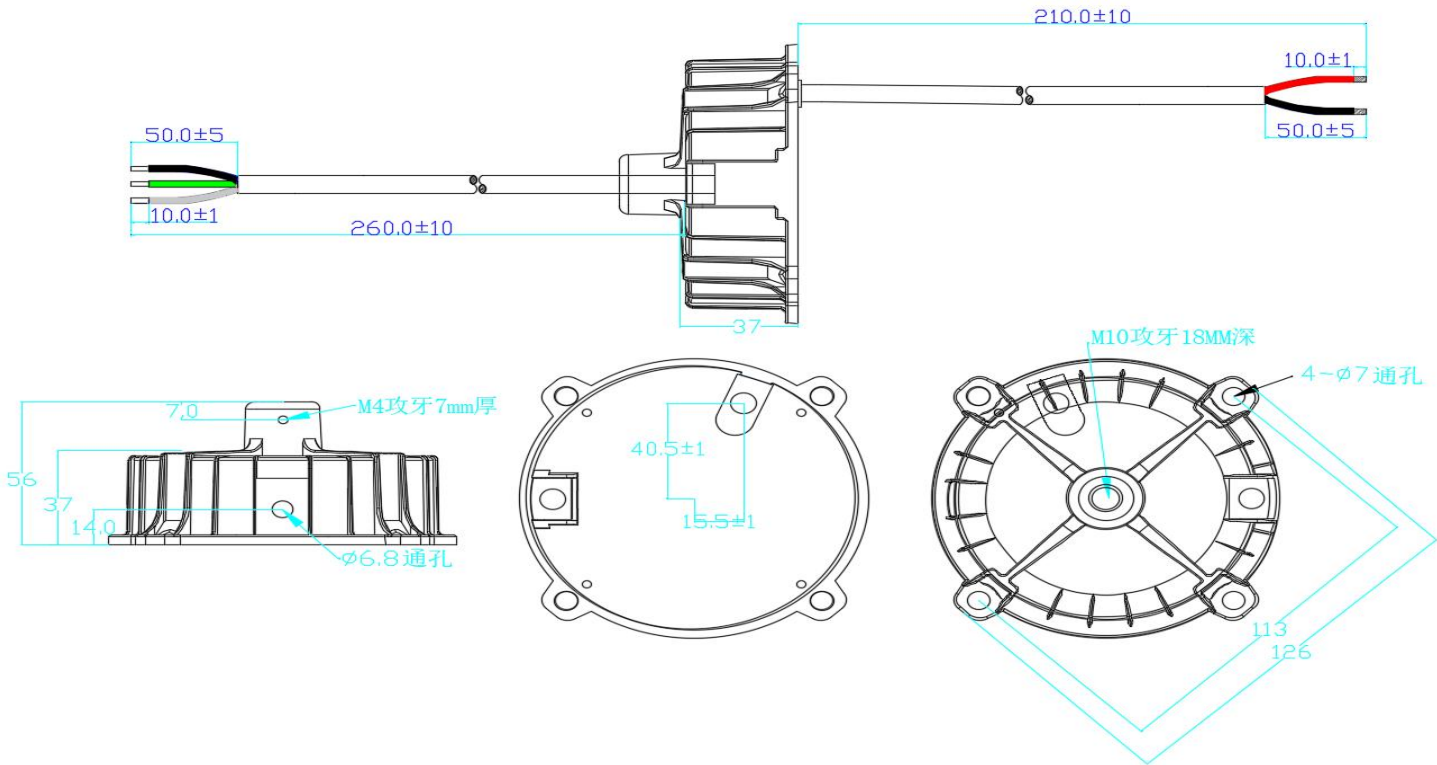
Input Voltage	200Vac	210Vac	215Vac	220Vac	225Vac	230Vac	235Vac	240Vac
Io	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A	0.11A
Po	50W	50W	50W	50W	50W	50W	50W	50W

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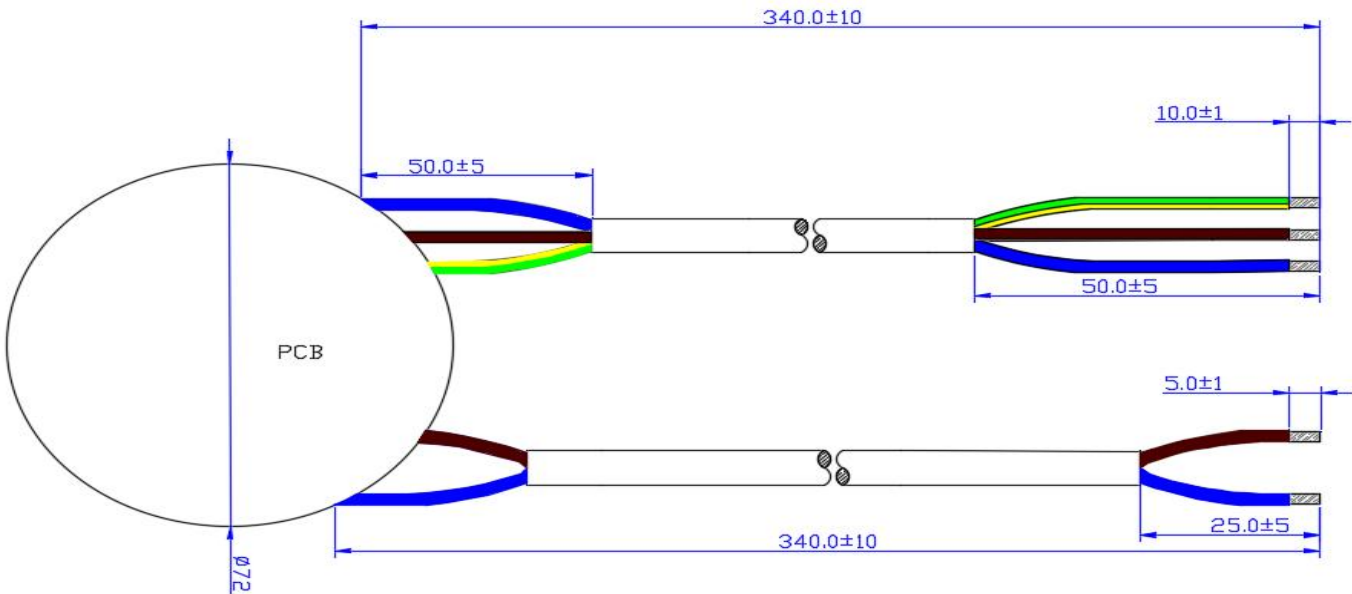
Mechanical specification

Size (mm)	Φ 126mm H 56mm		
Weight (Kg)	LAG-50H-450A 460g	LAG-50H-450A-XP 150g	

LAG-50H-450A



LAG-50H-450A-XP



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Version

DATE	DESCRIPTION	REV.	CHECK
2023.11.06	Initial version.	V1.0	