

The logo for DONE, featuring the word "DONE" in a bold, teal, sans-serif font. The letter "D" is stylized with a circular element on its left side. The logo is contained within a white rounded square with a thin teal border.

DONE

SPF SERIES LED DRIVERS

DL-120W-SPF SPEC V1.5

Features

- Class I structure
- Input voltage: 120-277 V ~ 50/60 Hz
- Efficiency: 95% (Typ.)
- Constant power drive and constant current output control mode
- Metal shell structure, protection grade: IP65
- Lightning protection level: differential mode 4kV, common mode 4kV
- When the dimming signal input is 0V, 0%and 0KΩ, standby power consumption is less than or equal to 0.5W.(X version only)
- Function selection:
 - Output current is adjusted by external potentiometer
 - Isolated 3 in 1 dimming (0-10V, PWM, Resistor)(S/X version only)
 - Auxiliary power supply: 12V 200mA (X version only)
- Lifetime design: 5 years



Applications

Road lighting、 Industrial lighting、 Venue lighting
 Floodlight lighting、 Landscape lighting 、 Plant lighting



Model list

Model NO.	Input voltage	Output power	Output voltage	The default current	Eff.	T.H.D	PF
DL-120W-V260A-SPF	120-277V	120W	180-260Vdc	0.5A	≥95%	≤10%	≥0.95
DL-120W-V260S-SPF	50/60Hz						
DL-120W-V260X-SPF							

- Note :**
1. Test conditions of the above parameters: Ta=25℃, 230Vac input, full load operation for 30 minutes;
 2. When the input is 120-277VAC, the rated power is 120W, please ensure that the input voltage is within the allowable range. Please refer to “THE OUTPUT POWER VS INPUT VOLTAGE” curve chart for details.

Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	120Vac	230Vac	277Vac	-
Input voltage range	108Vac	-	305Vac	-
Rated frequency	47Hz	50/60Hz	63Hz	-
Power factor	-	0.95	-	Full load, rated input voltage of 120-230Vac
	-	0.92	-	Full load, rated input voltage of 277Vac
T.H.D.	-	-	10%	100% load, 120Vac/60Hz, 230Vac/50Hz input
	-	-	20%	80%-100% load, 277Vac/60Hz input
Input current	-	-	1.2A	@120Vac full load
Inrush current	-	-	100A	230Vac, cold start (25°C)

Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current DL-120W-V260A/S/X -SPF	-	0.46A	-	-
Output current range DL-120W-V260A/S/X -SPF	0.25A	-	0.6A	-
Output voltage range DL-120W-V260A/S/X -SPF	180Vdc	-	260Vdc	-
Constant power output voltage range	200V	-	260V	Maximum output power 120W
Constant current output voltage range	180V	-	260V	Maximum output current 0.6A
No-load voltage DL-120W-V260A/S/X -SPF	-	-	300V	-
Efficiency@120Vac DL-120W-V260A/S/X -SPF	-	92%	-	Full load

Output characteristic

Parameter	Min	Typ.	Max	Note
Efficiency@230Vac DL-120W-V260A/S/X -SPF	-	95%	-	Full load
Accuracy of output current	-5%	-	+5%	Full load
Ripple of output current	-	5%	-	Full load
Line regulation	-3%	-	+3%	Full load
Load regulation	-3%	-	+3%	Full load
Starting time	100ms	-	1000ms	Full load@120-277Vac

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

Dimming characteristic

Dimming function		Min	Typ.	Max	Instructions
0-10V Dimming (Optional)	Safe applied voltage range	0V	-	12V	When the external voltage is ≥12V, the dimming will fail
	Dimming output range	0	-	100%	-
	Rated dimming voltage range	0V	-	10V	-
PWM Dimming (Optional)	PWM high level	9.5V	-	10.5V	-
	PWM low level	0V	-	0.3V	-
	PWM frequency band	300Hz	-	2000Hz	-
	PWM duty cycle	0	-	100%	-
Resistor Dimming (Optional)	External resistance value	0KΩ	-	100KΩ	-
	Dimming output range	0	-	100%	-

Note:

1. Output current of dimming port: 100uA (typical value);
2. The maximum withstand voltage of the dimming port is 12V. If the external power supply voltage exceeds 12V or the signal line is Connected reversely, the power supply will be damaged.
3. Maximum connected dimming/Aux. power wire length: 3m.

Protection

Function	Function instructions
Output overload protection	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 type: when the housing temperature is greater than 90°C, the output power decreases gradually.
Output over-voltage protection	Protection mode: Hiccup mode or clamped in output highest voltage, the product is not damaged, LED driver works normally after fault condition is removed.

Note:

1. Unless otherwise specified, all specifications and parameters shall be measured at the conditions of 230Vac (50Hz), rated load and 25°C of ambient temperature;
2. Including setting error, line regulation and load regulation.

Environmental

Environmental categories	Parameter
Working temperature	-40 ~ +55°C @120-277Vac (refer to "Life Curve ")
Working humidity	20 ~ 95% RH, non condensing
Tcase	90°C
Storage temperature, humidity	-40~+80°C, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	100Khrs min. MIL-HDBK-217F (Ta=25°C)
Lifetime	70000H@Tcase75°C,(Please refer to Lifetime VS Tcase curve for details)

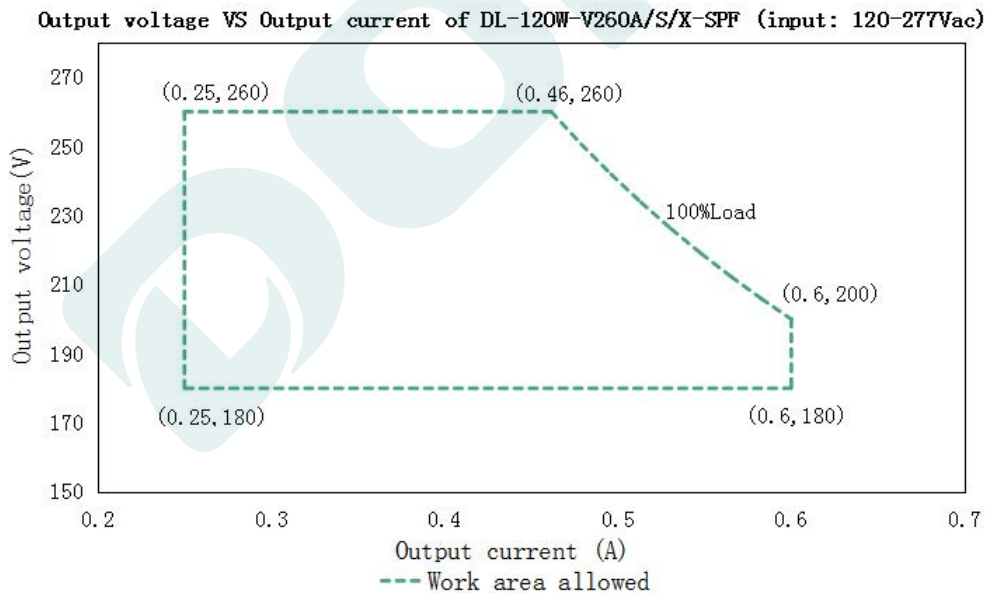
Safety and EMC

Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13 UL8750;
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3 FCC Part 15
Surge protection	Differential mode L-N ± 4 KV (2 ohm) ,common mode L, N-PE ± 4 KV (12 ohm); Refer to IEC61000-4-5 2014 Criterion B
High-pot test	I/P-PE :1.5KVac I/P-DIM:1.5KVac
Insulation impedance	I/P-PE:100M Ω / 500VDC; 25 $^{\circ}$ C/ 70% RH
Leakage current	<0.7mA@277Vac

Note:

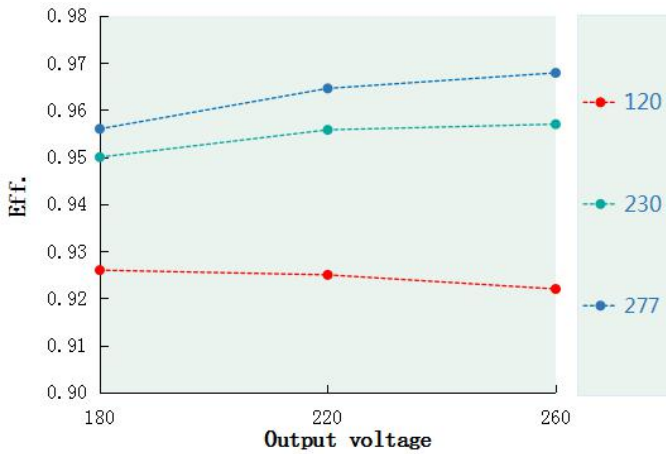
- 1.The driver is considered as a component that will be operated in combination with the final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
- 2.Because the driver will be in OVP restart model when it works in no-load, so the driver on-load is recommended.

I-V Working area

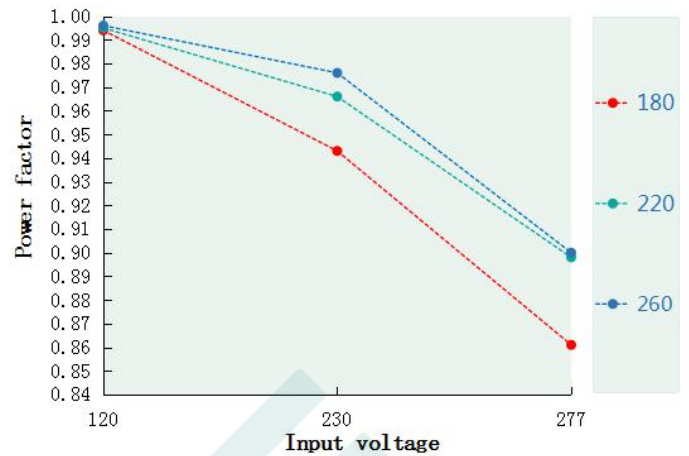


Load	Output								
Io_MAX	180V	190V	200V	210V	220V	230V	240V	250V	260V
Load working Voltage	0.6A	0.6A	0.6A	0.571A	0.545A	0.521A	0.5A	0.48A	0.46A
Po_MAX	108W	114W	120W	120W	120W	120W	120W	120W	120W

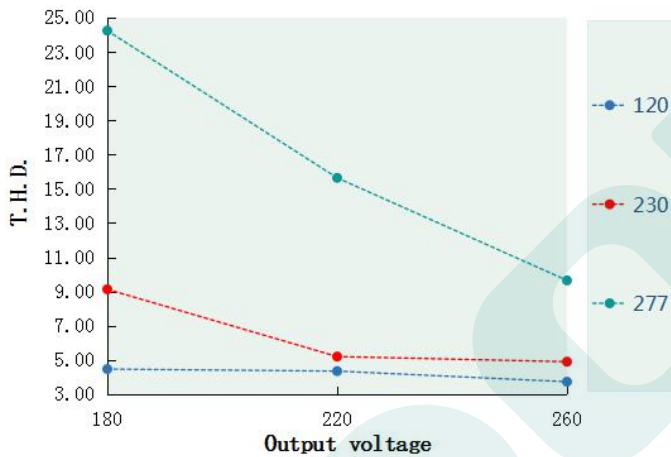
Eff. VS Output voltage(DL-120W-V260A/S/X -SPF)



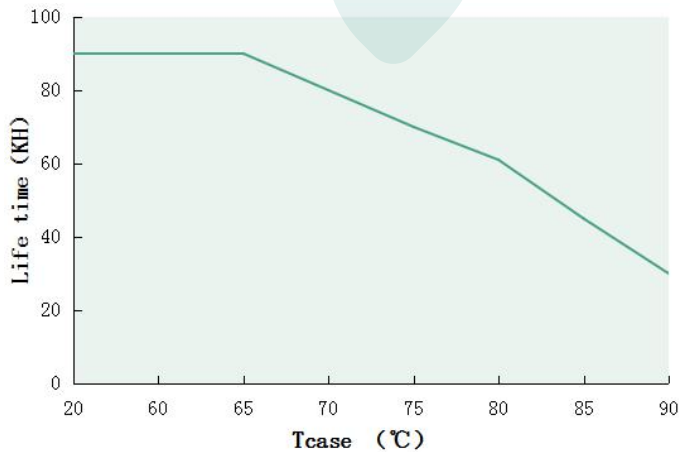
Power factor VS Input (DL-120W-V260A/S/X -SPF)



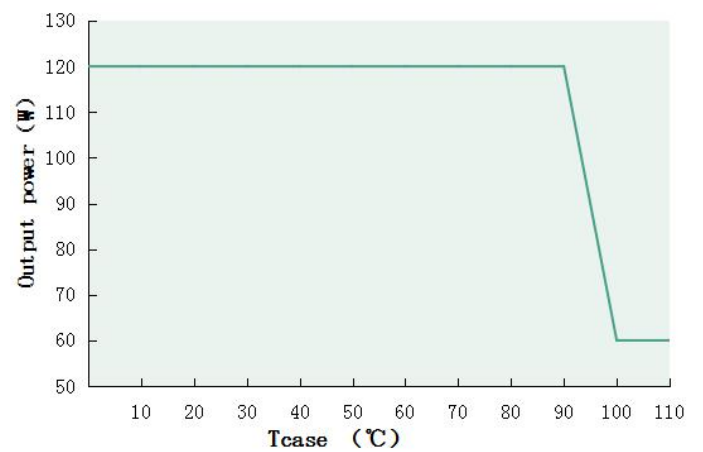
T.H.D. VS Output voltage (DL-120W-V260A/S/X -SPF)



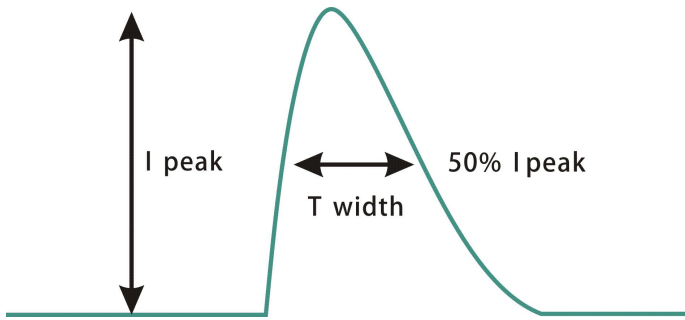
Lifetime VS Tcase (DL-120W-V260A/S/X -SPF)



Output power VS Tcase (DL-120W-V260A/S/X -SPF)

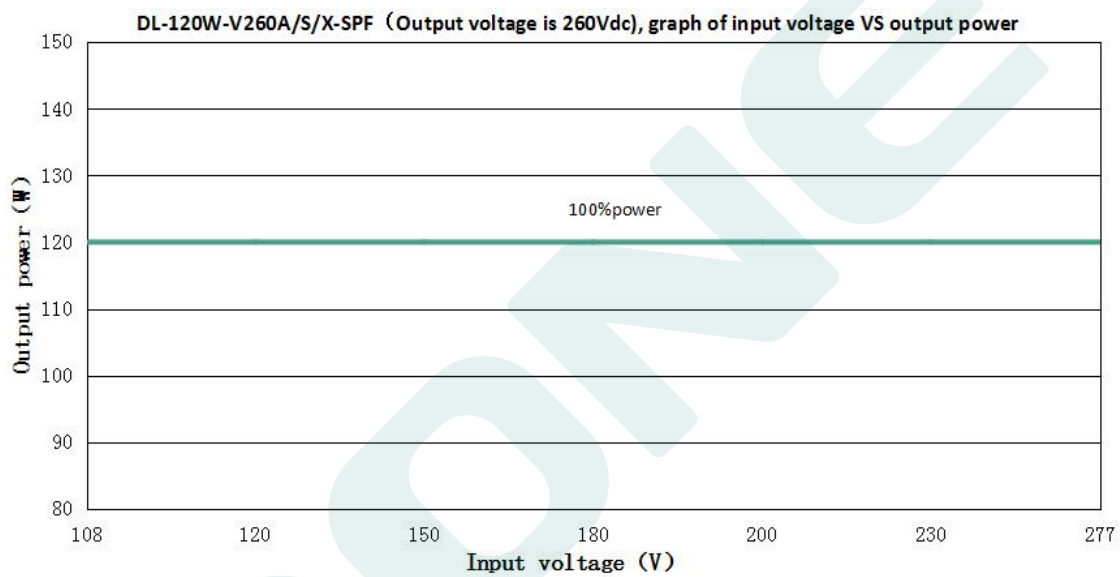


Inrush Current(DL-120W-A/S/X-SPF)



Input voltage	Peak current	T(@50% Peak current)
120Vac	59.3A	148us
230Vac	73.2A	145us
277Vac	84.5A	147us

Output power VS Input voltage



DL-120W-V260A/S/X-SPF (When the output voltage is 260Vdc, the rated output current value and output power corresponding to different input voltage)

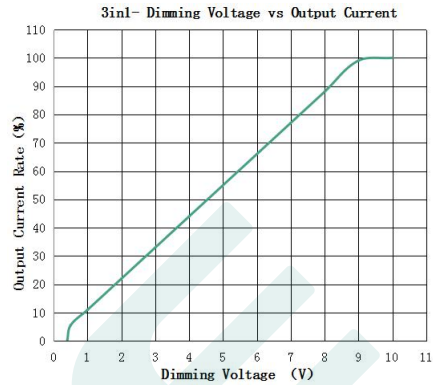
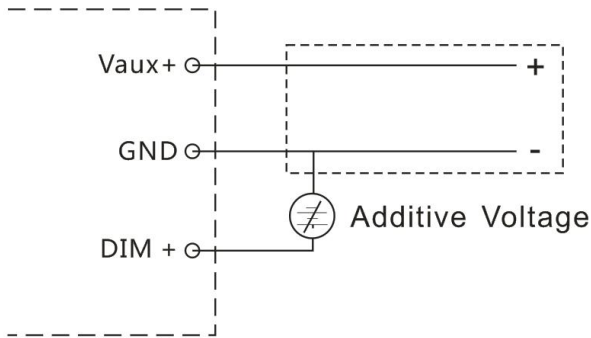
Input Voltage	108Vac	120Vac	150Vac	180Vac	200Vac	230Vac	277Vac
Iout	0.46A	0.46A	0.46A	0.46A	0.46A	0.46A	0.46A
Pout	120W	120W	120W	120W	120W	120W	120W

Dimming operation

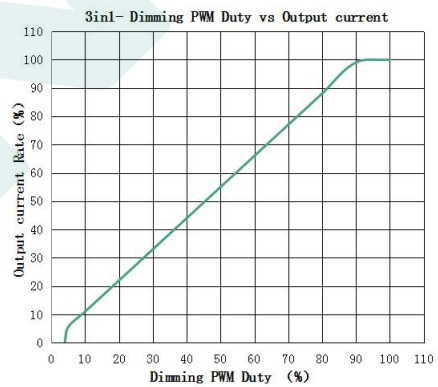
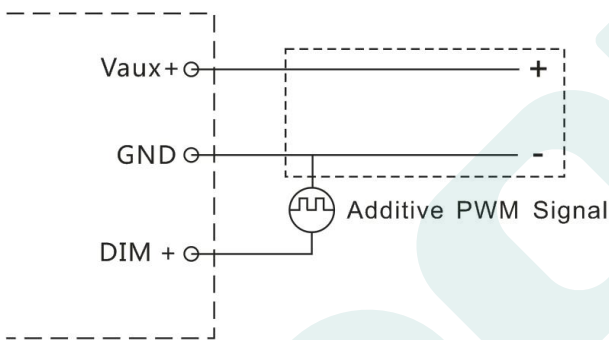
※ Three-in-one dimming function (S/X version only)

- A. Connect a resistor 0-100K or 0-10V DC voltage or 10V PWM signal between DIM+ and DIM- to adjust the output current.
- B. Output current of dimming port: 100uA (typical value). (to be determined!)

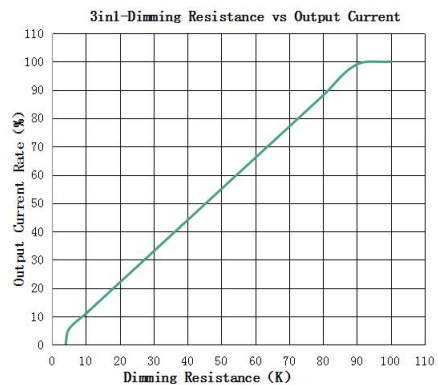
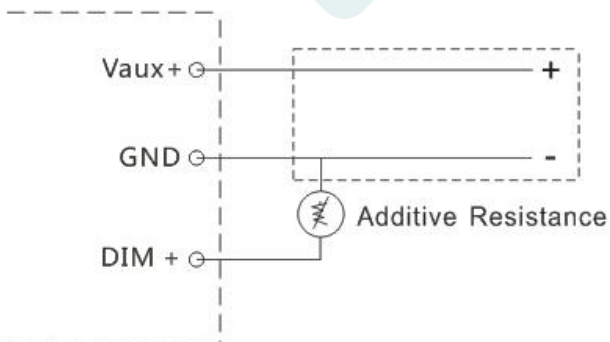
◎Applied voltage of 0-10V:



◎ Applying additive 10V PWM signal (Frequency range: 300Hz-2K Hz) :



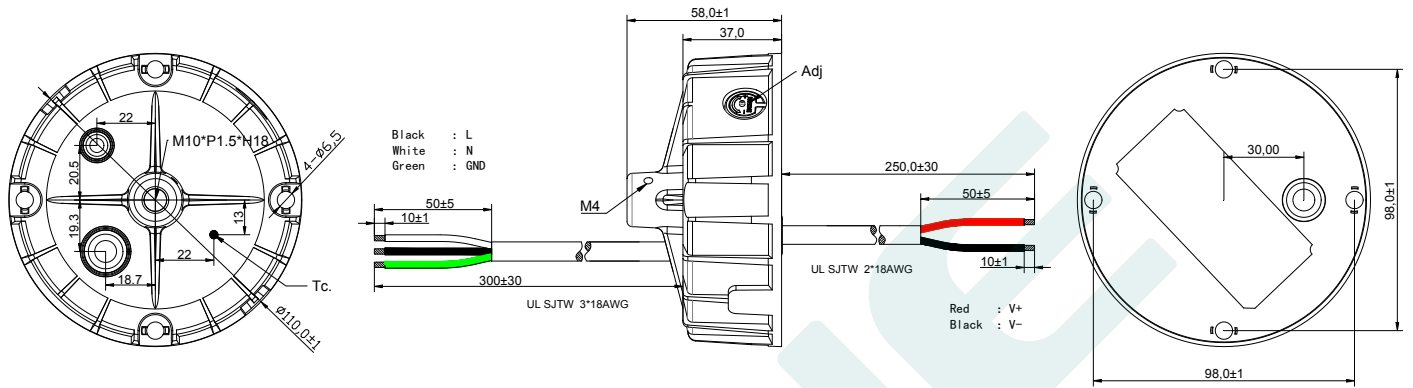
◎Applied an additional 0-100K resistor:



Mechanical specification

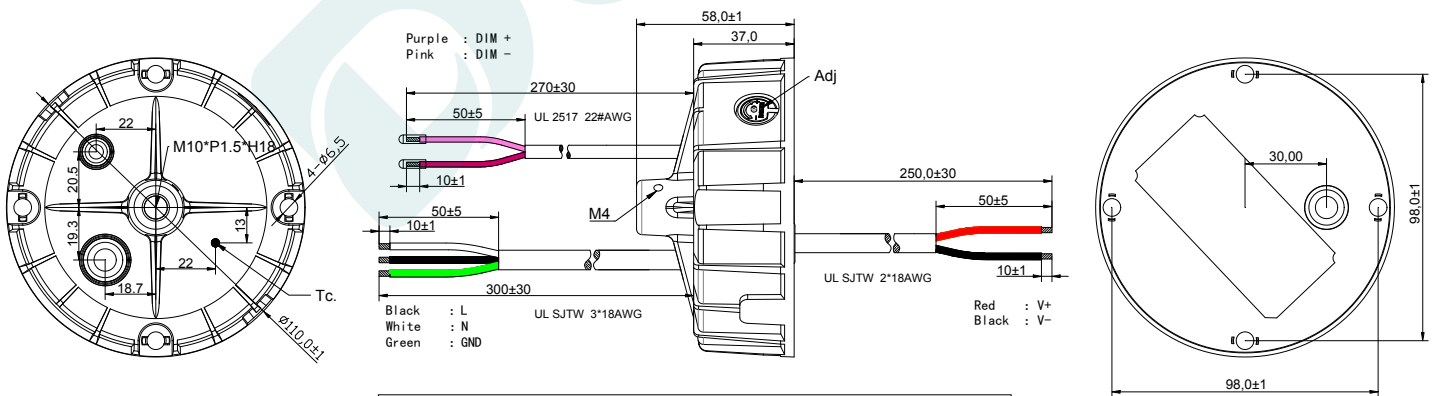
Size (mm) $\Phi 110 \times H58$

**General product dimension drawing
DL-120W-V260A-SPF**



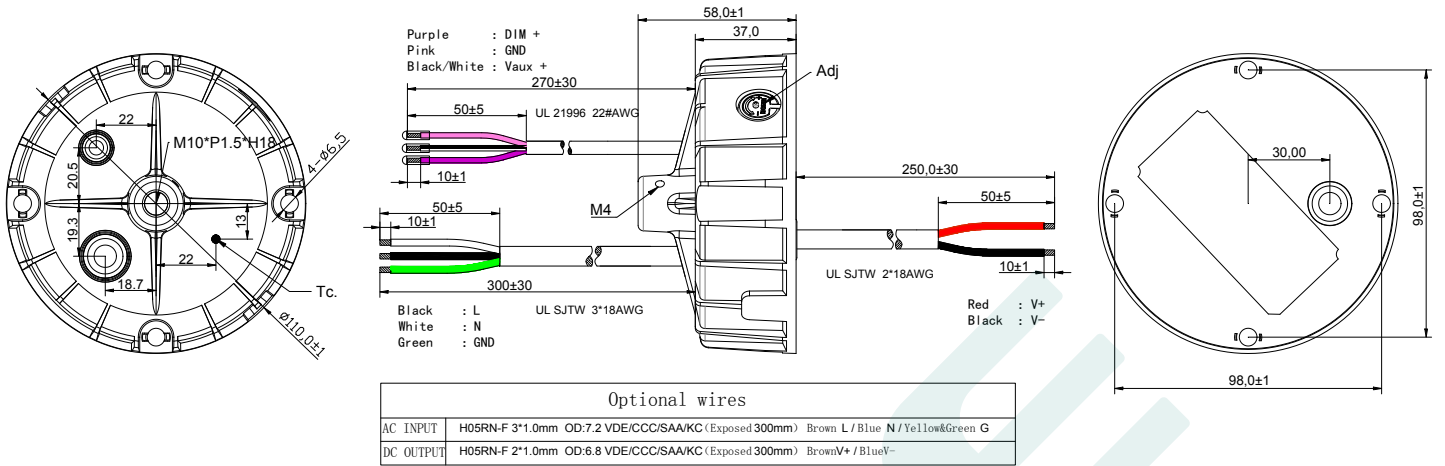
Optional wires	
AC INPUT	H05RN-F 3*1.0mm OD:7.2 VDE/CCC/SAA/KC (Exposed 300mm) Brown L / Blue N / Yellow#Green G
DC OUTPUT	H05RN-F 2*1.0mm OD:6.8 VDE/CCC/SAA/KC (Exposed 300mm) BrownV+ / BlueV-

**General product dimension drawing
DL-120W-V260S-SPF**



Optional wires	
AC INPUT	H05RN-F 3*1.0mm OD:7.2 VDE/CCC/SAA/KC (Exposed 300mm) Brown L / Blue N / Yellow#Green G
DC OUTPUT	H05RN-F 2*1.0mm OD:6.8 VDE/CCC/SAA/KC (Exposed 300mm) BrownV+ / BlueV-

General product dimension drawing
DL-120W-V260X-SPF

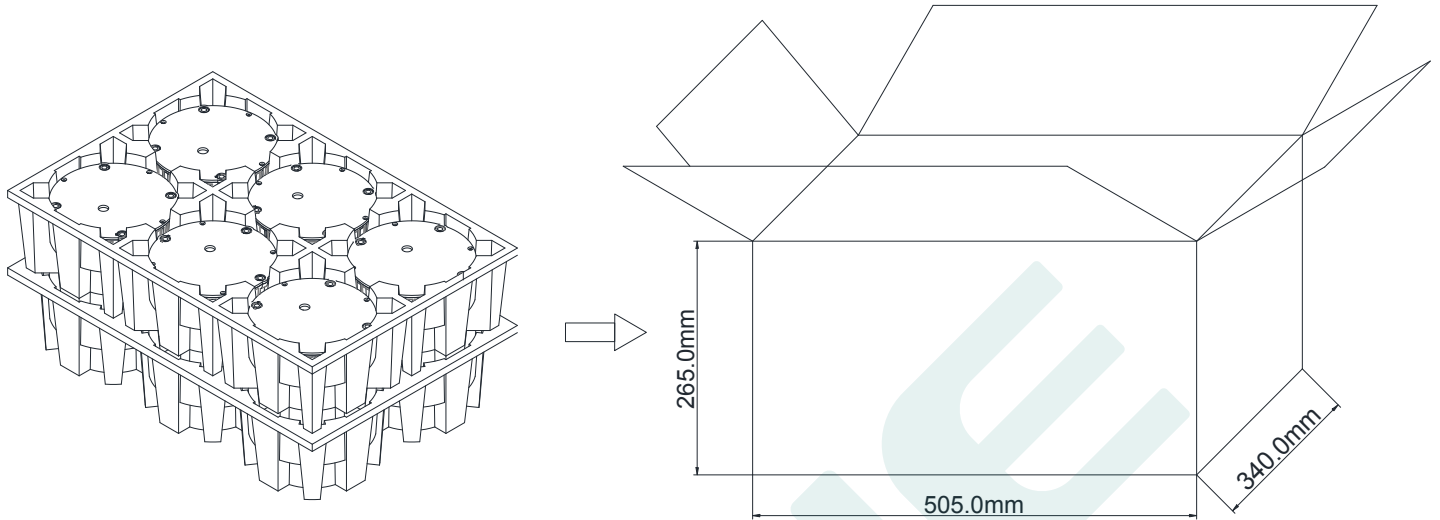


Weight

Weight	620 g
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Packaging

Packaging (mm) L505*W340*H265



Note: One Carton 2 layers and 6 pcs each layer, total 12pcs/carton.

Note:

1. According to the certificate obtained by the LED DRIVER, the LED DRIVER with the English label is sold in Europe, America and India.
2. The LED DRIVER with Chinese label is only used for China market.

Version

DATE	DESCRIPTION	REV.	CHECK
2022.3.22	Initial version.	V1.0	
2022.4.26	1.Increase Inrush Current 2.Increase when dimming is off , standby power consumption is less than or equal to 0.5W.(X version only). 3.Increase features: ripple of output current, Tcase , life time.	V1.1	
2022.5.12	1.Update: When the dimming signal input is 0V, 0%and 0KΩ , standby power consumption is less than or equal to 0.5W.(X version only). 2.Add TC point position on the shell.	V1.2	
2022.6.10	Add the optional wire (European standard)	V1.3	
2022.8.4	Update: .Because the driver will be in OVP restart model when it works in no-load, so the driver on-load is recommended.	V1.4	
2022.11.8	Updated: Graph of output power VS input voltage.	V1.5	

MANUFACTRUER		
EDIT	CHECK	APPROVE