

 GUANGDONG DONE POWER TECHNOLOGY CO.,LTD Service hotline: 400 0760 585 Website: www.donepower.com.cn	Application	DONE WATERPROOF LED DRIVER		
	Product Line	DL-50W-S/A-MAP	REV	1.4

Guangdong Done Power Technology Co.,Ltd.

SPECIFICATION FOR APPROVAL

CUSTOMER :			
MODEL NO. :	DL-50W-S/A-MAP		
VERSION:	V1.4		
CUSTOMER			
TEST	CHECK	APPROVE	
CUSTOMER REMARKS			
Please return to us one copy of "SPECIFICATION FOR APPROVAL" with you approved signature..			
MANUFACTRUE			
EDIT	CHECK	APPROVE	
吕晓凤	 2022.03.12 14:22:05 +08'00'	 数字签名者：张鸿生 DN：cn=张鸿生, o=DL, email=978425630@qq.co m,c=<> 日期：2022.03.12 16:00:36 +08'00'	
Guangdong Done Power Technology Co.,Ltd. No. 3-1&3-2,Kanglong 3rd Road,XinMao Industry Zone,Henglan Town, Zhongshan City,Guangdong Province,P.R.China Post code:528478 TEL:0760-89838399 89838379 FAX:0760-89831157 89838396			

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■ VERSION

DATE	CAUSES OF CHANGE	REV.	CHECK
2020.02.24	Initial version	V1.0	
2020.03.04	Change the product picture (P3)	V1.1	
2020.04.14	Add voltage range on page 4:90-305Vac	V1.2	
2022.2.17	Update dimension drawing	V1.3	
2022.3.11	1.. update the company LOGO and company name.	V1.4	 2022.03.12 11:27:48 +08'00'  ZHANGTINGWEI 2022.03.12 11:46:02 +08'00'

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FEATURES

- ◇ Class I structure
- ◇ Input Voltage:100-277V ~ 50/60Hz
- ◇ Efficiency 88%
- ◇ Constant power drive , Constant current output control mode
- ◇ Metal clad construction , level of protection : IP67
- ◇ Lightning protection level : difference module 4kV ,
common mode 6kV
- ◇ Long life design , 5 years warranty
- ◇ Output current can be adjusted Externally
- ◇ The dimming function : Three in one dimming
(Only S series)



TYPICAL APPLICATIONS

Road lighting、Industrial lighting、The venue lighting
floodlighting、landscape lighting

MODEL LIST

Model	AC Input	Output power	Output voltage	Output current	Efficiency	T.H.D	PF
DL-50W-V38S-MAP DL-50W-V38A-MAP	100-277V 50/60Hz	50W	20-38Vdc	1.5A	>87.5%	<10%	>0.95
DL-50W-V58S-MAP DL-50W-V58A-MAP	100-277V 50/60Hz	50W	32-58Vdc	0.9A	>88%	<10%	>0.95

Remark :

1. Default tested at 230Vac,full load with 30 minutes,Ta:25°C.
2. 100-180Vac , Pout:25W±20% ; 200-277Vac , P rated 50W.

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■ SPECIFICATION

◇ INPUT

Rated voltage	100 - 277Vac
Voltage Range	90-305Vac
Frequency	50/60Hz
Power factor(PF)	PF>0.95 @230Vac full load
Total harmonic distortion(THD)	THD<10% @230Vac full load
Input current	I _{in} <0.41A @180Vac full load
Inrush current (typ.)	Cold start 65A @230Vac

◇ OUTPUT

Model	DL-50W-V38S-MAP DL-50W-V38A-MAP	DL-50W-V58S-MAP DL-50W-V58A-MAP
Rated current	1.35A	0.85A
Output current range	0.7-1.6A	0.5-1.2A
Output voltage range	20-38Vdc	32-58Vdc
Rated output power(100-180Vac)	25W±30%	25W±30%
Rated output power(200-277Vac)	50W	50W
No load voltage	50Vdc Max	70Vdc Max
Efficiency	87.5%@230Vac Full load	88%@230Vac Full load
Accuracy off output current	±5%	
Line regulation	±5%	
Load regulation	±5%	
Setup time	<500ms @230Vac full load	

Remarks : the range of output current is limited by in-out voltage , For details, please refer to the I-V working area.

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◇ Others

0-10V Dimming (Optional)	Safety Dimming Voltage Range	0V - 12V
	Dim Range	0 - 100%
	Rated Dim Range	0V - 10V
PWM Dimming (Optional)	PWM High	9.5V - 10.5V
	PWM Low	0V - 0.3V
	PWM Frequency	300Hz - 2000Hz
	PWM Duty	0 - 100%
Resistor Dimming	Resistance	0Kohm - 100Kohm
	Dim Range	0 - 100%

Remarks:

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 reversely connected, the power supply will be damaged.

◇ Protection

Low Voltage protection	When the input voltage is less than 180Vac, the output power is reduced by about half
Over Load protection	Protection mode: hiccup restart mode, automatic recovery after removal of abnormal load conditions
Short Circuit Protection	Doze mode, can automatically recover after abnormal conditions are removed
Over temperature Protection	When the Tc is over 90 °C , the output power is reduced by about half
Over Voltage protection	Protection mode: hiccuping or clamping in output maximum voltage ,Production undamaged,When troubleshooting,Normal operation of power supply

Remarks:

1. All specifications are tested at 230Vac (50Hz) , rated load, and Ta:25°C.
2. Including setting error, linear adjustment rate and load adjustment rate.

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■ ENVIRONMENT

Working temperature	-40 ~ +60°C (Refer to "Derating Curve")
Working humidity	20 ~ 95% RH, non-condensing
Storage temperature/humidity	-40~+80°C, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes
MTBF	230K hrs min. MIL-HDBK-217F (Ta=25°C)

■ SAFETY & EMC

Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13 ;
EMC	EN 55015、EN 61000-3-2 、GB/T 17743、GB17625.1、EN 61000-3-3
Surge level	difference mode L-N $\pm$ 4 KV (2 ohm), common mode L , N-PE $\pm$ 6KV (12 ohm) Refer to IEC61000-4-5 2014
High-pot test	I/P-O/P:3.75KVAC I/P-PE :1.5KVAC O/P-PE : 0.5KVAC I/P-DIM:1.5KVAC
Insulation resistance	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH
Leakage current	<0.7mA

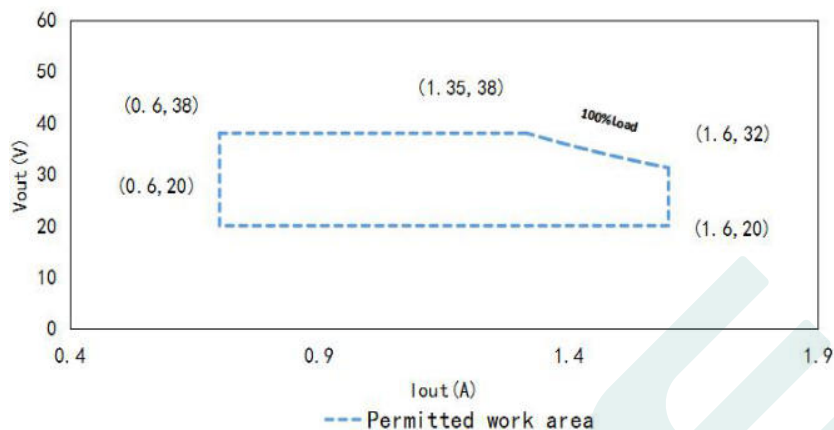
Remarks:

The power supply is considered as a component that will be operated in combination with 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.

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■ I-V Working Area

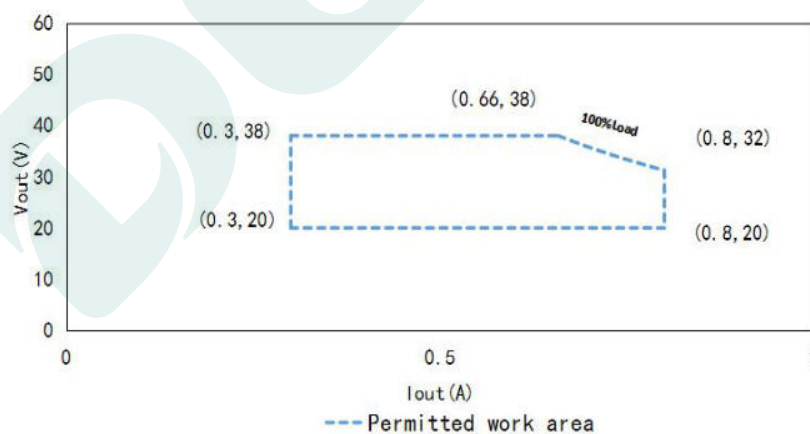
(Fig. 1) DL-50W-V38S/38A-MAP(Vin: 200-277Vac) Iout VS Vout



DL-50W-V38S/A-MAP(200-277Vac , Rated output current and output power corresponding to different load voltages)

Load working Voltage	20V	22V	24V	26V	28V	30V	33V	36V	38V
Io_MAX	1.6A	1.6A	1.6A	1.6A	1.6A	1.6A	1.6A	1.465A	1.35A
Po_MAX	32W	35.2W	38.4W	43.2W	44.8W	48W	51.2W	51.3W	51.3W

(Fig. 1) DL-50W-V38S/38A-MAP(Vin: 100-180Vac) Iout VS Vout



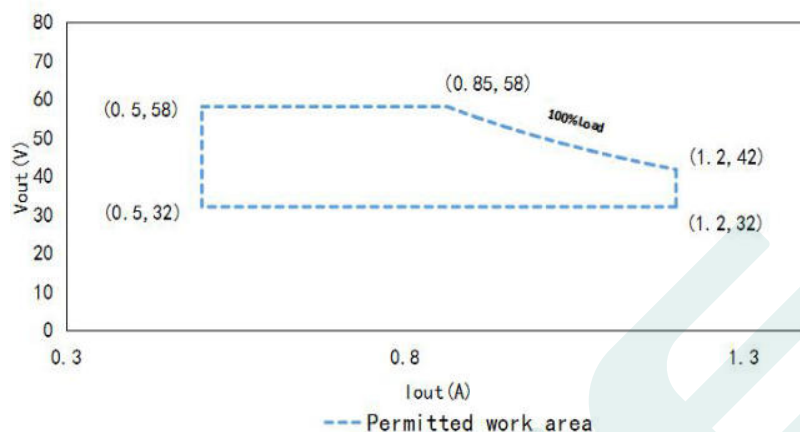
DL-50W-V38S/A-MAP(100-180Vac , Rated output current and output power corresponding to different load voltages)

Load working Voltage	20V	22V	24V	26V	28V	30V	33V	36V	38V
Io_MAX	0.8A	0.8A	0.8A	0.8A	0.8A	0.8A	0.8A	0.71A	0.66A
Po_MAX	16W	17.6W	19.2W	21.6W	22.4W	24W	25.6W	25.6W	25.6W

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■ I-V Working Area

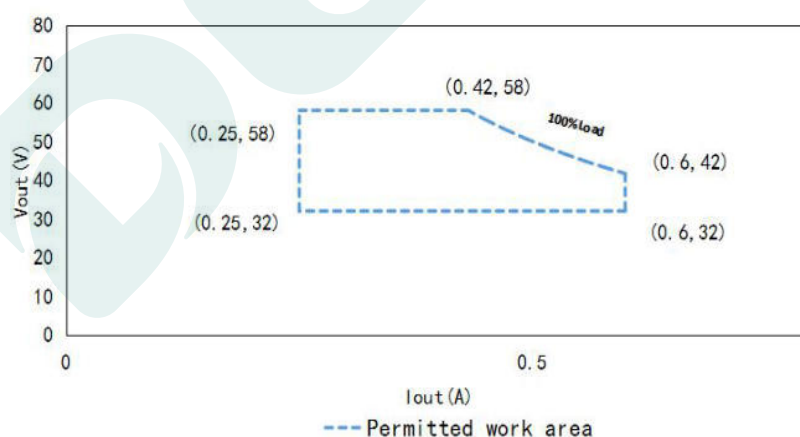
(Fig. 1) DL-50W-V58S/58A-MAP (Vin: 200-277Vac) I_{out} VS V_{out}



DL-50W-V58S/A-MAP(200-277Vac , Rated output current and output power corresponding to different load voltages)

Load working Voltage	32V	35V	39V	42V	45V	48V	50V	55V	58V
I _o _MAX	1.2A	1.2A	1.2A	1.2A	1.17A	1.07A	0.98A	0.91A	0.85A
P _o _MAX	38.4W	40.8W	43.2W	46.8W	49.3W	49.3W	49.3W	49.3W	49.3W

(Fig. 1) DL-50W-V58S/58A-MAP (Vin: 100-180Vac) I_{out} VS V_{out}

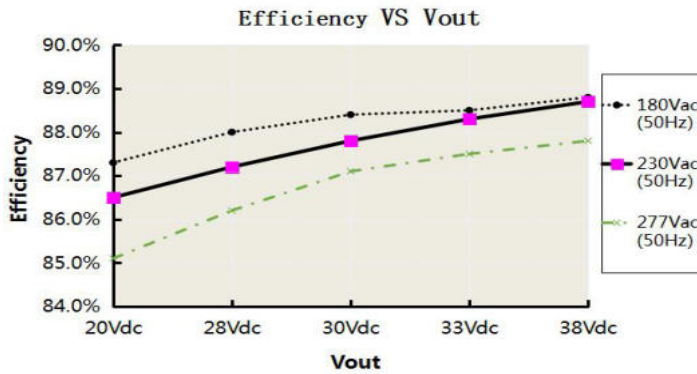


DL-50W-V58S/A-MAP(100-180Vac , Rated output current and output power corresponding to different load voltages)

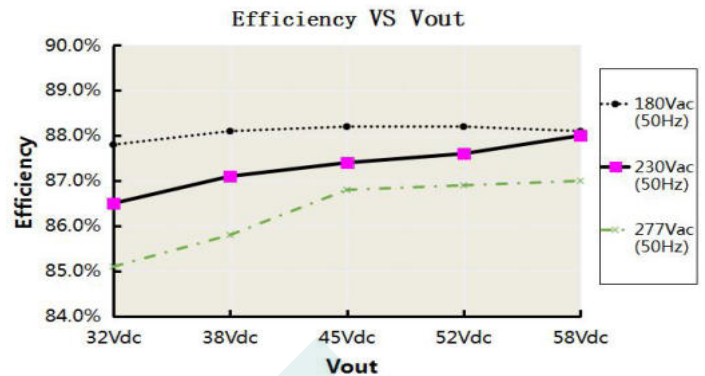
Load working Voltage	32V	35V	39V	42V	45V	48V	50V	55V	58V
I _o _MAX	0.6A	0.6A	0.6A	0.6A	0.559A	0.503A	0.49A	0.455A	0.42A
P _o _MAX	19.2W	20.4W	21.6W	23.4W	24.6W	24.6W	24.6W	24.6W	24.6W

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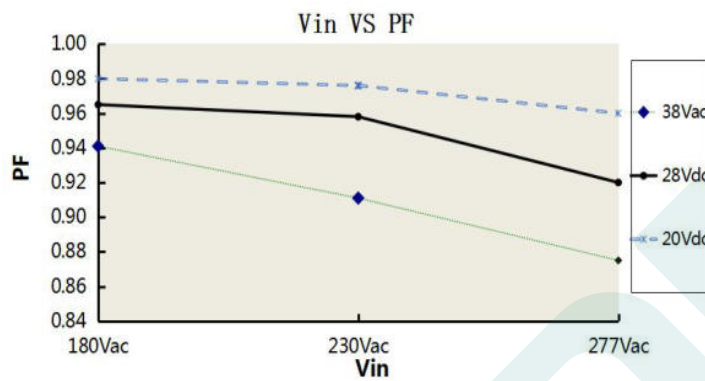
Efficiency VS Vout(DL-50W-V38S-MAP)



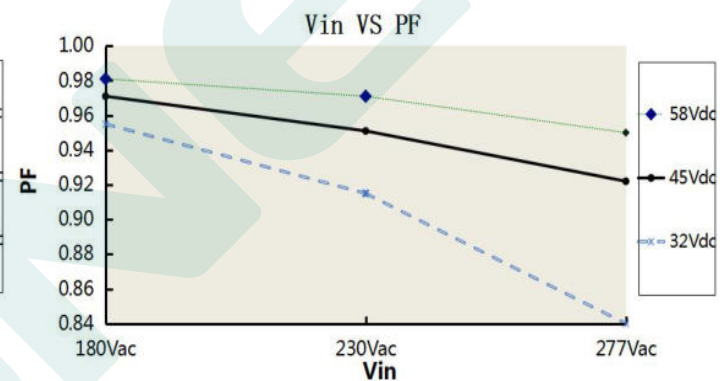
Efficiency VS Vout(DL-50W-V58S-MAP)



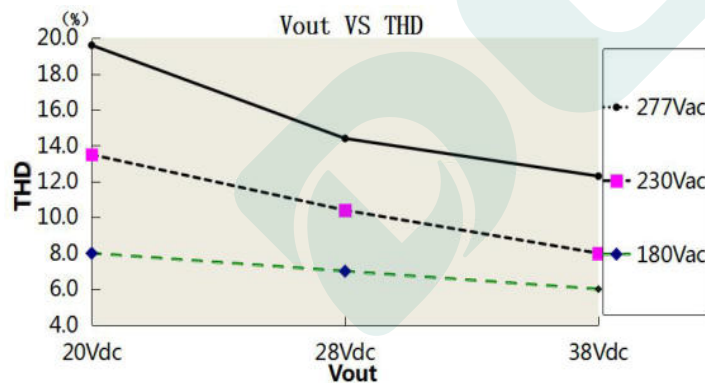
Vin VS PF(DL-50W-V38S-MAP)



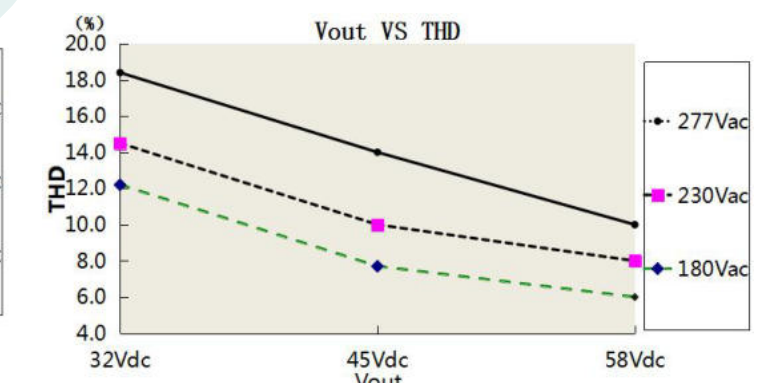
Vin VS PF((DL-50W-V58S-MAP)



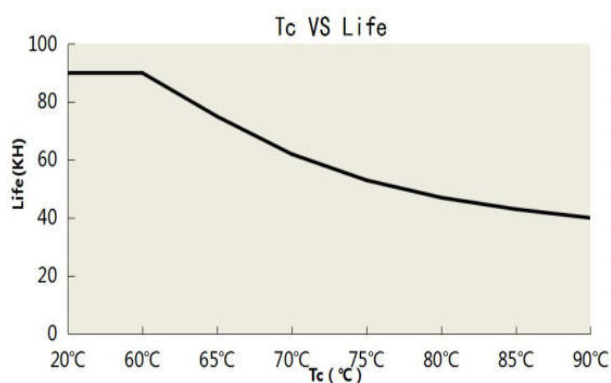
Vout VS THD(DL-50W-V38S-MAP)



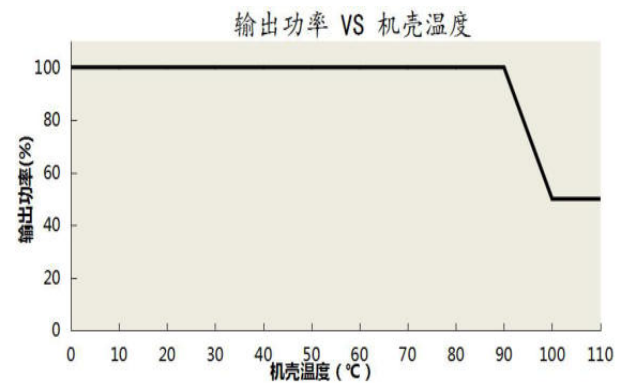
Vout VS THD(DL-50W-V58S-MAP)



Tc VS Life(DL-50W-S/A-MAP)

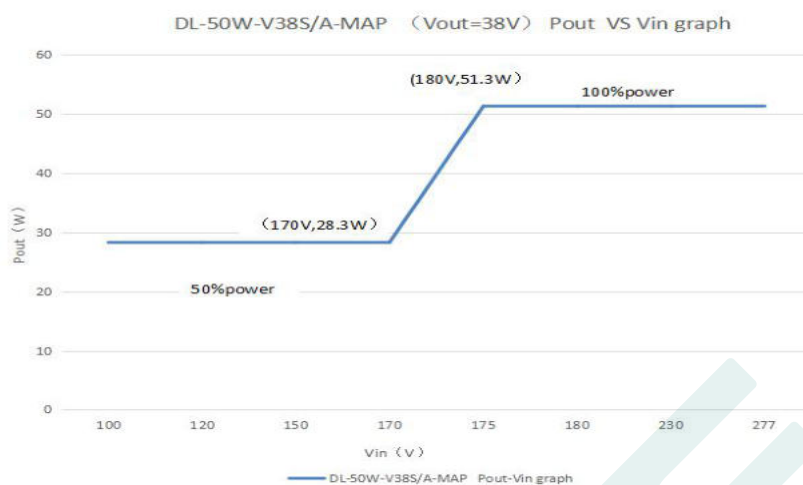


Pout VS Tc



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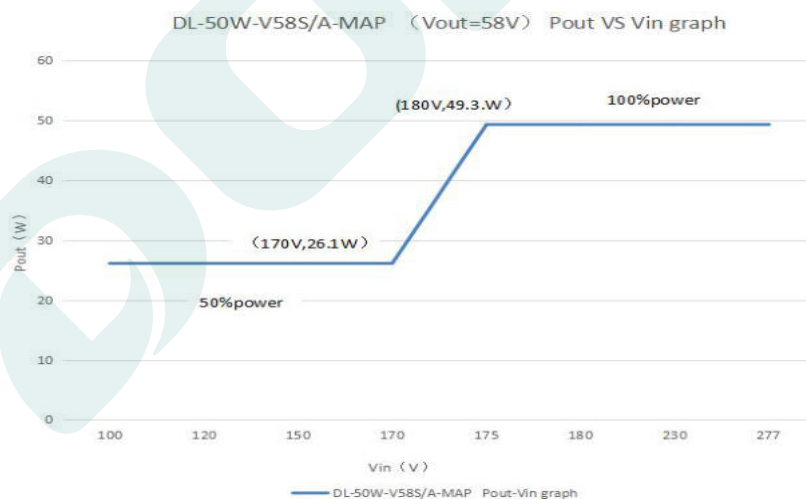
■ Pout VS Vin



DL-50W-V38S/A-MAP(38Vdc, Rated output current and output power corresponding to different Input voltages)

Input Voltage	100Vac	120Vac	150Vac	170Vac	175Vac	180Vac	230Vac	277Vac
Io	0.75A	0.75A	0.75A	0.75A	1.05A	1.35A	1.35A	1.35A
Po	28.3W	28.3W	28.3W	28.3W	51.3W	51.3W	51.3W	51.3W

■ Pout VS Vin



DL-50W-V58S/A-MAP(58Vdc, Rated output current and output power corresponding to different Input voltages)

Input Voltage	100Vac	120Vac	150Vac	170Vac	175Vac	180Vac	230Vac	277Vac
Io	0.45A	0.42A	0.42A	0.42A	0.66A	0.85A	0.85A	0.85A
Po	26.1W	26.1W	26.1W	26.1W	49.3W	49.3W	49.3W	49.3W

Remarks:

1. Due to input voltage fluctuations and resistance errors. When the power decreases or increases (that is, Vin = 150V or Vin = 180V), it will move left and right, and the approximate moving range is 150V ± 10%, 180V ± 10%
2. When the input voltage is 100-180V, the output power range is 25W ± 20%.

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■ DIMMING OPERATION

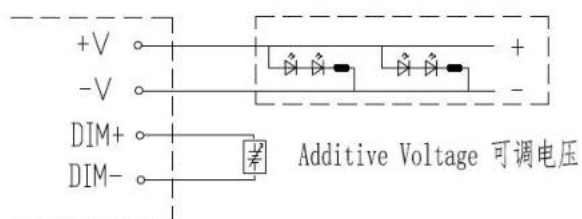
※ 3 in 1 dimming (For S Type)

1. Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0 ~ 10VDC, or 10V PWM signal or resistance.

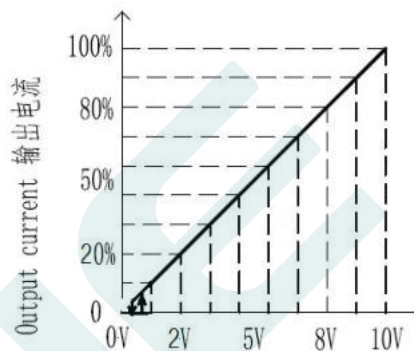
Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.

Dimming source current from power supply: 100 μ A (typ.)

◎ Applying additive 0-10Vdc:

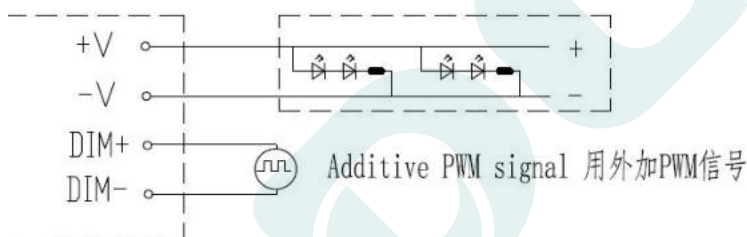


DO NOT connect "DIM- to -V" 请勿将DIM- 与-V相连

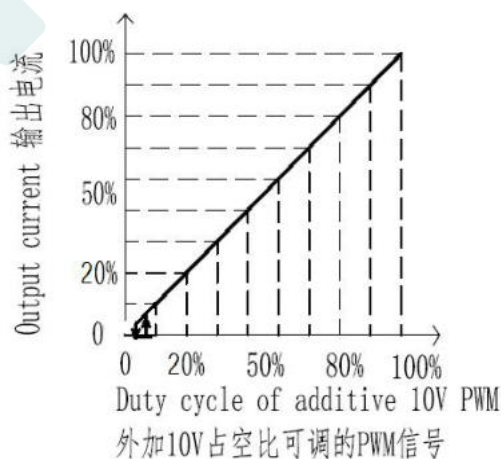


Dimming input: Additive voltage 调光输入: 外加电压

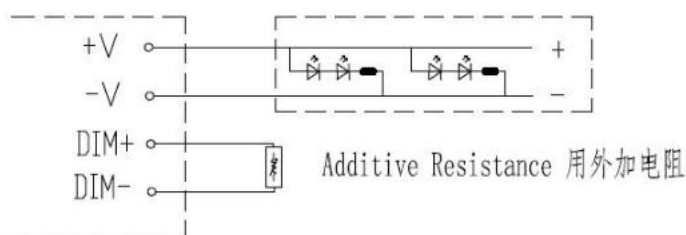
◎ Applying additive 10V PWM signal (Frequency range: 300Hz-2K Hz) :



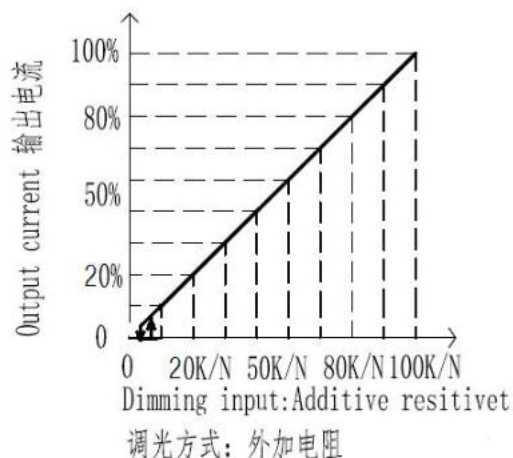
DO NOT connect "DIM- to -V" 请勿将DIM- 与-V相连



◎Applying additive 0-100K resistance:



DO NOT connect "DIM- to -V" 请勿将DIM- 与-V相连



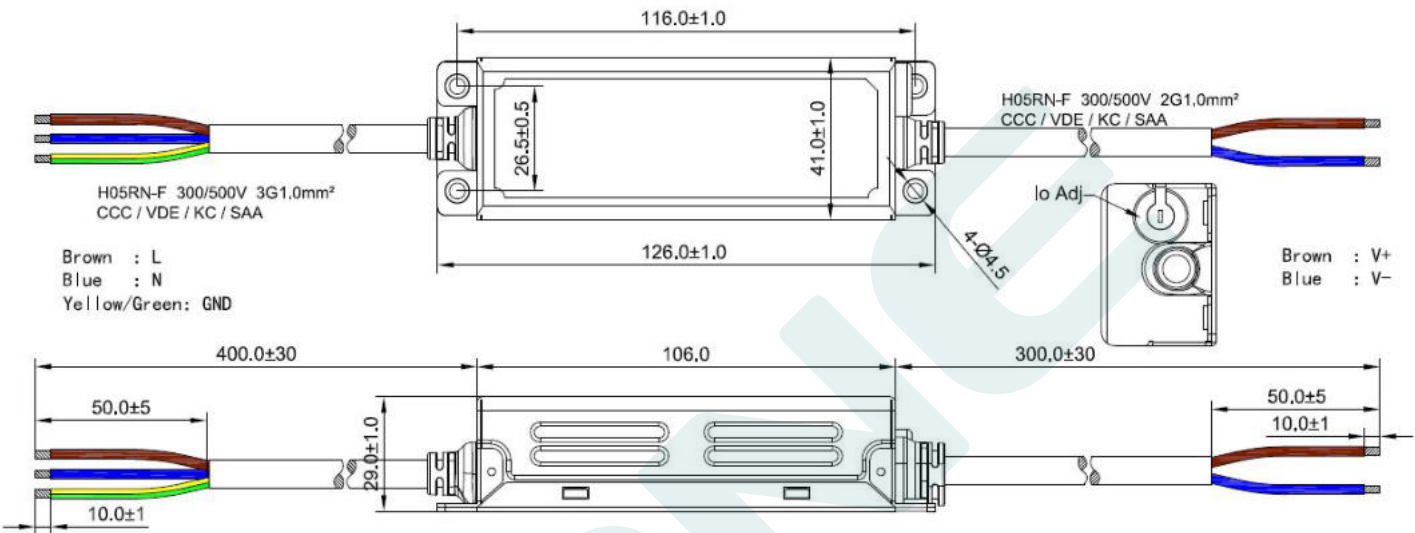
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MACHINE SIZE MAP:

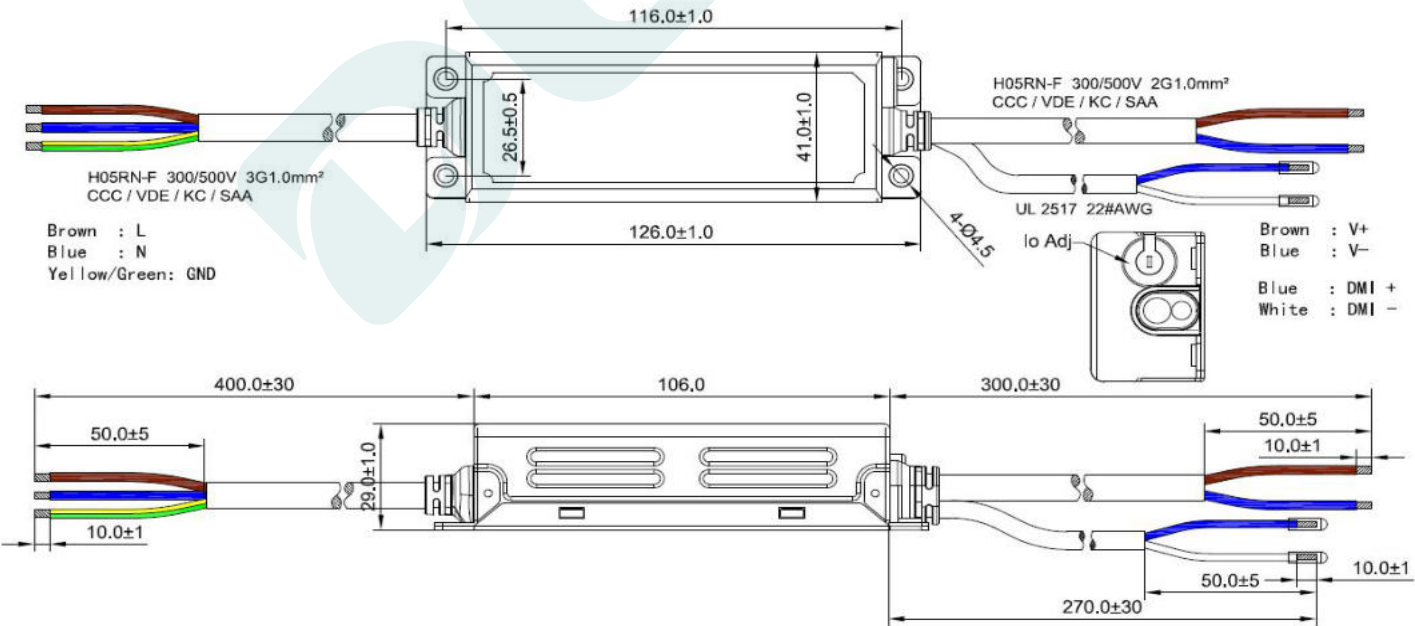
Sise (mm)	L126mm*W41mm*H29mm
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Case model : B40 unit:mm

DL-50W-V38A/58A-MAP



DL-50W-V38S/58S-MAP



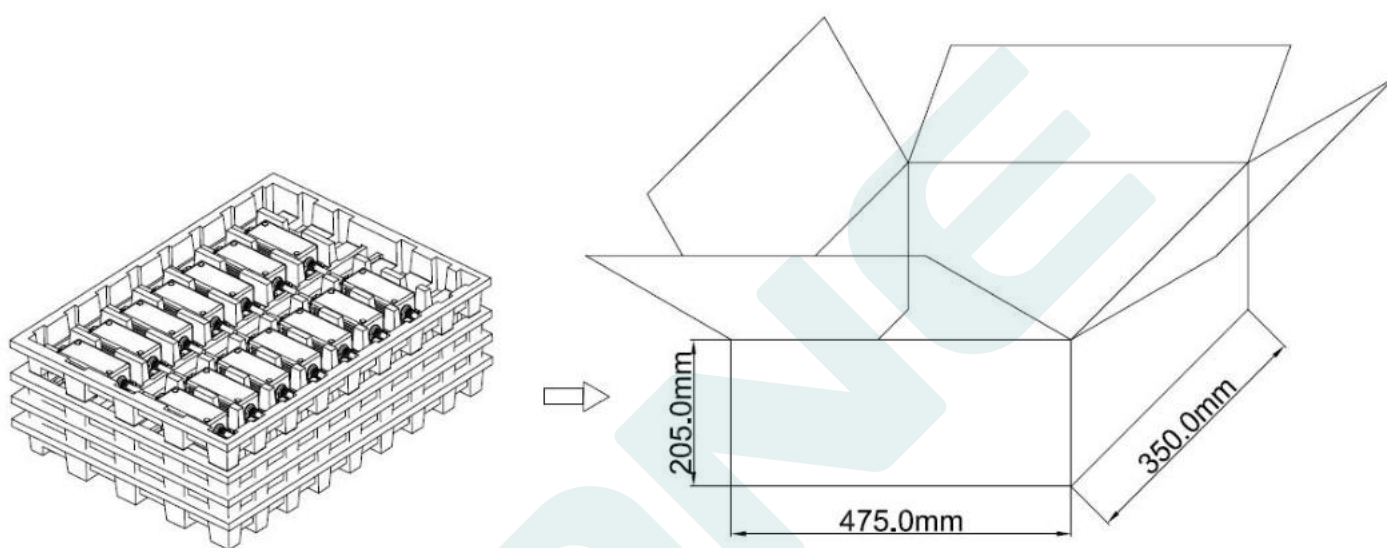
WEIGHT

Weight	300g
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■ PACKAGING

Packaging (mm)	L475*W350*H205
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Remark : 56 drivers in a packing case