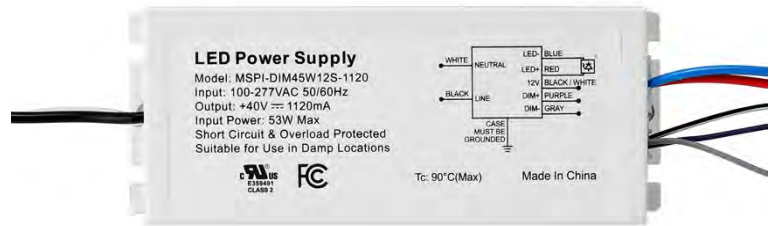


## Product Features

- Constant current power supply.
- 12V independent of power supply output is optional.
- Dimming controls: 0-10Vdc, PWM signal or resistor.
- International standard AC voltage input.
- Active power factor >0.9.
- High efficiency, high reliability and long lifespan.
- Protections: Overload protection, Short circuit protection and Open circuit protection.
- Surge protection: L-N: 2kV, L/N-PE: 4kV.
- Class 2 output.



## Description

The MSPI-DIM45W12S-XXXX series input voltage ranges from 100 to 277Vac, which has the advantages of high efficiency, reliability, long service life and so on. All aspects of protection, including overload protection, short circuit protection and open circuit protection, ensure the accessible operation of this product.

## Model List

Specification model	Output current	Input Voltage Range (1)	Output Voltage Range	Max Output Power	Power Factor (2)	Efficiency (2)
MSPI-DIM45W12S-1120	1120mA	100~277Vac	30~40Vdc	44.8W	0.96	90%
MSPI-DIM45W12S-1050	1050mA	100~277Vac	30~40Vdc	42W	0.98	89%
MSPI-DIM45W12S-980	980mA	100~277Vac	30~40Vdc	39.2W	0.98	88.5%
MSPI-DIM45W12S-850	850mA	100~277Vac	30~40Vdc	34W	0.97	88%
MSPI-DIM45W12S-770	770mA	100~277Vac	30~40Vdc	30.8W	0.97	88%

Note: 1. UL and FCC Certified input voltage range: 100 ~ 277Vac.

2. Default tested at 230Vac, full load, Ta 25°C.

## Input Specifications

Parameter	Min	Typ	Max	Remarks
AC input range	100Vac	-	277Vac	
Input frequency range	47Hz	-	63Hz	
Leakage Current	-	-	0.51mA	L,N-PE @1550Vac.
Input AC Current	-	-	0.6A	100Vac, 100% full load.
Inrush Current(I <sub>2t</sub> )	-	-	0.0008 A <sup>2</sup> s	277Vac, 25 °C ambient temperature (cold start), 10% ~ 10% duration = 40.8 uS; Please refer to surge curve for detailed parameters.
Power Factor	0.9	-	0.99	100~277Vac, 75%~100% full load.
THD	-	-	20%	100~277Vac, 75%~100% full load.

## Output Specifications

Parameter		Min	Typ	Max	Remarks
Output current tolerance		-3% Io	-	+3% Io	
No-load Output Voltage	Io=1120mA	-	-	48Vdc	
	Io=1050mA	-	-	48Vdc	
	Io=980mA	-	-	48Vdc	
	Io=850mA	-	-	48Vdc	
	Io=770mA	-	-	48Vdc	
Start-up current overshoot		-	No	-	
Line Regulation		-	±2%	-	
Load Regulation		-	±3%	-	
Start-up time		-	500ms	700ms	120Vac, 75% ~ 100% full load.
		-	400ms	700ms	277Vac, 75% ~ 100% full load.
12V output voltage		11.4 V	12 V	12.6 V	
12V output current		-	-	50mA	

Note: All performance parameters are typical values measured at ambient temperature of 25°C, unless otherwise specified.

## General Specifications

Parameter		Min	Typ	Max	Remarks
Efficiency at 100Vac	Io=1120mA	87.5%	88%	-	It is measured at ambient temperature 25 °C, 100% load.
	Io=1050mA	87.5%	88%	-	
	Io=980mA	87%	87.5%	-	
	Io=850mA	87%	87.5%	-	
	Io=770mA	87%	87.5%	-	
Efficiency at 120Vac	Io=1120mA	88%	88.3%	-	It is measured at ambient temperature 25 °C, 100% load.
	Io=1050mA	88%	88.2%	-	
	Io=980mA	87.8%	88%	-	
	Io=850mA	87.7%	88%	-	
	Io=770mA	87.7%	88%	-	
Efficiency at 230Vac	Io=1120mA	88.7%	89%	-	It is measured at ambient temperature 25 °C, 100% load.
	Io=1050mA	88.4%	88.7%	-	
	Io=980mA	88.2%	88.5%	-	
	Io=850mA	88.2%	88.5%	-	
	Io=770mA	88.1%	88.4%	-	
Efficiency at 277Vac	Io=1120mA	88.7%	89%	-	It is measured at ambient temperature 25 °C, 100% load.
	Io=1050mA	88.2%	88.5%	-	
	Io=980mA	88.2%	88.5%	-	
	Io=850mA	88.2%	88.5%	-	
	Io=770mA	87.8%	88.2%	-	
No-load power consumption		-	-	0.3W	277Vac / 60Hz.

## 45W single Output LED Switching Power Supply

MSPI-DIM45W12S-XXXX

Parameter	Min	Typ	Max	Remarks
Lifespan	-	50,000 Hours	-	120Vac, Case Temperature: 75℃, 100%full load.
Operating Case Temperature for Safety Tc_s	-40℃	-	+90℃	
Operating Case Temperature for Warranty Tc_w	-30℃	-	+75℃	The warranty case temperature for 5 years warranty
Storage Temperature	-40℃	-	+80℃	Humidity: 10%RH to 95%RH, no condensation.
Dimensions (mm)	L130×W50×H32			
Net Weight	-	350g	-	

**Note:** Case temperature testing point locates at the arrowhead.

### Dimming Specifications

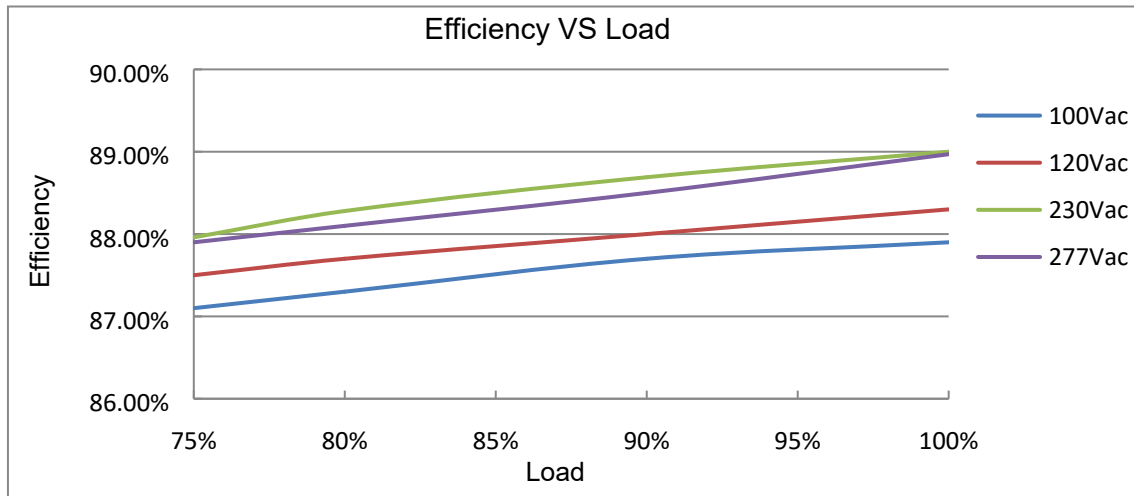
Parameter	Min	Typ	Max	Remarks
Maximum voltage on line 0~10V	-	15V	-	
Current on 0~10V Line	0μA	200μA	250μA	
Dimming Output Range	0% Iomax	-	100% Iomax	
Recommended Dimming Input Range	0V	-	10V	

### Safety & EMC Compliance

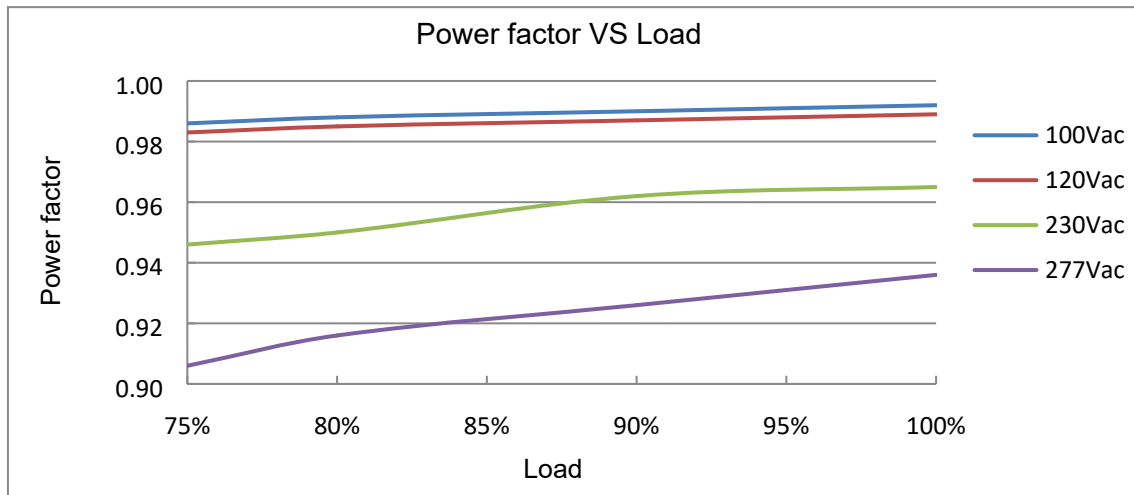
Safety Category	Standard
UL/CUL	UL 8750, Class 2
EMI Standards	Remarks
CISPR15	Conducted Emission Test & Radiated Emission Test
FCC Part 15	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Note:** The power supply meets the EMI standard, but as the power supply is a part of the lamp system, EMI related confirmation shall be conducted in combination with the lamp (terminal equipment).

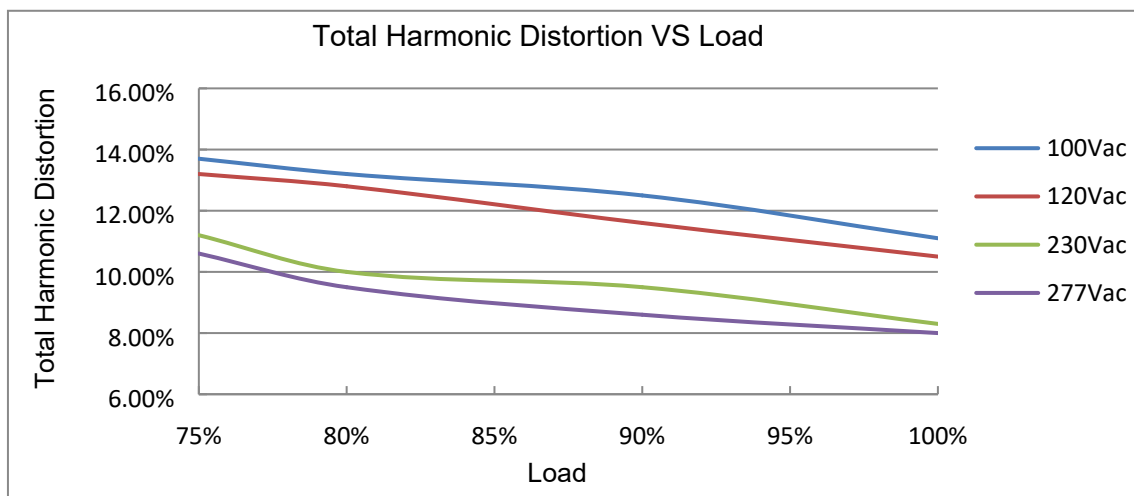
## Performance Curves



## Power Factor Curves

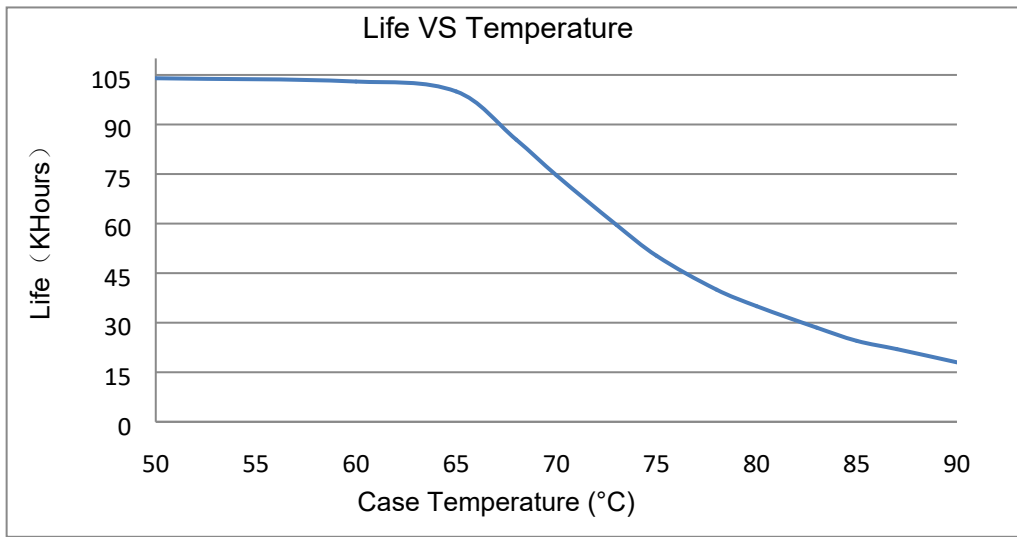


## Total Harmonic Distortion Curves



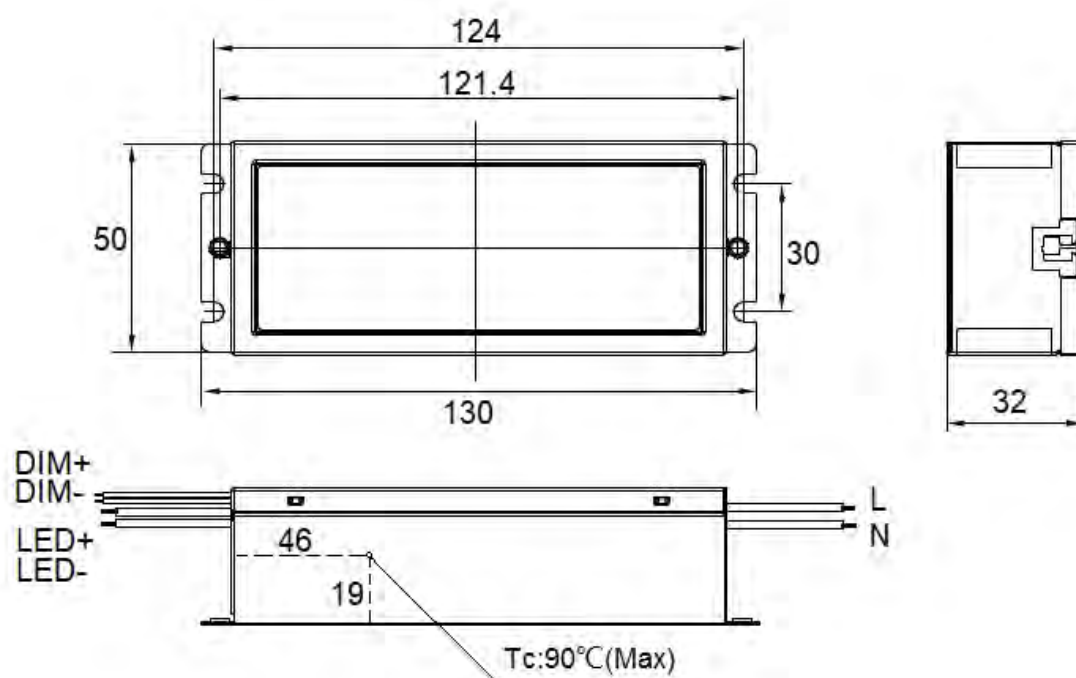
Note: The above data is derived from the MSPI-DIM45W12S-1120 test.

## Life curve

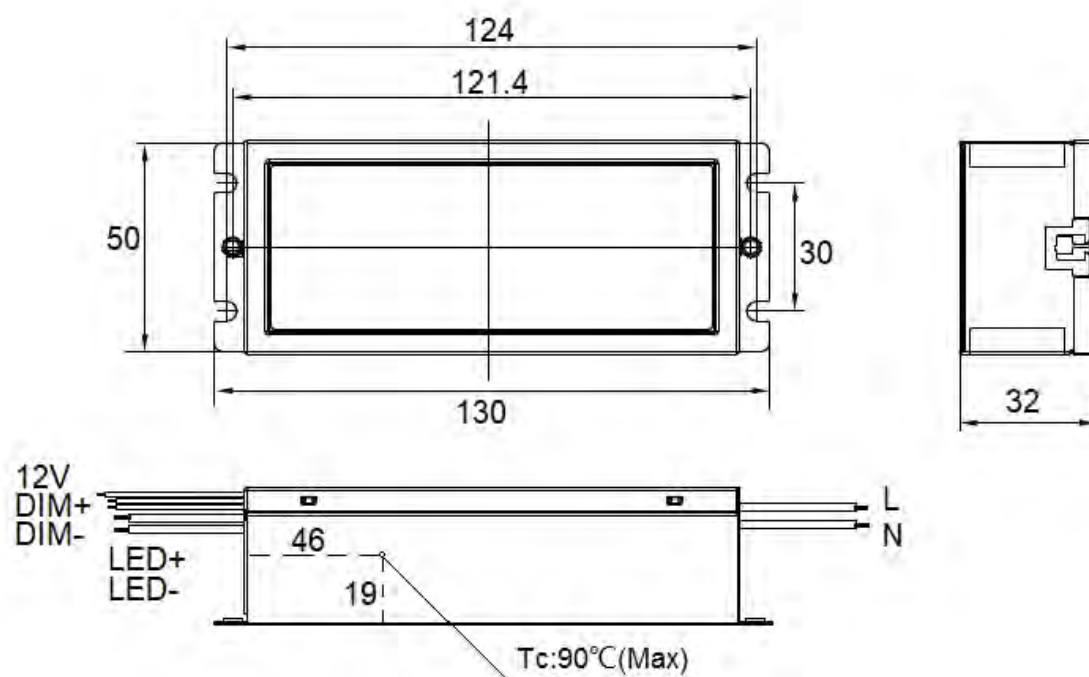


**Mechanical Dimensions (Unit: mm)**

The power supply without 12V:

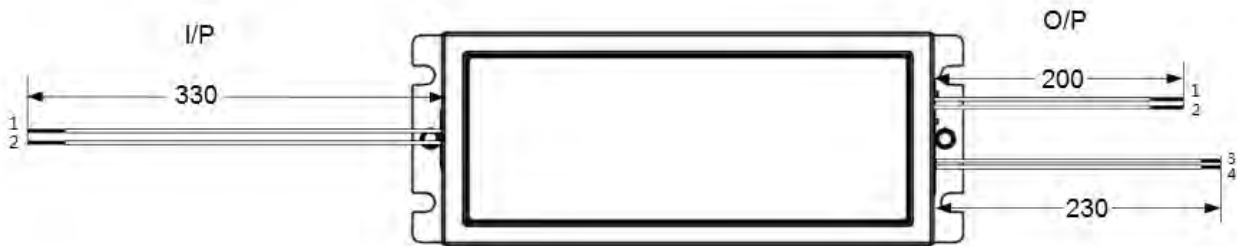


The power supply with 12V:



## Recommended mounting direction

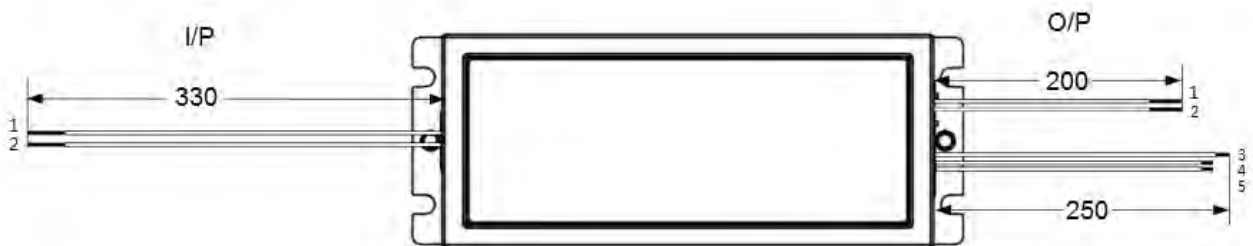
### The power supply without 12V:



AC Input Pin Definition	
Num.	Pin Function
1	AC/L(black)
2	AC/N(white)

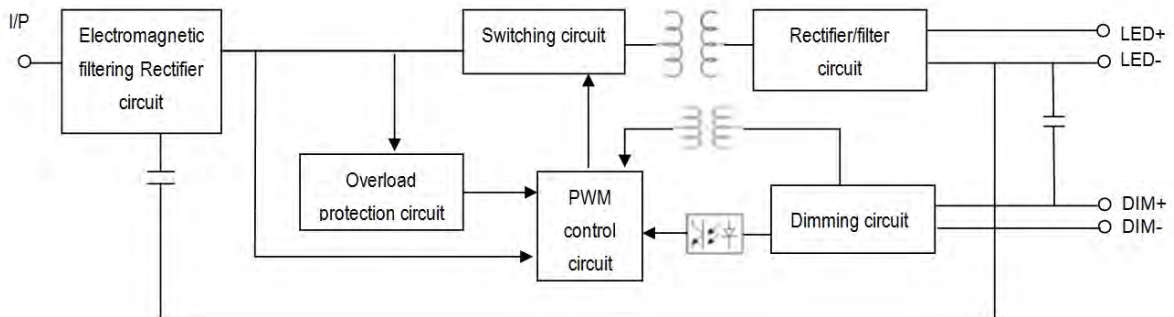
DC Output Pin Definition	
Num.	Pin Function
1	DC/LED+( red)
2	DC/LED-( blue)
3	DIM+( purple)
4	DIM-( gray)

### The power supply with 12V:



AC Input Pin Definition	
Num	Pin Function
1	AC/L(black)
2	AC/N(white)

DC Output Pin Definition	
Num	Pin Function
1	DC/LED+( red)
2	DC/LED-( blue)
3	12V( black / white)
4	DIM+( purple)
5	DIM-( gray)

**Block diagram****The power supply without 12V:****The power supply with 12V:**