



## ■ Features

- Adapt to American standard input voltage (90-132Vac)
- Active PFC function
- Suitable for dry environment
- Protections: Short circuit / Overtemperature / Overvoltage
- Plastic case
- Load range 10-100%, Dimming range 0-100%
- No flicker
- 5 years warranty

## ■ Description

The EV-SP30 series is an indoor triac dimming constant voltage LED power supply with an input voltage range of 90-132Vac and efficiency up to 85%. It operates in the temperature range of -20°C to +40°C. It features a high power factor, ultra-low total harmonic distortion, low standby power consumption, and lightning protection, along with all-round protection functions. These features not only greatly improve the reliability of the product but also guarantee its life cycle. This series is designed for LED lighting and is applied to indoor triac dimming LED lighting.

## ■ Model

Model	Rated output voltage	Rated output current	Max. output power	Output voltage tolerance	THD (Typ.)	Power factor (Typ.)	Efficiency (Typ.)
EV-SP-60-12US-TDM	12V	0-5A	60W	±5%	15%	0.95	83%
EV-SP-60-24US-TDM	24V	0-2.5A	60W	±5%	15%	0.95	83%

**Remark:** All parameters not specially mentioned are measured at 120VAC input, full load, and 25°C ambient temperature.

## ■ Input

Parameter	Min. value	Typical value	Max. value	Note
Rated input voltage	100Vac	-	120Vac	Derating curve is shown in the figure
Input voltage	90Vac	-	132Vac	
Input frequency	47Hz	-	63Hz	-
Max. input current	-	-	0.9A	100Vac, Full Load
	-	-	0.75A	120Vac, Full Load
Input inrush current	-	-	75A	120Vac/50Hz, Cold start
Power factor	-	0.95	-	120Vac, Full Load
Total harmonic input	-	15%	20%	120Vac, Full Load
Leakage current	-	-	0.7mA	120Vac/60Hz, Full Load
Stand-by power consumption	-	1.5W	0.5W	120Vac/60Hz, No Load

## Output

Parameter	EV-SP-60-12US-TDM	EV-SP-60-12US-TDM	Note
Output voltage Range	11.4-12.6VDC	22.8-25.2VDC	Max.Output power should comply with $P_o=V_o \cdot I_o=60W$
Rated output current	5A	2.5A	-
Output current range	0-5A	0-2.5A	-
Rated output power	60W	60W	-
Rated output efficiency	83%	85%	120Vac, Full load
Output voltage tolerance	±5%		-
Output voltage ripple (PK-PK)	±3%		120Vac, Full load (Test under 20M bandwidth)
Rise time	-		120Vac
Startup time	-		120Vac
Line regulation	±1%		Full load
Load regulation	±2%		-

## Characteristic Curve

Fig. 1 Output load-Temperature curve

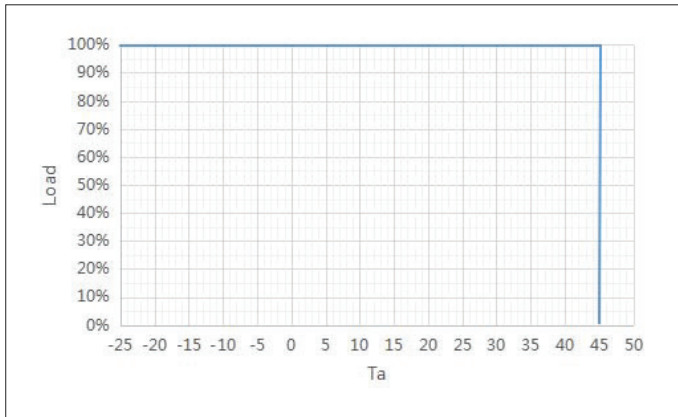


Fig. 2 Static characteristic curve

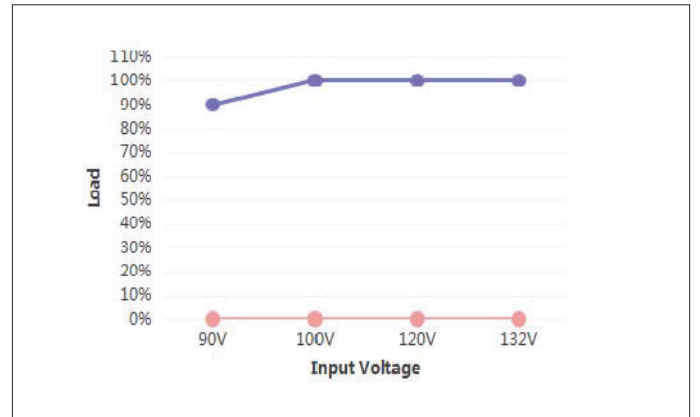


Fig.3 Power factor characteristic curve

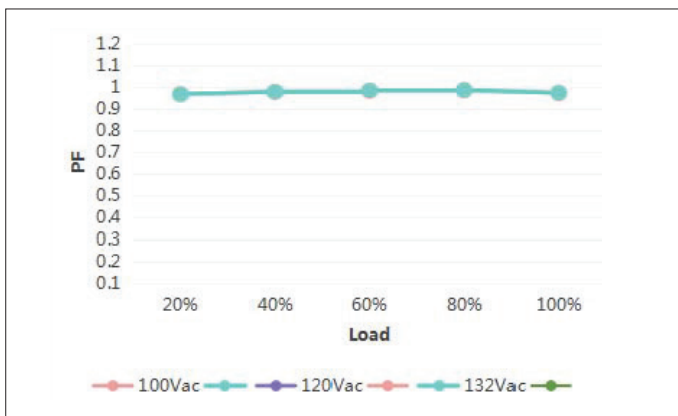
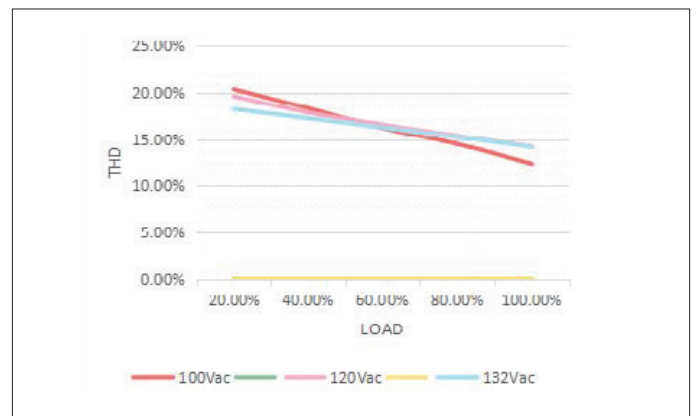
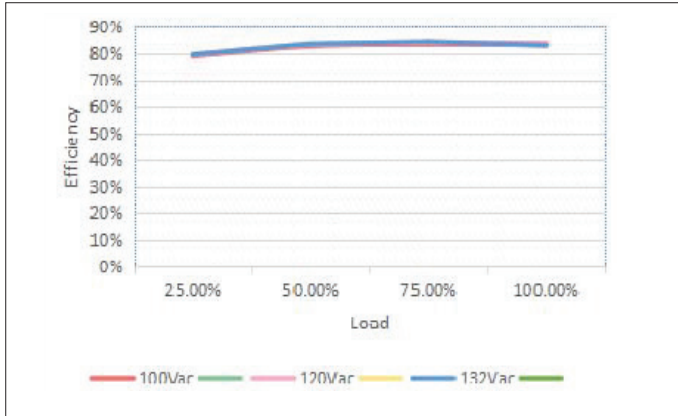


Fig.4 Total harmonic distortion curve (THD)



**Fig.5 Efficiency-Load curve**



## ■ Protection

Parameter		Conditions	Note
Protection	Over load	1.1 to 1.6 times rated load	Auto-recovery after overload removed
	Short circuit	Hiccup mode	Hiccup mode, auto-recovery after short circuit removed
	Over voltage	≤ 1.5 times of rated output voltage	Auto-recovery after removing the overvoltage fault and turning the power back on
	Over temperature	110°C	Auto-recovery after removing the overtemperature fault and turning the power back on

## ■ Environment Requirement

Parameter	Min.	Typ.	Max.	Note
Working temp.	-20°C	25°C	+40°C	Shown in Fig.1
Storage temp.	-40°C	25°C	+85°C	-
Working humidity	45%RH	-	85%RH	-
Storage humidity	5%RH	-	95%RH	-
IP grade	-	-	IP20	-
Cooling mode	Natural cooling			-

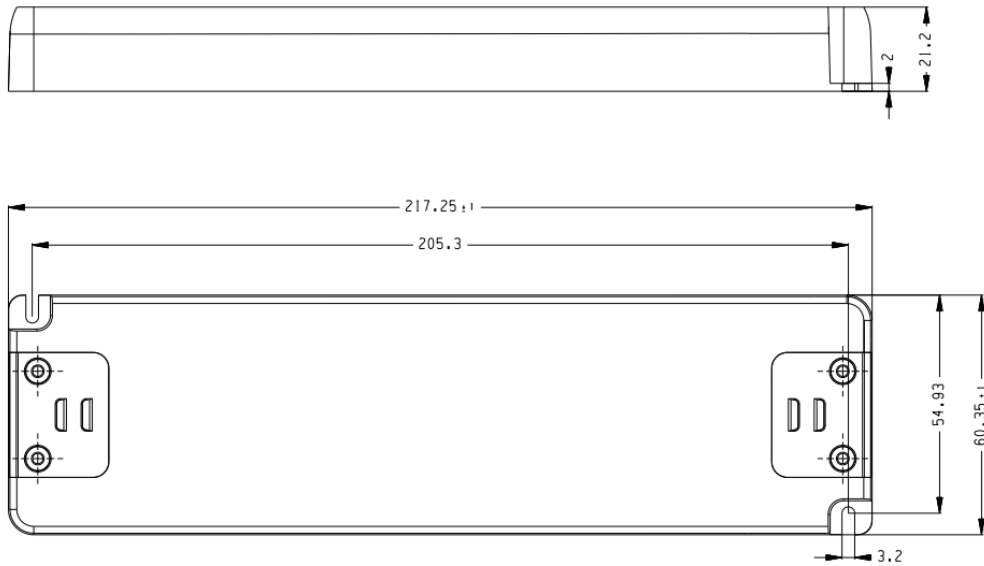
**■ Safety&EMC Standard**

Certificate		Safety standardst	Certification	Note
UL/CUL		UL8750	-	-
Safety test		Qualification	Note	
Dielectric compressive strength	Input to output	1800Vac/5mA Max/60s	Strengthened insulation, no breakdown, no flashover	
Insulation resistance	Input to output	≥ 10MΩ	Test voltage: 500 Vdc	
Leakage current		≤ 0.75 mA	120Vac	
EMI/EMS item		Standard	Data	
Conduction CE		Fcc Part 15B	-	
Radiation RE		Fcc Part 15B	-	

**■ Others**

Parameter	Condition	Note
Lifetime	30,000 hours	120Vac, Full load, TC:80°C
MTBF	200,000 hours	230Vac, Full load, 25°C MIL-HDBK-217F)
TC	90°C	-
Warranty	5 years	TC:80°C
Weight	350g±10g	-
Dimensions	217.25*60.35*21.2mm	L x W x H

■ Mechanical Specification (Unit: mm)



AC input cable	Terminal + SPT-2 18AWG
DC output cable	Terminal + SPT-2 18AWG