EV-SP-80-12US/24US-TDM Power Supply 80W 12V/24V

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-SP80 series is an indoor triac dimming CV LED power supply. Its input voltage is 108-132Vac, with high efficiency up to 85%, operating in the temperature range of -20°C to +40°C under free air convection. It features an ultra-high power factor, low THD, lightning protection, and full protection functions, which not only greatly improve the reliability of the product but also ensure its life cycle. This series is designed for LED lighting, suitable for indoor CV triac dimming lighting use.

Model

Model	Rated output voltage	Rated output current	Max. output power	Output voltage tolerance	THD (Typ.)	Power factor (Typ.)	Efficiency (Typ.)
EV-SP-80-12US-TDM	12V	0-6.67A	80W	±5%	10%	0.95	84%
EV-SP-80-24US-TDM	24V	0-3.33A	80W	±5%	10%	0.95	85%

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 voltaget	-	-	120Vac	Derating curve is shown in the figure
Input voltage	108Vac	120Vac	132Vac	
Input frequency	47Hz	-	63Hz	-
Max. input current	-	-	1.2A	108Vac, Full Load
	-	-	1A	120Vac, Full Load
Input inrush current	-	-	75A	120Vac/50Hz, Cold start
Power factor	-	0.95	-	120Vac, Full Load
Total harmonic input	-	10%	15%	120Vac, Full Load
Leakage current	-	-	0.5mA	120Vac/60Hz, Full Load
Stand-by power consumption	-	1.5W	2W	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 Po=Vo*Io=80W
Rated output current	6.67A	3.33A	-
Output current range	0-6.67A	0-3.33A	-
Rated output power	80W	80W	-
Rated output efficiency	84%	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

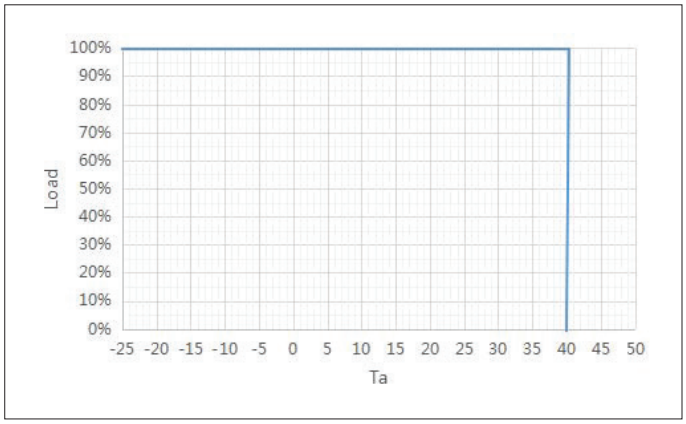


Fig. 2 Static characteristic curve

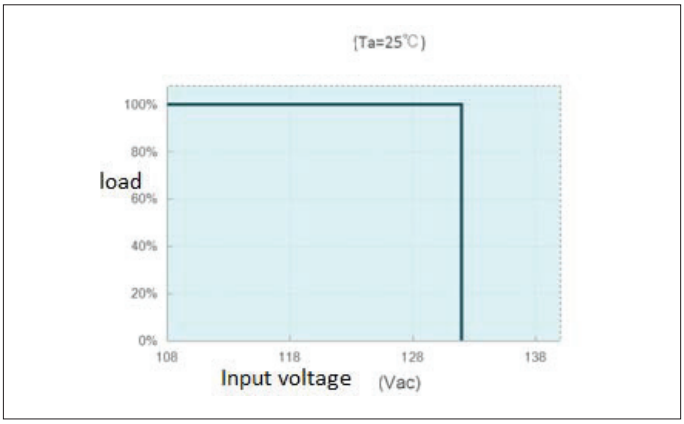


Fig.3 Power factor characteristic curve

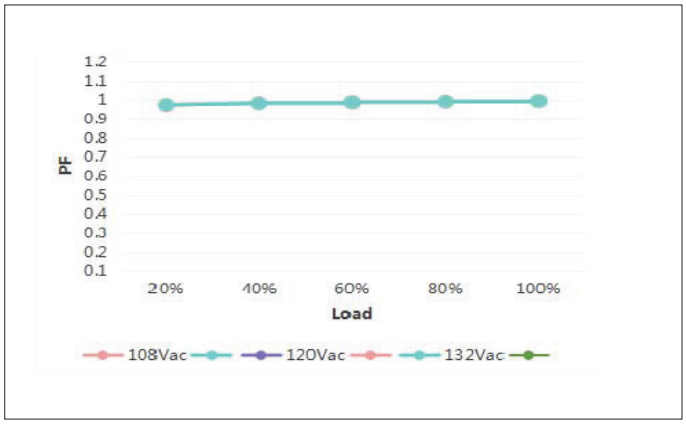


Fig.4 Total harmonic distortion curve (THD)

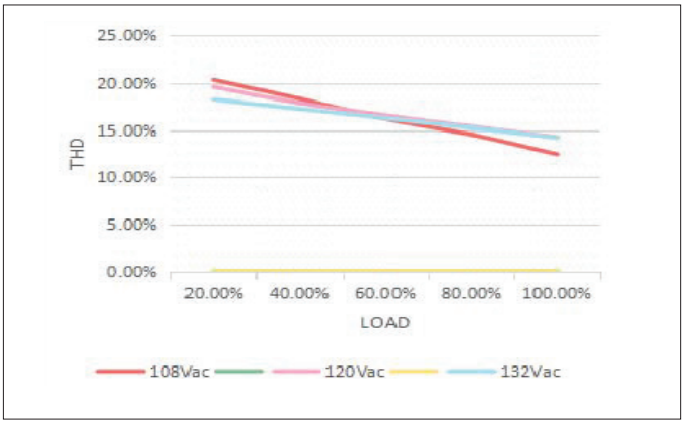
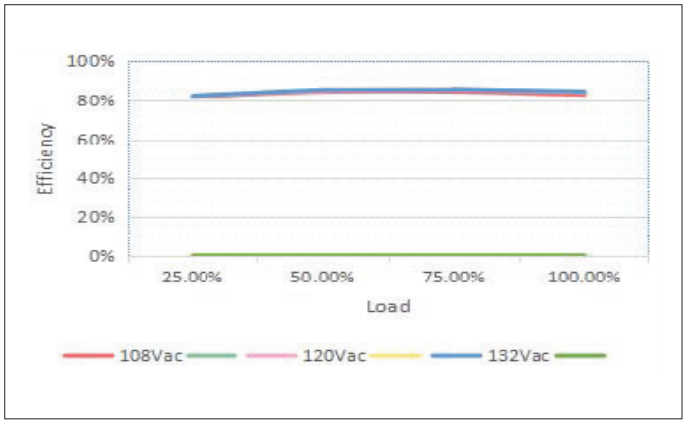


Fig.5 Efficiency-Load curve



■ Protection

Parameter		Conditions	Note
Protection	Over load	1.1 to 1.6 times rated load	Auto-recovery after overload removed
	Short circuit	-	Hiccup mode, auto-recovery after short circuit removed
	Over voltage	≤1.5 times of rated output voltage	Remove overvoltage, can be restored after restart
	Over temperature	110°C	Remove overtemperature, can be restored after the temperature returns to normal levels.

■ Environment Requirement

Parameter	Min.	Typ.	Max.	Note
Working temp.	-20°C	25°C	+40°C	-
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			-

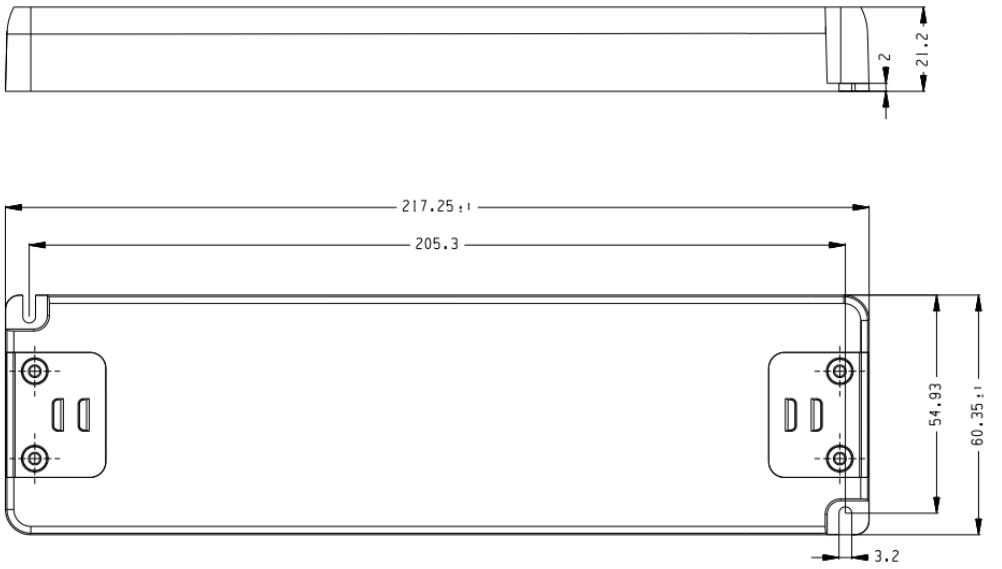
■ Safety&EMC Standard

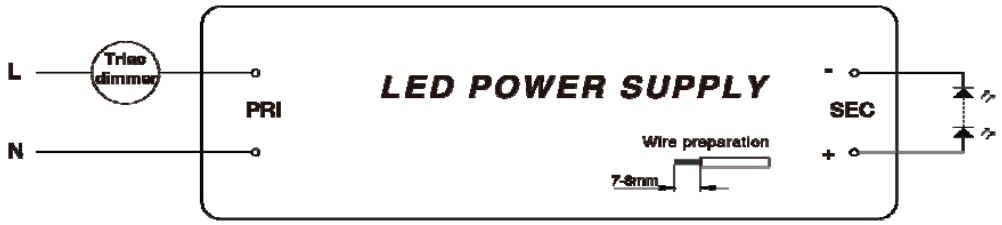
Certificate		Safety standardst	Certification	Note
UL/CUL		UL8750	-	-
Safety test		**Qualification**	**Note**	
Dielectric compressive strength	Input to output	1800Vac/5mA Max/60s	Strengthened insulation, no breakdown, no flashover	
Insulation resistance	Input to output	≥ 10MΩ	Test voltage: 500Vdc	
Leakage current		≤ 0.5 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	120Vac, Full load, 25°CMIL-HDBK-217F)
TC	90°C	-
Warranty	5 years	TC:80°C
Weight	360g±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