Features

- High Efficiency (Up to 93.5%)
- Constant Voltage Output
- Input Surge Protection: DM 4kV, CM 6kV
- All-Around Protection: OVP, OCP, SCP, OTP
- IP67
- SELV Output
- 5 Years Warranty

Description

The *EUV-250SxxxSV* series is a 250W, constant-voltage LED driver that operates from 90-305 Vac input with excellent power factor. It is created for architecture lighting, decorative lighting, high bay, high mast, arena and roadway lights, etc. The high efficiency of these drivers and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, over current, short circuit, and over temperature.

Models

Output Voltage	Input Voltage Range (1)	Output Current Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number (3) (5)
					120Vac	220Vac	
12 Vdc	90 ~ 305 Vac	0~18.33 A	220 W	91.5%	0.99	0.93	EUV-250S012SV
24 Vdc	90 ~ 305 Vac	0~10.41 A	250 W	92.0%	0.99	0.96	EUV-250S024SV
28 Vdc	90 ~ 305 Vac	0~8.93 A	250 W	92.0%	0.99	0.96	EUV-250S028SV
36 Vdc	90 ~ 305 Vac	0~6.94 A	250 W	92.5%	0.99	0.96	EUV-250S036SV
42 Vdc	90 ~ 305 Vac	0~5.95 A	250 W	92.5%	0.99	0.96	EUV-250S042SV
48 Vdc	90 ~ 305 Vac	0~5.20 A	250 W	93.0%	0.99	0.96	EUV-250S048SV(4)
54 Vdc	90 ~ 305 Vac	0~4.62 A	250 W	93.5%	0.99	0.96	EUV-250S054SV

Notes: (1) Certified input voltage range: 100-240Vac;
(2) Measured at 100% load and 220 Vac input.
(3) SELV output.
(4) EUV-250S048SV are certificated to BIS.
(5) For BIS models add suffix -3000.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90 Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 mA	At 240Vac/60Hz input , grounding effectively

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Input AC Current	-	-	3.0 A	Measured at 100% load and 100 Vac input.
	-	-	1.4 A	Measured at 100% load and 220 Vac input.
Inrush Current(I^2t)	-	-	2.33 A^2s	At 220Vac input, 25℃ cold start, duration=3 ms, 10%Ipk-10%Ipk.
PF	0.90	-	-	At 100-240Vac, 50-60Hz, 75%-100% Load (187.5-250W)
THD	-	-	20%	

Output Specifications

Parameter		Min.	Typ.	Max.	Notes
Output Voltage Tolerance		-5%	-	5%	At 100% load condition.
Ripple and Noise (pk-pk)		-	-	2% V_O	Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor.
Output Overshoot / Undershoot		-	-	10%	When power on or off.
Line Regulation		-	-	±1%	At 100% load condition.
Load Regulation		-	-	±3%	
Turn-on Delay Time		-	0.4 s	1.0 s	Measured at 120Vac input, 75%-100% Load
		-	0.4 s	1.0 s	Measured at 220Vac input, 75%-100% Load
Load Dynamic Response	Output Deviation	-	-	5% V_O	R/S: 1 A / uS Load: 25% ~ 75% 100% load.
	Settling Time	-	-	10 mS	
Temperature coefficient		-	0.03%/°C	-	Case temperature = 0°C ~Tc max

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input: V_O = 12 V V_O = 24 V V_O = 28 V V_O = 36 V V_O = 42 V V_O = 48 V V_O = 54 V	 89.0% 89.5% 89.5% 90.0% 90.0% 90.5% 91.0%	 89.5% 90.0% 90.0% 90.5% 90.5% 91.0% 91.5%	 - - - - - - -	Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 1.5% lower if measured immediately after startup.)
Efficiency at 220 Vac input: V_O = 12 V V_O = 24 V V_O = 28 V V_O = 36 V V_O = 42 V V_O = 48 V V_O = 54 V	 91.0% 91.5% 91.5% 92.0% 92.0% 92.5% 93.0%	 91.5% 92.0% 92.0% 92.5% 92.5% 93.0% 93.5%	 - - - - - - -	Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 1.5% lower if measured immediately after startup.)

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 277 Vac input: V_O = 12 V V_O = 24 V V_O = 28 V V_O = 36 V V_O = 42 V V_O = 48 V V_O = 54 V	 91.0% 91.5% 91.5% 92.0% 92.0% 92.5% 93.0%	 91.5% 92.0% 92.0% 92.5% 92.5% 93.0% 93.5%	 - - - - - - -	Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 1.5% lower if measured immediately after startup.)
No Load Power Dissipation	-	-	5 W	
MTBF	-	250,000 hours	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	59,400 hours	-	Measured at 220Vac input, 80%Load and 60°C case temperature; See life time vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-40 °C	-	+90 °C	
Operating Case Temperature for Warranty Tc_w	-40 °C	-	+60 °C	Case temperature for 5 years warranty
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH
Dimensions Inches(L × W × H) Millimeters (L × W × H)	8.82 × 3.54 × 1.46 224 × 90 × 37			With mounting ear 9.88 × 3.54 × 1.46 251 × 90 × 37
Net Weight	-	1300 g	-	

Safety & EMC Compliance

Safety Category	Standard
CE	EN 61347-1, EN 61347-2-13
CB	IEC 61347-1, IEC 61347-2-13
CCC	GB 19510.1, GB 19510.14
BIS	IS 15885(PART2/SEC13)
KS	KS C 7655
EMI Standards	**Notes**
EN IEC 55015/GB/T 17743	Conducted emission Test & Radiated emission Test
EN IEC 61000-3-2/GB 17625.1	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EMS Standards	**Notes**
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge

Safety & EMC Compliance (Continued)

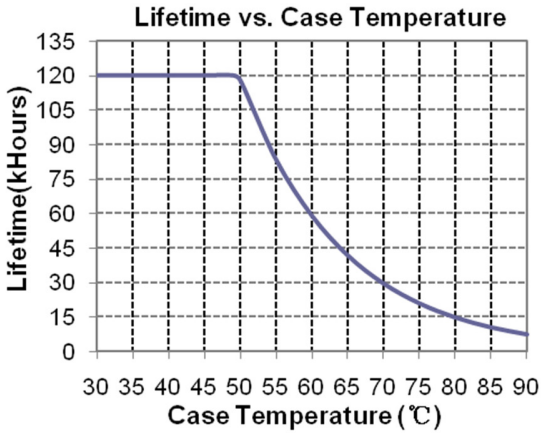
EMS Standards	Notes
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: Differential Mode 4 kV, Common Mode 6 kV (2)
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

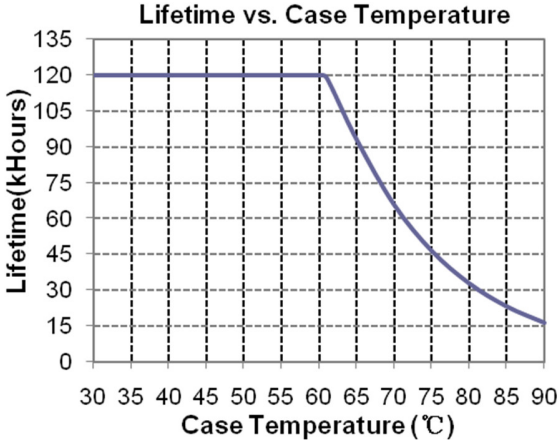
(2) To perform electric strength (hi-pot) testing, the "GDT ground disconnect" (nut and metal lock sheet) on the driver end-cap should be removed temporarily to prevent the internal gas discharge tube from conducting (as allowed by IEC 60598-1 Clause 10.2). After testing is completed, these items must be reinstalled to restore line-to-earth surge protection and secure the end cap.

Lifetime vs. Case Temperature

EUV-250S012SV



EUV-250S042SV

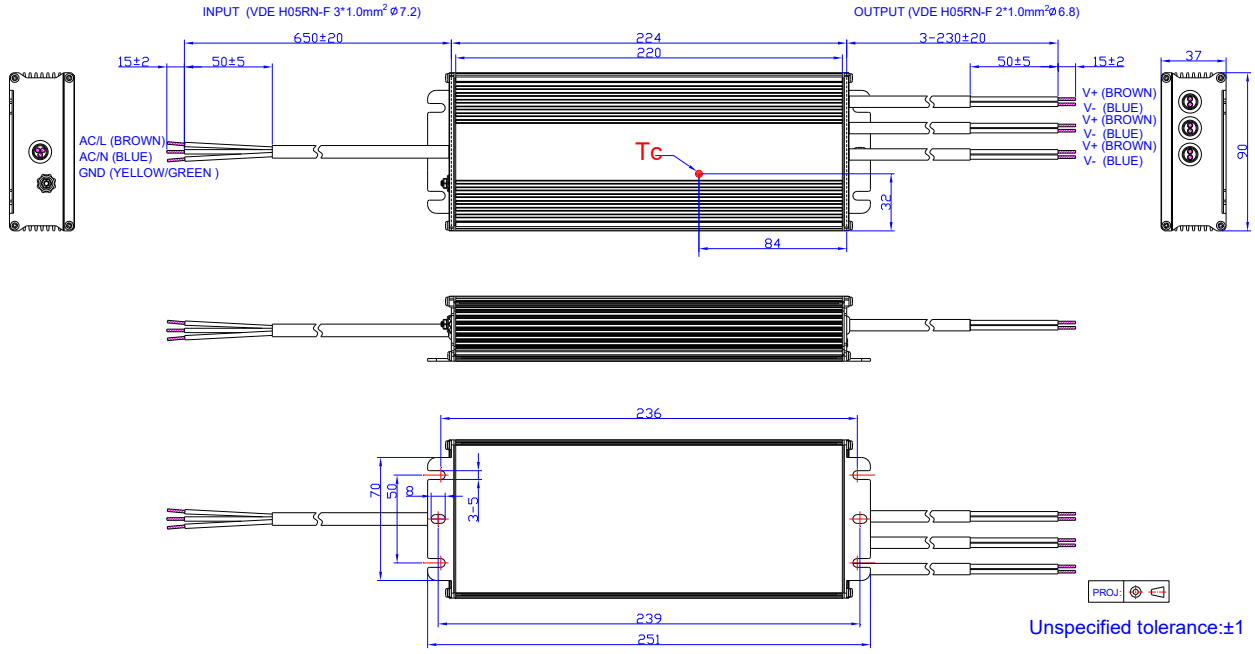


Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Current Protection	130% I_O	165% I_O	200% I_O	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
Over Temperature Protection	Auto Recovery, returning to normal after over temperature is removed.			
Short Circuit Protection	No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.			
Over Voltage Protection	Limits output voltage at no load and in case the normal voltage limit fails.			

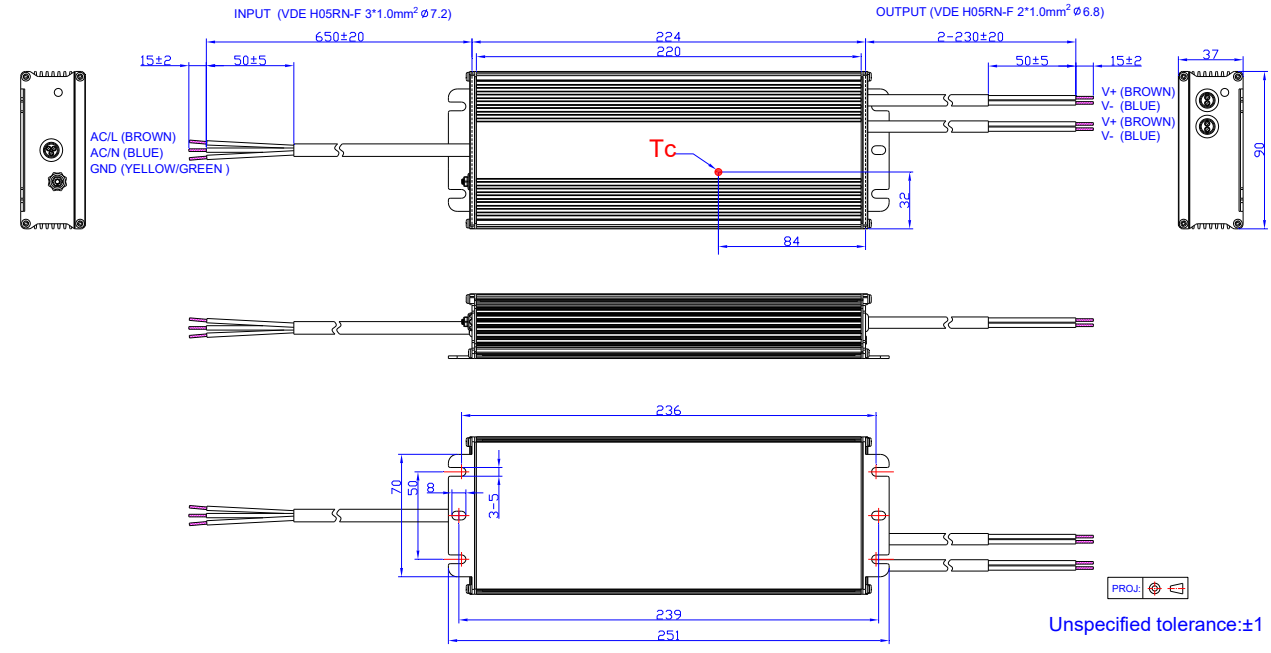
Mechanical Outline

EUV-250S012SV



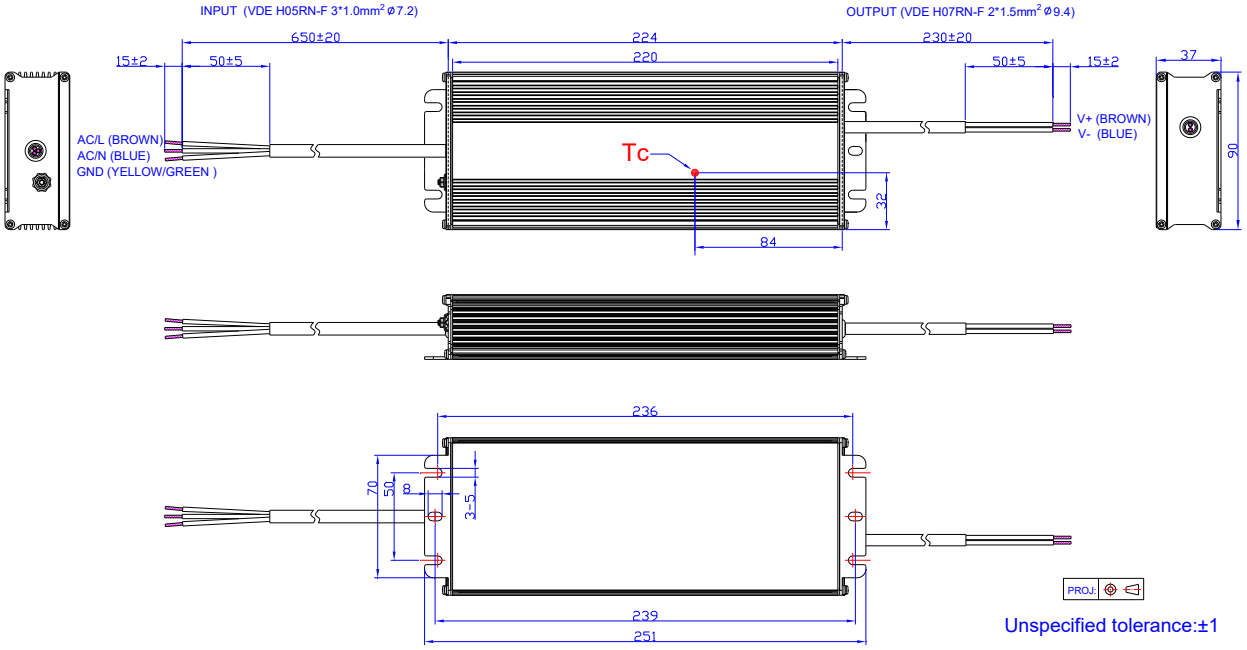
Note: The 3 DC output cables are connected in parallel internally because one 1.0mm^2 wire can only carry 10A. Please connect the 3 brown wires together and 3 blue wires together in application, or ensure each cable carries same current.

EUV-250S024/036SV



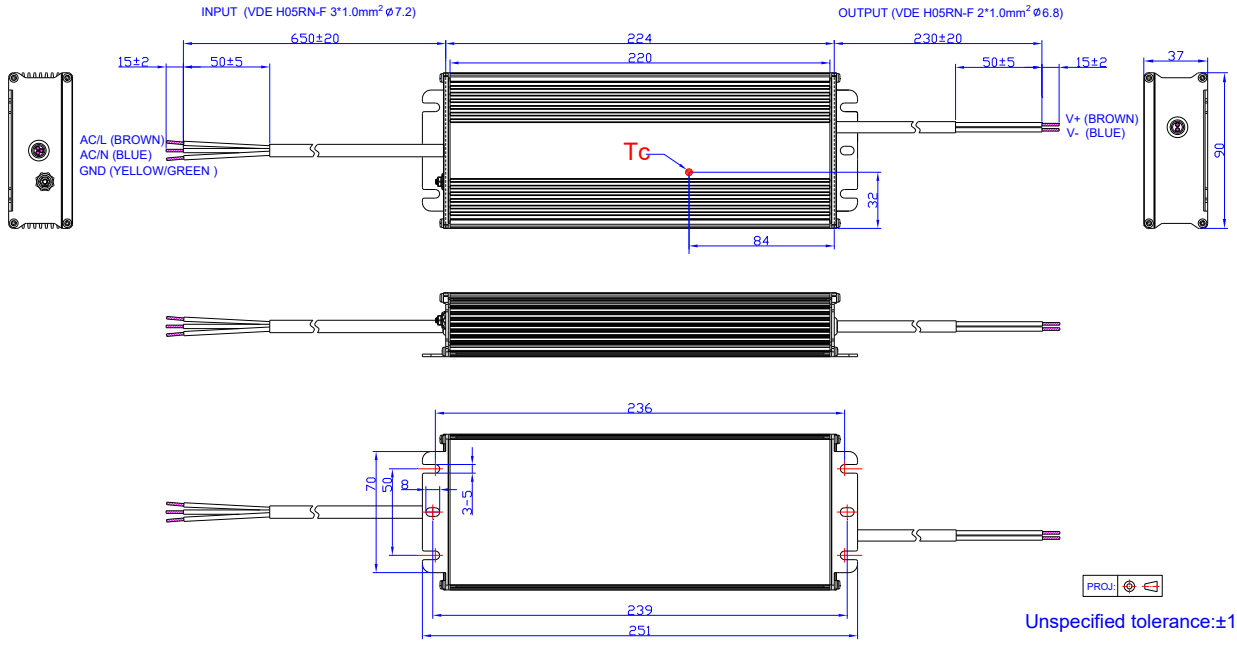
Note: The 2 DC output cables are connected in parallel internally because one 1.0mm^2 wire can only carry 10A. Please connect the 2 brown wires together and 2 blue wires together in application, or ensure each cable carries same current.

EUV-250S028/042SV



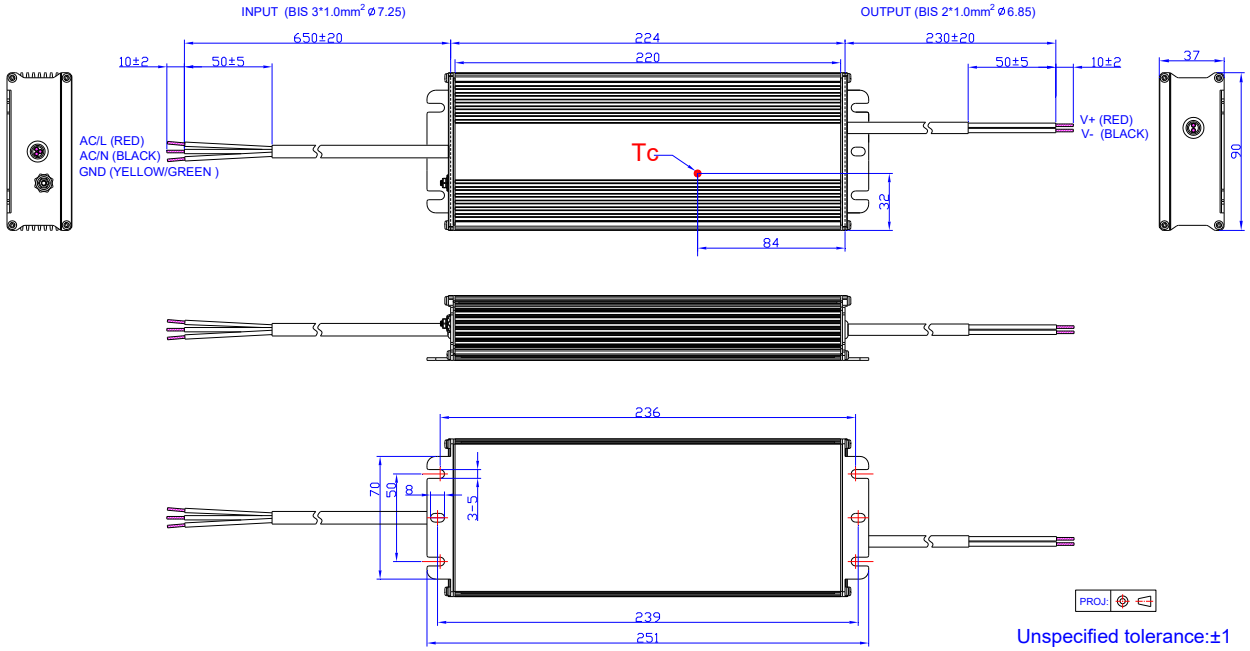
Unspecified tolerance:±1

EUV-250S048/054SV



Unspecified tolerance:±1

EUV-250S048SV-3000



RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

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Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2010-03-11	A	Add a new model of 28V		
		Add Leakage Current in Input Specifications	/	Max. 0.75 mA At 277Vac 50Hz input
		Standardize the tolerance in Mechanical Outline	/	/
2011-01-14	B	Change Input AC Current @220Vac	1.3 A	1.4 A
		Change the efficiency (120Vac) V_O = 12 V V_O = 84 V V_O = 105 V V_O = 150 V	Min. Typ. 89.5% 90.0% 92.0% 92.5% 92.0% 92.5% 92.0% 92.5%	Min. Typ. 89.0% 89.5% 91.0% 91.5% 91.0% 91.5% 91.0% 91.5%
		Change the efficiency (220Vac) V_O = 12 V	Min. Typ. 91.5% 92.0%	Min. Typ. 91.0% 91.5%
		Change No Load Power Dissipation	≤3 W	≤5 W
		Update MTBF & Life Time Data	For One Model	For Two Models
2011-07-30	C	Update Life Time Data	Ta=45℃	Tc=80℃
2012-06-18	D	Mechanical Outline	/	Updated
		Vo=52V, 56V, 60V, 84V,105 V & 150V Models	/	Deleted
		Life time Curve	/	Added
		EN61000-4-5	line to line 2 kV, line to earth 4 kV	line to line 4 kV, line to earth 6 kV
2012-07-17	E	Max Case Temperature	/	Updated
2012-11-15	F	Efficiency of 24V,28V,36V,42V	/	0.5%,1.5% or 2% lower
		Operating Temperature	-35 ℃	-40 ℃
		Derating Curve	/	Updated
2013-02-26	G	Efficiency of 42V,48V,54V	/	0.5% lower
2013-03-11	H	Over Current Protection	110%,155%,180%	130%,165%,200%
2013-04-02	I	Inrush current	50A	150A
		Min PF and max THD	/	Added
		Temperature coefficient	/	Added
		Life time	/	Updated
		Life time curve	/	Updated
		Input AC current@100Vac	Max 2.8A	Typ2.8A, Max3.0A
		Turn-on delay time	0.1s,0.2s	0.2s,0.5s
		Mechanical Outline---tolerance standardized	/	Corrected

Revision History (Continued)

Change Date	Rev.	Description of Change		
		Item	From	To
2013-12-13	J	Turn-on delay time	0.2s,0.5s	0.4s,1.0s
2015-09-10	K	Format	/	Update
		External Grounding Screw Solution	/	/
		Features	/	Update
		Description	/	Update
		Models	Notes	Update
		General Specifications	Case Temperature	Operating Case Temperature for Safety Tc_s
		General Specifications	Operating Case Temperature for Warranty Tc_w	Added
		General Specifications	Storage Temperature	Added
		Environmental Specifications	/	Delete
		Safety & EMC Compliance	/	Update
		Protection Functions	/	Update
		Dimming Control	/	Update
		Mechanical Outline	/	Update
2017-08-14	L	CB/CCC/PSE/KS	/	Added
		Description	/	Updated
		Input Specifications	PF/THD	Updated
		Output Specifications	Turn-on Delay Time	Updated
		Temperature Coefficient	Max 0.02%/°C	Typ 0.03%/°C
		Dimensions	8.82 × 3.46 × 1.32 224 × 88 × 33.5	8.82 × 3.54 × 1.46 224 × 90 × 37
		Safety & EMC Compliance	/	Updated
		Mechanical Outline	/	Updated
2019-09-19	M	PSE Logo	/	Updated
		Global Mark Logo	/	Updated
		Independent Logo	/	Added
		Features	4kV line-line, 6kV line-earth	DM 4kV, CM 6kV
		Features	Waterproof(IP67)	IP67
		Features	Suitable for Independent Use	Deleted

Revision History (Continued)

Change Date	Rev.	Description of Change		
		Item	From	To
2019-09-19	M	Features	5 Years Warranty	Added
		General Specifications	Operating Case Temperature for Warranty Tc_w- Notes	Added
		Safety &EMC Compliance	CB	Added
		Safety &EMC Compliance	CCC	Added
		Safety &EMC Compliance	PSE	Added
		Safety &EMC Compliance	KS	Added
		Safety &EMC Compliance	Global Mark	Added
		Safety &EMC Compliance	EN 55015	EN 55015/GB 17743
		Safety &EMC Compliance	EN 61000-3-2	EN 61000-3-2/GB 17625.1
		Safety &EMC Compliance	EN 61000-4-5	Updated
		Derating Curve	/	Deleted
		RoHS Compliance	/	Updated
2020-03-09	N	BIS Logo	/	Added
		Models	Notes(4)(6)	Added
		Safety &EMC Compliance	BIS	Added
		Mechanical Outline	EUV-250S048SV-3000	Added
		Format	Page footer	Updated
2025-12-11	O	Format	/	Updated
		Product Photograph	/	Updated
		PSE/ global-mark logo	/	Deleted
		Safety &EMC Compliance	/	Updated