

Features

- Compact Metal Case with Excellent Thermal Performance
- Input Over Voltage Protection at 440Vac with 48 Hours
- Full Power at Wide Output Current Range (Constant Power)
- Adjustable Output Current (AOC) with Potentiometer
- Non-dimming Control
- Input Surge Protection: DM 4kV, CM 6kV
- All-Around Protection: IOVP, OVP, SCP, OTP
- IP66/IP67
- SELV Output
- 5 Years Warranty



Description

The EAM-200SxxxSB series is a 200W, constant-current, AOC LED driver that operates from 90-305Vac input with excellent power factor. It is created for many lighting applications including high bay, high mast and roadway, 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, short circuit, and over temperature.

Models

Adjustable Output Current Range	Full-Power Current Range (1)	Default Output Current	Input Voltage Range(2)	Output Voltage Range	Max. Output Power	Typical Efficiency (3)	Typical Power Factor		Model Number
							120Vac	220Vac	
525-1050mA	700-1050mA	700 mA	90~305 Vac/ 127~300 Vdc	95~286 Vdc	200 W	93.5%	0.99	0.96	EAM-200S105SB
750-1500mA	1050-1500mA	1050 mA	90~305 Vac/ 127~300 Vdc	67~190 Vdc	200 W	93.5%	0.99	0.96	EAM-200S150SB
1400-2800mA	1800-2800mA	2100 mA	90~305 Vac/ 127~300 Vdc	36~111 Vdc	200 W	93.5%	0.99	0.96	EAM-200S280SB ⁽⁴⁾
2800-5600mA	3500-5600mA	4200 mA	90~305 Vac/ 127~300 Vdc	18 ~ 57 Vdc	200 W	92.5%	0.99	0.96	EAM-200S560SB ⁽⁴⁾

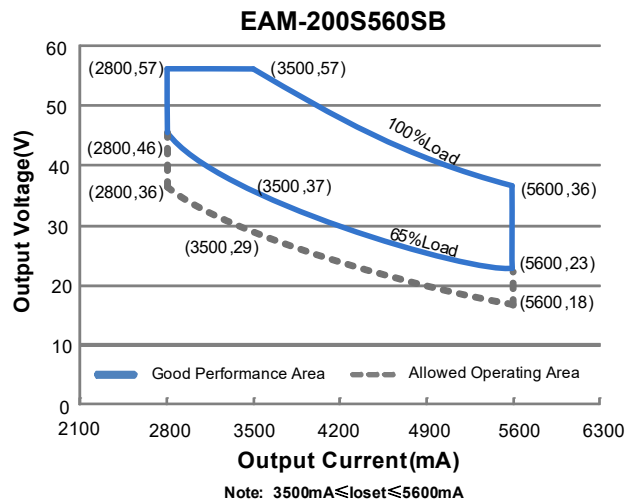
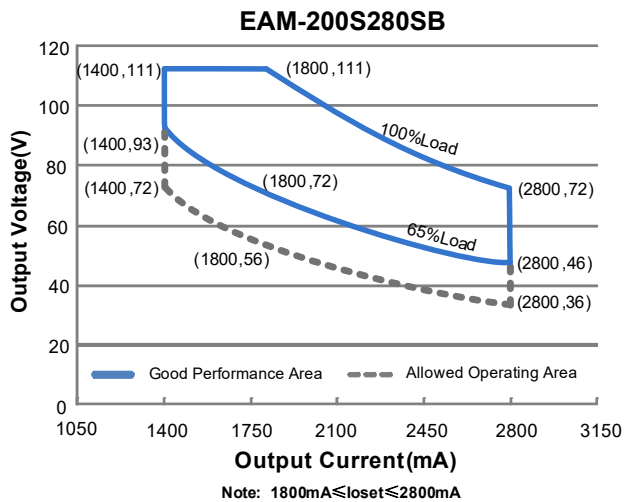
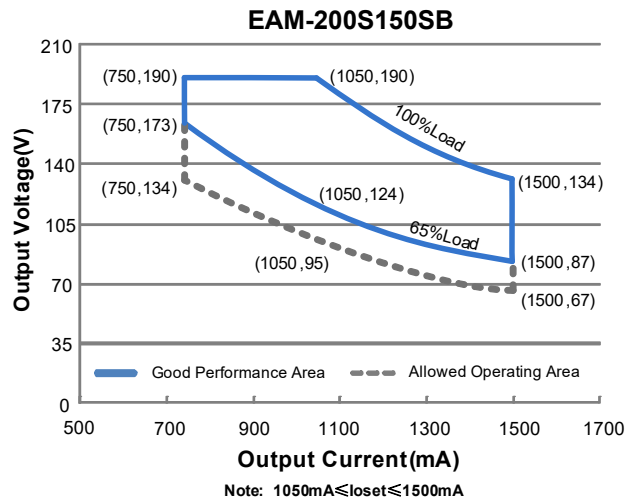
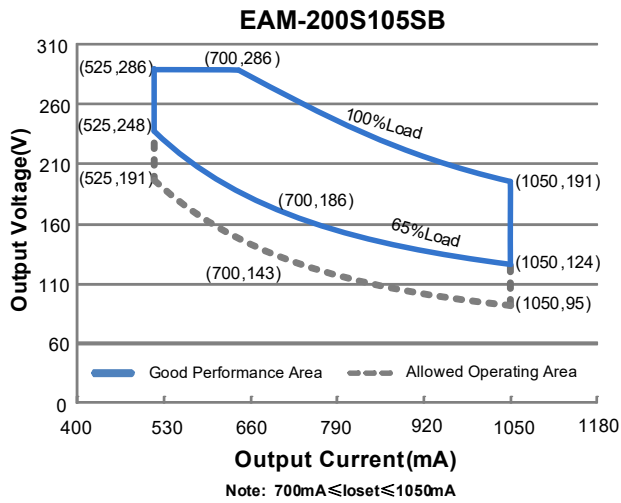
Notes: (1) Output current range with constant power at 200W.

(2) Certified input voltage range: 100-240/220-240/240Vac.

(3) Measured at 100% load and 220Vac input (see below "General Specifications" for details).

(4) SELV output.

I-V Operation Area



Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90 Vac	-	305 Vac	
Input DC Voltage	127 Vdc	-	300 Vdc	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.70 mA	IEC 60598-1; 240Vac/ 60Hz
Input AC Current	-	-	2.09 A	Measured at 100% load and 120 Vac input.
	-	-	1.12 A	Measured at 100% load and 220 Vac input.
Inrush Current(I ² t)	-	-	2.70 A ² s	At 220Vac input, 25°C cold start, duration=624 μs, 10%Ipk-10%Ipk. See Inrush Current Waveform for the details.

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
PF	0.9	-	-	At 100-277Vac, 50-60Hz, 65%-100% Load (132-200W)
THD	-	-	20%	
THD	-	-	10%	At 220-240Vac, 50-60Hz, 75%-100% Load (150-200W)

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%loset	-	5%loset	At 100% load condition
Output Current Setting(loset) Range				
EAM-200S105SB	525 mA	-	1050 mA	
EAM-200S150SB	750 mA	-	1500 mA	
EAM-200S280SB	1400 mA	-	2800 mA	
EAM-200S560SB	2800 mA	-	5600 mA	
Output Current Setting Range with Constant Power				
EAM-200S105SB	700 mA	-	1050 mA	
EAM-200S150SB	1050 mA	-	1500 mA	
EAM-200S280SB	1800 mA	-	2800 mA	
EAM-200S560SB	3500 mA	-	5600 mA	
Total Output Current Ripple (pk-pk)	-	5%lomax	10%lomax	At 100% load condition. 20 MHz BW
Output Current Ripple at < 200 Hz (pk-pk)	-	2%lomax	-	At 100% load condition. Only this component of ripple is associated with visible flicker.
Startup Overshoot Current	-	-	10%lomax	At 100% load condition
No Load Output Voltage				
EAM-200S105SB	-	-	320 V	
EAM-200S150SB	-	-	210 V	
EAM-200S280SB	-	-	120 V	
EAM-200S560SB	-	-	70 V	
Line Regulation	-	-	±0.5%	Measured at 100% load
Load Regulation	-	-	±1.5%	
Turn-on Delay Time	-	-	0.5 s	Measured at 120-277Vac input, 65%-100% Load
Temperature Coefficient of loiset	-	0.03%/°C	-	Case temperature = 0°C ~Tc max

General Specifications

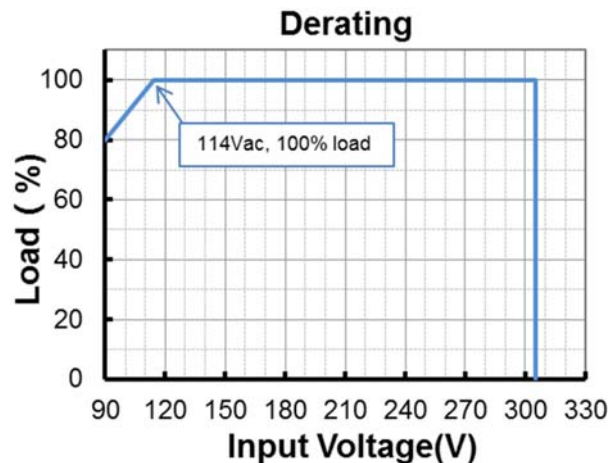
Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input: EAM-200S105SB Io= 700 mA Io=1050 mA EAM-200S150SB Io=1050 mA Io=1500 mA EAM-200S280SB Io=1800 mA Io=2800 mA EAM-200S560SB Io=3500 mA Io=5600 mA	 89.0% 89.0% 89.0% 89.0% 89.0% 88.5% 88.0% 87.0%	 91.0% 91.0% 91.0% 91.0% 91.0% 90.5% 90.0% 89.0%	 - - - - - - - -	Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
Efficiency at 220 Vac input: EAM-200S105SB Io= 700 mA Io=1050 mA EAM-200S150SB Io=1050 mA Io=1500 mA EAM-200S280SB Io=1800 mA Io=2800 mA EAM-200S560SB Io=3500 mA Io=5600 mA	 91.5% 91.5% 91.5% 91.5% 91.5% 91.0% 90.5% 89.5%	 93.5% 93.5% 93.5% 93.5% 93.5% 93.0% 92.5% 91.5%	 - - - - - - - -	
Efficiency at 277 Vac input: EAM-200S105SB Io= 700 mA Io=1050 mA EAM-200S150SB Io=1050 mA Io=1500 mA EAM-200S280SB Io=1800 mA Io=2800 mA EAM-200S560SB Io=3500 mA Io=5600 mA	 92.0% 92.0% 92.0% 92.0% 91.5% 91.0% 91.0% 90.0%	 94.0% 94.0% 94.0% 94.0% 93.5% 93.0% 93.0% 92.0%	 - - - - - - - -	
MTBF	-	260,000 Hours	-	Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	120,000 Hours	-	Measured at 220Vac input, 80%Load and 70°C case temperature; See lifetime vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-20°C	-	+90°C	
Operating Case Temperature for Warranty Tc_w	-20°C	-	+80°C	Case temperature for 5 years warranty Humidity: 10%RH to 95%RH
Storage Temperature	-20°C	-	+85°C	Humidity: 5%RH to 95%RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	6.73 × 2.36 × 1.44 171 × 60 × 36.5			With mounting ear 7.40 × 2.36 × 1.44 188 × 60 × 36.5
Net Weight	-	750 g	-	

Safety & EMC Compliance

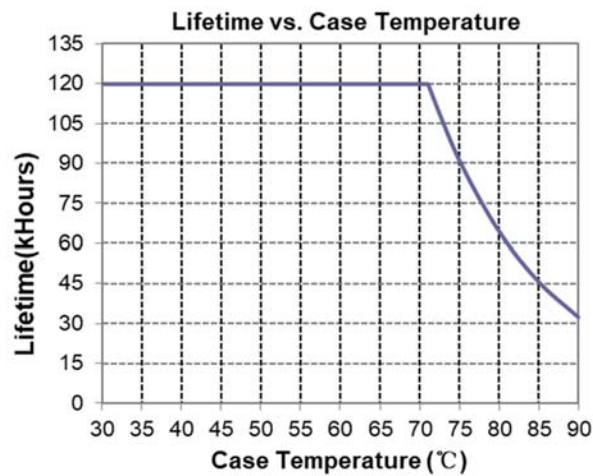
Safety Category	Standard
CE	EN 61347-1, EN 61347-2-13
BIS	IS 15885(Part2/Sec13)
EMI Standards	Notes
EN IEC 55015 ⁽¹⁾	Conducted emission Test & Radiated emission Test
EN IEC 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
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
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.

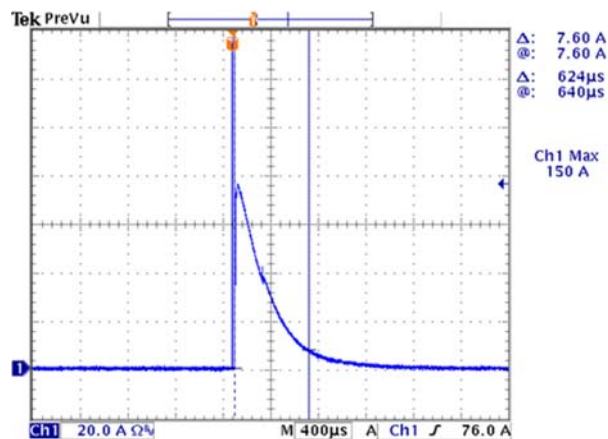
Derating



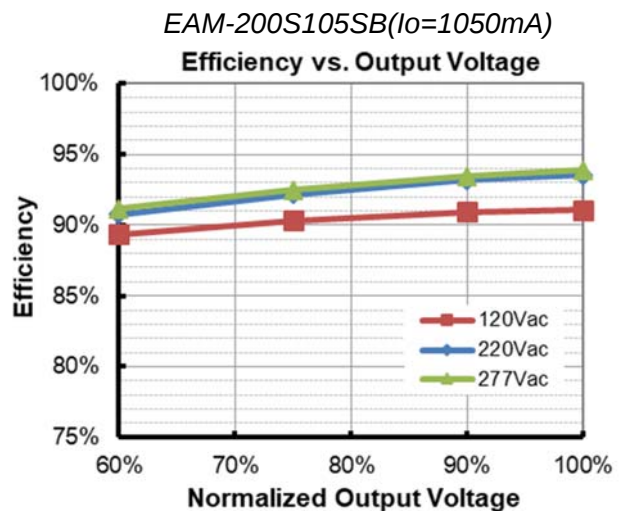
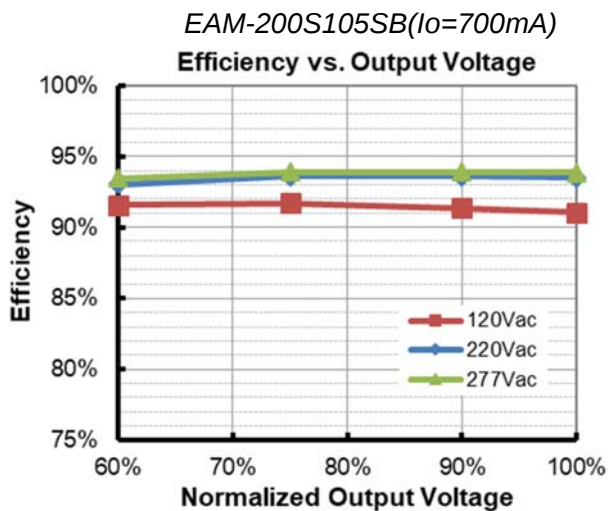
Lifetime vs. Case Temperature



Inrush Current Waveform

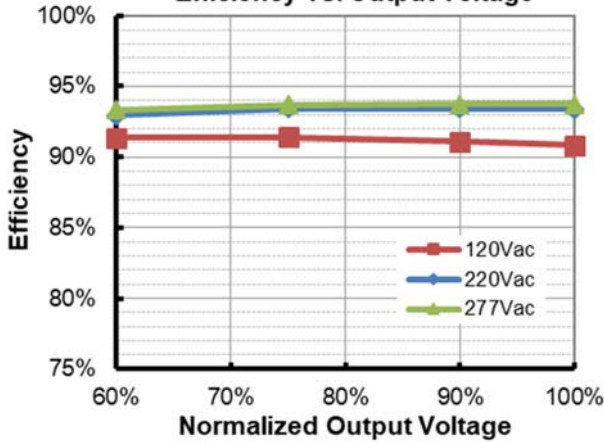


Efficiency vs. Load



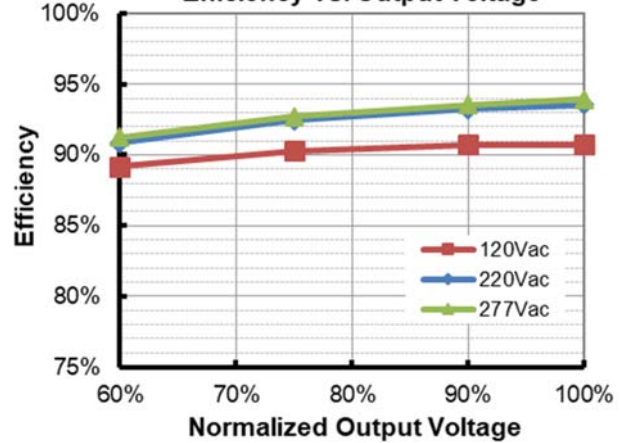
EAM-200S150SB(I_o=1050mA)

Efficiency vs. Output Voltage



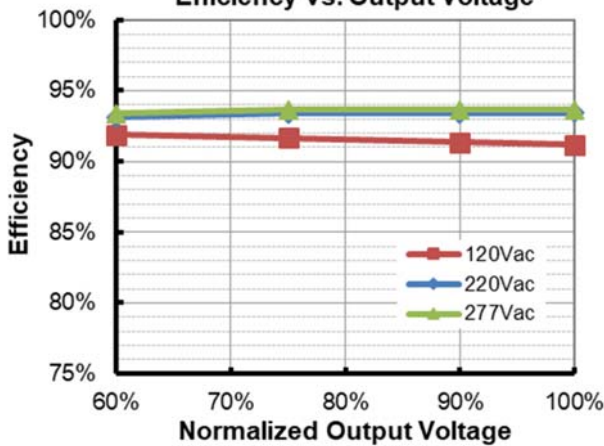
EAM-200S150SB(I_o=1500mA)

Efficiency vs. Output Voltage



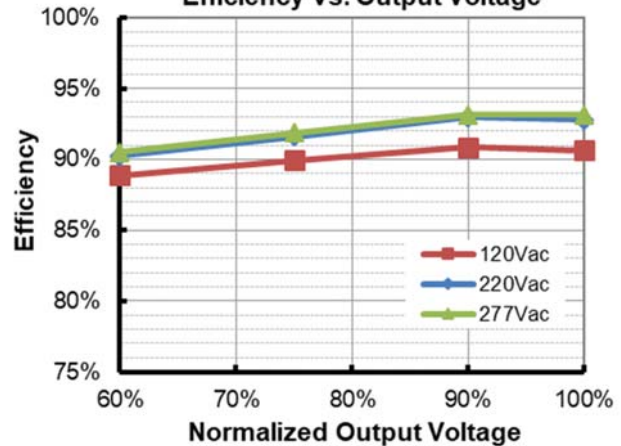
EAM-200S280SB(I_o=1800mA)

Efficiency vs. Output Voltage



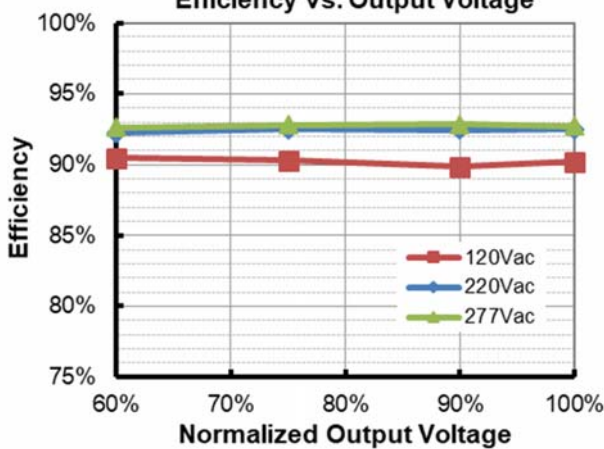
EAM-200S280SB(I_o=2800mA)

Efficiency vs. Output Voltage



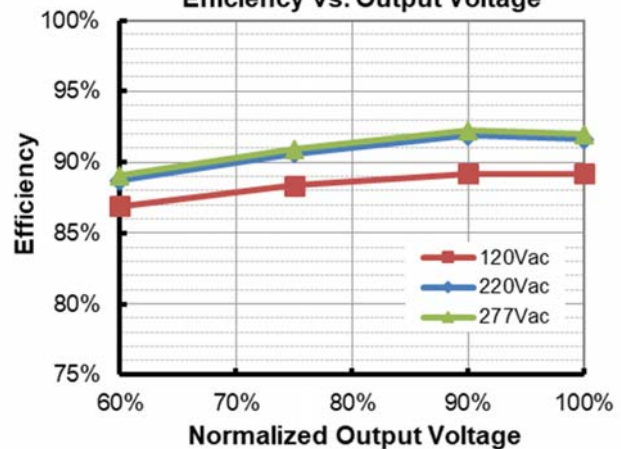
EAM-200S560SB(I_o=3500mA)

Efficiency vs. Output Voltage

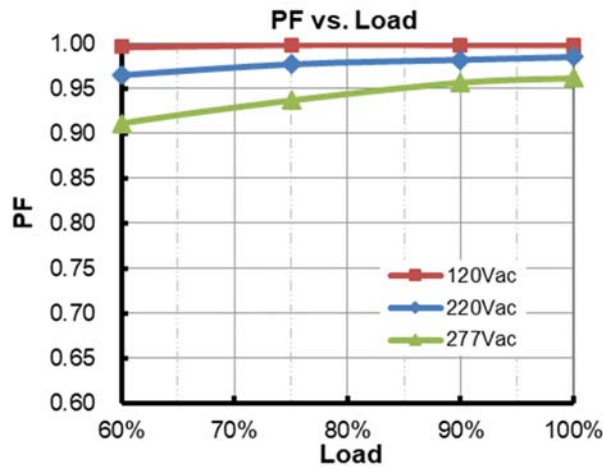


EAM-200S560SB(I_o=5600mA)

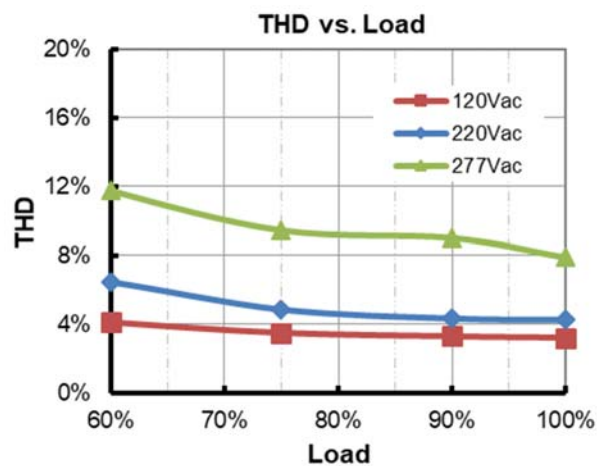
Efficiency vs. Output Voltage



Power Factor



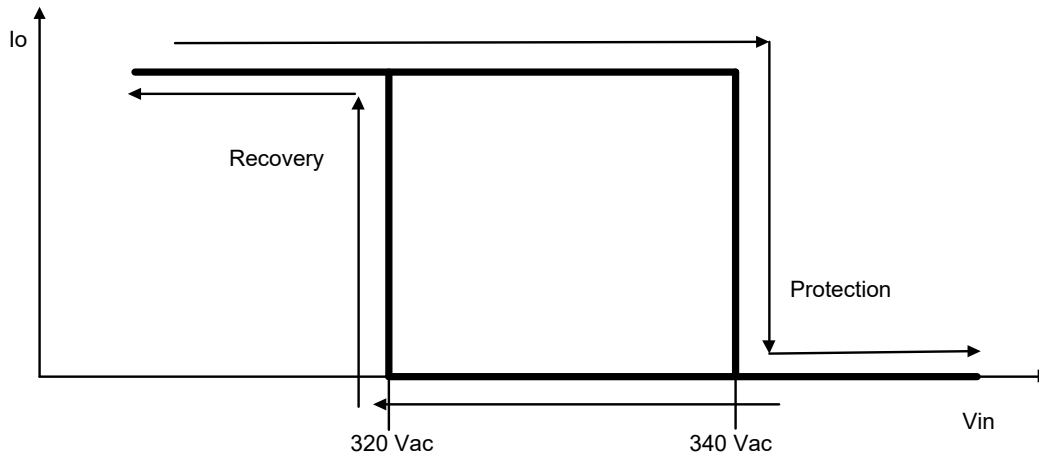
Total Harmonic Distortion



Protection Functions

Parameter		Min.	Typ.	Max.	Notes
Over Voltage Protection		Limits output voltage at no load and in case the normal voltage limit fails.			
Short Circuit Protection		Auto Recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.			
Over Temperature Protection		Decreases output current, returning to normal after over temperature is removed.			
Input Over Voltage Protection	Input Over Voltage Protection	320 Vac	340 Vac	360 Vac	Turn off the output when the input voltage exceeds protection voltage.
	Input Over Voltage Recovery	300 Vac	320 Vac	340 Vac	Auto Recovery. The driver will restart when the input voltage falls below recovery voltage.
	Max. of Input Over Voltage	-	-	440 Vac	The driver can survive for 48 hours with input voltage stress of 440Vac.

● Input Over Voltage Protection Diagram



Output Current vs. Potentiometer Setting

● EAM-200S105SB

Output Current Setting (I _o set)	Output Voltage Range		Notes
Typ.	Min.	Max.	/
1050mA	95V	191V	Output Current Setting with Constant Power.
...	...	...	
700mA	143V	286V	
...	...	...	Output Current Setting with Power Derating.
525mA	191V	286V	

● EAM-200S150SB

Output Current Setting (I _o set)	Output Voltage Range		Notes
Typ.	Min.	Max.	/
1500mA	67V	134V	Output Current Setting with Constant Power.
...	...	...	
1050mA	95V	190V	
...	...	...	Output Current Setting with Power Derating.
750mA	134V	190V	

● EAM-200S280SB

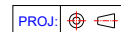
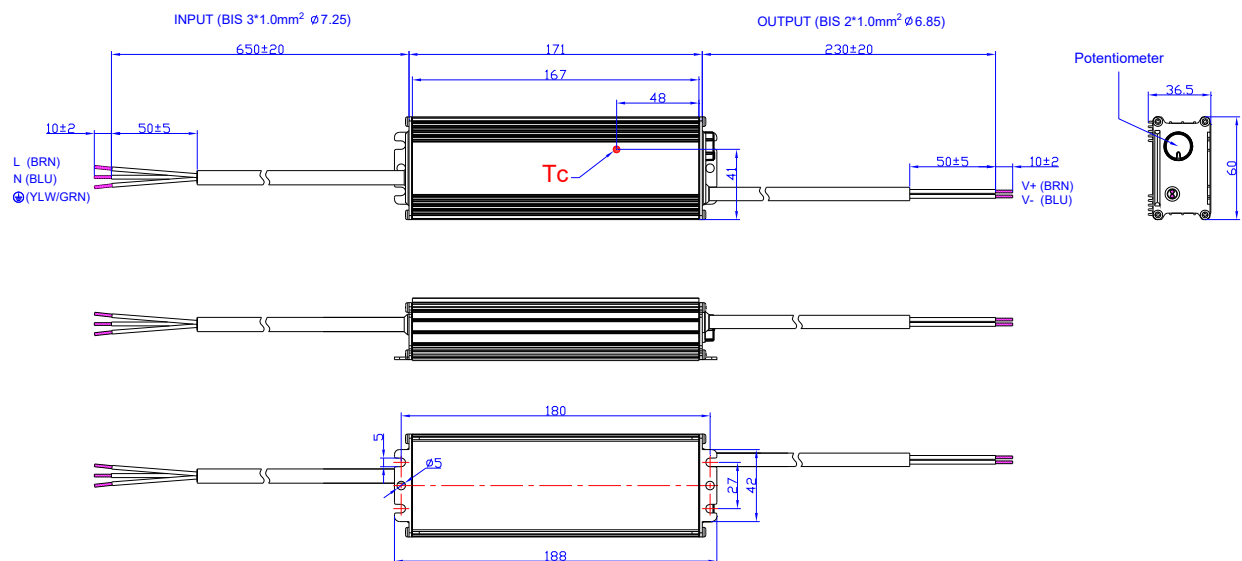
Output Current Setting (loset)	Output Voltage Range		Notes
Typ.	Min.	Max.	/
2800mA	36V	72V	Output Current Setting with Constant Power.
...	...	...	
1800mA	56V	111V	
...	...	...	Output Current Setting with Power Derating.
1400mA	72V	111V	

● EAM-200S560SB

Output Current Setting (loset)	Output Voltage Range		Notes
Typ.	Min.	Max.	/
5600mA	18V	36V	Output Current Setting with Constant Power.
...	...	...	
3500mA	29V	57V	
...	...	...	Output Current Setting with Power Derating.
2800mA	36V	57V	

Notes: Endcap covering potentiometer must be tight to insure IP66/IP67 rating.

Mechanical Outline



Unspecified tolerance: ±1

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.

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2021-03-25	A	Datasheet Release	/	/
2023-07-26	B	Product Photograph	/	Updated
		Features	/	Updated
		Models	/	Updated
		I-V Operation Area	/	Updated
		Input Specifications	/	Updated
		Output Specifications	/	Updated
		Safety & EMC Compliance	/	Updated
		Inrush Current Waveform	/	Updated
		Efficiency vs. Load	/	Updated
		Power Factor	/	Updated
		Total Harmonic Distortion	/	Updated
		Mechanical Outline	/	Updated