

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

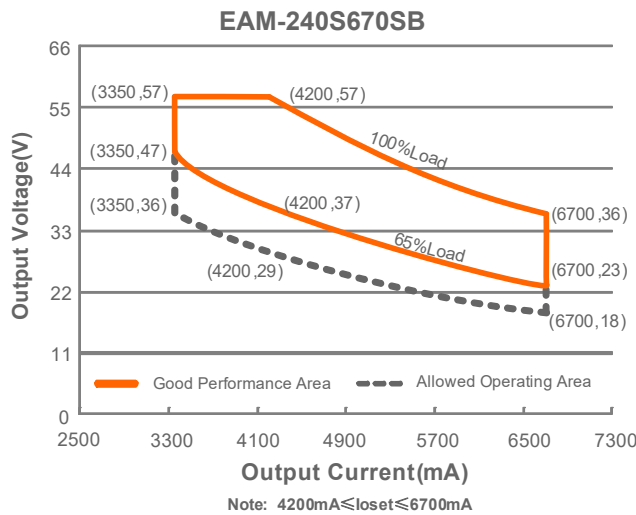
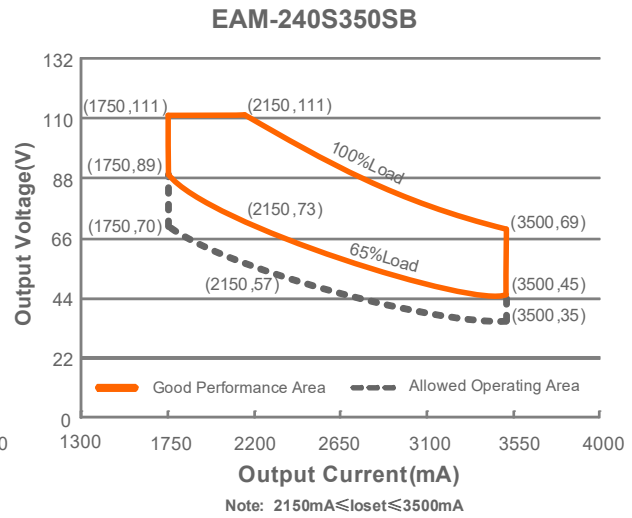
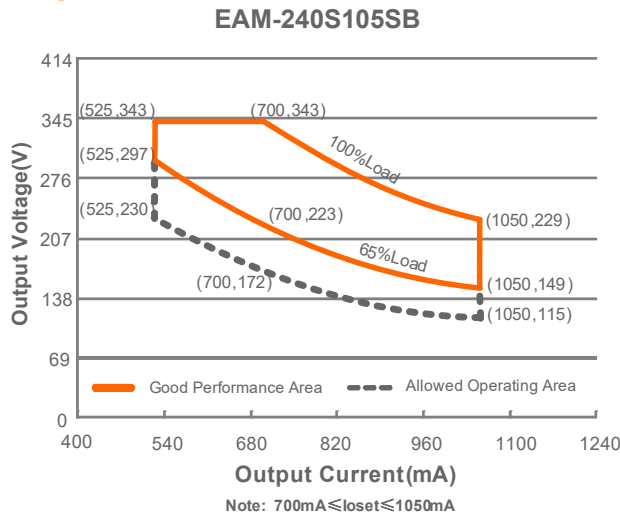
The EAM-240SxxxSB series is a 240W, constant-current, AOC LED driver that operates from 90-305Vac input with excellent power factor. It is created for many lighting applications including high bay, high mast and roadway, etc. The high efficiency of these drivers and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, input over voltage, output over voltage, short circuit, and over temperature.

Models

Adjustable Output Current Range(mA)	Full-Power Current Range(mA) ⁽¹⁾	Default Output Current(mA)	Output Voltage Range(Vdc)	Max. Output Power(W)	Typical Efficiency ⁽²⁾	Typical Power Factor		Model Number ⁽³⁾
						120Vac	220Vac	
525-1050	700-1050	700	115-343	240	94.0%	0.99	0.96	EAM-240S105SB
1750-3500	2150-3500	2150	35-111	240	93.0%	0.99	0.96	EAM-240S350SB ⁽⁴⁾
3350-6700	4200-6700	4900	18-57	240	93.0%	0.99	0.96	EAM-240S670SB ⁽⁴⁾

- Notes:** (1) Output current range with constant power at 240W
 (2) Measured at 100% load and 220Vac input (see below "General Specifications" for details).
 (3) Certified input voltage range: 100-240/220-240/240Vac.
 (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	-	-	2.45 A	Measured at 100% load and 120 Vac input.
	-	-	1.31 A	Measured at 100% load and 220 Vac input.
Inrush Current(I ² t)	-	-	3.45 A ² s	At 220Vac input, 25°C cold start, duration=864us, 10%I _{pk} -10%I _{pk} .

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
PF	0.9	-	-	At 100-277Vac, 50-60Hz, 65%-100% Load (156-240W)
THD	-	-	20%	
THD	-	-	10%	At 220-240Vac, 50-60Hz, 75%-100% Load (180-240W)

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%loset	-	5%loset	At 100% load condition
Output Current Setting(loset) Range				
EAM-240S105SB	525 mA	-	1050 mA	
EAM-240S350SB	1750 mA	-	3500 mA	
EAM-240S670SB	3350 mA	-	6700 mA	
Output Current Setting Range with Constant Power				
EAM-240S105SB	700 mA	-	1050 mA	
EAM-240S350SB	2150 mA	-	3500 mA	
EAM-240S670SB	4200 mA	-	6700 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-240S105SB	-	-	380 V	
EAM-240S350SB	-	-	120 V	
EAM-240S670SB	-	-	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 loset	-	0.03%/°C	-	Case temperature = 0°C ~Tc max

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input:				
EAM-240S105SB				Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
lo= 700 mA	89.0%	91.0%	-	
lo=1050 mA	89.0%	91.0%	-	
EAM-240S350SB				
lo=2150 mA	88.5%	90.5%	-	
lo=3500 mA	88.0%	90.0%	-	
EAM-240S670SB				
lo=4200 mA	88.0%	90.0%	-	
lo=6700 mA	87.0%	89.0%	-	

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 220 Vac input: EAM-240S105SB				Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
I _o = 700 mA	91.5%	93.5%	-	
I _o =1050 mA	92.0%	94.0%	-	
EAM-240S350SB				
I _o =2150 mA	91.0%	93.0%	-	
I _o =3500 mA	90.5%	92.5%	-	
EAM-240S670SB				
I _o =4200 mA	91.0%	93.0%	-	
I _o =6700 mA	89.5%	91.5%	-	
Efficiency at 277 Vac input: EAM-240S105SB				Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
I _o = 700 mA	92.0%	94.0%	-	
I _o =1050 mA	92.0%	94.0%	-	
EAM-240S350SB				
I _o =2150 mA	91.5%	93.5%	-	
I _o =3500 mA	91.0%	93.0%	-	
EAM-240S670SB				
I _o =4200 mA	91.0%	93.0%	-	
I _o =6700 mA	90.0%	92.0%	-	
MTBF	-	346,000 Hours	-	Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	111,000 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 T _{c_s}	-20°C	-	+90°C	
Operating Case Temperature for Warranty T _{c_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				With mounting ear
Inches (L × W × H)	8.31 × 2.36 × 1.52			8.98 × 2.36 × 1.52
Millimeters (L × W × H)	211 × 60 × 38.5			228 × 60 × 38.5
Net Weight	-	950 g	-	

Safety & EMC Compliance

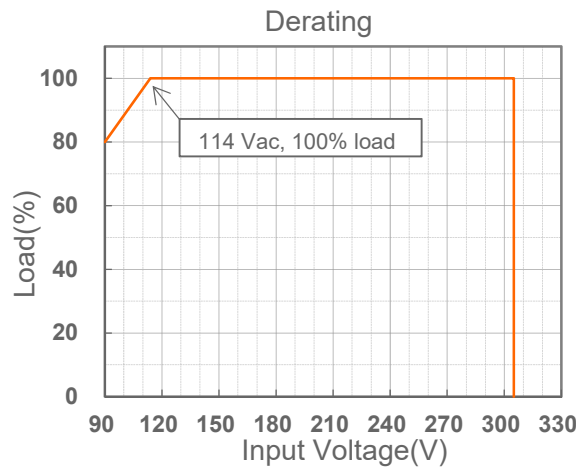
Safety Category	Standard
CE	EN 61347-1, EN 61347-2-13
BIS	IS 15885(Part2/Sec13)
EMI Standards	Notes
EN IEC 55015 ⁽¹⁾	Conducted emission Test & Radiated emission Test
EN IEC 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EMS Standards	Notes
EN 61000-4-2	Electrostatic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

Safety & EMC Compliance (Continued)

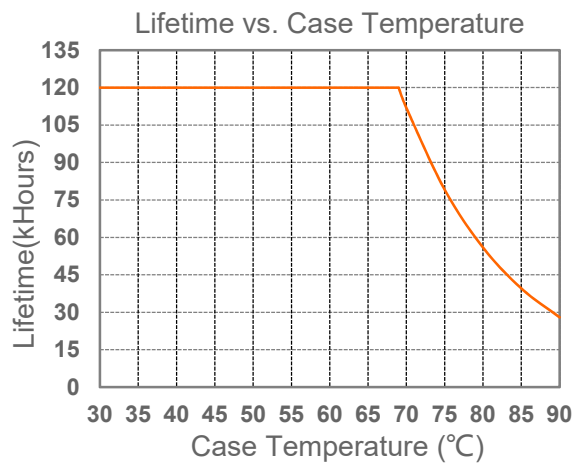
EMS Standards	Notes
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: Differential Mode 4 kV, Common Mode 6 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	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.

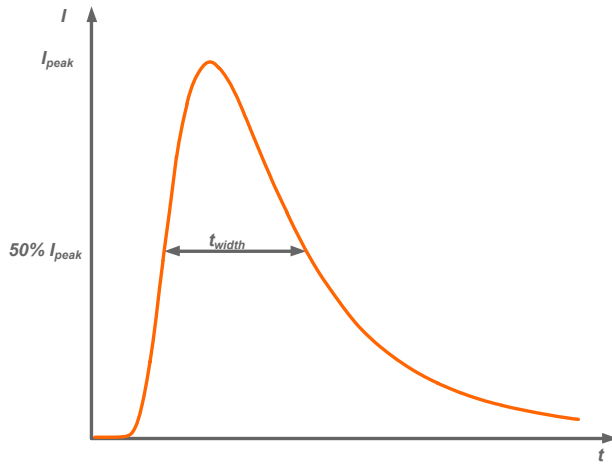
Derating



Lifetime vs. Case Temperature

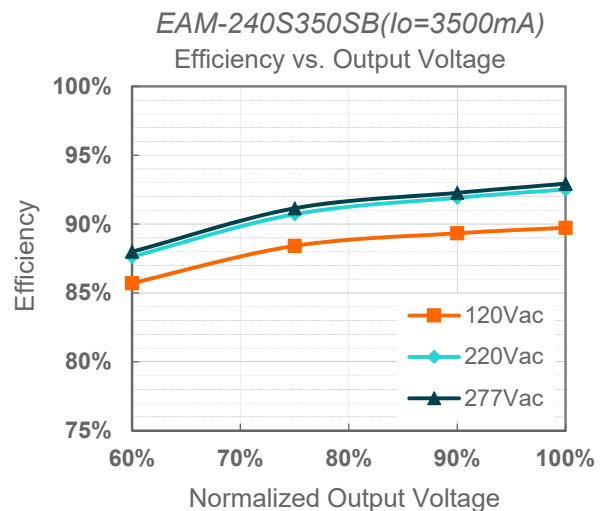
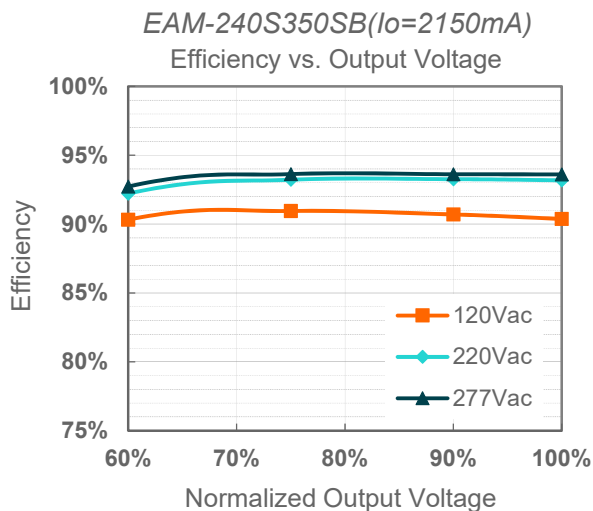
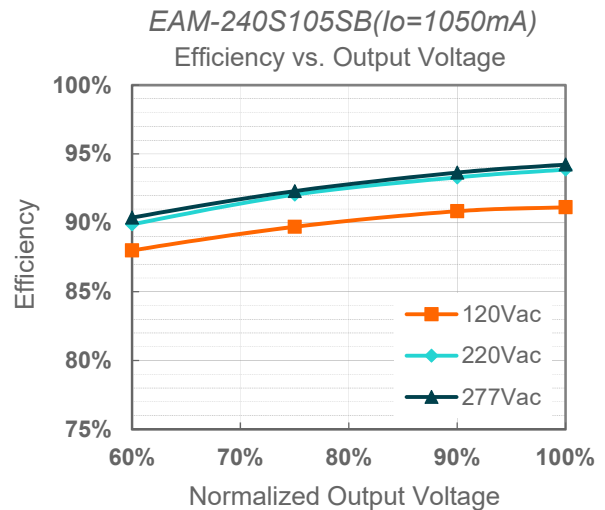
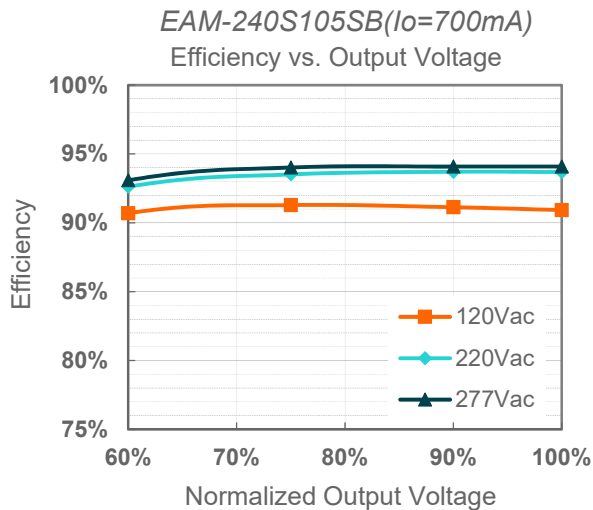


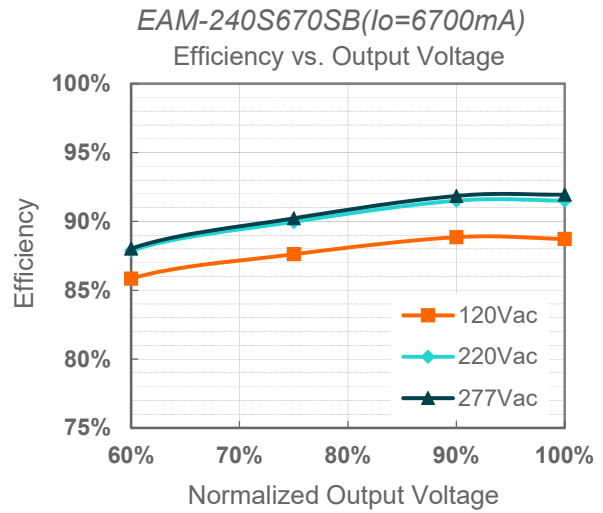
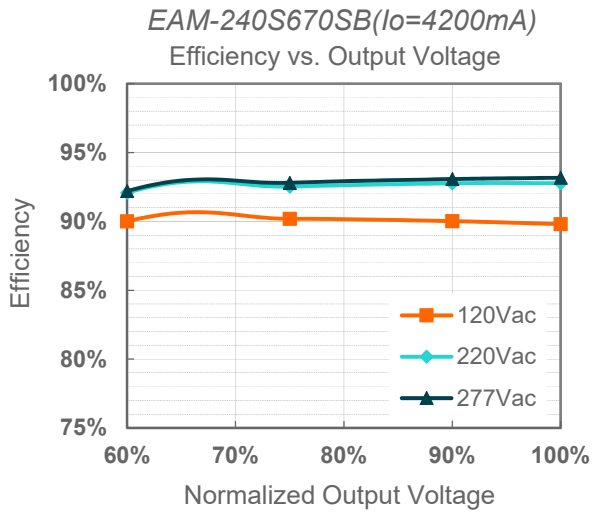
Inrush Current Waveform



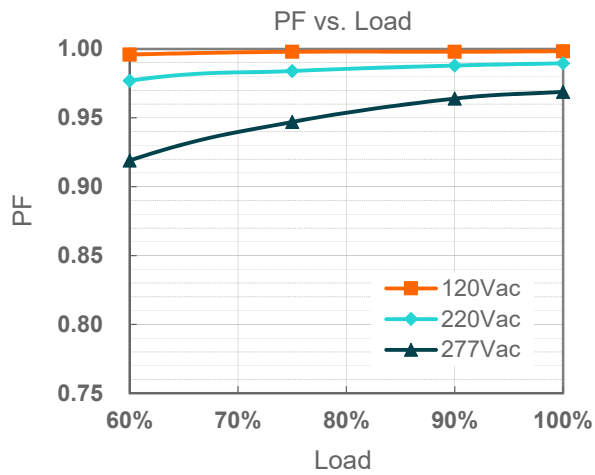
Input AC Voltage	I_{peak}	t_{width} (@ 50% I_{peak})
220V	73.0A	388 μ s

Efficiency vs. Load

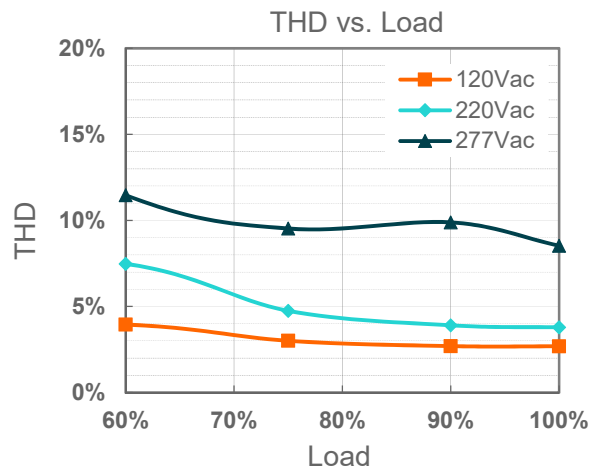




Power Factor



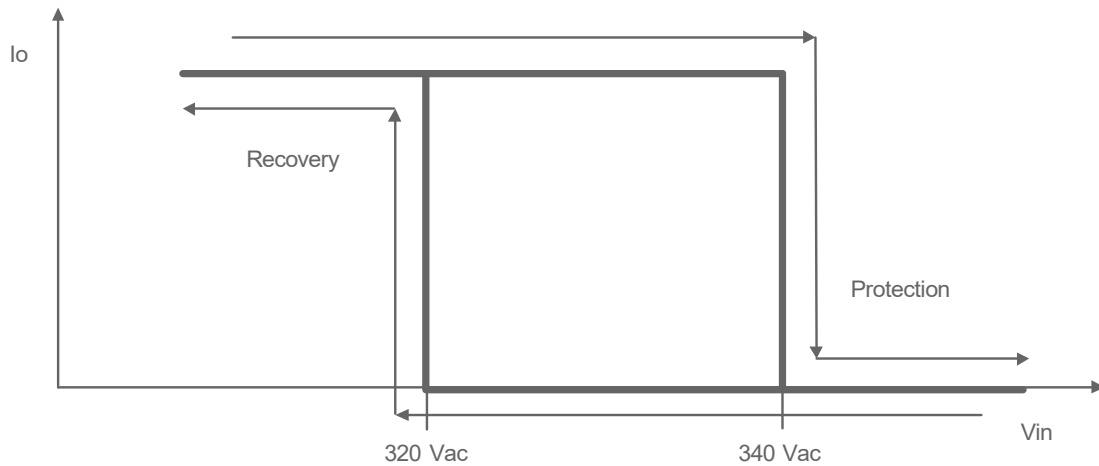
Total Harmonic Distortion



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-240S105SB

Output Current Setting (I _o set)	Output Voltage Range		Notes
Typ.	Min.	Max.	/
1050mA	115V	229V	Output Current Setting with Constant Power.
...	
700mA	172V	343V	
...	Output Current Setting with Power Derating.
525mA	230V	343V	

● **EAM-240S350SB**

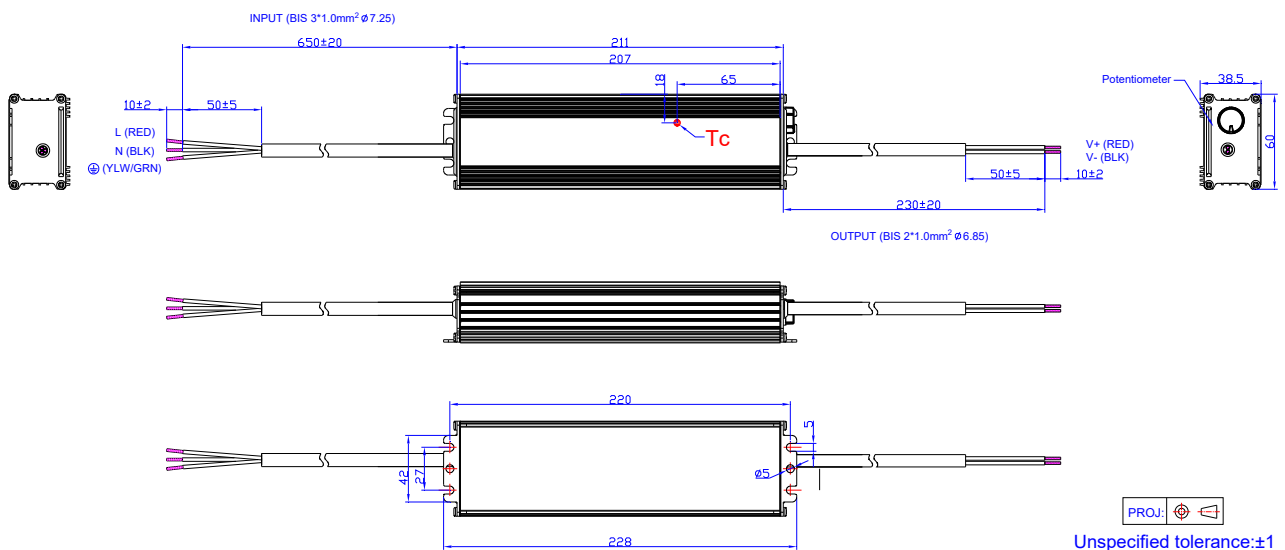
Output Current Setting (I _o set)	Output Voltage Range		Notes
Typ.	Min.	Max.	/
3500mA	35V	69V	Output Current Setting with Constant Power.
...	
2150mA	57V	111V	
...	Output Current Setting with Power Derating.
1750mA	70V	111V	

● **EAM-240S670SB**

Output Current Setting (I _o set)	Output Voltage Range		Notes
Typ.	Min.	Max.	/
6700mA	18V	36V	Output Current Setting with Constant Power.
...	
4200mA	29V	57V	
...	Output Current Setting with Power Derating.
3350mA	36V	57V	

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

Mechanical Outline



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
2023-12-07	A	Datasheet Release	/	/