

SOSEN LED Driver, Your Smart Choice

Specifications

SS-800M Series LED Driver

Model: SS-800M-XX

Description: 800W LED Driver

Rev.: V03

Release Date: 2023-02-01

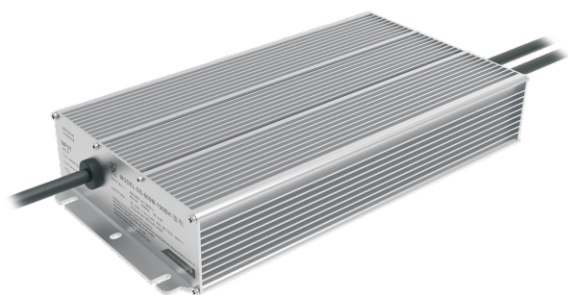
SS-800M Series LED Driver

SOSEN
LED DRIVER



LED DRIVER

M Series



Features:

- Efficiency up to 96.5%
- Dimming: 0-10V,PWM,Resistor,Timing
- Dim-to-Off
- Surge protection: IEC: CM: 10kV, DM: 6kV
ANSI: CM: 6kV, DM: 6kV
- AUX Power : 12V/0.5A
- Constant Lumen O/P
- Standby Power<2W
- IP67
- Communication function with PC
- Type HL, suitable for hazardous locations
- Protections: SCP/OTP/UVP
- Warranty: 5 years



CE IP67 Class P

Description:

SS-800M series product is 800W constant current LED Driver with wide O/P voltage range and adjustable O/P current by program. LED luminaries manufactures can easily design luminaries and reduce cost.

Applications:

Industrial lighting, Stadium lighting, Horticulture lighting

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo Range	Iout	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-800M-56*	180-528Vac	800W	28-56V	48-56V	1.67-16.7A	5%	0.95	96%	90°C
SS-800M-190*	180-528Vac	800W	95-190V	152-190V	0.7-5.26A	5%	0.95	95.5%	90°C
SS-800M-286*	180-528Vac	800W	143-286V	215-286V	0.35-3.72A	5%	0.95	96%	90°C
SS-800M-380*	180-528Vac	800W	190-380V	307-380V	0.35-2.6A	5%	0.95	96%	90°C

Note:

- 1.Default Tested: at 347Vac, full load, Ta 25°C;
2. The performance of the LED Driver can be guaranteed within the full power Vo range. The voltage lower than full power Vo range, it is need to test the performance with the LED module ;

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SS-800M Series LED Driver

"*" Means Additional Function

"*"	DALI (suffix:D)	AUX 12V (suffix:H)	NTC (suffix:N)	Timing	0-10V/PWM Dim /Resistor (suffix:B)	Remark
BH		✓		✓	✓	

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	220Vac		240Vac	<Ta:50°C
	277Vac		480Vac	<Ta:55°C
AC Input Range	180Vac		528Vac	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			4A	220Vac, Full load
Max Input Power			860W	220Vac, Full load
Max Inrush Current(220Vac)			12A	Cold start
Max Inrush Current(347Vac)			19A	Cold start
Max Inrush Current(480Vac)			25A	Cold start
Standby Power			2W	347Vac/60Hz, Dim-off
Power Factor	0.95	0.97		347Vac/60Hz, Full load
	0.90			220-480Vac, 80-100% load
THD		5%	10%	347Vac/60Hz, Full load
			20%	220-480Vac, 80-100% load

SS-800M Series LED Driver

O/P Characteristics(SS-800M-56*):

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	28V		56V	Power derated @28-48V
Rated O/P Voltage	48V		56V	$P_o = V_o \cdot I_o = 800W$, Full load
Rated O/P Current	14.3A		16.7A	16.7A for 48V, 14.3A for 56V
Adj. O/P Current (AOC) Range	1.67A		16.7A	Adjustable by program
No Load Voltage			60V	
Efficiency @220Vac	93.0%	95.0%		O/P 56V/14.3A
Efficiency @347Vac	94.0%	96.0%		O/P 56V/14.3A
Efficiency @480Vac	94.5%	96.5%		O/P 56V/14.3A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	220-480Vac, Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	$T_c: 0^{\circ}C \sim 90^{\circ}C$
OTP	90°C	100°C	110°C	> T_c Typ., Current derating < T_c Min., Current recovery
Short Circuit Protection			15W	Driver will not be damaged

SS-800M Series LED Driver

O/P Characteristics(SS-800M-190*):

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	95V		190V	Power derated @95-152V
Rated O/P Voltage	152V		190V	$P_o = V_o \cdot I_o = 800W$, Full load
Rated O/P Current	4.2A		5.26A	4.2A for 190V, 5.26A for 152V
Adj. O/P Current (AOC) Range	0.7A		5.26A	Adjustable by program
No Load Voltage			200V	
Efficiency @220Vac	93.0%	95.0%		O/P 190V/4.2A
Efficiency @347Vac	93.5%	95.5%		O/P 190V/4.2A
Efficiency @480Vac	94.0%	96.0%		O/P 190V/4.2A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	220-480Vac, Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	$T_c: 0^{\circ}C \sim 90^{\circ}C$
OTP	90°C	100°C	110°C	> T_c Typ., Current derating < T_c Min., Current recovery
Short Circuit Protection			15W	Driver will not be damaged

SS-800M Series LED Driver

O/P Characteristics(SS-800M-286*):

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	143V		286V	Power derated @143-215V
Rated O/P Voltage	215V		286V	$P_o = V_o \cdot I_o = 800W$, Full load
Rated O/P Current	2.8A		3.72A	3.72A for 215V, 2.8A for 286V
Adj. O/P Current (AOC) Range	0.35A		3.72A	Adjustable by program
No Load Voltage			300V	
Efficiency @220Vac	93.0%	95.0%		O/P 286V/2.8A
Efficiency @347Vac	94.0%	96.0%		O/P 286V/2.8A
Efficiency @480Vac	94.5%	96.5%		O/P 286V/2.8A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	220-480Vac, Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	$T_c: 0^{\circ}C \sim 90^{\circ}C$
OTP	90°C	100°C	110°C	> T_c Typ., Current derating < T_c Min., Current recovery
Short Circuit Protection			15W	Driver will not be damaged

SS-800M Series LED Driver

O/P Characteristics(SS-800M-380*):

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	190V		380V	Power derated @190-307V
Rated O/P Voltage	307V		380V	$P_o = V_o \cdot I_o = 800W$, Full load
Rated O/P Current	2.1A		2.6A	2.6A for 307V, 2.1A for 380V
Adj. O/P Current (AOC) Range	0.35A		2.6A	Adjustable by program
No Load Voltage			400V	
Efficiency @220Vac	93.5%	95.5%		O/P 380V/2.1A
Efficiency @347Vac	94.0%	96.0%		O/P 380V/2.1A
Efficiency @480Vac	94.5%	96.5%		O/P 380V/2.1A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	220-480Vac, Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	$T_c: 0^{\circ}C \sim 90^{\circ}C$
OTP	90°C	100°C	110°C	> T_c Typ., Current derating < T_c Min., Current recovery
Short Circuit Protection			15W	Driver will not be damaged

SS-800M Series LED Driver

Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
AUX Power	O/P Voltage	10.8V	12V	13.2V	
	O/P Current			500mA	Operate max 15min at 600mA
0-10V Dimming (Optional)	Dim Vmax	0V		12V	Negative dimming by programming
	Dim Range	10%Ioset		100%Ioset	DIM+ source current 110uA .
	Rec.Dim Range	0V		10V	Dimming prohibits reverse connection.
PWM Dimming (Optional)	PWM High	9.8V		10.2V	Negative dimming by programming
	PWM Low	0V		0.3V	DIM+ source current 110uA .
	Frequency	1KHz		2KHz	Dimming prohibits reverse connection.
	PWM Duty	0%		100%	
Resistor Dimming (Optional)	Resistance	0K		100K	Negative dimming by programming
	Dim Range	10%		100%	DIM+ source current 110uA .
Dim to Off	Dim-off	7%	8%	9%	By DC voltage, PWM, resistance dimming ratio
	Dim-on	8%	9%	10%	By DC voltage, PWM, resistance dimming ratio
Timing Curve(Optional)		By programming			
Constant Lumen(Optional)		By programming			
Life Warning(Optional)		By programming			
Life Time(Tc≤75°C)		62,000 hours			80% Load
MTBF		200,000 hours			347Vac, Full load, Ta=25°C (MIL-HDBK-217F)
IP Grade		IP67			
Tc		90°C			
Warranty		5 years			Tc : 75°C
Net Weight		4100g			
Dimension		288mm*144mm*49.5mm			L x W x H

NOTE: 1, All the parameters above are tested Ta 25°C and LED load, unless specified.

2. When using resistor dimming (parallel connection of dimming wires), if the number of parallels is: N, the dimming resistor should be realized 0-100% dimming range, resistance value: 91KΩ/N.

SS-800M Series LED Driver

Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40℃	25℃	+90℃	
Storage Temperature	-40℃	25℃	+90℃	
Operation Humidity	10%RH		90%RH	
Storage Humidity	5%RH		95%RH	
Altitude	-65m		4000m	

Safety and EMI/EMS Standards

Certification	Standard	Status	Remark
UL/cUL	UL8750	✓	
TUV	EN 61347-2-13:2014/A1:2017 EN 61347-1:2015 EN 62493:2015		
RCM	AS/NZS61347.2.13		
CCC	GB 19510.14-2009		
CE	EN 61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013		

EMI/EMS	Criterion	Remark
Conduction Emission	EN55015:2013+A1:2015	Class B
Radiation Emission	EN55015:2013+A1:2015	Class B
Harmonic Current Emissions	IEC/EN 61000-3-2	Class C
Surge	IEC/EN61000-4-5	DM: 6kV,CM: 10kV,Criterion B
	ANSI/C82.77-5-2017	DM: 6kV,CM: 6kV,Criterion B
Ring Wave	IEC/EN 61000-4-12;ANSI/C82.77-5-2017	DM: 6kV,CM: 6kV,Criterion B

SS-800M Series LED Driver

Safety Test Items:

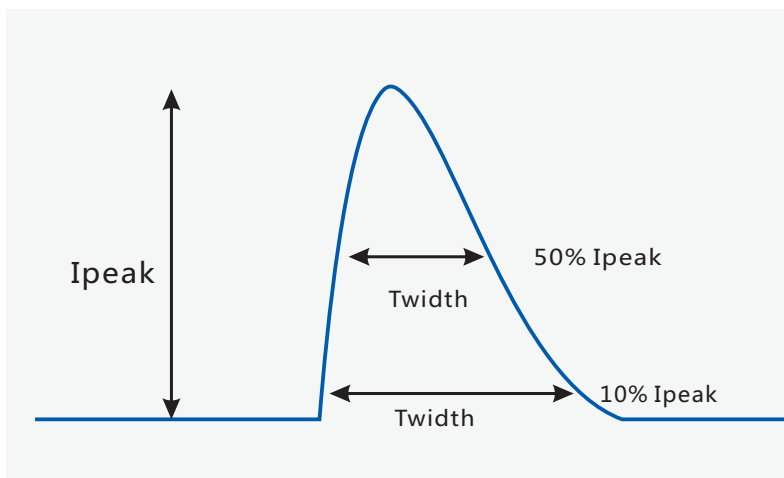
Safety Test Items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	ENEC Insulation Requirements	CCC Insulation Requirements	
Input-O/P	2000Vac	/	/	Reinforced insulation
Input-Case	2000Vac	/	/	Basic insulation
Input-Dim	2000Vac	/	/	Reinforced insulation
O/P-Dim	2000Vac	/	/	Basic insulation
O/P-Case	2000Vac	/	/	Basic insulation
Dim-Case	500Vac	/	/	Basic insulation
Insulation Resistance	$\geq 10M\Omega$			Input-O/P, Test voltage: 500Vdc
Ground Resistance	$\leq 0.1\Omega$			25A/1min
Leakage Current	$\leq 0.75mA$			480Vac

NOTE:

1. SOSEN warrants the LED Driver itself complies with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference as component.
2. Please short (ACL and ACN), (V+ and V-), (Dim+ and Dim - and Vaux+)when Hi-pot test.
3. The CCC withstand voltage test needs to disconnect the built-in lightning protection tube. According to the IEC 60598-1:14 standard section 10.2, the "built-in lightning protection tube" can be marked on the nameplate to disconnect the discharge tube on testing.

Performance Curves:

Input Inrush Current

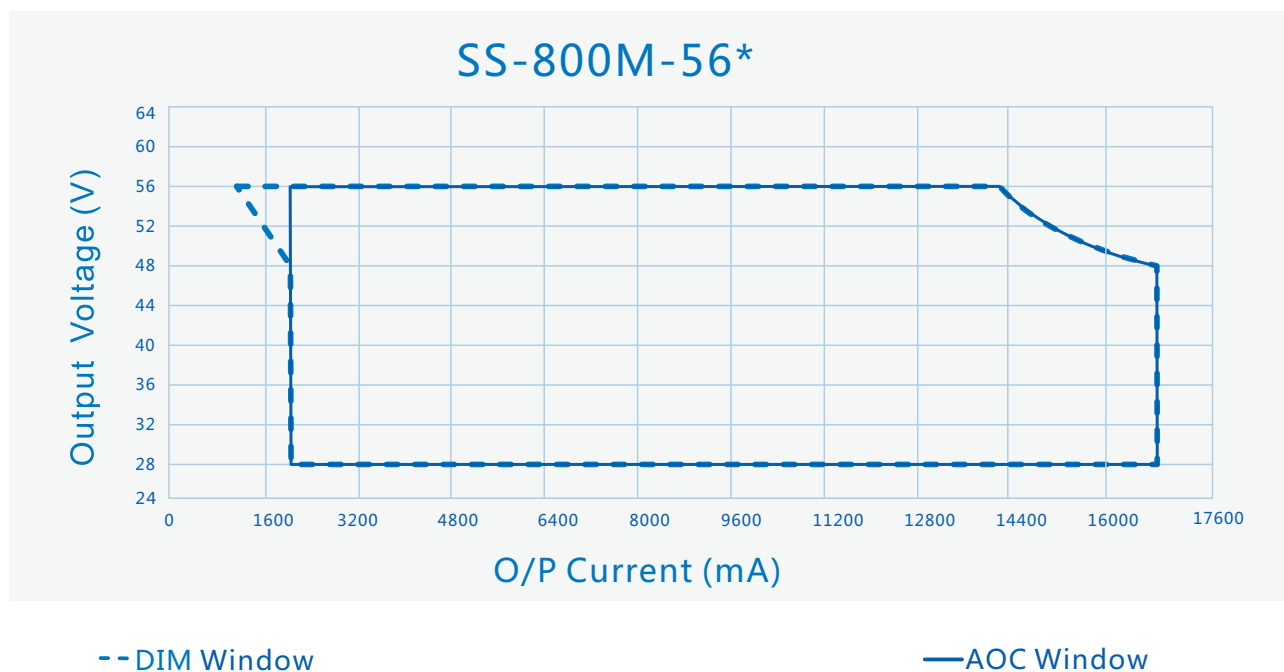


Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
220Vac	12A	10mS	3mS
347Vac	19A	10.5mS	3.5mS
480Vac	25A	12.5mS	4mS

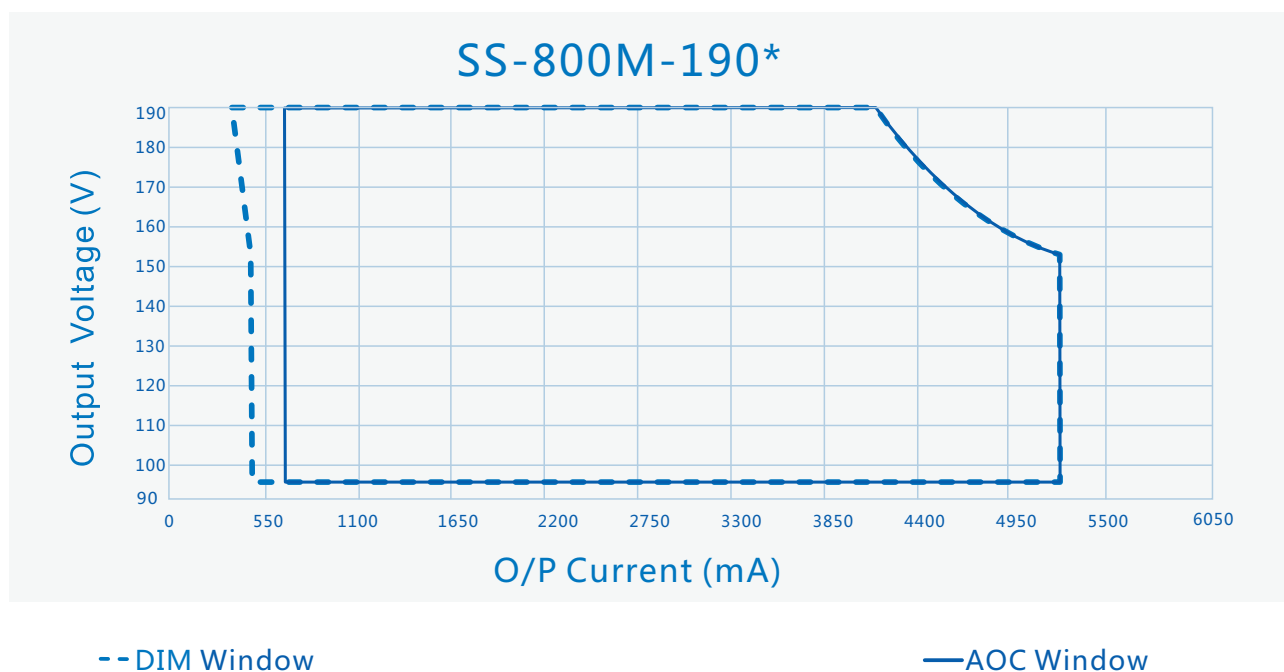
SS-800M Series LED Driver

Performance Curves:

O/P Voltage Vs. O/P Current(Dim/AOC Window)



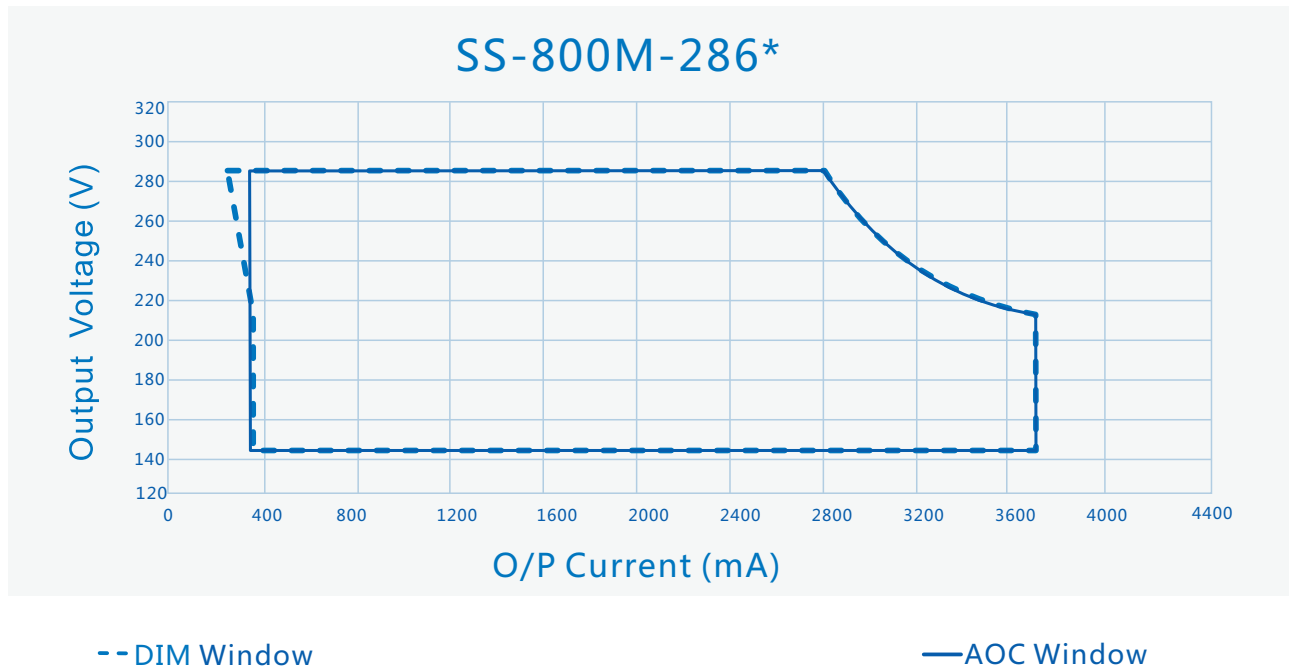
O/P Voltage Vs. O/P Current(Dim/AOC Window)



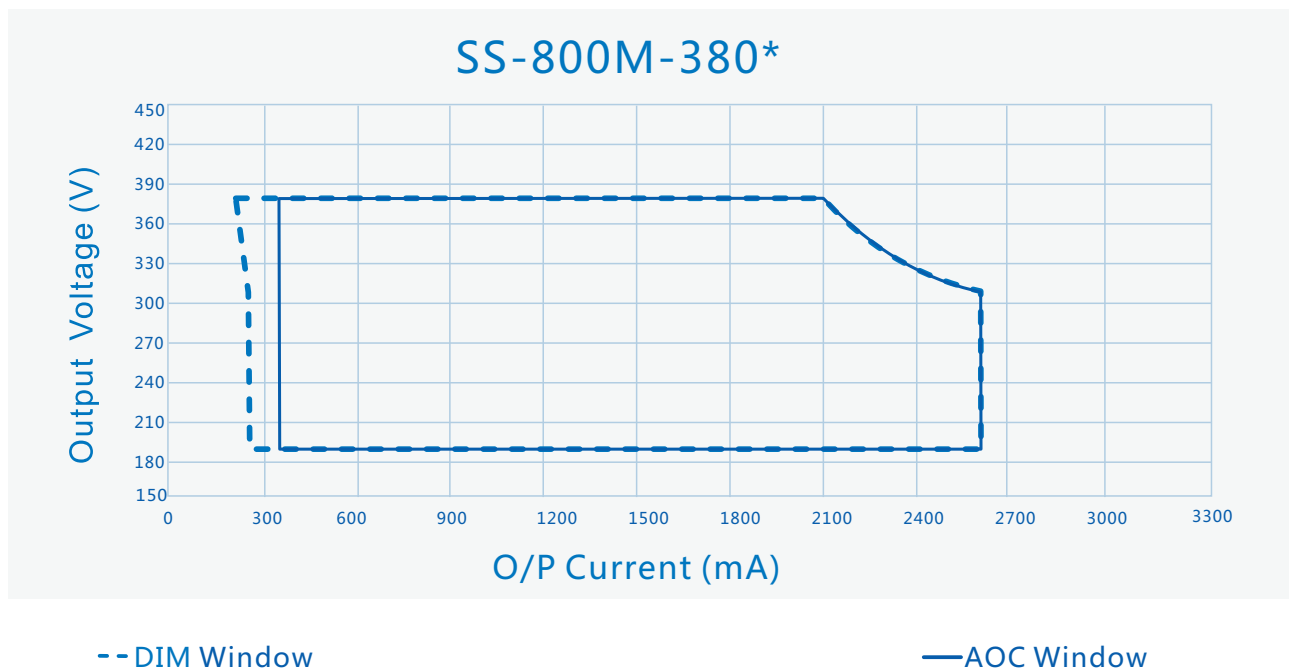
SS-800M Series LED Driver

Performance Curves:

O/P Voltage Vs. O/P Current(Dim/AOC Window)



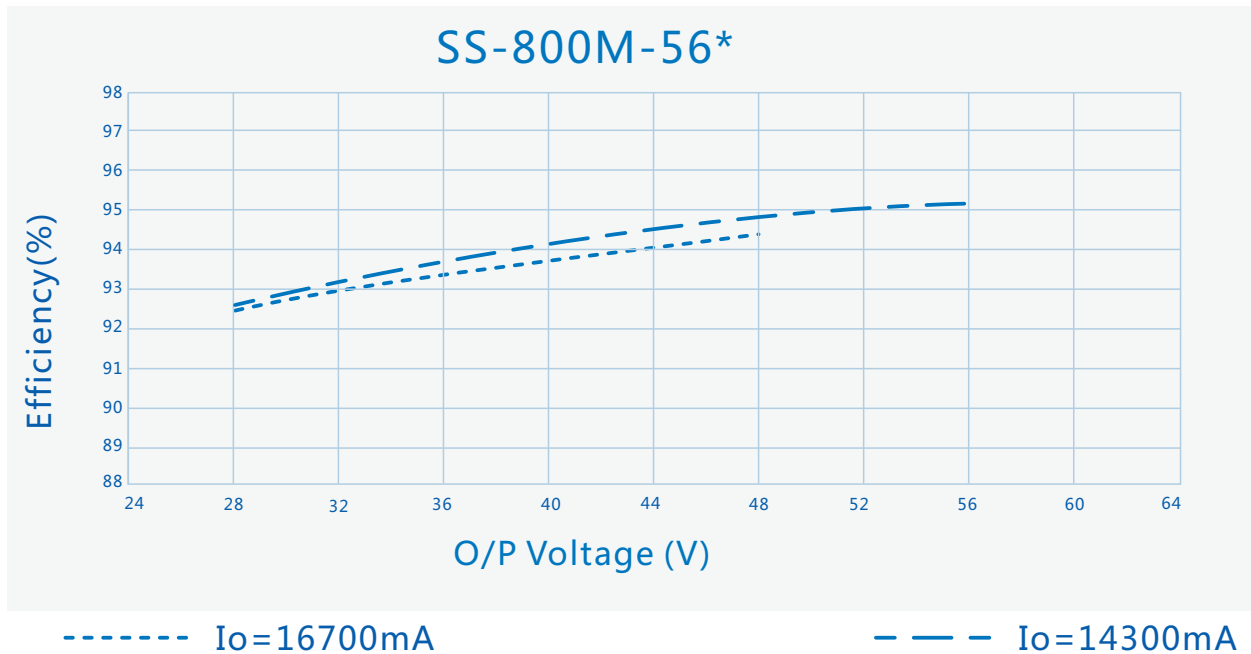
O/P Voltage Vs. O/P Current(Dim/AOC Window)



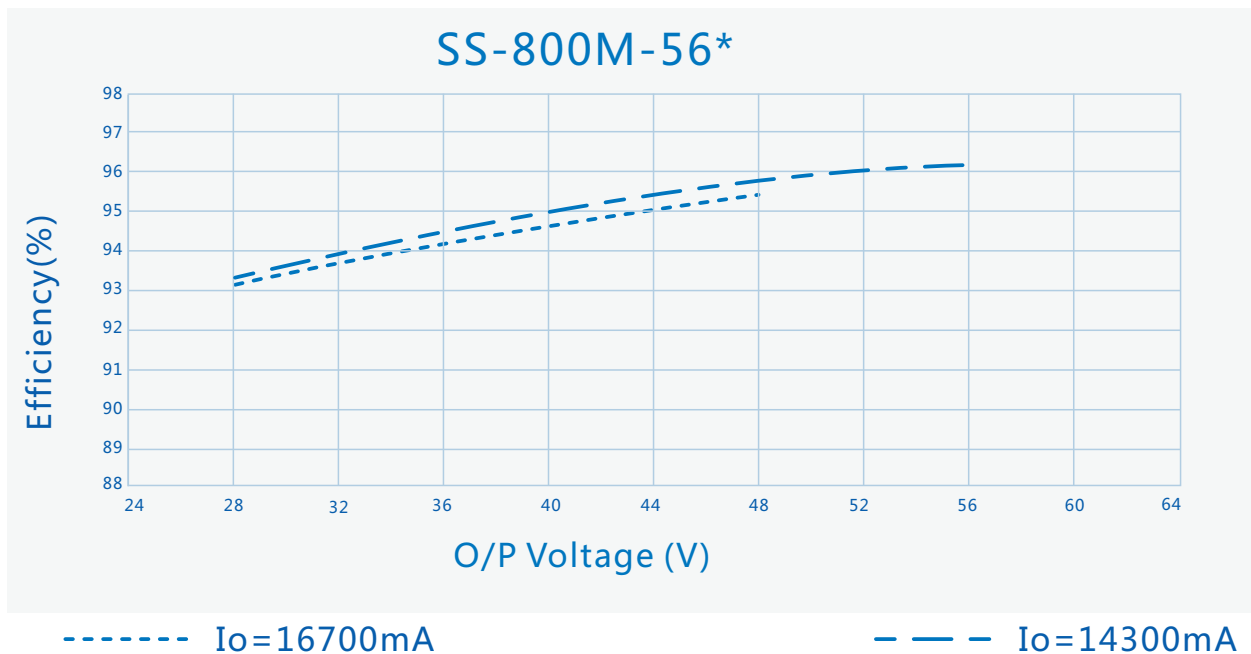
SS-800M Series LED Driver

Performance Curves:

Efficiency Vs. O/P Voltage ($V_{in}=220V_{ac}$)



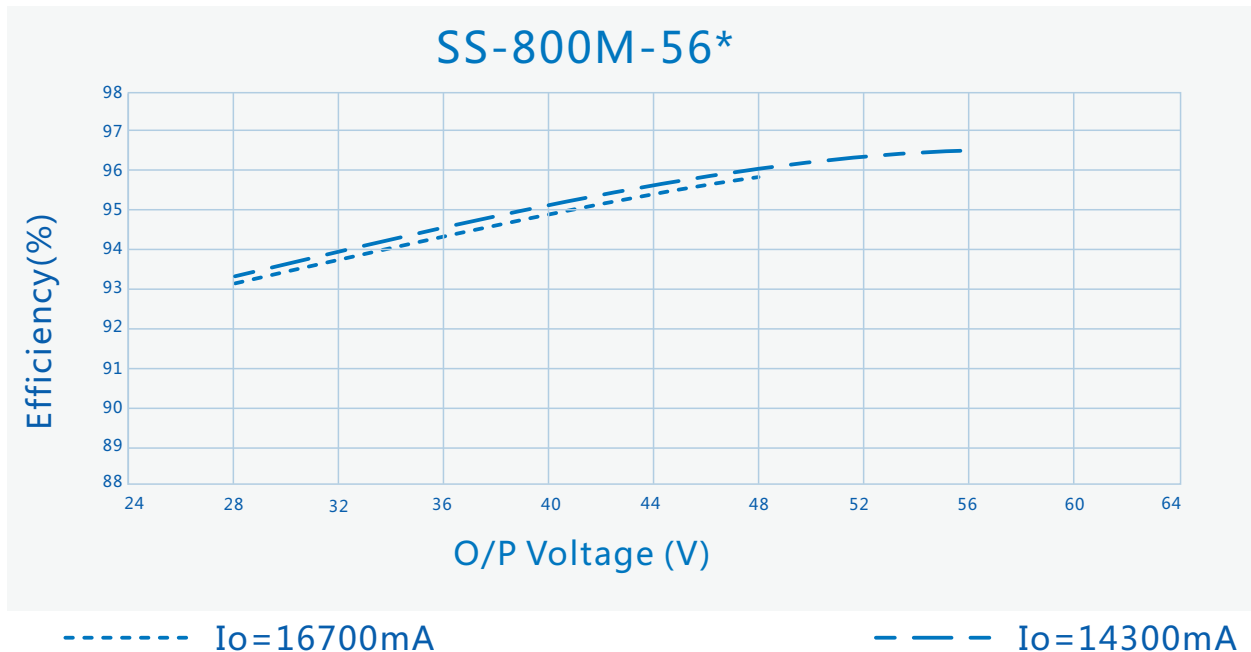
Efficiency Vs. O/P Voltage ($V_{in}=347V_{ac}$)



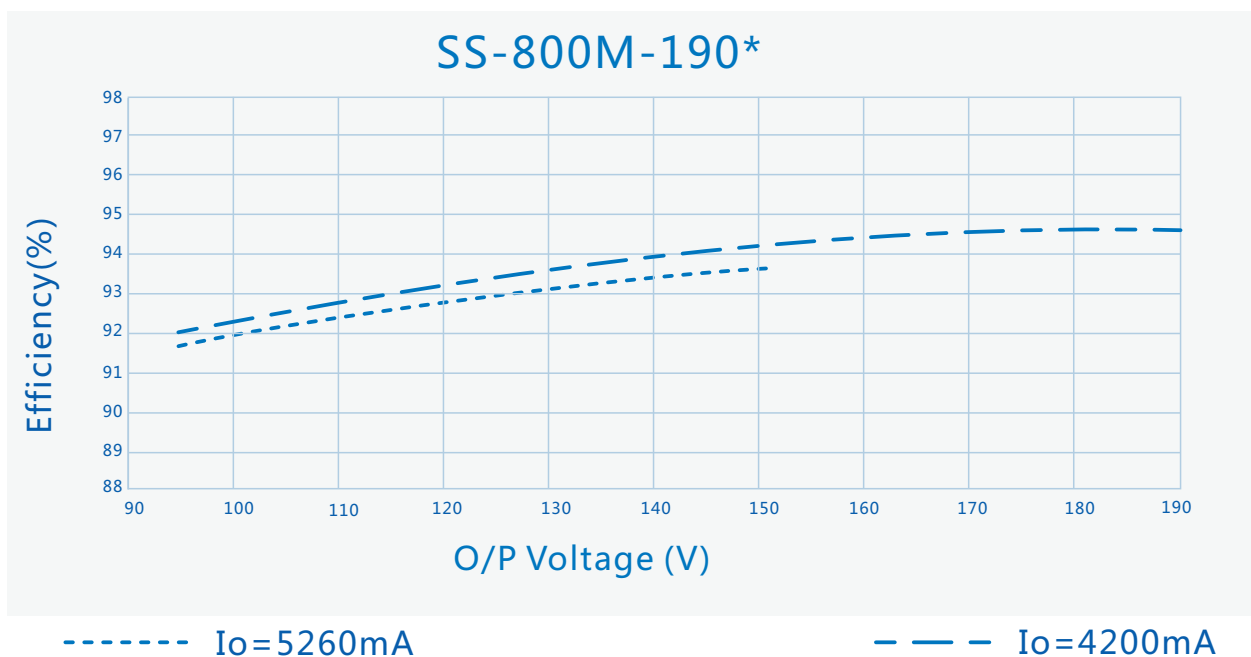
SS-800M Series LED Driver

Performance Curves:

Efficiency Vs. O/P Voltage ($V_{in}=480V_{ac}$)



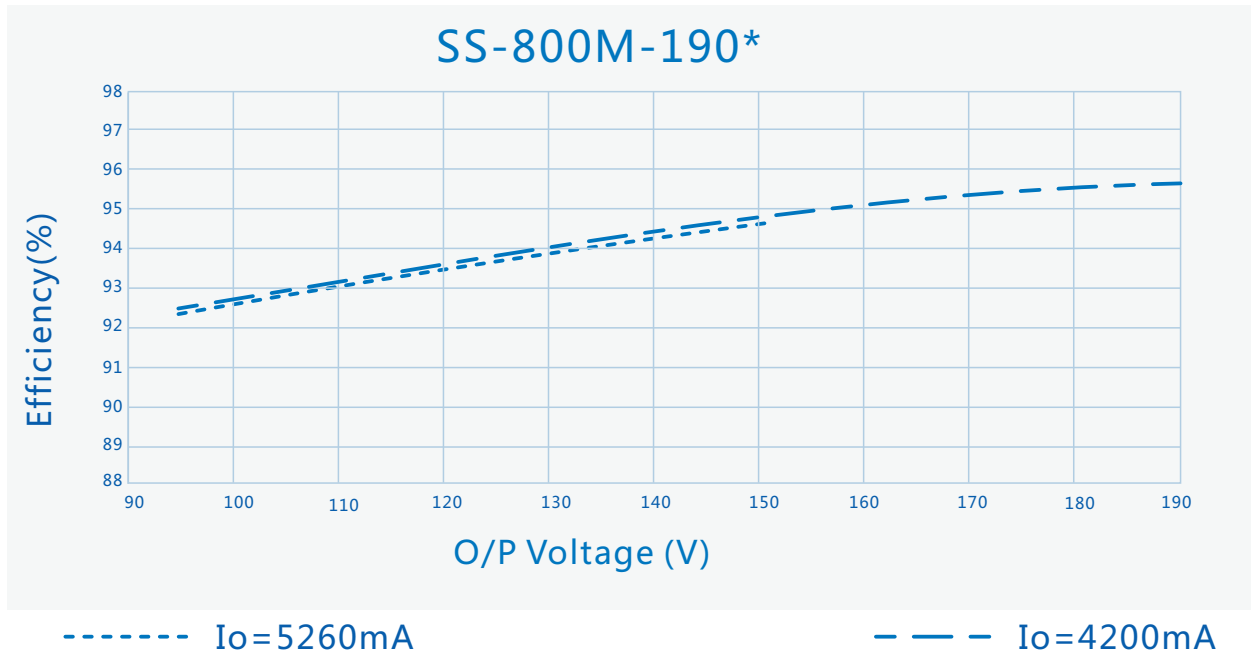
Efficiency Vs. O/P Voltage ($V_{in}=220V_{ac}$)



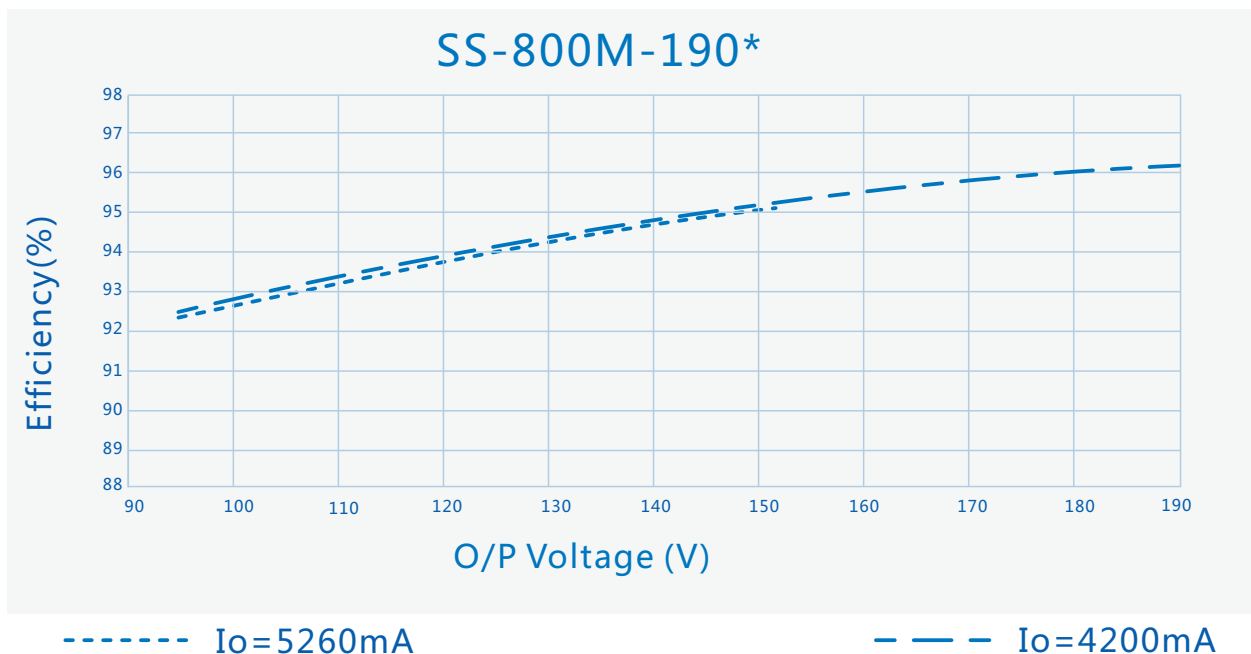
SS-800M Series LED Driver

Performance Curves:

Efficiency Vs. O/P Voltage ($V_{in}=347V_{ac}$)



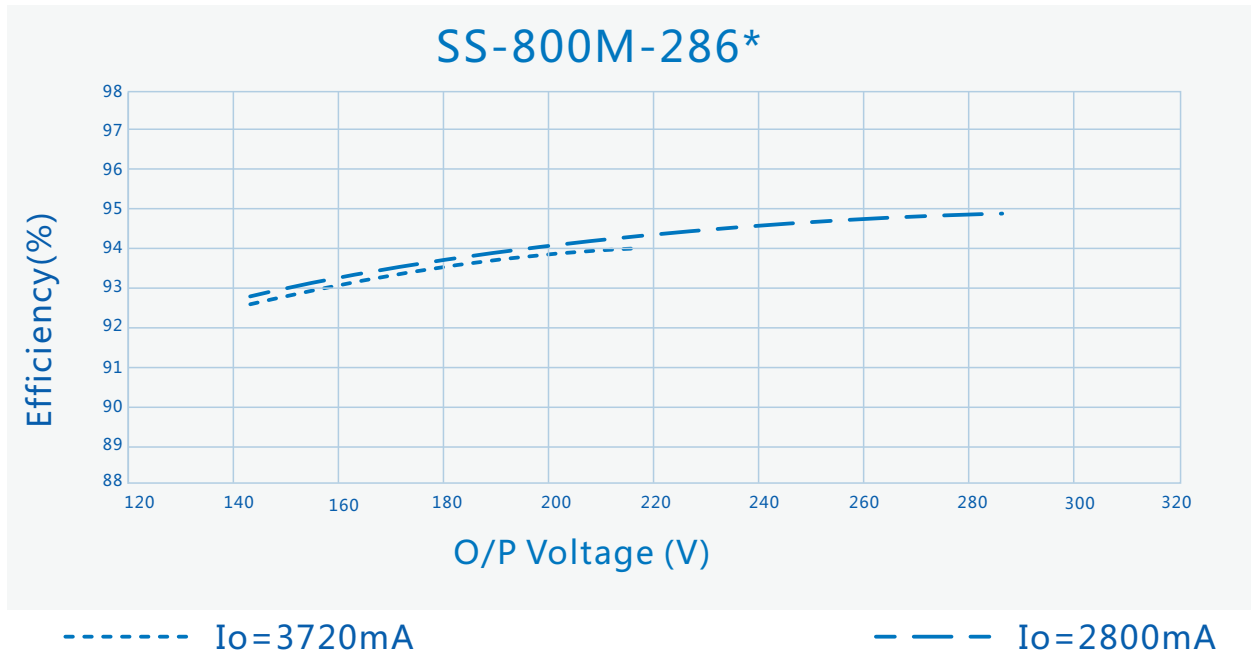
Efficiency Vs. O/P Voltage ($V_{in}=480V_{ac}$)



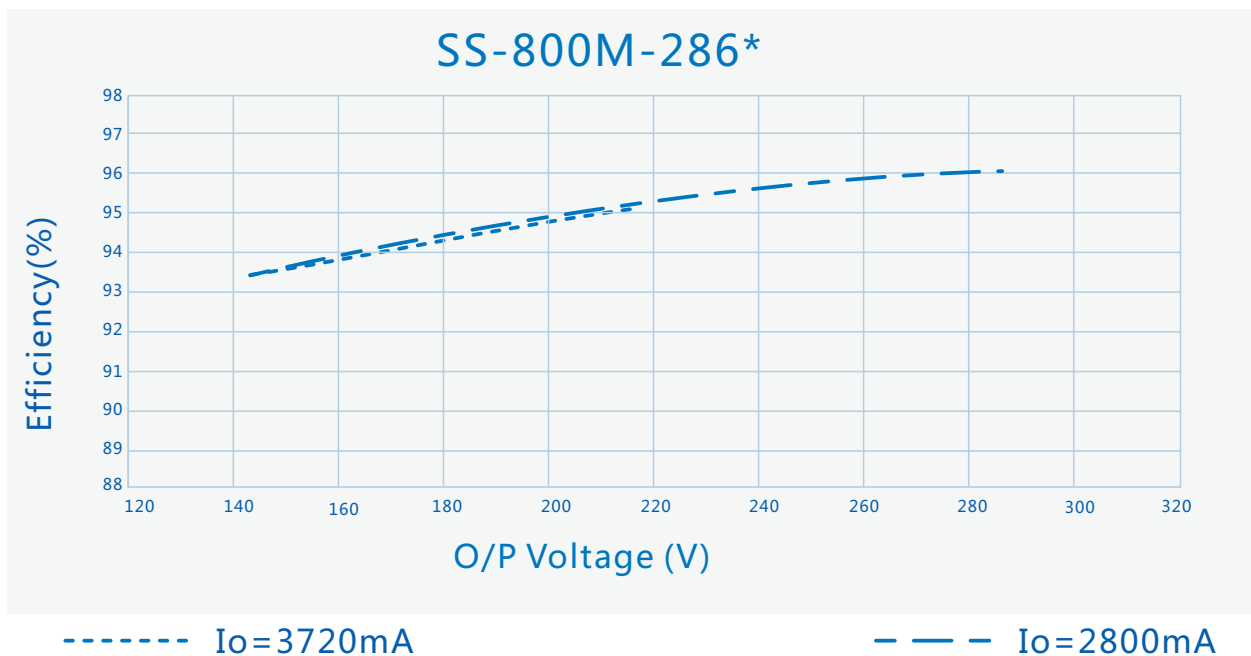
SS-800M Series LED Driver

Performance Curves:

Efficiency Vs. O/P Voltage ($V_{in}=220V_{ac}$)



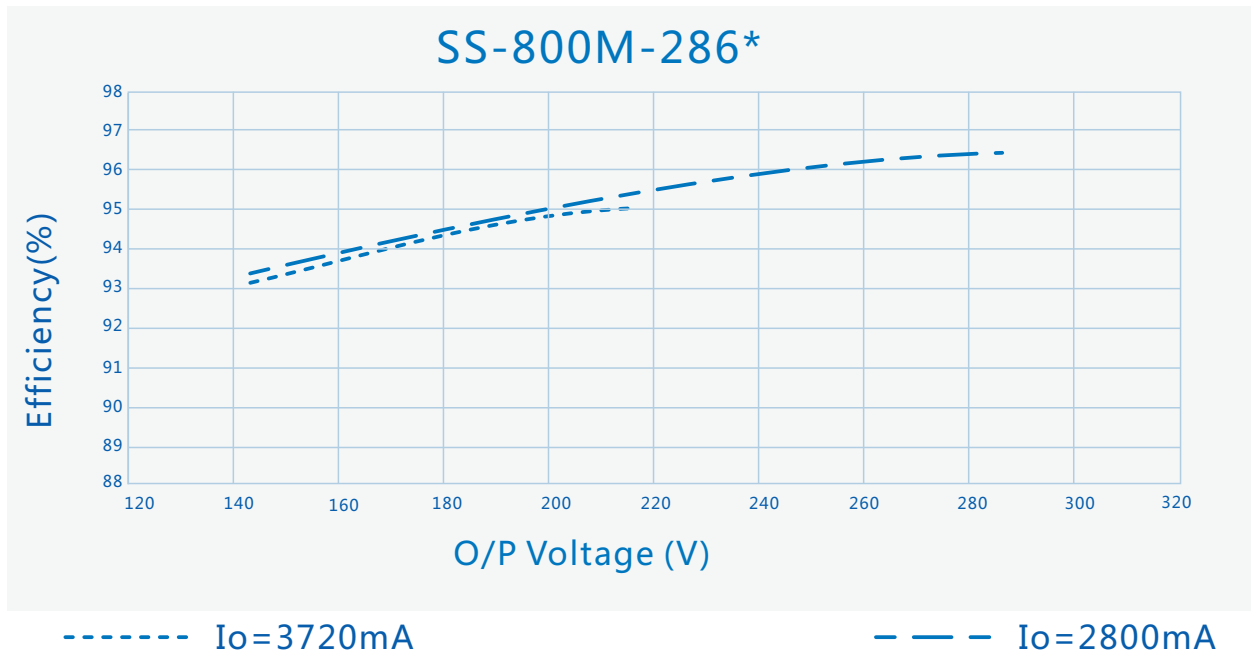
Efficiency Vs. O/P Voltage ($V_{in}=347V_{ac}$)



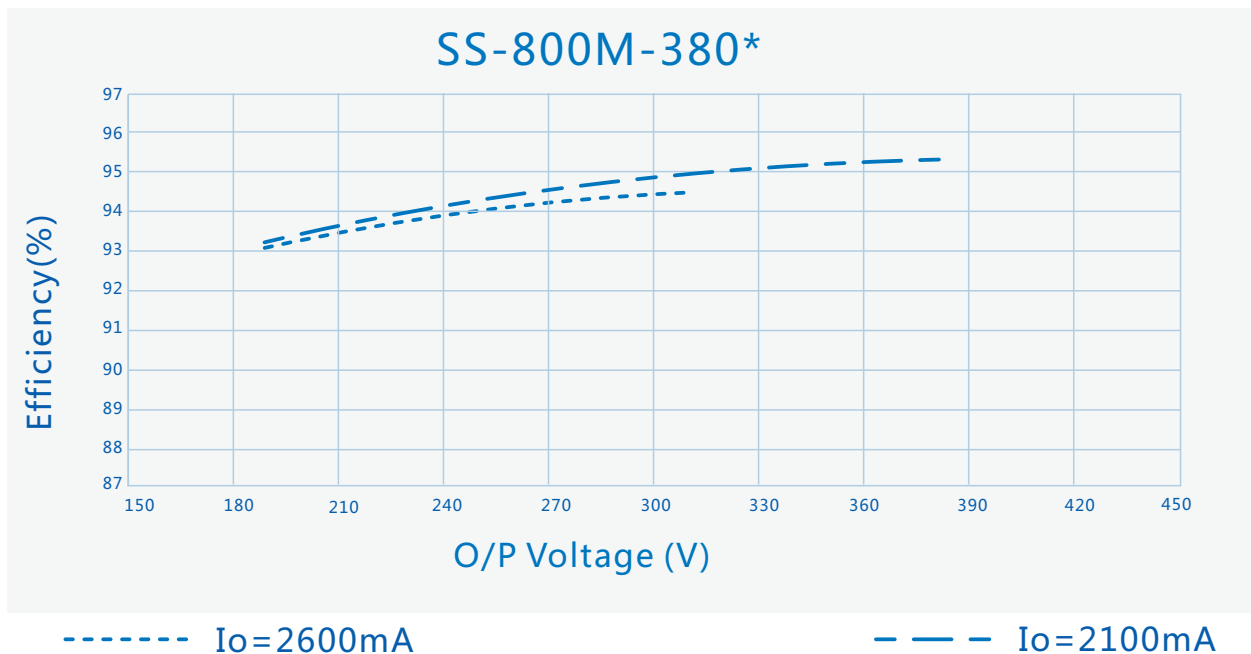
SS-800M Series LED Driver

Performance Curves:

Efficiency Vs. O/P Voltage ($V_{in}=480V_{ac}$)



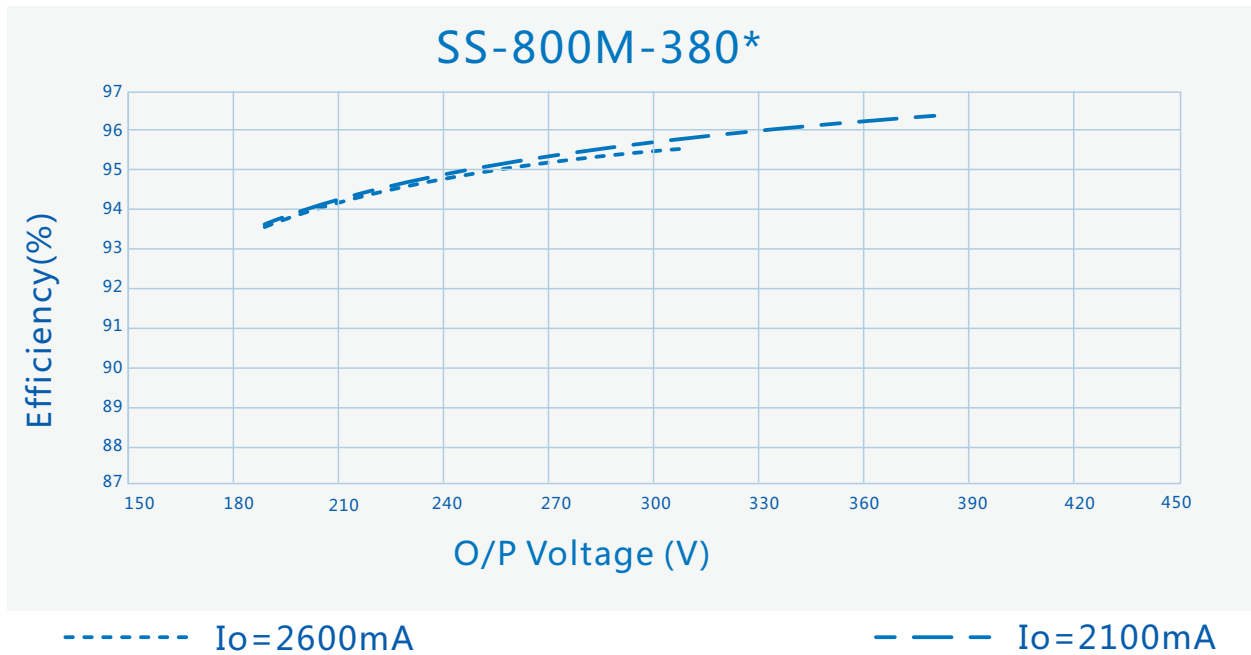
Efficiency Vs. O/P Voltage ($V_{in}=220V_{ac}$)



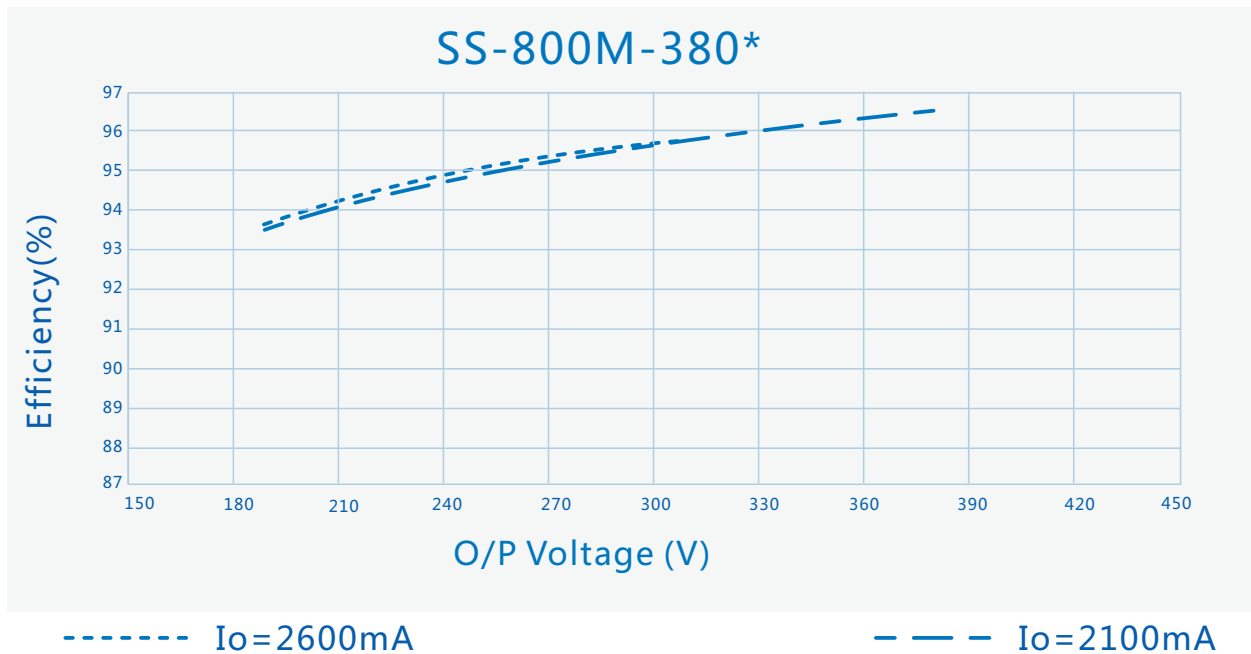
SS-800M Series LED Driver

Performance Curves:

Efficiency Vs. O/P Voltage ($V_{in}=347V_{ac}$)



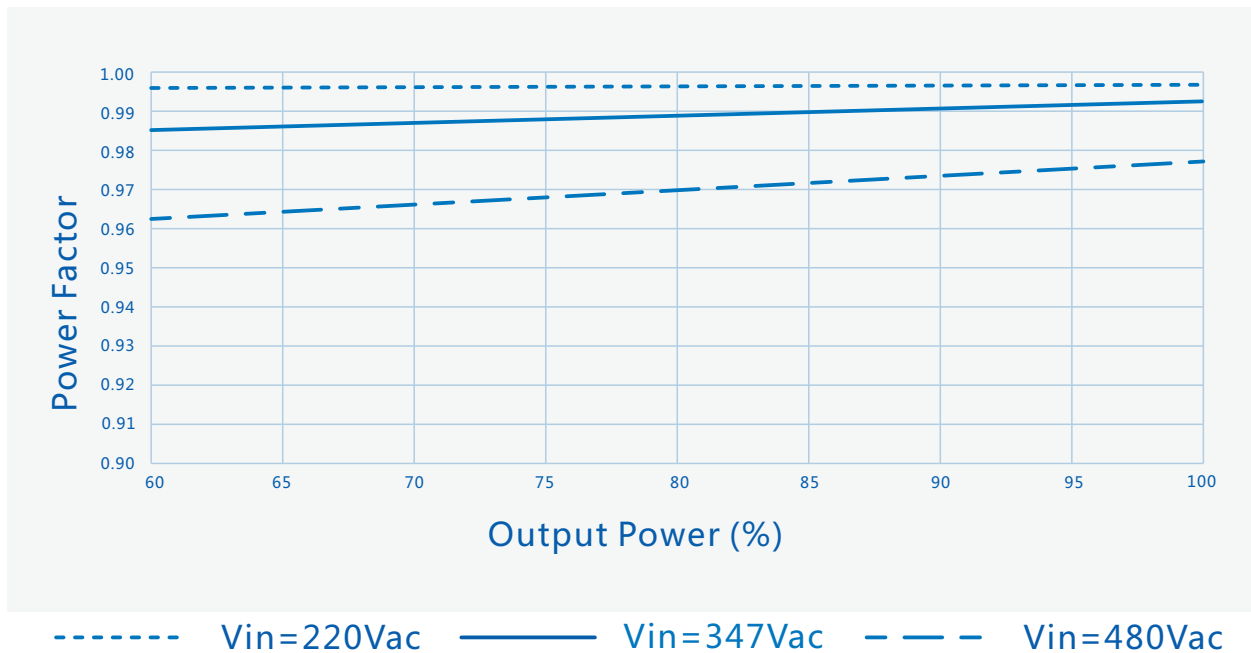
Efficiency Vs. O/P Voltage ($V_{in}=480V_{ac}$)



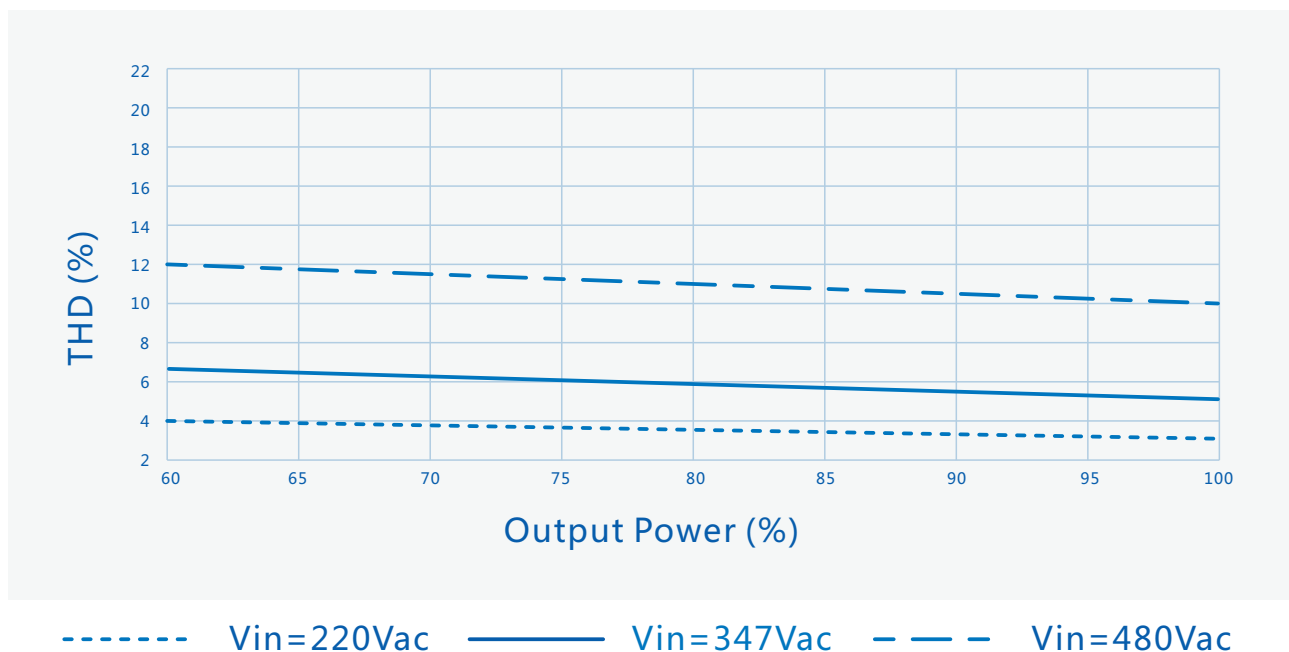
SS-800M Series LED Driver

Performance Curves:

Power Factor Vs. O/P Power



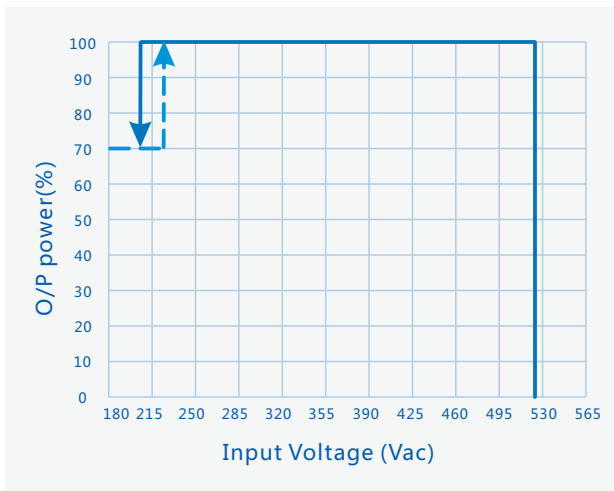
THD Vs. O/P Power



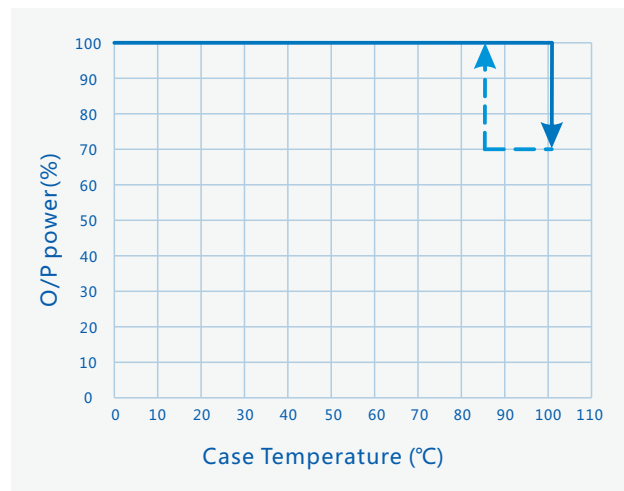
SS-800M Series LED Driver

Performance Curves:

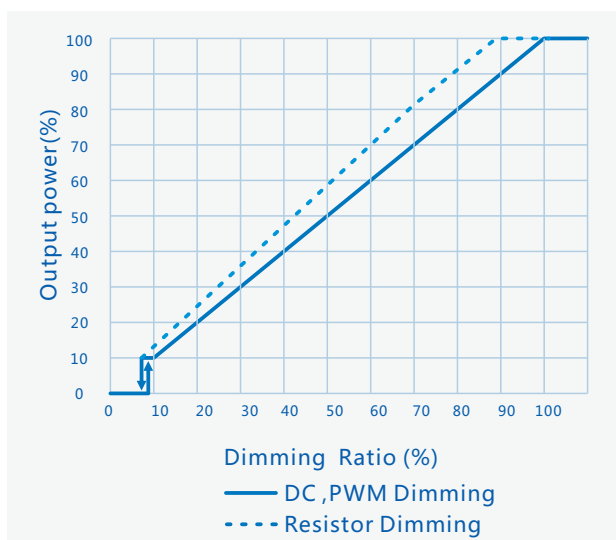
O/P Power Vs. Input Voltage



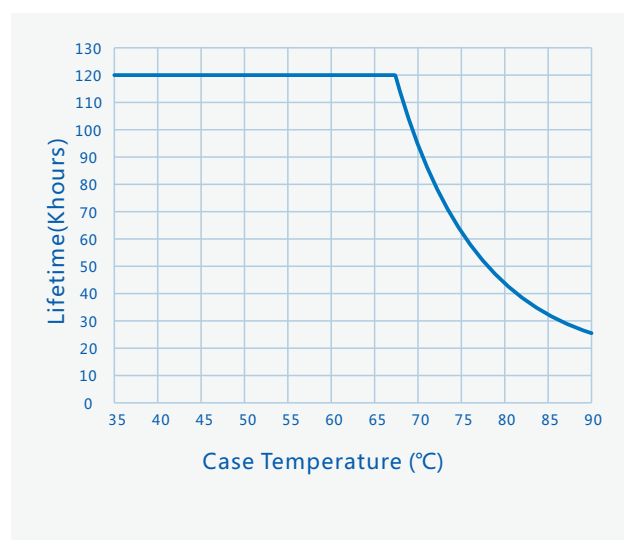
O/P Power Vs. Case Temperature



O/P Power Vs. Dimming



Lifetime Vs. Case Temperature



SS-800M Series LED Driver

Constant Lumen Output

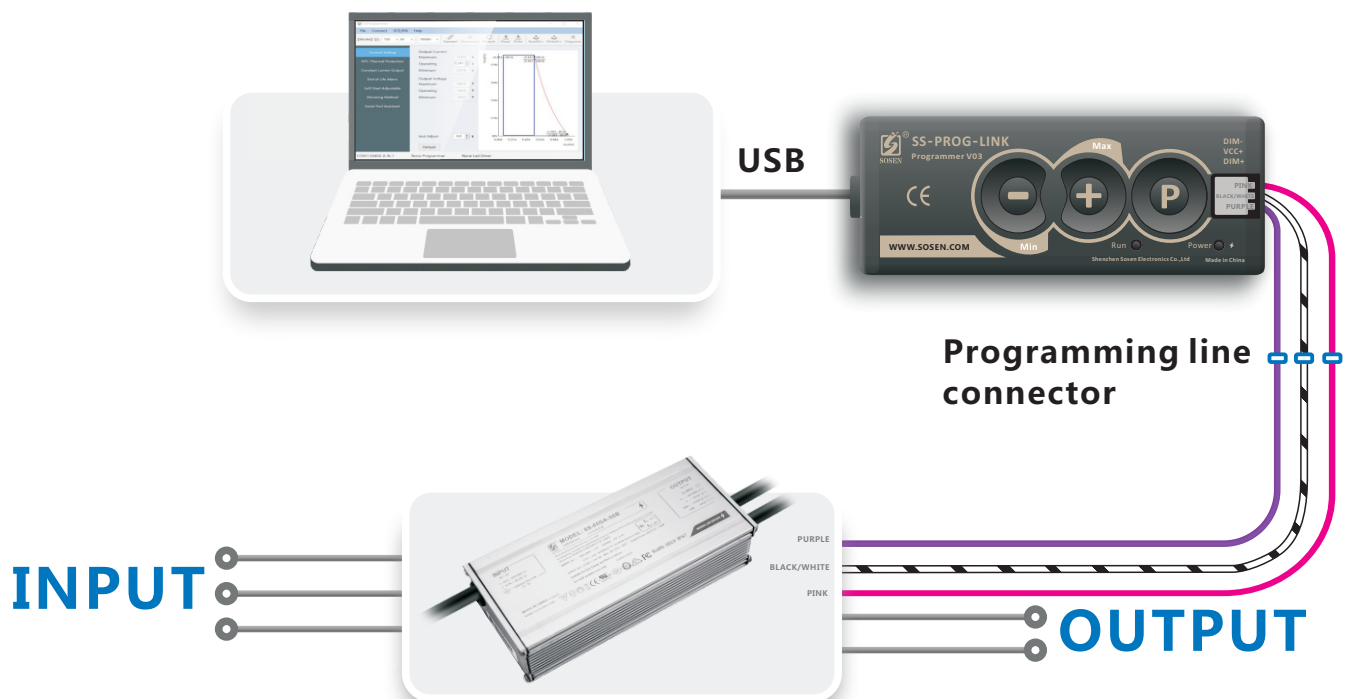
Constant Lumen Output are design to maintain fixture's stable output lumen by increasing driver's output current within driver's life span to counteract LED lumen degradation.

Programming connection diagram :

Legacy Timer: Driver's O/P follows the pre-programmed timing curve after turn-on.

Auto-Adjust by Percentage: Driver's O/P will be adjusted by automatically changed dimming curve by the period percentage based on the latest 5 dimming curve.

Auto-Adjust by Mid-point: Driver's O/P will be adjusted by automatically changed dimming curve by mid-point based on the latest 5 dimming curve.



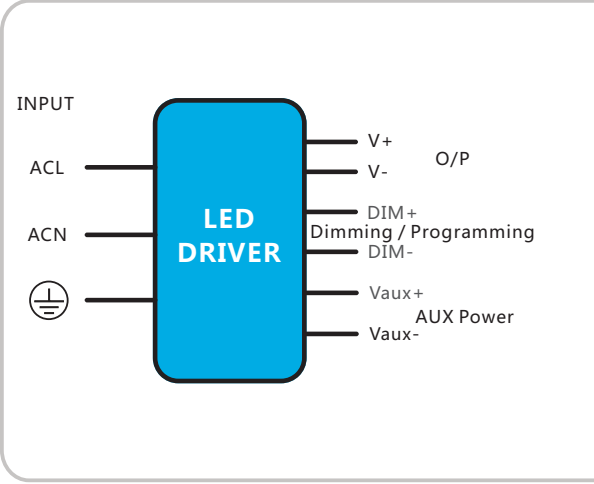
Note:

Programming could be completed by off-line mode either without turn on the driver or without PC, other than the traditional on-line mode.

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SS-800M Series LED Driver

Mechanical Characteristics



INPUT

ACL

ACN

⊕

LED DRIVER

V+

V- O/P

DIM+ Dimming / Programming

DIM-

Vaux+ AUX Power

Vaux-

AC Input Cable(Exposed Length 450±10mm):

Global model: SOOW/H07RN-F,3*17AWG,O.D: 9.8mm,Brown:L,Blue:N, Yellow/Green:⊕

DC O/P Cable(Exposed Length 250±10mm):

SS-800M-56*:
Global model: SJOW,2*14AWG,O.D: 8.8mm,Brown: V+ , Blue: V-
SS-800M-190*/SS-800M-286*/SS-800M-380*:
Global model: SOOW/H07RN-F,2*17AWG,O.D: 9.3mm,Brown: V+ , Blue: V-

DIM/AUX Power/Programming Cable (Exposed Length 220±10mm):

UL model: 21996, 4*22AWG , O.D: 5.6mm , Purple : DIM+ , Pink: DIM- , Black/White: Vaux+ , Blue/White: Vaux-

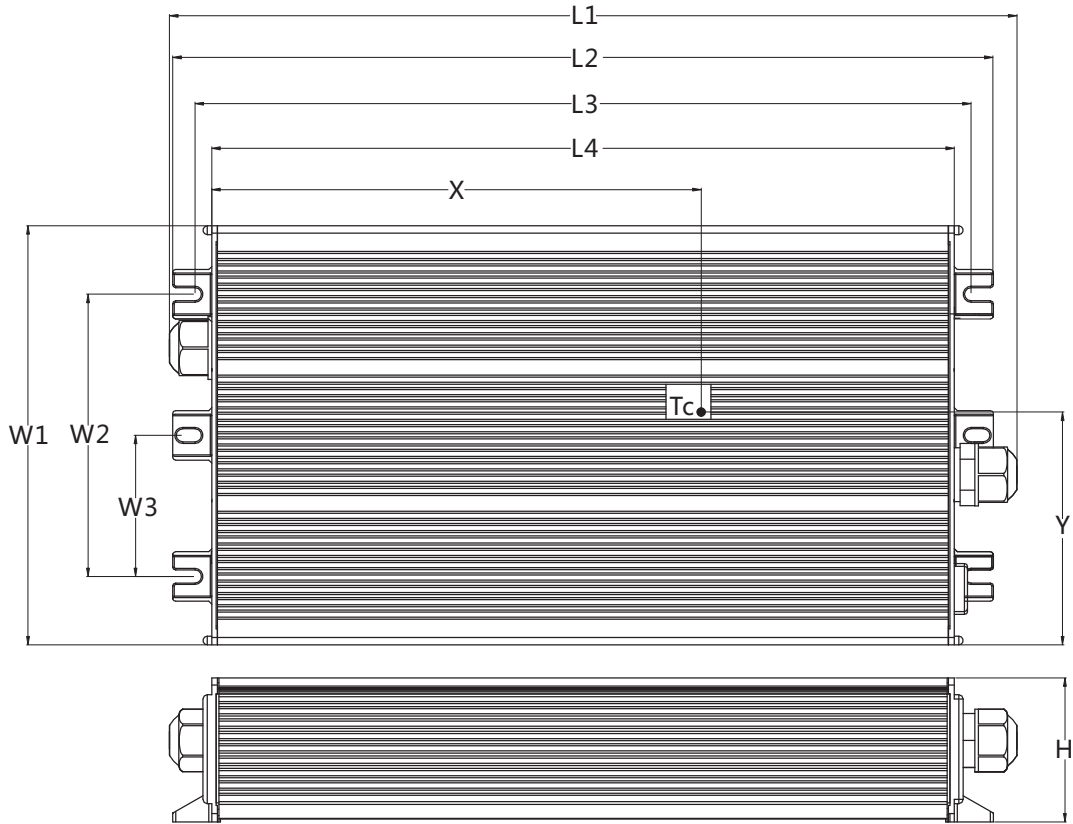
Name Description	Standard Code	mm(In.)
Assembly Length	L1	288(11.34)
Overall Length	L2	282(11.10)
Mounting Hole Length	L3	266.7(10.5)
Case Length	L4	261.2(10.28)
Case Height	H	49.5(1.95)

Note :

1,Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.

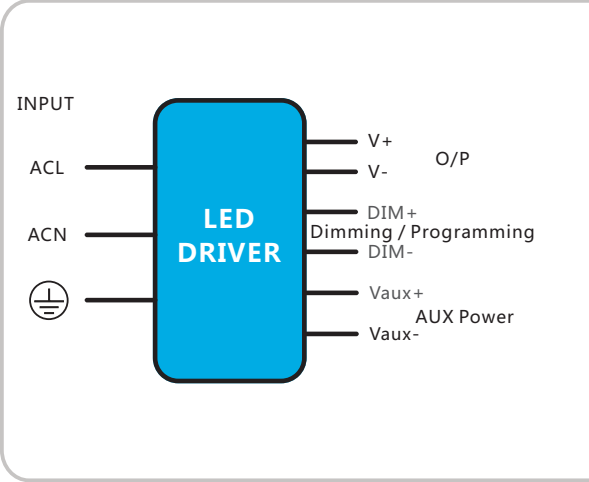
2,AC Input Cable,DC O/P Cable, DIM/AUX Power/Programming Cable: Peeled length of cable:43±5mm, Tinned length of wire:10±2mm

Name Description	Standard Code	mm(In.)
Case Width	W1	144(5.67)
Mounting Hole Width	W2	97(3.82)
Mounting Hole Width	W3	48.5(1.91)
TC Point Position	X	168(6.61)
TC Point Position	Y	80(3.15)



SS-800M Series LED Driver

Mechanical Characteristics(Rubber ring structure)



INPUT

ACL

ACN

⊕

LED DRIVER

V+

V-

O/P

DIM+

Dimming / Programming

DIM-

Vaux+

AUX Power

Vaux-

AC Input Cable(Exposed Length 450±10mm):

Global model: SOOW/H07RN-F,3*17AWG,O.D: 9.8mm,Brown:L,Blue:N, Yellow/Green:⊕

DC O/P Cable(Exposed Length 250±10mm):

SS-800M-56*:
Global model: SJOW,2*14AWG,O.D: 8.8mm,Brown: V+ , Blue: V-
SS-800M-190*/SS-800M-286*/SS-800M-380*:
Global model: SOOW/H07RN-F,2*17AWG,O.D: 9.3mm,Brown: V+ , Blue: V-

DIM/AUX Power/Programming Cable (Exposed Length 220±10mm):

UL model: 21996, 4*22AWG , O.D: 5.6mm , Purple : DIM+, Pink: DIM-, Black/White: Vaux+, Blue/White: Vaux-

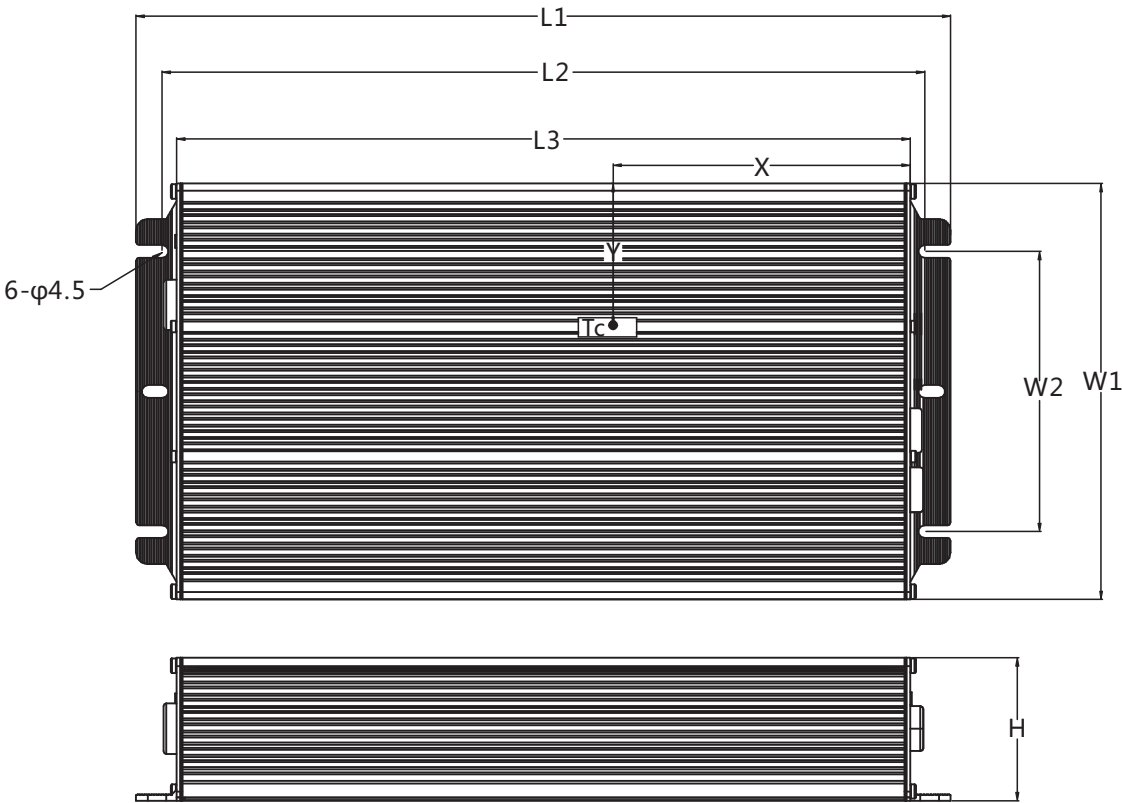
Name Description	Standard Code	mm(In.)
Assembly Length	L1	282(11.10)
Overall Length	L2	264(10.39)
Mounting Hole Length	L3	254(10)
Case Height	H	49.5(1.95)

Note :

1,Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.

2,AC Input Cable,DC O/P Cable, DIM/AUX Power/Programming Cable: Peeled length of cable:43±5mm, Tinned length of wire:10±2mm

Name Description	Standard Code	mm(In.)
Case Width	W1	144(5.67)
Mounting Hole Width	W2	97(3.82)
TC Point Position	X	89.6(3.53)
TC Point Position	Y	64(2.52)



SS-800M Series LED Driver



Assembly Tips

1. Please take isolation and waterproof measures if the dimming cable is not in use.

Package

- Outside carton dimension: $L \times W \times H = 495\text{mm} \times 385\text{mm} \times 162\text{mm}$;
- 4PCS/Carton;
- Net weight/Piece: 4.1kg; Gross weight/Carton: 17.9kg;
- Please refer to the product name, model number, manufacturer identification, QC PASS, manufacturing date on the package.

Transportation

Packaging is designed suitable for transportation by trucks, vessels and flights. The products should be avoided direct sunlight and rain, loaded/unloaded with caution.

Storage

The product storage meets the standard of the GB 3873 - 83.
Products should be rechecked if stored for over 1 year before assembly.

RoHS

Products comply with RoHS Directive (2011/65/EU) and amendment 2015/863/EU.

Revision History

Version	Description of Update	Updated Date	Remark
V00	Original Release	2021/11/18	
V01	Update Mechanical Characteristics	2022/04/07	
V02	Add Rubber Ring Structure	2022/09/09	
V03	Add Page Number	2023/02/01	

