

SOSEN LED Driver, Your Smart Choice

Specifications

SS-880M Series LED Driver

Model: SS-880M-XX

Description: 880W LED Driver

Rev.: V02

Release Date: 2023-03-01

SS-880M 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/0.3A
- Constant Lumen O/P
- Standby Power<2W
- IP67
- Communication function with PC
- Type HL, suitable for hazardous locations
- Protections: SCP/OTP/OVP
- Warranty: 5 years



Class P IP67 RoHS

Description:

SS-880M series product is 880W 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:

Stadium lighting,Square lighting, Plant lighting, Fish 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-880M-56*	180-528Vac	880W	28-56V	48-56V	1.8-18.34A	5%	0.98	96.5%	90°C
SS-880M-205*	180-528Vac	880W	110-205V	176-205V	0.8-5A	5%	0.98	96.5%	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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"*" 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	200Vac		240Vac	< Ta:40°C
	277Vac		480Vac	< Ta:50°C
AC Input Range	180Vac		528Vac	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			5.0A	200Vac, Full load
Max Input Power			980W	200Vac, Full load
Max Inrush Current(200Vac)			25A	Cold start
Max Inrush Current(347Vac)			30A	Cold start
Max Inrush Current(480Vac)			35A	Cold start
Standby Power			2W	347Vac/60Hz, Dim-off
Power Factor	0.95	0.98		347Vac/60Hz, Full load
	0.90			200-480Vac, 80-100% load
THD		5%	10%	347Vac/60Hz, Full load
			20%	200-480Vac, 80-100% load

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O/P Characteristics(SS-880M-56*):

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	28V		56V	Power derated @28-48V
Rated O/P Voltage	48V		56V	$P_o = V_o \cdot I_o = 880W$, Full load
Rated O/P Current	15.72A		18.34A	15.72A for 56V, 18.34A for 48V
Adj. O/P Current (AOC) Range	1.8A		18.34A	Adjustable by program
No Load Voltage			60V	
Efficiency @220Vac	92.5%	94.5%		O/P 56V/15.72A
Efficiency @347Vac	93.5%	95.5%		O/P 56V/15.72A
Efficiency @480Vac	94.5%	96.5%		O/P 56V/15.72A
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	200-480Vac, 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				Driver will not be damaged

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O/P Characteristics(SS-880M-205*):

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	110V		205V	Power derated @110-176V
Rated O/P Voltage	176V		205V	$P_o = V_o \cdot I_o = 880W$, Full load
Rated O/P Current	4.3A		5A	4.3A for 205V, 5A for 176V
Adj. O/P Current (AOC) Range	0.8A		5A	Adjustable by program
No Load Voltage			230V	
Efficiency @220Vac	93.0%	95.0%		O/P 205V/4.3A
Efficiency @347Vac	93.5%	95.5%		O/P 205V/4.3A
Efficiency @480Vac	94.0%	96.5%		O/P 205V/4.3A
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	200-480Vac, 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				Driver will not be damaged

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Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
AUX Power	O/P Voltage	10.8V	12V	13.2V	
	O/P Current			300mA	Operate max 15min at 400mA
0-10V Dimming (Optional)	Dim Vmax	0V		12V	Negative dimming by programming
	Dim Range	10%Io _{set}		100%Io _{set}	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	0Kohm		100Kohm	Negative dimming by programming
	Dim Range	10%Io _{max}		100%Io _{set}	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(T _c ≤75°C)		62,000 hours			80% Load
MTBF		200,000 hours			347Vac, Full load, Ta=25°C (MIL-HDBK-217F)
IP Grade		IP67			
T _c		90°C			
Warranty		5 years			T _c : 75°C
Net Weight		3800g			
Dimension		440mm*89.5mm*44.5mm			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.

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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	✓	
ENEC	EN 61347-1:2015 EN 61347-2-13:2014 EN 61347-2-13:2014/A1:2017	✓	
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

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Safety Test Items:

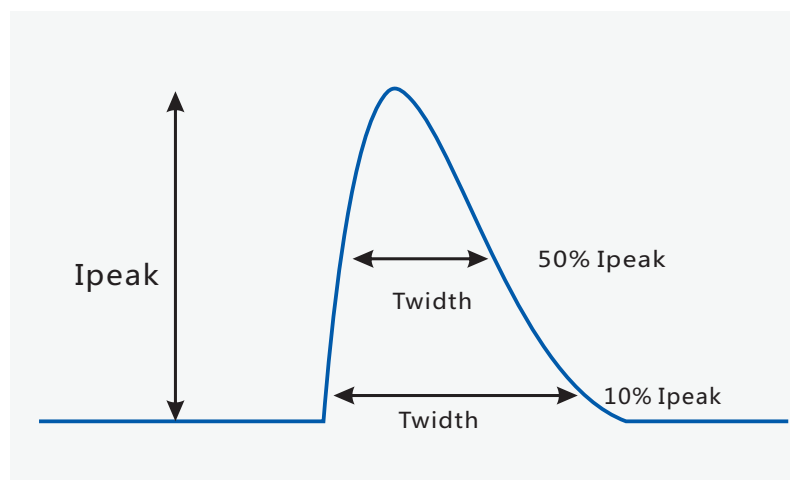
Safety Test Items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	ENEC Insulation Requirements	CCC Insulation Requirements	
Input-O/P	2000Vac	3000Vac	/	Reinforced insulation
Input-Case	2000Vac	1500Vac	/	Basic insulation
Input-Dim	2000Vac	3000Vac	/	Reinforced insulation
O/P-Dim	2000Vac	1000Vac	/	Basic insulation
O/P-Case	2000Vac	1000Vac	/	Basic insulation
Dim-Case	500Vac	250Vac	/	Basic insulation
Insulation Resistance	$\geq 10\text{M}\Omega$			Input-O/P, Test voltage: 500Vdc
Ground Resistance	$\leq 0.1\Omega$			25A/1min
Leakage Current	$\leq 0.75\text{mA}$			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.

Performance Curves:

Input Inrush Current

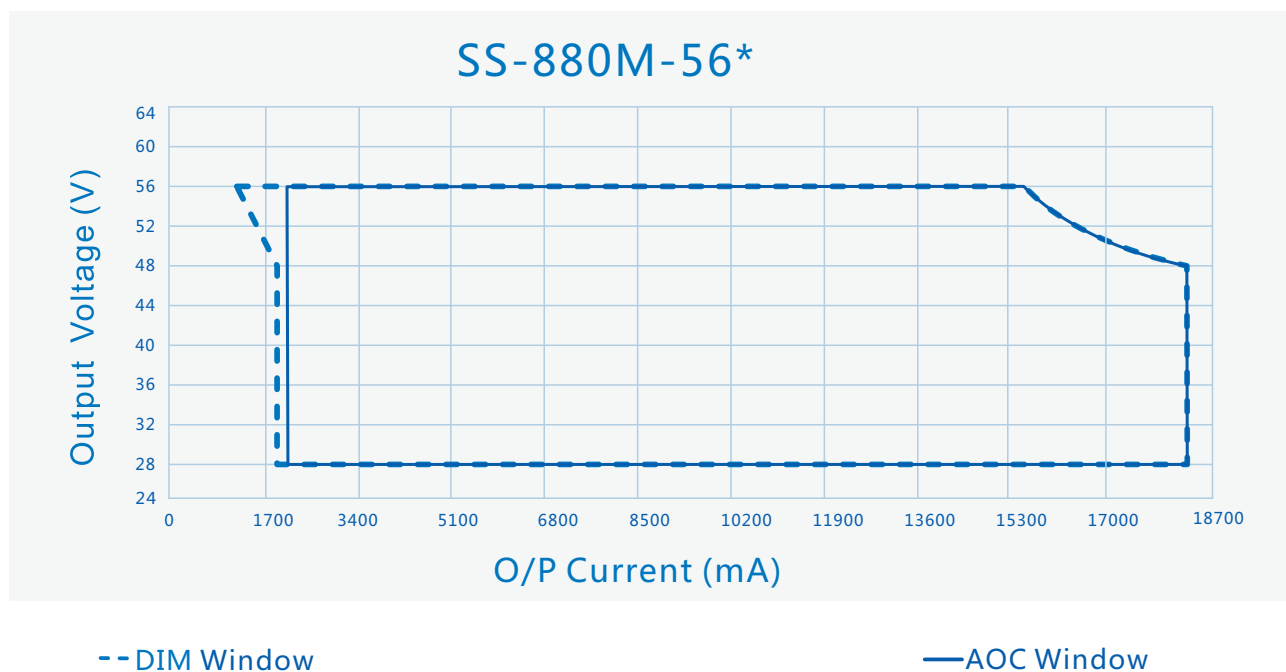


Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
200Vac	25A	10mS	3mS
347Vac	30A	10.5mS	3.5mS
480Vac	35A	12.5mS	4mS

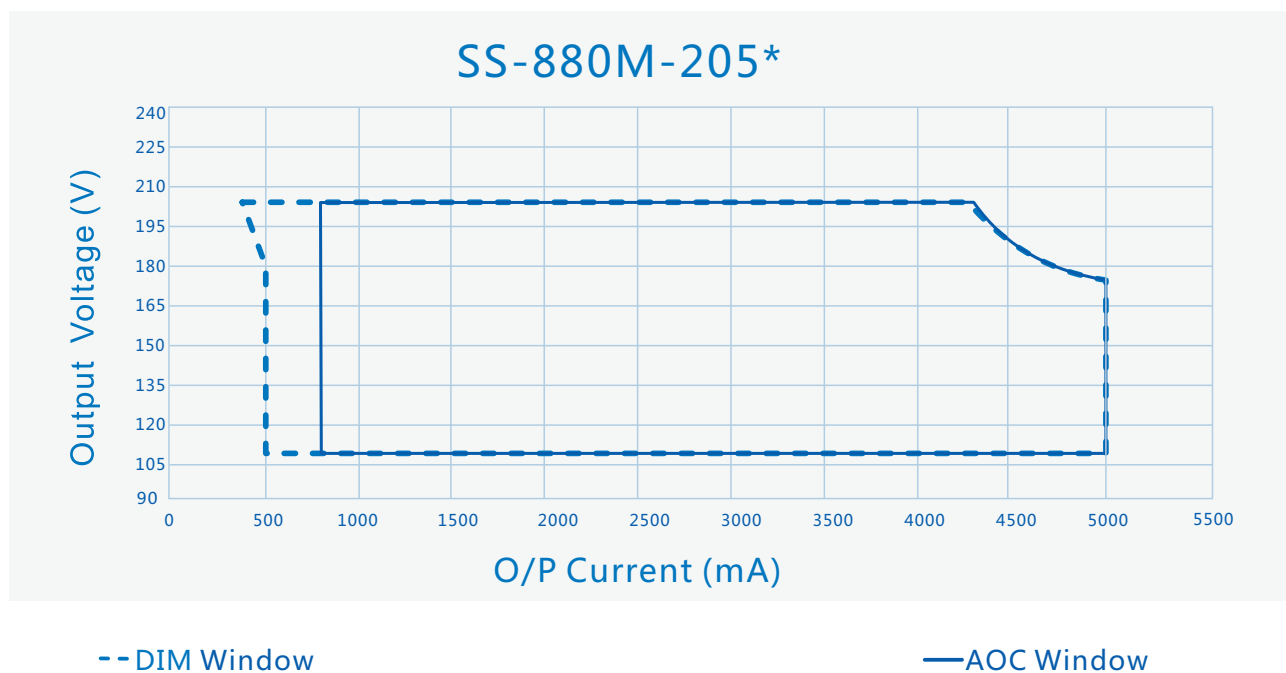
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Performance Curves:

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



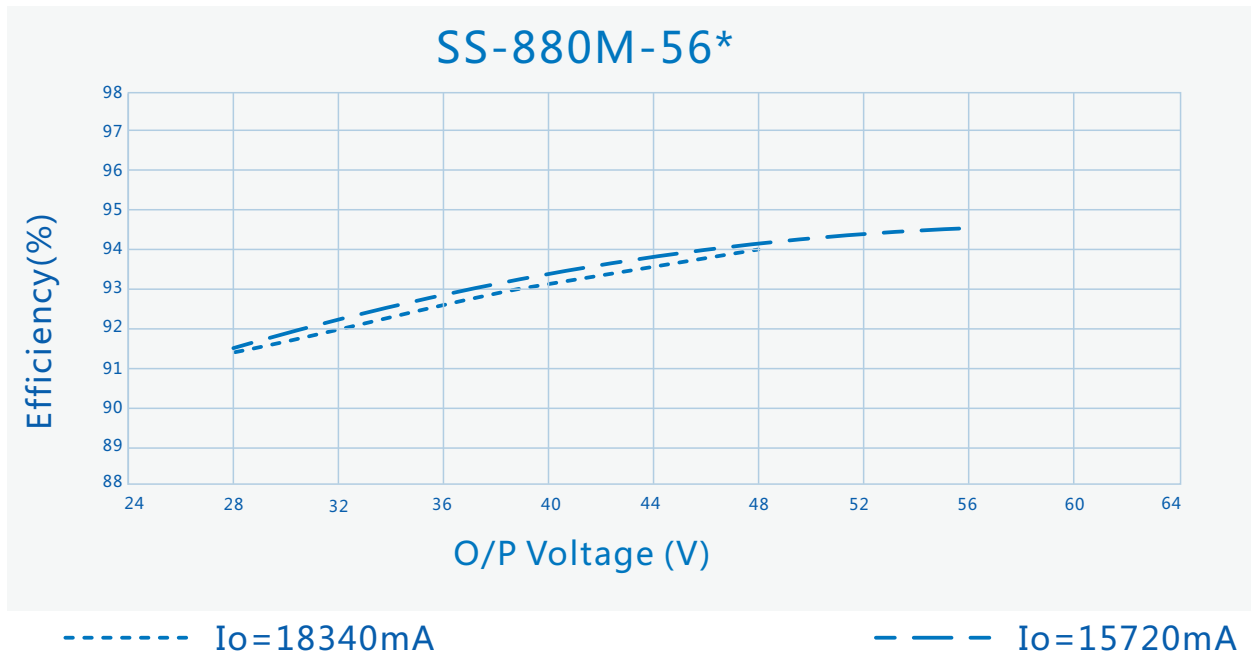
O/P Voltage Vs. O/P Current(Dim/AOC Window)



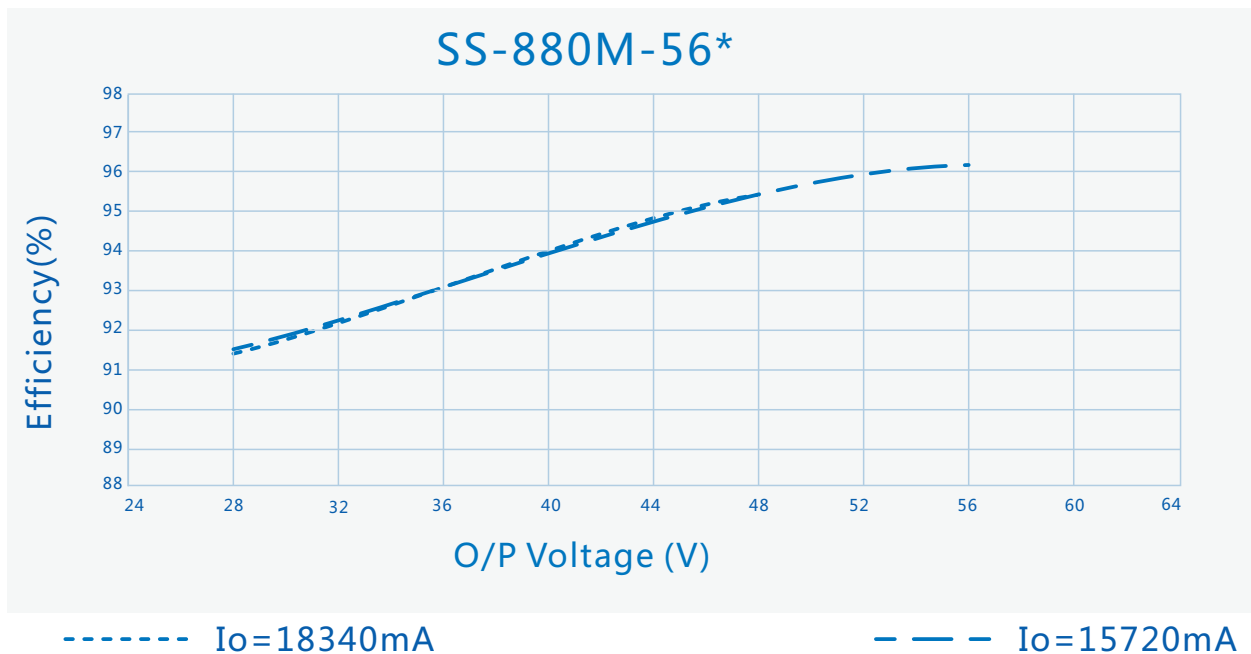
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Performance Curves:

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



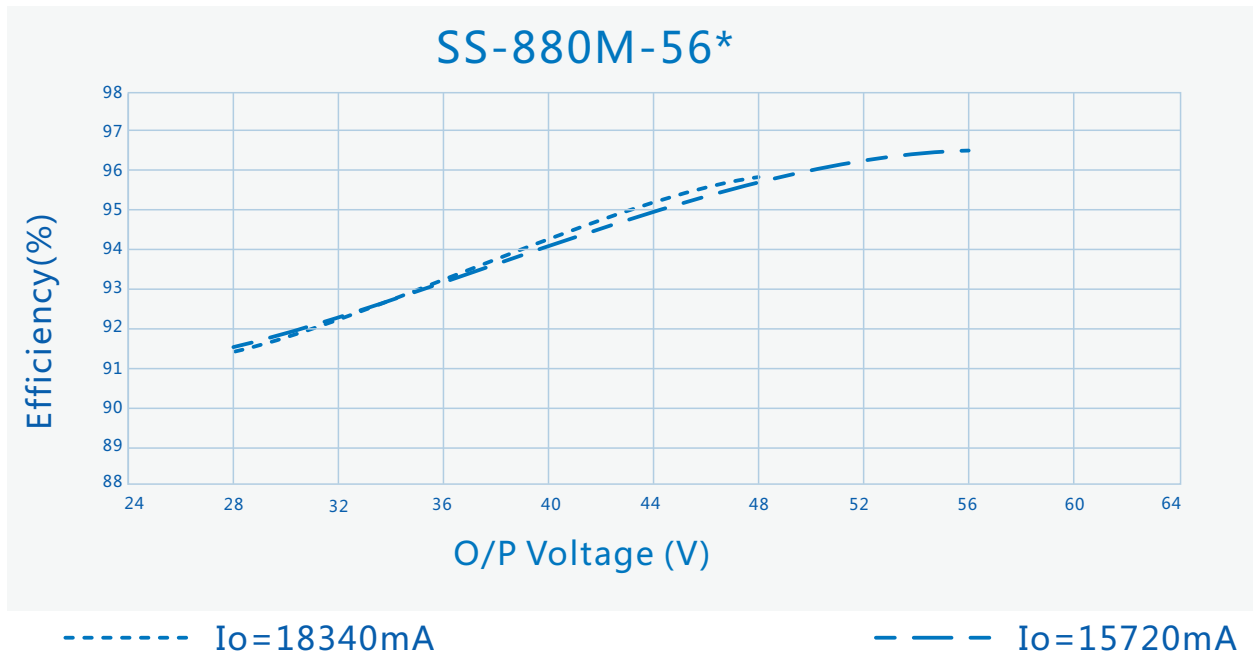
Efficiency Vs. O/P Voltage ($V_{in}=347V_{ac}$)



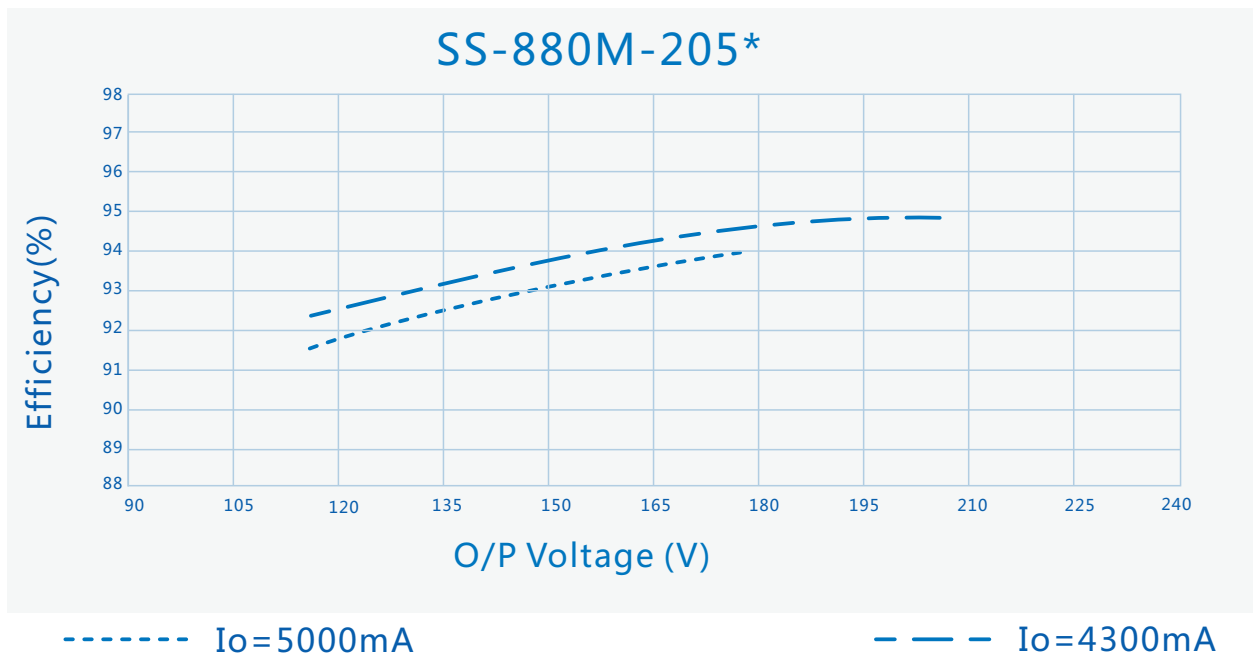
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Performance Curves:

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



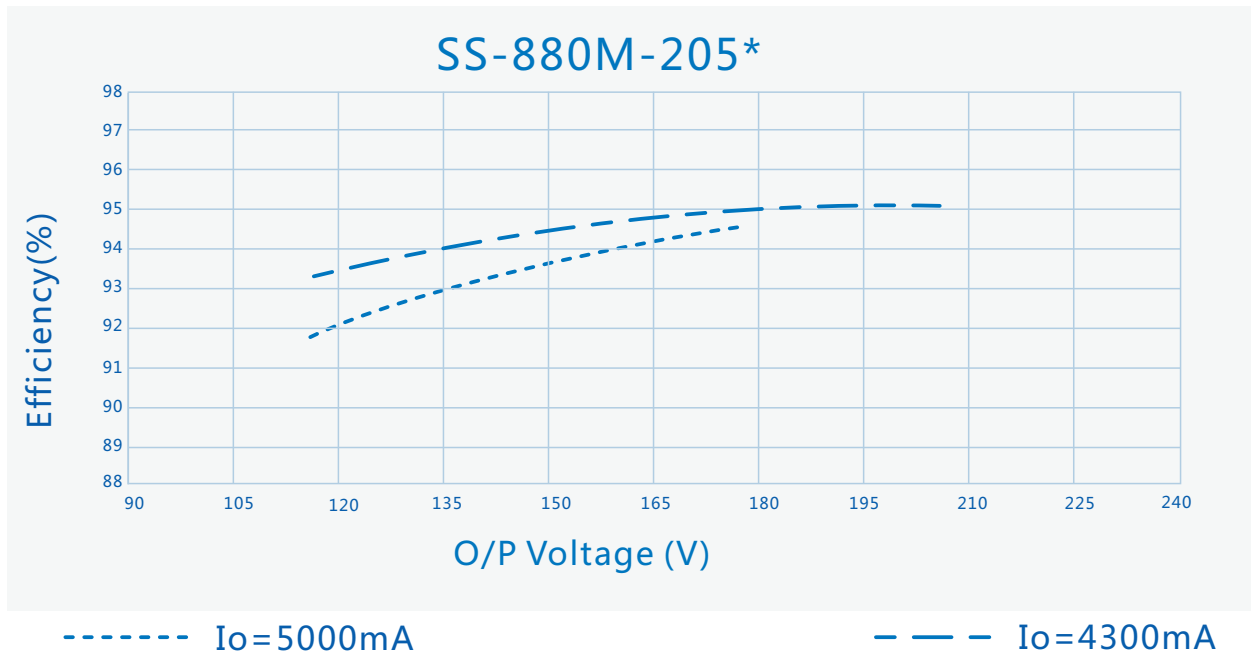
Efficiency Vs. O/P Voltage ($V_{in}=220V_{ac}$)



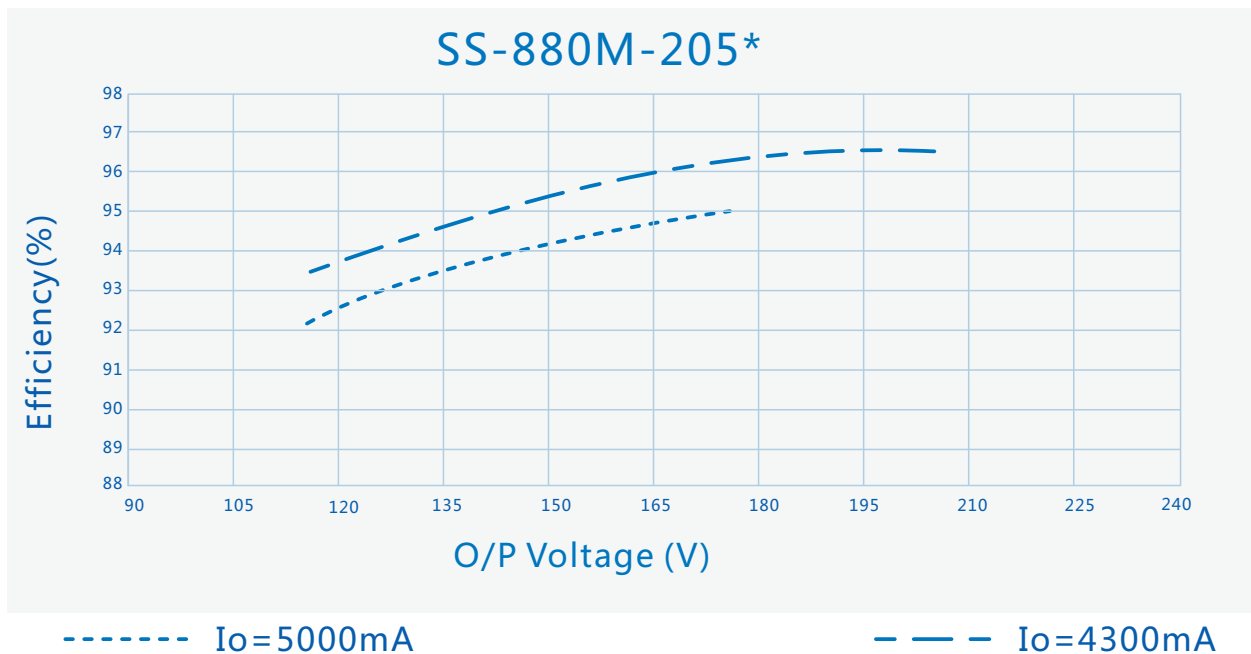
SS-880M Series LED Driver

Performance Curves:

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



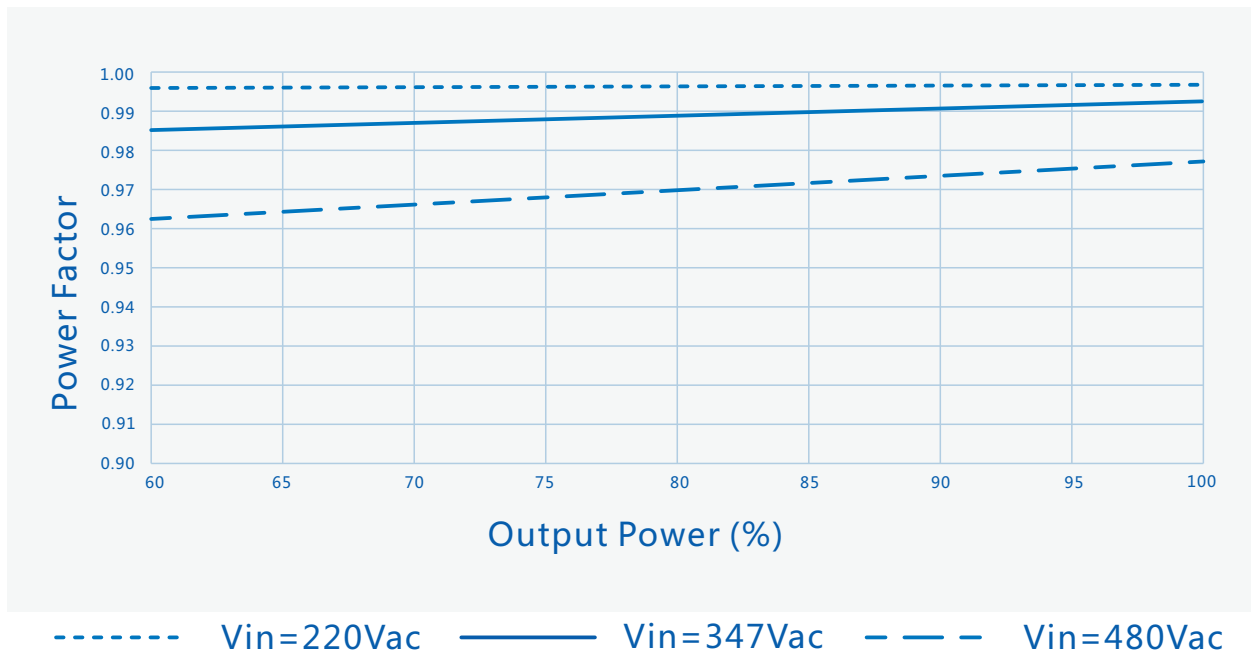
Efficiency Vs. O/P Voltage ($V_{in}=480V_{ac}$)



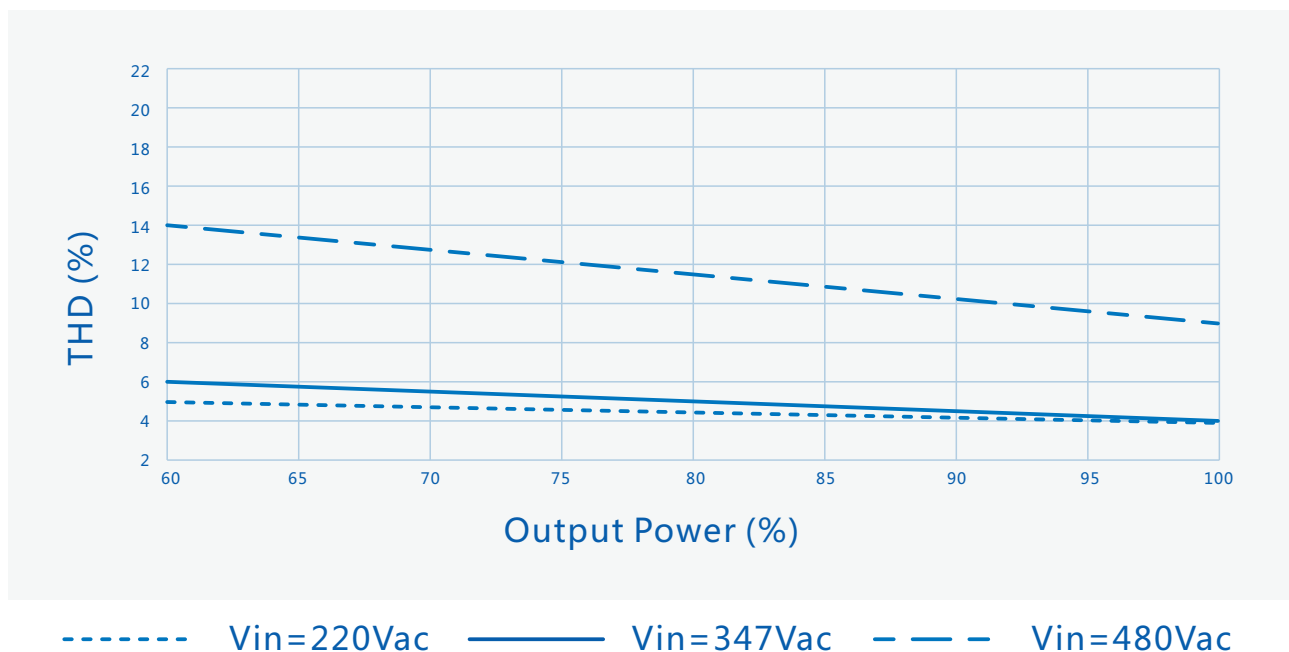
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Performance Curves:

Power Factor Vs. O/P Power



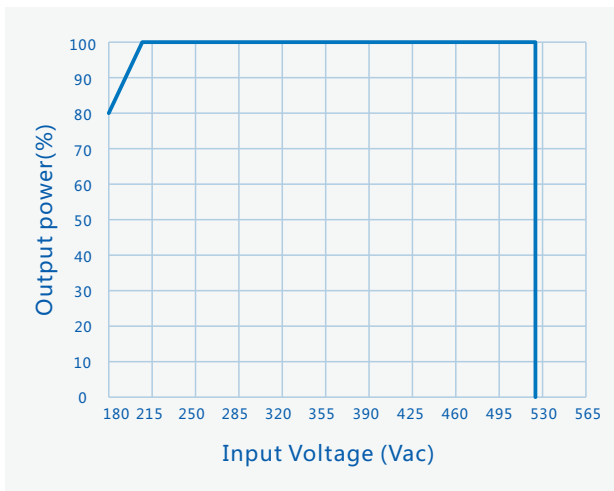
THD Vs. O/P Power



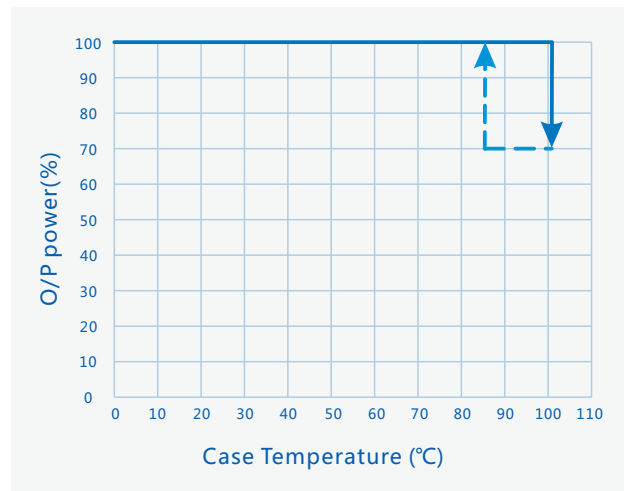
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Performance Curves:

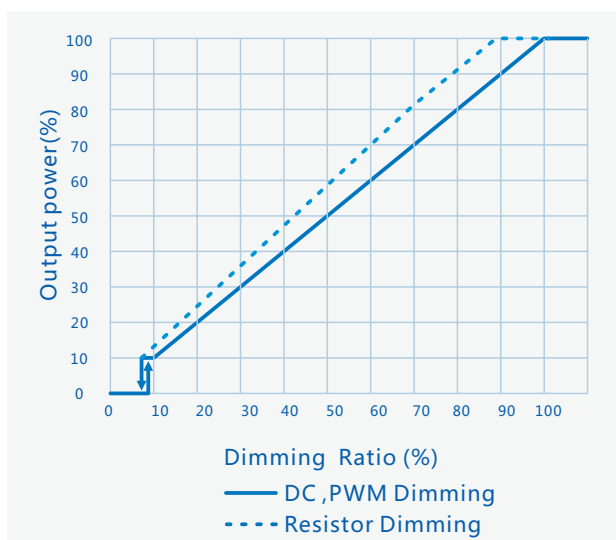
O/P Power Vs. Input Voltage



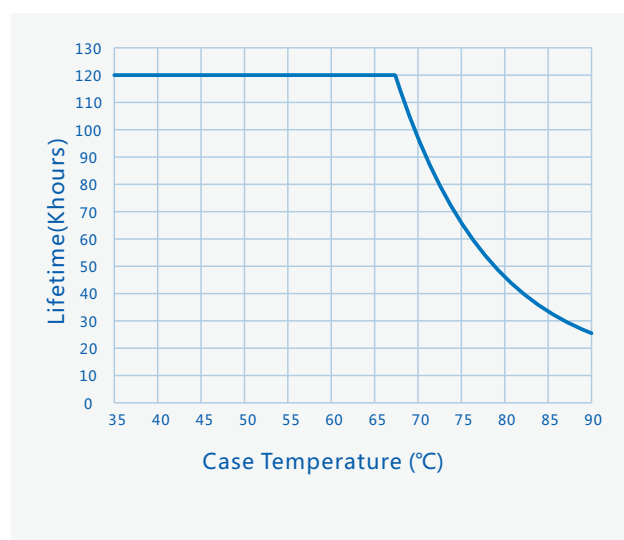
O/P Power Vs. Case Temperature



O/P Power Vs. Dimming



Lifetime Vs. Case Temperature



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Constant Lumen O/P

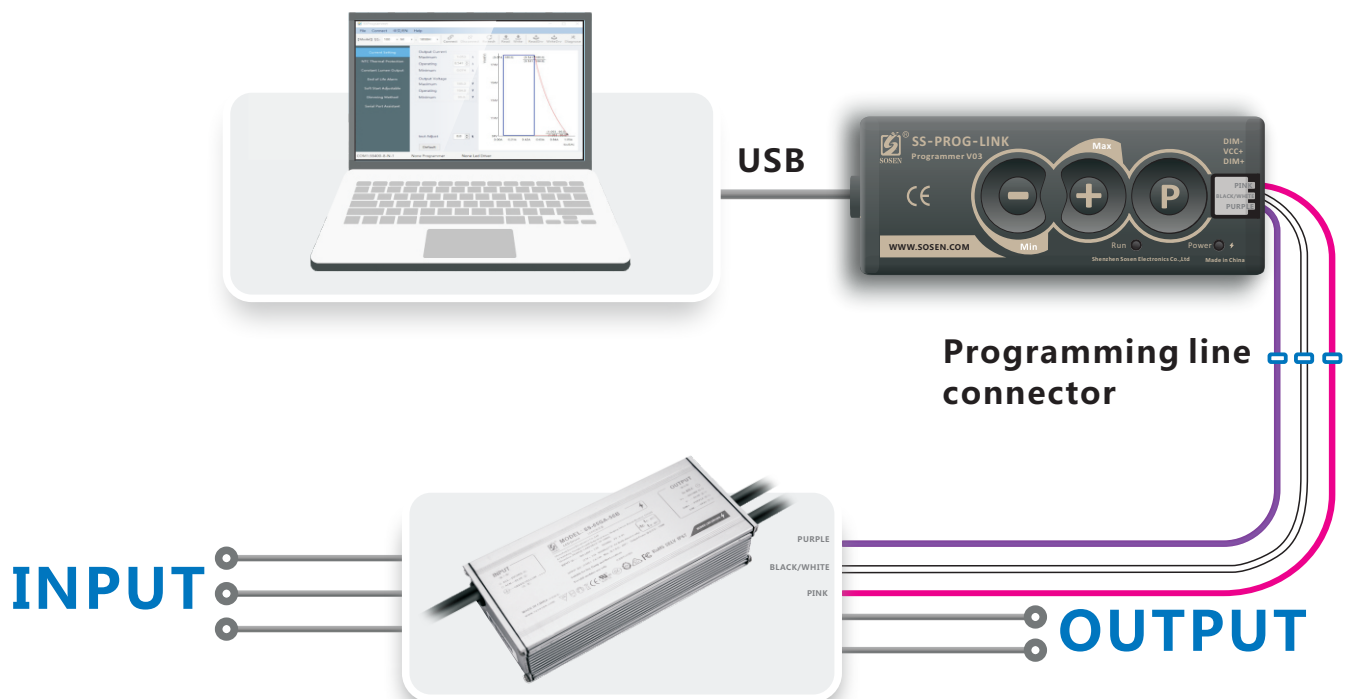
Constant Lumen O/P are design to maintain fixture's stable O/P lumen by increasing driver's O/P current within driver's life span to counteract LED lumen degradation.

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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Mechanical Characteristics

The diagram shows a blue rectangular LED DRIVER with the following connections:

- INPUT:** ACL, ACN, and a ground symbol.
- OUTPUT:** V+, V- (labeled O/P), DIM+ / Dimming / Programming, DIM-, Vaux+ (labeled AUX Power), and Vaux-.

AC Input Cable(Exposed Length 450±10mm):
UL model: STW,3*18AWG,O.D: 9.4mm,Black:L,White:N,Green:⏚

DC O/P Cable(Exposed Length 250±10mm):
SS-880M-56*:
UL model: SJTW,2*14AWG,O.D: 9.0mm,Red:V+,Black:V-
SS-880M-205*:
UL model: SJTW,2*18AWG,O.D: 7.3mm,Red:V+,Black:V-

DIM/AUX Power/Programming Cable (Exposed Length 220±10mm):
UL model: STYLE 21996, 4*22AWG , O.D: 5.6mm , Purple : DIM+, Pink: DIM-, Black/White: Vaux+, Blue/White: Vaux-

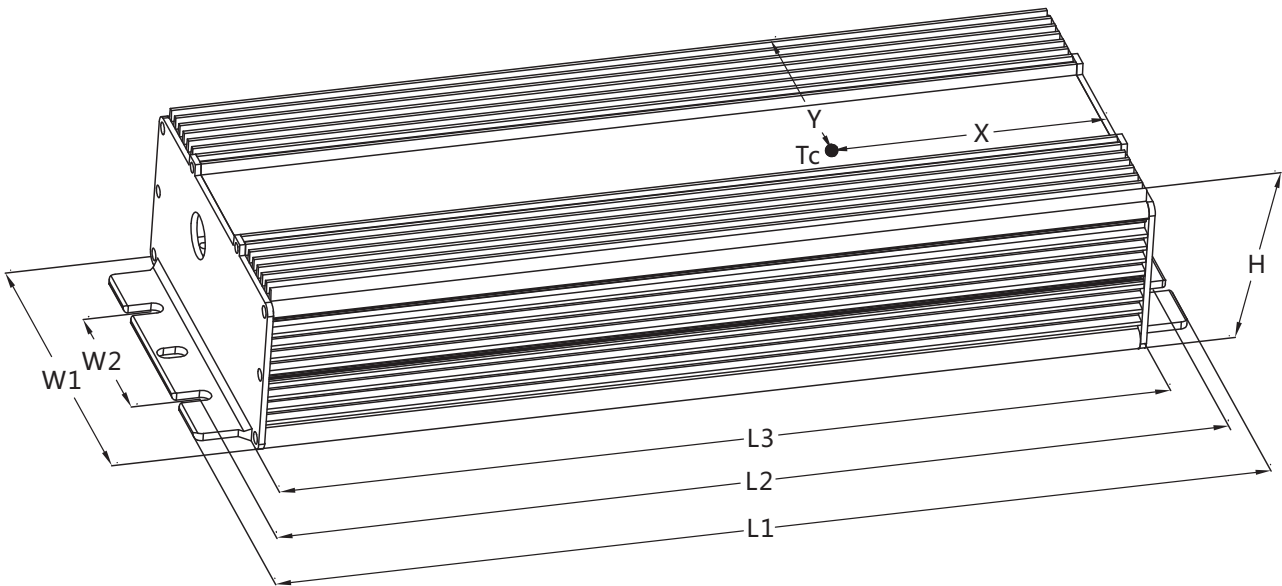
Name Description	Standard Code	mm(In.)
Assembly Length	L1	440(17.32)
Overall Length	L2	426.5(16.79)
Mounting Hole Length	L3	413.2(16.27)
Case Height	H	44.5(1.75)

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	89.5(3.52)
Mounting Hole Width	W2	40(1.57)
TC Point Position	X	210(8.27)
TC Point Position	Y	46(1.81)



SS-880M Series LED Driver



Assembly Tips

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

Package

- Outside carton dimension: $L \times W \times H = 495\text{mm} \times 385\text{mm} \times 162\text{mm}$;
- 5PCS/Carton;
- Net weight/Piece: 3.8kg; Gross weight/Carton: 20.5kg;
- 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	2022/10/17	
V01	Add Page Number	2023/02/01	
V02	Update Certification	2023/03/01	