Product Features:

- Universal input voltage / Full range: 90~305Vac;
- Constant power design, output current programming adjustable;
- (M types) offline programmable, (V types) output current adjustable by built-in potentiometer;
- 3-in-1 dimmable: 0~10Vdc, PWM, Timer dimming. Dim-to-off;
- (M types)Constant lumen output;
- Output and Dimming Signal Isolating;
- Surge protection: 5KV line-line, 10KV line-earth;
- Protections: SCP, OVP, OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty.

Application:

- Suitable for LED roadway lighting, plant lighting, industrial lighting, landscape lighting, etc.

DESCRIPTION

The X6-200W series is 200W outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 90~305Vac model. Offline Monitored by dimming cable connected with an USB kit programming device, the fully programmed drivers offer all dimming, dim-to-off, constant lumen output options and a wide range of output current in a single driver, which deliver maximum flexibility with customized operating settings and intelligent control options for lighting manufacturers, as one driver can be programmed for many different luminaire designs. X6 provides built-in timer dimming schedules further increasing the energy savings and CO2 reductions achieved with LED lighting. It also helps clients to improve the management of logistics and stock. The compact metal case and high efficiency enables the driver to operating with high reliability, and extending product lifetime. Overall protection is provided against lightening surge, output over voltage, short circuit, and over temperature, to ensure low failure rate.

MODELS

Model Number [1]	Max Output Power (W)	Output Voltage Range (Vdc)	Output Current Adjustable Range (A)	Full Power Current Adjustable Range (A) [2]	Default Output Current Setting(A)	Typical Efficiency [3]	Power Factor
X6-200Y041	200	20-41	30-41	4.88-6.67	5.56	91%	0.97
X6-200Y062	200	38-62	40-62	3.23-5.00	4.90	92%	0.97
X6-200Y096	200	48-96	67-96	2.1-3.0	2.8	92%	0.97
X6-200Y143	200	70-143	95-143	1.4-2.1	1.4	93%	0.97
X6-200Y191	200	96-191	133-191	1.05-1.50	1.05	93%	0.97
X6-200Y286	200	143-286	191-286	0.70-1.05	0.70	93%	0.97

Notes:

[1]. Y can be M or V. Y=M means dimmable and offline programmable, The adjustable I_{out} range: 10%-100% Imax;

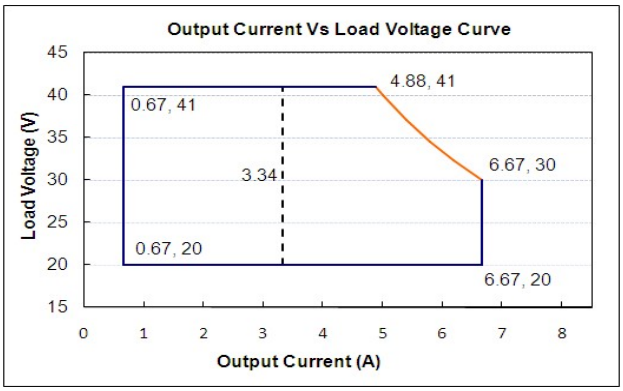
Y=V means non-dimmable and output current adjusted by built-in potentiometer.

[2]. Output current adjustable range with constant power at max output power;

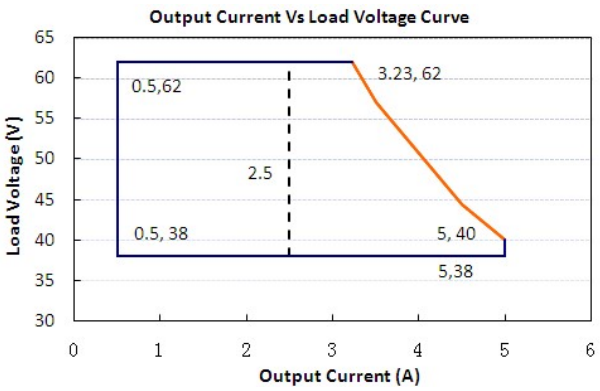
[3]. All specifications are measured at 25℃ ambient temperature, input voltage 230Vac, and the typical value tested by full load, if no specific note.

OPERATING AREA I-V

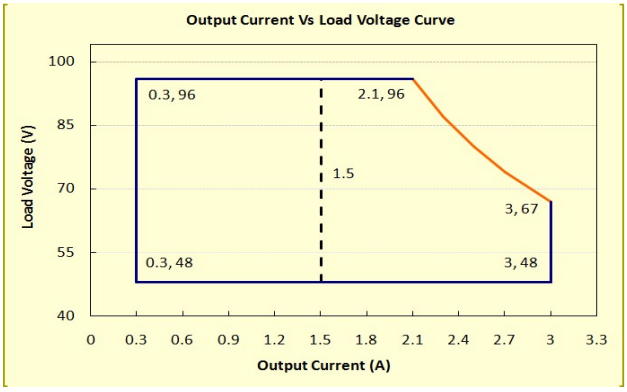
X6-200Y041



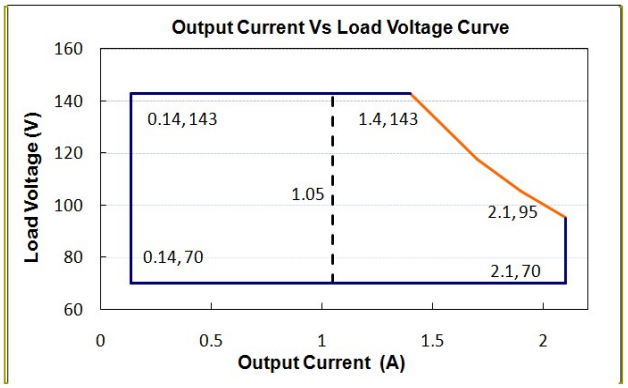
X6-200Y062



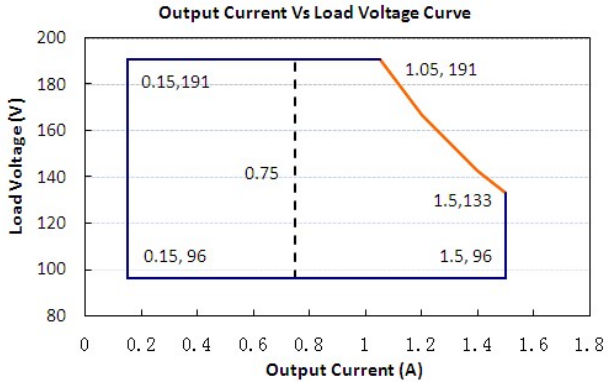
X6-200Y096



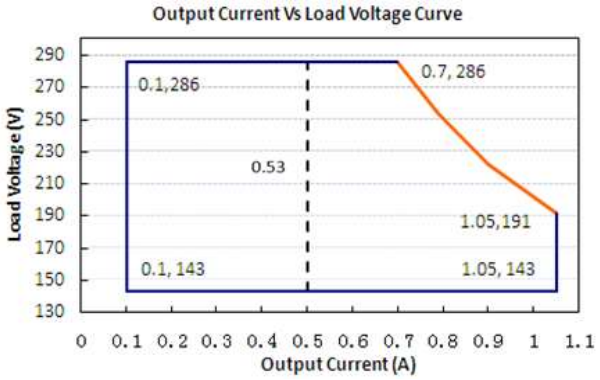
X6-200Y143



X6-200Y191



X6-200Y286



Notes：

Y=V is suitable for the right area of the dotted line；Y=M is suitable for the solid line contain area.

INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90Vac	100-277Vac	305Vac	
Input Frequency	47Hz	50/60	63Hz	
Leakage Current	-	-	0.70mA	277Vac/60Hz
Input AC Current	-	-	2.8A	100-277Vac &full load
Inrush Current	-	-	75A	230Vac & full load
Standby Power Consumption			3W	Dim to off
Power Factor	0.97	0.99	-	120Vac, 50-60Hz,full load
	0.95	0.97		230Vac, 50-60Hz, full load
	0.91	0.93		277Vac, 50-60Hz, full load
THD	-	5%	10%	100-240Vac,50-60Hz, 50%-100% load
	-	-	15%	277Vac, 50-60Hz, 70%-100% load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	
Output Current Setting Range (A) X6-200Y041 X6-200Y062 X6-200Y096 X6-200Y143 X6-200Y191 X6-200Y286	 3.34 2.50 1.50 1.05 0.75 0.53	-	 6.67 5.00 3.00 2.10 1.50 1.05	The 'M type' adjustable Iout range: 10%-100% Imax,
Output Current Setting Range with Constant Power X6-200Y041 X6-200Y062 X6-200Y096 X6-200Y143 X6-200Y191 X6-200Y286	 4.88 3.23 2.10 1.40 1.05 0.70	-	 6.67 5.00 3.00 2.10 1.50 1.05	
Total Output Current Ripple(pk-pk)	-	5%	10%	20MHz BW, full load& LED load, the ripple would be tiny different under different LED load.
Startup Overshoot Current	-	-	10%	120~277Vac &100% Load, load is LED
No Load Output Voltage X6-200Y041 X6-200Y062	-	-	50 70	

X6-200Y096 X6-200Y143 X6-200Y191 X6-200Y286			120 160 210 310	
Line Regulation	-1%	-	1%	25℃±10℃ ambient temperature, input voltage changes from 100Vac to277Vac.
Load Regulation	-3%	-	3%	25℃±10℃ambient temperature, Input Voltage 230Vac, load changes from 60% to 100%.
Turn-on Delay Time	-	1S	2S	120Vac,100% load
	-		0.5S	230Vac,100% load

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency @120Vac X6-200Y041 I_O=4.88 I_O=6.67 X6-200Y062 I_O=3.23 I_O=5.00 X6-200Y096 I_O=3.00 I_O=2.10 X6-200Y143 I_O=2.10 I_O=1.40 X6-200Y191 I_O=1.05 I_O=1.5 X6-200Y286 I_O=0.70 I_O=1.05	 88% 88% 88% 88% 88% 88% 88% 88% 88.5% 88.5% 88% 88%	 90% 90% 90% 90% 89.5% 89.5% 90% 90% 90.5% 90.5% 89% 89%	-	Measured at full load and 25℃ambient temperature
Efficiency @230Vac X6-200Y041 I_O=4.88 I_O=6.67 X6-200Y062 I_O=3.23 I_O=5.00 X6-200Y096 I_O=3.00 I_O=2.10 X6-200Y143 I_O=2.10 I_O=1.40 X6-200Y191 I_O=1.05 I_O=1.5 X6-200Y286 I_O=0.70 I_O=1.05	 90% 90% 90% 90% 91% 91% 91% 91% 91% 91% 91% 91%	 92% 92% 92% 92% 92.5% 92.5% 93% 93% 93% 93% 93% 93%	-	Measured at full load and 25℃ambient temperature

Efficiency @277Vac X6-200Y041 I_O=4.88 I_O=6.67 X6-200Y062 I_O=3.23 I_O=5.00 X6-200Y096 I_O=3.00 I_O=2.10 X6-200Y143 I_O=2.10 I_O=1.40 X6-200Y191 I_O=1.05 I_O=1.5 X6-200Y286 I_O=0.70 I_O=1.05		 90.5% 90.5% 90.5% 90.5% 91.5% 91.5% 91.5% 91.5% 91% 91% 91% 91%	 92.5% 92.5% 92.5% 92.5% 92.5% 92.5% 93.5% 93.5% 93% 93% 93% 93%		Measured at full load and 25℃ambient temperature
Dielectric Strength	Input-Output	-	3750Vac	-	Max 5mA/60S
	Input-PE	-	1600Vac	-	
	Output-PE	-	1600Vac	-	
Grounding Resistance		-	-	0.1Ω	25A/60S, under 25℃±10℃ambient temperature
Insulation Resistance		50MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S/25℃/70%RH
MTBF		-	200000Hrs	-	25℃±10℃ambient temperature, 230Vac,80% load (MIL-HDBK-217F)
Lifetime		-	50000Hrs	-	230Vac&100% load, 75℃ case temperature, refer to lifetime curve for details
Ambient Temperature		-40℃		+60℃	230Vac&100% load
Operating Case Temperature for Safety Tc_s		-40℃	-	+90℃	
Operating Case Temperature for Warranty Tc_s		-40℃	-	+75℃	5 years warranty case temperature Humidity: 10% to 95% RH
Storage Temperature		-40℃	-	+85℃	Humidity: 5% to 100% RH
Dimensions (L*W*H)mm		L193.6*W68*H39			
Net Weight		940±100g/PCS			
Package		L500mm*W370mm*H160mm; 10PCS/Ctn, Gross Weight: 10kg			

DIMMING

Parameter		Min.	Typ.	Max.	Notes
0~10V Absolute Maximum Voltage on the Vdim (+) Pin		-	10V	-	
0~10V Source Current on Vdim(+)Pin		-	200uA	400uA	
Dimming Output Range	X6-200M041 X6-200M062 X6-200M096 X6-200M143 X6-200M191 X6-200M286	10% I_{max}	-	100% I_{max}	I_{max}=6.67A I_{max}=5.00A I_{max}=3.00A I_{max}=2.10A I_{max}=1.50A I_{max}=1.05A
	X6-200M041	0.67	-	6.67	

	X6-200M062 X6-200M096 X6-200M143 X6-200M191 X6-200M286	0.50 0.30 0.21 0.15 0.11		5.00 3.00 2.10 1.50 1.05	
Recommended Dimming Range for 0-10V		0V	-	10V	Default 0-10V/ PWM Dimming(0-10V,0-9V,0-5V,0-3.3V can be customized as request)
PWM_in High Level		9.7V	-	10.3V	
PWM_in Low Level		0V	-	0.3V	
PWM_in Frequency Range		300Hz		2KHz	
PWM_in Duty Cycle		1%	-	99%	

SAFTY STANDARDS

Safety Category	Country / Territory	Standards	Approved
CCC	China	GB19510.1, GB19510.14	√
CE	Europe	EN61347-1, EN61347-2-13	√
		EN62493	√
ENEC		EN62384	√
CB	CB Countries	IEC61347-1, IEC61347-2-13	√
BIS	India	IS 15885(PART 2/SEC 13)	√
UL	USA	UL 8750	√
CUL	Canada	CSA C22.2 No.250.13	√
KC	South Korea	K61347-1, K61347-2-13	
PSE	Japan	J61347-1, J61347-2-13	
SAA	Australia	AS/NZS IEC 61347.2.13	
		AS/NZS 61347.1	

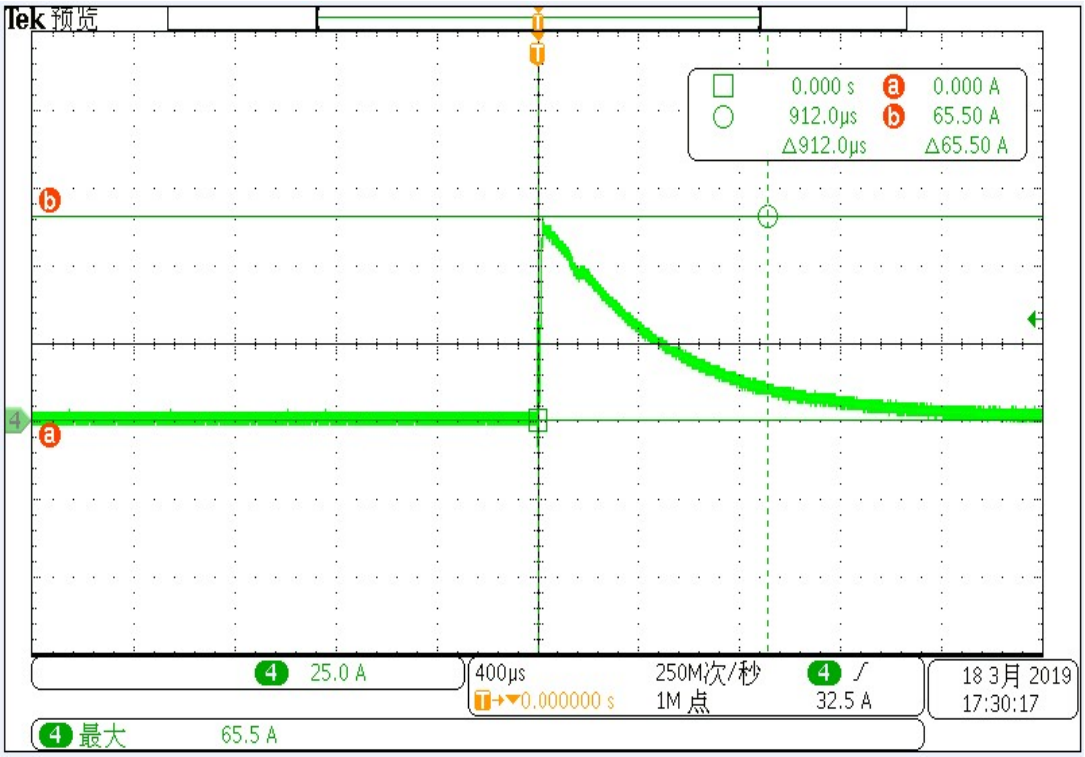
EMC COMPLIANCE

EMC Category	Country / Territory	Standards	Approved
CCC	China	GB/T 17743, GB 17625.1	√
CE	Europe	EN 55015	√
		EN 61000-3-2, EN 61000-3-3	√
		EN61000-4-2,3,4,5,6,11	√
		EN 61547	√
KC	South Korea	K61547	
		K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	

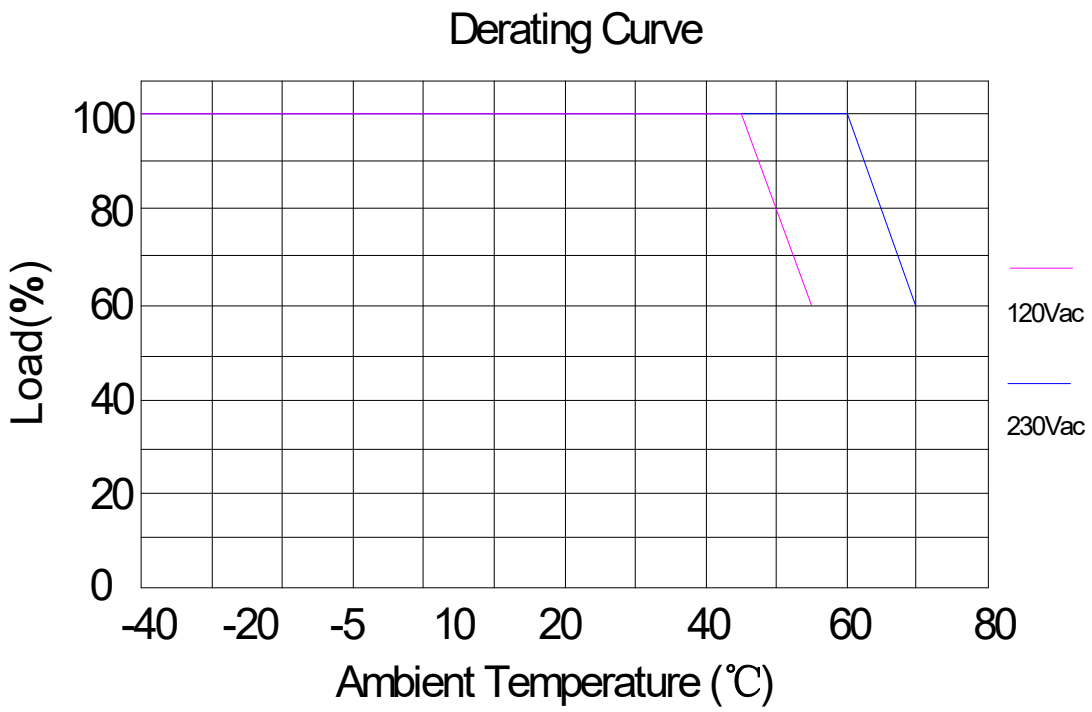
NOTE:

This LED driver meets the EMI specifications above, but as a component of a luminaire, end customer need to identify the EMI performance of a luminaire including LED driver, other devices connected to the driver and on the luminaire itself.

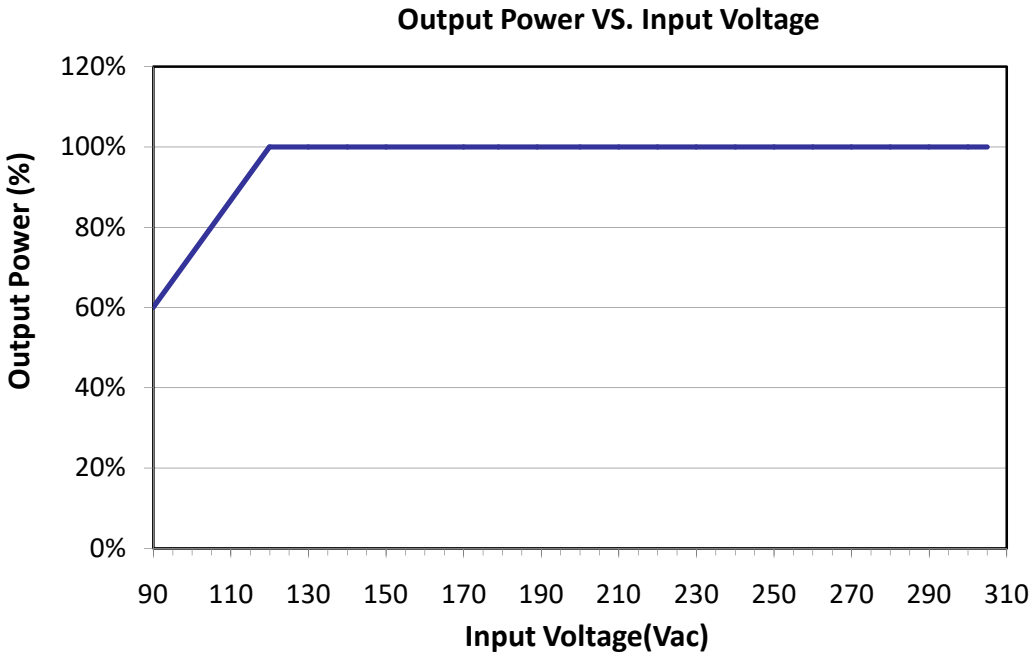
INRUSH CURRENT WAVEFORM



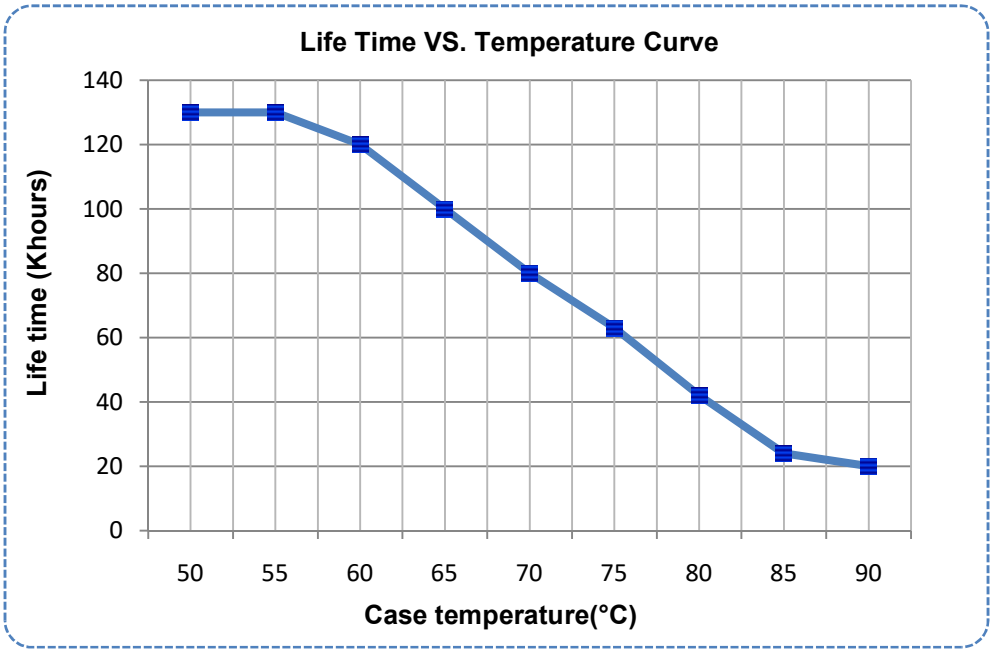
DERATING CURVE



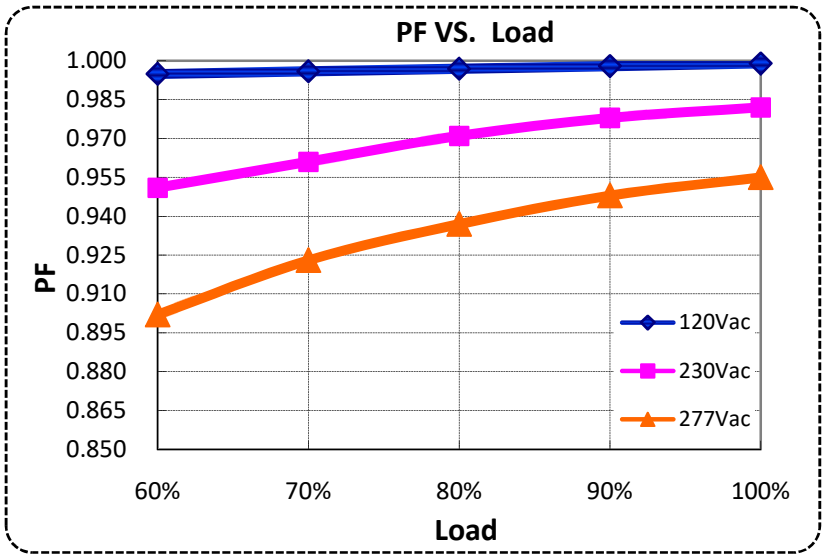
OUTPUT POWER VS INPUT VOLTAGE



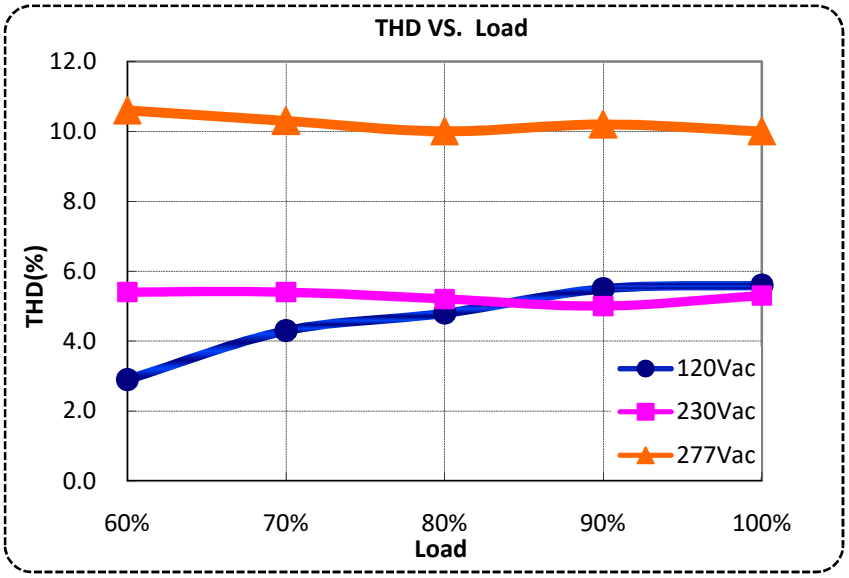
LIFETIME VS CASE TEMPERATURE



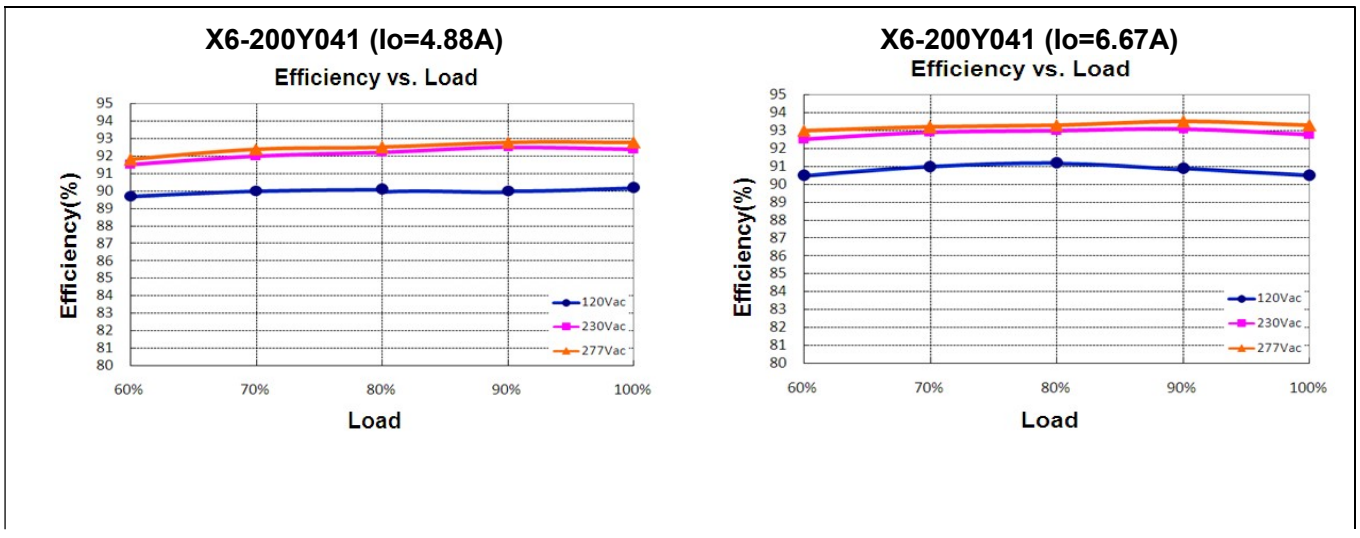
POWER FACTOR VS LOAD



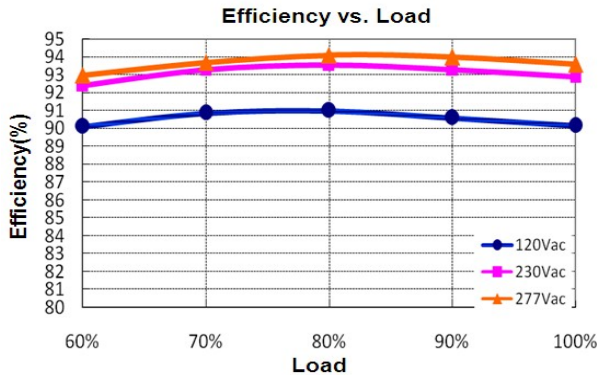
TOTAL HARMONIC DISTORTION



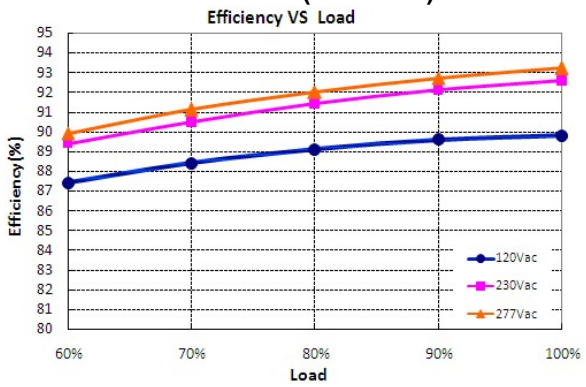
EFFICIENCY VS LOAD



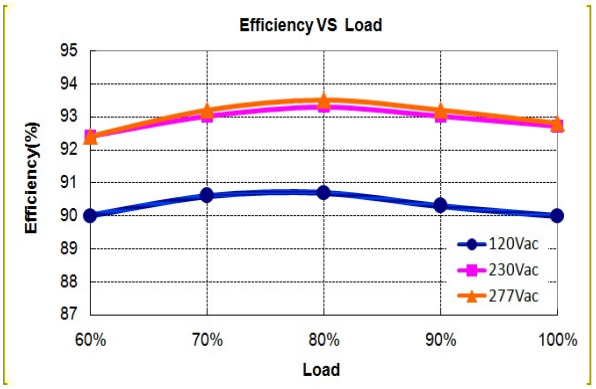
X6-200Y062 (Io=3.23A)



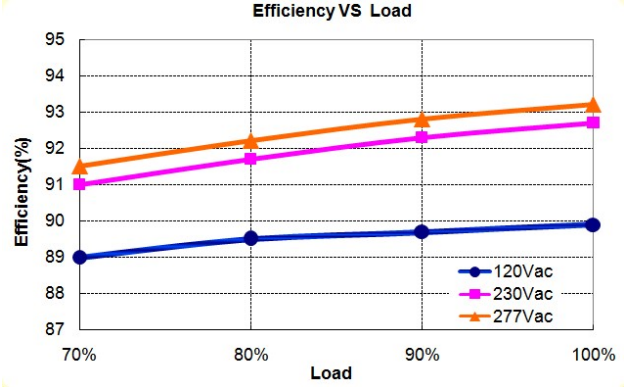
X6-200Y062 (Io=5.00A)



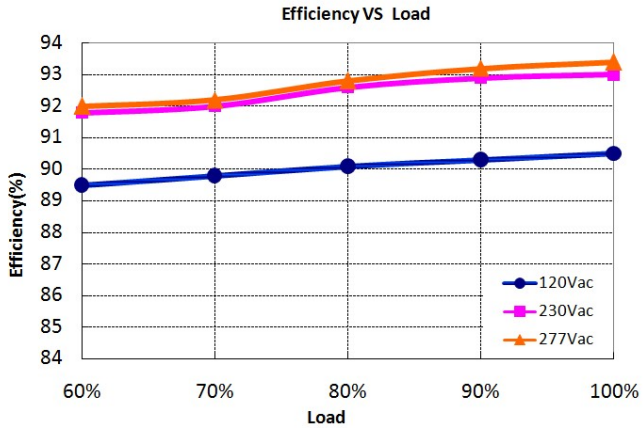
X6-200Y096 (Io=2.10A)



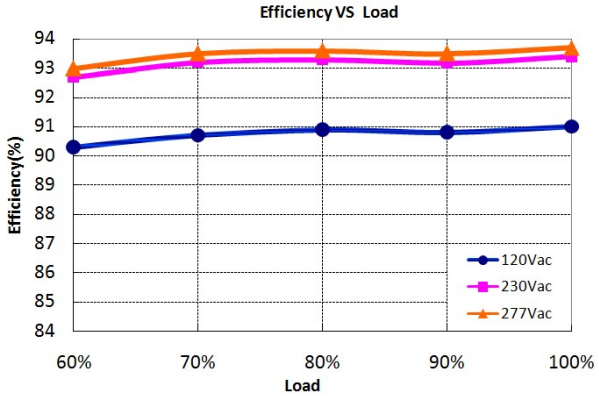
X6-200Y096 (Io=3.00A)



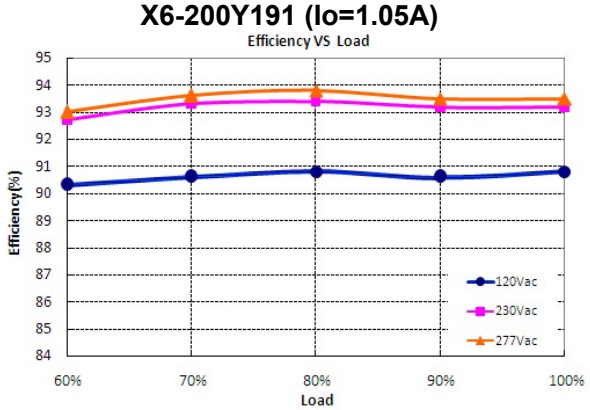
X6-200Y143 (Io=1.40A)



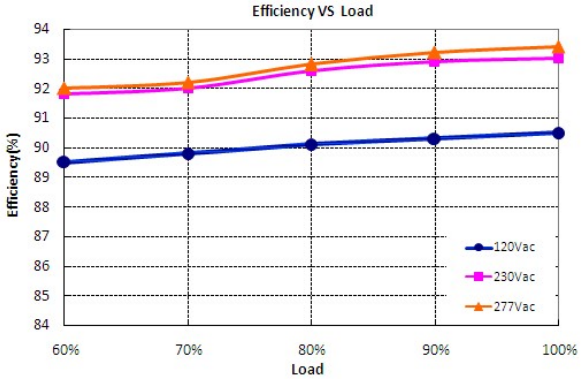
X6-200Y143 (Io=2.10A)



X6-200Y191 (Io=1.05A)

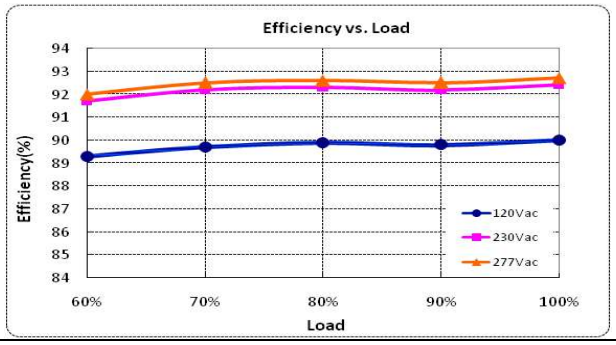


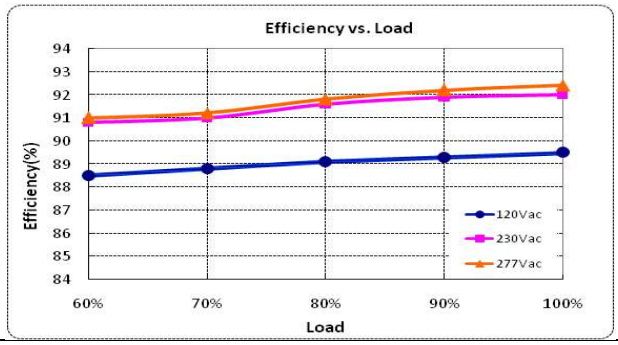
X6-200Y191 (Io=1.50A)



X6-200Y286 (Io=0.70A)

X6-200Y286 (Io=1.05A)

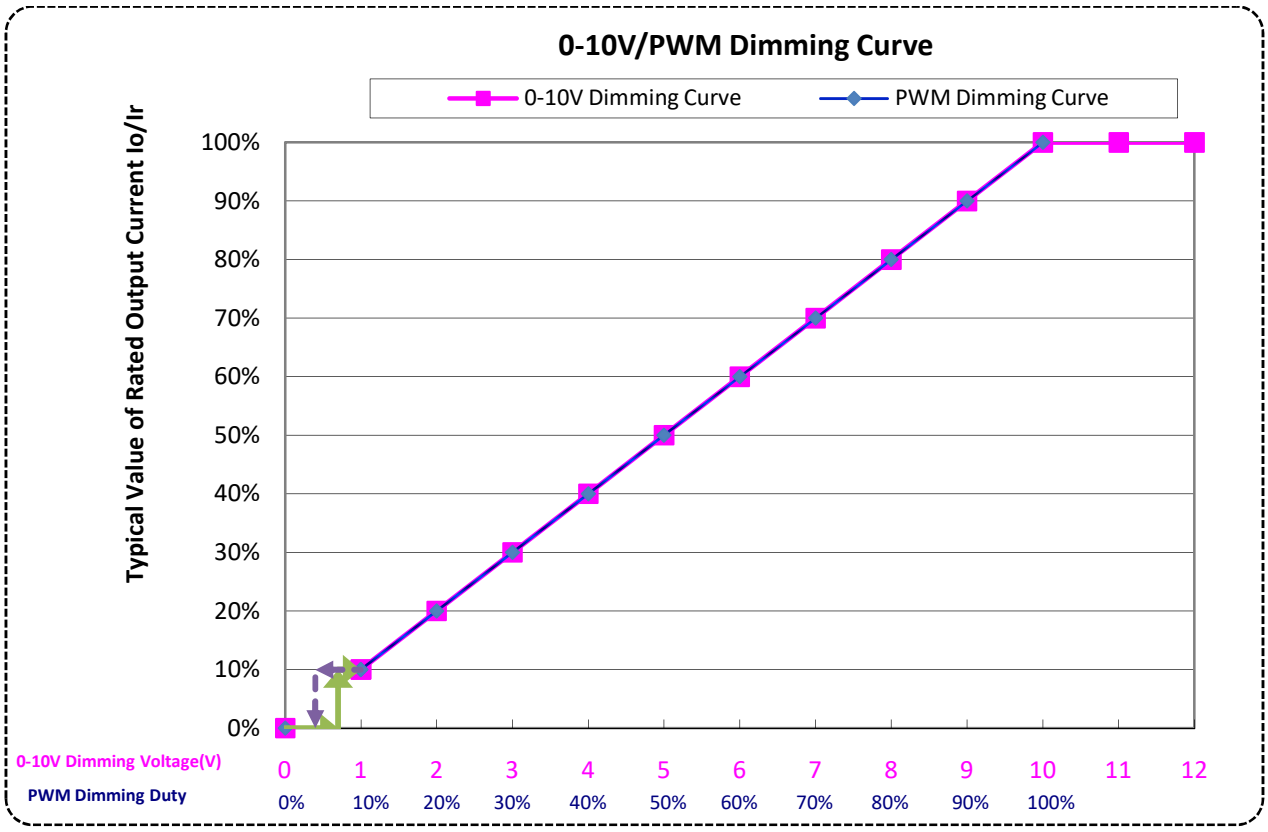




PROTECTIONS

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	Constant current mode and 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 Voltage Protection	Run into protection model when output voltage exceeds limit, and return to normal when the fault

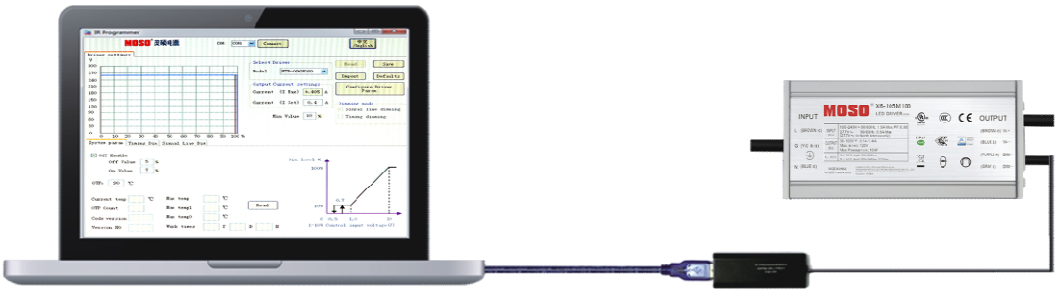
0-10V/PWM DIMMING



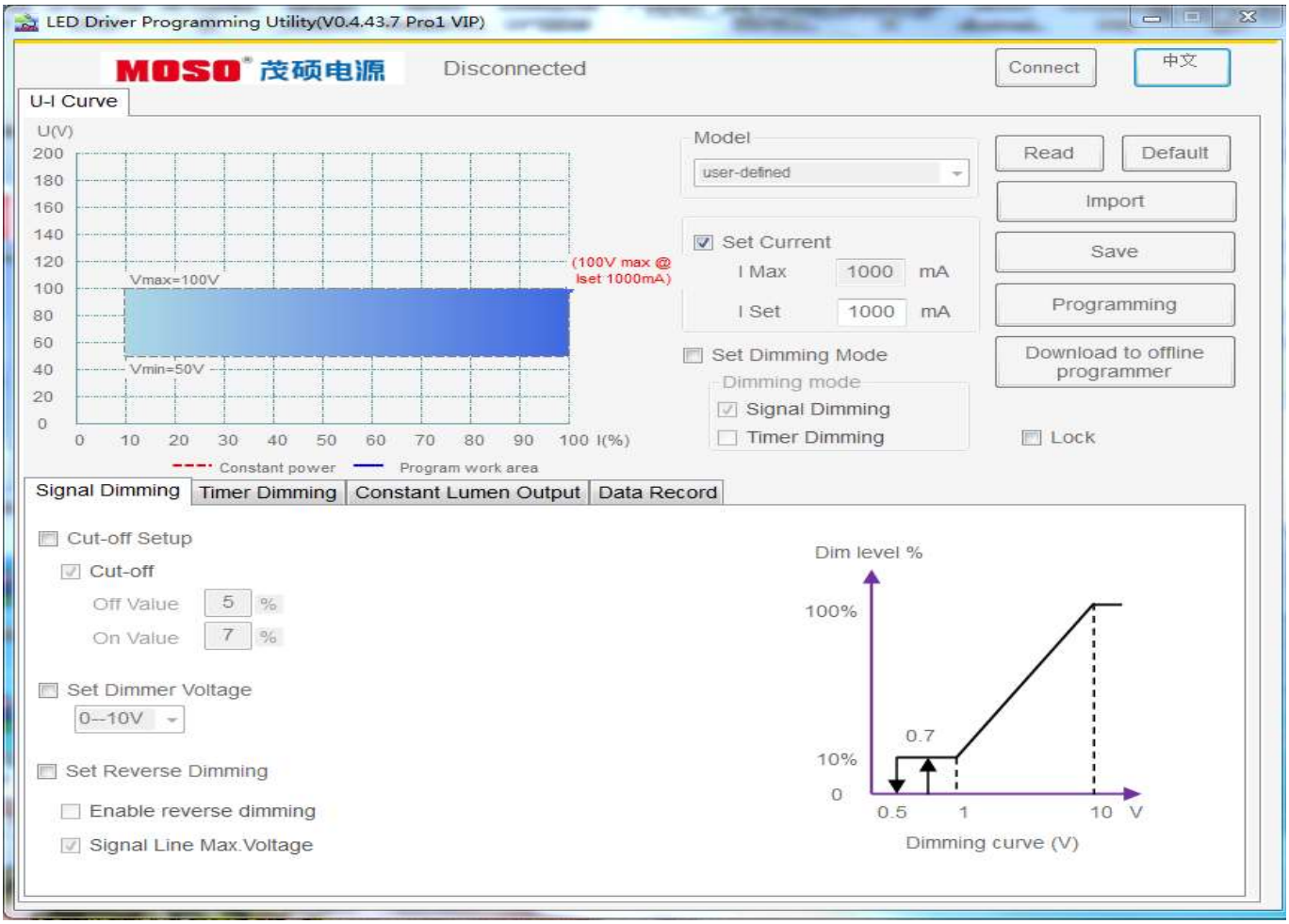
Note:

Dim to off model is realized by decreasing the output voltage, the power supply still has residual voltage when dim to off, so the start up voltage of the lamp should be higher than residual voltage.

DIAGRAM OF UPPER COMPUTER CONNECTION：

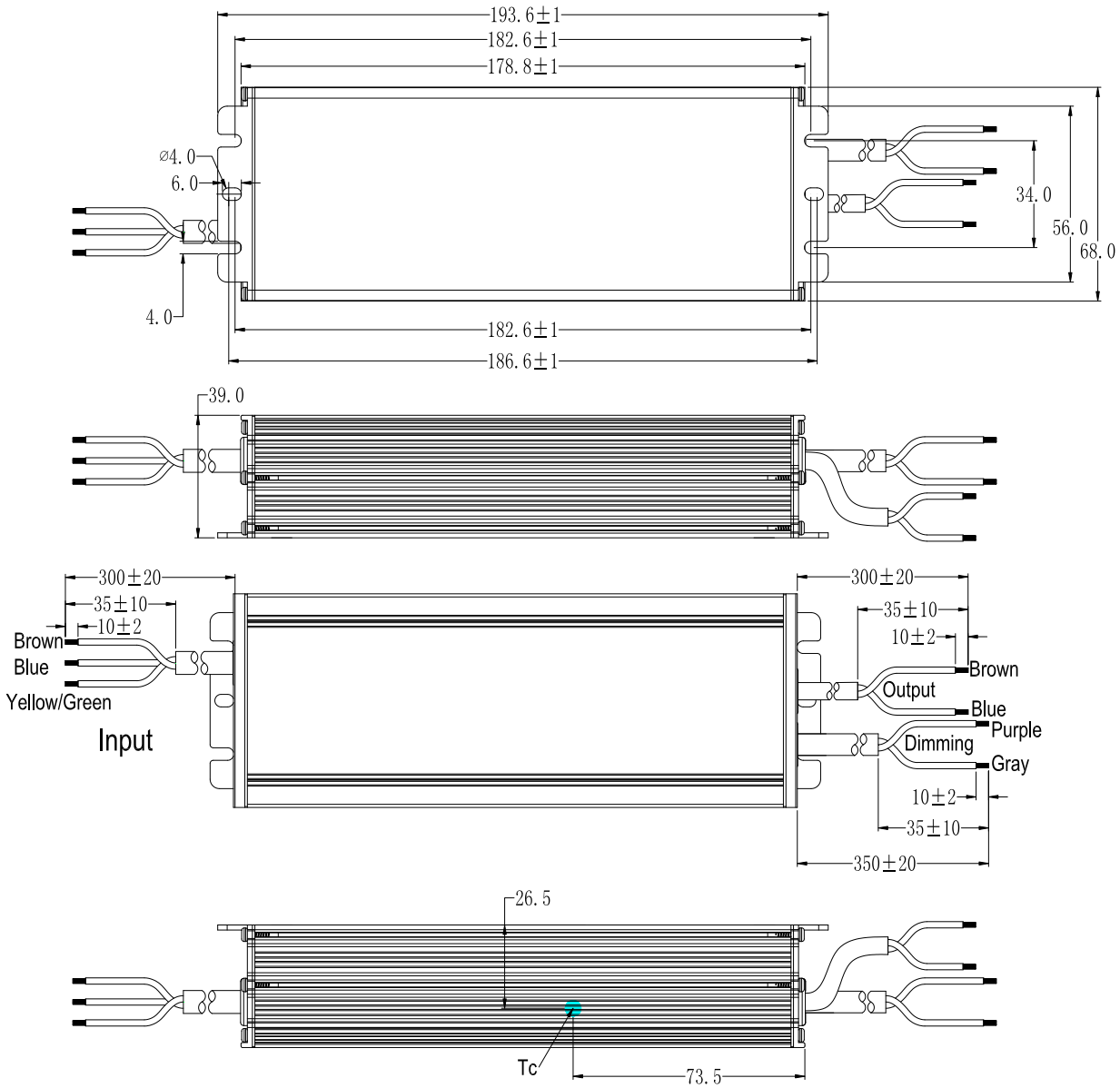


Software programming interface

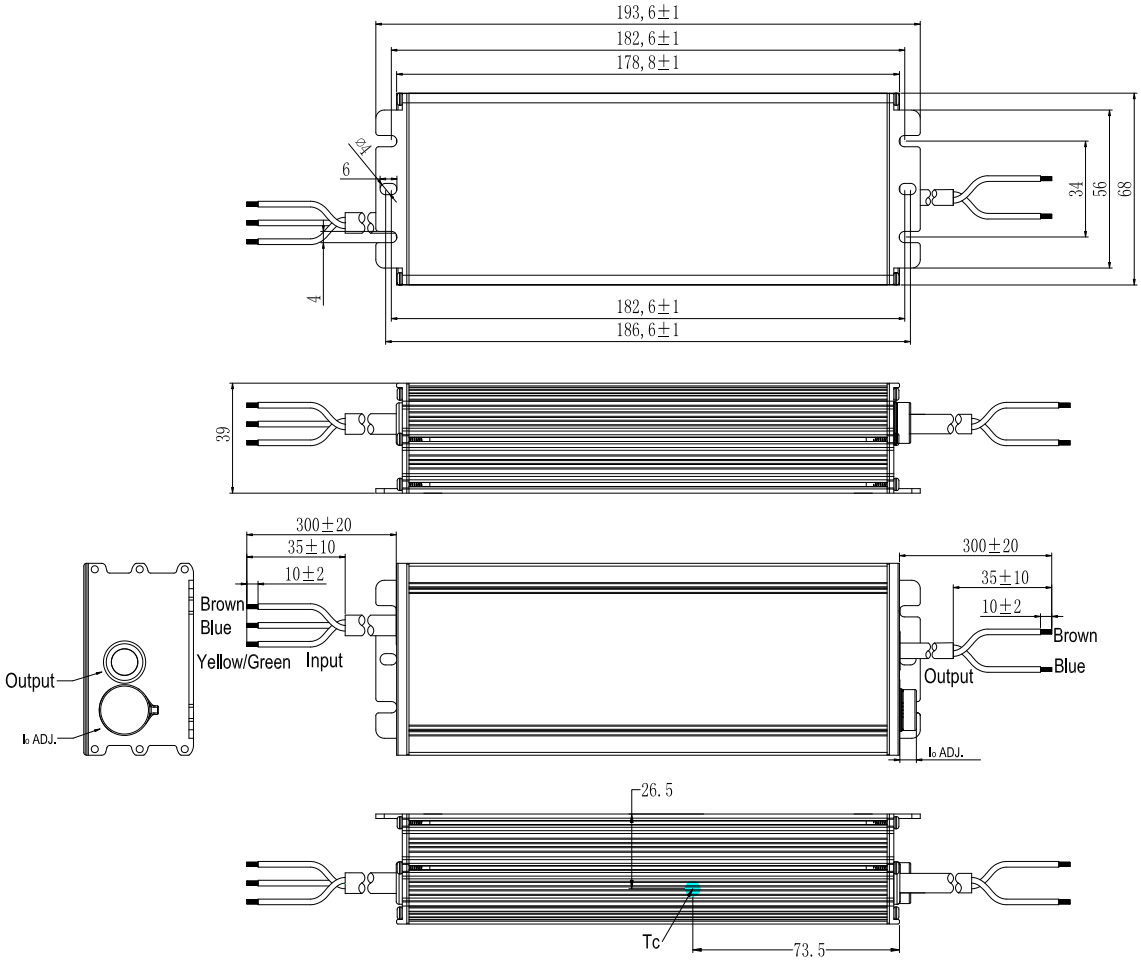


MECHANICAL OUTLINE

X6-200M types



X6-200V types



Wire	Specification	Note
Input	SJOW 17AWG*3 external diameter: 8.3mm L=300±10mm; L=300±10mm;peel length 35mm, Tin-dip length 10mm	for CCC/CE/UL
Output	SJOW 17AWG*2 external diameter: 7.7mm L=300±10mm; L=300±10mm;peel length 35mm, Tin-dip length 10mm	for CCC/CE/UL
Dimming	UL2733 22AWG*2C external diameter: 5.45mm L=350±10mm; L=300±10mm,peel length 35mm, Tin-dip length 10mm	

REVISION HISTORY

Version	Description of Change		Date	Notes
	Before	Now		
A.1	—	Datasheets Release	2020-01-22	