Product Features

- Universal input Voltage / Full range: 90~305VAC
- Constant power design, output current programmable
- M type off-line programmable, V type output current adjustable by built-in potentiometer
- 3 in 1 dimmable: 0-10V / PWM / Timmer dimming. Dim-to-off function
- 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

GX6 LED drivers are daveloped for proffesional exterior lightings, with premium quality and advanced functionalities. The GX6-150 model is a 150W offline programmable LED driver for outdoor LED lightings, which operates in constant current mode, with high efficiency, PF value and 90-305VAC universal input voltage. Monitored by dimming cable with a USB programming device, the fully programmed driver offers all dimming, smart control, constant lumen output functionalities and a wide range of output current in one single driver. The unique design delivers maximum flexibilitie with customized operating settings and inteligent control options for lighting manufacturers as one driver cna be used for many different luminaire designs. GX6 provides built-in timer dimming schedules, to further increase 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 enable the driver to operate with high reliability and extending product lifetime. Overall protection is provided against the lighting surge, output overvoltage, short circuit and over temperaturę to ensure extremely low failure rate.

MODELS

Model Number	Max. Output Power (W)	Output Voltage Range (Vdc)	Full Power Voltage Adjustable Range (V)	Full Power Current Adjustable Range (A) [2]	Default Output Current Setting (A)	Typical Efficiency [3]	Power Factor
							230VAC
GX6-150X041	150	20 – 41	28 – 41	3.66 – 5.40	4.20	91%	0.96
GX6-150X062	150	38 – 62	42 – 62	2.42 – 3.60	3.15	91%	0.96
GX6-150X108	150	54 – 108	71 – 108	1.40 – 2.10	2.10	92%	0.96
GX6-150X143	150	80 – 143	100 – 143	1.05 – 1.5	1.05	92%	0.96
GX6-150X214	150	107 – 214	143 – 214	0.70 – 1.05	0.70	92%	0.96

Notes:

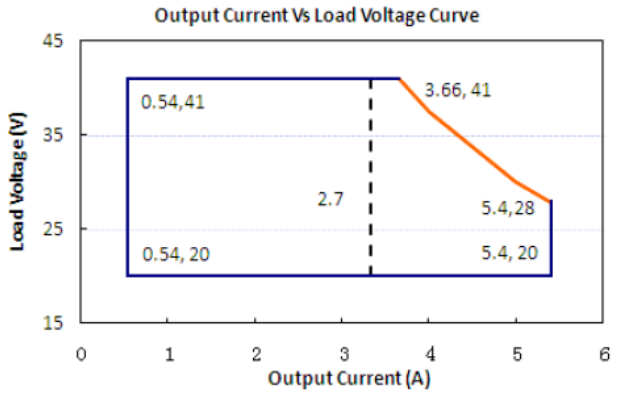
[1] X can be M or V, X = M means dimmable and offline programmable. The adjustable Iout range: 10-100%, X = V means non-dimmable and output current adjusted by built-in potentiometer.

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

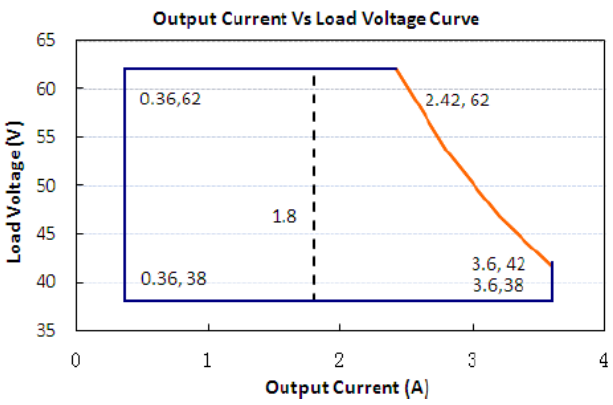
[3]. All specifications are measured at 25℃ ambient temperature, input voltage 230Vac, and the typical value tested by full load, if no specific note.

OPERATING AREA I-V

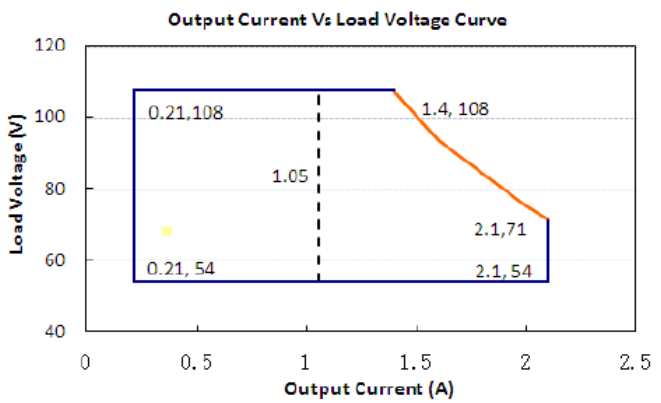
GX6-150X041



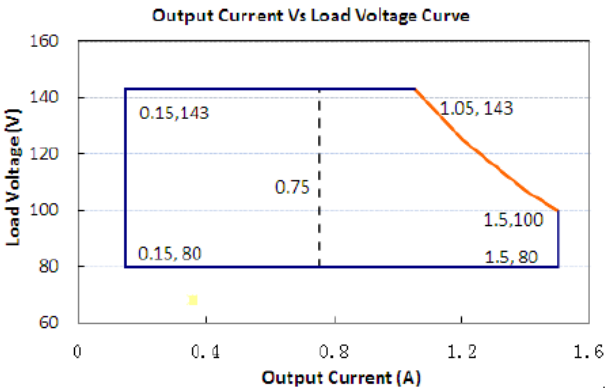
GX6-150X062



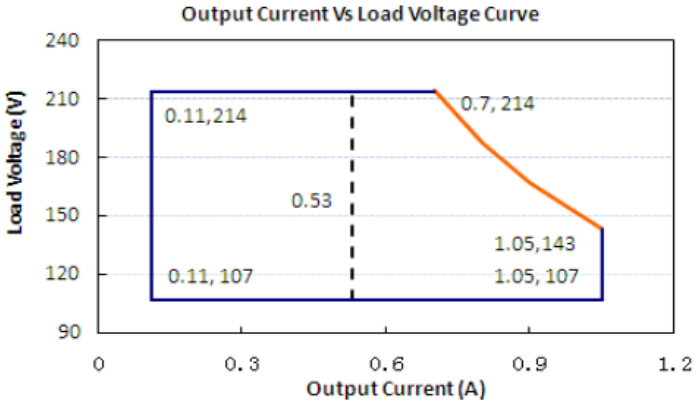
GX6-150X108



GX6-150X143



GX6-150X214



Notes: X = V is suitable for the right area of the dotted line; X = 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	-	-	2.0A	100-277VAC & full load
Inrush Current	-	-	75A	230VAC & full load
Standby Power Consumption			2W	
Power Factor	0.97	0.99	-	115VAC, 50-60Hz, full load
	0.95	0.97	-	230VAC, 50-60Hz, full load
	0.92	0.95	-	277VAC, 50-60Hz, full load
THD	-	5%	10%	100-240Vac, 50-60Hz, 70%-100% load
	-	-	10%	277Vac, 50-60Hz, 70%-100% load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5% Iset	-	5% Iset	
Output Current Tolerance (A)				The 'M type' adjustable Iout range: 10%-100% Imax,
GX6-150X041	2.70	-	5.40	
GX6-150X062	1.80	-	3.60	
GX6-150X108	1.05	-	2.10	
GX6-150X143	0.75	-	1.50	
GX6-150X214	0.52	-	1.05	
Output Current Setting Range				
Constant Power				
GX6-150X041	3.66	-	5.40	
GX6-150X062	2.42	-	3.60	
GX6-150X108	1.40	-	2.10	
GX6-150X143	1.05	-	1.50	
GX6-150X214	0.70	-	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%	100-277Vac & 100% Load, load is LED
No Load Output Voltage				
GX6-150X041	-	-	50	
GX6-150X062	-	-	75	
GX6-150X108	-	-	120	
GX6-150X143	-	-	160	
GX6-150X214	-	-	240	
Line Regulation	-1%	-	1%	25°C ± 10°C ambient temperature, input voltage changes from 100Vac to 277Vac
Load Regulation	-3%	-	3%	25°C ± 10°C ambient temperature, input voltage changes from 60% to 100%
Turn-on Delay Time	-	1S	2S	115Vac, 100% load
	-		0.5S	230Vac, 100% load

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency @ 115Vac				
GX6-150X041				
Io=3.66	86%	88%		
Io=5.40	86%	88%		
GX6-150X062				
Io=2.42	86%	88%		
Io=3.60	86%	88%		
GX6-150X108				Measured at full load and 25°C ambient temperature
Io=1.40	87%	89%		
Io=2.10	87%	89%		
GX6-150X143				
Io=1.05	89%	90%		
Io=1.50	89%	90%		
GX6-150X214				
Io=0.70	89%	90%		
Io=1.05	89%	90%		
Efficiency @ 230Vac				
GX6-150X041				
Io=3.66	88%	90%		
Io=5.40	88%	90%		
GX6-150X062				
Io=2.42	89%	91%		
Io=3.60	89%	91%		
GX6-150X108				Measured at full load and 25°C ambient temperature
Io=1.40	90%	92%		
Io=2.10	90%	92%		
GX6-150X143				
Io=1.05	90%	92%		
Io=1.50	90%	92%		
GX6-150X214				
Io=0.70	90%	92%		
Io=1.05	90%	92%		

Efficiency @ 230Vac GX6-150X041 Io=3.66 Io=5.40 GX6-150X062 Io=2.42 Io=3.60 GX6-150X108 Io=1.40 Io=2.10 GX6-150X143 Io=1.05 Io=1.50 GX6-150X214 Io=0.70 Io=1.05		 88% 88% 89% 89% 90% 90% 90.5% 90.5% 90.5% 90.5%	 90% 90% 91% 91% 92% 92% 92.5% 92.5% 92.5% 92.5%		Measured at full load and 25°C ambient temperature
Dielectric Strength	Input-Output	-	3750Vac	-	Max 5mA/60s
	Input-PE	-	1600Vac	-	
	Output-PE	-	1600Vac	-	
Grounding Resistance		-	-	0.1Ω	25A/60S, under 25°C ± 10°C ambient temperature
Insulation Resistance		50MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S/25°C/70%RH
MTBF		-	200000Hrs	-	25°C ± 10°C ambient temperature, 230Vac, 80% load (MIL-HDBK-217F)
Lifetime		-	50000Hrs	-	230Vac&100% load, 75°C case temperature, refer to lifetime curve for details
Ambient Temperature		-40°C	-	+60°C	230Vac & 100% load
Operating Case Temperature for Safety Tc_s		-40°C	-	+90°C	
Operating Case Temperature for Warranty Tc_s		-40°C	-	+75°C	5 year warranty case temperature Humidity: 10% to 95% RH
Storage Temperature		-40°C	-	+85°C	Humidity: 10% to 95% RH
Dimensions (LxWxH)mm		L173.6*W68*H37			
Net Weight		800±100g/PCS			
Package		L500mm*W370mm*H160mm 10PCS/Ctn, Gross Weight: 8kg			

DIMMING

Parameter		Min.	Typ.	Max.	Notes
0-10V Absolute Maximum Voltage on the Vdim (+) Pin		-	10V	-	
0-10V Source Current on Vdim (+) Pin		-	0.1mA	0.2mA	
Dimming Output Range	GX6-150M041 GX6-150M062 GX6-150M108 GX6-150M143 GX6-150M214	10%Imax	-	100%Imax	I_{max}=5.40A I_{max}=3.60A I_{max}=2.10A I_{max}=1.50A I_{max}=1.05A

	GX6-150M041 GX6-150M062 GX6-150M108 GX6-150M143 GX6-150M214	0.54 0.36 0.21 0.15 0.11	-	5.40 3.60 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		200Hz	-	2000Hz	
PWM_in Duty Cycle		1%	-	99%	

SAFETY 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	UL8750	√
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	√

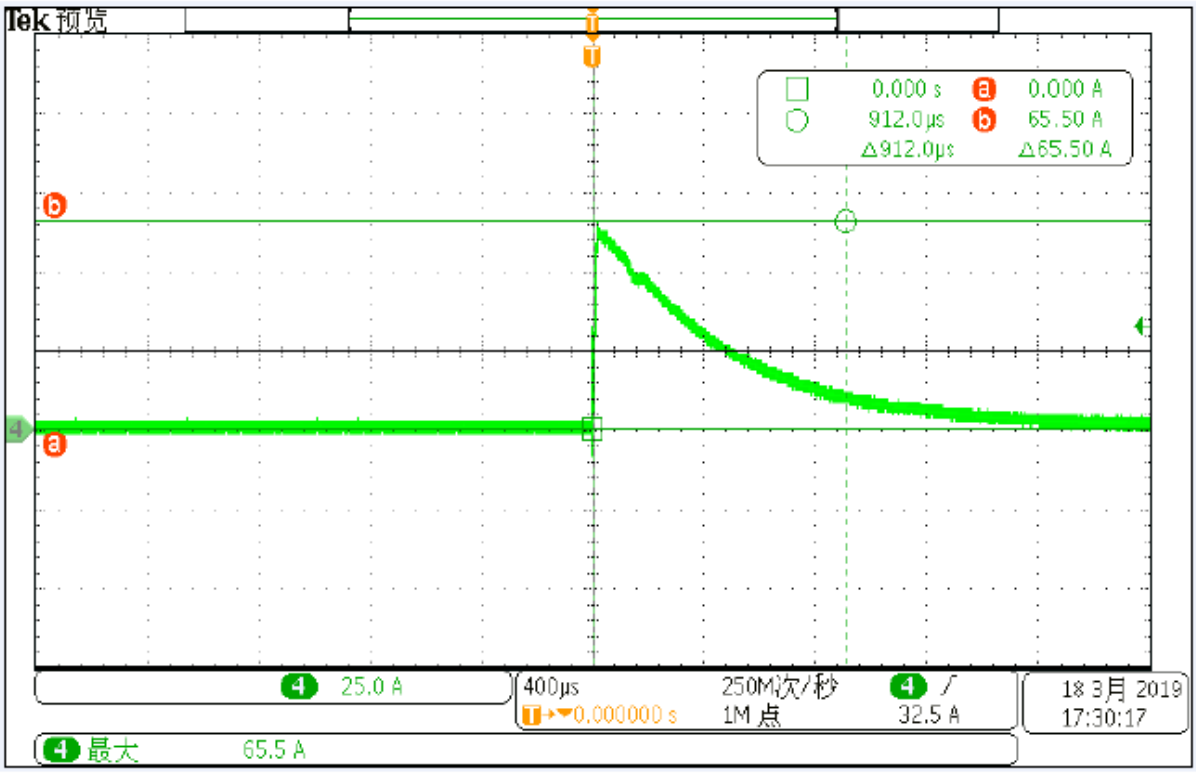
EMC COMPLIANCE

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	√
		EN 61000-4-2,3,4,5,6,11	√
		EN 61547	√
KC	South Korea	K61547	
		K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	

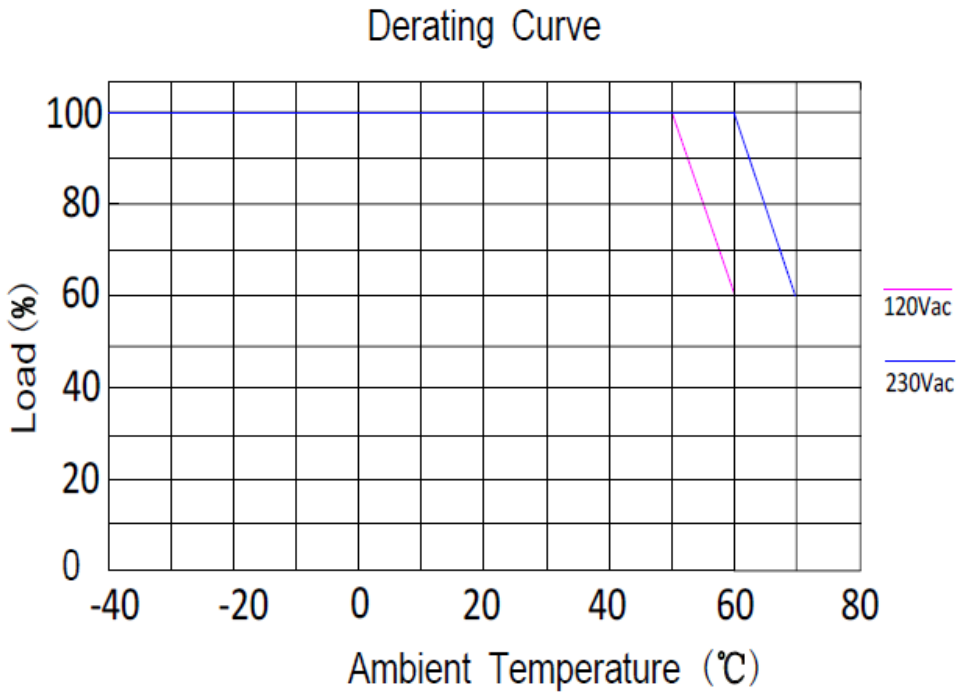
NOTE:

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

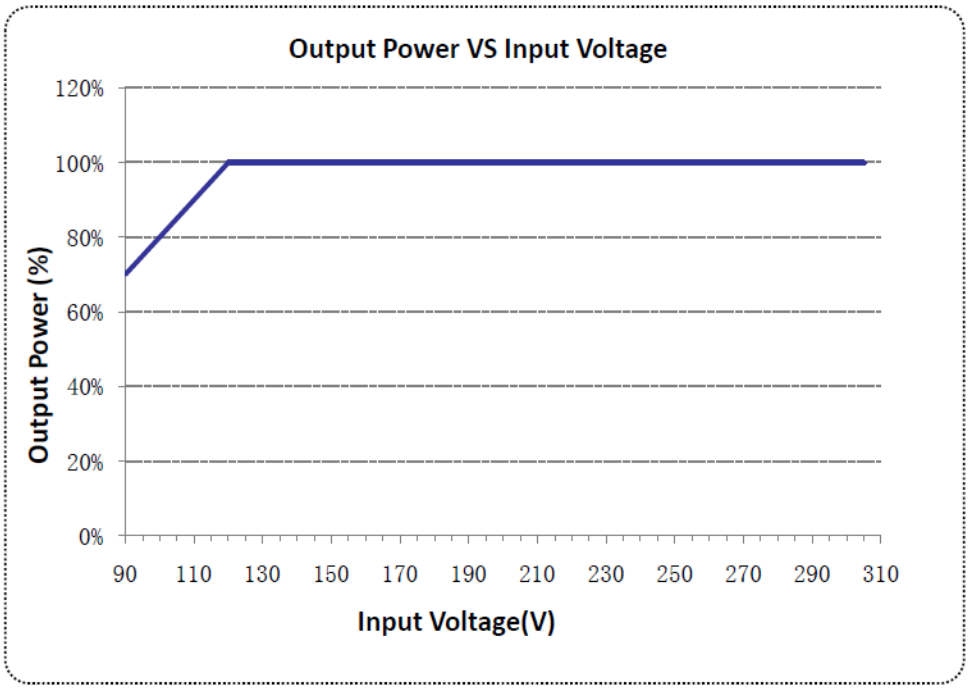
INRUSH CURRENT WAVEFORM



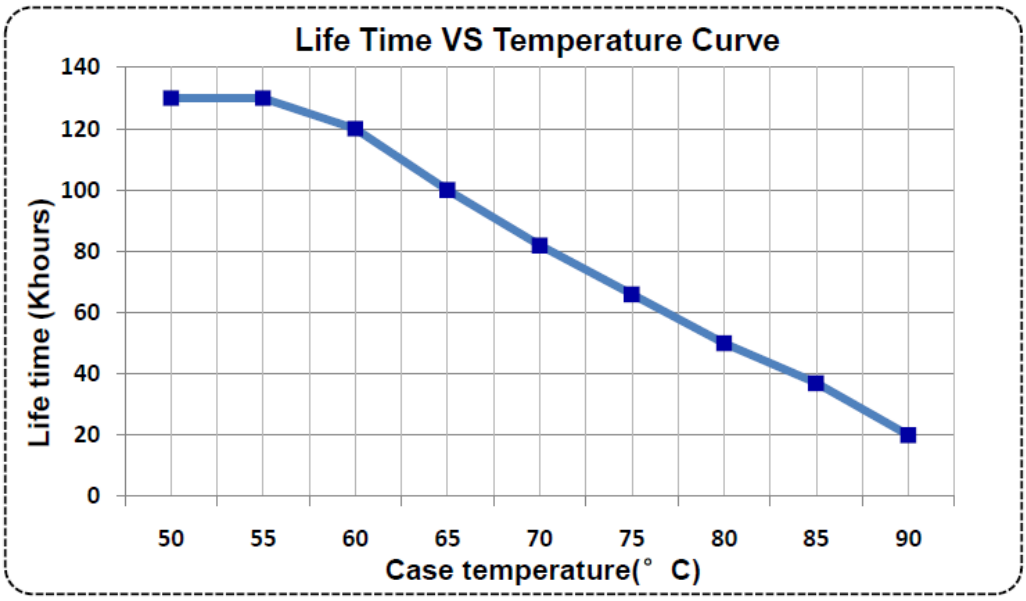
DERATING CURVE



OUTPUT POWER VS INPUT VOLTAGE

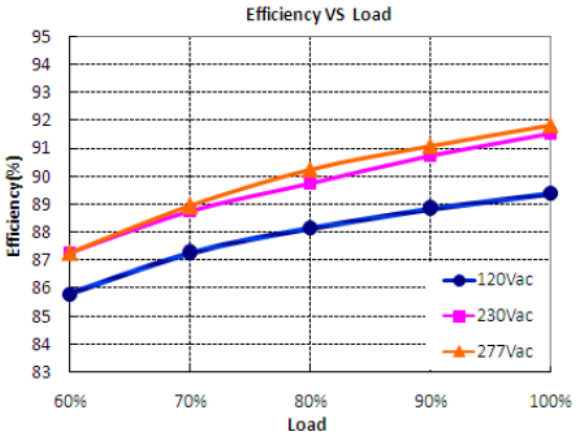


LIFETIME VS CASE TEMPERATURE

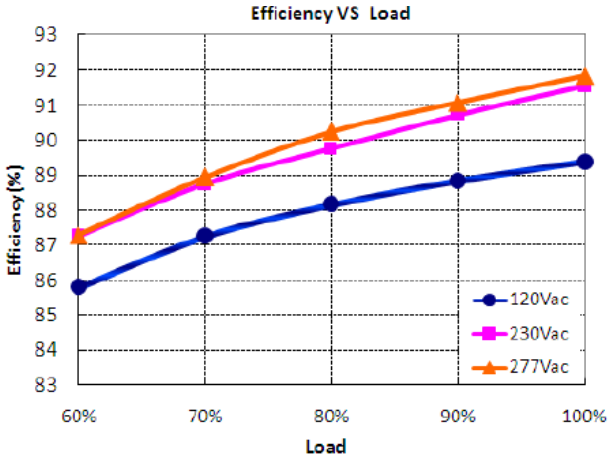


EFFICIENCY VS LOAD

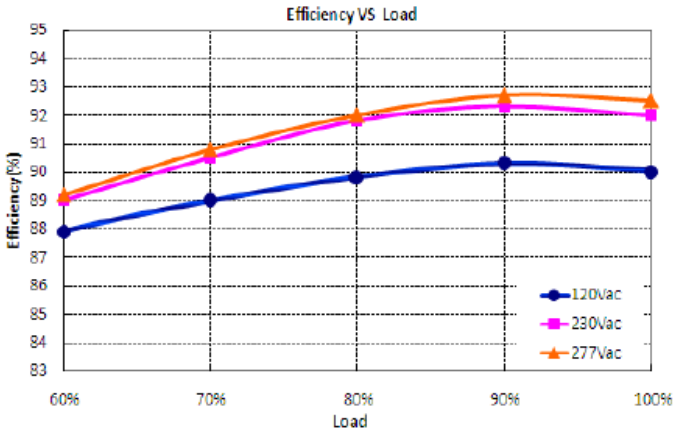
GX6-150X062 (Io=2.42A)



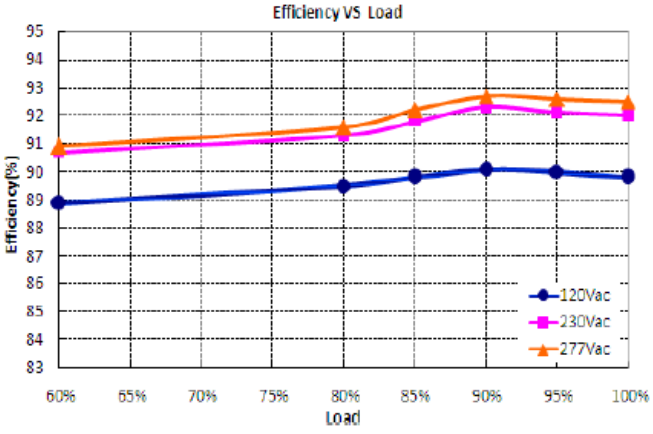
GX6-150X062 (Io=3.60A)



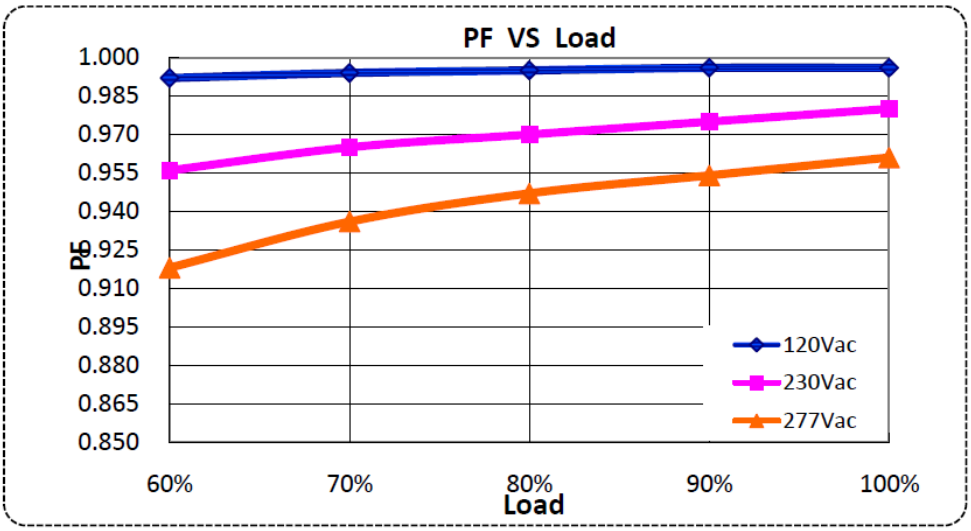
GX6-150X214 (Io=0.70A)



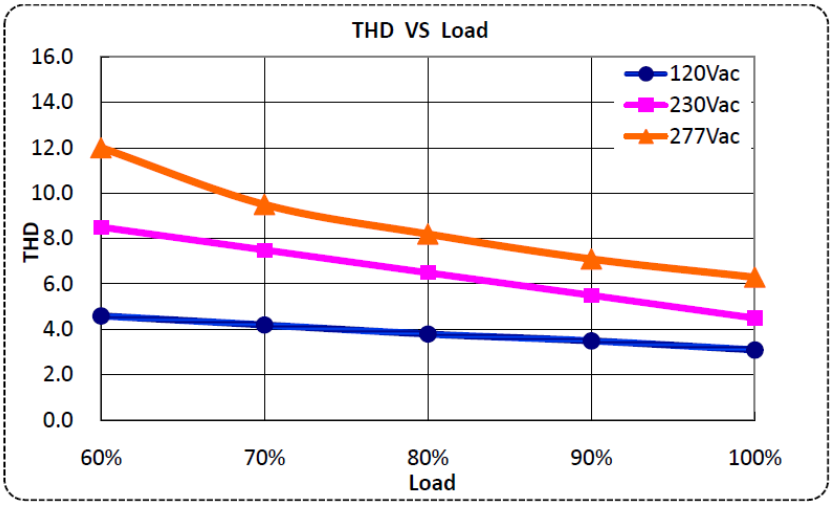
GX6-150X214 (Io=1.05A)



POWER FACTOR VS LOAD



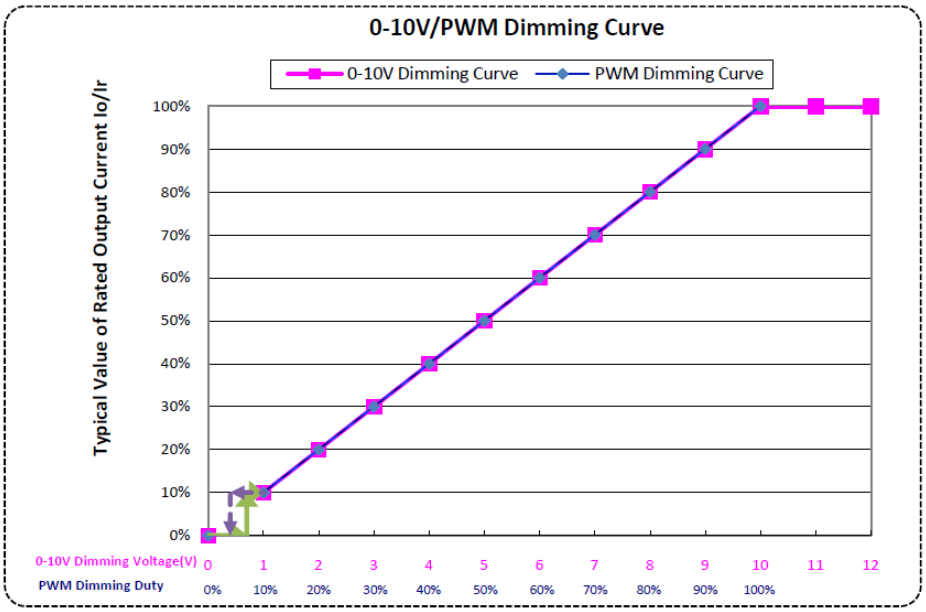
TOTAL HARMONIC DISTORTION



PROTECTIONS

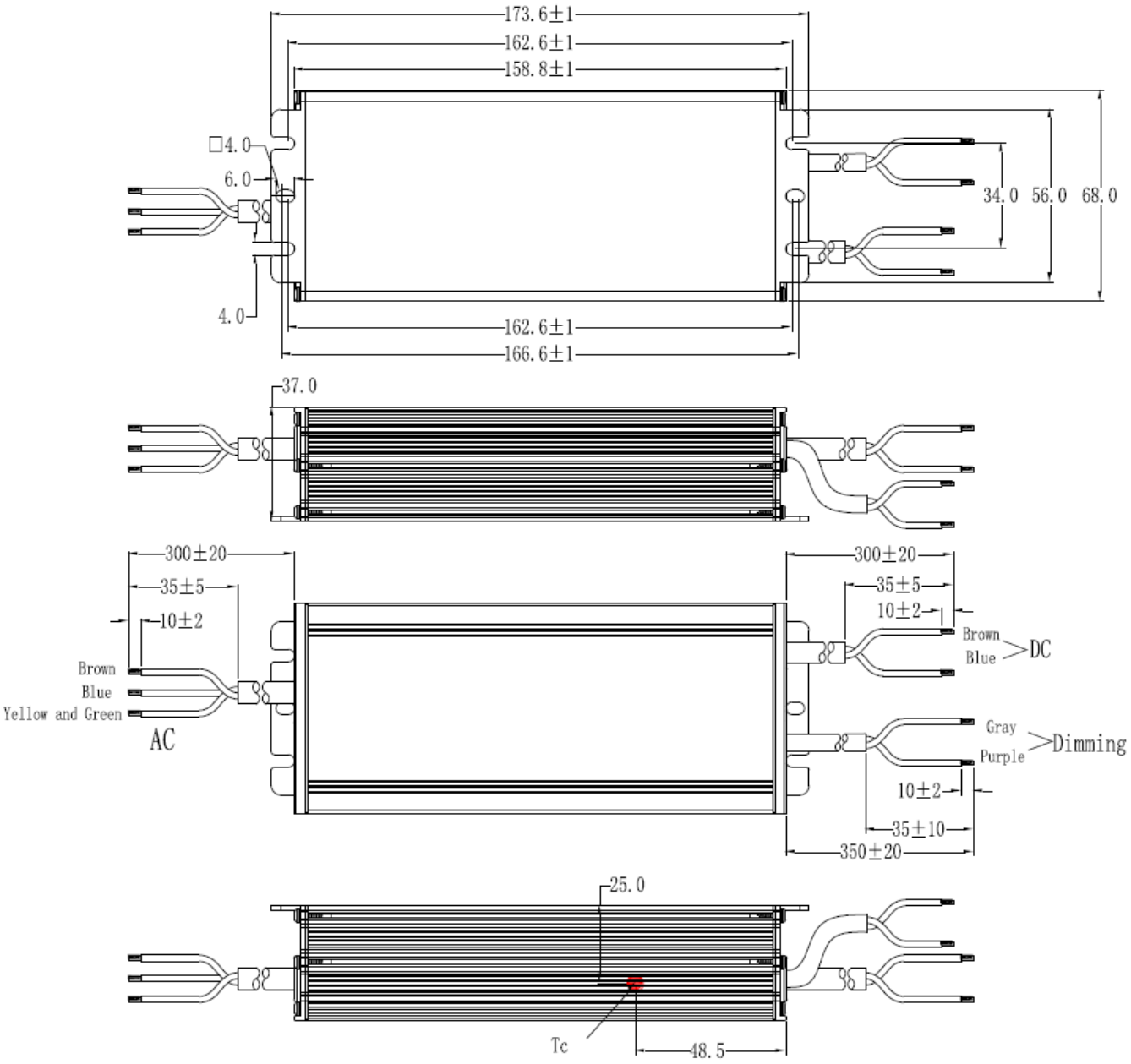
Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed. The max derating could be 30% (typ.)
Short Circuit Protection	Hiccup mode and auto recovery. No damage will occur when any output is short circuited. The output shall return to normal when fault condition is removed
Over Voltage Protection	Run into protection mode when output voltage exceeds limit and return to normal when the fault

0-10V/PWM DIMMING

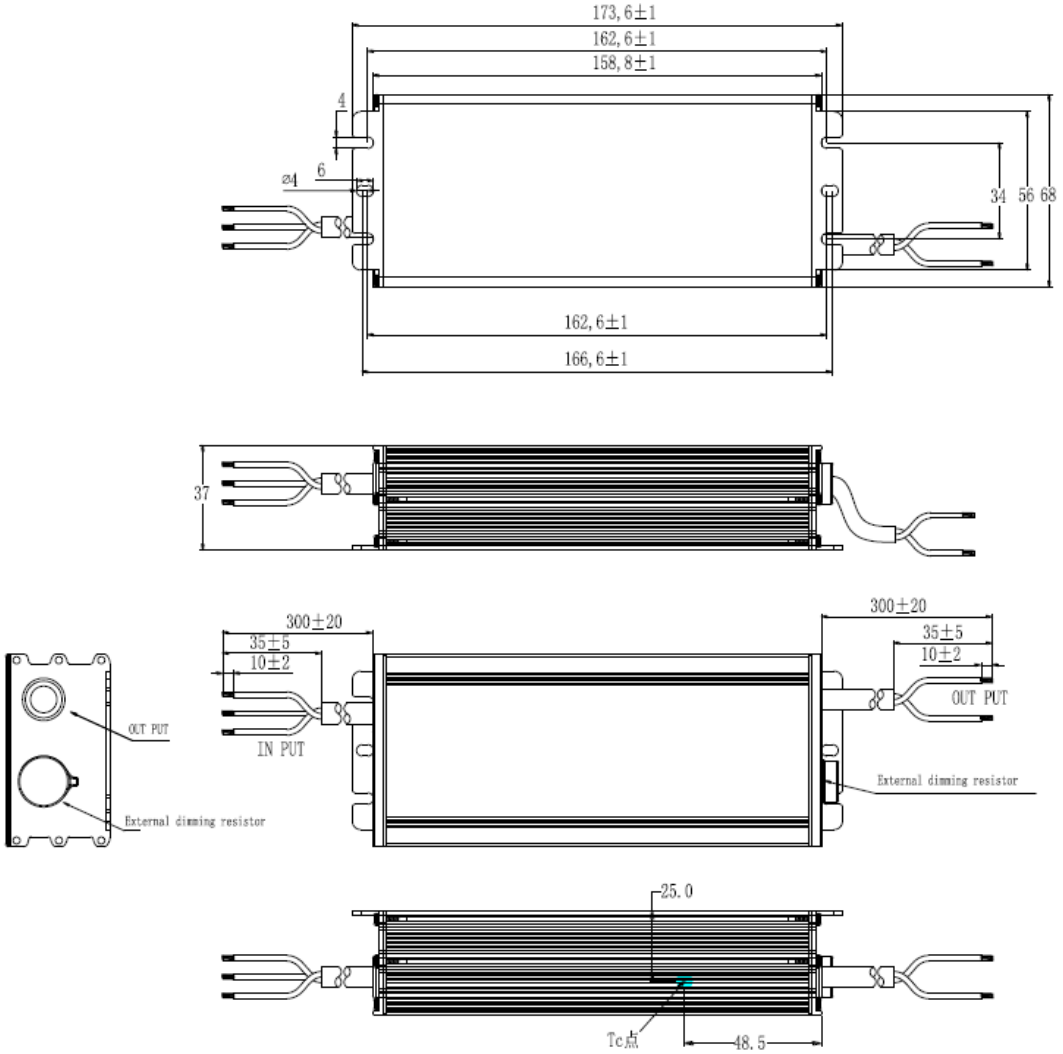


MECHANICAL OUTLINE

GX6-150M types



GX6-150V types



Wire	Specification	Note
Input	17AWG*3C SJOW, external diameter: 8.3mm, L=300 ± 20mm, peel length: 35mm, Tin-dip length: 10mm	for CCC/CE/ UL
Output	17AWG*2C SJOW, external diameter: 7.7mm, L=300 ± 20mm, peel length: 35mm, Tin-dip length: 10mm	for CCC/CE/ UL
Dimming	UL2733 22AWG*2C external diameter: 5.45mm, L=350 ± 10mm, peel length: 35mm, Tin-dip length: 10mm	X = M