



Product Feature:

- ◆ Input Voltage: 90~305Vac;
- ◆ Offline programming through dimming wire;
- ◆ 0-10V dimming;
- ◆ THD<10%;
- ◆ Surge protection: 4KV line-line, 6KV line-earth;
- ◆ Protection: Output OVP, SCP, OTP;
- ◆ IP67 design for indoor and outdoor applications;
- ◆ 5 years warranty.



Application

- ◆ LED street lighting, industrial lighting and landscape lighting.

DESCRIPTION

The PHC-060W is a 60W, constant-current, programming LED driver that operates from 90-305Vac input with excellent power factor and low THD. It is created for industrial lights, tunnel and street lights. The high efficiency of these drivers and compact metal case enable 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

Model Number	Max Output Power (W)	Output Voltage Range (Vdc)	Output current (A)	Default Output Setting	Typical Efficiency	Typical THD	Typical PF	
							120Vac	230Vac
PHC-060M036	60	20-36	0.167~1.67	36V/1.67A	85%	10%	0.98	0.97

Remark: All parameters not specially mentioned are measured at 230Vac input, full load and 25°C of ambient temperature.

INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90Vac	100-277Vac	305Vac	Please refer to the derating curve
Input Frequency	47Hz	50/60 Hz	63Hz	
Leakage Current	-	-	0.75mA	277Vac/50Hz
Input AC Current	-	-	0.80A	120-277Vac with full load
Inrush Current(I ² t)	-	-	0.1A ² S	230Vac input, Ta=25°C (cold start)
Power Factor	0.95	0.98	-	120Vac with full load
	0.95	0.97	-	230Vac with full load
	0.90	0.92	-	277Vac/50Hz, 36V/1.67A
THD	-	-	20%	120-277Vac with 80%-100% load
	-	10%	15%	120-230Vac with 80%-100% load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-10%	-	10%	100~305Vac & full load
Total Output Current Ripple(pk-pk)	-	-	10%	20MHz BW, full load & LED Load, ripple is different with difference LED load.
Startup Overshoot Current	-	-	10%	120~277Vac & full load, LED Load
No Load Output Voltage PHC-060M036			70V	
Line Regulation	-	-	±8%	25°C±10°C ambient temperature, input voltage changes from 120Vac to 277Vac.
Load Regulation	-	-	±8%	25°C±10°C ambient temperature, 230Vac input, load changes from 60% to 100%.
Turn-on Delay Time	-	-	3S	120Vac, 100% load
	-	0.5S	1S	230Vac, 100% load

GENERAL SPECIFICATIONS

Parameter		Min.	Typ.	Max.	Notes
Efficiency @120Vac PHC-060M036		81%	84%		Measured at full load and 25°C ambient temperature
Efficiency @230Vac PHC-060M036		82%	85%		Measured at full load and 25°C ambient temperature
Efficiency @277Vac PHC-060M036		82%	85%		Measured at full load and 25°C ambient temperature
Dielectric Strength	Input-Output	-	3750Vac	-	10mA/60S
	Input-PE	-	1600Vac	-	
	Output-PE	-	1600Vac	-	
Grounding Resistance		-	-	0.1Ω	25A/60S
Insulation Resistance		50MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S/25°C/70%RH
MTBF		-	200000Hours	-	230Vac,80% load (MIL-HDBK-217F)
Lifetime		-	50000Hours	-	230Vac&100% load,70°C case temperature, refer to lifetime VS Tc curve for details
Operating Case Temperature for Safety Tc_s		-40°C	-	+90°C	
Operating Case Temperature for Warranty Tc_w		-40°C	-	+75°C	5 Years Warranty Humidity: 10% to 95% RH
Storage Temperature		-40°C	-	+90°C	Humidity: 10% to 95% RH
Dimensions (L×W×H)mm		132*67*37mm			
Net Weight		600±50g/PCS			
Package		-			

Note: All specifications are tested by Cree XLamp XP-G2 and typical measured at 230Vac and 25°C unless otherwise stated.

SAFTY STANDARDS

Safety Category	Country / Territory	Standards
CCC	China	GB19510.1, GB19510.14
CE	China	EN61347-1, EN61347-2-13
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, K62384
PSE	Japan	J61347-1, J61347-2-13
SAA	Australia	AS/NZS IEC 61347-2-13
		AS/NZS 61347.1

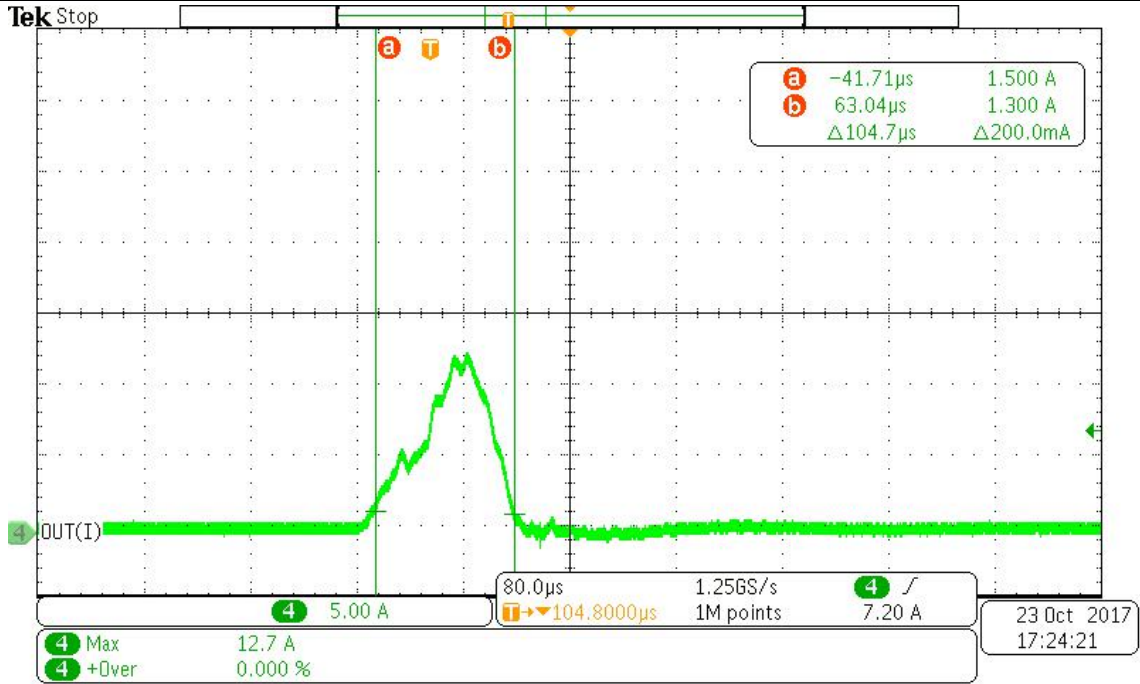
EMC COMPLIANCE

EMC Category	Country / Territory	Standards
CCC	China	GB 17743, GB 17625.1
CE	Europe	EN 55015, EN 61000-3-2, EN 61000-3-3
		EN61000-4-2,3,4,5,6,8,11
		EN 61547
KC	South Korea	K61547
		K00015
PSE	Japan	J55015
FCC	USA	FCC part 15

NOTE:

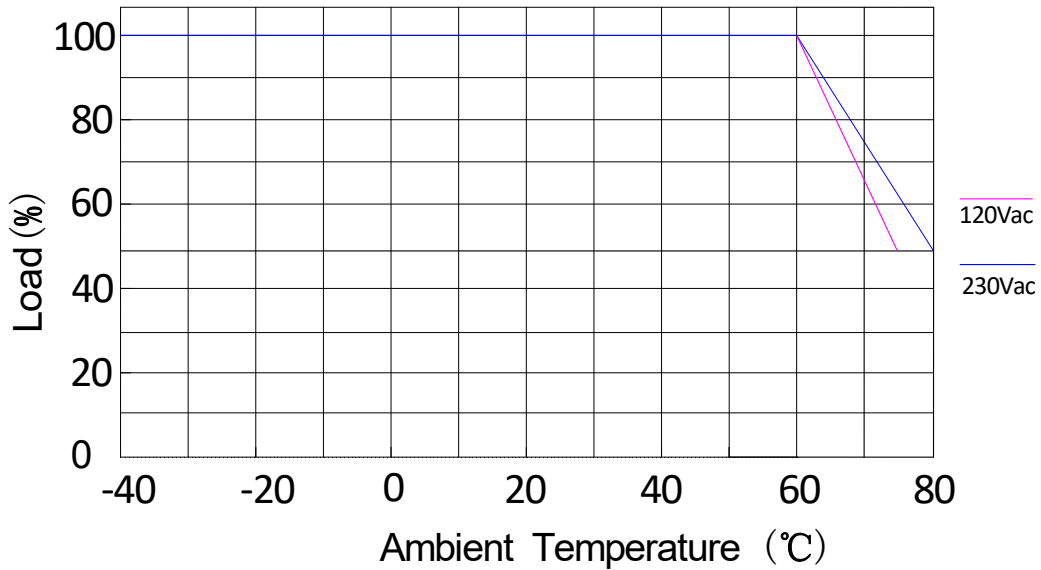
This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

INRUSH CURRENT WAVEFORM



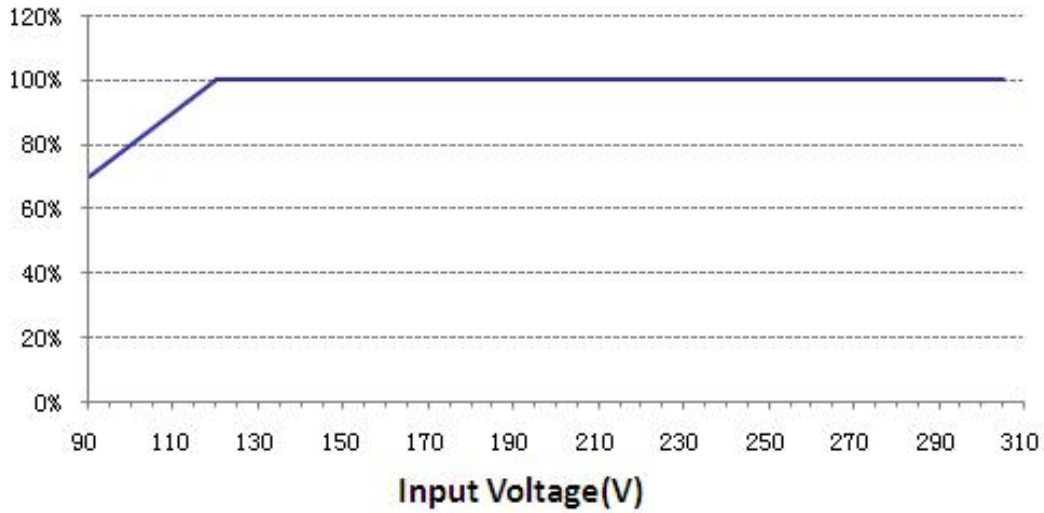
DERATING CURVE

Derating Curve



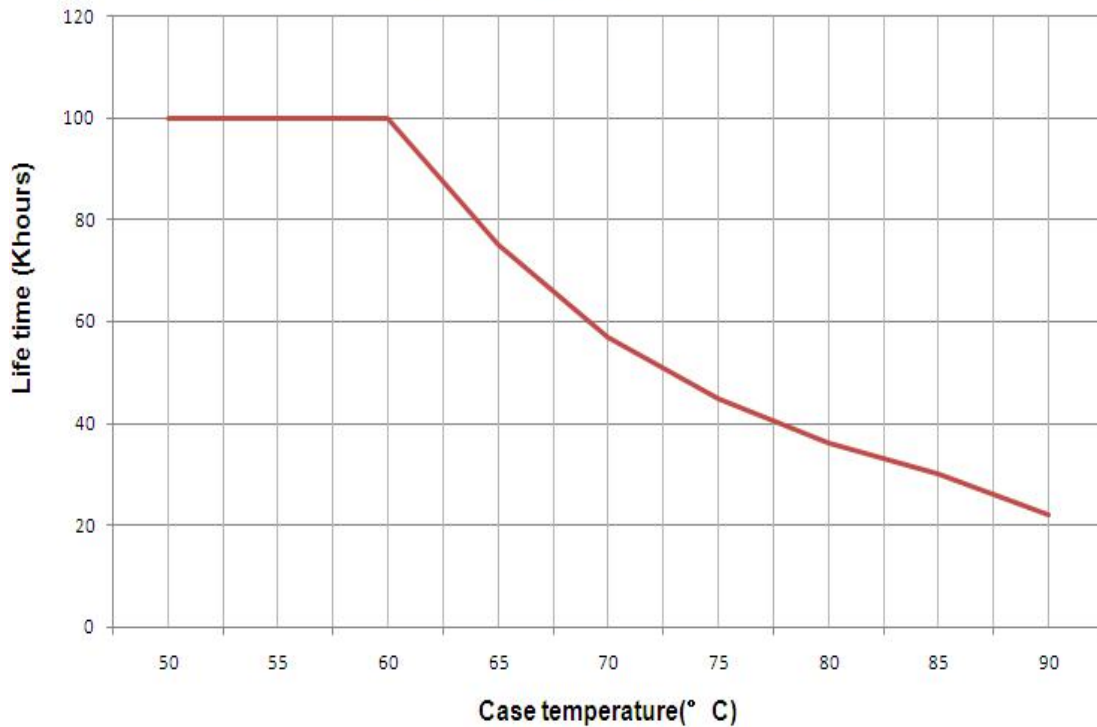
OUTPUT POWER VS INPUT VOLTAGE

Output Power VS Input Voltage



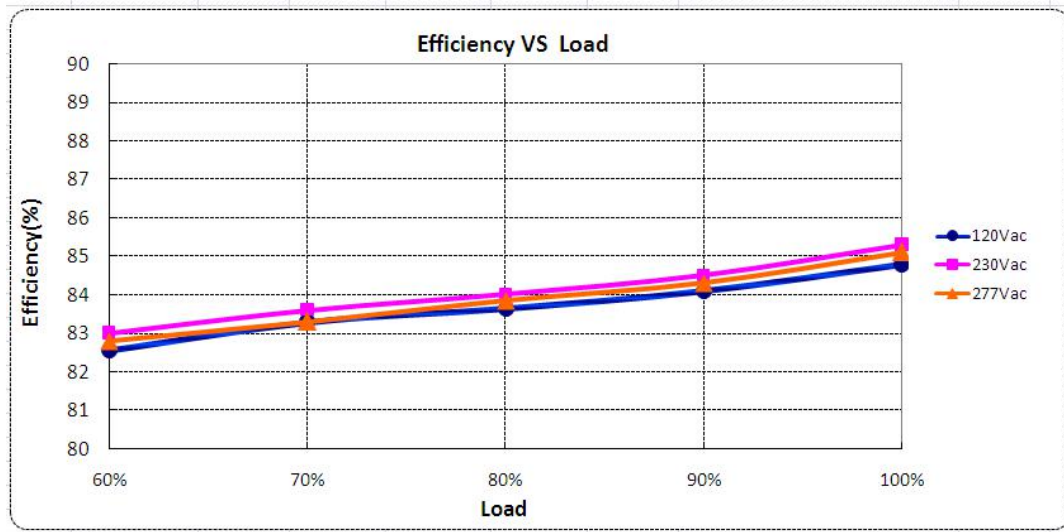
LIFETIME VS CASE TEMPERATURE

Life Time VS Temperature Curve

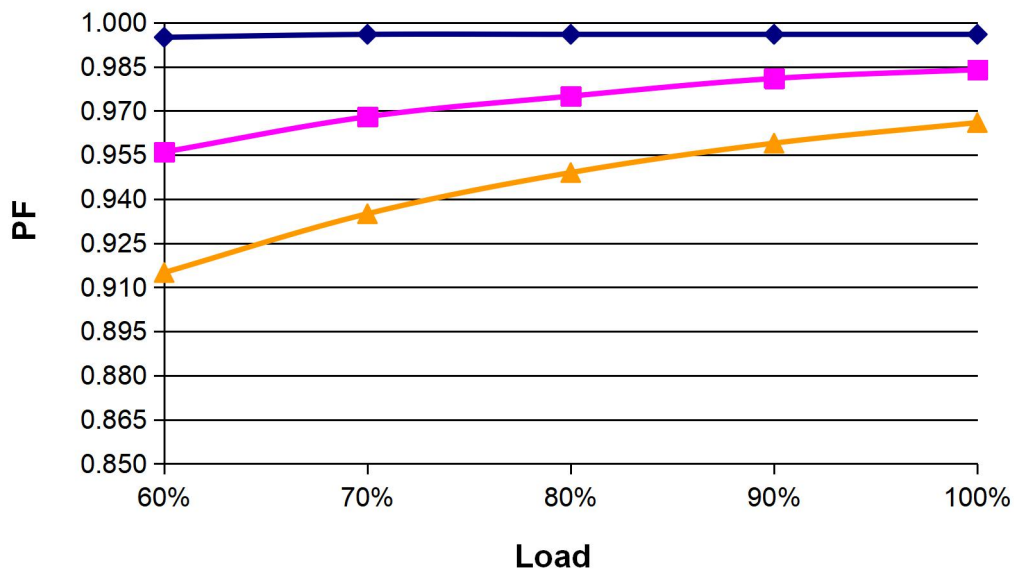


EFFICIENCY VS LOAD

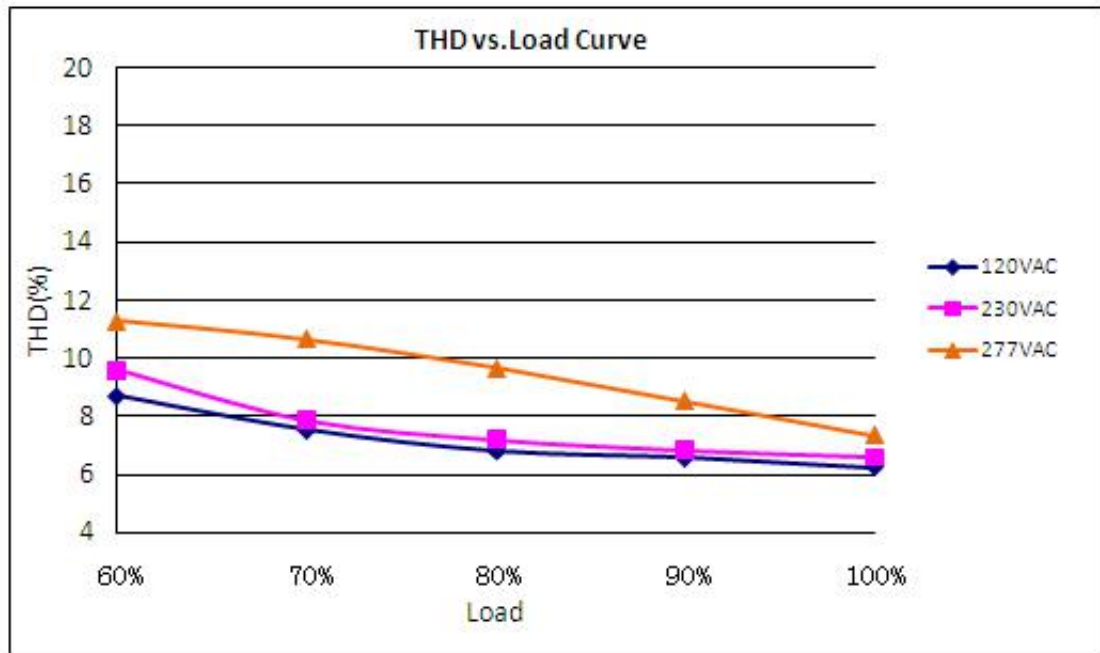
PHC-060M036 ($I_o=1.67mA$)



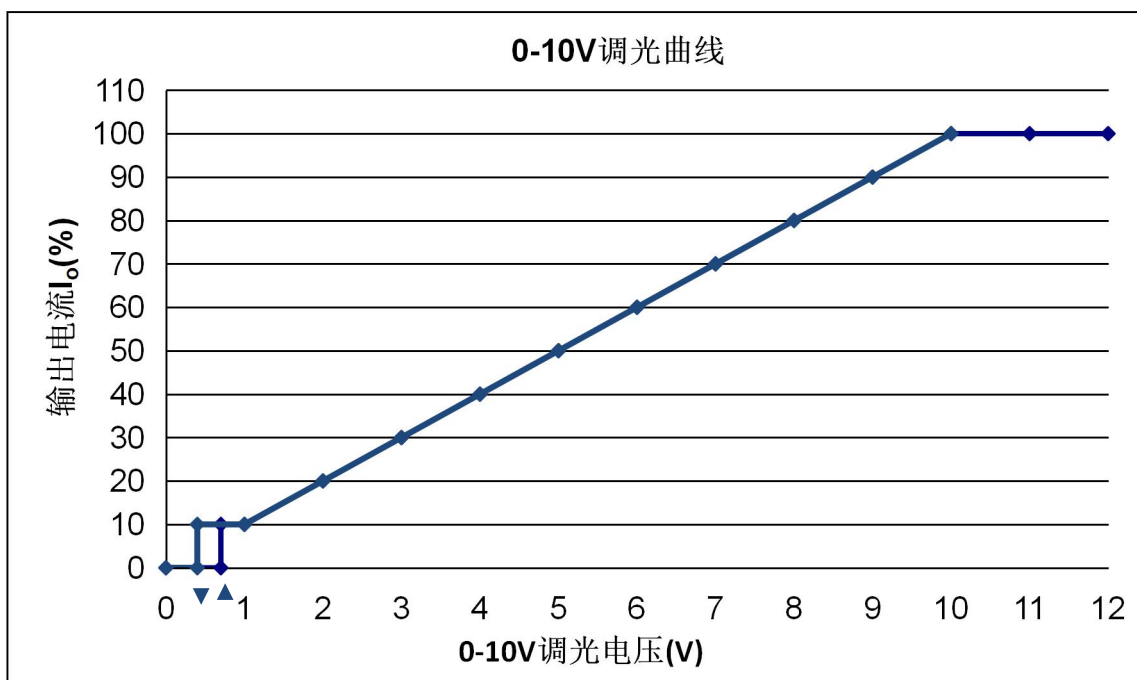
POWER FACTOR VS LOAD



TOTAL HARMONIC DISTORTION



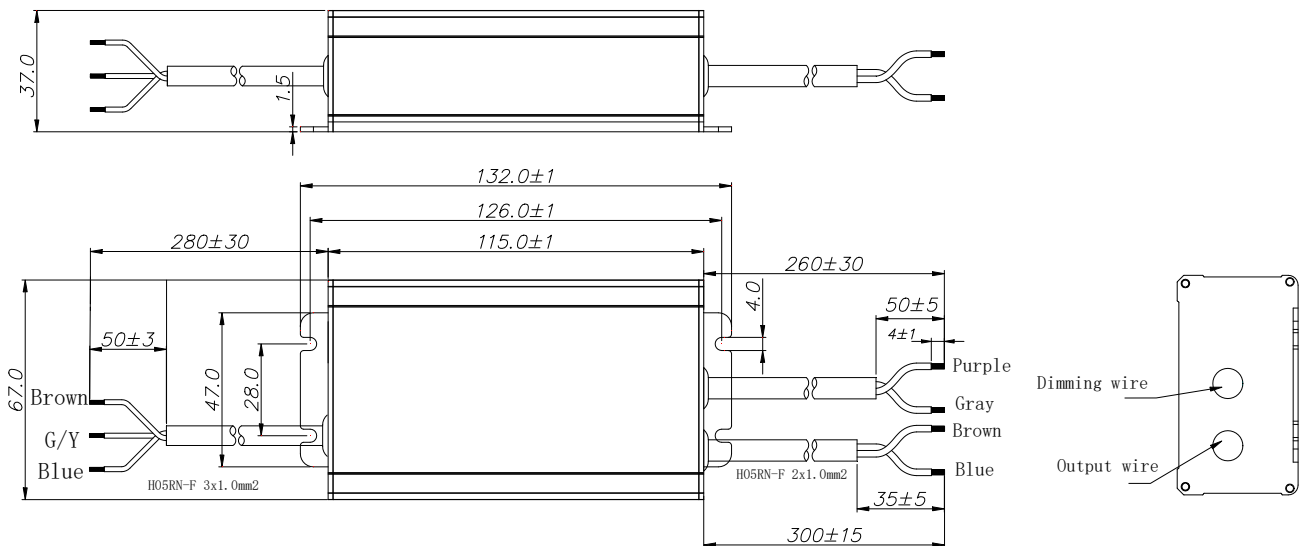
0-10V DIMMING CURVE



PROTECTIONS

Parameter	Min.	Typ.	Max.	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed.			
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 the fault condition is removed.			
Output Over Voltage Protection	Limits output voltage at no load and in case the normal voltage limit fail			

MECHANICAL OUTLINE



LABEL

48.00 mm

110.00 mm

Input

L Brown

G Y/G

N Blue

MOSO[®] PHC-060M036
Constant current type

U_{out}(No Load) : 70V⁼⁼

Input	100-277V ~50/60Hz, 0.80A Max.
Output	Output voltage:20-36V ⁼⁼ ; Irated:0.167-1.670A, Prated:60W Max.

SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD
No.1061, Songbai Road, Xili Town, Nanshan District, Shenzhen, CHINA.

CE **Output**

Control signal { Purple DIM⁺ +
(0-10Vdc,PWM) Gray DIM⁻ -

Dimming Range 10%-100%

t_c : 90°C Brown⁺ +
t_a : 55°C Blue⁻ -

MADE IN CHINA
For LED module only

Specification for Approval

Product Name: 60W LED driver
Product Model: PHC-060M036
Product Code: MS006821-V0
Rev. B.2

CUSTOMER AUTHORIZED SIGNATURE		
Tested By	Checked By	Approved By
(Company seal)Return one copy to MOSO with approved signature and company seal.		

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Prepared By	Checked By	Approved By