

**Product Feature:**

- ◆ Input Voltage: 90~305Vac;
- ◆ Offline programming through dimming wire;
- ◆ 0-10V , PWM dimming, dim-to-off;
- ◆ 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-060M062	60	30-62	0.097~0.97	30-62V/0.97A	86%	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 <sup>2</sup> t)	-	-	0.1A <sup>2</sup> S	230Vac input, Ta=25°C (cold start)
Power Factor	0.95	0.98	-	120Vac with full load
	0.94	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	-8%	-	8%	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-060M062			100V	
Line Regulation	-	-	±5%	25°C±10°C ambient temperature, input voltage changes from 120Vac to 277Vac.
Load Regulation	-	-	±5%	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-060M062		83%	86%		Measured at full load and 25°C ambient temperature
Efficiency @230Vac PHC-060M062		83%	86%		Measured at full load and 25°C ambient temperature
Efficiency @277Vac PHC-060M062		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		L424×W354×H146mm			

**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

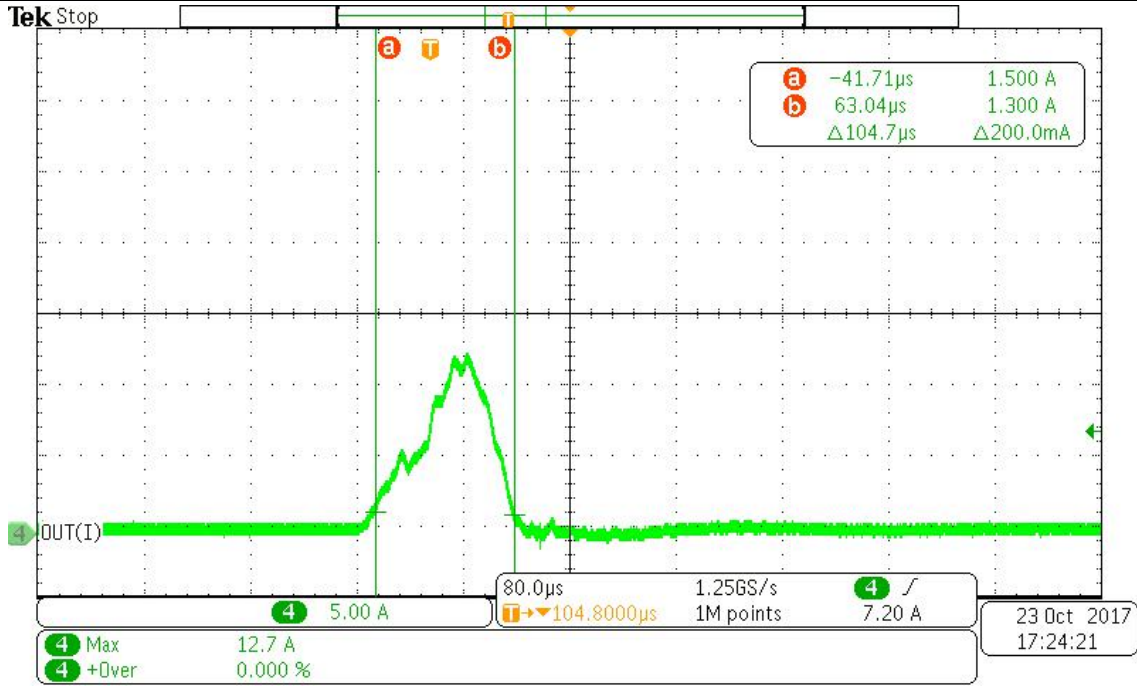
**EMC COMPLIANCE**

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:**

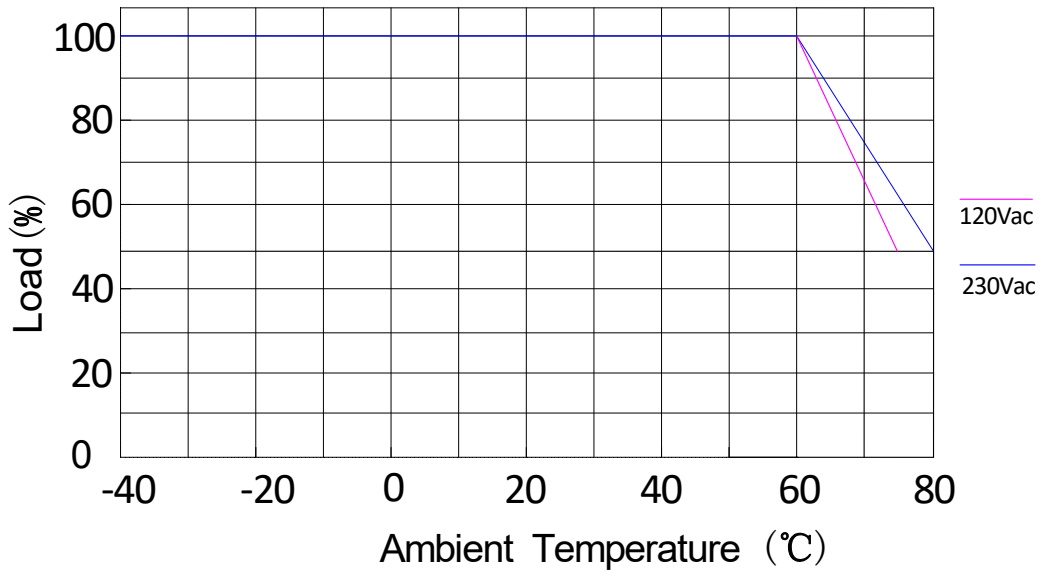
This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

**INRUSH CURRENT WAVEFORM**



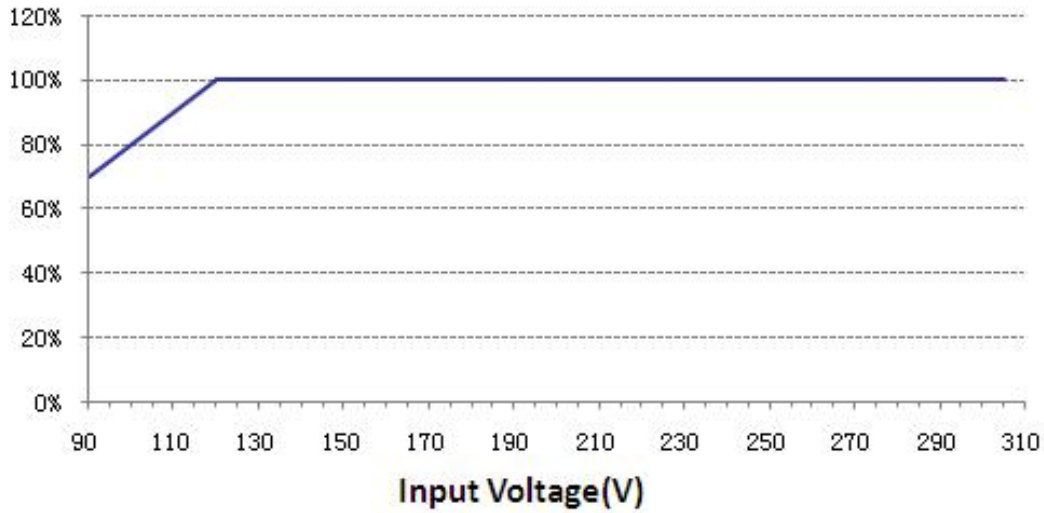
### DERATING CURVE

Derating Curve

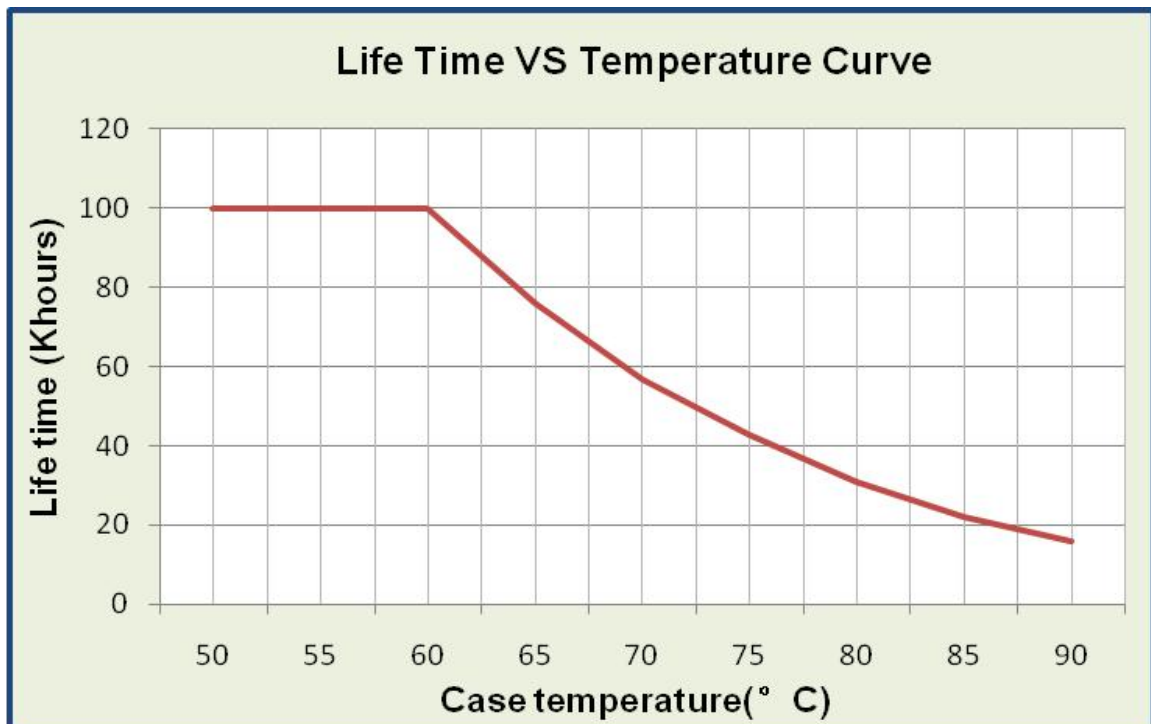


### OUTPUT POWER VS INPUT VOLTAGE

### Output Power VS Input Voltage

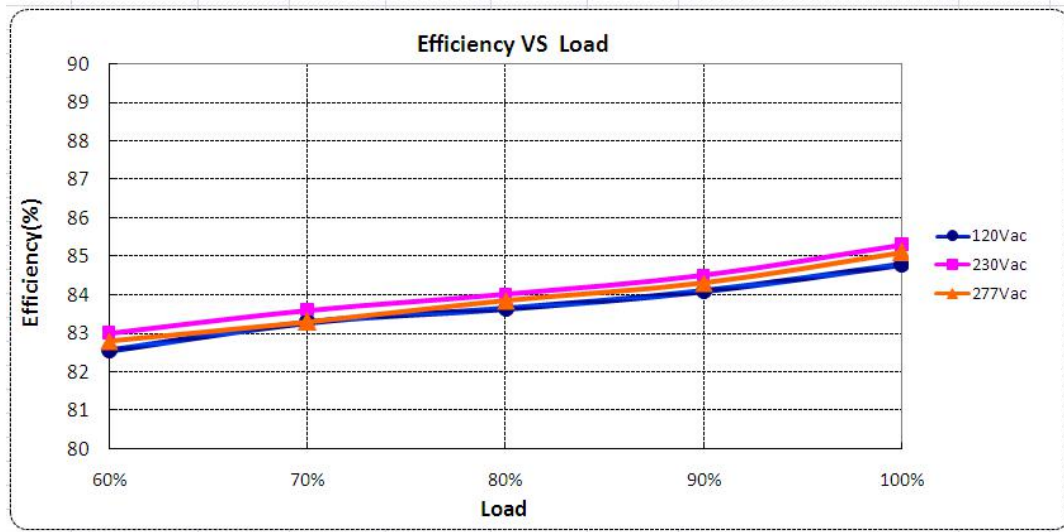


### LIFETIME VS CASE TEMPERATURE

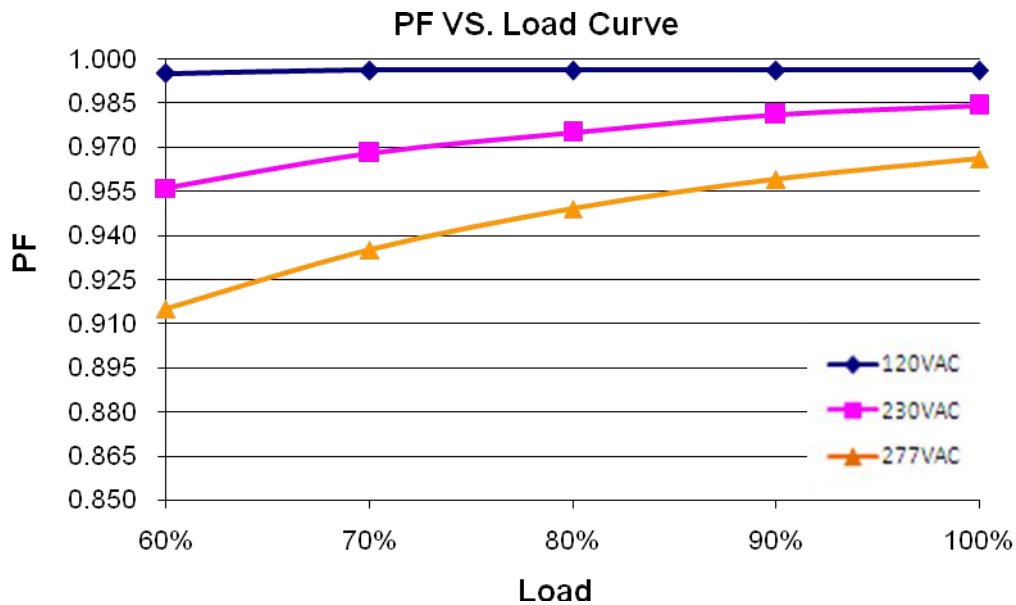


### EFFICIENCY VS LOAD

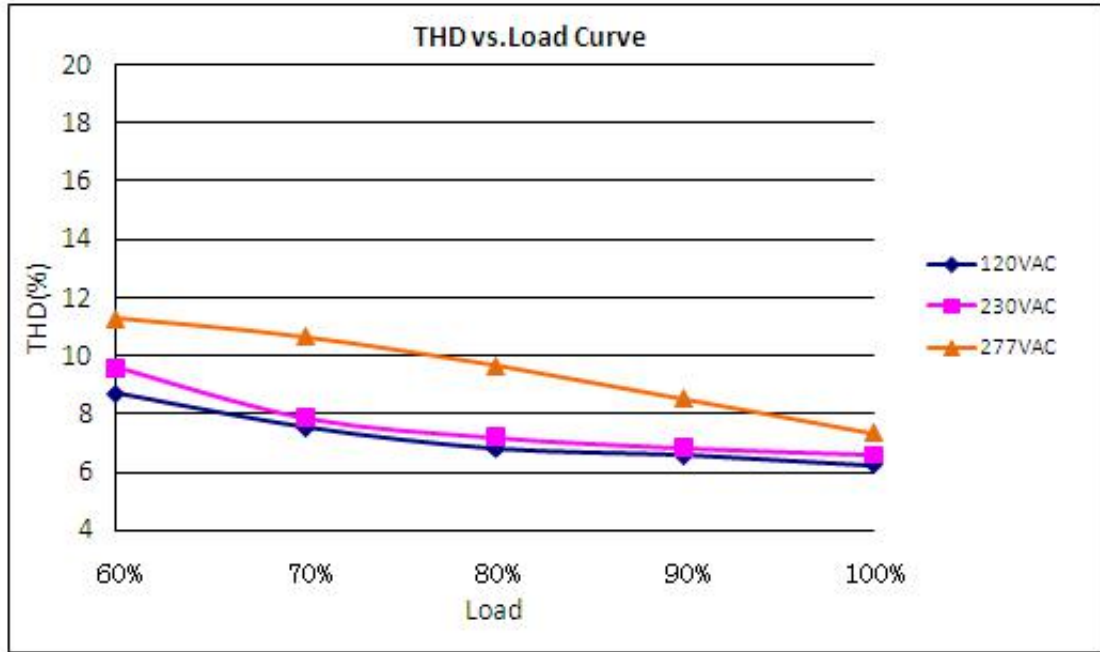
PHC-060M036 ( $I_o=1.67mA$ )



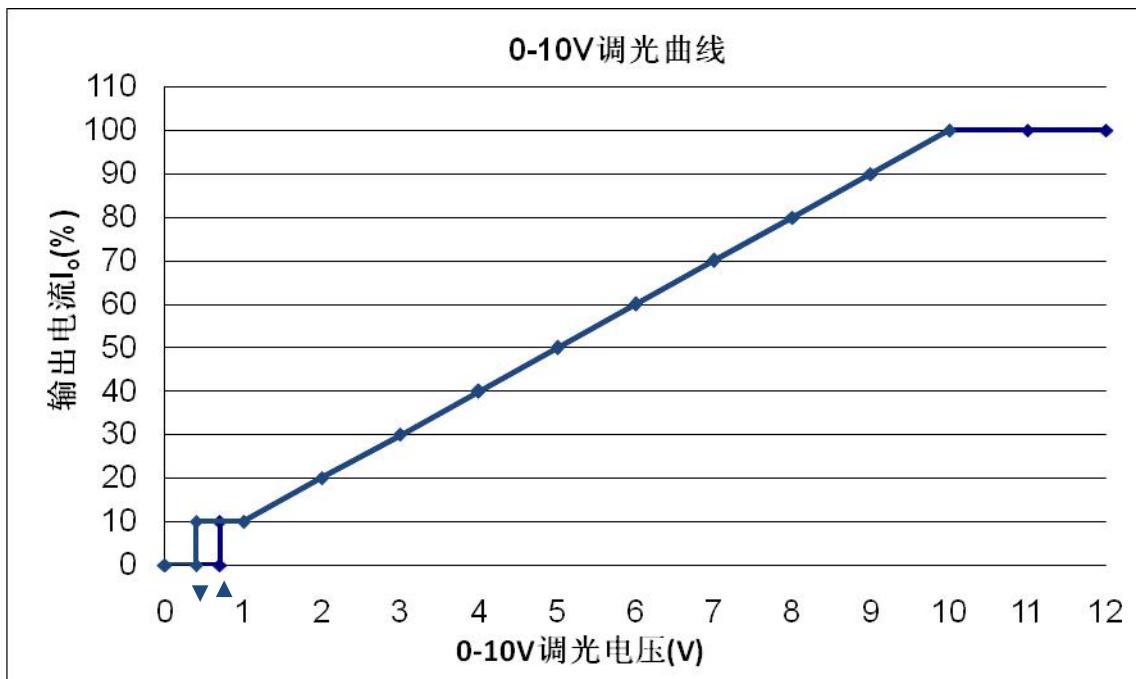
### POWER FACTOR VS LOAD



### TOTAL HARMONIC DISTORTION



### 0-10V DIMMING CURVE

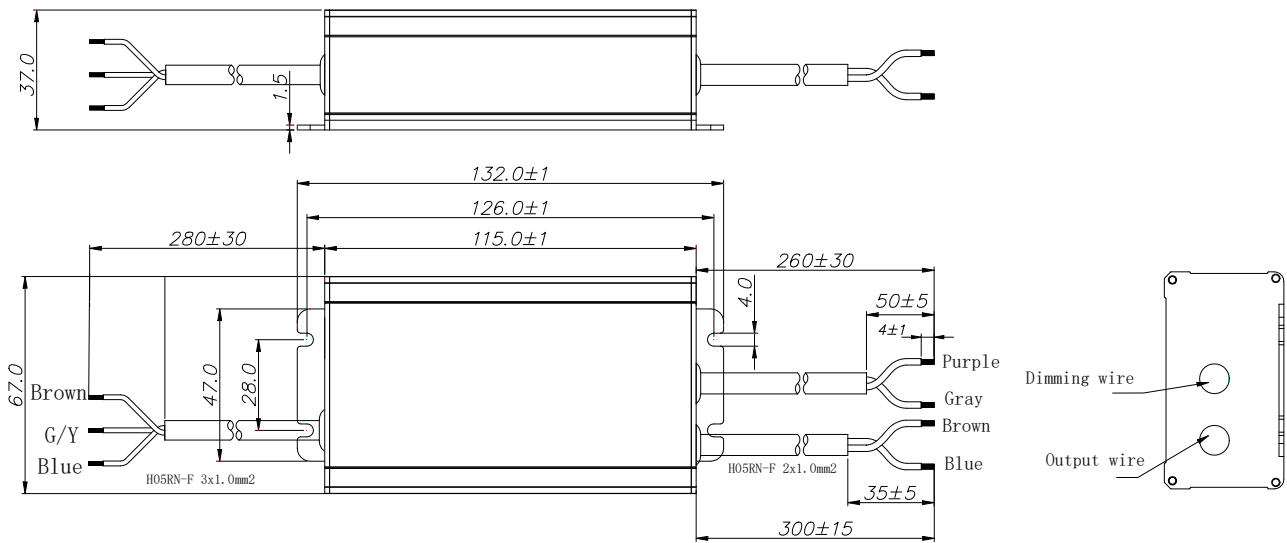


### PROTECTIONS

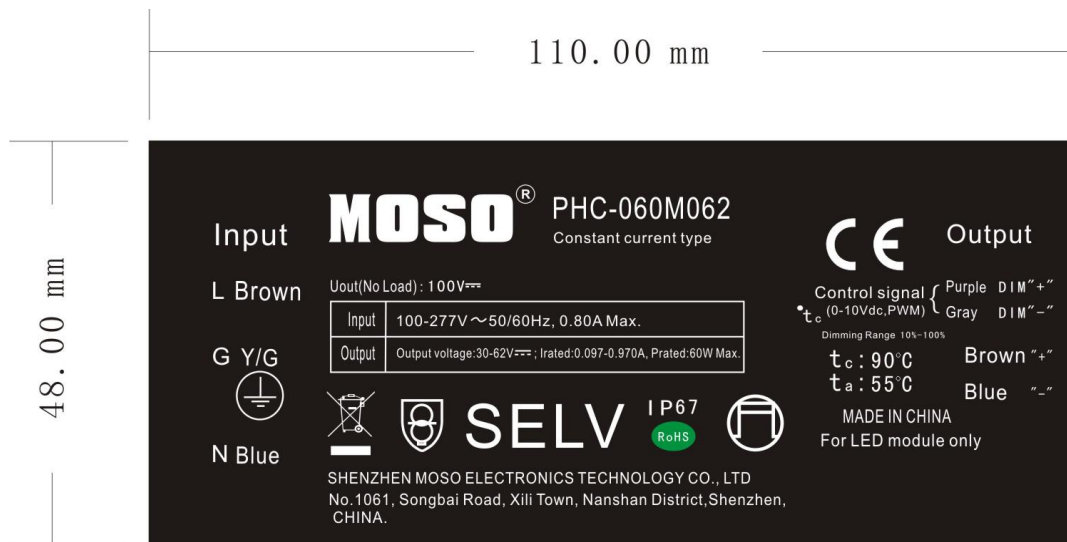


Parameter	Min.	Typ.	Max.	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed.			
Short Circuit Protection	Hiccup mode and auto recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.			
Output Over Voltage Protection	Limits output voltage at no load and in case the normal voltage limit fail			

### MECHANICAL OUTLINE



### LABEL



### REVISION HISTORY



