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深圳市华浩德电子有限公司

Shenzhen Fahold Electronics Co.,Ltd.

SPECIFICATION

R3-080Y Series Waterproof Power Supply

Product Name:R3-080Y-260ZQ

Summarize: 80W LED Driver

Version: A0

Release date: 2024-09-24

Add.:Floor 2,4,5, 6 Building C, Starlight Industrial Park, NO. 4, Shihuan Road,Shilong Community, Shiyan Town, Bao'an District, Shenzhen, China.

Customer ID: F8888

Customer Model:

Products Code: R3-080Y-260ZQ

Sample Model:

Version: A0

SIGNATURE AND SEAL BY US		
Date:	**2024/09/24**	
Prepared By	**Checked By**	**Approved By**
Mintu He	Zhenguang Wu	Allen Jiang

Please sign back within 7 days after confirmation. If you do not sign back, it will be regarded as your company's default acceptance. In the event of abnormal quality, it will be implemented according to this product specification.

CUSTOMER APPROVED SIGNATURE

Customer Model No:		
Date:		
ENG	**QA**	**OTHER**

FEATURES

- Constant Current design, Current programmable;
- 3 in 1 dimming: 0(1)-10V dimming, PWM, RX;
- Time controlled dimming,up to 7 segments of 12 hour time controlled dimming;
- Dim-to-Off;
- Surge protection: DM: 6KV, CM: 6KV;
- Multi-Protections: SCP/OTP/OLP;
- 12V/200mA auxiliary power optional;
- Dimming signal isolated from LED output;
- IP65;
- 5 years warranty.

E479229

INTRODUCTION

R3-080Y series is 80W current adjustable LED intelligent led driver, Constant current output. Its input voltage range is 108-305VAC, with high efficiency, high power factor, high surge protection and other performance indicators. This series of products have strong compatibility, the output parameters can be offline programmable. High power density and compact size design. Multiple protection designed which including surge protection, over voltage protection, short circuit protection and over temperature protection to ensure the barrier-free operation of this product.

can be used in LED street lights, tunnel lights, shoebox lights, industrial high bay lights, horticulture lights and landscape lighting applications.

KEY PARAMETERS

Model	Max. Power (W)	Working mode	V.out (Vdc)	I.out Adjustable range(A)[1]	I.out Full Power range(A)	Default Output (A/Vdc)	Typ. Efficiency[2]		Typ. PF	
							120Vac	230Vac	120Vac	230Vac
R3-080Y-260ZQ	80	C.C	180-260	0.2-0.4	0.29-0.4	0.32/240	93%	95%	0.99	0.93

NOTES:

[1] The working mode of constant current output can be set by the off-line programme. For details, see the Programmer Operation Instructions. The default factory setting is constant current working mode.

[2]Unless specify noted, all performance parameters are typically measured at 25 ° c, 230Vac input, full load.

Mode code naming rules

R3- 080 Y-260 Z Q

- Blank:Non Aux;12:With Aux
- Additional functions: A or Blank
- Max.output voltage
- Dimming mode: B: with 0-10/PWM/RX dimming
  D:light control & 0-10V dimming
  External power adjustment(optional)
  N:without dimming
  V:without dimming&adjust current with potentiometer
- Output power
- Product series

TECHNICAL DATA

Input Characteristics	
Rated Input Voltage	120-277Vac
Input Voltage Range	108-305Vac
Input Frequency	50/60Hz
Input Current (Typ.)	1.0A@120-277Vac, 100% load
Standby Power	0.5W Max. @230Vac Dimming shutdown
Inrush Current	75A Max. @ 230Vac, 25℃ cold start
Power Factor	PF>0.98 @ 120Vac, PF>0.92 @ 277Vac,100% load
THD	≤20% @120-277Vac, 100% load
Output Characteristics	
Current Accuracy	± 5%
Efficiency	≥91% @120Vac & full load, ≥94% @230Vac & full load
Output Voltage	Refer to ''KEY PARAMETERS"
No Load Output Voltage R3-080Y-260ZQ	310Vdc Max.
Ripple Current	<5%@ full load
Line Regulation	3%
Load Regulation	3%
Turn-On Delay Time	0.5S Max. @ 277VAC / 1S Max. @120VAC
Timer Dimming	Maximum 7 periods can be set，10-100% dimming，see ''Timer dimming'' for detail.
Programmable Current Output Range	The range of nominal current can be adjusted by controller programming; The total output power exceeds the Max. power (actual output voltage * actual output current=power), which cannot be covered by the warranty.
12V auxiliary output voltage(optional)	11.4～13.5Vdc
Protective Function	
Output Over Voltage Protection	When the product exceeds the limit range, it enters the protected state. After the fault is removed, the product will resume working state.
Dimming Over Voltage Protection	When the dimming wires is wrongly connected to 230Vac, the product enters the protection state. When the fault is eliminated or the machine is restarted, the power supply returns to normal operation (optional function)
Open Circuit Protection	When the LED is open-circuited, the product will enter the protection state, such as burping or clamping at the highest output voltage state, and the product will not be damaged. When the fault is eliminated or the power is restarted, the power supply will return to normal operation.
Short Circuit Protection	When the output is short-circuited, the input power will be reduced accordingly. After the short-circuit condition is removed, the power supply will automatically return to normal.
Over Temperature Protection	Drop current mode. When the over temperature is removed, the current will automatically resume.

Environmental Conditions	
Operating Temperature	-40℃～+50℃(Ta)
Operating Case Temperature for Safety Tc	Max. +90℃ (Tc)
Humidity	10% - 90% RH, (not condensed)
Storage Temperature	-40℃to +85℃
Storage Humidity	10% - 90%RH, Non-condensing (sea level to 2000 meters)
Vibration	10 - 500Hz X, Y, Z vertical axes vibrate at a constant acceleration of 1.0G (depth 3.5mm) for 1 hour
Level of Protection	IP65
Reliability	
Life time	≥5 years @230Vac, Tc 75℃. See Life Cycle and Tc Curves for details
MTBF	≥ 200,000H@ 25℃, 230Vac, 80% load. (MIL-HDBK-217F)
Warranty	5 years (Tc: 75℃)

Notes

1. It is recommended that customers install over-voltage protection and surge protection devices in the power supply circuit of lamps to ensure the safety of electricity use.
2. The power supply is used as a component of the whole lamp in combination with the terminal equipment. Because the EMC performance is affected by the LED lamps and wiring, the terminal equipment manufacturing, The manufacturer needs to re-confirm the EMC of the whole device.
3. Please use a special programmer to adjust the current of the power supply, and program and write through the dimming light.
4. When adjusting the output current of the power supply, please ensure that the total output power does not exceed the rated maximum power.
5. Unless otherwise specified, the above parameters are the test results under the conditions of ambient temperature 25℃, humidity 50%, 100% load, and input voltage 230Vac.

■ DIMMING FEATURES

Dimming type	Parameter	Min.	Typ.	Max.	Remark
0-10V(5V)[3]	Signal level	0V	-	10V(5V)	Max Voltage no more than 12Vdc（6Vdc）
	Dimming range	10%	-	100%	Percentage of Output current programmed
	Shutdown level	0.7V	0.8V	0.9V	Adjustable
	Turn on level	0.9V	1.1V	1.35V	Adjustable
PWM	High level	9.7V	-	10.3V	
	Low level	0V	-	0.3V	
	Frequency	200Hz	1KHz	2KHz	
	Duty cycle	5%	-	100%	Positive logic dimming
Dimming resistor	Resistance	10kΩ	-	100kΩ	
	Dimming range	10%	-	100%	Positive logic dimming

Note [3] : The signal amplitude is set to 10V by default, or 5V as required.

SAFETY CRITERION

Safety Category	Country / Territory	Criterion	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，IEC62493	
EAC	Russia	IEC61347-1, IEC61347-2-1，	
BIS	India	IS 15885(PART 2/SEC 13)	
UL	USA	UL 8750，UL1310,UL1012	√
cUL	Canada&USA	CSA C22.2 No.250.13	√
KC	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	
DALI-2	Globe countries	IEC62386-101, IEC63286-102, IEC63286-207	

EMC Compliance

EMC Category	Country / Territory	Criterion	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	√
EAC	Russia	IEC 61354,IEC61000-3-2, IEC61000-3-3	
KC	Korea	K61547	
		K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	√

SAFETY KEY TEST ITEMS

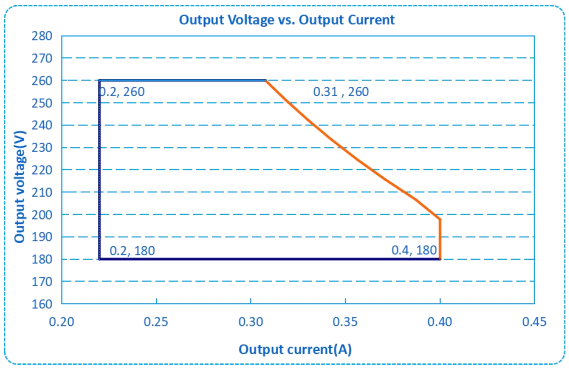
Insulation Requirement	UL	ENEC	CCC	REMARK
Input-PE	1600Vac	1500Vac	1875Vac	Basic insulation
Input-Dim	1600Vac	3000Vac	3750Vac	Reinforced insulation
Dim-PE	500Vac	250Vac	500Vac	Basic insulation
OTHERS	**Criterion**			**REMARK**
Insulation Resistance	≥10MΩ			Input-PE,Test Voltage:500Vdc
Ground Resistance	≤0.1Ω			25A/1min
Leakage Current	≤0.75mA			277Vac

NOTES:

1. The LED Driver itself meets with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference as component.

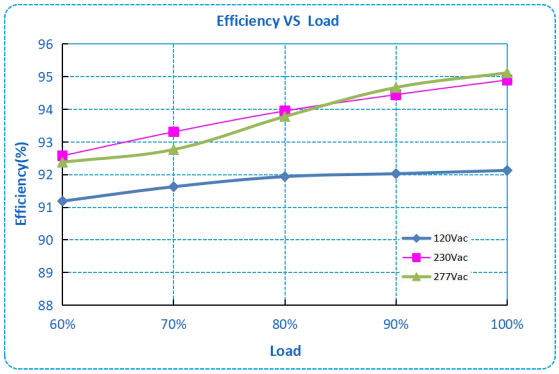
2.Please short L and N, LED+ and LED-, Dim+ and Dim - when Hi-pot test.
3.The CCC withstand voltage test needs to disconnect the built-in lightning protection tube.According to the IEC 60598-1:14 standard section 10.2, the “built-in lightning protection tube” can be marked on the nameplate to disconnect the discharge tube on testing.

WORKING CURVE



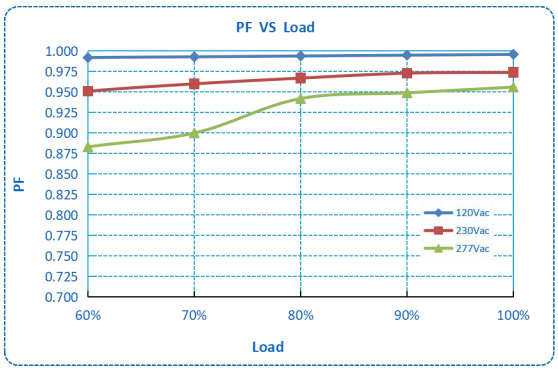
R3-080Y

EFFICIENCY VS. LOAD



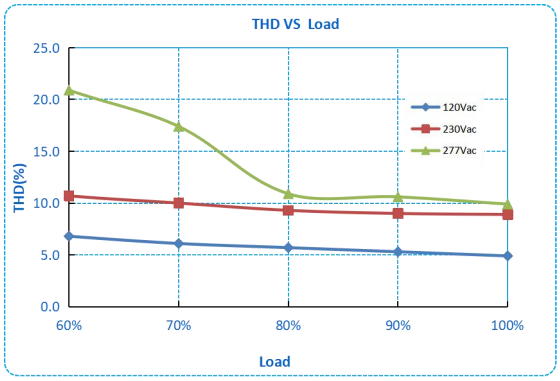
R3-080Y（I_O=0.31A）

PF VS LOAD CURVE



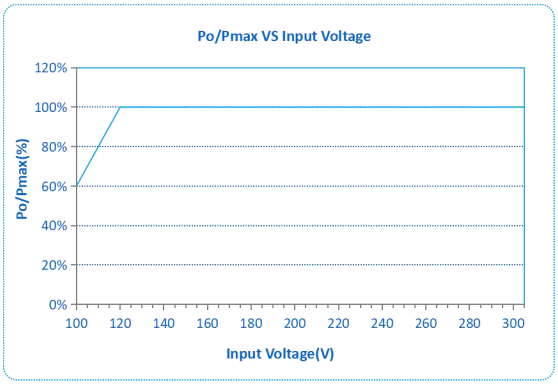
R3-080Y Series

THD CURVE

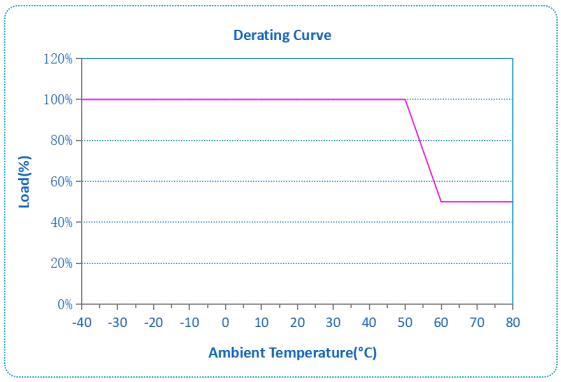


R3-080Y Series

DERATING CURVE

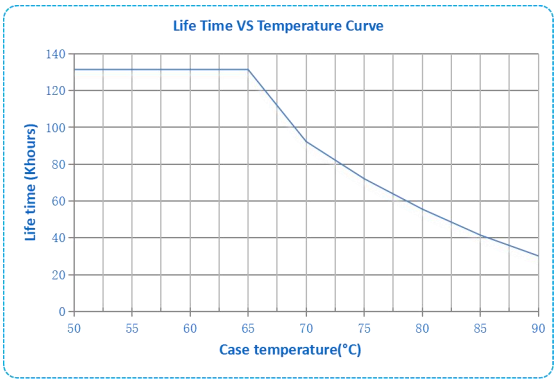


Output power VS Input voltage



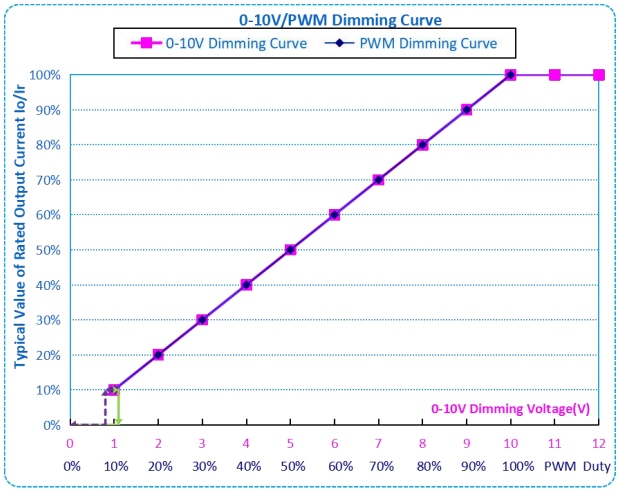
Output power VS Temperature

LIFE VS. T CASE



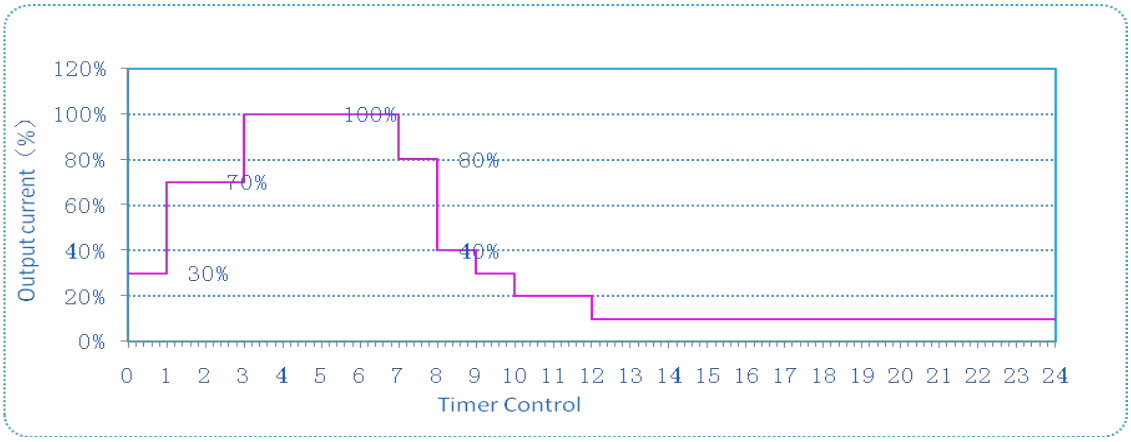
Life Vs. T case

Dimming Curve



0-10V(5V)/PWM/Rx

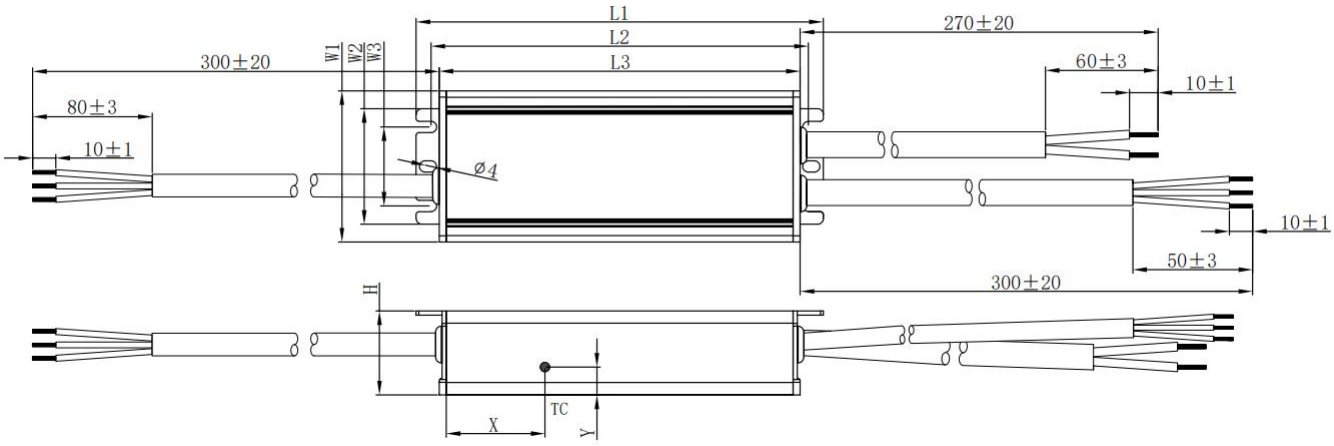
Timer dimming



Timer Dimming Diagrammatic

Mechanical Outline (unit: mm,unmarked tolerance±1mm)

(Type B:Dimming Line)



Model	L1	L2	L3	W1	W2	W3	H	TC X	TC Y
R3-080Y-260ZQ	137	126	120	53.5	41	28	30	35	9.9

Wires	Specification	Remark
Input Wires	SJTW 3x18AWG 300V,L=300±20mm, Black:L, White:N, Green:PE or SJOW 3x18AWG 300/500V,L=300±20mm, Black:L, White:N, Green:PE	UL
Output Wires	SJTW 2x18AWG 300V,L=270±20mm, Red:LED+, Black:LED- or SJOW 2x18AWG 300/500V,L=270±20mm, Red:LED+, Black:LED-	UL
Dimming/AUX.Wires (optional)	UL2517 2x22AWG or UL2517 3x22AWG 300V or UL21996 2x22AWG or UL1996 3x22AWG 300V Purple DIM+,Pink DIM-/12V-, Black rolling white12V+	UL

Package

1. Outer packing box dimensions:L×W×H=400×330×172(mm)
2. Quantity of packing per box of products:28pcs
3. Net weight: 345g ± 50g
4. Net weight of the whole box: 12.9kg ± 10%

Installation considerations

1. The lightning protection level of the power supply meets the standard requirements of IEC61000-4-5 and other countries. If it is used in lightning-prone areas or areas with relatively complex power grid environment, it is recommended to install a professional lightning protection module on the AC input end of the power supply.
2. Please insulate and waterproof the dimming cable when it is not in use
3. The voltage-withstand of LED chip and Aluminum PCB >3KV,Safety space between Aluminum PCB and LED coppers >5mm.
4. The safety distance between LED+ and LED- on Aluminum PCB>1.8mm.
5. Aluminum substrate and shell must have good contact with the ground.
6. Minimize copper on Aluminum PCB to reduce junction capacitance and leakage current.
7. In order to better meet the EMC requirements of the entire lamp,the input wires should be keep as far away from the output wires/control wires as possible.
8. LED chip is recommended to be designed in parallel first and then in series.

REVISION HISTORY

Version	Description of Change		Changed Date	Notes
	Before	Now		
A0	Release	---	2024/09/24	