

## JALS-C-096W DIMMING SERIES



### Features

- s Constant current design
- s Universal AC input (90-305Vac)
- s 3 in 1 dimming(0-10V,PWM,Rx resistance)
- s Protections: SCP, OVP, OTP,OPP
- s High Efficiency (Up to 92%)
- s Active Power Factor Correction (0.99 Typical)
- s Lightning Protection
- s Waterproof (IP67)
- s Comply With UL8750 & EN61347 Safety Regulations
- s 5 years warranty

### Application

- s Suitable for LED street lights,tunnel lights,landscape lights.

### General Description

The document detail the electrical, mechanical and environmental specifications for JALS-C-096M series LED driver, these driver are single channel output and can provide 96W max. continuous output power.

### Models & Key parameters

Model	Output Power (W)	Rated Output Voltage(Vdc)	Output Current (A)	Typ. Efficiency ※1	Power Factor	
					110Vac	230Vac
JALS-C-096M012	72	12	6.00	87.0%	>0.99	>0.95
JALS-C-096M015	96	15	5.00	88.0%	>0.99	>0.95
JALS-C-096M020	96	20	4.80	90.0%	>0.99	>0.95
JALS-C-096M024	96	24	4.00	91.0%	>0.99	>0.95
JALS-C-096M030	96	30	3.20	91.0%	>0.99	>0.95
JALS-C-096M036	96	36★	2.65	92.0%	>0.99	>0.95
JALS-C-096M042	96	42★	2.30	92.0%	>0.99	>0.95
JALS-C-096M048	96	48★	2.00	92.0%	>0.99	>0.95
JALS-C-096M054	96	54	1.77	92.0%	>0.99	>0.95
NOTE	※1: Typ. Efficiency are measured at full load and 230 Vac input. ※2: ★ means the popular models, we will keep sufficient stock for prompt delivery.					

### Specification

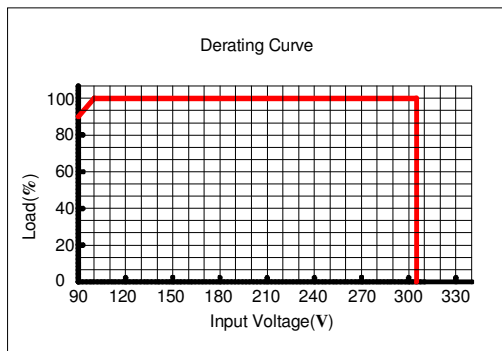
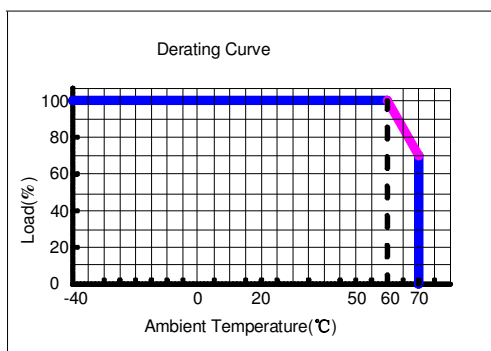
OUTPUT SPECIFICATION											
OUTPUT	Rated Output (Vdc)	12	15	20	24	30	36	42	48	54	
	CONSTANT CURRENT RANGE(V)	3~12	3~15	3~20	3~24	3~30	3~36	3~42	3~48	3~54	
	RATED CURRENT(A)	6.00	5.00	4.80	4.00	3.20	2.65	2.30	2.00	1.77	
	RATED POWER(W)	72	96	96	96	96	96	96	96	96	
	RIPPLE& NOISE(max.)※3	10%Vo									
	VOLTAGE TOLERANCE	5%Vo									
	LINE REGULATION	1%Vo									
	LOAD REGULATION	3%Vo									
	HOLD UP TIME (Typ.)	8.5mS min. @ Full load &110Vac, 10mS min. @ Full load &230Vac									
INPUT SPECIFICATION											

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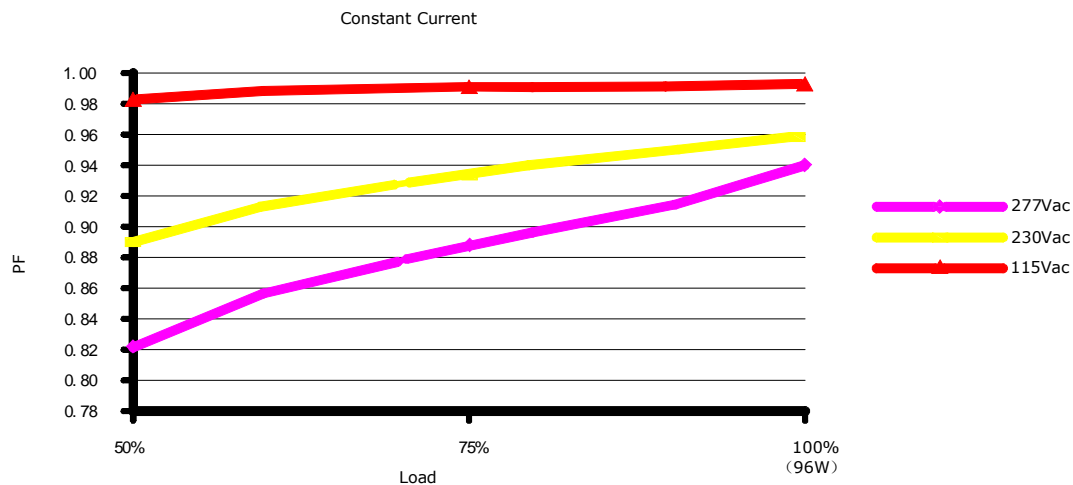
INPUT	VOLTAGE RANGE	90-305Vac								
	FREQUENCY RANGE	47-63Hz								
	EFFICIENCY (Typ.)	87.0%	88.0%	90.0%	91.0%	91.0%	92.0%	92.0%	92.0%	92.0%
	AC CURRENT (Typ.)	1.0Amax. @ 100-277Vac input & Full load.								
	INRUSH CURRENT	60Amax. @ 230Vac input,25°C.								
	LEAKAGE CURRENT	0.6mA max. at input 277Vac								
<b>PROTECTION</b>										
PROTECT ION	Input OVP	315Vac (Latch mode. The power supply shall return to normal operation only after the power is turn-on again.)								
	Output OVP ※4	(1.2-1.4)V <sub>o</sub>								
	SCP	No damage shall occur when any output operating in a short circuit condition. The power supply shall be self-recovery when the fault condition is removed.								
<b>ENVIRONMENT REQUIREMENTS</b>										
ENVIRON MENT REQUIRE MENTS	Operating Temperature	-35°C to +70°C								
	Operating Relative Humidity	10%RH to 100%RH								
	Storage Temperature	-40°C to +85°C								
	Storage Relative Humidity	5% to 100%RH non-condensing @ Sea level shall be low 10,000 feet.								
	Vibration	10 to 300Hz sweep at a constant acceleration of 1.0G(Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z.								
	Waterproof grade	P67								
<b>SAFETY&amp;EMC</b>										
SAFETY& EMC	SAFETY STANDARDS	UL8750, UL1310,IEC61347,GB19510.								
	WITHSTAND VOLTAGE	L/N-GND:4KV, L-N:2KV								
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25 / 70% RH								
	EMC IMMUNITY	Compliance to EN 61000-3-2, 3EN 61000-4-2, 3,4,5,6,8,11, EN 61547								
<b>SAFETY APPROVAL</b>										
CERTIFIED	UL,CB,CE,CQC									
<b>RELIABILITY REQUIREMENTS</b>										
RELIABIL ITY REQUIRE MENTS	Burn-in	The power supply shall undergo a minimum of 4 Hours burn-in test at 40°C±5°C under full load condition								
	Life Time	≥50,000 hours at 60°C measured at 110Vac input,and 80% load.								
	MTBF	≥ 200,000 hours at 25°C, measured at 110Vac input,and 80% load. (MIL-HDBK-217F)								
NOTE	※3: Latch mode. The power supply shall return to normal operation only after the power is turn-on again. Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic- capacitor and a 10uF electrolysis capacitor. And the test under the condition of rated input and rated output) ※4: Latch mode. The power supply shall return to normal operation only after the power is turn-on again.									

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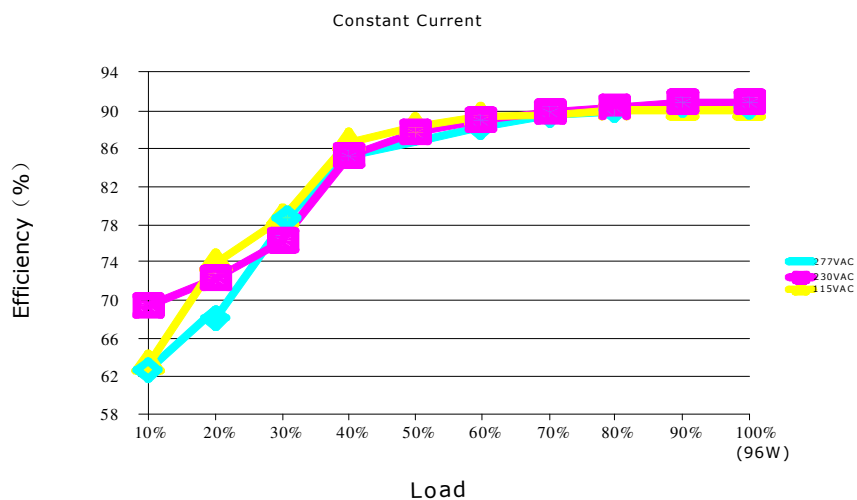
**n Derating Curve**



**n Power Factor Characteristic**

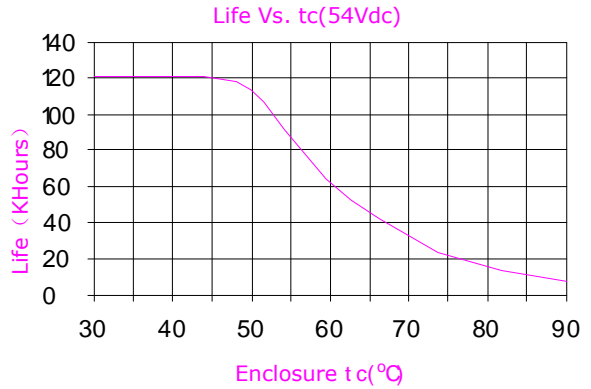
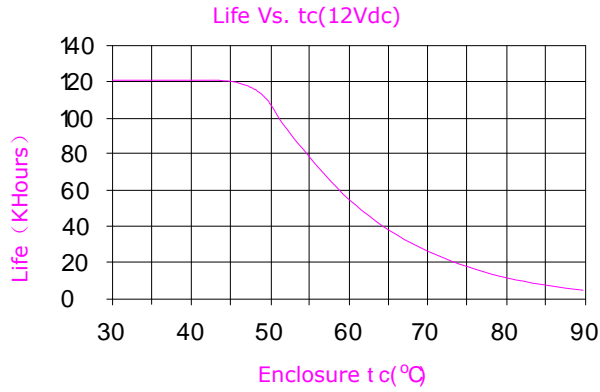


**n Efficiency curve(Typ.Voltage 36V)**

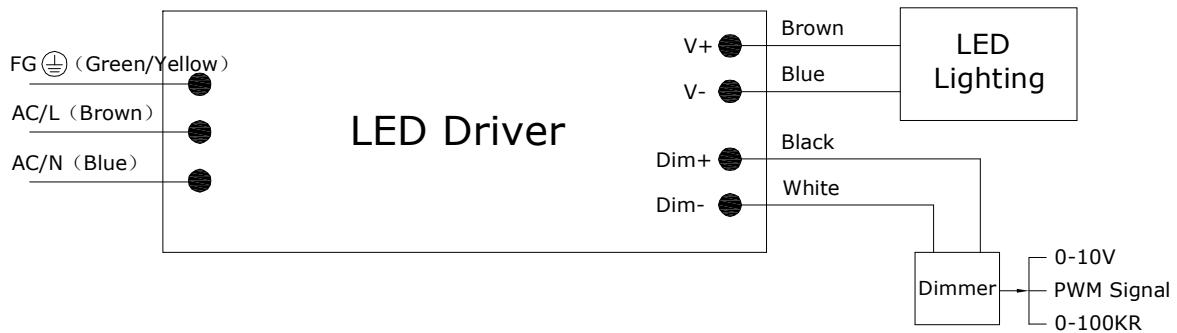


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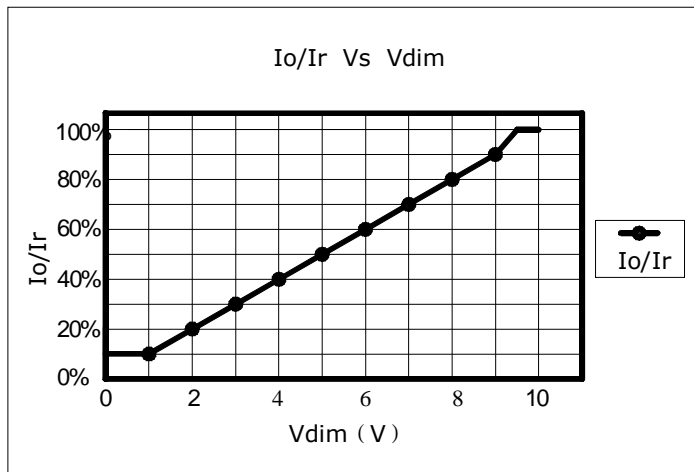
n Life vs tc curve



n Dimming Control



A) 0-10V Dimming Voltage/Current Proportion Curve



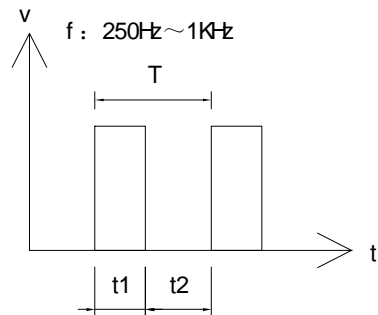
NoTE: Io is actual output current and Ir is rated current without dimming control.

0-10V signal level	1	2	3	4	5	6	7	8	9	10
Io (A)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

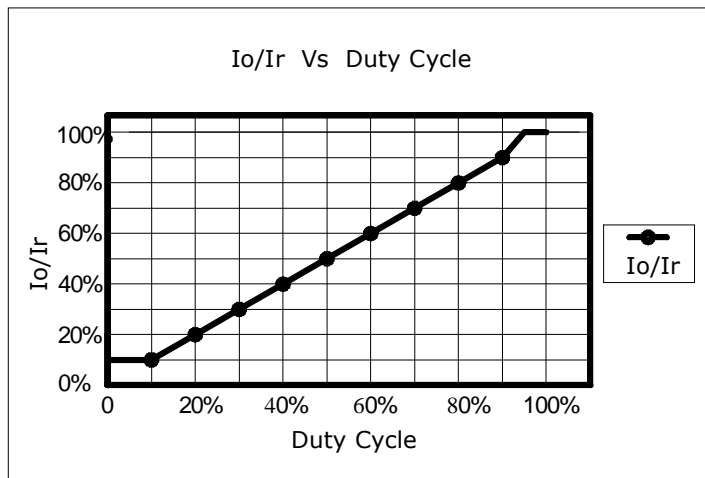
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B) PWM Dimming Voltage/Current Proportion Curve

PWM Dimming Control



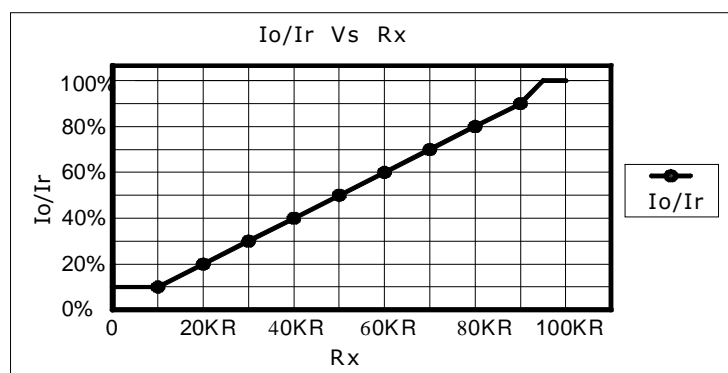
$$\text{Duty} = \frac{t1}{t1+t2} \text{ (10\% 100\%)}$$



Dimming Port Condition:

Type	Condition
PWM Dimming	Frequency, f: 250Hz~1KHz
	High-Level, Ho: 5-10V, 5-10V can be responded, means "ON"
	Low-Level, Lo: 0V, 0~2.5V can be response, means "OFF"
	Sink current, Io : <5 mA
	Signal Open, Po: 100% Brightness
	Dimming range, Pr: 10%~100%

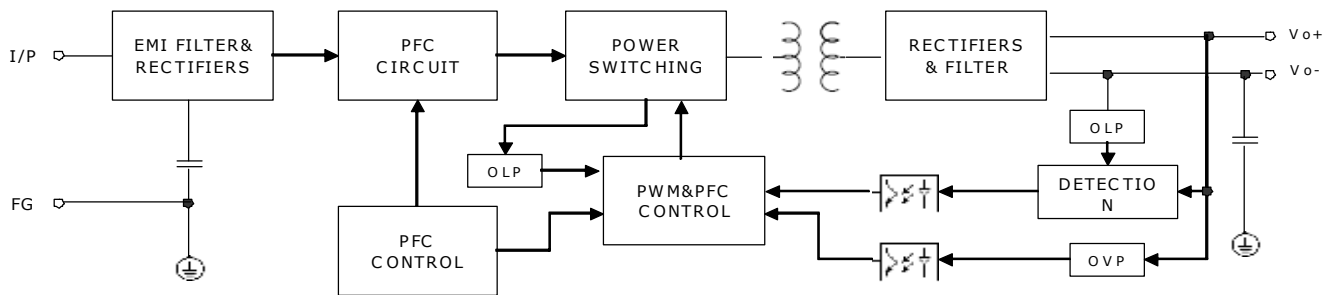
C) Resistance Dimming /Current Proportion Curve



NOTE: Please DO NOT connect "V-" to "Dim-", otherwise the LED drive can not work normally.

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**n Block Diagram**



**n Mechanical Specification**

