

# LED 5-in-1 Dimmable Driver (CV)

5 in 1 dimming  
 0-10V  
 1-10V  
 10V PWM  
 TRIAC DIM  
 Resistance DIM

- TRIAC/ 0-10V/1-10V/10V PWM/RESISTANCE DIM
- Dimming range: 0~100%, LED start at 0.1% possible.
- 0-100% flicker-free, High frequency exemption level.
- High Efficient driver: efficiency 88%.
- Over load / Over temp. / Short circuit / Over voltage protection, recover automatically.
- Up to 50000-hour life time.



**Flicker-free**  
 IEEE 1789  
 High frequency exemption level

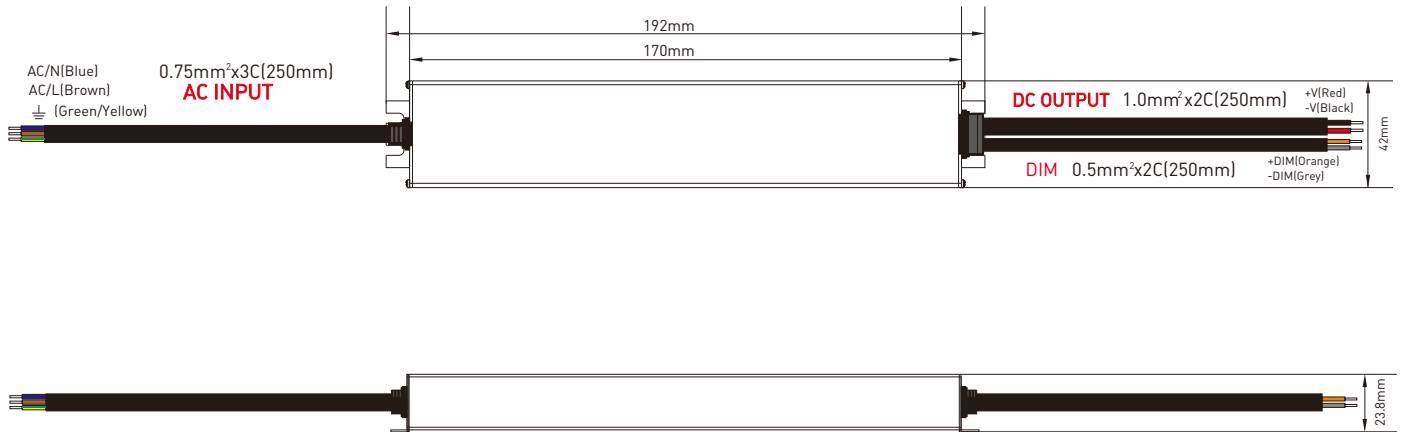


## Specification

Model	YSD-060WHCF-12	YSD-060WHCF-24	YSD-060WHCF-36	YSD-060WHCF-48	
<b>OUTPUT</b>	Output voltage	12VDC	24VDC	36VDC	48VDC
	Output voltage range	12VDC±3%	24VDC±2%	36VDC±2%	48VDC±2%
	Output current	Max 5A	Max 2.5A	Max 1.67A	Max 1.25A
	Output power	Max 60W			
	Output power range	0~60W			
	With or without strobe	No strobe			
	Dimming range	0~100%, dimming depth: Max. 0.1%			
	Ripple & Noise	±2%			
	PWM frequency	700hz-16Khz			
<b>INPUT</b>	Dimming interface	Traic/0-10V/1-10V/10V PWM/RESISTANCE DIM(0-100K)			
	Input voltage	176-264Vac			
	Frequency	50Hz			
	Input current	0.72A Max.			
	Power factor	PF>0.55/230Vac, at full load			
	Efficiency (typ.)	87%	88%	88%	88%
	Inrush current (typ.)	Cold start 60A at 230Vac			
	Control surge capability	L-N:1.5KV			
	Leakage current	Max. 0.5mA			
<b>ENVIRONMENT</b>	Working temperature	ta: -40°C ~ 45°C tc: 90°C			
	Working humidity	20 ~ 95%RH, non-condensing			
	Storage temp., humidity	-40°C ~ 80°C, 10~95%RH			
	Vibration	10~500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes.			
<b>PROTECTION</b>	Overtemperature	Protection type: Shut down o/p voltage, re--power on to recover			
	Over voltage protection	Shut down the output when non-load voltage ≥ 13.5-18V, re-power on to recover after fault condition is removed.	Shut down the output when non-load voltage ≥ 27-35V, re-power on to recover after fault condition is removed.	Shut down the output when non-load voltage ≥ 40-50V, re-power on to recover after fault condition is removed.	Shut down the output when non-load voltage ≥ 52-63V, re-power on to recover after fault condition is removed.
	Over load protection	Shut down the output when current load ≥ 120%, auto recovers			
<b>SAFETY &amp; EMC</b>	Short circuit protection	Protection type: 1. When the first-level short-circuit protection is triggered, the fault can be automatically recovered; 2. When the second-level short-circuit protection is triggered, the power needs to be turned on again after the fault is eliminated			
	Withstand voltage	I/P-O/P: 3750Vac			
<b>SAFETY &amp; EMC</b>	Isolation resistance	I/P-O/P: 100MΩ/500VDC/25°C/70%RH			
	Safety standards	IEC/EN61347-1, IEC/EN61347-2-13			
	EMC emission	EN55015, EN61000-3-2 Class C, IEC61000-3-3			
	EMC immunity	EN61000-4-2,3,4,5,6,8,11 EN61547			
	Strobe test standard	IEEE 1789			

## Dimensions

Unit: mm



## Wiring diagram

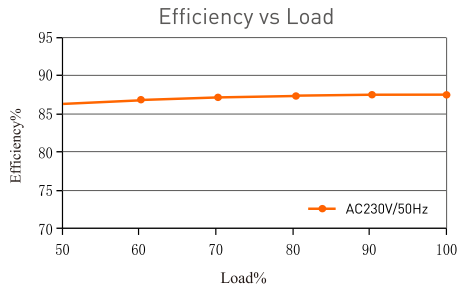
### 1-10V/10V PWM Dimming diagram



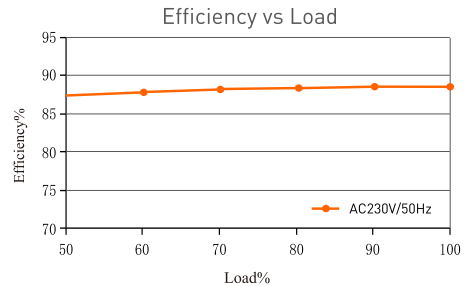
### TRIAC Dimming diagram



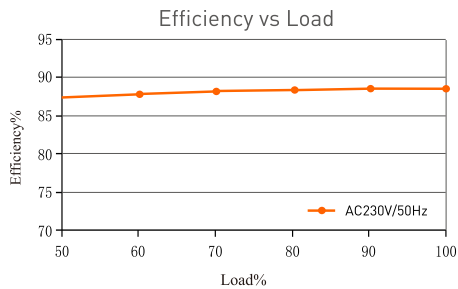
## Relationship diagrams



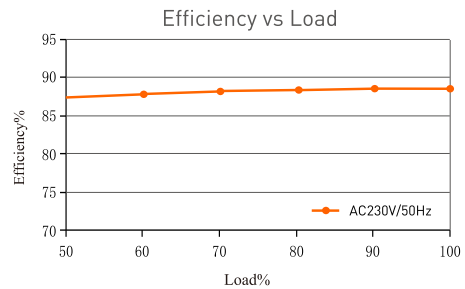
YSD-060WHCF-12



YSD-060WHCF-24



YSD-060WHCF-36

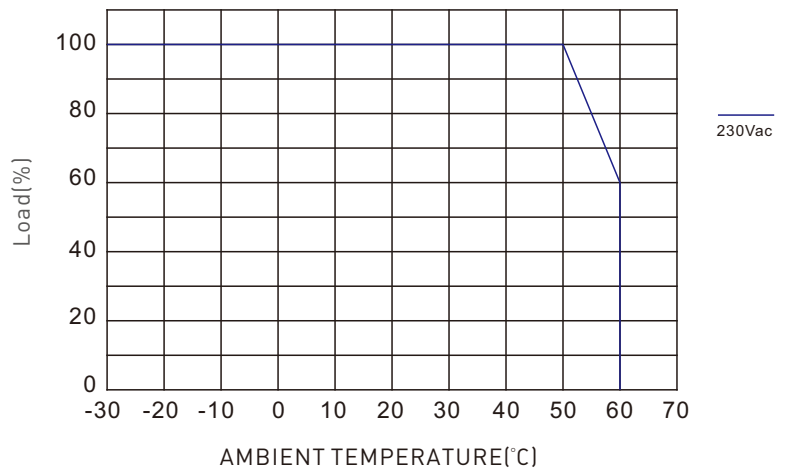


YSD-060WHCF-48

## Packaging Information

DIMENSION	192x42x23.8mm(LxWxH)
PACKING	mm(LxWxH)
CARTON QUANTITY	PCS
CARTON SIZE	mm(LxWxH)
WEIGHT	280±10gPCS

## Temperature load curve



## Flicker Test Form

### IEEE 1789

Limit of Modulation in low risk area	
Waveform frequency of Optical output	limit (%)
$f \leq 8\text{Hz}$	0.2
$8\text{Hz} < f \leq 90\text{Hz}$	$0.025 \times f$
$90\text{Hz} < f \leq 1250\text{Hz}$	$0.08 \times f$
$f > 1250\text{Hz}$	Exemption assessment
Limit of Modulation in no effect area	
Waveform frequency of Optical output	limit (%)
$f \leq 10\text{Hz}$	0.1
$10\text{Hz} < f \leq 90\text{Hz}$	$0.01 \times f$
$90\text{Hz} < f \leq 3125\text{Hz}$	$[0.08/2.5] \times f$
$f > 3125\text{Hz}$	Exemption assessment [High frequency exemption]

Brightness

- ◆ 1%
- ▲ 5%
- ◆ 10%
- 20%
- ▲ 30%
- ★ 40%
- ★ 50%
- ★ 60%
- ★ 70%
- ★ 80%
- ★ 90%
- ◆ 100%

Exemption assessment  
(High frequency exemption)

IEEE 1789

