



ZORANTECH
卓然照明

10W 0/1-10v dimmable constant current led driver



■ Features

- Constant Current (C.C.) output
- Built-in active PFC function, High efficiency up to 88%
- Input voltage/Full range(up to 305VAC)
- Protections:Short circuit/Over current/Over load/Over temperature
- THD≤16%, Dimming range:0-100%/10-100%
- Built-in 4 in 1 dimming function(1-10V or PWM or Resistor)
- Noise free,flicker free, 5-7 years warranty
- OEM & ODM, no MOQ, Support customization

■ Applications

- LED indoor lighting
- LED panel light
- LED track light
- LED ceiling light
- LED tri-proof light
- LED down light
- LED kitchen light
- LED grille light

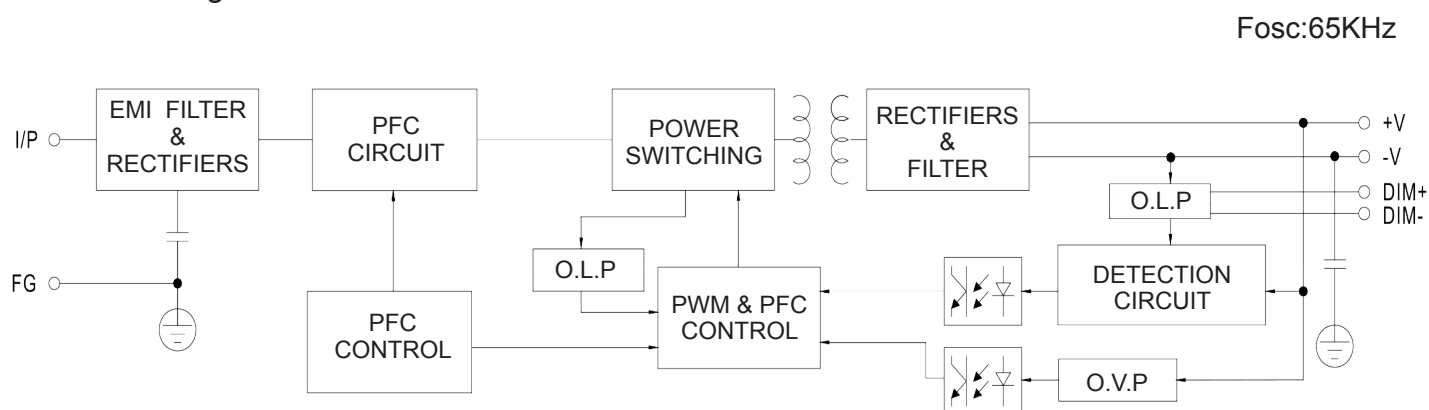
■ Description

The 0-10V constant current series produced by Zoran Technology is an AC-to-DC dimming driver.operates from 90~305VAC and offers models with different rated voltage ranging ~ between 20V and 58V. Thanks to the high efficiency up to 88%, with the fanless design, the entire series is able to operate for -40~ +70℃ case temperature under free air convection. It can be widely matched with all European and Austrian mainstream dimmers and lighting control systems, such as: Philips, Qisheng, crestron, Lutron and Leviton series etc. dimmers and systems, flicker free,achieve perfect soft dimming.

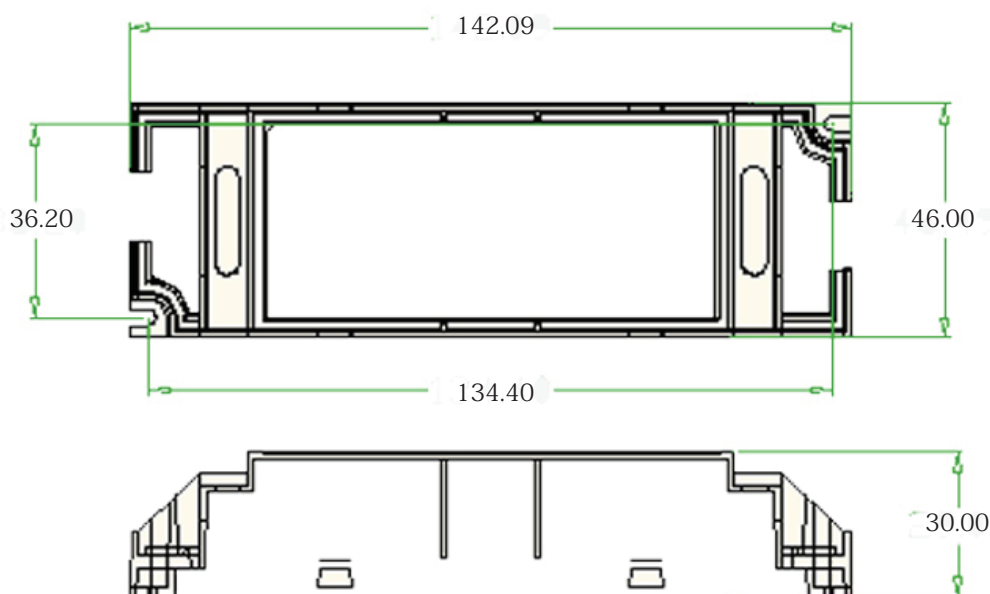
■ Electrical Specification

MODEL		ZR-GCP24NE-10W	ZR-GCP30NE-10W	ZR-GCP42NE-10W	ZR-GCP50NE-10W	ZR-GCP58NE-10W
Output	Output Voltage Note.1	12-24 VDC	20-30 VDC	27-42 VDC	36-50 VDC	45-58 VDC
	Opout Current Note.2	420 mA	330 mA	240 mA	200 mA	170 mA
	Rated Power	10 W	10 W	10 W	10 W	10 W
	Current Tolerance Note.4	±3%	±3%	±3%	±3%	±3%
	Line Regulation	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	Setup,Rise Time Note.6	1600ms,800ms/115VAC 500ms,1000ms/230VAC				
	Hold Up Time (Typ.)	10ms/115VAC 230VAC				
Input	Rate Voltage Note.5	90~265VAC OR 100-277VAC				
	Frequency Rance	48-62Hz				
	Power Factor	PF≥0.98/115VAC PF≥0.96/230VAC PF≥0.95/265VAC at full load				
	THD	THD≤16%(Bipolar)				
	Full load Efficiency	≥85%	≥86%	≥87%	≥87%	≥88%
	AC Current (Typ.)	0.1A/115VAC 0.05A/230VAC 0.04A/265VAC				
	Input signal (Typ.)	0/1-10V / PWM / Resistor				
No-load power consumption		≤1.0W				
Protection	Over Current	95-108%				
		Protection type:Constant current limiting,recoveres automatically after fault condition is removed				
	Over Load	≤120% Recovers automatically after fault condition is removed				
	Short Circuit	Hiccup Mode,Recoveres automatically after fault condition is removed				
	Over Voltage	Protection type:Shut down O/P voltage,re-power on to recover				
	Over Temperature	Shut down O/P voltage,re-power on to recover				
Environmen	Working Temperature	Tcase=-40~+70 ℃ (Refer to “Derating curve”)				
	Max Case Temperature	Tcase=+75 ℃				
	Working Humidity	20-95%RH non-condensing				
	Storage TEMP. Humidity	-40~+80 ℃ 10-95%RH				
	TEMP. Coefficient	±0.03%/ ℃ (0-50 ℃)				
Safety & EMC	Safe Standards	U8750,CSA C22.2 No.250.13-12;ENEC AS/NZS IEC EN61347-1;AS/NZS IEC EN61347-2-13 independent EN62348				
	Withstand Voltage	I/P-O/P:3.75KVAC I/P-FG:2.0KVAC O/P-FG:1.0KVAC				
	Isolation Resistance	I/P-O/P,I/P-FG,O/P-FG:100M ohms/500VDC/25 ℃ /70%RH				
	EMC Emission	Compliance to EN55015,EN61000-3-2 Class C(≥60% load);EN61000-3-3;GB17743;GB17625.1				
	EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547 heavy industry level(surge 4KV)				
Others	Dimension (L*W*H)	142*46*30 mm				
	Weight	200g				
	Packing	50pcs/10Kg/ctn				
Note	1.All parameters Not specially mentioned are measured at 230VAC input, rated load and 25 ℃ of ambient temperature. 2.Ripple&Noise are measured at 20MHz of bandwidth by using a 12”twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3.Tolerance: includes set up tolerance, line regulation and load regulation. 4.The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufactures must re-qualify EMC Directive on the complete installation again. 5.Please refer to the product warranty on Zoran Technology website http://www.zorantech.com . 6.If you need other special parameters, please contact our customer service for consultation!					

Block Diagram

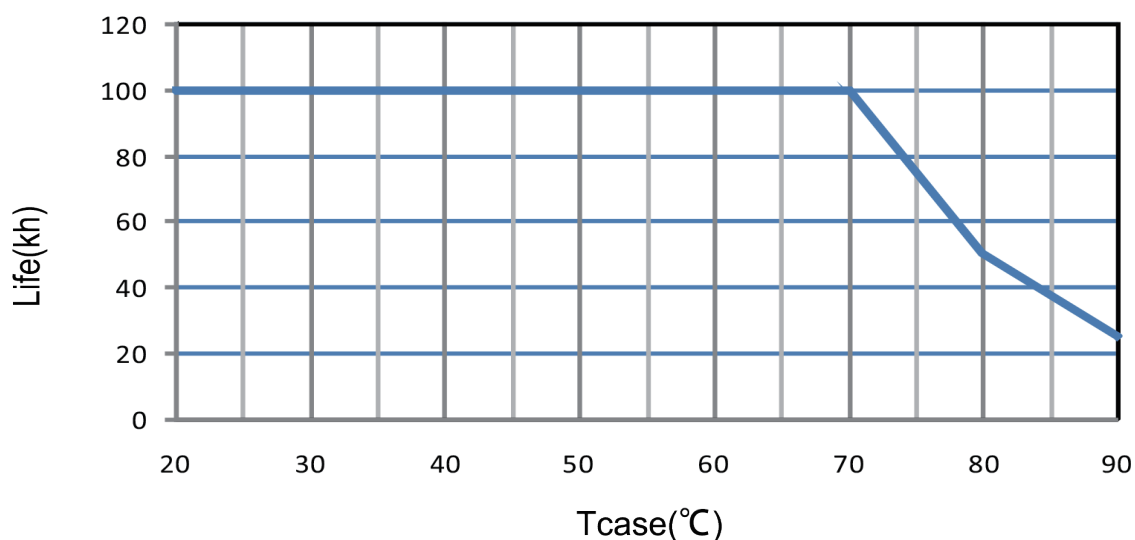


Mechanical Specification



- ※ Please connect the corresponding neutral wire (N) and fire wire (L) according to the label;
- ※ Please connect the corresponding dimming signal positive electrode (DIM+), dimming signal negative electrode (DIM-), LED lamp positive (+) and LED lamp negative (-) according to the label.
- ※ In addition, the input and output lines can be customized according to customer requirements. For more information, please contact Zoran Customer Service;

Life



■ Dimming Operation

AC/L Brown
AC/N Blue

FG (Green/Yellow)



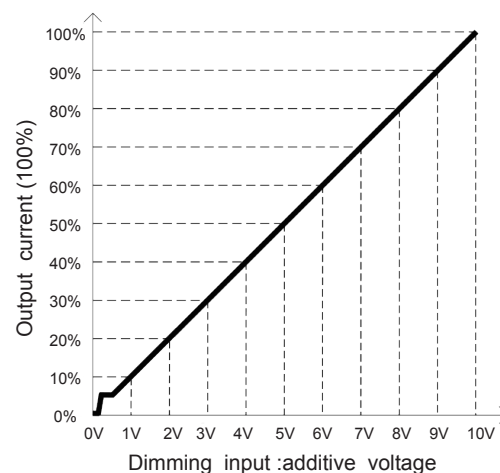
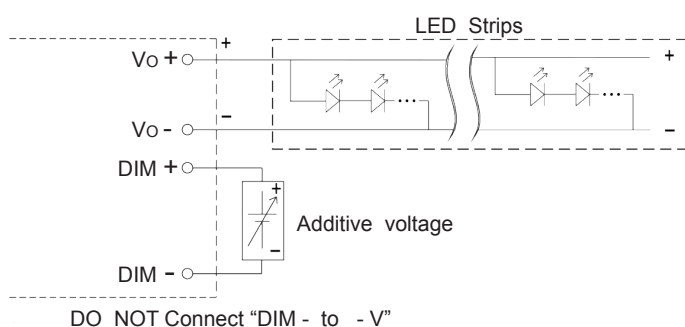
V+ Red
V- Black

DIM+ Brown
DIM- Blue

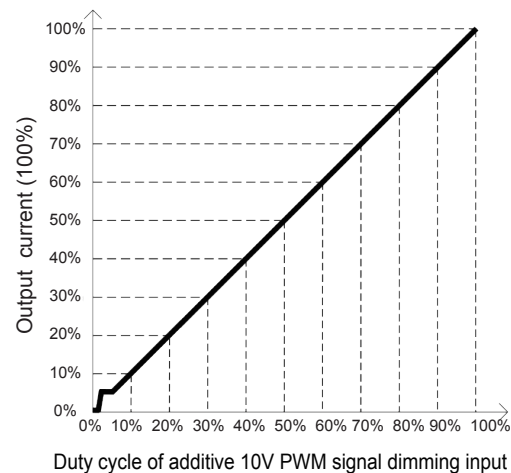
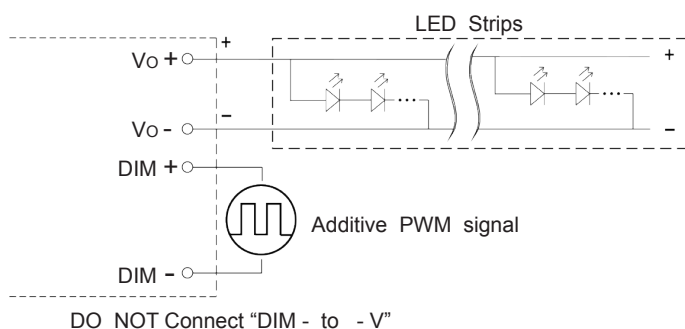
※ 4 in 1 dimming function(for E/A-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0-10VDC, or 1-10VDC, or 10V PWM Signal or resistance.
- Direct connecting to LED is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA(typ.)

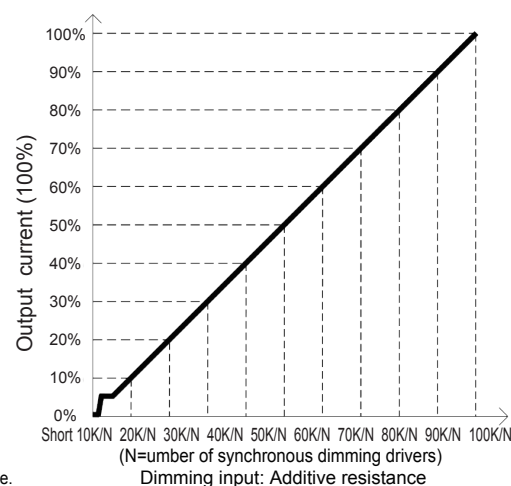
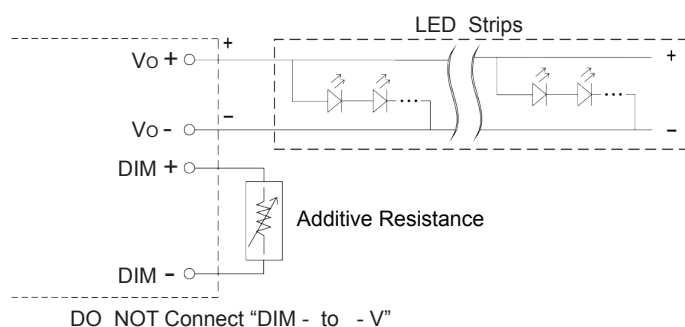
◎ Applying additive 0~10VDC:



◎ Applying additive 10V PWM signal(frequency range 100Hz~3KHz):



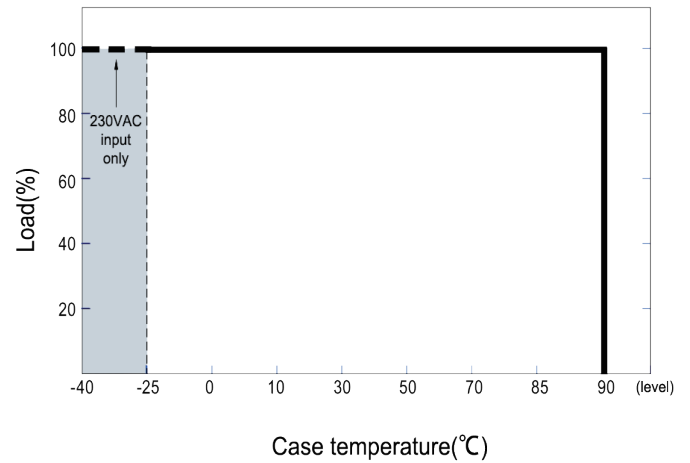
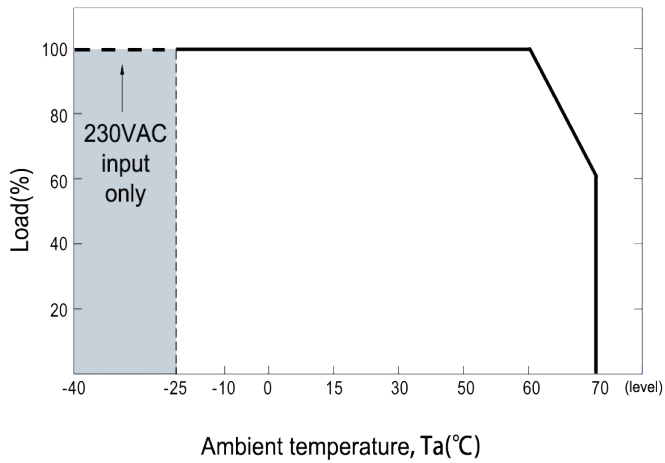
◎ Applying additive resistance:



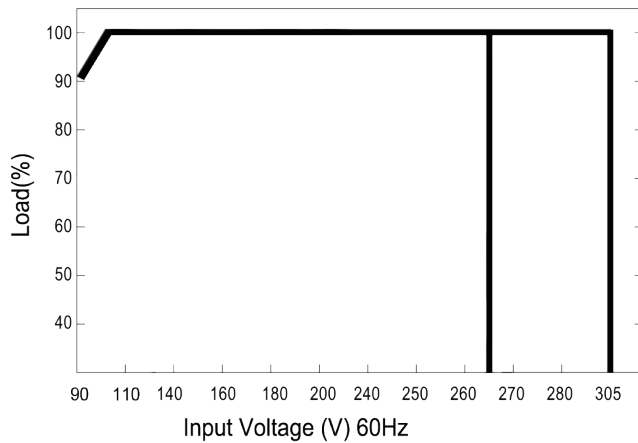
Note:

1. Min. dimming level is about 3% and the output current is not defined when $0\% < I_{out} < 3\%$.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.

Output load VS Temperature



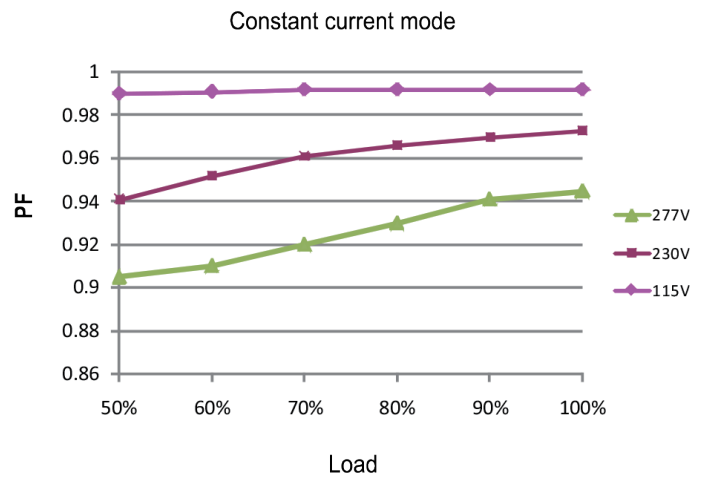
Static characteristic curve



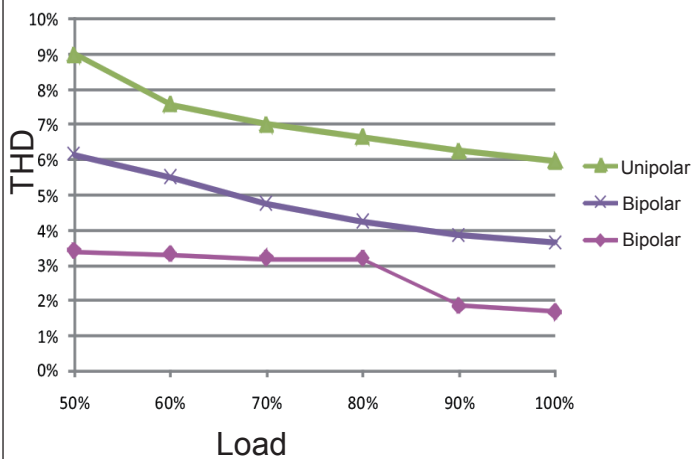
※ Derating output at low input voltage

PF characteristic curve

※ Tcase at 80°C



THD characteristic curve



Efficiency VS Load

