



ZORANTECH
卓然照明

50W 0/1-10v dimmable constant current waterproof 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≤15%, Dimming range:0-100%/10-100%
- Built-in 4 in 1 dimming function(1-10V or PWM or Resistor)
- Noise free, flicker free, 5 years warranty
- OEM & ODM, no MOQ, Support customization

■ Applications

- LED outdoor lighting
- LED landscape light
- LED architectural light
- LED street light
- LED flood light
- LED wall washer light
- LED high light
- LED underground light
- LED tunel light
- LED garden lights
- LED line light
- LED stage lights
- LED Spot light

■ Description

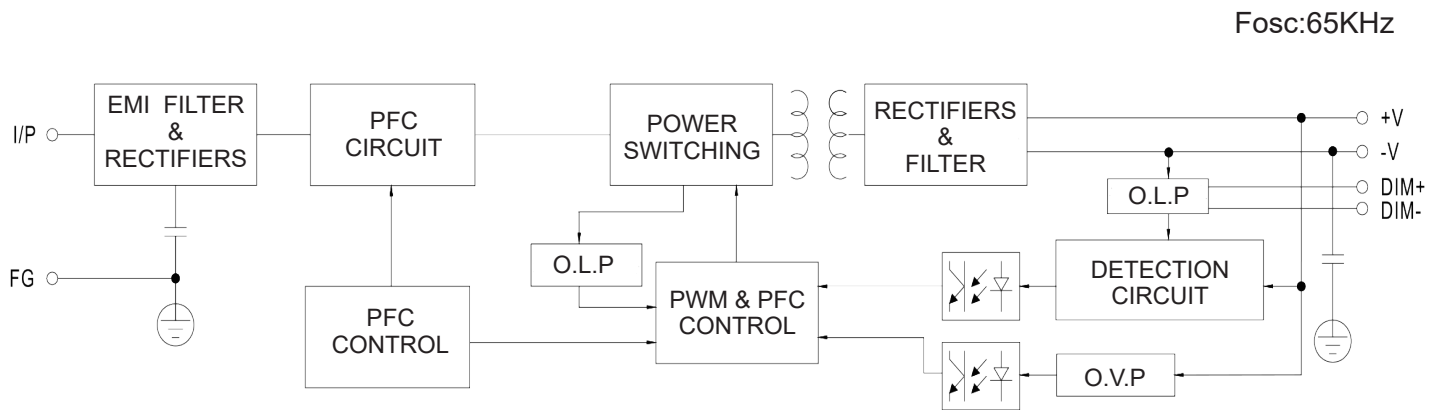
The 0-10V constant current waterproof series produced by Zoran Technology is an AC-to-DC dimming driver. operates from 90~305VAC and offers models with different rated voltage ranging ~ between 20V and 200V. Thanks to the high efficiency up to 88%, with the fanless design, the entire series is able to operate for -40~ +80 °C 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

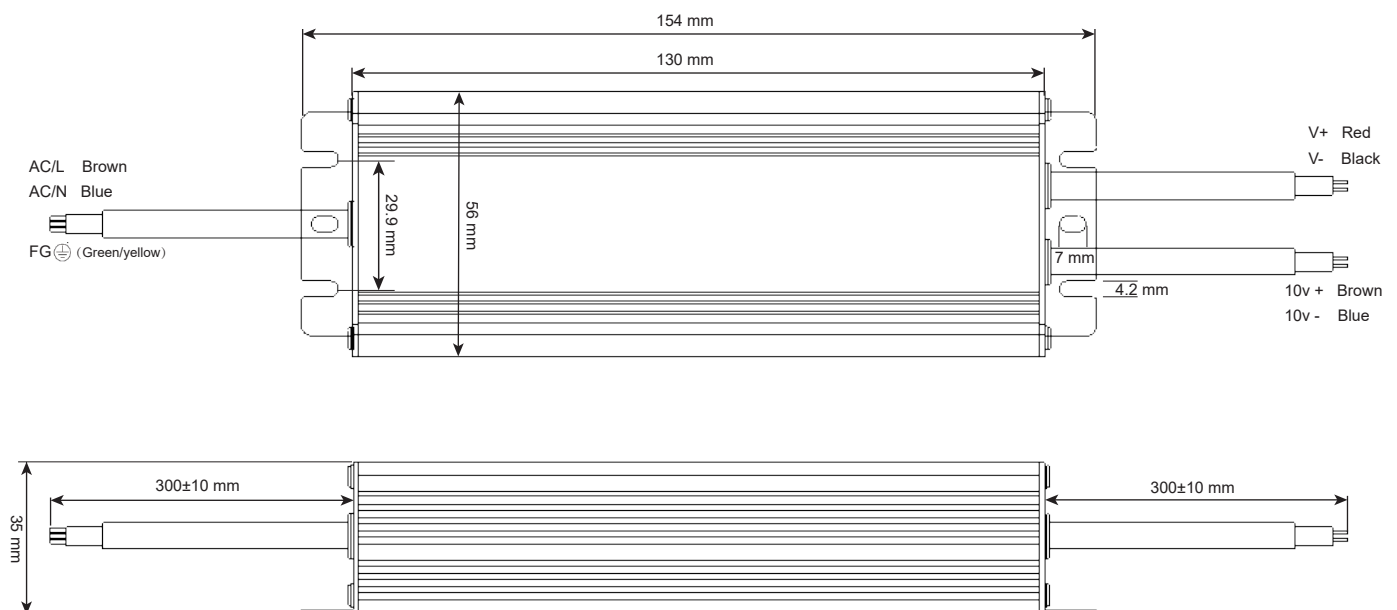
MODEL		ZR-HCM42NE-50W	ZR-HCM60NE-50W	ZR-HCM80NE-50W	ZR-HCM100NE-50W	ZR-HCM120NE-50W
Output	Output Voltage Note.1	27-42 VDC	43-60 VDC	60-80 VDC	80-100 VDC	100-120 VDC
	Opout Current Note.2	1190 mA	830 mA	625 mA	500 mA	420 mA
	Rated Power	50 W	50 W	50 W	50 W	50 W
	Current Tolerance Note.4	±3%	±3%	±3%	±3%	±3%
	Auxiliary output(customizable)	12VDC	12VDC	12VDC	12VDC	12VDC
	Setup,Rise Time Note.6	500ms,100ms/115VAC 500ms,100ms/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≤15%(Bipolar)				
	Full load Efficiency	≥85%	≥86%	≥86%	≥87%	≥88%
	AC Current (Typ.)	0.49A/115VAC 0.25A/230VAC 0.21A/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% Recoveres 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	-40~+80 ℃ (Refer to “Derating curve”)				
	Max Case Temperature	+90 ℃				
	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;GB19510.14 IP65 or IP67				
	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)	154*56*35 mm				
	Weight	500g				
	Packing	30pcs/16kg/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

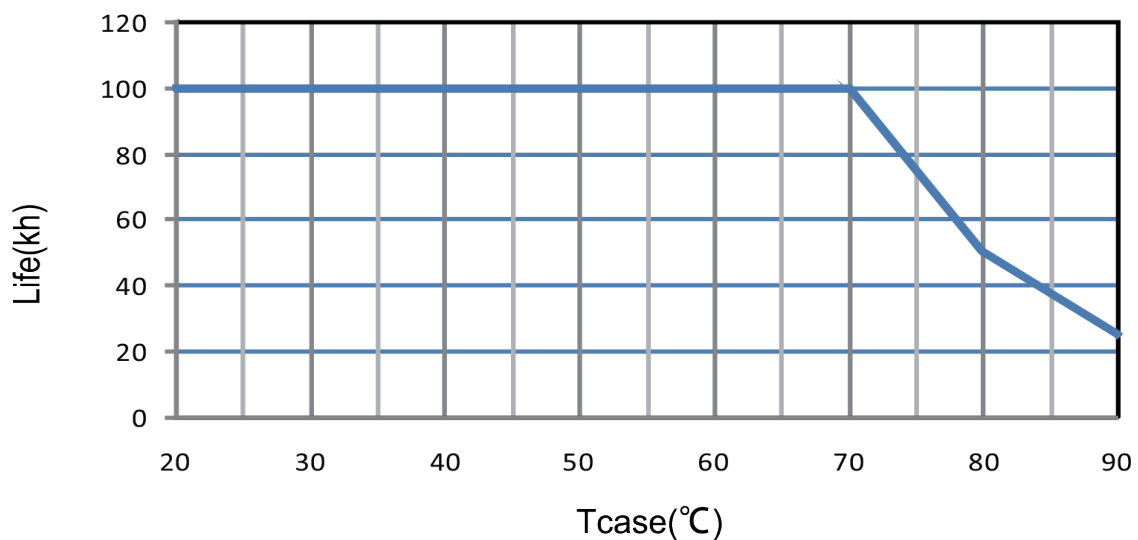


Mechanical Specification

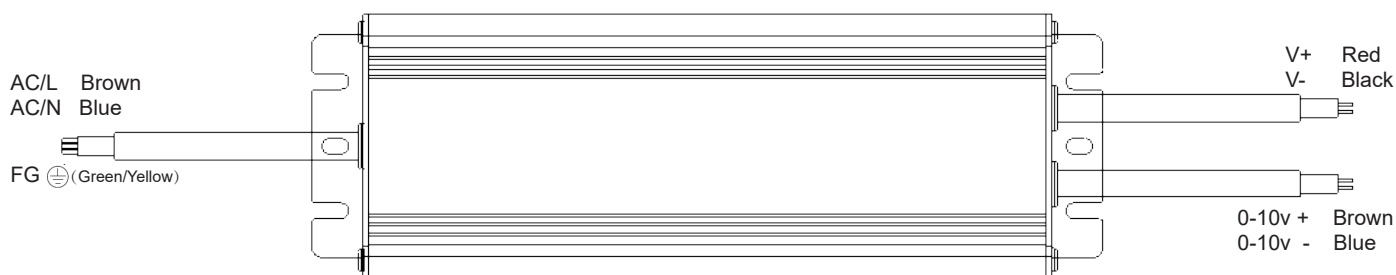


- ※ The yellow-green wire at the input is the ground (FG), the brown wire is the AC phase wire(L), and blue wire is the AC neutral wire (N);
- ※ The brown wire at the output is the positive dimming signal (10v+) and the blue wire is the dimming signal negative (10v-), the red wire is the positive output voltage(V+) and black wire is the negative output voltage(V-);
- ※ In addition, the length and thickness of the input and output lines can be customized according to customer requirements. Please contact Zoran Customer Service for details;

Life



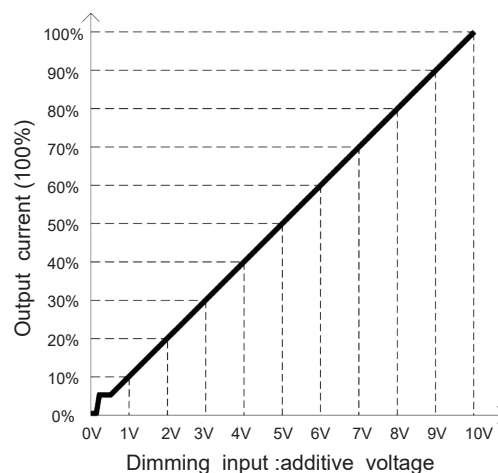
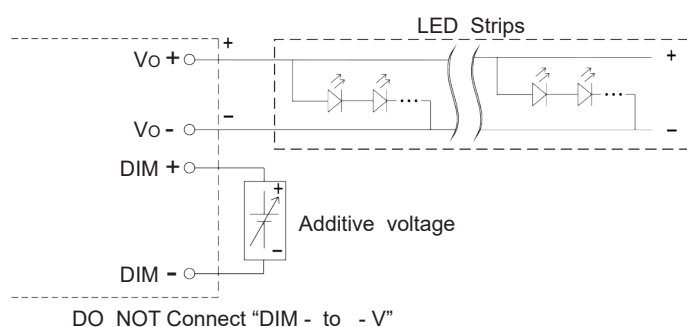
■ Dimming Operation



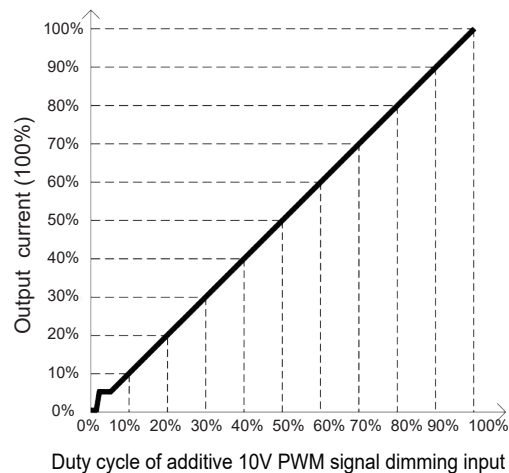
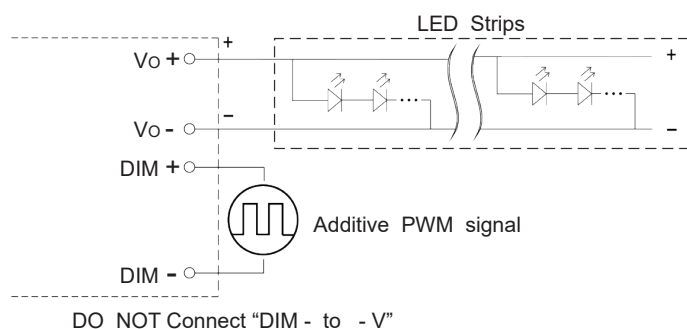
※ 4 in 1 dimming function(for E/A-Type)

- 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.)

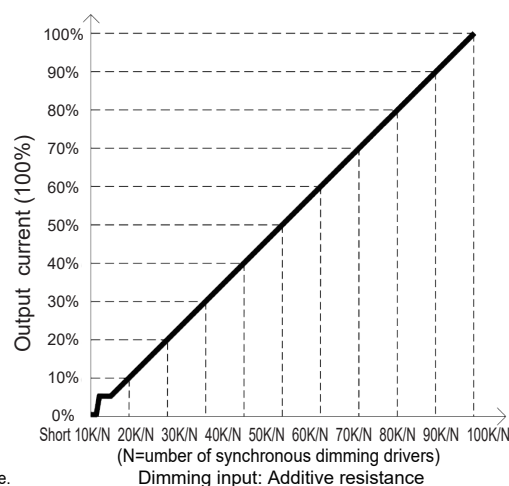
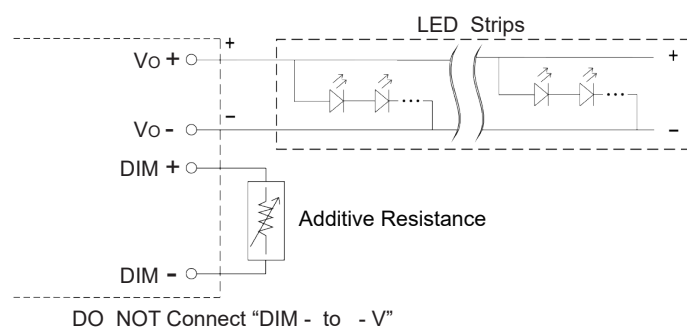
◎ Applying additive 0~10VDC:



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



◎ Applying additive resistance:

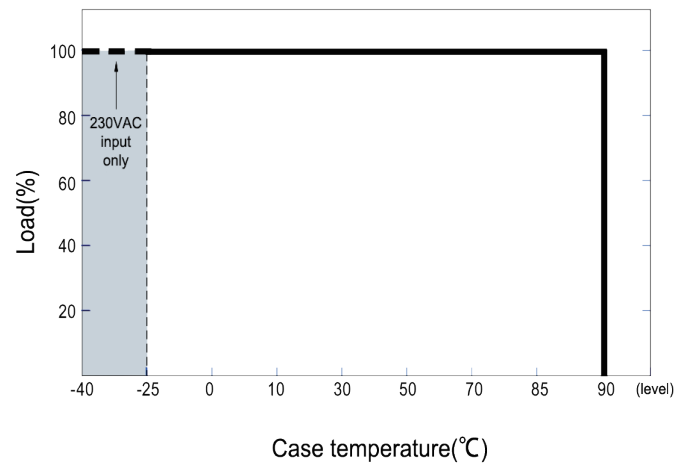
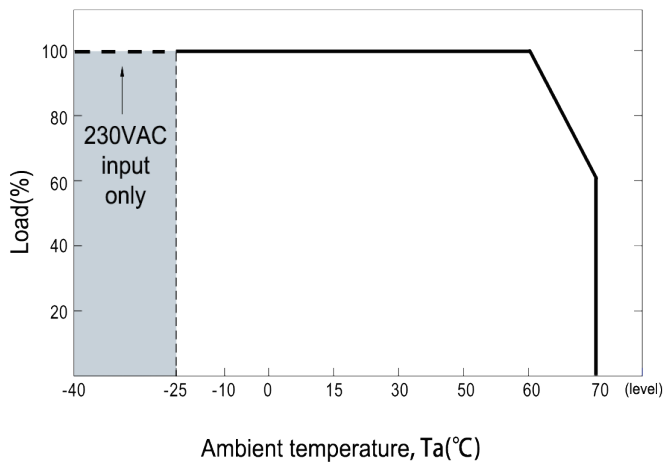


Note:

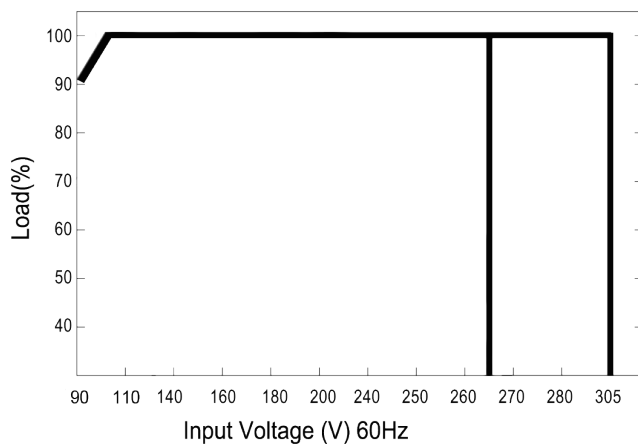
1. Min. dimming level is about 3% and the output current is not defined when $0\% < I_{out} < 3\%$.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.



Output load VS Temperature



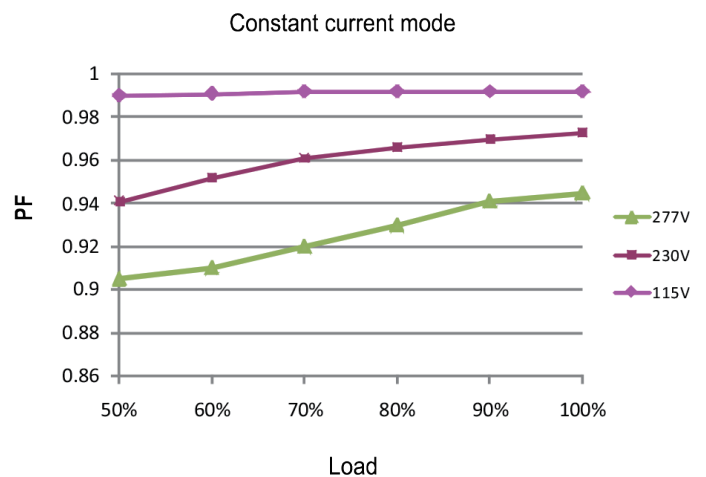
Static characteristic curve



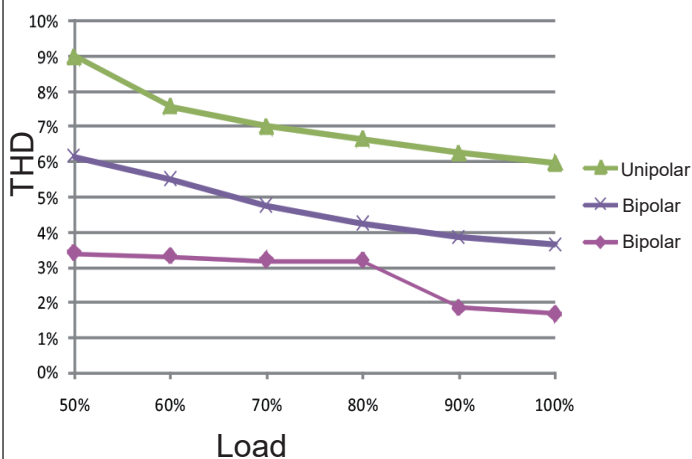
※ Derating output at low input voltage

PF characteristic curve

※ Tcase at 80°C



THD characteristic curve



Efficiency VS Load

