



ZORANTECH
卓然照明

20W constant voltage waterproof led driver



■ Features

- Constant Voltage (C.V.) output
- Built-in active PFC function, High efficiency up to 88%
- Input voltage/Full range(up to 305VAC)
- Protections:Short circuit/Over Voltage/Over load/Over temperature
- Transformer copper wire is F class,Temperature up to 155°C
- THD≤15%(Bipolar), 5 years warranty
- Customizable dimming:0/1-10V or DALI or PWM
- Noise free, flicker free
- OEM & ODM, no MOQ, Support customization

■ Applications

- LED outdoor lighting
- LED strip light
- LED kitchen light
- LED wall washer light
- LED underground light
- LED tunel light
- LED garden lights
- LED line light
- LED stage lights
- LED Spot light

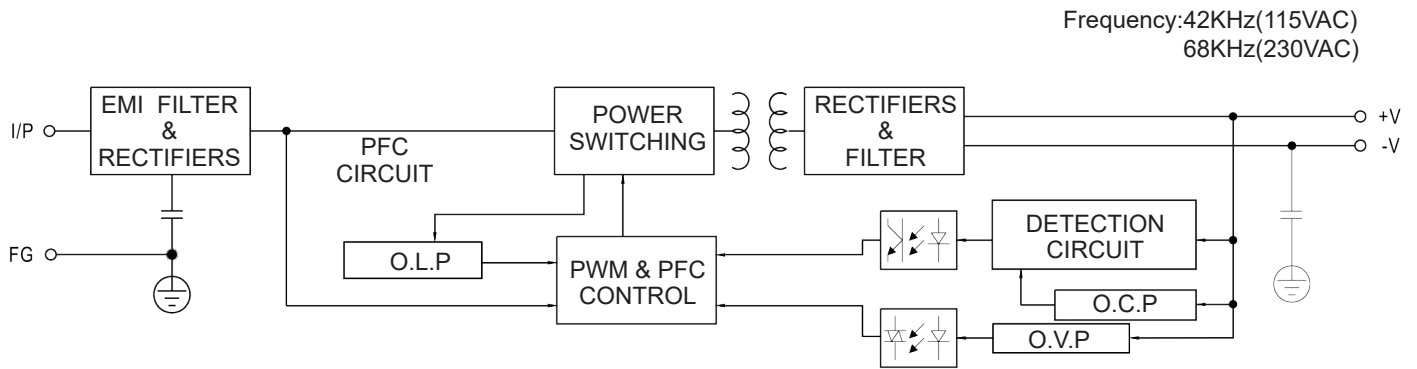
■ Description

The constant voltage waterproof series produced by Zoran Technology is an AC-to-DC driver.operates from 90~305VAC and offers models with different rated voltage ranging ~between 12V/24V/36V/48V/54V/60V etc. 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.Dimming and other functions can be customized.

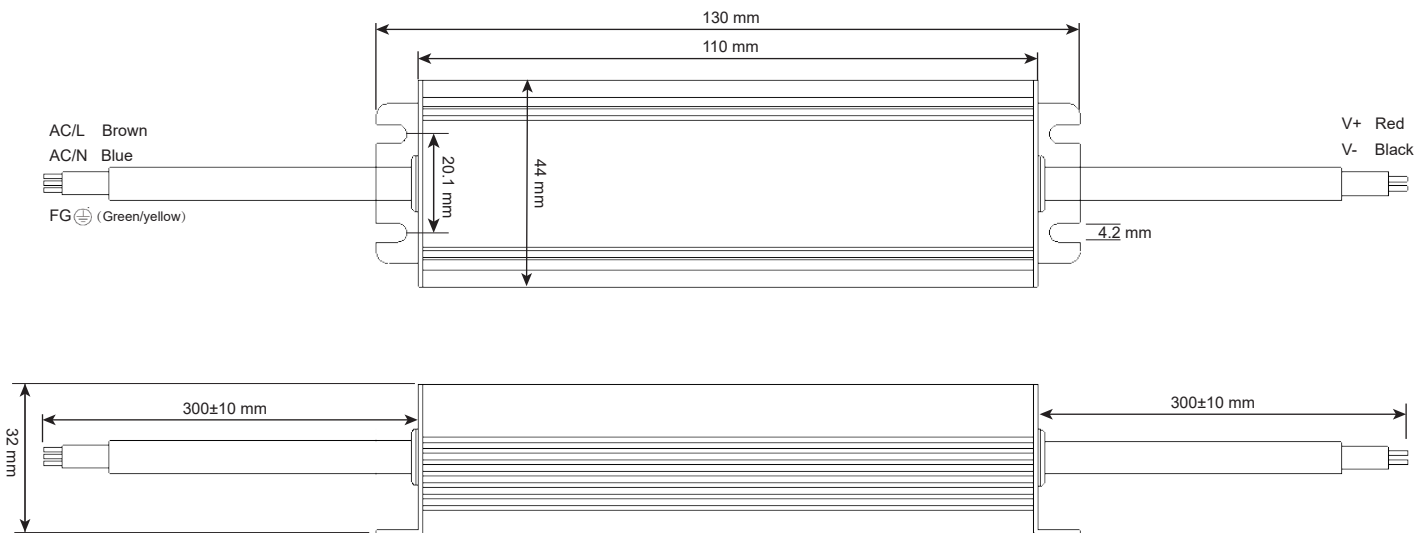
■ Electrical Specification

MODEL		ZR-HVM12NB-20W	ZR-HVM24NB-20W	ZR-HVM36NB-20W	ZR-HVM48NB-20W	ZR-HVM54NB-20W
Output	Output Voltage Note.1	12 VDC	24 VDC	36 VDC	48 VDC	54 VDC
	Ouput Current Note.2	1670 mA	830 mA	560 mA	420 mA	370 mA
	Rated Power	20 W	20 W	20 W	20 W	20 W
	Voltage 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) THD≤25%(unipolar load≥50%/115VAC)				
	Full load Efficiency	≥85%	≥85%	≥86%	≥86%	≥87%
	AC Current (Typ.)	0.2A/115VAC 0.1A/230VAC 0.09A/265VAC				
	No-load power consumption	≤1.0W				
Protection	Over Voltage	Protection type:Shut down O/P voltage,re-power on to recover				
	Over Load	≤120% Recovers automatically after fault condition is removed				
	Short Circuit	Hiccup Mode,Recovers automatically after fault condition is removed				
	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)	130*44*32 mm				
	Weight	400g				
	Packing	30pcs/13kg/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

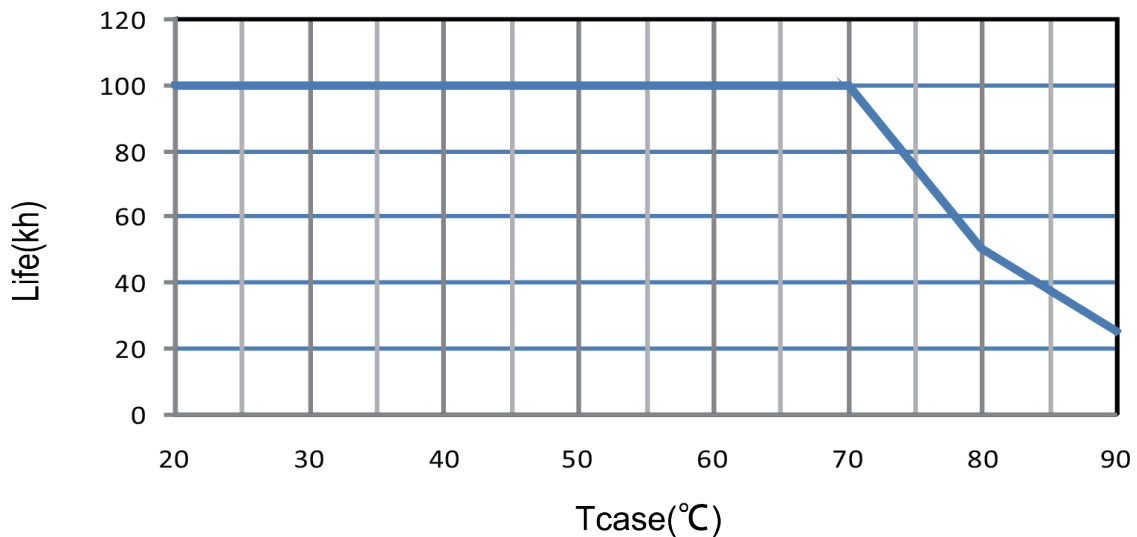


Mechanical Specification

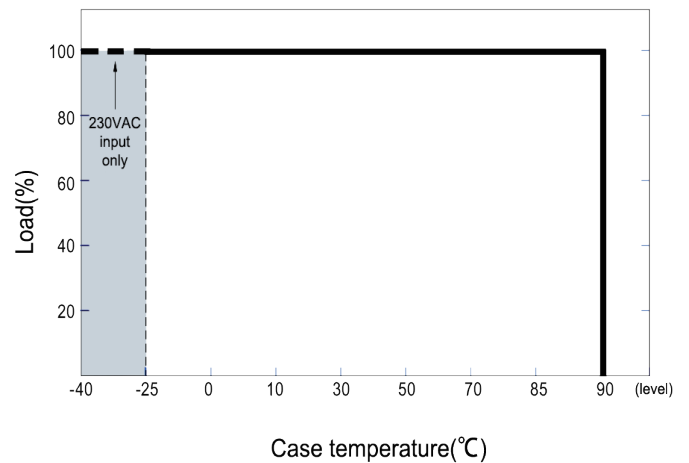
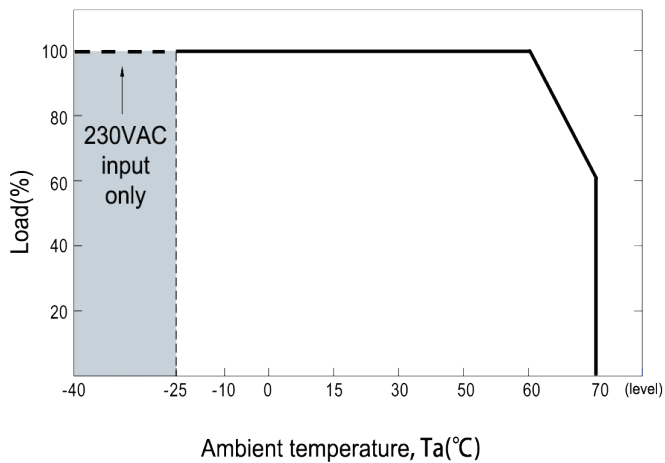


- ※ The yellow-green wire at the input is the ground (FG), the brown wire is the AC phase wire(L), and blue wire is the AC neutral wire (N);
- ※ The red wire at the output is the positive output voltage(V+) and black wire is the negative output voltage(V-);
- ※ In addition, the length and thickness of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

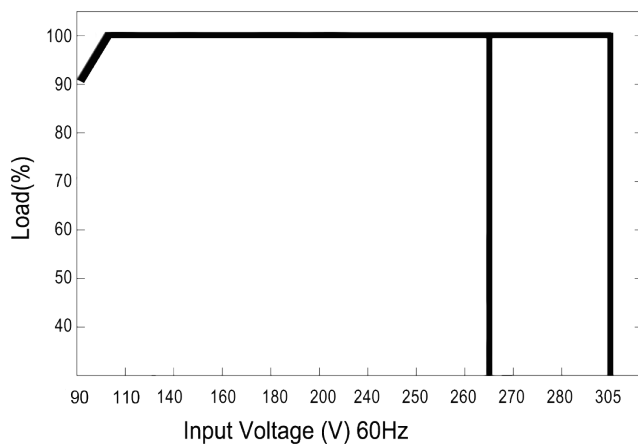
Life



Output load VS Temperature



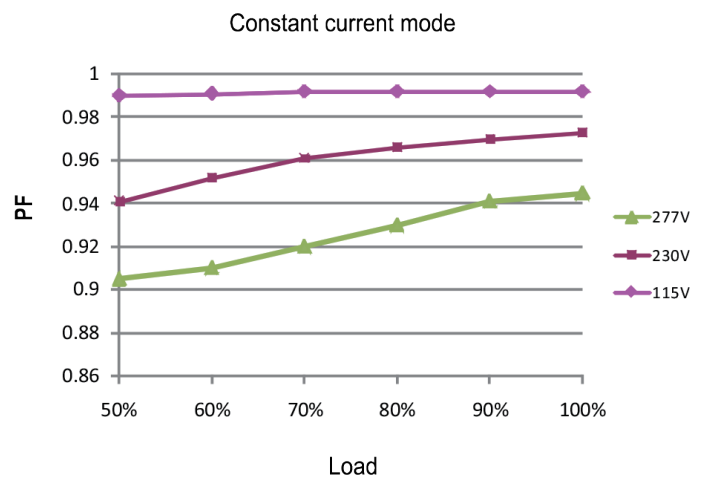
Static characteristic curve



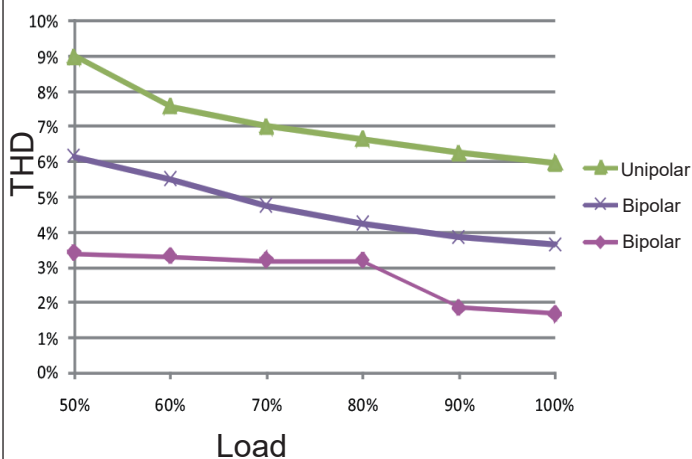
※ Derating output at low input voltage

PF characteristic curve

※ Tcase at 80°C



THD characteristic curve



Efficiency VS Load

