



**ZORANTECH**  
卓然照明

## 50W DALI 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 $\leq$ 16%, Dimming range:0-100%/10-100%
- Comply with DALI V0 IEC60929 and DALI V1 V2 IEC62386 standards
- 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

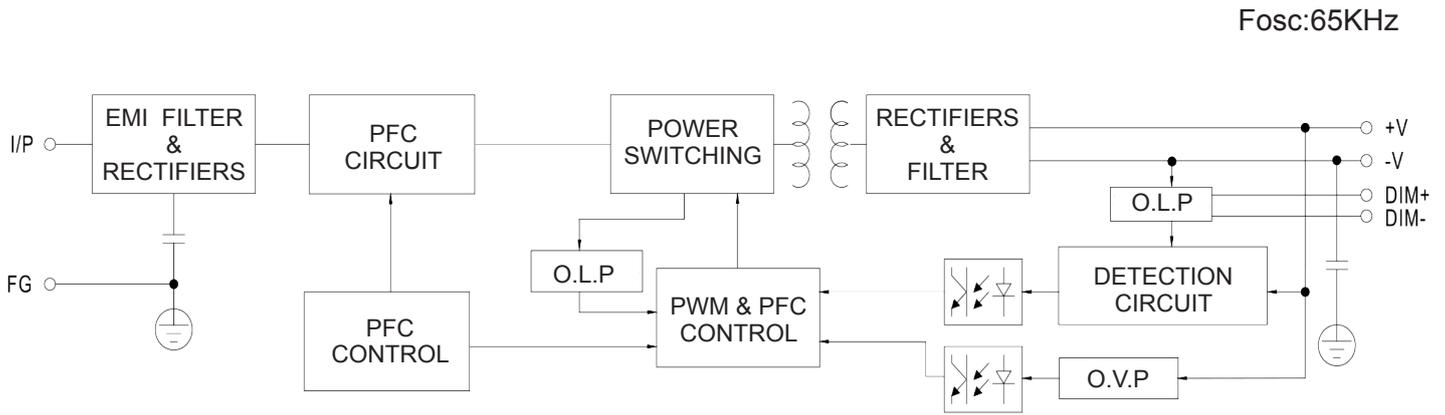
### ■ Description

The DALI constant current plastic 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 60V. Thanks to the high efficiency up to 88%, with the fanless design, the entire series is able to operate for -40~ +70 °C case temperature under free air convection. It can be widely matched with all European dimmers and lighting control systems, Australian mainstream dimmers and lighting control systems, such as: Philips, Osram, Lutron, Leviton and Tridonic dimmers and systems, flicker free, achieve perfect soft dimming.

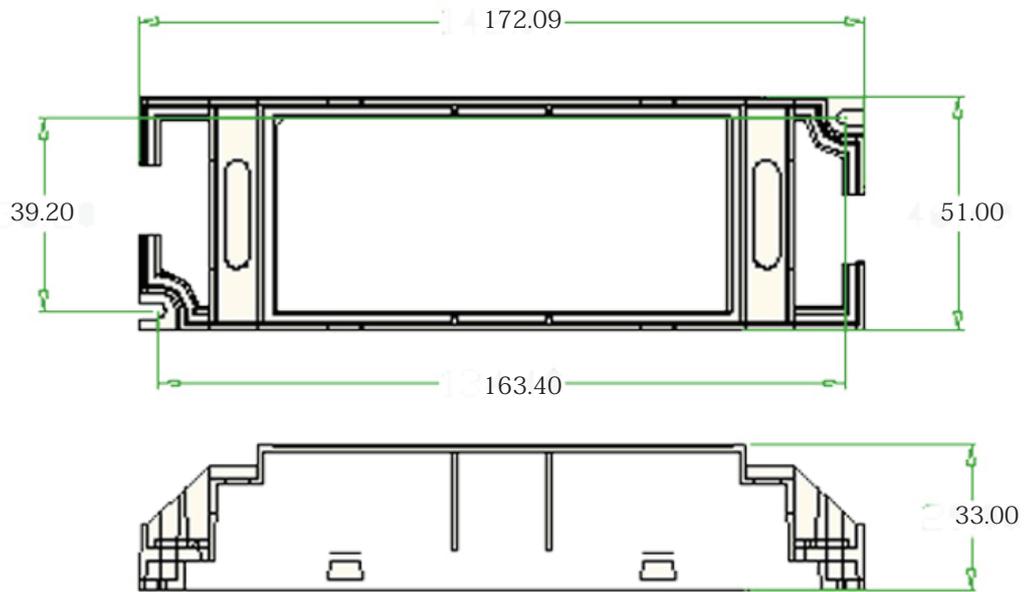
## ■ Electrical Specification

MODEL		ZR-GCP24ND-50W	ZR-GCP30ND-50W	ZR-GCP42ND-50W	ZR-GCP50ND-50W	ZR-GCP58ND-50W
Output	Output Voltage <small>Note.1</small>	12-24 VDC	18-30 VDC	27-42 VDC	36-50 VDC	43-58 VDC
	Output Current <small>Note.2</small>	2080 mA	1670 mA	1200 mA	1000 mA	860 mA
	Rated Power	50 W	50 W	50 W	50 W	50 W
	Current Tolerance <small>Note.4</small>	±3%	±3%	±3%	±3%	±3%
	Line Regulation	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	Setup,Rise Time <small>Note.6</small>	1600ms,800ms/115VAC 500ms,1000ms/230VAC				
	Hold Up Time <small>(Typ.)</small>	10ms/115VAC 230VAC				
Input	Rate Voltage <small>Note.5</small>	90~265VAC OR 100-277VAC				
	Frequency Range	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	≥86%	≥86%	≥87%	≥87%	≥88%
	AC Current <small>(Typ.)</small>	0.25A/115VAC 0.21A/230VAC 0.2A/265VAC				
	Input signal <small>(Typ.)</small>	DALI or PUSH dim				
No-load power consumption	≤1.0W					
Protection	Over Current	95-108%				
		Protection type:Constant current limiting,recovers automatically after fault condition is removed				
	Over Load	≤120% Recovers automatically after fault condition is removed				
	Short Circuit	Hiccup Mode,Recovers 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					
Environment	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				
	DALI Standards	Compliance to IEC-62386-101,102,207(only to YD/ND series)				
	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 172*W 51*H 33 mm				
	Weight	300g				
	Packing	50pcs/15.0Kg/ctn				
Note	<p>1.All parameters Not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.</p> <p>2.Ripple&amp;Noise are measured at 20MHz of bandwidth by using a 12"twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</p> <p>3.Tolerance: includes set up tolerance, line regulation and load regulation.</p> <p>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.</p> <p>5.Please refer to the product warranty on Zoran Technology website <a href="http://www.zorantech.com">http://www.zorantech.com</a>.</p> <p>6.If you need other special parameters, please contact our customer service for consultation!</p>					

■ Block Diagram

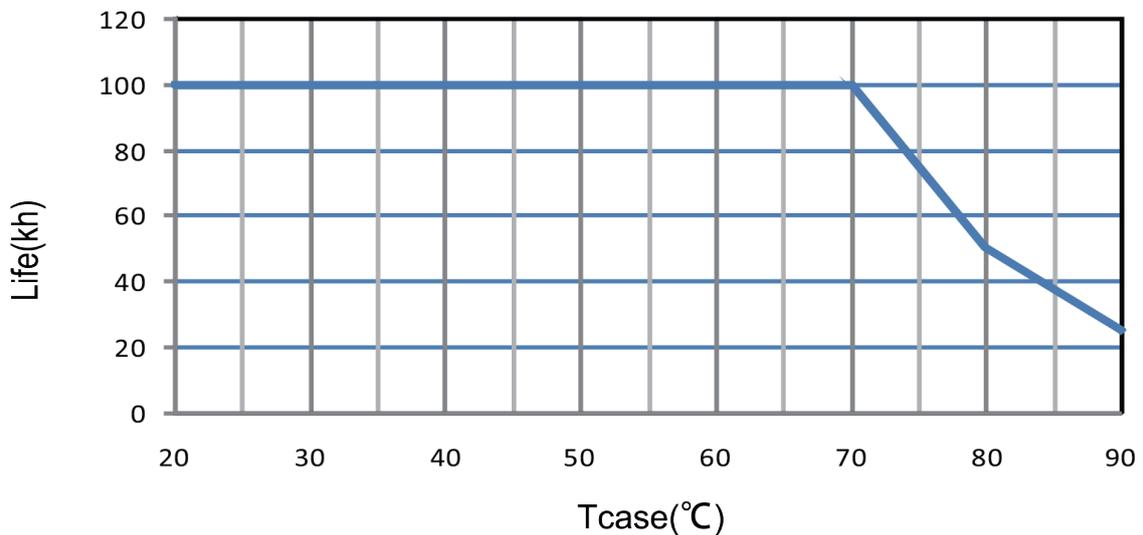


■ Mechanical Specification



- ※ 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

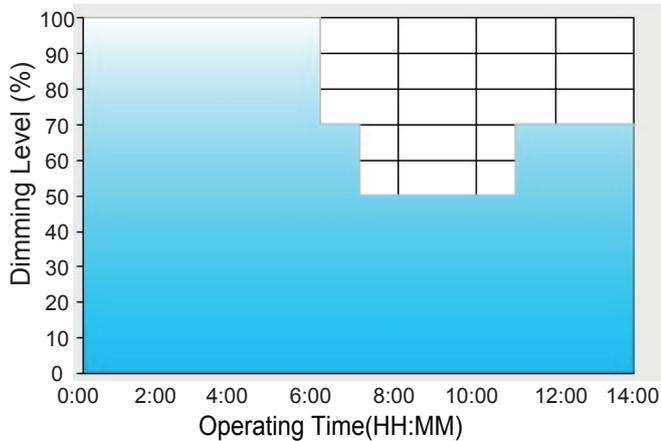
FG ⊕ (Green/Yellow)


 V+ Red  
 V- Black

 DIM+ Brown  
 DIM- Blue

**※ DALI Interface**

- Add DALI signal between DA+ and DA- ;
- DALI protocol 16 groups and 64 addresses ;
- Can set any output current to boot ;

**◎ D01-Type: the profile recommended for residential lighting**


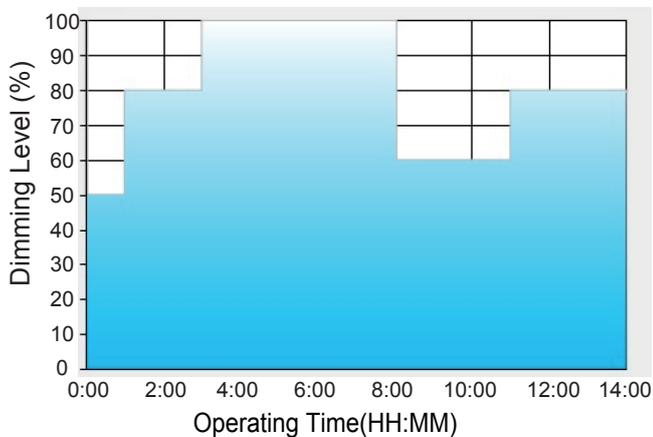
Set up for D01-Type in Smart time dimming software program:

	T1	T2	T3	T4
TIME **	06:00	07:00	11:00	----
LEVEL **	100%	70%	50%	70%

\*\*:Time matches Operating Time in the diagram whereas LEVEL matches Dimming level.

Example: If a residential lighting application adopts D01-Type, when turning on the power supply at 6:00pm,for instance:

- [1] The power supply will switch to the constant current level at 100% starting from 6:00pm.
  - [2] The power supply will switch to the constant current level at 70% in turn,starting from 0:00am,which is 06:00 after the power supply turns on.
  - [3] The power supply will switch to the constant current level at 50% in turn,starting from 1:00am,which is 07:00 after the power supply turns on.
  - [4] The power supply will switch to the constant current level at 70% in turn,starting from 5:00am,which is 11:00 after the power supply turns on.
- The constant current level remains till 8:00am ,which is 14:00 after the power supply turns on.

**◎ D02-Type: the profile recommended for street lighting**


Set up for D02-Type in Smart time dimming software program:

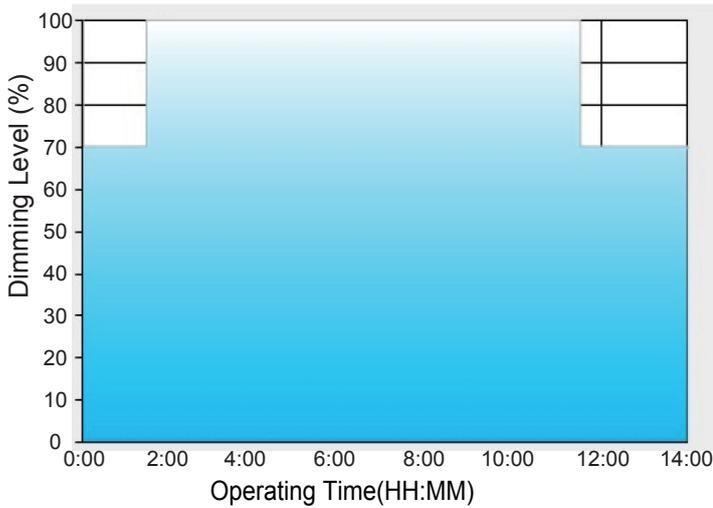
	T1	T2	T3	T4	T5
TIME **	01:00	03:00	08:00	11:00	----
LEVEL **	50%	80%	100%	60%	80%

\*\*:Time matches Operating Time in the diagram whereas LEVEL matches Dimming level.

Example: If a street lighting application adopts D02-Type, when turning on the power supply at 5:00pm,for instance:

- [1] The power supply will switch to the constant current level at 50% starting from 5:00pm.
  - [2] The power supply will switch to the constant current level at 80% in turn,starting from 6:00pm,which is 01:00 after the power supply turns on.
  - [3] The power supply will switch to the constant current level at 100% in turn,starting from 8:00pm,which is 03:00 after the power supply turns on.
  - [4] The power supply will switch to the constant current level at 60% in turn,starting from 1:00am,which is 08:00 after the power supply turns on.
  - [5] The power supply will switch to the constant current level at 80% in turn,starting from 4:00am,which is 11:00 after the power supply turns on.
- The constant current level remains till 6:30am ,which is 14:00 after the power supply turns on.

◎ D03-Type: the profile recommended for tunnel lighting:



Set up for D03-Type in Smart time dimming software program:

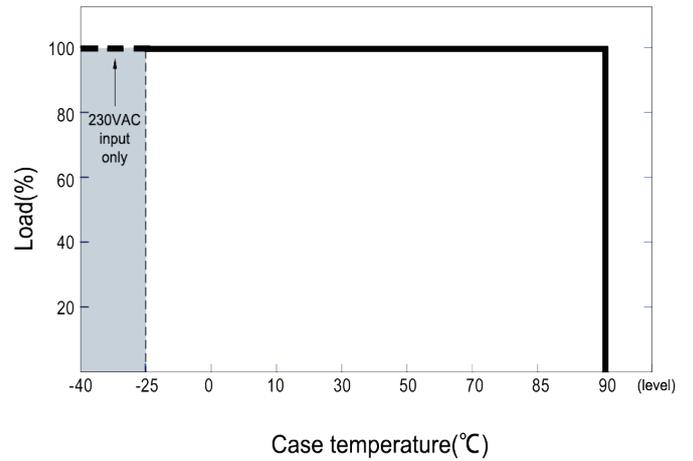
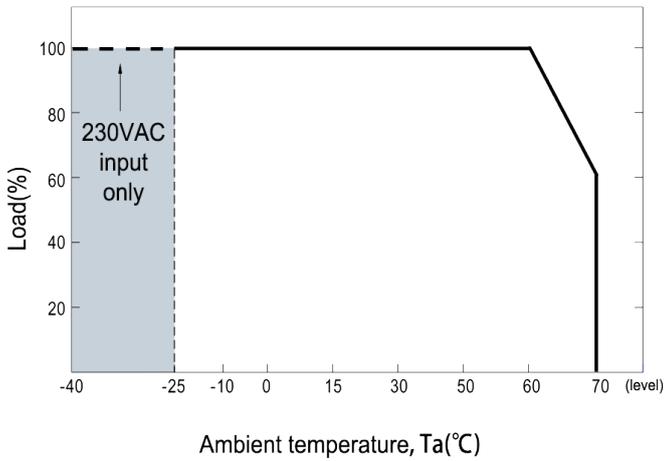
	T1	T2	T3
TIME **	01:30	11:00	----
LEVEL **	70%	100%	70%

\*\* : Time matches Operating Time in the diagram whereas LEVEL matches Dimming level.

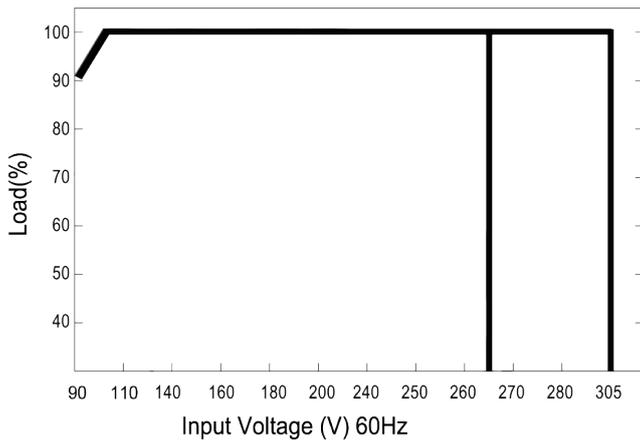
Example: If a residential lighting application adopts D03-Type, when turning on the power supply at 4:30pm, for instance:

- [1] The power supply will switch to the constant current level at 70% starting from 4:30pm.
- [2] The power supply will switch to the constant current level at 100% in turn, starting from 6:00pm, which is 01:30 after the power supply turns on.
- [3] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on. The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

■ Output load VS Temperature



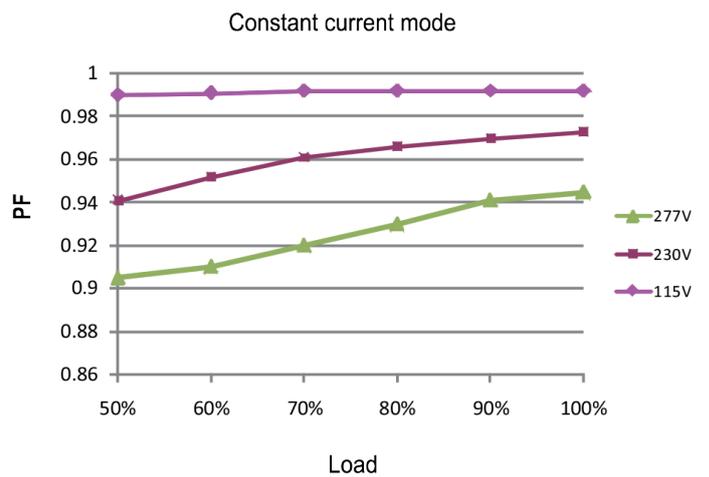
■ Static characteristic curve



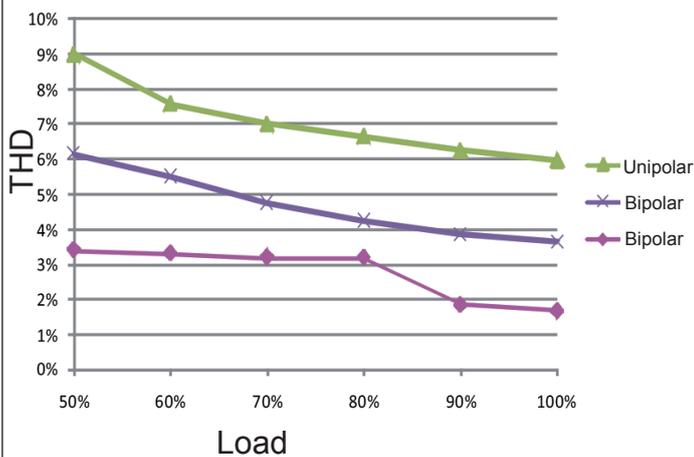
※ Derating output at low input voltage

■ PF characteristic curve

※ Tcase at 80°C



■ THD characteristic curve



■ Efficiency VS Load

