



Product Specification

Title	DALI Dimmable LED Driver
Model	BQ-030DNPV (Constant Voltage / Flicker Free)
Specification	Input: 100~240Vac 50/60Hz Output: 12V/2500mA 24V/1250mA
Power Range	30W
Author	R&D
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Date	2021-01-05
Revision	2.0

1. Product Description

1.1 This engineering report describes the design for a **DALI dimmable Constant Voltage LED Driver** for LED applications.

1.2 Prototype Photo



1.3 Physical size

	L (mm)	W (mm)	H (mm)
	155	53	30
	±1	±1	±1

Features

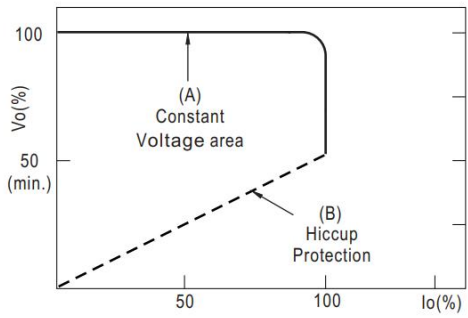
- 100~240Vac 50/60Hz
- Built-in active PFC function
- Flicker Free
- Short circuit, Over current, Over voltage Protection
- Air Cooling
- Integrated Dali standard interface
- Applied to LED lighting etc
- No load and Safety Protection Device
- Installed economically and quickly
- Complied with the world safety standard of lighting
- Protection class II
- 5 years Warranty

Description

BQ-030DNPV DALI dimmable LED Driver is a kind of Constant Voltage LED power supply that our company R&D, with high power factor, high efficiency, high precision, adopting the high efficiency, stable, low loss of switch control chip. It was made with high-quality components, so it had the characteristics like low noise, energy-saving, environmental protection, and long life, etc.

1.4 Working principle

BQ-030DNPV DALI Dimmable LED Driver is with the Constant Voltage feature, the working condition is as the picture under.



Typical output current normalized by rated current (%)

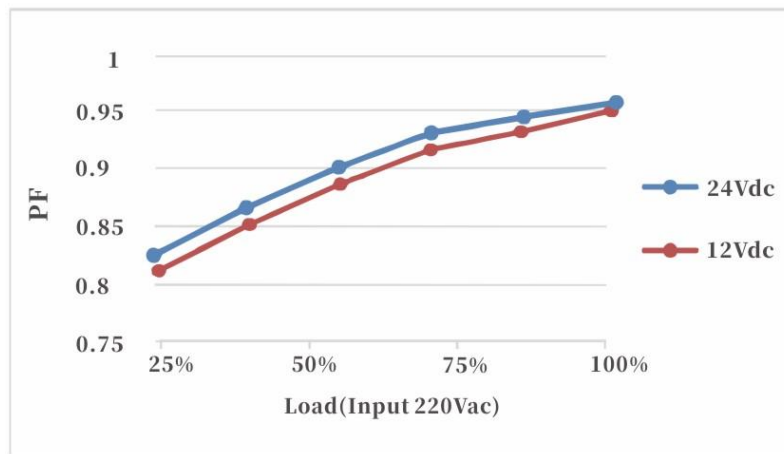
2. Electric Idiosyncrasy

2.1 Specs.

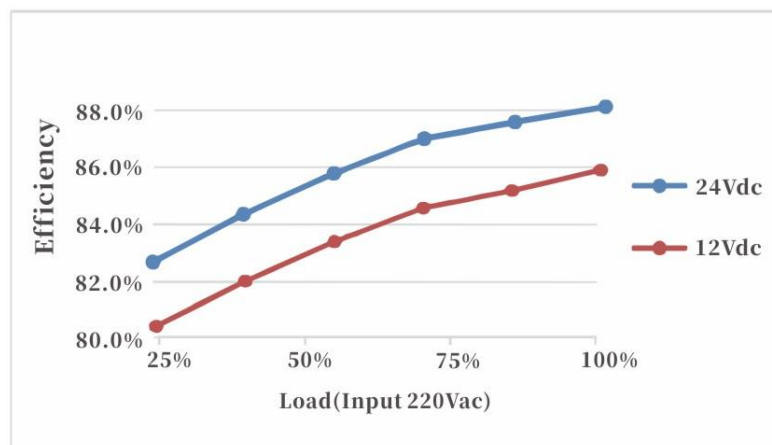
Model		BQ-030DNPV	
Output	DC Voltage	12V	24V
	Output Current	2500mA	1250mA
	Output Power	30W	
	Flicker Index	Modulation depth ≤1% Complies with the flicker-free standard (IEEE Std 1789-2015)	
	Ripple Voltage	<10%	
	Voltage Tolerance	±0.5V	
	Temperature Drift	±5%	
	Start-up Time	<1.5S@230VAC	
Input	Input Voltage	100-240VAC	
	Frequency Range	47-63Hz	
	Power Factor(Typ.)@ full load	0.95@115VAC 0.93@230VAC	
	THD(Typ.)@ full load	<20%	
	Efficiency(Typ.)@ full load	86%	88%
	AC Current(Max.)	0.3A@230VAC	
	Inrush Current (Typ.)	20A, 50%, 1.6ms	
	Leakage current	<0.5mA	
Protection	Short Circuit	shut down o/p voltage, re-power on to recover after fault condition is removed	
	Over temperature	100℃±10℃ shut down o/p voltage, automatically recover after cooling.	
Environment	Working TEMP.	-40~+60℃	
	Working Humidity	20~90%RH, non-condensing	
	Storage TEMP. Humidity	-40~+80℃, 10~95%RH	
	Atmospheric Pressure	86kPa~106kPa	
Safety& EMC	Safety standards	EN61347	
	Withstand voltage	I/P-O/P: 3.75KVAC	
	Insulation Resistance	I/P-O/P:100MΩ/500VDC/25℃/70%RH	
	EMC EMISSION	EN55015; EN61000-3-2; EN61000-3-3;	
	EMC IMMUNITY	EN61547	
Others	DALI Standard	IEC 62386-101 102 207: DALI 2.0	
	Dimension	155*53*30 mm (L*W*H)	
	Warranty	5 Years	

2.2 Characteristic Curve

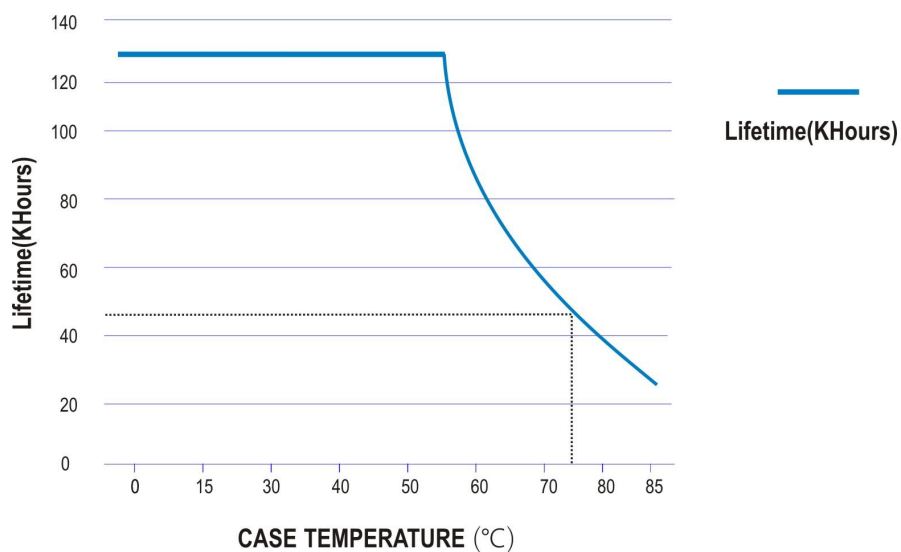
2.2.1 Power Factor Characteristic Curve



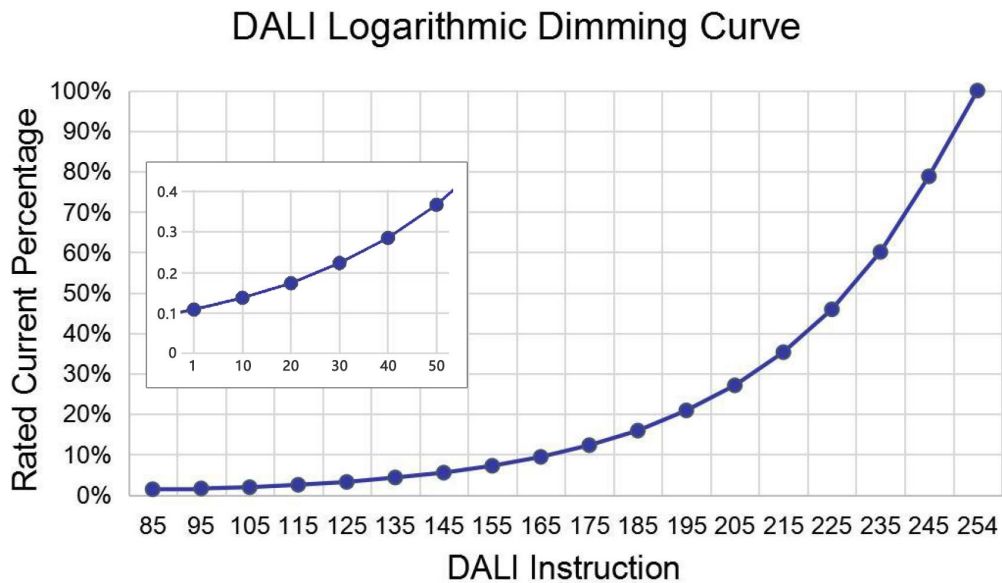
2.2.2 Power Efficiency Characteristic Curve



2.2.3 Lifetime Characteristic Curve



2.2.4 Dimming Curve



Operation Instructions of DALI Dimming

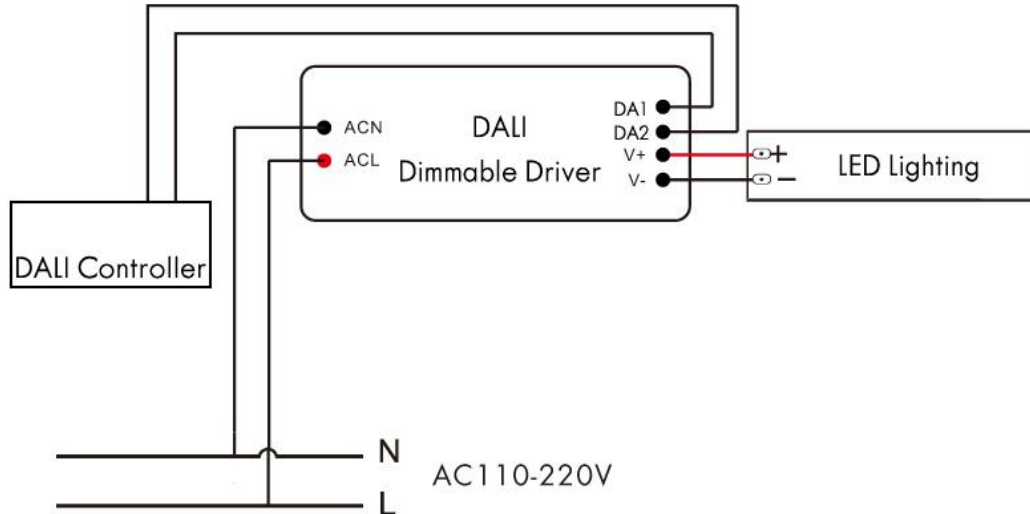
Factory default setting is of 100% brightness.

Connect the DALI signal to the DA1 and DA2 terminals.

DALI protocol includes 16 groups and 64 IP addresses.

The minimum dimming depth of the DALI dimming is 0.1% (Iout).

2.3 Circuit Drawing



1. When using this product, Please differentiate its input and output terminal. PRI is AC input, Connect ACL to firing line, ACN to null line; DC output, LED + and LED - connect the positive and negative of LED lamps separately; DA1 and DA2 DALI signal lines, no need to differentiate the positive and negative.

2. This product is a high Voltage LED lamps controller, please cut off the power before installation, Wiring according to the chart as shown, Connect LED+ and LED- , then connect the DA1 and DA2 signal wire, at last connect ACL and ACN. After verification to electricity.

3. Real Photo

