

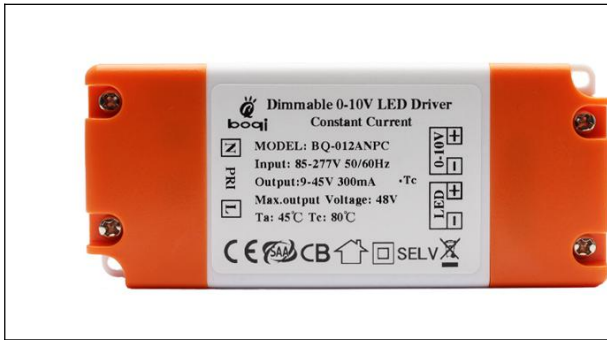
## Product Specification

<b>Title</b>	<b>0-10V Dimmable LED Driver</b>
<b>Model</b>	<b>BQ-012ANPC</b>
<b>Specification</b>	<b>Input: 100~265Vac 50/60Hz</b> <b>Output: 9-45V/300mA</b>
<b>Power Range</b>	<b>3-12W</b>
<b>Author</b>	<b>R&amp;D</b>
<b>Document NO.</b>	<b>RDPS-2201</b>
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<b>Revision</b>	<b>2.0</b>

## 1. Product Describes

1.1 This engineering report describes the design for a **0-10V dimmable Constant Current led driver** for LED applications.

### 1.2 Prototype Photo

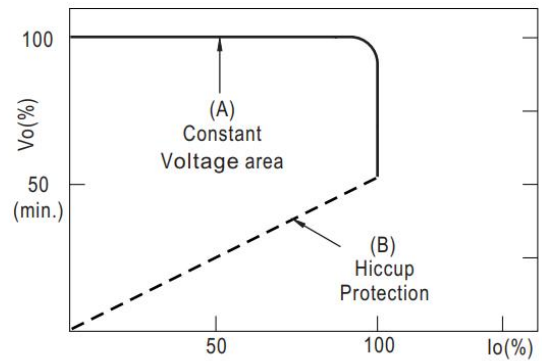


### 1.3 Physical size

L (mm)	W (mm)	H (mm)
88	38	21
±1	±1	±1

### 1.4 Working principle

BQ-030ANPC 0-10V Dimmable LED Driver is with the CC feature, the working condition is as the picture under.



Typical output current normalized by rated current (%)

### 1.5 Circuit Drawing



## 2. Electric Idiosyncrasy

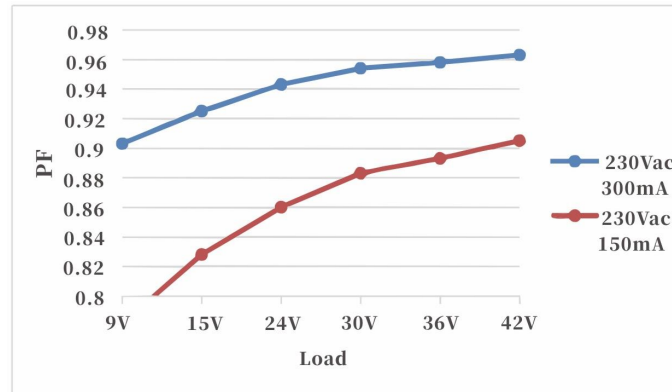


### 2.1 Specs.

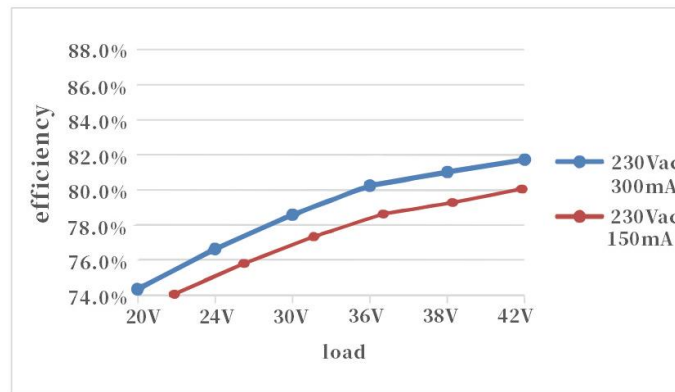
Model		BQ-012ANPC	
<b>Output</b>	DC Voltage	9-45V	
	Output Current	300mA	
	Output Power	3-12W	
	Flicker Index	Modulation depth $\leq 1\%$ Complies with the flicker-free standard (IEEE Std 1789-2015)	
	Ripple Current	$< 10\%$ (rated current)	
	Current Tolerance	$\pm 5\%$	
	Temperature Drift	$\pm 5\%$	
	Start-up Time	$< 1.5S@230Vac$	
<b>Input</b>	Input Voltage	100-265VAC	
	Frequency Range	47-63Hz	
	Power Factor(Typ.)@ full load	0.92@115VAC 0.90@230VAC	
	THD(Typ.)@ full load	$< 20\%$ @230Vac (DC42V full load)	
	Efficiency(Typ.)	85%@ full load	
	AC Current(Max.)	0.15A	
	Inrush Current (Typ.)	$\leq 6.5A \& 100\mu S@230Vac$	
	Leakage current	$< 0.5mA$	
	Standby Power Consumption	$\leq 0.5W$ (when 0-10V OFF signal is effective)	
<b>Protection</b>	Short Circuit	Hiccup mode (auto-recovery)	
	Over temperature	$100^{\circ}C \pm 10^{\circ}C$ shut down o/p voltage, automatically recover after cooling.	
<b>Environment</b>	Working TEMP.	$-20^{\circ}C - +45^{\circ}C$ (see below derating curve)	
	Working Humidity	20~90%RH, non-condensing	
	Storage TEMP.Humidity	$-30 \sim +80^{\circ}C, 10 \sim 90\%RH$	
	Atmospheric Pressure	86kPa~106kPa	
<b>Safety&amp; EMC</b>	Certifications	TUV-CE, CB, SAA, RoHS	
	Safety standards	EN61347	
	Withstand voltage	I/P-O/P: 3.75KVac 5mA 60S	
	Insulation Resistance	I/P-O/P: 100MQ/500VDC/25 $^{\circ}$ C/70%RH	
	EMC EMISSION	EN55015; EN61000-3-2; EN61000-3-3;	
	EMC IMMUNITY	EN61547	
<b>Others</b>	Dimming Function	0-10V	
	Dimension	100*43*21 mm (L*W*H)	
	Warranty	5 Years (Tc $\leq 77.5^{\circ}C$ )	

## 2.2 Characteristic Curve

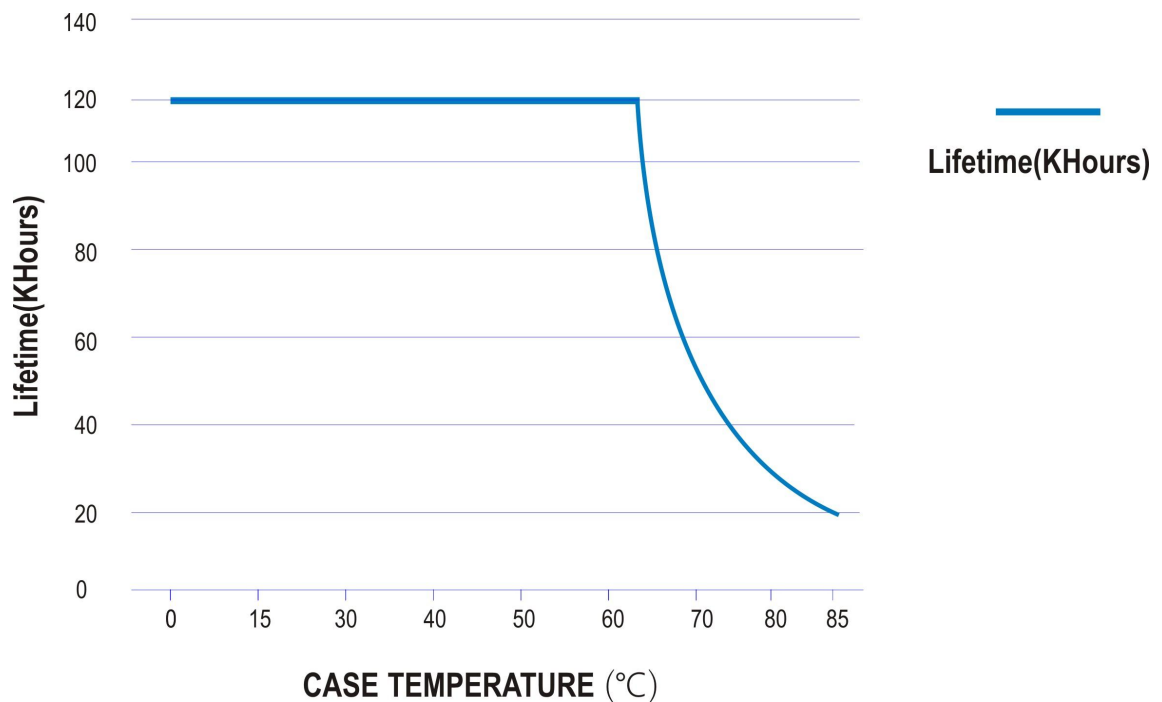
### 2.2.1 Power Factor Characteristic Curve



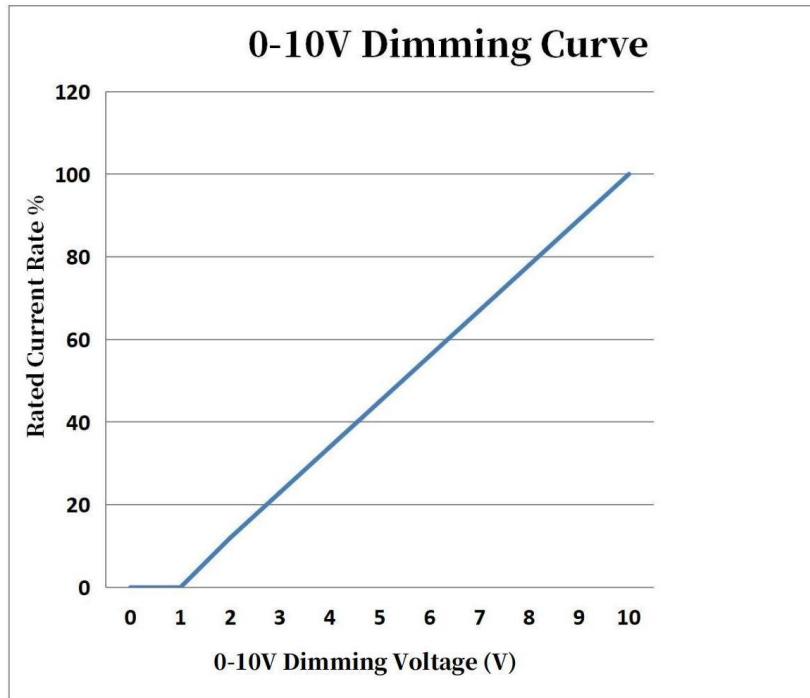
### 2.2.2 Power Efficiency Characteristic Curve



### 2.2.3 Lifetime Characteristic Curve



## 2.2.4 Dimming Curve



- Connect the 0-10V signals to the DIM terminal and the positive electrode connects to +, and the negative electrode connects to -.

- In 0-10V dimming mode, when the input voltage is less than 0.9V, the light will be turned off. When it's more than 0.9V, the light will be turned on. ( $\pm 0.2V$  tolerance is acceptable.)

- The minimum dimming depth of 0-10V dimming is 0.5%.

- The pins of the 0-10V DIM terminal without any signal connected: 100% rated output current

### 3. Real Photo

