

### Features

- 0-10V/PWM/Rx dimmable & CCT changeable
- 0.1% dimming depth
- Output current adjustable via DIP switch
- Flicker free
- Suitable for Class II light fixtures
- 5-year warranty (please refer to the warranty condition)



### Applications

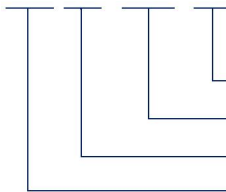
· Indoor office lighting · decorative lighting · commercial lighting · residential lighting

### Descriptions

LF-ACA012-0350-42 is a 12W constant current 0-10V/PWM/Rx CCT changeable LED driver. Its rated input voltage ranges from 220 to 240Vac and output current is adjustable via DIP switch from 100mA to 350mA with every 50mA as a step. Besides, it has all-round protections, including over voltage protection and short circuit protection.

### Product Model

LF - ACA 012 - 0350 - 42



- 42: maximum output voltage: 42V
- 0350: maximum output current: 350mA
- 012: rated power: 12W
- ACA: indoor 3-in-1 tunable white LED driver

## ■ Electrical Characteristics

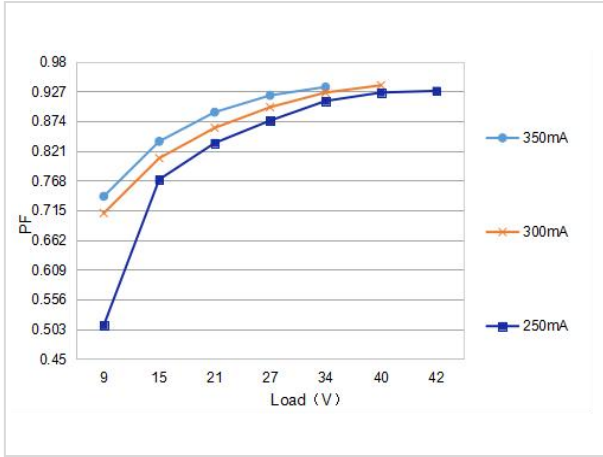
Model		LF-ACA012-0350-42						
<b>Output</b>	Output Voltage	9-42V	9-42V	9-42V	9-42V	9-40V	9-34V	
	Output Current	100mA	150mA	200mA	250mA	300mA	350mA	
	Flicker Index	Complies with IEEE Std 1789-2015						
	Current Tolerance	±7%			±5%			
	Temperature Drift	±15%			±10%			
	Startup Time	<2S@230Vac						
<b>Input</b>	Input Voltage	220-240Vac (voltage limit: 198-264Vac)						
	DC Input Voltage	180-264Vdc						
	Input Frequency	0/50/60Hz						
	Input Current	0.15A max.						
	PF	≥0.73	≥0.80	≥0.87	≥0.91	≥0.92	≥0.92	
	THD	<20%	<15%					
	Efficiency	≥73%	≥79%	≥81%	≥82%	≥83%	≥82%	
	Inrush Current	<15A&110uS @230Vac						
	Loading Quantities of Circuit Breaker	Model	B10	C10	B16	C16		
		Quantity (pcs)	44	44	71	71		
	Leakage Current	<0.7mA						
	Standby Power Consumption	≤0.5W (dim to off)						
<b>Protection Characteristics</b>	Open Circuit	<59V						
	Short Circuit	Hiccup mode (input)						
<b>Environment Descriptions</b>	Operating Temperature	-20°C~+50°C						
	Operating Humidity	20-90%RH (no condensation)						
	Storage Temperature/ Humidity	-30°C~+80°C (6 months in Class I environment); 10-90%RH (no condensation)						
	Atmospheric Pressure	86-106kPa						

## ■ Electrical Characteristics

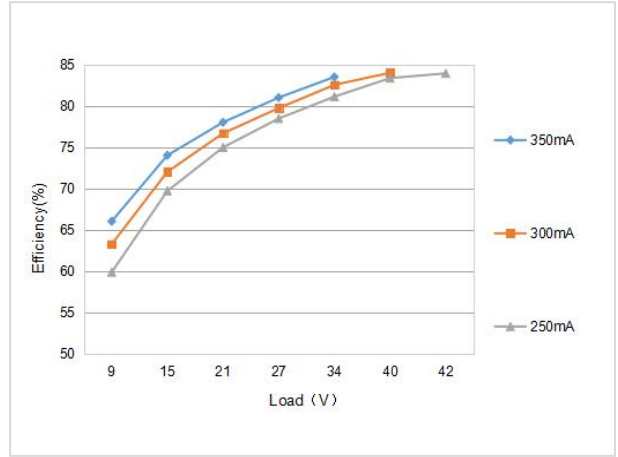
<b>Safety &amp; EMC</b>	Certifications	CE, CCC
	Withstanding Voltage	I/P-O/P: 3.75kV 5mA 60S
		I/P-DIM: 1.5kV 5mA 60S
		O/P-DIM: 0.5kV 5mA 60S
	Insulation Resistance	I/P-O/P: >100MΩ @500Vdc
	Safety Standards	CE-LVD: EN 61347-2-13: 2014/A1: 2017, EN 61347-1: 2015, EN 62493: 2015 CCC: GB19510.1-2009, GB19510.14-2009
	EMI	CE-EMC: EN55015, EN61000-3-2, EN61000-3-3 CCC: GB/T17743, GB17625.1, GB17625.2
EMS	CE-EMC: EN61000-4-2, 3, 4, 5 (lightning strike 1kV), 6, 11 CCC: GB/T17626.2, 3, 4, 5 (lightning strike 1kV), 6, 11	
<b>Other Parameters</b>	IP Rating	IP20
	RoHS	RoHS 2.0 (EU) 2015/863
	Warranty Condition	5 years (Tc ≤86°C)
	Noise Level	≤25dB (this data is measured in a soundproof room and the noise collector should be 10CM away from LED driver)
<b>Test Equipment</b>	AC power source: CHROMA6530, digital power meter: CHROMA66202, oscilloscope: Tektronix DPO3014, DC electronic load: M9712B, LED board, constant temperature and humidity chamber, lightning surge generator: Everfine EMS61000-5B, rapid group pulse generator: Everfine EMS61000-4A, spectroanalyzer: KH3935, hi-pot tester: EEC SE7440, flicker tester (flicker-free coefficient test): Everfine LFA-3000, etc.	
<b>Test Remark</b>	If there are no special remarks, the above parameters are tested at the ambient temperature of 25°C, humidity of 50%, full load, maximum output current and input voltage of 230Vac/50Hz.	
<b>Additional Remarks</b>	<ol style="list-style-type: none"> <li>1. It is recommended that user install the over voltage protection, under voltage protection and surge protection devices in the power supply circuits of light fixtures to ensure electricity safety.</li> <li>2. The LED driver used in combination with the end device is one of the accessories of the whole light fixture, and the EMC of the whole light fixture is not only susceptible to the driver itself, but to the LED light fixture and the whole light fixture's wiring. Thus, the manufacturer of LED light fixture should re-confirm the EMC of the whole light fixture before the whole light fixture is finished.</li> <li>3. The test conditions of the circuit breaker configuration quantity are the same as those of the inrush current.</li> <li>4. Lifud reserves the right to interpret any of the above parameters.</li> </ol>	

■ **Product Characteristic Curves**

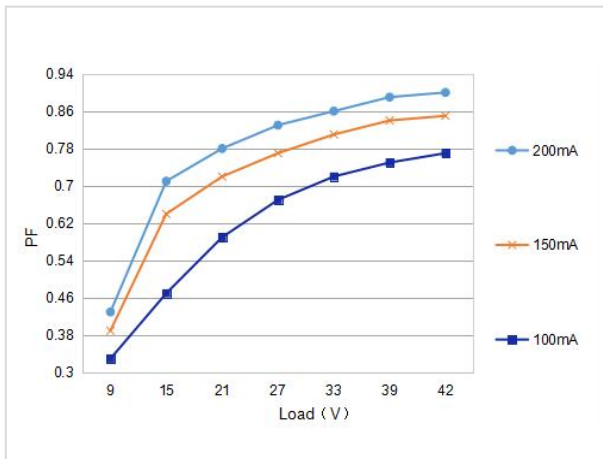
PF Curve 1



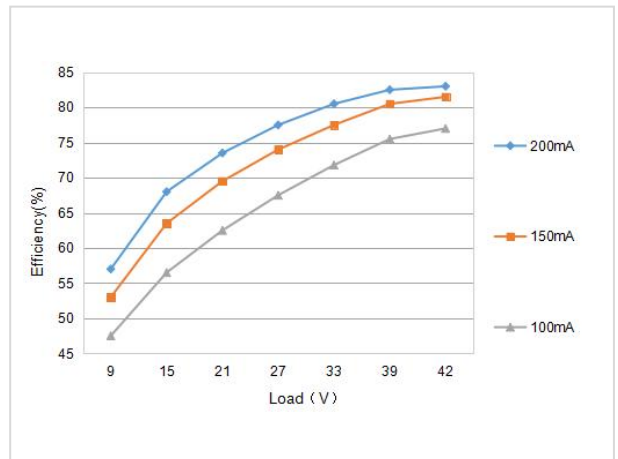
Efficiency Curve 1



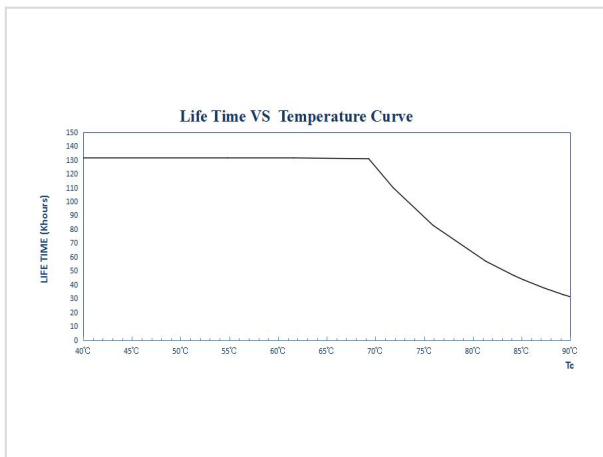
PF Curve 2



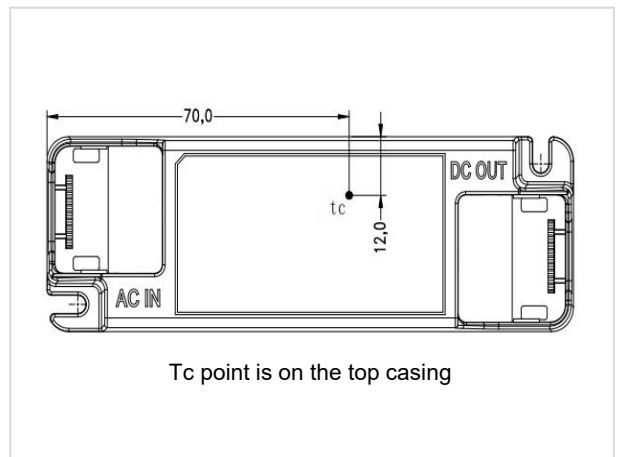
Efficiency Curve 2



Lifetime Curve



Tc Point Testing Diagram



■ **Product Definitions**

Product Terminals

INPUT		OUTPUT	
CCT+	Positive electrode of CCT	/	/
DIM+	Positive electrode of dimming	/	/
CCT-/DIM-	Negative electrode of CCT/dimming	LED+	Positive electrode output of LED driver
AC-L	Input terminal of AC live wire	WW-	Negative electrode output of warm light
AC-N	Input terminal of AC neutral wire	CW-	Negative electrode output of cold light

Product DIP Switch

Vo DC	I rated (CC)	1	2	3
9-34V	350mA	OFF	OFF	OFF
9-40V	300mA	OFF	OFF	ON
9-42V	250mA	OFF	ON	OFF
9-42V	200mA	OFF	ON	ON
9-42V	150mA	ON	OFF	OFF
9-42V	100mA	ON	OFF	ON

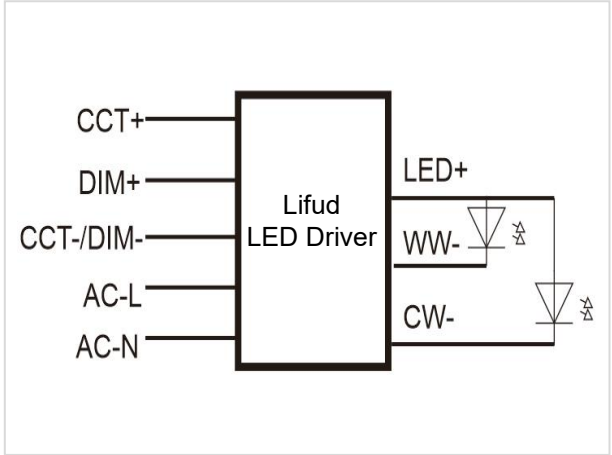
Remark: except the known DIP switch methods, others are default to be the maximum.

■ **Dimming Operation Instructions**

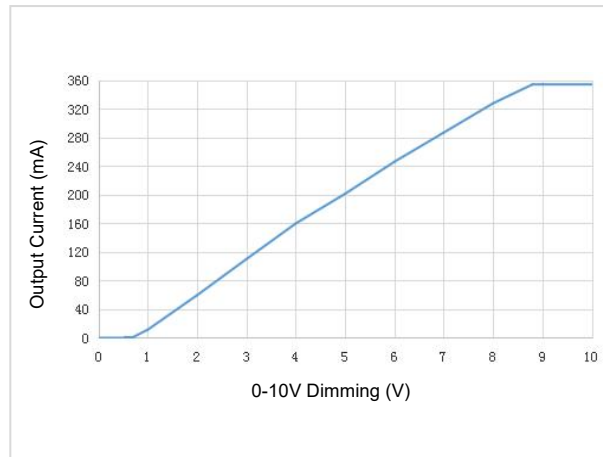
0-10V Dimming Operation

- Connect 0-10V signal to DIM terminal.
- In 0-10V dimming mode, when the input voltage is  $0.5V \pm 0.1$ , the light turns on; when it's  $0.3V \pm 0.1$ , the light turns off.
- Dimming depth: 0.1% (Vo max & lo max) (typical value)
- DIM+/CCT+ (without signal connected): 100% cold light output
- CCT+: switch cold or warm light; DIM+: adjust brightness
- Warm white: CCT+:  $8.6V \pm 0.1V$  (on);  $8.8V \pm 0.1V$  (off)  
Cold white: CCT+:  $0.5V \pm 0.1V$  (on);  $0.3V \pm 0.1V$  (off)  
Neutral white: CCT+:  $3.8V \pm 0.1V$

Wiring Diagram of 0-10V Dimming



Dimming Curve of Dim-to-off Version



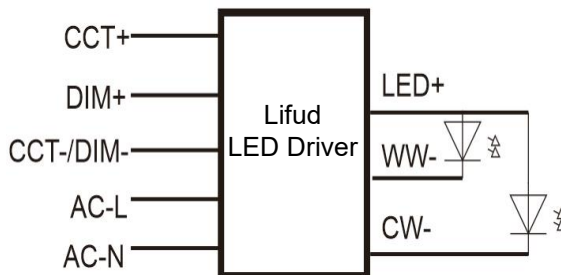
Input: 230Vac; output: 34Vdc/350mA  
(this data is measured by Lifud 0-10V dimmer and the chart is for reference only)

■ **Dimming Operation Instructions**

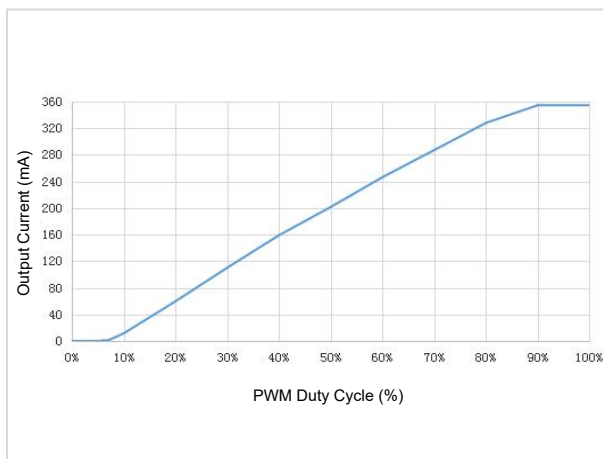
PWM Dimming Operation

- Connect PWM signal to DIM terminal.
- Compatible signal: 1000(Hz); amplitude: 9-10(V)  
When it's  $6\% \pm 1\%$ , the light turns on; when it's  $4\% \pm 1\%$ , the light turns off.
- Dimming depth: 0.1% (Vo max & lo max) (typical value)
- DIM+/CCT+ (without signal connected): 100% cold light output
- CCT+: switch cold or warm light; DIM+: adjust brightness
- Warm white: CCT+:  $86\% \pm 1\%$  (on);  $88\% \pm 1\%$  (off)
- Cold white: CCT+:  $5\% \pm 1\%$  (on);  $3\% \pm 1\%$  (off)
- Neutral white: CCT+:  $38\% \pm 1\%$

Wiring Diagram of PWM Dimming



Dimming Curve of Dim-to-off Version



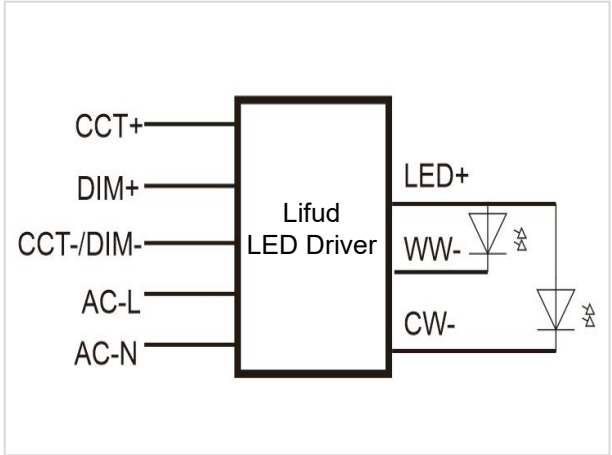
Input: 230Vac; output: 34Vdc/350mA  
(this data is measured by PWM signal generator RIGOL and the chart is for reference only)

■ **Dimming Operation Instructions**

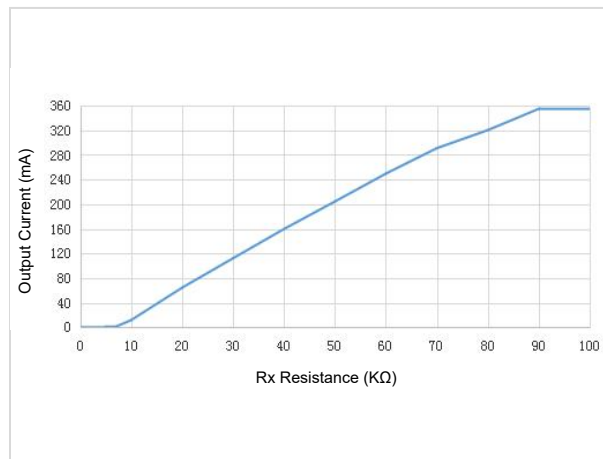
Rx Dimming Operation

- Connect Rx signal to DIM terminal.  
When the resistance is  $5K \pm 1K$ , the light turns on; when it's  $3K \pm 1K$ , the light turns off.
- Range: 0-100K $\Omega$
- Dimming depth: 0.1% ( $V_o$  max & lo max) (typical value)
- DIM+/CCT+ (without signal connected): 100% cold light output
- CCT+: switch cold or warm light; DIM+: adjust brightness
- Warm white: CCT+:  $86K\Omega \pm 1K\Omega$  (on);  $88K\Omega \pm 1K\Omega$  (off)
- Cold white: CCT+:  $5K\Omega \pm 1K\Omega$  (on);  $3K\Omega \pm 1K\Omega$  (off)
- Neutral white: CCT+:  $38K\Omega \pm 1K\Omega$

Wiring Diagram of Rx Dimming



Dimming Curve of Dim-to-off Version



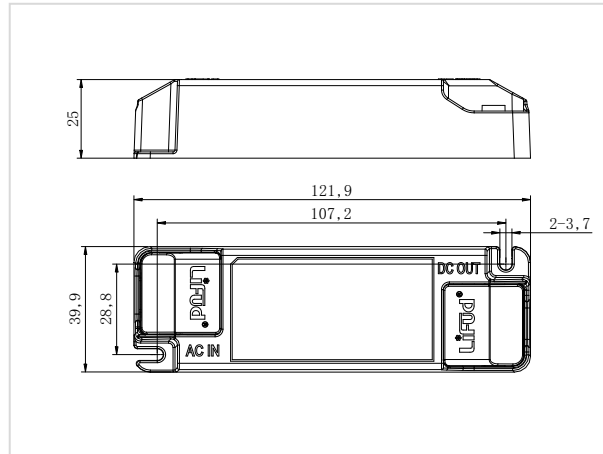
Input: 230Vac; output: 34Vdc/350mA  
(this data is measured by LEVITON dimmer and the chart is for reference only)



■ **Structure & Dimensions (unit: mm; tolerance: ±0.5mm)**

Overall Appearance

Model	Overall Appearance (L*W*H)	Distance Between 2 Positioning Holes	Diameter of Positioning Hole
LF-ACA012-0350-42	121.9*39.9*25 mm	107.2 mm	3.7 mm



■ **Packaging Specifications**

Model	LF-ACA012-0350-42
Carton Size	385*285*210 mm (L*W*H)
Quantity	14 pcs/layer; 7 layers/ctn; 98 pcs/ctn
Weight	0.089 kg/pc; 9.1 kg/ctn

## ■ Transportation and Storage

### 1. Transportation

- Suitable transportation means: vehicles, boats and aeroplanes.
- In transit, it is necessary to prepare awnings for rain or sun protection. Moreover, please keep civilized loading and unloading to prevent the vibration or impact of LED driver as much as possible.

### 2. Storage

- The storage of LED driver shall conform to the standard of Class I environment. When using LED drivers which have been stored for more than 6 months, please re-test them firstly. Do not use them unless they are tested to be qualified.

## Cautions

- Please use Lifud LED driver according to its parameters in the specification, otherwise the LED driver may malfunction.
- Using any incompatible light fixtures or those that have not been certified may cause fire, explosion or other risks.
- Man-made damage is beyond the scope of Lifud warranty service.

Remark: Lifud Technology Co., Ltd. reserves the right to interpret any contents of this specification.