

## Product Description

LF-AAT020-0500-42 is a 20W constant current LED driver with Triac dimming function. It is compatible with leading edge and trailing edge dimmers and it is flicker-free during the whole process of dimming. Its dimming range is 0-100% and its maximum dimming depth is 0.1%. Its input voltage range is 198-253Vac. The output current can be adjusted via a DIP switch from 250mA to 500mA, in steps of 50mA.

## Features

- IP20
- Suitable for Class II light fixtures
- Constant current output and the output current can be adjusted via a DIP switch
- Built-in active PFC function
- 0.1% dimming depth
- Triac dimming
- Compact size
- Smooth dimming effect within 0.1% dimming depth
- 5-year warranty (Please refer to the warranty condition.)

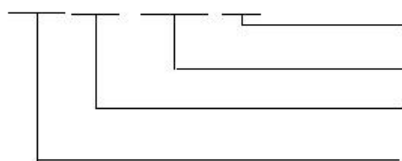


## Applications

- Horticultural lighting
- Indoor office lighting
- Decorative lighting
- Commercial lighting
- Residential lighting

## Product Naming

LF- AAT 020 - 0500- 42



- 42: maximum output voltage of 42V
- 0500: maximum output current of 500mA
- 020: rated power of 20W
- AAT: CC Triac dimming LED driver series

## Electrical Characteristics

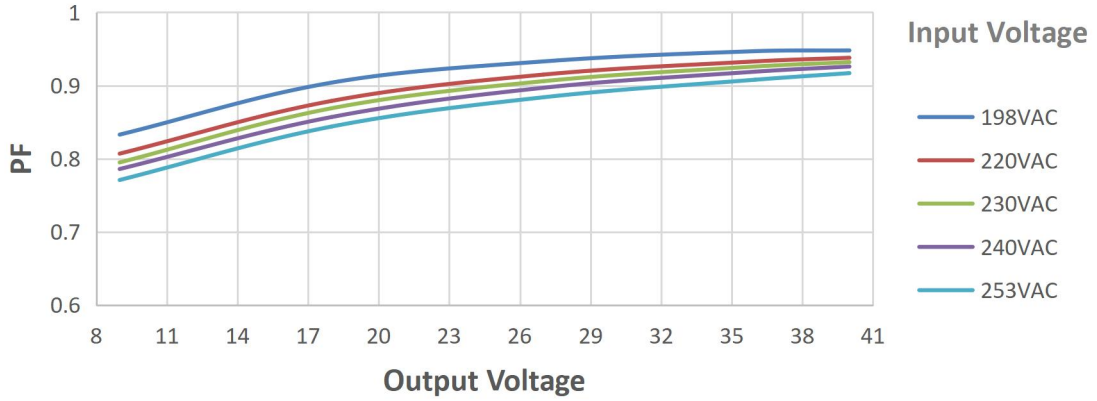
Model		LF-AAT020-0500-42						
Output	Output Voltage	9-42V	9-42V	9-42V	9-42V	9-42V	9-40V	
	Output Current	Adjustable current via the DIP switch, please refer to the DIP Switch Table						
		250mA	300mA	350mA	400mA	450mA	500mA	
	Flicker Index	IEC-Pst $\leq 1$ , CIE SVM $\leq 0.9$ , Modulation Depth $\leq 1\%$ Conforms to the flicker free standard (IEEE Std 1789-2015)						
	Current Tolerance	$\pm 8\%$			$\pm 5\%$			
	Temperature Drift	$\pm 10\%$						
Input	Input Voltage	220-240Vac (voltage limit: 198-253Vac)						
	DC Input Voltage	176-280Vdc						
	Input Frequency	47Hz-63Hz						
	Input Current	0.2A Max						
	Power Factor	$\geq 0.82$	$\geq 0.85$	$\geq 0.87$	$\geq 0.88$	$\geq 0.90$	$\geq 0.90$	
	Efficiency	$\geq 76\%$	$\geq 78\%$	$\geq 80\%$	$\geq 81\%$	$\geq 82\%$	$\geq 82\%$	
	Inrush Current	$\leq 60A \& 2600\mu S @ 230Vac$						
	Load Quantity Carried by the Circuit Breaker	Circuit Breaker Model	B10		C10		B16 C16	
		Quantity (pcs)	60		60		96 96	
	Surge Protection	L-N: 1kV						
	Leakage Current	$\leq 0.5mA$						
Protections	Open Circuit	$< 59V$						
	Short Circuit	Hiccup Mode (auto-recovery)						
Environment Descriptions	Working Temperature	$-20^{\circ}C \sim +45^{\circ}C$						
	Working Humidity	20-90%RH (no condensation)						
	Storage Temperature/Humidity	$-30^{\circ}C \sim +60^{\circ}C$ (six months under class I environment);						
		10-90%RH (no condensation)						
Atmospheric Pressure	86kPa~106kPa							

Safety & Electromagnetic Compatibility	Certifications	CE
	Withstanding Voltage	I/P-O/P: 3.75kV 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
	EMI	CE-EMC: EN55015, EN61000-3-2, EN61000-3-3
	EMS	CE-EMC: EN61000-4-2, 3, 4, 5, 6, 11
Others	IP Rating	IP20
	RoHS	RoHS 2.0 (EU) 2015/863
	Warranty Condition	5 yrs (Tc≤90℃)
Remarks	<ol style="list-style-type: none"> <li>1. It is recommended that customer should install over voltage, under voltage and surge protection devices in the power supply circuits of the light fixtures to ensure safety before connecting to electricity.</li> <li>2. Please disconnect AC input before switching output current via the DIP switch.</li> <li>3. The PC cover, casing, end caps and other parts of the LED driver inside the LED light fixture must conform to UL94-V0 flammability standard or above.</li> <li>4. As an accessory, the LED driver is not the only factor determining the EMC performance of the LED light fixture. The structure and the wiring of the light fixture are also relevant. Thus it's strongly recommended the LED light fixture manufacturer should re-confirm the EMC of the whole LED light fixture.</li> <li>5. Unless otherwise stated, the parameters above are test results under these conditions: ambient temperature 25℃, humidity 50%, 100% load, maximum output current and input voltage 230Vac.</li> </ol>	

**Product Characteristic Curves**

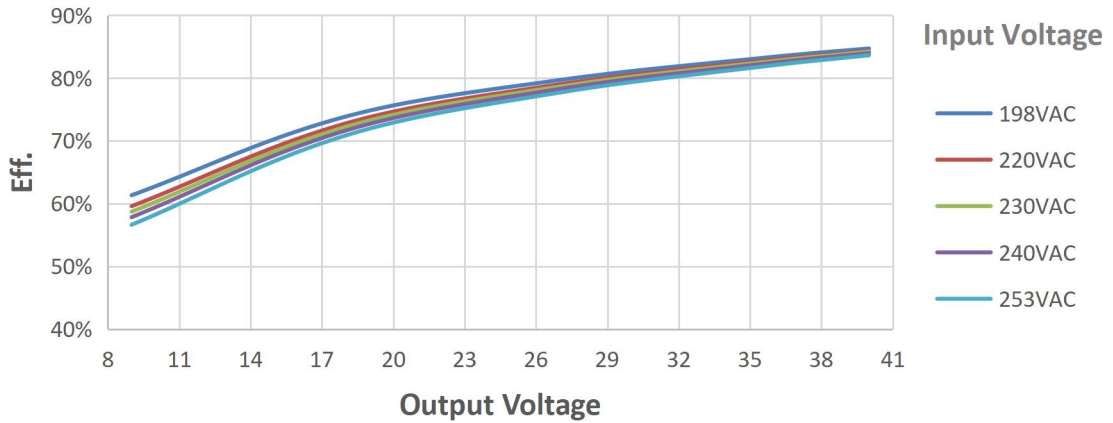
■ **PF Curve**

**PF VS Output Voltage@500mA**

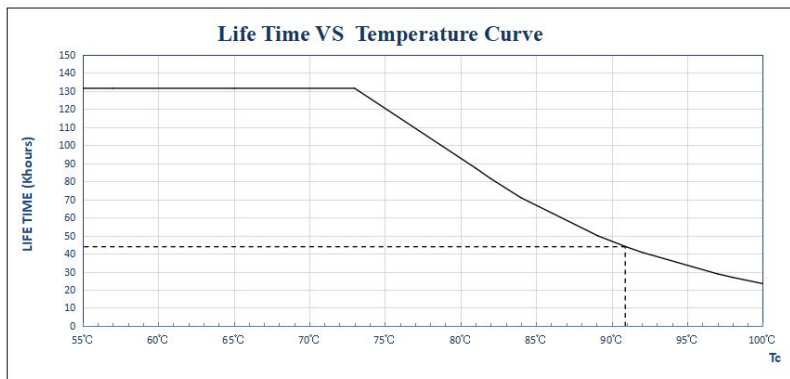


■ **Efficiency Curve**

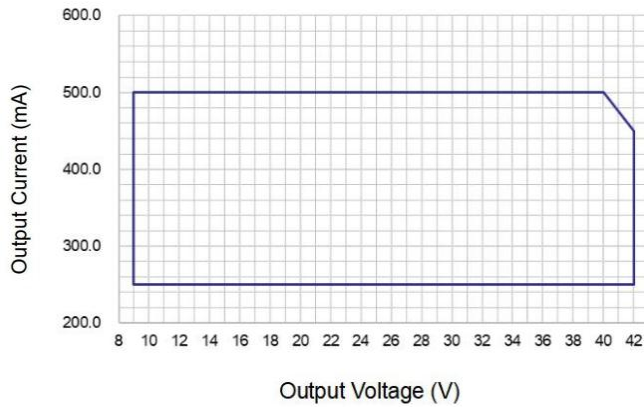
**Eff. VS Output Voltage@500mA**



■ **Lifetime Curve**



■ **Power Curve**



**Instructions of Dimming Operation**

■ **Terminals**

INPUT

AC-L	Input terminal of AC live wire
AC-N	Input terminal of AC neutral wire

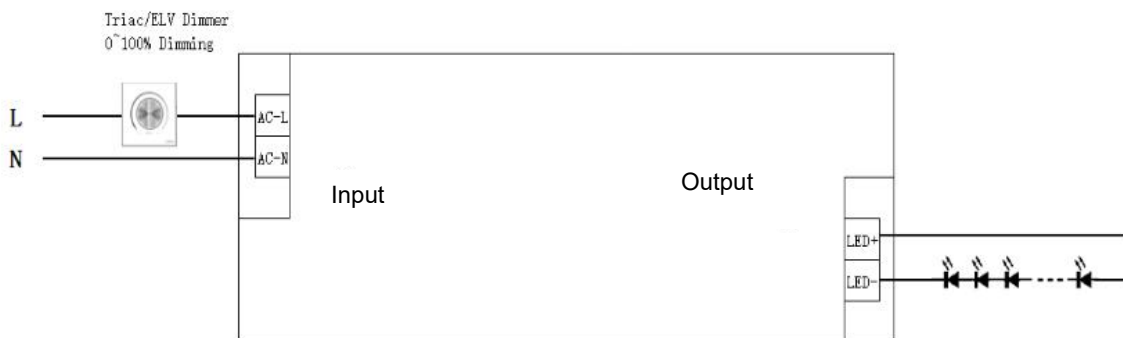
OUTPUT

LED+	Positive electrode output of the driver
LED-	Negative electrode output of the driver

■ **DIP Switch**

I rated (CC)	1	2	3	4	DIP Switch Diagram
500mA	/	ON	ON	ON	
450mA	/	ON	ON	OFF	
400mA	/	OFF	ON	ON	
350mA	/	OFF	ON	OFF	
300mA	/	OFF	OFF	ON	
250mA	/	OFF	OFF	OFF	

■ **Triac Dimming Wiring Diagram**



**Label**

**LIFUD**<sup>®</sup> TRIAC Constant Current Dimming Driver  
 LED Driver Model: LF-AAT020-0500-42

INPUT Input: 220-240V ~ 50/60Hz Max.0.2A Preparation for input and output

AC-L U out:59V= P rated:20W(Max) PF:>0.9C 17.5mm ON

AC-N ta:45°C tc:90°C For LED modules only Dimmable 0.1%-100% 1234

0.75-1.5□ Output current and setting table

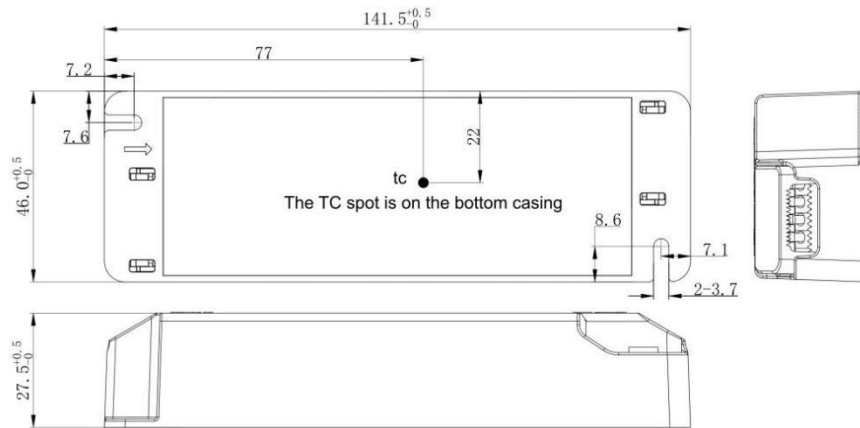
Vo DC	I rated(CC)	1	2	3	4
9-40V	500mA	✓	ON	ON	ON
9-42V	450mA	✓	ON	ON	OFF
9-42V	400mA	✓	OFF	ON	ON
9-42V	350mA	✓	OFF	ON	OFF
9-42V	300mA	✓	OFF	OFF	ON
9-42V	250mA	✓	OFF	OFF	OFF

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CE SELV

OUTPUT LED+ LED- 0.5-1.0□

**Structure & Dimensions (unit: mm)**



**Packaging Specifications**

Model	LF-AAT020-0500-42
Packaging Dimensions	385*285*210 mm (L*W*H)
Quantities	10 pcs/layer; 7 layers/ctn; 70 pcs/ctn
Weights	0.133 kg/pc; 9.8 kg/ctn

## Transportation & Storage

### ■ Transportation

- Suitable transportation means: vehicles, boats and aircraft.
- During transportation, there should be awnings for rain protection and sun protection. Civilized loading and unloading are required. There should be no severe vibration or impact.

### ■ Storage

- Storage in accordance with the provisions of the Class I environment. For products which have been stored for more than six months, they mustn't be used until they pass the re-inspection.

## Attention

- Please use this product according to its specifications otherwise there may be malfunction.
- Use light fixtures that have not been certified or are not compatible with the LED drivers may cause fire or other hazards.
- Man-made damage, any use beyond the specification and non-original-factory modification are not covered by warranty.

Remark: The final interpretation right of the contents of this data sheet belongs to Lifud Technology Co., Ltd.