



# TECHNICAL SPECIFICATION

MODEL NO.:APF-200-24

DOCUMENT NO.:\_\_\_\_\_

CUSTOMER NO.:\_\_\_\_\_

DATA.:\_\_\_\_\_

CHANGZHOU AMCFLEX TECHNOLOGY CO LTD  
ADD: NO8, HUASHAN ROAD, XINBEI AREA, CHANGZHOU, JIANGSU, CHINA  
TEL: 0086 519 69682537 FAX: 0086 519 68693467  
Email: [info@amcflex.com](mailto:info@amcflex.com) [www.amcflex.com](http://www.amcflex.com)

# APF-200-24

Single output

# IP67 Waterproof LED Driver



- ★ Constant Voltage + Constant Current Mode
- ★ Built-in active PFC function
- ★ Protection: Over Current/Short Circuit/Over voltage Over Temperature
- ★ Class 2 Power Unit, NO FG
- ★ IP67 waterproof full sealed with Plastic Housing
- ★ Compliance with EN55015,EN61347,EN61000-3-2
- ★ 100,000Hours long life span, low temperature rise

## TECHNICAL PARAMETERS

### 1. Output

Items	Specs	Unit	Conditions
Rated Output voltage	24	VDC	Ta , rated input voltage, output with rated power
Rated Output Current	8.3	A	Ta ,rated input voltage
Rated Output Power	200	W	Ta , rated input voltage
Tcase Max	85	C°	Ta: 50C° ,230VAC,full load
Efficiency	≥92	%	25°C,rated input voltage, output with max. rated power
Line Regulation	±1.0	%	/
Load Regulation	±1.5	%	/
Voltage tolerance	±2	%	/
Ripple & Noise (max)	≤240	mVp-p	Measured at 20MHZ of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47 uf parallel capacitor
Rise time	≤150	mS	25C° , full load
Switch off Hold Up time	18	ms	230VAC, full load

## 2. Input

Items	Specs	Unit	Conditions
Rated Input voltage	200-240	VAC	25°C
Input voltage range	180-264	VAC	25°C
Input Frequency	47-63(Typical 50/60)	Hz	25°C
Input Current Max	<2.0	A	Vin=180Vac, Full Load
Power Factor	>0.95		230VAC, full load
THD	<15%		(@full load/230VAC)
Inrush Current	≤60	A	220Vac, full load, 25°C°
Leakage Current	<0.25	mA	240VAC
No Load Standby power consumption	<0.5	W	

## 3. Protection

Current Limiting	1.1-1.4 times of rated output current		Constant current limit, Auto-recovery after fault condition is removed
Over Voltage	26-28	V	Shut down output voltage, re-power on to recover
Over Temperature	Yes	C°	Hiccup Mode, Auto-recovery after temperature goes down
Short circuit	Yes		Hiccup Mode, Auto-recovery after fault condition is removed

## 4. Temperature and others

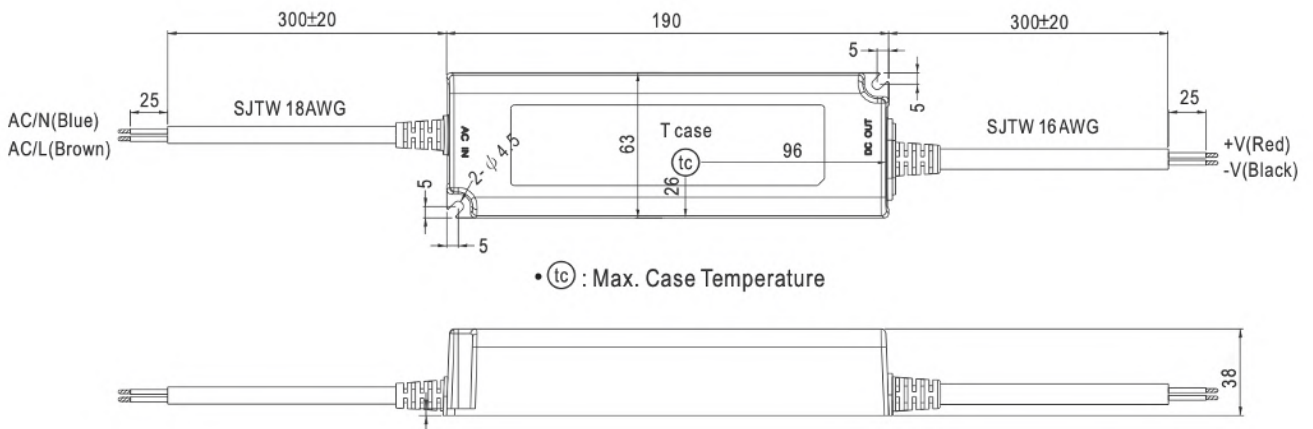
Operating Temperature range	-30 to +70 (Typical25)	C°	Refer to Derating Curve
Storage Temperature range	-40 to +80 (Typical25)	C°	
Humidity	10 ~ 95	%	NON-Condensing
Waterproof Level	IP67 full sealed with silicon gel		
Cooling method	Air convection		
Temperature Coefficient	0.03%/C° (0-60C° )		
Vibration	10-500Hz, 5G 12min./1cycle, period for 72 min, each along X.Y. Z axes		
Lifespan	50,000hours, Max.Ta, rated input voltage, max rated output power		
Dimension/Packing	190*63*38mm (L*W*H) , 0.78Kg;20pcs/17Kg/0.029CBM		

## 5. Safety & EMC Standards

Safety	UL8750, EN61347-1,EN61347-2-13,EN62368,IP67 Approved, Design refer to UL60950-1
Withstand Voltage	I/P-O/P:3.0KVAC
Isolation Resistance	I/P-O/P:>100M Ohms / 500VDC /25C°/70% RH
EMC Emission	Compliance to EN55015, EN61000-3-2 Class C(@load ≥60%); EN61000-3-3
EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level (surge immunity line-line 2KV)
Temperature Coefficient	0.03%/C° (0-60C° )
Vibration	10-500Hz, 5G 12min./1cycle, period for 72 min, each along X.Y. Z axes

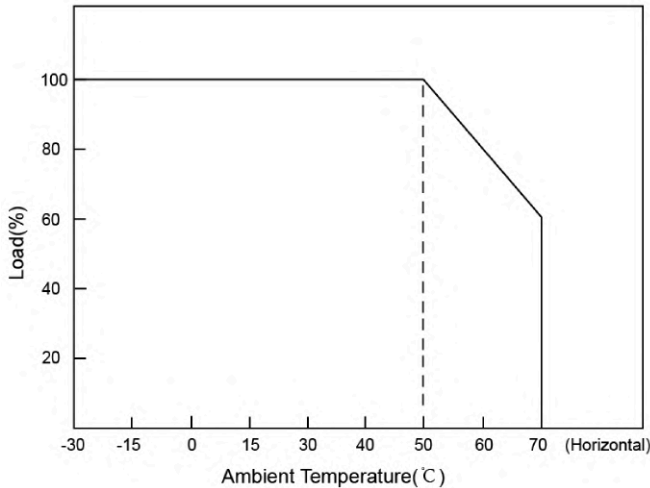
## 6. Mechanical Mounting

Case Material	Pure PC, Fire-proof level V0
Mounting ways	Striped
Insulation type	Class II, NO FG
IP grade	IP67
Input cables dimension	H05VV-F 2X1.0mm <sup>2</sup> , 17AWG, 300±20mm, AC/N-Blue, AC/L-Brown
output cables dimension	H05VV-F 2X1.5mm <sup>2</sup> , 16AWG, 300±20mm,V+: Red, V-:Black

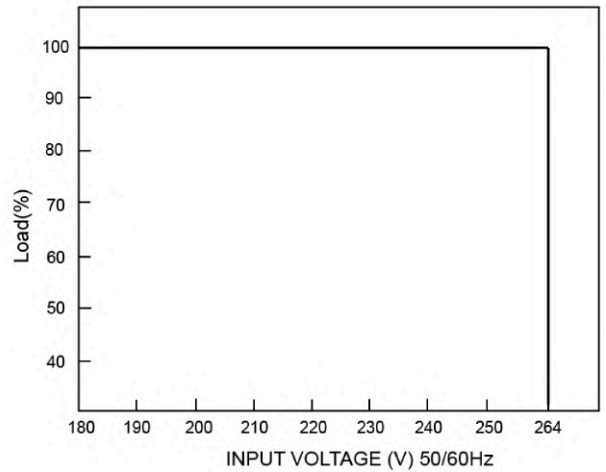


# 7. Characteristics & Derating

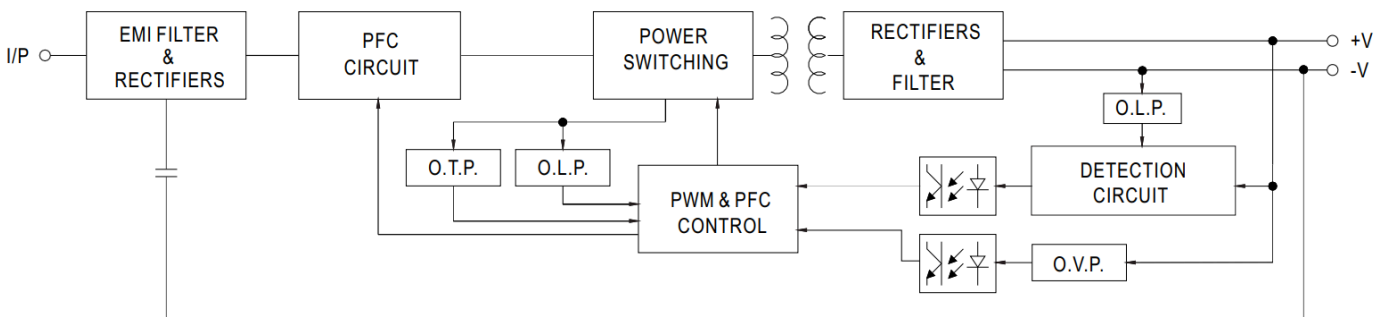
## OUTPUT LOAD vs TEMPERATURE



## STATIC CHARACTERISTIC

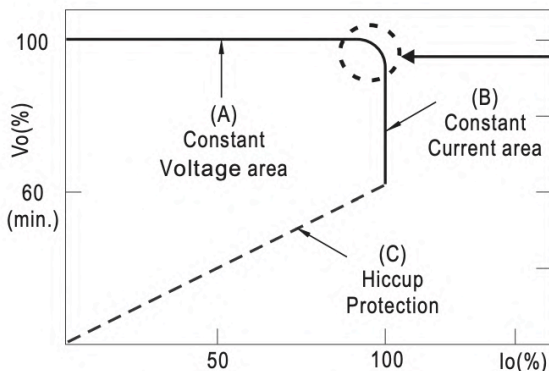


# 8. Block Diagram



# 9. Driving Method: CV + CC Hybrid

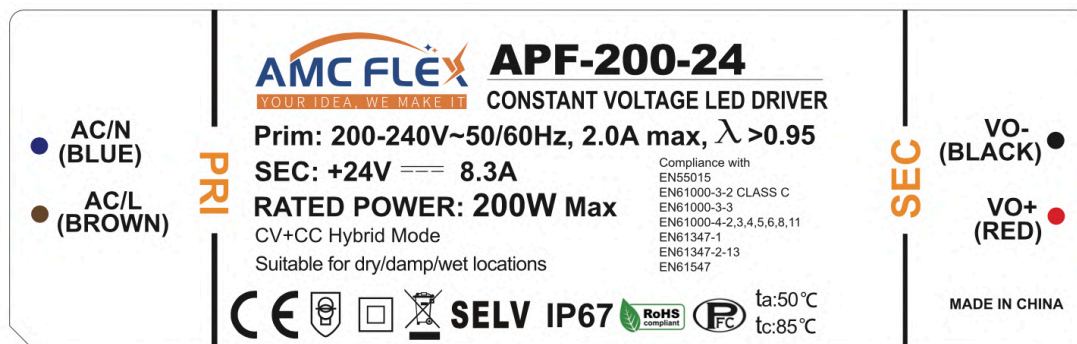
This model work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs, Constant current region: 18-24VDC



In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Typical output current normalized by rated current (%)

## 10. Product Label



### NOTE:

1. All parameters not specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature
2. Ripple & noise are measure at 20MHZ of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance: includes set up tolerance, line regulation and load regulation.
4. De-rating may be needed under high temperature. Please refer to Static characteristic section for details.
5. Length of set up time is measured at first cold start, Turing ON/Off the driver may lead to increase of the set up time
6. The driver is considered as a component that will be operated in combination with final equipment, Since MEC performance will be affected by the complete installation, the end users must re-qualify EMC directive on the complete installation again.
7. To fulfill requirement of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
8. This series meet the typical life expectancy of >50,000hours of operation when Tcase, particularly is about 70°C or Less.
9. The ambient temperature derating of 3.5°C/1000m with finless models for operating altitude higher than 2000m

## Installation Manuel & Caution

- (1). Before commencing any installation or maintenance work, please disconnect the power supply from the utility. Ensure that it cannot be re-connected inadvertently.
- (2). Keep proper ventilation around the unit and do not put any object on it. 15-20cm distance must be kept when the adjacent device is a heat source
- (3). Operating under high ambient temperature may cause the internal component temperature and will require a de-rating in output load
- (4). Install in high humidity condition need use waterproof connectors, make sure there is no space between the unit and lighting fixtures.
- (5). Output current and output wattage must not exceed the rated values on the specifications
- (6). Wiring  
Connect the ACL wire (Brown) of the LED power supply to Live (Red or brown).  
Connect the ACN wire (Blue) of the LED power supply to Neutral (Black or blue)
- (7). Risk of electrical shock and energy hazard. All failure should be examined by a qualified technician. Please do not remove the case of the power supply by yourself!
- (8). Can't be installed under water or buried in soil directly
- (9). Please do not install LED power supplies in places with high ambient temperature or close to fire source
- (10). If the external flexible cable or cord of this switching power supply is damaged, it shall be exclusively replaced by the manufacturer or similar qualified person in order to avoid a hazard.