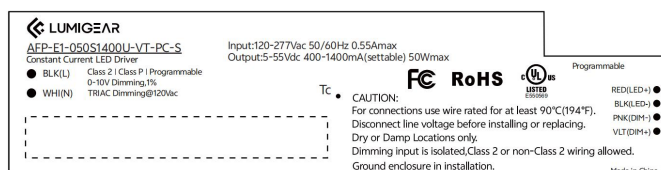
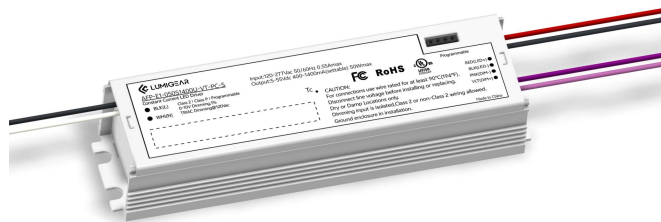


Features & Benefits

- Universal AC Input Voltage(120-277VAC)
- High Power Density Design, Black aluminum sheet metal case
- Comply with phase cut dimming and isolated 0-10V dimming, dim down to true 1%
- Silicon potted for good thermal performance
- Suitable for indoor use
- Flicker free, excellent camera compatibility
- UL Class2, Class P
- Combination Wave 2kV, Ring Wave 2.5kV
- Operating temperature: -25℃~+55℃
- Comply with UL8750, IEEE1789

Programmable feature:

- ◆ Output current (1mA step)
- ◆ Dim to off, Min Dimming Level
- ◆ Programmable conduction angles with turn-on & turn-off for TRIAC & ELV
- ◆ Dimming curve: Selectable Linear / Logarithmic
- ◆ OTP mode: Foldback mode, Linear decrease mode
- ◆ Dimming fade time(Soft start)
- ◆ Over load protection



Model List

Model Name	Rated Input Voltage	Max Output Power (Total)	Output Current (Total)	Rated Output Voltage	Efficiency	Dimension
AFP-E1-050S1400U-VT-PC-x	120-277VAC	50W max.	400-1400mA	5-55VDC	89%	116.7*30.5*23.8mm/4.6*1.2*0.9 in.

Optional Function

Side feed and bottom feed

Approvals

TRIAC

0/1-10 V



CLASS P

Model name code

AFP-E1	-	050S	1400	U	-	VT	-	PC	-	X
①		②	③	④		⑤		⑥		⑦

①	Series	AFP Series
②	Output power	Maximum output power: 50W
③	Output current(max)	Maximum output current: 1400mA
④	Input voltage	120-277VAC
⑤	Dimming Control	Triac&0-10V
⑥	Programmable	USB-PC
⑦	Feed	S= side feed B= bottom feed

Specification:

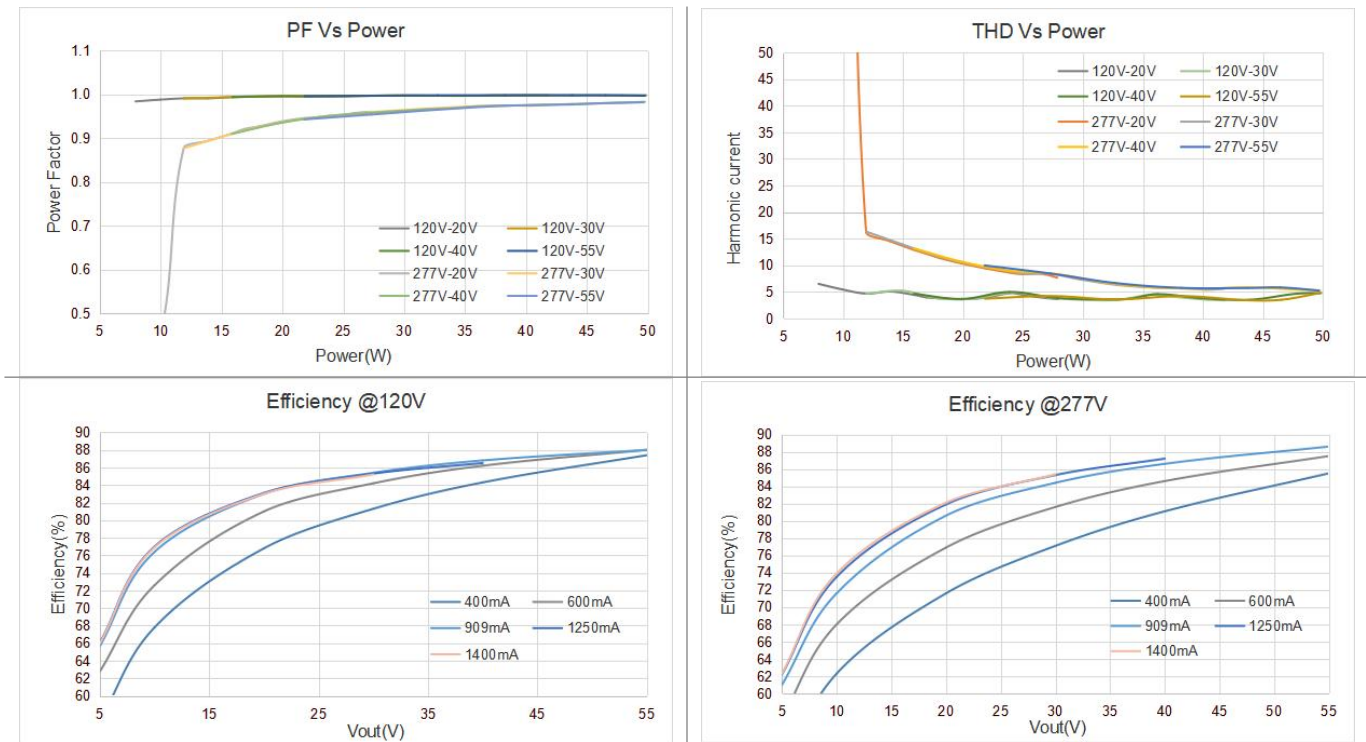
Parameters	Symbols	Test Conditions / Comment								Min	Typ	Max	Units
INPUT													
Input Voltage	V _{IN}								108		305	V _{AC}	
Rated Input Voltage	V _{IN RATED}								120		277	V _{AC}	
	V _{IN RATED_TRIAC}	Phase Cut Dimming								120		V _{AC}	
Input Frequency	f _{line}								47	50/60	63	Hz	
Input Current	I _{IN}	050, Full Load, V _{IN} = 120V _{AC}									0.55	A	
Inrush Current	I _{INRUSH}	Meet NEMA 410											
Leakage Current	I _{Leakage}	V _{IN} = 277V _{AC} 60Hz									0.75	mA	
Number of Drivers per MCB (Circuit Breaker)	MCB type	B10	C10	D10	B13	C13	D13	B16	C16	D16	B20	C20	D20
	120V _{AC}	14	17	19	19	22	25	23	27	31	29	34	39
	230V _{AC}	8	14	29	11	19	38	14	23	47	17	29	58
	277V _{AC}	8	14	28	11	18	36	13	22	45	17	28	56



Input Voltage	Inrush Current	t(us)10%-10%
120V _{AC}	13.312A	152
230V _{AC}	27.14	140
277V _{AC}	31.74	136

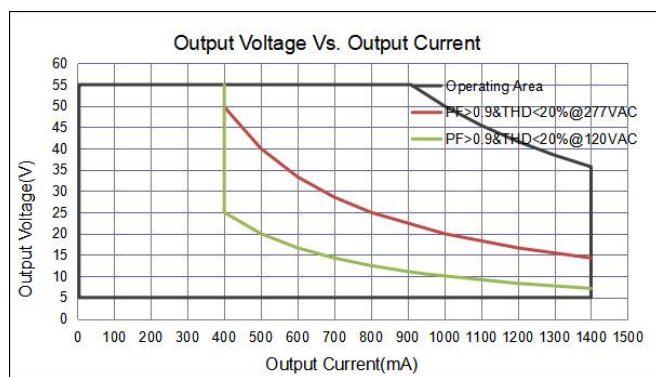
General Characteristics

Power Factor	PF	30-100% load, $V_{IN} = 120V_{AC}$	0.9			PF
		45-100% load, $V_{IN} = 277V_{AC}$	0.9			
Total Harmonic Distortion	THD	30-100% load, $V_{IN} = 120V_{AC}$			20	%
		45-100% load, $V_{IN} = 277V_{AC}$			20	%
Turn On Delay Time	T_{on_delay}	Cold Start, Without Dimmer			0.5	S
		Cold Start, Through whole dimming range			1.8	S
	$\eta_{50W-120V}$	050, Full load, $V_{IN} = 120V_{AC}$, $I_{OUT}=909mA$, Steady state	87	89		%
	$\eta_{50W-277V}$	050, Full load, $V_{IN} = 120V_{AC}$, $I_{OUT}=909mA$, Steady state	87	89		%



OUTPUT

Output Current Tolerance	t	Programmable current			5	%
Output Current Range	I_{OUT}	Output Current Range	4.0		1400	mA
Output Voltage	V_{OUT}		5		55	V
Line Regulation	$V_{OUT-LINE}$				1	%
Load Regulation	$I_{OUT-LOAD}$				5	%
Ripple Current	$I_{OUT-RIPPLE}$	Full Load, $(I_{max}-I_{min})/(I_{max}+I_{min})$			10	%
Output Current Overshoot	$I_{OVERSHOOT}$	Turning Power ON			10	%



Programming

User can program the driver via programming port. Please contact LUMIGEAR for details.

Programming software	"LUMIGEAR Programming Tool"
Programming tool	"LUMIGEAR Toolbox"
Operation voltage	5V

NO.	Item	Default Setting
1	Output current (1mA step)	See"Model list" for each model
2	Dim to off(0-10V)	Enable
3	Min Dimming Level	1%
4	0-10V Dimming curve: Linear / Logarithmic/customer dim curves	See "0~10V or Resistor Dimming" section
5	Over Temperature Protection: Foldback mode, Linear decrease mode	See "Protection" section
6	Over load protection	See "Protection" section
7	Fade time	10mS
8	Conduction angles with turn-on & turn-off & full brightness for TRIAC & ELV	See"Triac Dimming" section
Programming Interface	PGT-USB-TPAC-A	
Programming Cables	PGT-USB-M4P2	

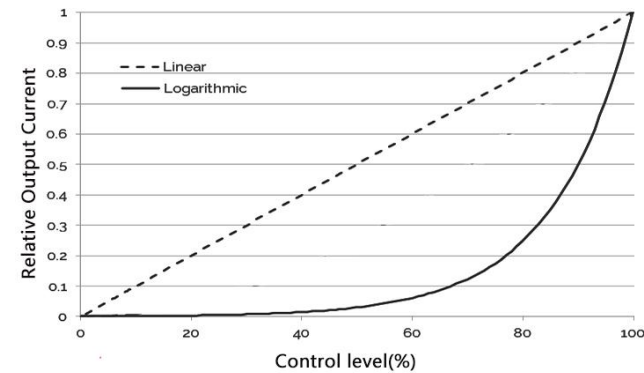
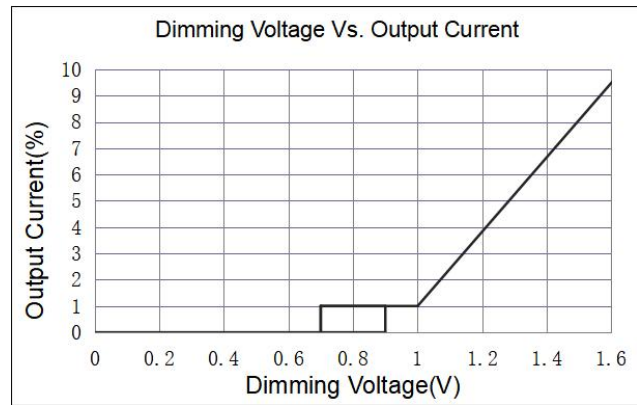
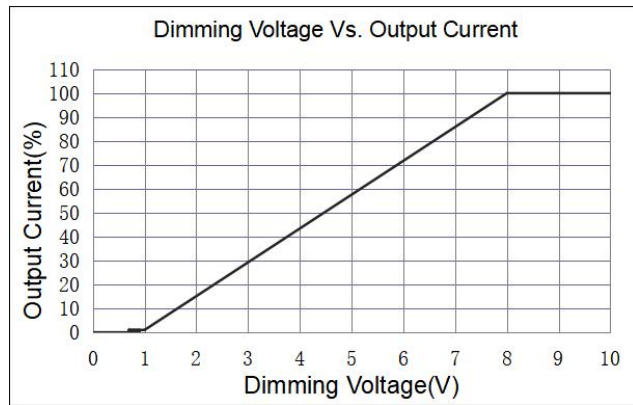
0~10V or Resistor Dimming

The 0~10V or resistor dimming can be used to dim the output current via a standard commercial wall dimmer (0~10V_{DC}) or an external control voltage source (0~10V_{DC}) or external resistor.

Dimming Curve	Selectable: Linear / Logarithmic, Default setting is linear curve. please see "Dimming curve".					
Absolute Maximum Voltage on 0~10V Pin	V _{DIM}				300	V _{AC}
Source Current on 0~10V Dimming Pin	I _{DIM}			200		uA
Dimming range	D _{DIM}		1		100	I _{SET} %
Light On	V _{DIM-on}	Programmable		0.9		V
Light Off	V _{DIM-off}	Programmable		0.7		V
Clamp at Min.dimming level	V _{DIM-Clamp}	Programmable		1		V
Dimming Voltage for Full Bright	V _{DIM-MAX}	Programmable		8		V
Standby power	P _{STANDBY}	Light Off, Vin=120VAC			0.5	W

Compatible Dimmers

NO.	Item	Default Setting
1	Leviton	DS710
2	Leviton	IP710
3	Lutron	NTSTV-DV
4	Lutron	NFTV
5	Lutron	DVTV-WH



Triac Dimming

The unit is compatible with Leading-edge and Trailing-edge dimmers.

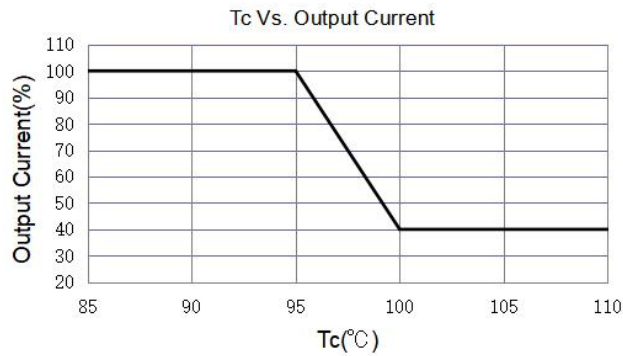
Input Voltage	$V_{IN-TRIAC\ DIM}$		120		V_{AC}
Suggest Load Range	$P_{Suggest}$	$V_{IN} = 120 V_{AC}$	45	100	%
Conduction angles with turn-on & turn-off & full brightness for TRIAC & ELV	$V_{ON-TRIAC}$	Turn-on		16	V_{AC}
	$V_{OFF-TRIAC}$	Turn-off		15	V_{AC}
	$V_{MIN-TRIAC}$	Light Minimum		30	V_{AC}
	$V_{Full-TRIAC}$	Light Maximum		110	V_{AC}

Compatible 0-10V Dimmers

NO.	Manufacturer	System Type	Description
1	Lutron	Forward	Diva DVCL-153P
2	Lutron	Forward	Caseta PD-6WCL
3	Lutron	Reverse	Diva DVELV-300P
4	Leviton	Reverse	Illumatech IPE04
5	Lutron	Forward	SCL-153P
6	Lutron	Forward	DVLV-600P
7	Leviton	Forward	6613-P
8	Lutron	Forward	GLV-600

Protection

Open Circuit Protection	V_{OCP}	The unit will recover automatically after the fault condition is removed.		60		V
Over Temp. Protection	T_{OTP}	Programmable Current decrease linearly when hotspot greater than T_{OTP} please see OTP curve		95		°C
		050, Programmable. Output current will decrease when output power reach P_{OLP}	20		50	W
OLP tolerance	t_{OLP}		100		110	%
Short Circuit Protection	The unit will recover automatically after the fault condition is removed.					

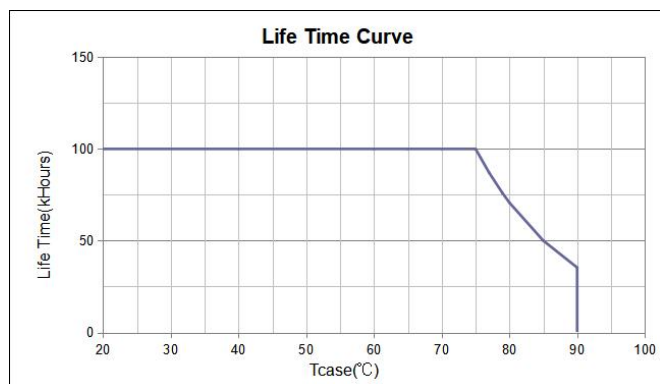


Environment

Storage Temperature	$T_{Storage}$	Humidity: 5% RH to 95% RH	-20	-	+85	°C
Ambient Operating Temperature	T_a		-25	-	+55	°C
Max. Case Temperature	T_c	Hot spot on case			90	°C
Operating Relative Humidity	H_a	Non-Condensing	10		90	%
Acoustic Noise		Measured from 1 meter, at 100% and min light output.			24	dBA
Cooling	Convection Cooling					
IP environmental rating	IP20					
Environmental Rating	Dry and damp UL approved					

Others

Life Time	T_{Life}	Full Load, 85°C case temperature,	50			kHrs
MTBF	T_{MTBF}	Full Load, 25°C ambient temperature	200			kHrs
Net Weight	W_{NET}			145		g
Flicker	PST	NEMA 77			0.7	
	SVM	NEMA 77			1	
	IEEE 1789(No Risk/Low Risk), CEC title 24					
Warranty	5 Years Warranty at $T_c \leq 85^\circ\text{C}$					

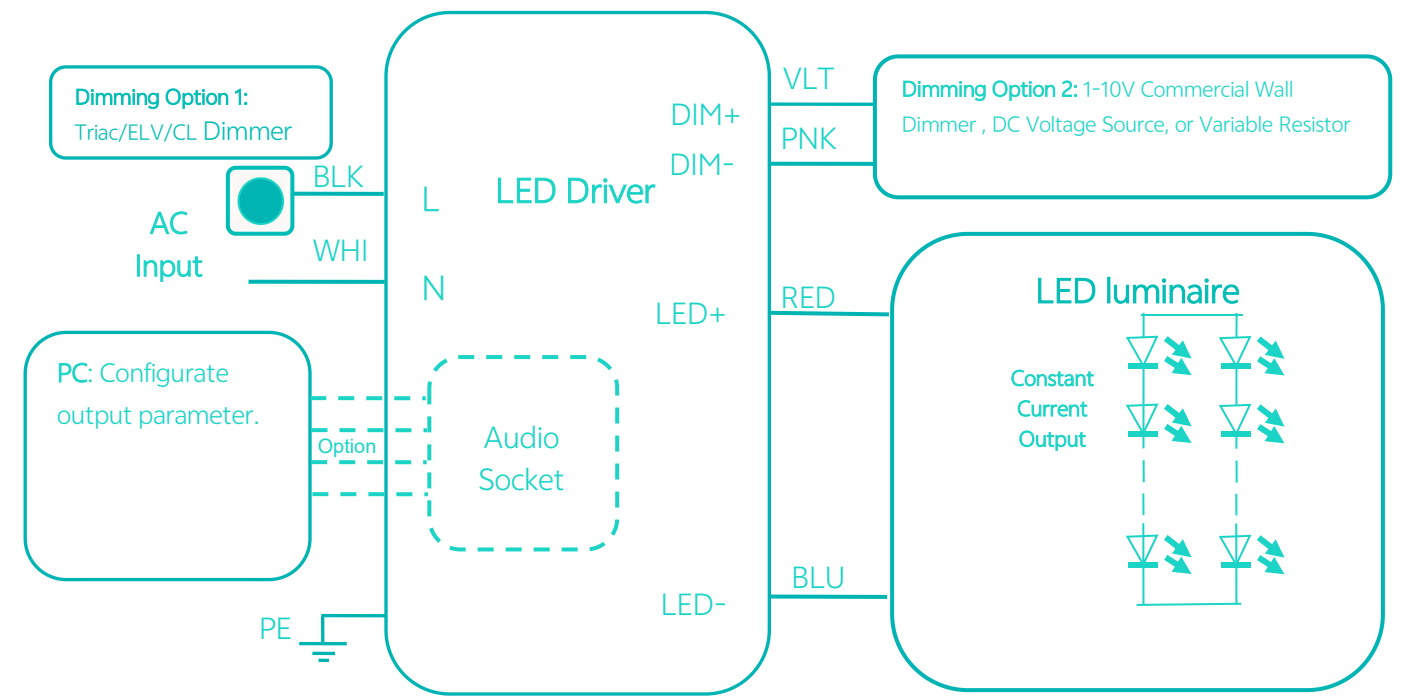


Safety Compliance

CUL/UL	UL8750, CAN/CSA-C22.2 No. 250.13	
EMC Requirements	Standard	Conditions
EMI Emissions	FCC Title 47 Part 15	Class B at 120V _{AC} , Class A at 277V _{AC}
EMS Immunity Compliance	IEC 61000-4-2	±8kV air Discharge, ±6kV Contact Discharge
	IEC 61000-4-5 or ANSI/IEEE C62.41-2002	± 2kV Common and Differential Mode, test at 2 Ω, 5 strikes/1minute interval (40 total strikes)
	ANSI/IEEE C62.41.1-2002	2.5kV Ring Wave, test at 30Ω 7 Strikes/1 minute interval, Common and Differential mode, 56 total strikes
	IEC 61000-4-11	>95% dip, 5 period; 30% dip, 25 periods; 95% reduction, 250 periods
	IEC 61000-4-4	± 2kV Direct couple to Line input, 5kHz repetition rate, 15mS duration, 300mS period. 7 coupling paths, 1 minute per path (14 total combinations)

Note: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C and rated voltage.

Typical Application



Packaging

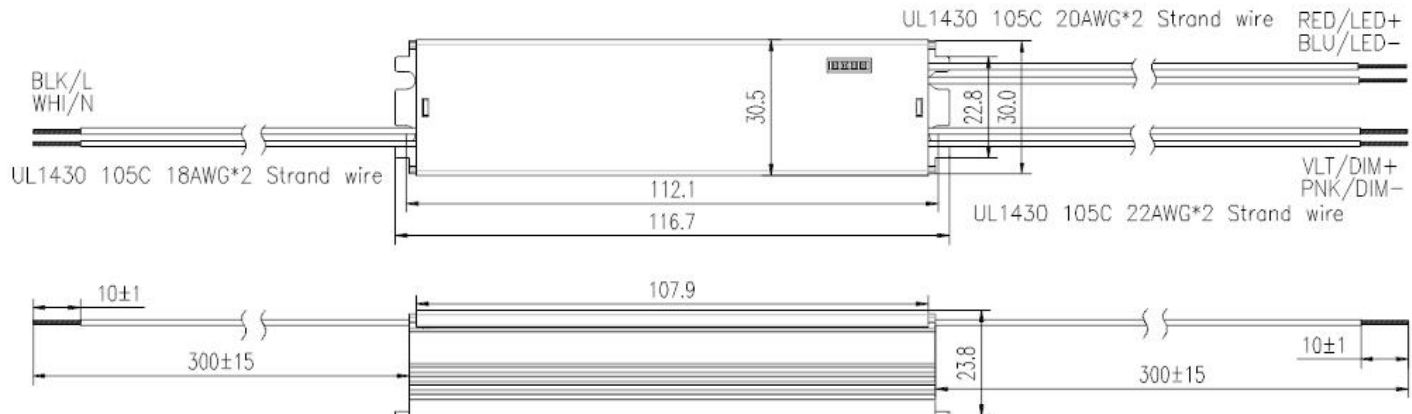
Driver Quantity (pcs)	Layer	Weight (kg)	Outer dimensions of Carton L x W x H (mm)
TBD	TBD	TBD	TBD

Mechanical Drawing:

Dimensions(Unit:mm)

Default tolerance:±1mm

S TYPE:



B TYPE:

