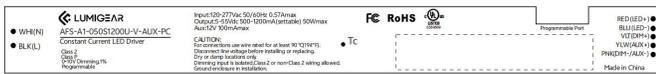


## Features & Benefits

- Universal ac input voltage(120-277VAC)
- Linear form factor, metal sheet case(white), side feed
- Isolated 0-10v dimming interface, dim down to true 1%
- Low standby power: <0.5W@120VAC
- Suitable for indoor use
- Flicker free, excellent camera compatibility, spec-grade smoothness
- Class2, Class P
- Operating temperature: -30°C~+50°C
- Comply with IEE1789, UL8750, Category A ring wave 2.5kV

### Programmable feature:

- ◆ Output current, dim to off, min dimming level
- ◆ OTP point of driver, luminous decay compensation,
- ◆ End-of-life indicator, fade in time, over load protection point
- ◆ Dimming curve: Log/linear/square dim curves



## Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
AFS-A1-050S1200U-V-AUX-PC	120-277VAC	50W max.	500-1200mA	5-55VDC	89%	258.5*18.1*16mm 10.1*0.7*0.6 in.

## Optional Function

Aux power: 12V/50mA

## Approvals



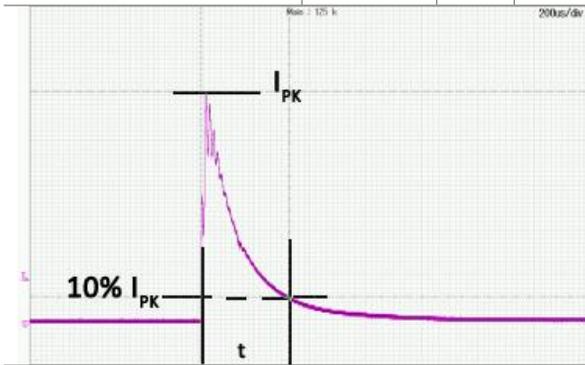
## Model name code

<u>AFS-A1</u>	-	<u>050S</u>	<u>1200</u>	<u>U</u>	-	<u>V</u>	-	<u>AUX</u>	-	<u>PC</u>
①		②	③	④		⑤		⑥		⑦

①	Series	AFS Series
②	Output power	Maximum output power: 50W
③	Output current(max)	Maximum output power: 1200mA
④	Input voltage	120-277VAC
⑤	Dimming Control	0-10V
⑥	AUX	AUX: with Auxiliary source BLANK:without Auxiliary source
⑦	Programmable	USB-PC

## Specification:

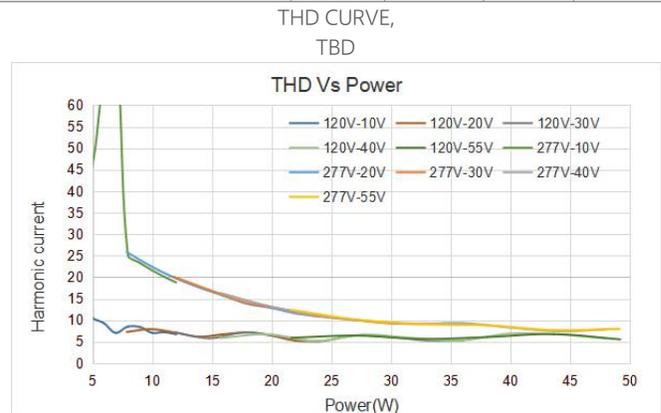
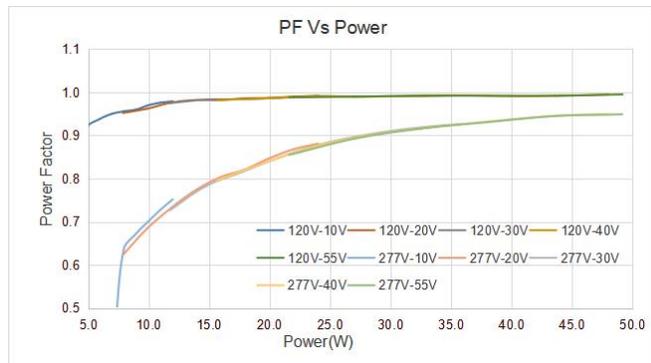
Parameters	Symbols	Test Conditions / Comment	Min	Typ	Max	Units							
<b>INPUT</b>													
Input Voltage	$V_{IN}$		108		305	$V_{AC}$							
Rated Input Voltage	$V_{INRATED}$		120		277	$V_{AC}$							
Input Frequency	$f_{line}$		47	50/60	63	Hz							
Input Current	$I_{IN}$	Full Load, $V_{IN} = 120V_{AC}$			0.57	A							
Inrush Current	$I_{INRUSH}$	Cold Start, $V_{IN} = 277V_{AC}$			50	A							
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 <sub>AC</sub>	13	15	17	17	19	22	21	24	28	26	30	35
	277V <sub>AC</sub>	11	18	37	14	24	48	17	29	59	22	37	74

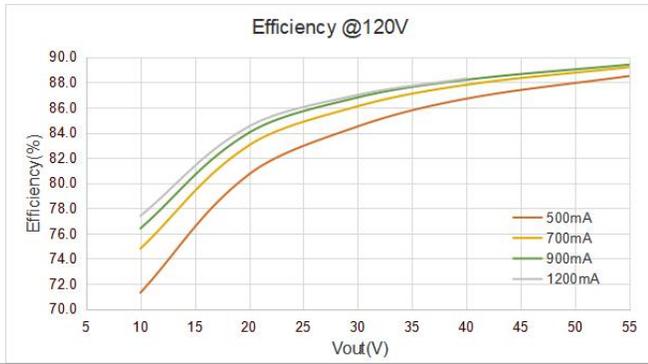


Input Voltage	Inrush Current	t(us)10%-10%
120VAC	19.32A	116
277VAC	46.93A	120
347VAC	NA	NA

## General Characteristics

Power Factor	PF	20-100% load, $V_{IN} = 120V_{AC}$	0.9		PF	
		55-100% load, $V_{IN} = 277V_{AC}$	0.9			
Total Harmonic Distortion	THD	20-100% load, $V_{IN} = 120V_{AC}$		20	%	
		55-100% load, $V_{IN} = 277V_{AC}$		20	%	
Efficiency	$\eta$	$V_{out}=55V$ , $I_{out}=900mA$ , $V_{IN} = 120V_{AC}$ , steady state	87	89	%	
		$V_{out}=55V$ , $I_{out}=900mA$ , $V_{IN} = 277V_{AC}$ , steady state	87	89	%	
Turn On Delay Time	$T_{on\_delay}$	Cold Start, 500-1200mA			0.5	S

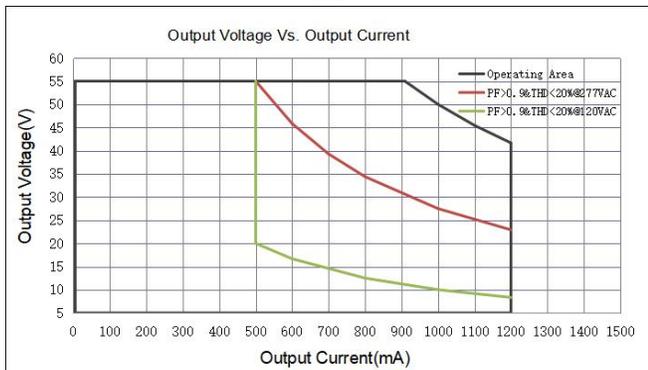




## OUTPUT

Programmable Output Current	I <sub>OUT</sub>		500		1200	mA
Output current tolerance	t	I <sub>OUT</sub> =500-1200mA			5	%
Output Current Range	I <sub>OUT</sub>	Amplitude Control.	5		1200	mA
Output Voltage	V <sub>OUT</sub>		5		55	V
Output Power	P <sub>OUT</sub>	See "Operating window"			50	W
Line Regulation	V <sub>OUT-LINE</sub>				3	%
Load Regulation	I <sub>OUT-LOAD</sub>	V <sub>OUT</sub> from MIN. to MAX.			5	%
Ripple Current	I <sub>OUT-RIPPLE</sub>	Full Load, (I <sub>omax</sub> - I <sub>omin</sub> ) / (I <sub>omax</sub> + I <sub>omin</sub> )			10	%
Output Current Overshoot	I <sub>OVERSHOOT</sub>	Turning Power ON			10	%

EFF.@120V,  
TBD



## Programming

User can program the driver via terminal block. Please contact to LUMIGEAR for details.

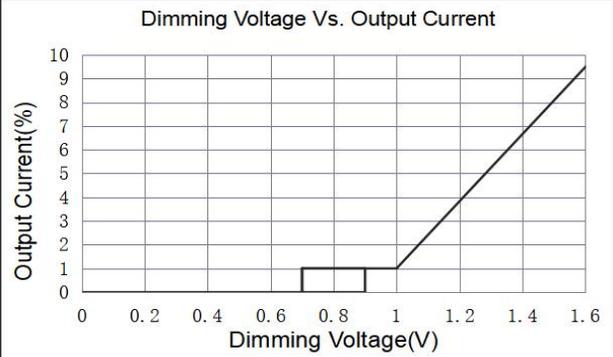
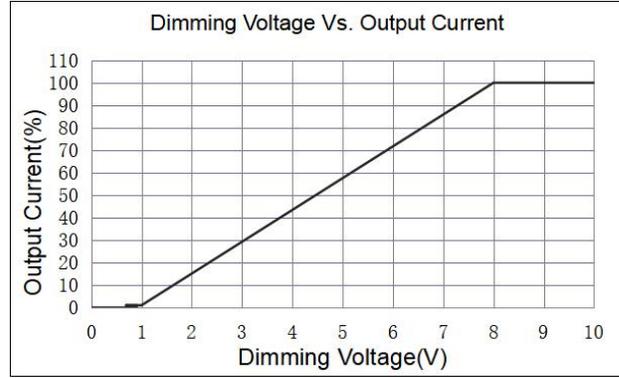
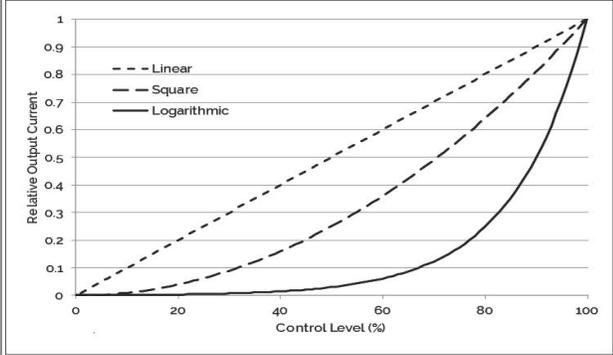
NO.	Item	Default Setting			
1	Output current(1mA Step)	See"Model list" for each model			
2	Dim to off	Enable			
3	Min Dimming Level	1%			
4	OTP point of driver	See "Protection" section			
5	Luminous decay compensation	Disable			
6	End-of-life indicator	Disable			
7	Fade in time	10mS			
8	Over load protection point	See "Protection" section			
9	Dimming curve: Log/linear/square	See "0-10V or Resistor Dimming" section			
Programming Interface	PGT-TPC-TPAC-A				
Programming Cables	PGT-USB-M4P2				
Interface-Terminal block	Programming software	"LUMIGEAR Programming Tool"			
	Programming tool	"Lumigear tool box"			
	Operating voltage		3.3	3.6	V

## 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<sub>DC</sub>) or an external control voltage source (0~10V<sub>DC</sub>) or external resistor.

Dimming Curve	Log/linear/square dim curves, Default Linear. please see "Dimming curve".					
Absolute Maximum Voltage on 0~10V Pin	$V_{DIM}$		0		300	V
Source Current on 0~10V Dimming Pin	$I_{DIM}$			200		uA
Light On	$V_{DIM-on}$	Programmable		0.9		V
Light Off	$V_{DIM-off}$	Programmable		0.7		V
Clamp Voltage	$V_{DIM-Clamp}$	Programmable		1		V
Dimming Voltage for Full Bright	$V_{DIM-MAX}$	Programmable		8		V
Standby power	$P_{STANDBY}$	Light Off, $V_{IN}=120V$			0.5	W

Figure 1: Intensity Dimming Profile Characteristics



## Auxiliary source (Optional)

Max.power	$P_{AUX}$				1.2	W
Output Voltage	$V_{AUX}$		11	12	13	Vdc
Over load Protection	$P_{OLP,AUX}$	CC/CV mode			1.5	W

## Protection

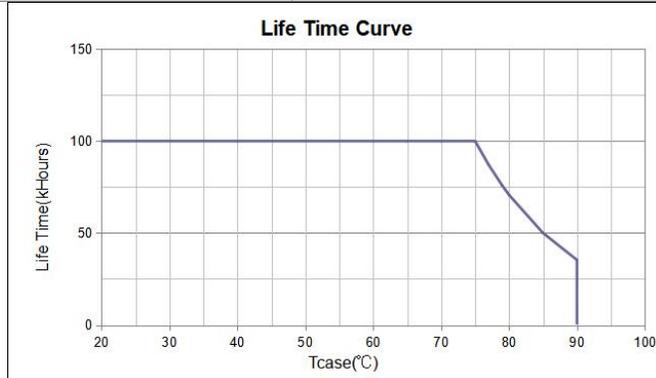
Over Voltage Protection	$V_{OVP}$	Recover automatically after fault conditions is removed.			60	V
Over load protection	$P_{OLP}$	Programmable. The output current will decrease when output power reach $P_{OLP}$	20		50	W
OLP tolerance	$t_{OLP}$		100		110	%
Over Temp. Protection	$T_{OTP}$	Current foldback at hotspot greater than $T_{OTP}$		90		°C
Short Circuit Protection	The unit will recover automatically after fault conditions is removed.					

## Environment

Storage Temperature	$T_{Storage}$	Humidity: 5% RH to 95% RH	-40	-	+85	°C
Ambient Operating Temperature	$T_a$		-30	-	+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 m w/o dimmer.			24	dBA
Cooling	Convection Cooling					
IP Rating	Dry and damp UL approved					

## Others

Life Time	$T_{Life}$	Full Load, 85°C case temperature, $V_{IN} = 120/277V_{AC}$	50			kHrs
MTBF	$T_{MTBF}$	Full Load, 25°C ambient temperature $V_{IN} = 120/277V_{AC}$	200			kHrs
Net Weight	$W_{NET}$			150		g
Warranty	5 Years Warranty at $T_c \leq 85^\circ C$					
Flicker	IEEE 1789, Title 24					



## Safety Compliance

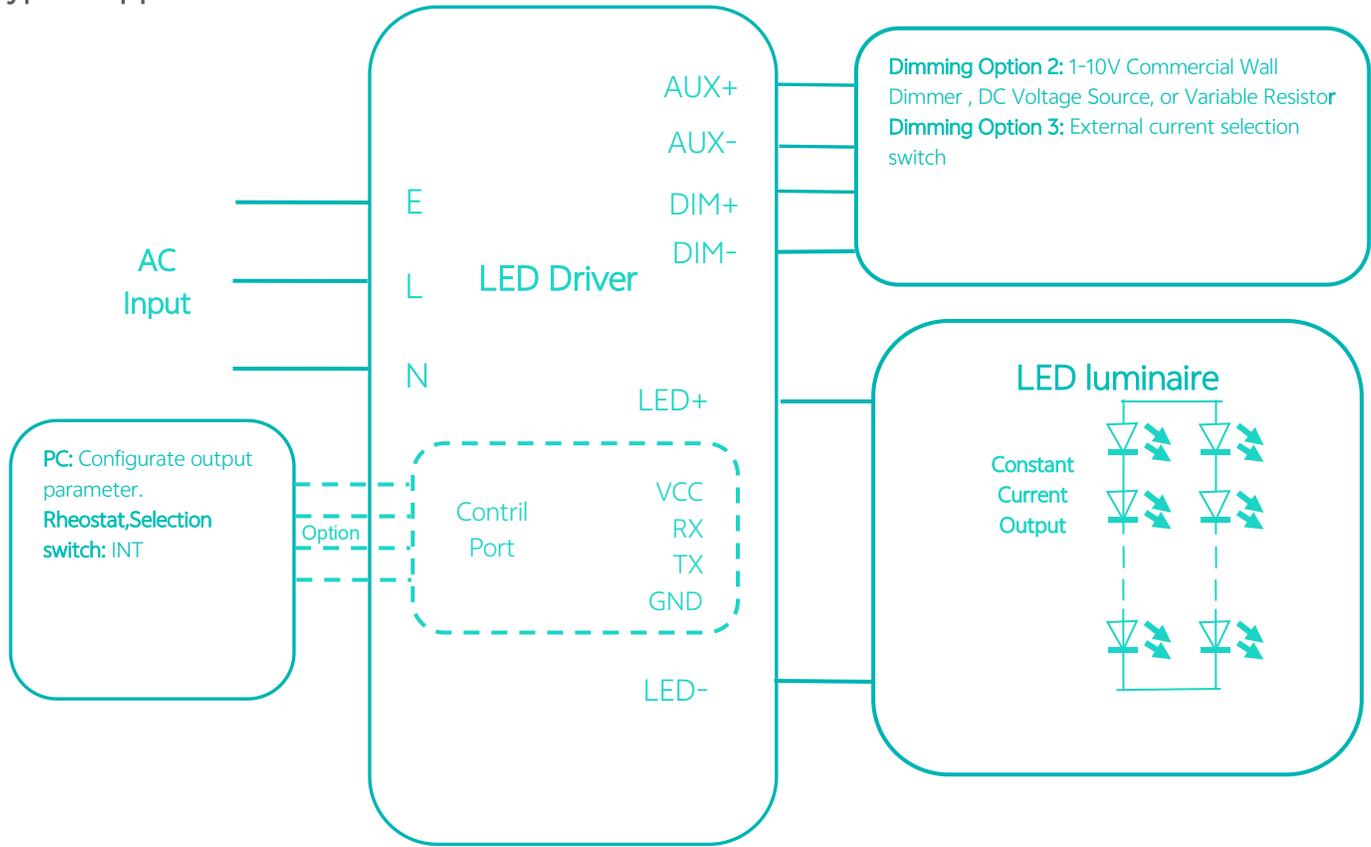
CUL/UL	UL8750, CAN/CSA-C22.2 No. 250.13
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## Electromagnetic Compliance

EMC Requirements	Standard	Conditions
EMI Emissions	FCC Title 47 Part 15B	Class B at 120V <sub>AC</sub> , Class A at 277V <sub>AC</sub>
Voltage Fluctuations and Flicker	IEC61000-3-3	
Immunity Compliance	IEC 61000-4-2	±8kV air Discharge, ±6kV Contact Discharge
	ANSI C62.41-2002	± 2kV Common and Differential Mode, test at 2 Ω, 5 strikes/1minute interval (40 total strikes)
	ANSI 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*W*H(mm)
TBD	TBD	TBD	330 X 300 X 230

## Mechanical Drawing:

