

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

USB 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

Class2, Class P

Operating temperature: -30°C~+50°C

Comply with IEEE1789, UL8750, Category A ring wave 2.5kV

Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
AFS-A1-050S2000U-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

0/1-10 V cULus CLASS P LISTED

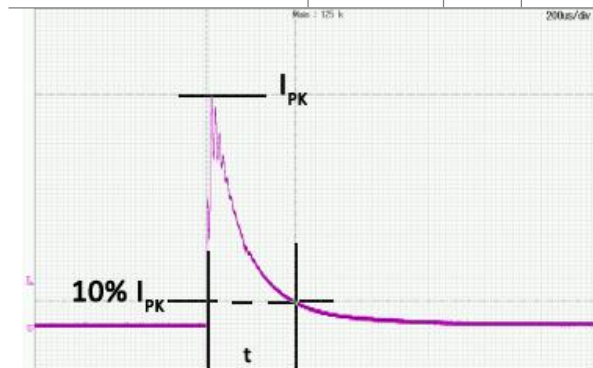
Model name code

AFS-A1	=	050	S	1200	U	=	V	=	PC
①		②	③	④	⑤		⑥		⑦

①	Series	Architecture FlexFit Series
②	Output power	Maximum output power: 50W
③	Output Channel	Single channel
④	Output current(max)	Maximum output power: 1200mA
⑤	Input voltage	120-277VAC
⑥	Dimming Control	0-10V
⑦	Programmable	USB-PC

Specification:

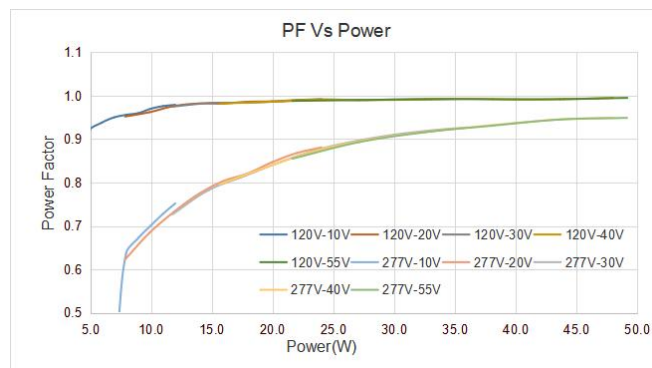
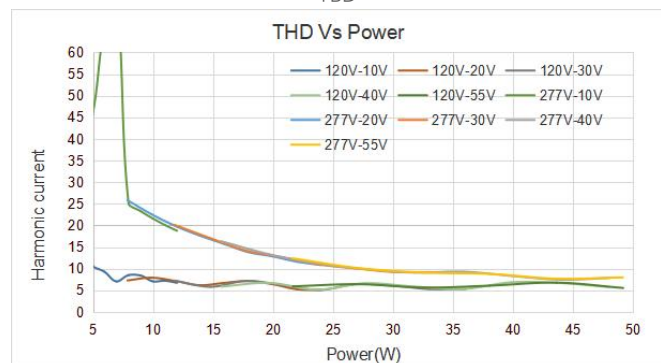
Parameters	Symbols	Test Conditions / Comment	Min	Typ	Max	Units
INPUT						
Input Voltage	V_{IN}		108		305	V_{AC}
Rated Input Voltage	$V_{IN\ RATED}$		120		277	V_{AC}
Input Frequency	f_{line}		47	50/60	63	Hz
Input Current	I_{IN}	Full Load, $V_{IN} = 120V_{AC}$			0.57	A
Inrush Current	I_{INRUSH}	Cold Start,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

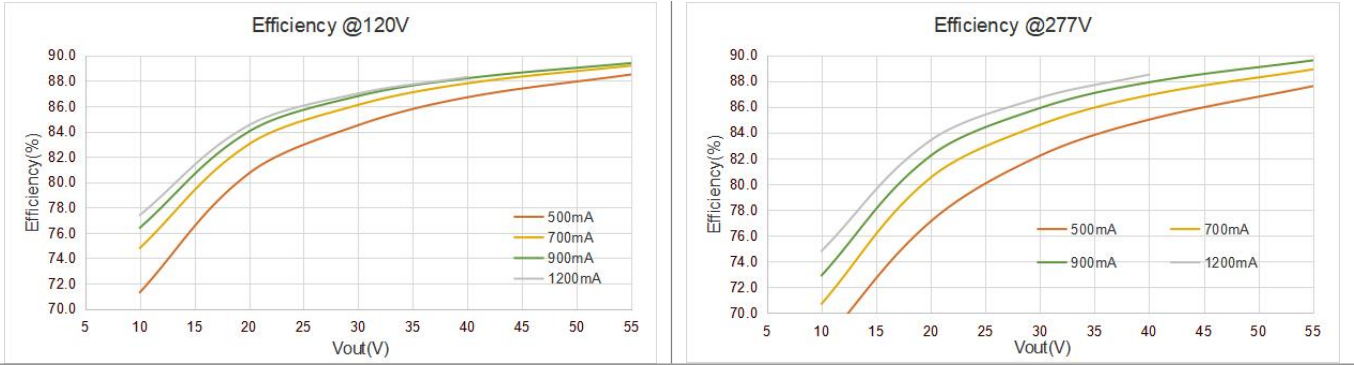


Input Voltage	Inrush Current	t(us)10%-10%
120VAC	19.32A	116
277VAC	46.93A	120
347VAC	NA	NA

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	η	Vout=55V, Iout=900mA, $V_{IN} = 120V_{AC}$, steady state	87	89	%
		Vout=55V, Iout=900mA, $V_{IN} = 277V_{AC}$, steady state	87	89	%
Turn On Delay Time	T_{on_delay}	Cold Start, 500-1200mA			0.5 S

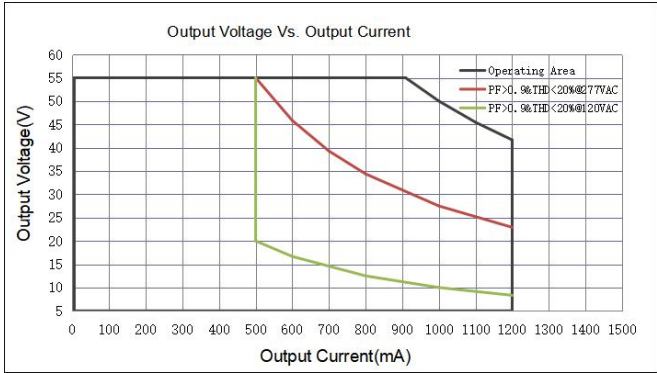
THD CURVE,
TBD



OUTPUT

Programmable Current	Output	I_{OUT}		500		1200	mA
Output current tolerance	t	$I_{OUT}=500-1200mA$				5	%
Output Current Range	I_{OUT}	Amplitude Control.		5		1200	mA
Output Voltage	V_{OUT}			5		55	V
Output Power	P_{OUT}	See “Operating window”				50	W
Line Regulation	$V_{OUT-LINE}$					3	%
Load Regulation	$I_{OUT-LOAD}$	V_{OUT} from MIN. to MAX.				5	%
Ripple Current	$I_{OUT-RIPPLE}$	Full Load, $(I_{omax}-I_{omin})/(I_{omax}+I_{omin})$				10	%
Output Current Overshoot	$I_{OVERSHOOT}$	Turning Power ON				10	%

EFF.@120V,
TBD



Programming

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

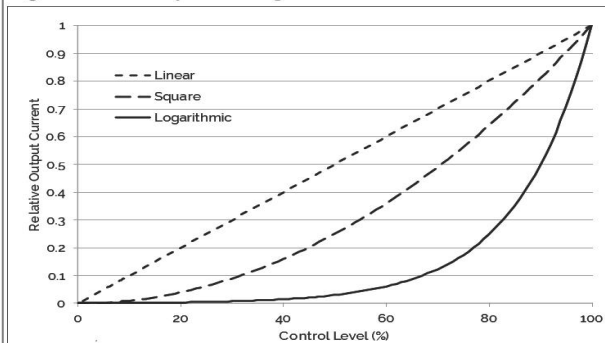
NO.	Item		Default Setting				
1	Output current(1mA Step)		See"Model list" for each model				
2	Dim to off		Enable				
3	Min Dimming Level		1%				
4	OTP point of driver		See "Protection" section				
5	Luminous decay compensation		Disable				
6	End-of-life indicator		Disable				
7	Fade in time		10mS				
8	Over load protection point		See "Protection" section				
9	Dimming curve: Log/linear/square		See "0-10V or Resistor Dimming" section				
Interface- Terminal block	Programming software	“LUMIGEAR Programming Tool”					
	Programming tool	“Lumigear tool box”					
	Operating voltage			5	5.5	V	

0~10V or Resistor Dimming

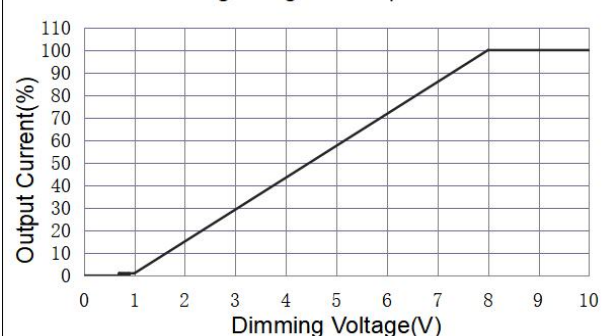
The 0~10V or resistor dimming can be used to dim the output Current via a standard commercial wall dimmer (0~10V_{DC}) or an external control voltage source (0~10V_{DC}) or external resistor.

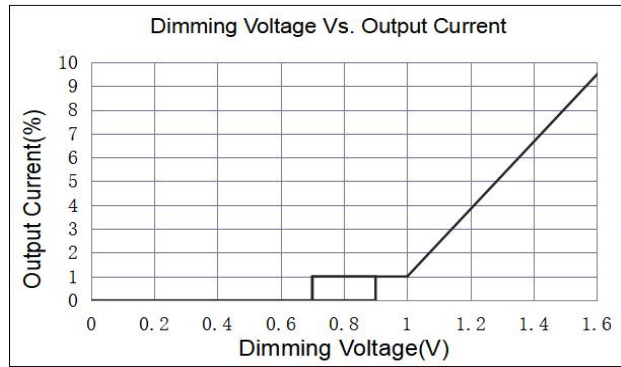
Dimming Curve	Log/linear/square dim curves, Default Linear. please see "Dimming curve".					
Absolute Maximum Voltage on 0~10V Pin	V _{DIM}		0		300	V
Source Current on 0~10V Dimming Pin	I _{DIM}			200		uA
Light On	V _{DIM-on}	Programmable		0.9		V
Light Off	V _{DIM-off}	Programmable		0.7		V
Clamp Voltage	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



Dimming Voltage Vs. Output Current





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

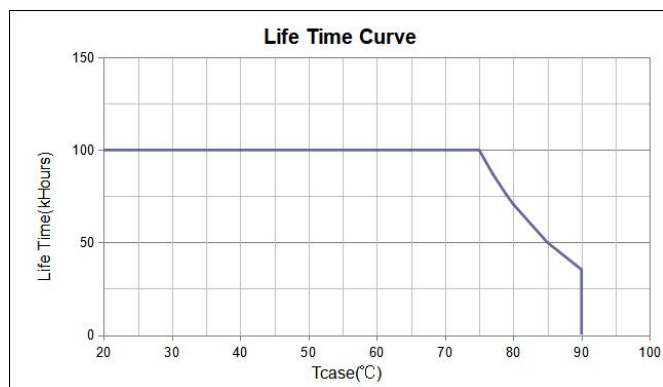
Over Voltage Protection	V_{OVP}	Recover automatically after fault conditions is removed.			60	V
Over load protection	P_{OLP}	Programmable. The output current will decrease when output power reach P_{OLP}	20		50	W
OLP tolerance	t_{OLP}		100		110	%
Over Temp. Protection	T_{OTP}	Current foldback at hotspot 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 $T_c \leq 85^\circ\text{C}$					
Flicker	IEEE 1789, Title 24					



Safety Compliance

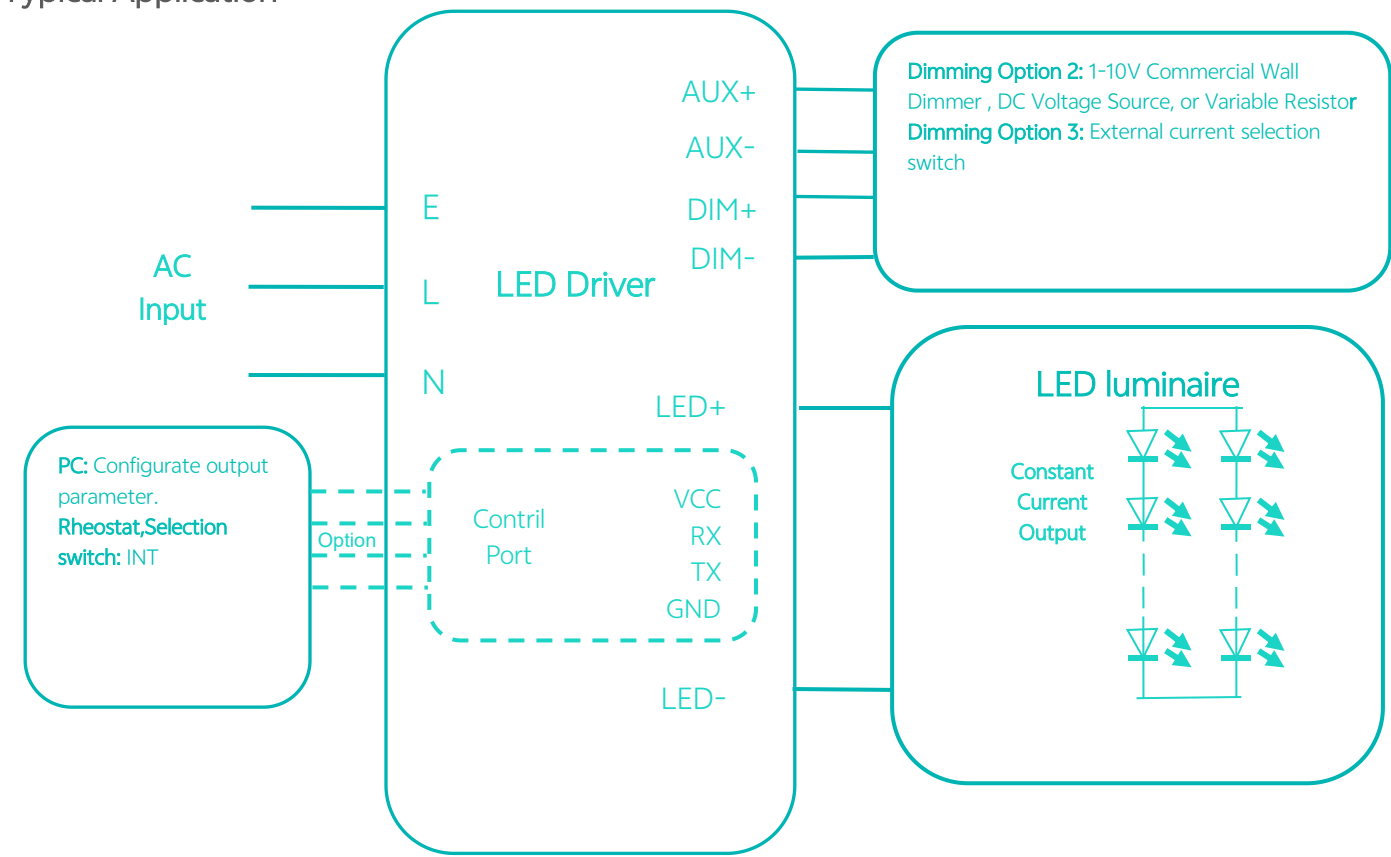
CUL/UL	UL8750, CAN/CSA-C22.2 No. 250.13
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Electromagnetic Compliance

EMC Requirements	Standard	Conditions
EMI Emissions	FCC Title 47 Part 15B	Class B at 120V _{AC} , Class A at 277V _{AC}
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:

