

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-A1-080S2000U-V-AUX-PC	120-277VAC	80W max.	800-2000mA	5-55VDC	91%	370*18.7*15.5mm 14.5×0.7×0.6 in.

Optional Function

Aux power: 12V/50mA

Approvals



Model name code

AFS-A1	=	080S	2000	U	=	V	=	AUX	=	PC
①		②	③	④		⑤		⑥		⑦

①	Series	AFS Series
②	Output power	Maximum output power: 80W
③	Output current(max)	Maximum output power: 2000mA
④	Input voltage	120-277VAC
⑤	Dimming Control	0-10V
⑥	AUX	AUX: with Auxiliary source BLANK:without Auxiliary source
⑦	Programmable	USB-PC

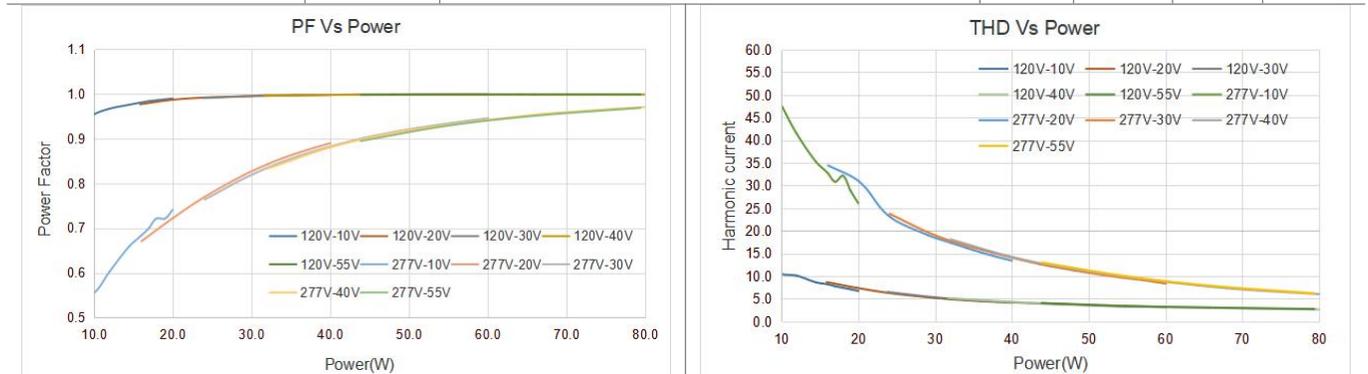
Specification:

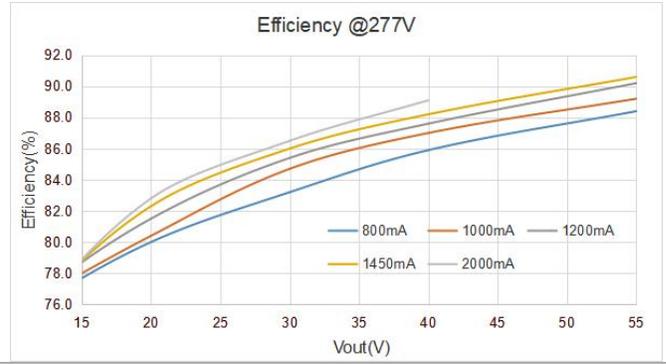
Parameters	Symbols	Test Conditions / Comment	Min	Typ	Max	Units							
INPUT													
Input Voltage	V_{IN}		108		305	V_{AC}							
Rated Input Voltage	$V_{INRATED}$		120		277	V_{AC}							
Input Frequency	f_{line}		47	50/60	63	Hz							
Input Current	I_{IN}	Full Load, $V_{IN} = 120V_{AC}$			0.88	A							
Inrush Current	I_{INRUSH}	Cold Start, $V_{IN} = 277V_{AC}$			60	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}	7	8	10	9	11	13	12	14	16	15	17	20
	277V _{AC}	4	7	14	5	9	18	6	11	22	8	14	28

	Input Voltage	Inrush Current	t(us)10%-10%
	120VAC	24.32A	201
	277VAC	56.93A	210
	347VAC	NA	NA

General Characteristics

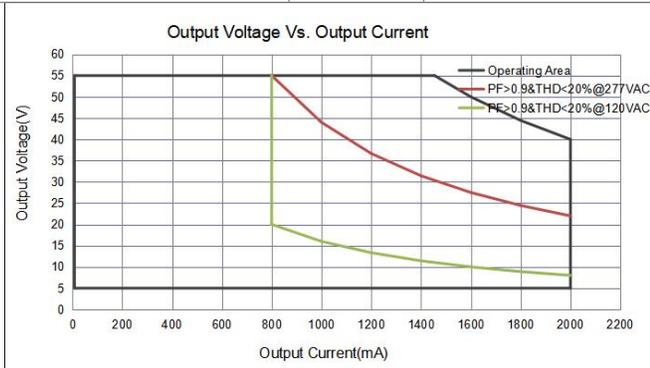
Power Factor	PF	20-100% load, $V_{IN} = 120V_{AC}$	0.95		PF	
		60-100% load, $V_{IN} = 277V_{AC}$	0.9			
Total Harmonic Distortion	THD	20-100% load, $V_{IN} = 120V_{AC}$		20	%	
		60-100% load, $V_{IN} = 277V_{AC}$		20	%	
Efficiency	η	$V_{out}=55V$, $I_{out}=1450mA$, $V_{IN} = 120V_{AC}$, steady state	87	89	%	
		$V_{out}=55V$, $I_{out}=1450mA$, $V_{IN} = 277V_{AC}$, steady state	89	91	%	
Turn On Delay Time	T_{on_delay}	Cold Start, 800-2000mA			0.5	S





OUTPUT

Programmable Output Current	I_{OUT}		800		2000	mA
Output current tolerance	t	$I_{OUT}=800-2000mA$			5	%
Output Current Range	I_{OUT}	Amplitude Control.	8.0		2000	mA
Output Voltage	V_{OUT}		5		55	V
Output Power	P_{OUT}	See "Operating window"			80	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	%



Programming

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

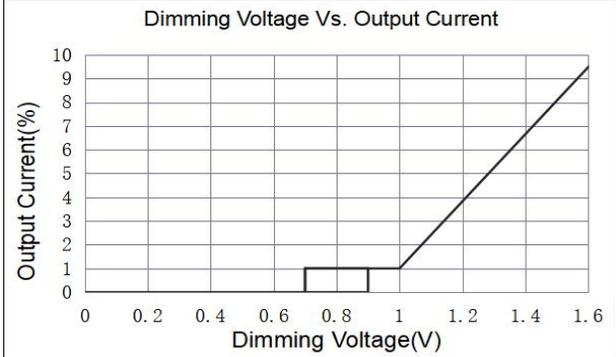
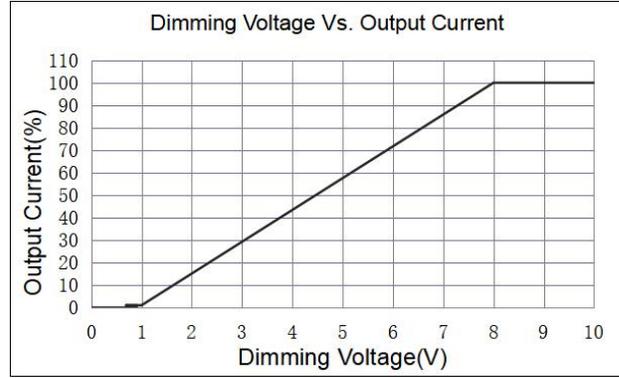
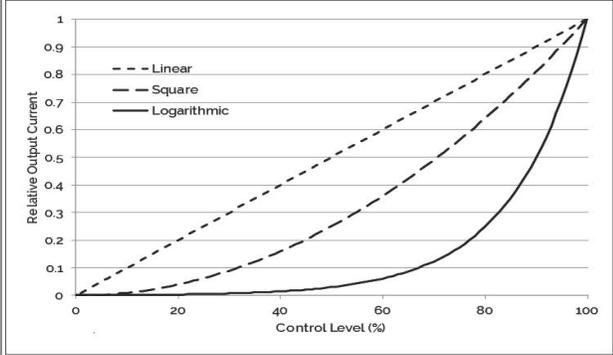
NO.	Item	Default Setting			
1	Output current(1mA Step)	See"Model list" for each model			
2	Dim to off	Enable			
3	Min Dimming Level	1%			
4	OTP point of driver	See "Protection" section			
5	Luminous decay compensation	Disable			
6	End-of-life indicator	Disable			
7	Fade in time	50mS			
8	Over load protection 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_{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
Leakage Voltage	V _{Leak_rms}	Voltage between DIM- and Ground			20	V _{AC}
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}				0.6	W
Output Voltage	$V_{AUX_DEFAULT}$		11	12	13	Vdc
Over load Protection	P_{OLP_AUX}	CC/CV mode			1	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}	32		80	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.					

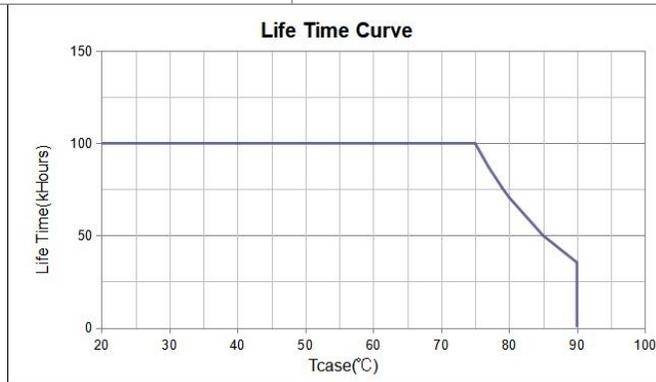
Environment

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}			215		g
Warranty	5 Years Warranty at T _c ≤ 85°C					
Flicker	IEEE 1789, Title 24					



Safety Compliance

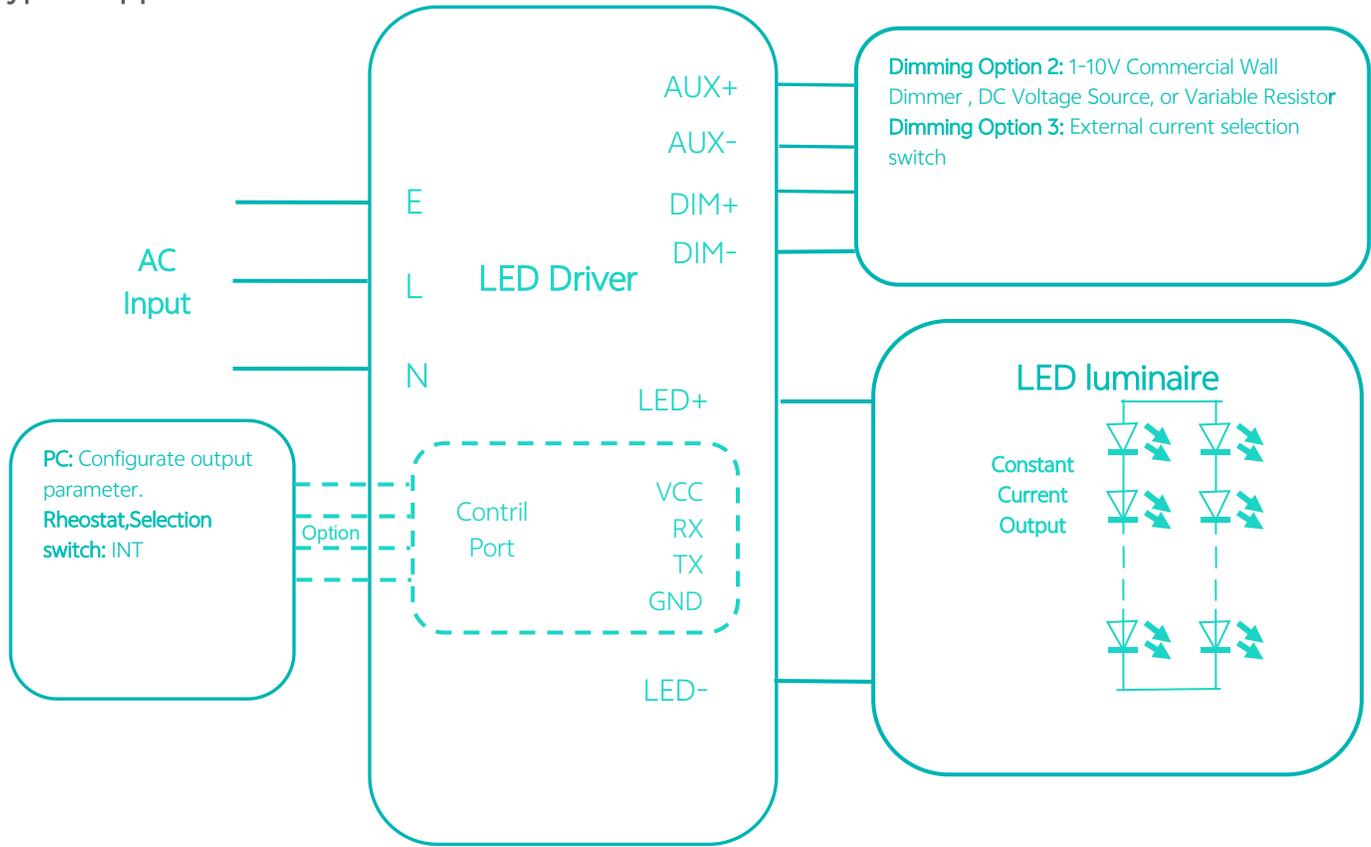
CUL/UL	UL8750, CAN/CSA-C22.2 No. 250.13
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Electromagnetic Compliance

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:

