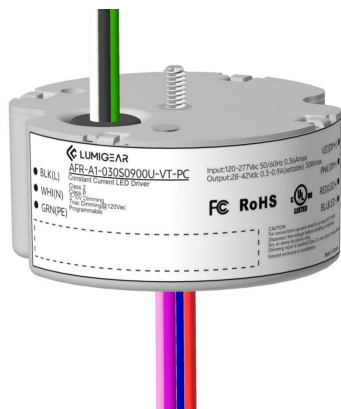


Features & Benefits

Universal AC input voltage(120-277VAC)

Comply with phase cut dimming and isolated 0-10v dimming, dim down to 1%

Suitable for indoor use

Programmable features:

Output current(1ma step)

Dim to off, min dimming level

Dimming curve: Log/linear/customer for 0-10vdimming

OTP mode: Foldback mode, linear decrease mode

UL Class2, Class P

Combination wave 2KV, ringwave 2.5KV

Operating temperature: -25°C~+50°C

Comply with IEEE1789, UL8750

Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
AFR-A1-015S0450U-VT-PC	120-277VAC	15W max.	100-450mA	30-42VDC	88%	D58*H27mm/ D2.2*H1 in.
AFR-A1-030S0900U-VT-PC	120-277VAC	30W max.	200-900mA	30-42VDC	89%	D58*H27mm/ D2.2*H1 in.

Approvals

TRIAC

0/1-10 V



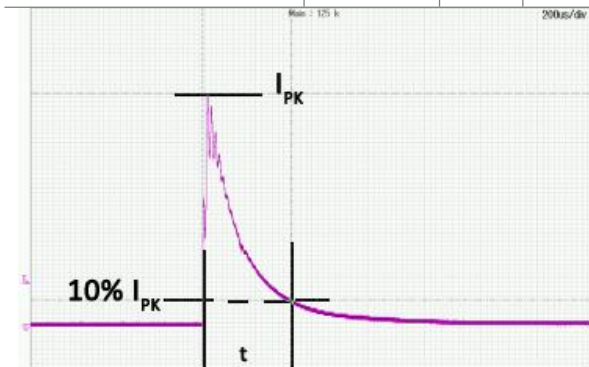
CLASS P

Model name code

AFR-A1	-	030	S	0900	U	-	VT	-	PC
①		②	③	④	⑤		⑥		⑦
①	Series				Architecture FlexFit Series				
②	Output power				Maximum output power:30W				
③	Output Channel				Single channel				
④	Output current(max)				Maximum output current:900mA				
⑤	Input voltage				120-277VAC				
⑥	Dimming Control				Triac&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}
	$V_{IN\ RATED_TRIAC}$	Phase Cut Dimming		120		V_{AC}
Input Frequency	f_{line}		47	50/60	63	Hz
Input Current	I_{IN}	RLC015, Full Load, $V_{IN} = 120V_{AC}$			0.18	A
		RLC015, Full Load, $V_{IN} = 120V_{AC}$			0.36	A
Inrush Current	I_{INRUSH}	Cold Start, $V_{IN} = 277V_{AC}$			18	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}	16 18 21 21 24 28 26 30 34 32 37 43				
	277V _{AC}	15 25 50 19 32 65 24 40 81 30 50 101				



Input Voltage	Inrush Current	t(us)10%-10%
120VAC	8.0A	254
277VAC	15.8A	208
347VAC	NA	NA

General Characteristics

Power Factor	PF	30-100% load, $V_{IN} = 120V_{AC}$	0.9			PF
		50-100% load, $V_{IN} = 277V_{AC}$	0.9			
Total Harmonic Distortion	THD	30-100% load, $V_{IN} = 120V_{AC}$			20	%
		50-100% load, $V_{IN} = 277V_{AC}$			20	%
Turn On Delay Time	T_{on_delay}	Cold Start, Without Dimmer			0.5	S
Efficiency	η_{120V_15W}	Full load, $V_{IN} = 120V_{AC}$, $I_{OUT} = 350mA$, Steady state	85	87		%
	η_{277V_15W}	Full load, $V_{IN} = 277V_{AC}$, $I_{OUT} = 350mA$, Steady state	86	88		%
	η_{120V_30W}	Full load, $V_{IN} = 120V_{AC}$, $I_{OUT} = 700mA$, Steady state	85	87		%
	η_{277V_30W}	Full load, $V_{IN} = 277V_{AC}$, $I_{OUT} = 700mA$, Steady state	87	89		%

OUTPUT

Output Current Tolerance	t	$I_{OUT} = (40-100\%) I_{MAX}$			5	%
		$I_{OUT} = (Min-39\%) I_{MAX}$			7	%
Output Current Range	I_{OUT_15W}	RLC015	2.5		450	mA
	I_{OUT_30W}	RLC030	5		900	mA
Line Regulation	$V_{OUT-LINE}$	$I_{OUT} = (40-100\%) I_{MAX}$			5	%

Load Regulation	$I_{OUT-LOAD}$	$I_{OUT}=(40-100\%)I_{MAX}$			5	%
Ripple Current	$I_{OUT-RIPPLE}$	Full Load, $(I_{OMAX}-I_{OMIN})/(I_{OMAX}+I_{OMIN})$			30	%
Output Current Overshoot	$I_{OVERSHOOT}$	Turning Power ON			10	%

Programming

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: Log/linear/customer for 0-10Vdimming	See "0~10V or Resistor Dimming" section
5	Over Temperature Protection: Foldback mode, Linear decrease mode	See "Protection" section

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: Log/linear/customer, 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
Light On	V_{DIM-on}	Programmable		0.9		V
Light Off	$V_{DIM-off}$	Programmable		0.7		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			0.6	W

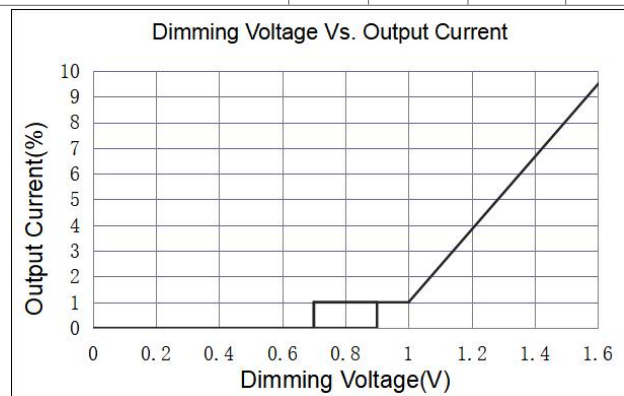
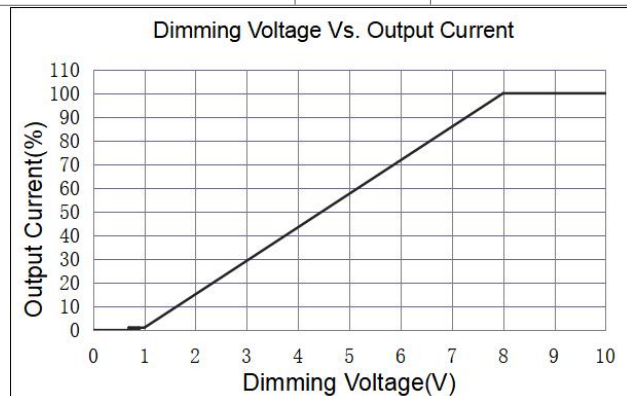
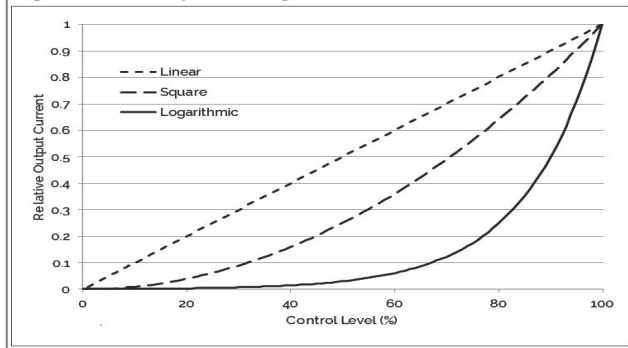


Figure 1: Intensity Dimming Profile Characteristics



Triac Dimming

The unit is compatible With Leading-edge and Trailing-edge Dimmer.

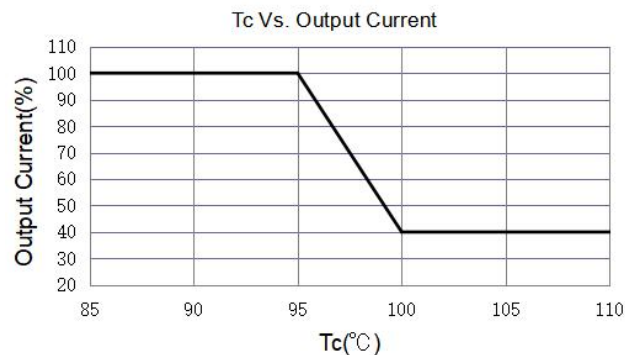
Input Voltage	$V_{IN-TRIAC DIM}$		120		V_{AC}
Suggest Load Range	$P_{Suggest}$	$V_{IN} = 120 V_{AC}$	50	100	%

Compatible Phase Cut Dimmers

1	Acuity	INC Forward	Sensor Switch WPD WH
2	Lutron	INC Forward	Diva DVCL-153P
3	Lutron	INC Forward	Caseta PD-6WCL
4	Lutron	ELV Reverse	Diva DVELV-300P
5	Leviton	ELV Reverse	Illumatech IPE04
6	Acuity	PA	Fresco LMPM 2D 2L
7	Acuity	PA	nLight NPP PCD EFP
8	Acuity	PA	nLight RPP PCD EFP G1

Protection

Over Voltage Protection	V _{OVP}	The unit will recover automatically after fault conditions 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
Short Circuit Protection	The unit will recover automatically after fault conditions is removed.					

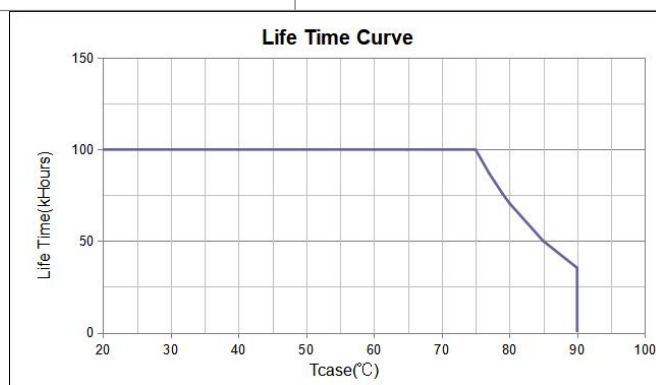


Environment

Storage Temperature	$T_{Storage}$	Humidity: 5% RH to 95% RH	-40	-	+85	°C
Ambient Operating Temperature	T_a		-25	-	+50	°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			24	dBA
Cooling	Convection Cooling					
IP 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}			135		g
Warranty	5 Years Warranty at $T_c \leq 85^\circ\text{C}$					
Flicker	IEEE 1789, title 24					



Safety Compliance

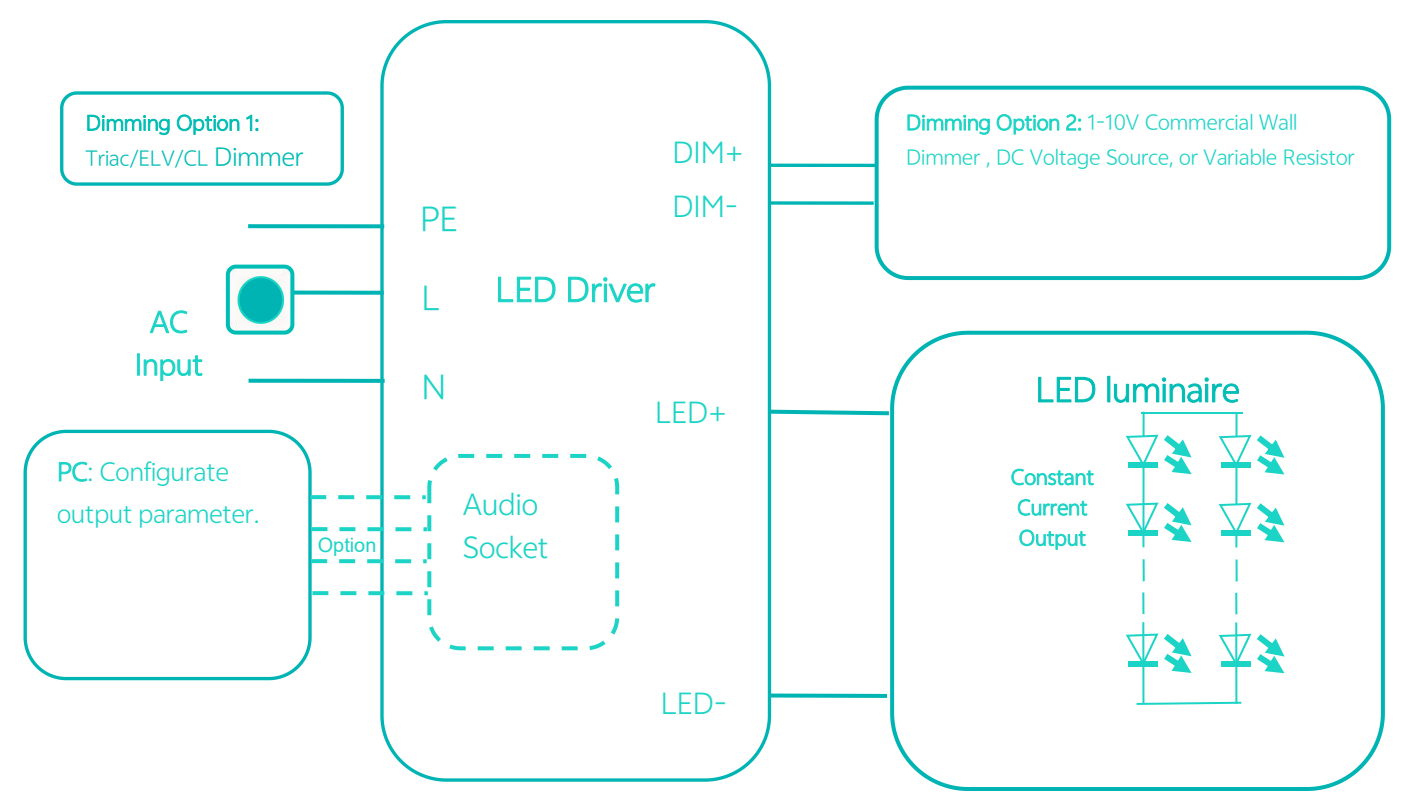
CUL/UL	UL8750, CAN/CSA-C22.2 No. 250.13
--------	----------------------------------

Electromagnetic Compliance

EMC Requirements	Standard	Conditions
EMI Emissions	FCC Title 47 Part 15	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/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*W*H(mm)
TBD	TBD	TBD	TBD

Mechanical Drawing:

