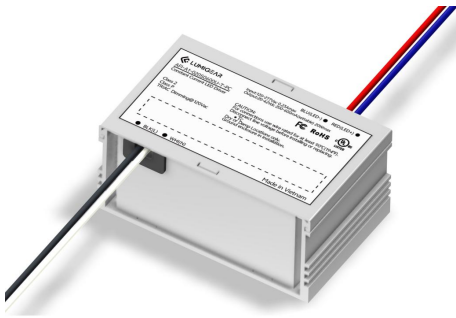


Features & Benefits

- Universal AC Input Voltage(120-277VAC, Triac dimming@120VAC)
- Compact design, silicone potted for better thermal performance
- Phase cut dimming, dim down to 1%
- Suitable for indoor use
- UL Class2, Class P
- Combination Wave 2KV, Ringwave 2.5KV
- Operating temperature: -25°C~+55°C
- Comply with Title 24, UL8750

Programmable features:

- ◆ Output current(1mA step)
- ◆ Over Temperature Protection: Foldback mode, Linear decrease mode
- ◆ Programmable RMS voltage with turn-on , turn-off and full brightness

Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
AFI-A1-010S0300U-T-PC	120-277VAC	10W max.	100-300mA	20-42VDC	87%	53*36*24.6 mm 2.1x1.4x0.9 in.
AFI-A1-020S0600U-T-PC	120-277VAC	20W max.	200-600mA	20-42VDC	89%	53*36*24.6 mm 2.1x1.4x0.9 in.

Approvals

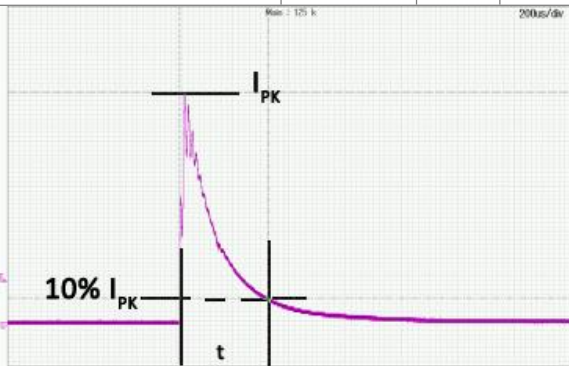
TRIAC  CLASS P

Model name code

AFI-A1	=	010S	0300	U	=	T	=	PC
①		②	③	④		⑤		⑥

①	Series	AFI Series
②	Output power	Maximum output power: 10W
③	Output current(max)	Maximum output current: 300mA
④	Input voltage	120-277VAC
⑤	Dimming Control	TRIAC
⑥	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}	AFI-A1-010, Full Load, V _{IN} = 120V _{AC}										0.12	A		
		AFI-A1-020, Full Load, V _{IN} = 120V _{AC}										0.23	A		
Inrush Current	I _{INRUSH}	Cold Start, V _{IN} = 277V _{AC}										30	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	20-100% load, V _{IN} = 120V _{AC}								0.9			PF		
		50-100% load, V _{IN} = 277V _{AC}								0.9					
Total Harmonic Distortion	THD	20-100% 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		
		Cold Start, 1% Dimming, V _{out} =36V										1.0	S		
Efficiency	η	AFI-A1-010, I _{OUT} =300mA, V _{IN} =120V _{AC} , Steady state								84	86		%		
		AFI-A1-020, I _{OUT} =600mA, V _{IN} =120V _{AC} , Steady state								86	88		%		
		AFI-A1-010, I _{OUT} =300mA, V _{IN} =277V _{AC} , Steady state								85	87		%		
		AFI-A1-020, I _{OUT} =600mA, V _{IN} =277V _{AC} , Steady state								87	89		%		
OUTPUT															
Output Current Tolerance	t	I _{OUT} =(50-100%)I _{MAX}										5	%		
		I _{OUT} =(MIN.-49%)I _{MAX}										7	%		
Output Current Range	I _{OUT}	AFI-A1-010								3		300	mA		

		AFI-A1-020	6		600	mA
Output Voltage	V_{OUT}		20		42	V
Line Regulation	$V_{OUT-LINE}$				5	%
Load Regulation	$I_{OUT-LOAD}$	V_{OUT} from MIN. to MAX.			5	%
Ripple Current	$I_{OUT-RIPPLE}$	Full Load, $(I_{OMAX}-I_{OMIN})/(I_{OMAX}+I_{OMIN})$			30	%
Output Current Overshoot	$I_{OVERSHOOT}$	Turning Power ON			10	%

Phase Cut 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 Dimmer List

No.	Mfg.	Model	Remark	No.	Mfg.	Model	Remark
1	Lutron	MACL-153M		6	Lutron	DVELV-300P	
2	Lutron	DVRP-253P		7	Lutron	NTELV-300	
3	Lutron	PD-6WCL		8	Lutron	DVCL-153P	
4	Lutron	PD-5NE		9	Leviton	IPE04	
5	Lutron	MA-PRO		10	Leviton	DSE06	

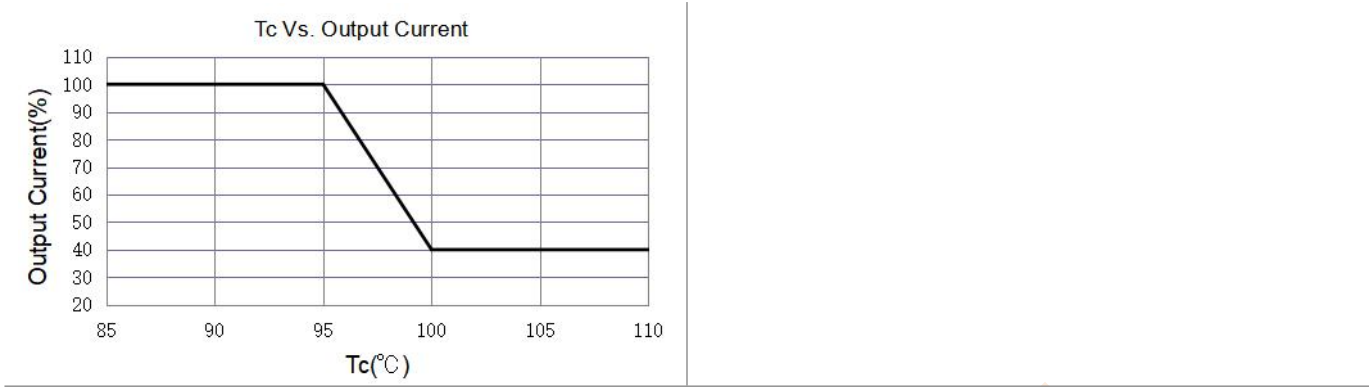
Programming

The driver is programmable , Please contact LUMIGEAR for details.

NO.	Item	Default Setting				
1	Output current(1mA step)	See”Model list” for each model				
2	Over Temperature Protection: Foldback mode, Linear decrease mode	See “Protection” section				
3	Programmable RMS voltage with turn-on , turn-off and full brightness for phase cut dimming	Turn on at 18V _{AC} , turn off at 15V _{AC} , Clamp at 30V _{AC} , full brightness at 108V _{AC}				
P2.0 Female Plug Caution: Programming port is NOT isolated from primary side	Programming software	“LUMIGEAR Programming Tool”				
	Programming tool	“Lumigear tool box”				
	Operating voltage			5		V

Protection

Over Voltage Protection	V_{OVP}	The unit will recover automatically after fault conditions is removed.		60		V
Over Temp. Protection	T_{OTP}	Current linear reduced when hotspot greater than T_{OTP}		95		°C
Short Circuit Protection	The unit will recover automatically after fault conditions is removed.					

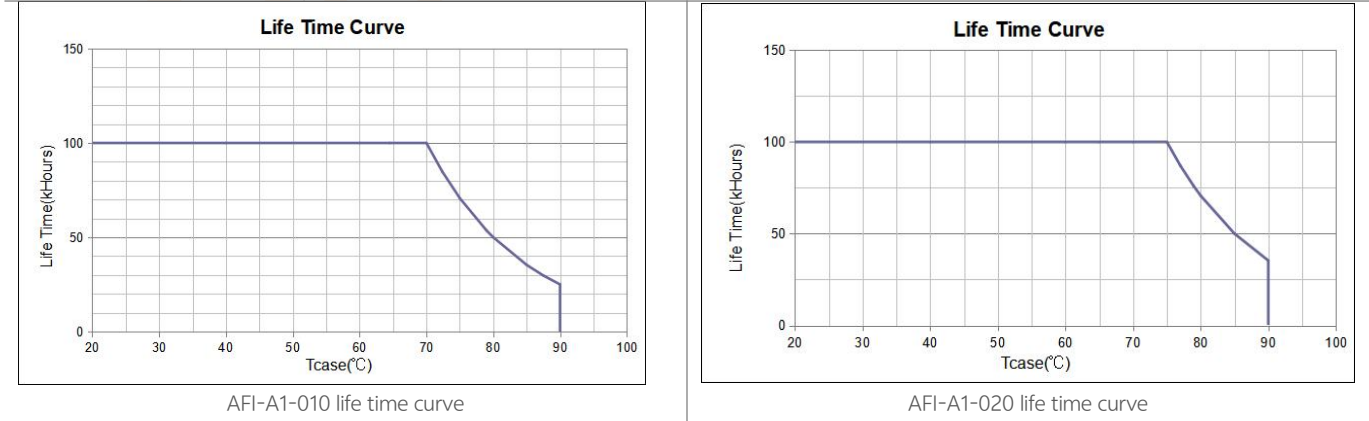


Environment

Storage Temperature	T _{Storage}	Humidity: 5% RH to 95% RH	-40	-	+85	°C
Ambient Operating Temperature	T _a		-25	-	+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			24	dBA
Cooling	Convection Cooling					
IP Rating	Dry and damp UL approved					

Others

Life Time	T _{Life}	AFI-A1-010, Full load, 80°C case temperature	50			kHrs
		AFI-A1-020, Full load, 85°C case temperature	50			kHrs
SVEF	T _{SVEF}	Full Load, 25°C ambient temperature	200			kHrs
Net Weight	W _{NET}			TBD		g
Warranty	AFI-A1-010, 5 Years Warranty at T _c ≤80°C					
	AFI-A1-020, 5 Years Warranty at T _c ≤85°C					
Flicker	Title 24					



CUL/UL

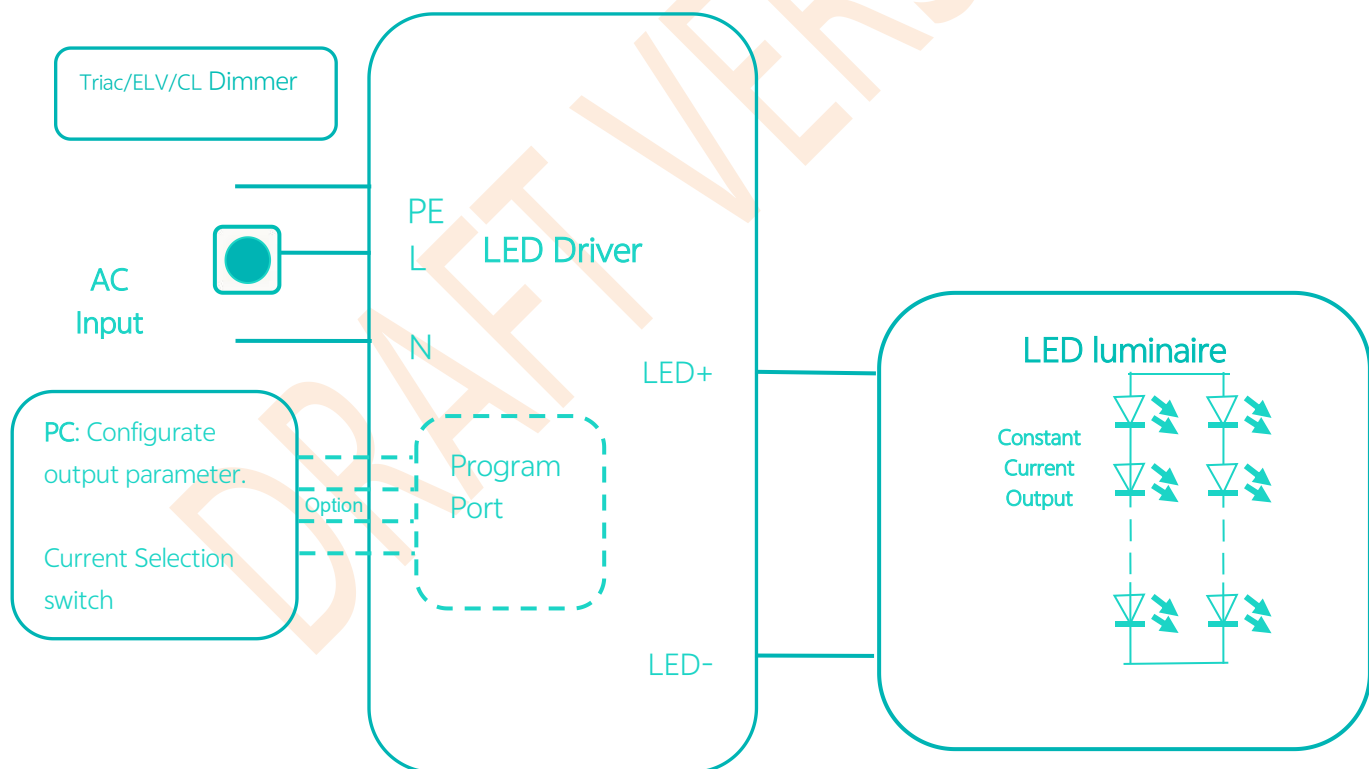
UL8750, CAN/CSA-C22.2 No. 250.13

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:

