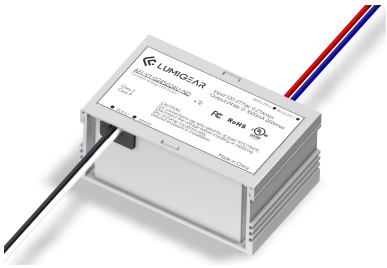
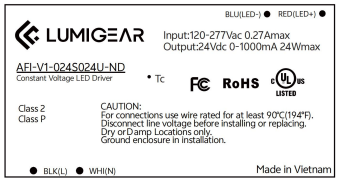
AFI-V1-024SXXXU-ND

24w 12/24/48V Constant Voltage Series





Features & Benefits

- Universal AC input voltage(120-277VAC)
- Compact design
- Low ripple output
- 88% high efficiency , low temperature rise
- IP20 rated case with silicone-based potting
- All-round protection: SCP, OVP, OPP
- UL Class2 , Class P
- Operating temperature: -40℃~+50℃
- Comply with IEEE1789, UL8750

Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
AFI-V1-024S012U-ND	120-277VAC	24W max.	0-2000mA	12VDC	87%	53*32.8*24.6 mm 2.1×1.3×0.9 in.
AFI-V1-024S024U-ND	120-277VAC	24W max.	0-1000mA	24VDC	87%	53*32.8*24.6 mm 2.1×1.3×0.9 in.
AFI-V1-024S048U-ND	120-277VAC	24W max.	0-500mA	48VDC	88%	53*32.8*24.6 mm 2.1×1.3×0.9 in.

Approvals

c UL us LISTED CLASS P

Model name code

AFI-V1 - 024S 024 U - ND

① ② ③ ④ ⑤

①	Series	AFI Series
②	Output power	Maximum output power: 24W
③	Output Voltage(max)	output voltage: 24V
④	Input voltage	120-277VAC
⑤	Dimming Control	Non-dimming

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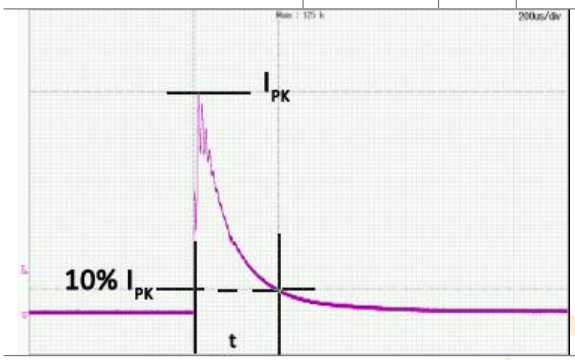
Specification:

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}			0.27	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}	7	11	13	9	15	17	12	18	21	15	23	26
	277V_{AC}	3	6	12	4	8	16	5	9	19	7	12	24



Input Voltage	Inrush Current	t(us)10%-10%
120VAC	TBD	158
277VAC	TBD	166
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	
Efficiency	η_{12V}	AFI-V1-024S012U, Full load,V_{IN} =120V_{AC}, Steady state	84	86		%
		AFI-V1-024S012U, Full load,V_{IN} =277V_{AC}, Steady state	85	87		
	η_{24V}	AFI-V1-024S024U, Full load,V_{IN} =120V_{AC}, Steady state	84	86		
		AFI-V1-024S024U, Full load,V_{IN} =277V_{AC}, Steady state	85	87		
	η_{48V}	AFI-V1-024S048U, Full load,V_{IN} =120V_{AC}, Steady state	86	87		
		AFI-V1-024S048U, Full load,V_{IN} =277V_{AC}, Steady state	87	88		
Turn On Delay Time	T_{on_delay}	Cold Start			0.5	S

TBD	TBD

OUTPUT

Output Voltage Tolerance	t_{OUT}				5	%
No Load Output Voltage Tolerance	$t_{NO\ LOAD}$	No Load,			5	%
Output Current	I_{OUT}	AFI-V1-024S012U	0		2000	mA
		AFI-V1-024S024U	0		1000	mA
		AFI-V1-024S048U	0		500	mA
Output Power	P_{OUT}				24	W
Line Regulation	$V_{OUT-LINE}$				1	%
Ripple Voltage	$V_{OUT-LINE}$	Full Load, (pk-to-pk)/Average, Without Dimmer			10	%
Output Voltage Overshoot	$V_{OVERSHOOT}$	Turning Power ON			10	%

12V Efficiency Curve TBD	24V Efficiency Curve TBD
36V Efficiency Curve TBD	48V Efficiency Curve TBD

Protection

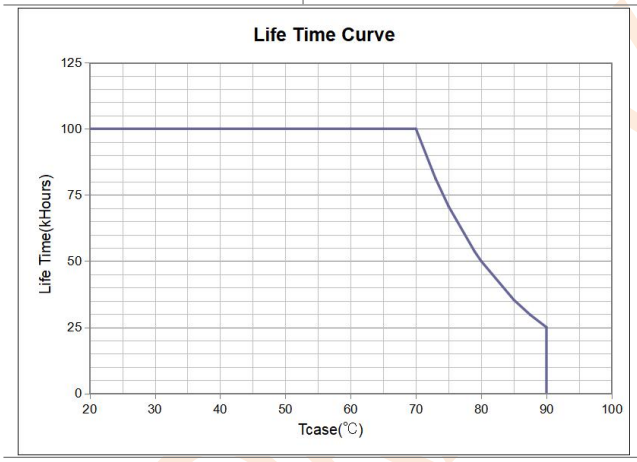
Over Voltage Protection	V_{OVP}	AFI-V1-024S012U, Latch mode.	14		18	V
		AFI-V1-024S024U, Latch mode.	28		36	V
		AFI-V1-024S048U, Latch mode.	50		60	V
Over Current Protection	I_{OCP}	AFI-V1-024S012U, Hiccup mode.	2200		2500	mA
		AFI-V1-024S024U, Hiccup mode.	1100		1250	mA
		AFI-V1-024S048U, Hiccup mode.	550		650	mA
Over Power Protection	CC/CV mode.					
Short Circuit Protection	The unit can recover automatically after fault conditions is removed.					

Environment

Storage Temperature	$T_{Storage}$	Humidity: 5% RH to 95% RH	-40	-	+85	℃
Ambient Operating Temperature	T_a		-40	-	+55	℃
Max. Case Temperature	T_c	Hot spot on case			90	℃
Operating Relative Humidity	H_a	Non-Condensing	10		90	%
Acoustic Noise		Measured from 1m away			24	dBA
Cooling	Convection Cooling					
IP Rating	IP20					

Others

Life Time	T_{Life}	Full Load, 80℃ case temperature,	50			kHrs
MTBF	T_{MTBF}	Full Load, 25℃ ambient temperature	200			kHrs
Net Weight	W_{NET}			TBD		g
Warranty	5 Years Warranty at T_c ≤80℃					
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 15B	Class B at 120VAC, Class A at 277VAC
Voltage Fluctuations and Flicker	IEC61000-3-3	
Immunity Compliance	IEC 61000-4-2	±8kV air Discharge, ±6kV Contact Discharge
	ANSI/IEEE C62.41.2	2 kV combination wave
	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

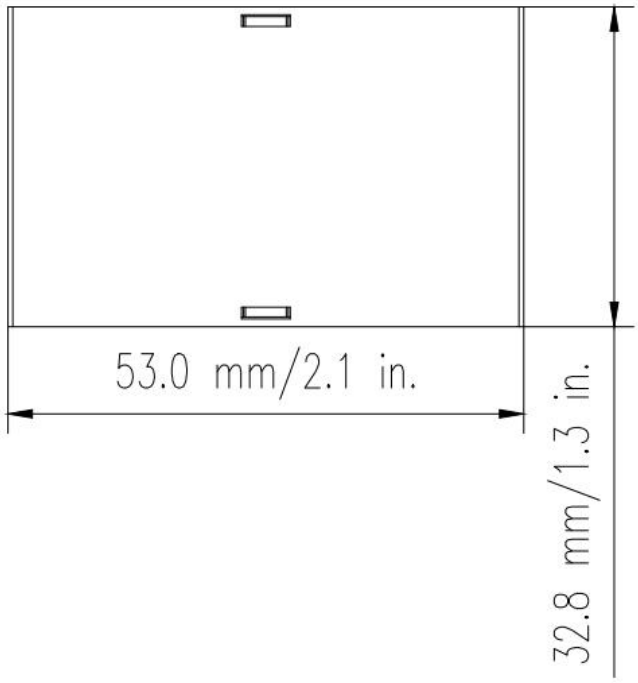
	IEC 61000-4-11	>95% dip, .5 period; 30% dip, 25 periods; 95% reduction, 250 periods
	IEC 61000-4-4	± 2kV Direct couple to Line input, 5kHz repitition rate, 15mS duration, 300mS period. 7 coupling paths, 1 minute per path (14 total combinations)

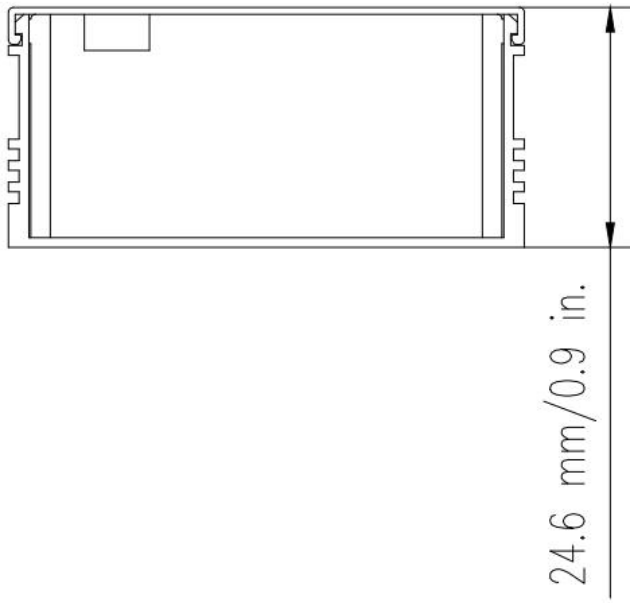
Note:
1. Unless otherwise specified, all the above parameters are measured at ambient temperature of 25℃ and rated voltage.
2. Case must be grounded when installation

Packaging

Driver quantity (pcs)	Layer	Weight (kg)	Outer dimensions of Carton L*W*H(mm)
TBD	5	15.0	TBD

Mechanical Drawing:





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