



LUMIGEAR
CVL-A1-060S024U-ND
 Constant Voltage LED Driver

Input: 110-277Vac 50/60Hz 0.70Amax
 Output: 24VDC 0-2500mA 60Wmax

FC RoHS **UL LISTED**

RED(LED+) •
 BLUE(LED-) •

Class 2
 Class P
 PWM Output

CAUTION:
 Disconnect line voltage before installing or replacing.
 For connections use wire rated for at least 90°C(194°F).
 Dry or damp locations only.
 Ground enclosure in installation.
 Use only within an enclosure.

Made in Vietnam

Features & Benefits

- Universal AC input voltage(110-277VAC)
- All-round protection: SCP, OVP, OTP, OPP(CC/CV mode, especially suitable for LED strip)
- Flicker free, excellent camera compatibility, spec-grade smoothness
- Painted sheet steel
- Class2, Class P
- Operating temperature: -40°C~+55°C
- Comply with IEEE1789, UL8750

Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
CVL-A1-060S012U-ND	110-277VAC	60W max.	0-5000mA	12VDC	88%	242*44.5*30.5 mm 9.5*1.7*1.2 in.
CVL-A1-060S024U-ND	110-277VAC	60W max.	0-2500mA	24VDC	88%	242*44.5*30.5 mm 9.5*1.7*1.2 in.

Approvals



Model name code

<u>CVL-A1</u>	=	<u>060S</u>	<u>XXX</u>	<u>U</u>	=	<u>ND</u>
①		②	③	④		⑤

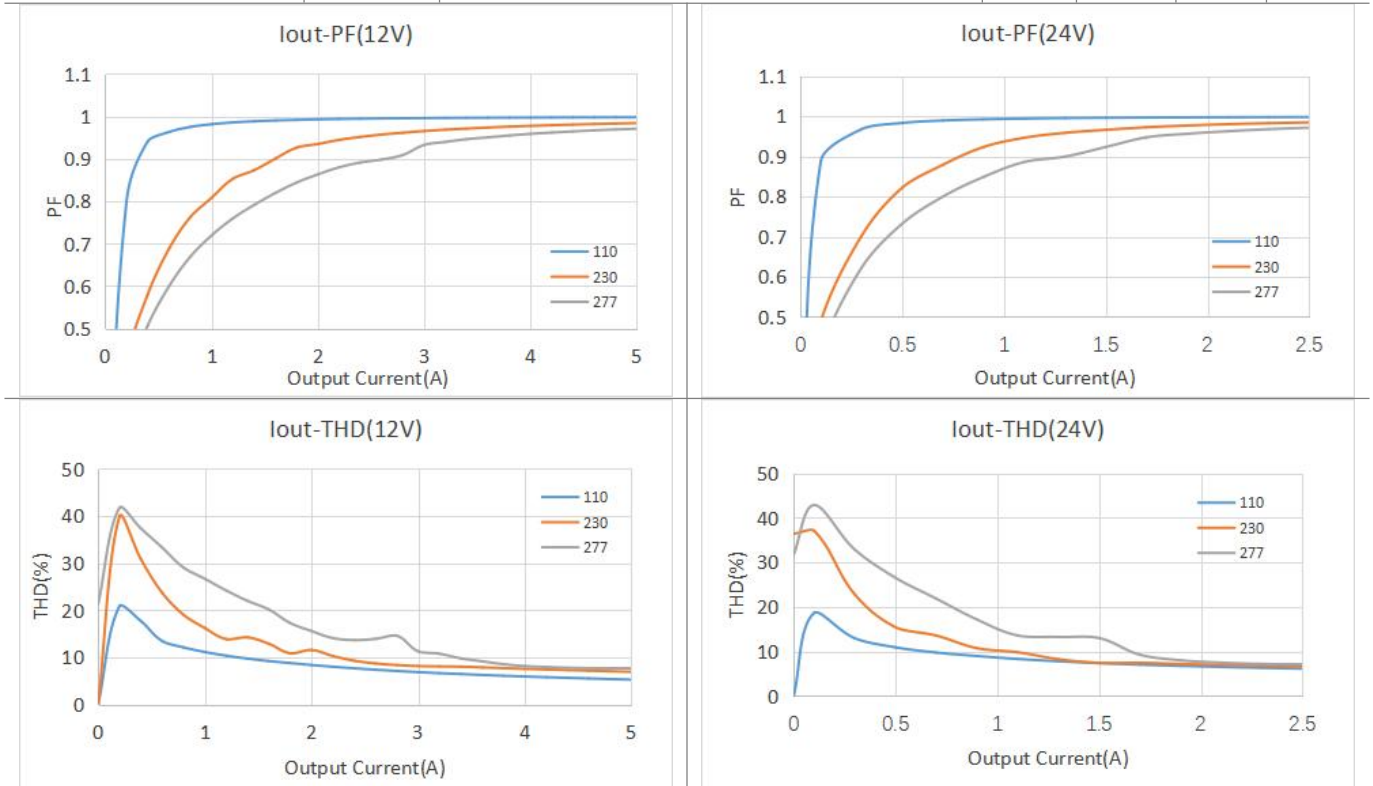
①	Series	CVL Series
②	Output power	Maximum output power: 60W
③	Output Voltage	024=24V,036=36V,048=48V
④	Input voltage	110-277VAC
⑤	Dimming Control	Non-dimming

Specification:

Parameters	Symbols	Test Conditions / Comment	Min	Typ	Max	Units
INPUT						
Input Voltage	V_{IN}		100		305	V_{AC}
Rated Input Voltage	$V_{IN,RATED}$		110		277	V_{AC}
Input Frequency	f_{line}		47	50/60	63	Hz
Input Current	I_{IN}	Full Load, $V_{IN} = 110V_{AC}$			0.7	A
Inrush Current	I_{INRUSH}	Cold Start, $V_{IN} = 277V_{AC}$			70	A
Leakage Current	$I_{Leakage}$	$V_{IN} = 277V_{AC}, 60Hz$			0.75	mA

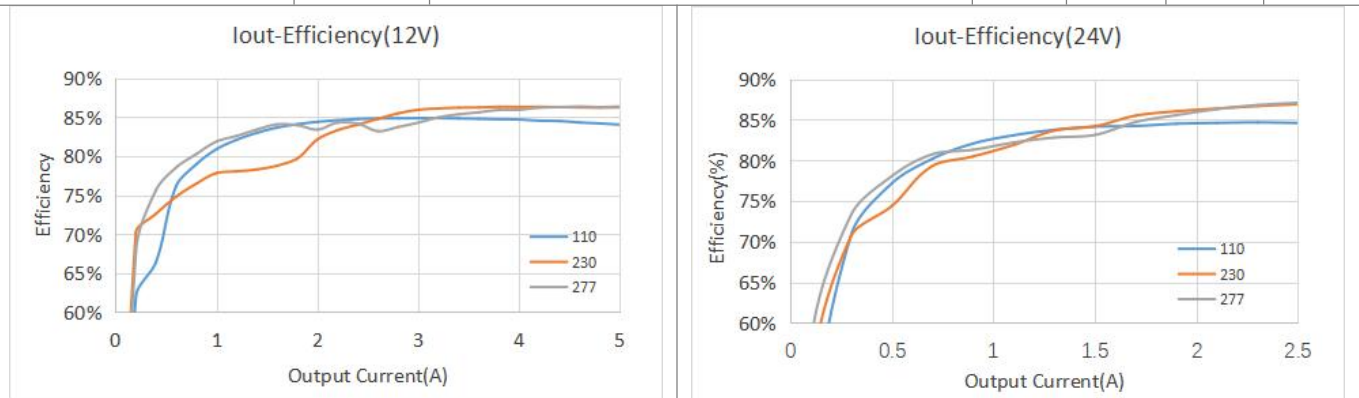
General Characteristics

Power Factor	PF	20-100% load, $V_{IN} = 110V_{AC}$	0.9			PF
		60~100% load, $V_{IN} = 277V_{AC}$	0.9			
Total Harmonic Distortion	THD	20-100% load, $V_{IN} = 110V_{AC}$			20	%
		60~100% load, $V_{IN} = 277V_{AC}$			20	
Efficiency	η_{12V}	CVL-A1-060S012U-ND, Full load, $V_{IN} = 110V_{AC}$, Steady state	83	85		%
		CVL-A1-060S012U-ND, Full load, $V_{IN} = 277V_{AC}$, Steady state	86	88		
	η_{24V}	CVL-A1-060S024U-ND, Full load, $V_{IN} = 110V_{AC}$, Steady state	84	86		
		CVL-A1-060S024U-ND, Full load, $V_{IN} = 277V_{AC}$, Steady state	86	88		
Turn On Delay Time	$T_{on,delay}$	Cold Start			0.5	S



OUTPUT

Output Voltage Tolerance	t_{OUT}	No Dimming			5	%
No Load Output Voltage Tolerance	$t_{NO\ LOAD}$	No Load, No Dimming			3	%
Output Current	I_{OUT}	CVL-A1-060S012U-ND	0		5000	mA
		CVL-A1-060S024U-ND	0		2500	mA
Output Power	P_{OUT}				60	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	%



Protection

Over Voltage Protection	V_{OVP}	CVL-A1-060S012U-ND, Latch mode.	14		17	V
		CVL-A1-060S024U-ND, Latch mode.	28		36	V
Over Current Protection	I_{OCP}	CVL-A1-060S012U-ND, Hiccup mode.	5000		5500	mA
		CVL-A1-060S024U-ND, Hiccup mode.	2500		3000	mA
Over Temperature Protection	T_{OTP}	If the case temperature exceeds OTP point, the output voltage of the driver is automatically reduced.	90	95	100	°C
Over Power Protection	CC/CV mode.					
Short Circuit Protection	The unit can recover automatically after fault conditions is removed.					

Environment

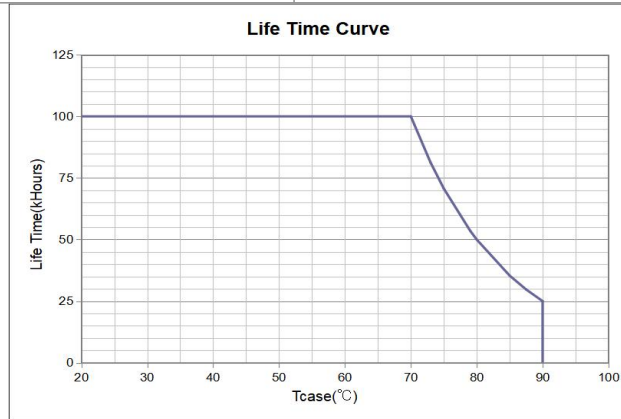
Storage Temperature	$T_{Storage}$	Humidity: 5% RH to 95% RH	-40	-	+85	°C
Ambient Operating Temperature	T_a		-40	-	+55	°C
Max. Case Temperature	T_c	Hot spot on case			90	°C
Operating Relative Humidity	H_a	Non-Condensing	10		90	%
Acoustic Noise		Measured from 1 m w/o dimmer.			24	dB(A)
Cooling	Convection Cooling					
IP Rating	IP20, (IP65/Wet location, Please contact Lumigear for details)					

Others

Life Time	T_{Life}	Full Load, 80°C case temperature	50			kHrs
MTBF	T_{MTBF}	Full Load, 25°C ambient temperature	200			kHrs
Net Weight	W_{NET}			586		g

Warranty | 5 Years Warranty at $T_c \leq 80^\circ\text{C}$

Flicker | IEEE 1789 ($\geq 1\%$ dimming), 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 110VAC, Class A at 277VAC
Voltage Fluctuations and Flicker	IEC61000-3-3	
Immunity Compliance	IEC 61000-4-2	$\pm 8\text{kV}$ air Discharge, $\pm 6\text{kV}$ 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	$\pm 2\text{kV}$ 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.

Packaging

Driver quantity (pcs)	Layer	Weight (kg)	Outer dimensions of Carton L*W*H(mm)
25	5	15.0	335 X 265 X 230

Mechanical Drawing:

