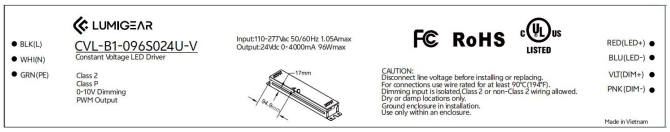
CVL-B1-096SXXXU-V

96w 24/36/48 Constant Voltage Series



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
- Isolated 0-10Vdimming, PWM output, down to 0.1% dimming level
- Painted sheet steel
- Class2, Class P
- Operating temperature: -40℃~+55℃
- Comply with IEEE1789, UL8750

Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
CVL-B1-096S024U-V	110-277VAC	96W max.	0-4000mA	24VDC	89%	242*44.5*30.5 mm 9.5×1.7×1.2 in.
CVL-B1-096S036U-V	110-277VAC	96W max.	0-2667mA	36VDC	89%	242*44.5*30.5 mm 9.5×1.7×1.2 in.
CVL-B1-096S048U-V	110-277VAC	96W max.	0-2000mA	48VDC	90%	242*44.5*30.5 mm 9.5×1.7×1.2 in.

Optional Function

Aux power of 12V/100mA

Category B 6KV/IP65

Approvals

0/1-10 V c UL us LISTED CLASS P

Model name code

CVL-B1	-	096S	XXX	U	-	V
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	0-10V

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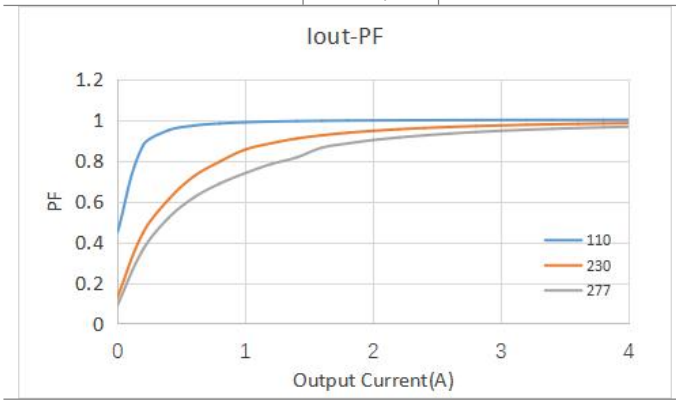
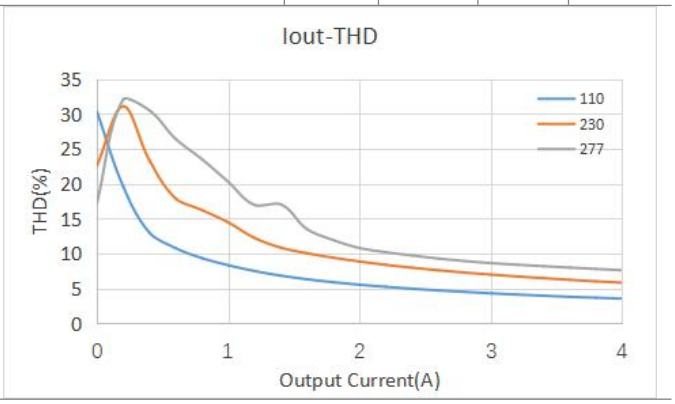
Specification:

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}			1.05	A
Inrush Current	I_{INRUSH}	Cold Start, V_{IN} = 277V_{AC}			70	A
Leakage Current	$I_{Leakage}$	V_{IN} = 277$V_{AC,}$ 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_{24V}	CVL-B1-096S024U-V, Full load,V_{IN} =110V_{AC}, Steady state	84	86		%
		CVL-B1-096S024U-V, Full load,V_{IN} =277V_{AC}, Steady state	87	89		
	η_{36V}	CVL-B1-096S036U-V, Full load,V_{IN} =110V_{AC}, Steady state	84	86		
		CVL-B1-096S036U-V, Full load,V_{IN} =277V_{AC}, Steady state	87	89		
	η_{48V}	CVL-B1-096S048U-V, Full load,V_{IN} =110V_{AC}, Steady state	85	87		
		CVL-B1-096S048U-V, Full load,V_{IN} =277V_{AC}, Steady state	88	90		
Turn On Delay Time	T_{on_delay}	Cold Start			0.5	S

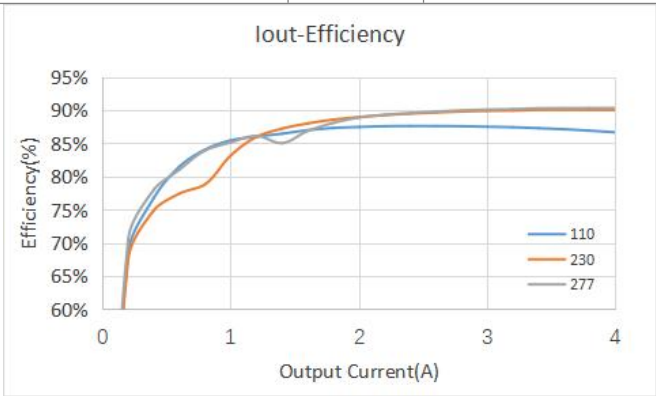




OUTPUT

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-B1-096S024U-V	0		4000	mA
		CVL-B1-096S036U-V	0		2667	mA
		CVL-B1-096S048U-V	0		2000	mA

Output Power	P_{OUT}				96	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	%

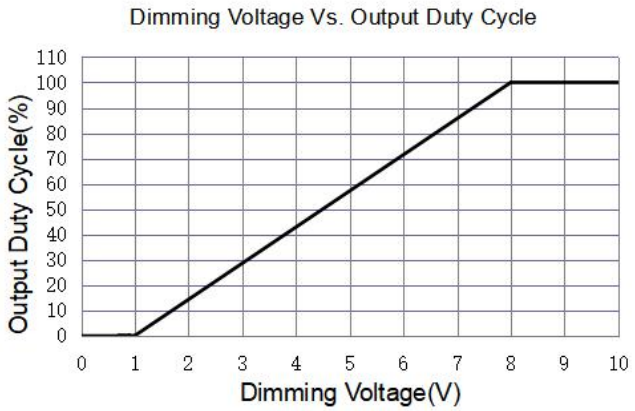


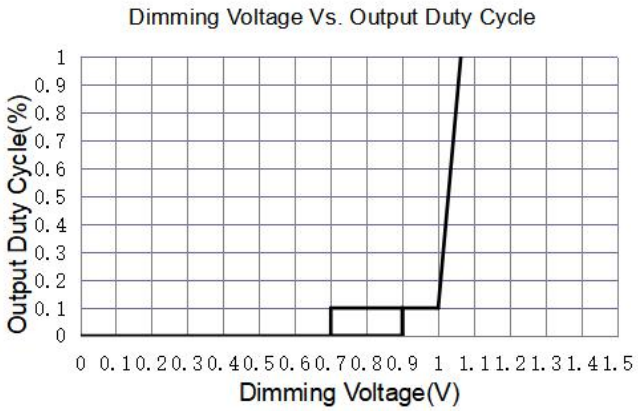
Efficiency Curve(24V Model)

0~10V

The 0~10V dimming can be used to dim the output voltage via a standard commercial wall dimmer (0~10VDC) or an external control voltage source (0~10VDC) or external resistor. The unit can be compatible with both sink and source current dimmers.

Dimming Curve	Linear. please see "Dimming curve".					
Absolute Maximum Voltage on 0~10V Pin	V_{DIM}		0		50	V
Source Current on 0~10V Dimming Pin	I_{DIM}			200		uA
Light On	V_{DIM-on}			0.9		V
Light Off	$V_{DIM-off}$			0.7		V
Clamp voltage at Min. dimming level	$V_{DIM-Clamp}$			1		V
Dimming Voltage for Full Bright	$V_{DIM-MAX}$			8		V

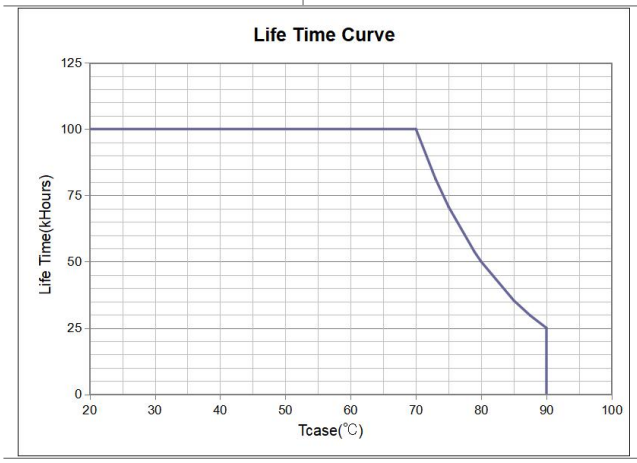




Auxiliary source (Optional)

Voltage range	V_{AUX}	Standard product	11	12	13	Vdc
Current range	I_{AUX}	V_{AUX}=12V			100	mA

Output Power	P_{AUX}			1.2		W
Protection						
Over Voltage Protection	V_{OVP}	CVL-B1-096S024U-V, Latch mode.	28		36	V
		CVL-B1-096S036U-V, Latch mode.	38		44	V
		CVL-B1-096S048U-V, Latch mode.	50		60	V
Over Current Protection	I_{OCP}	CVL-B1-096S024U-V, Hiccup mode.	4000		4500	mA
		CVL-B1-096S036U-V, Hiccup mode.	2667		3000	mA
		CVL-B1-096S048U-V, Hiccup mode.	2000		2300	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	℃
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 1 m w/o dimmer.			24	dBA
Cooling	Convection Cooling					
IP Rating	IP20, (IP65/Wet location, Please contact Lumigear for details)					
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}			586		g
Warranty	5 Years Warranty at T_c ≤80℃					
Flicker	IEEE 1789(≥1% dimming), Title 24					



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Safety Compliance

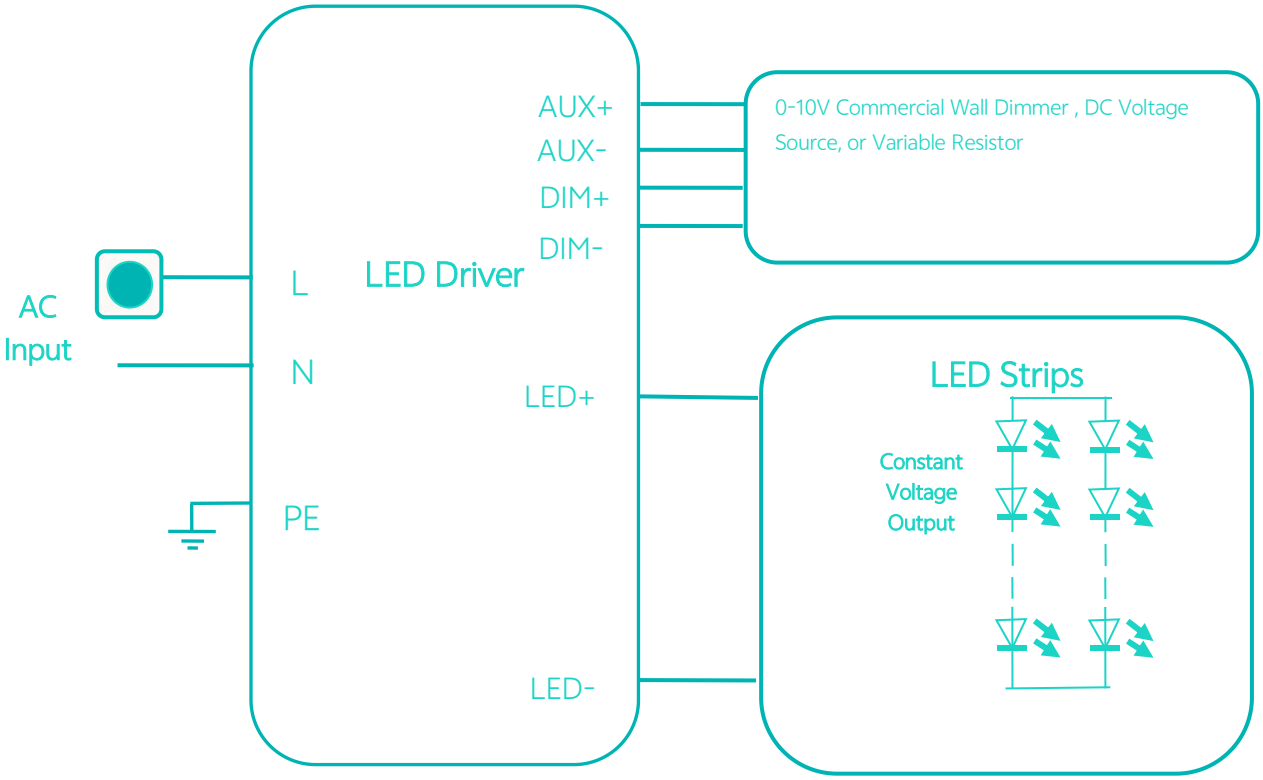
CUL/UL	UL8750, CAN/CSA-C22.2 No. 250.13

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	±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: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25℃ and rated voltage.

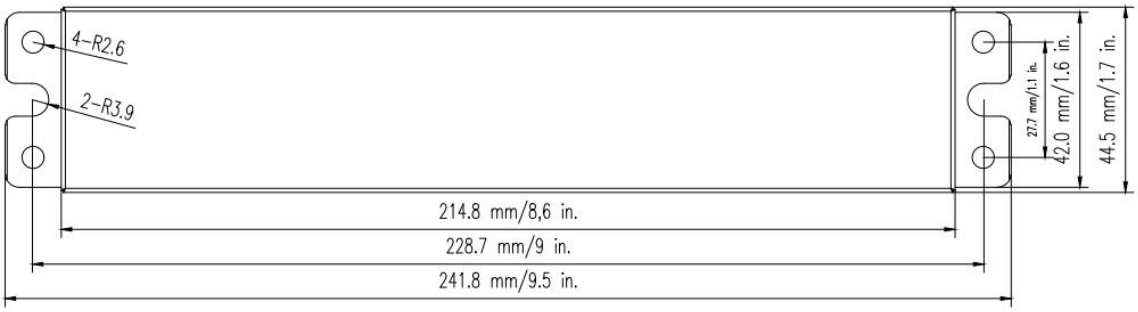
Typical Application

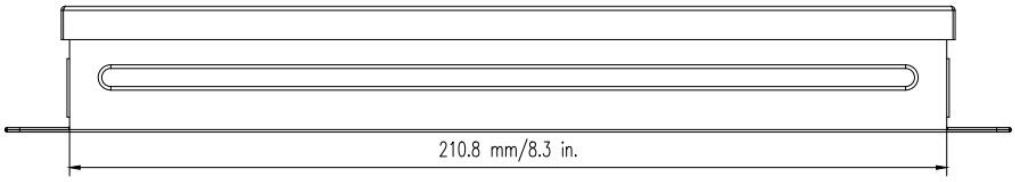


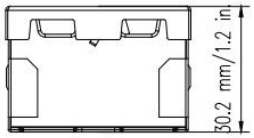
Packaging

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:







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