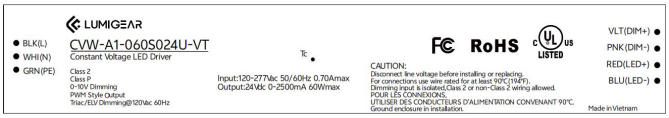
CVW-A1-060SXXXX-VT

60w TRIAC+0~10V, Constant Voltage Series



Features & Benefits

- Universal ac input voltage(120-277VAC and 120-347VAC)
- Linear form factor, compact design
- Isolated 0-10V dimming, dim down to 0.1%
- Flicker free, excellent camera compatibility, spec-grade smoothness
- All-round protection: SCP, OVP, OTP, OPP(CC/CV mode, especially suitable for LED strip)
- IP66 design for indoor and outdoor installations(Wet location)
- Constant voltage PWM style output
- Class2, Class P
- Operating temperature: -35℃~+55℃
- Comply with IEEE1789(≥1% dimming), UL8750

Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
CVW-A1-060S012X-VT	120-277VAC 120-347VAC	60W max.	0-5000mA	12VDC	87%	215*33.5*29 mm/ 8.4×1.3×1.2 in.
CVW-A1-060S024X-VT	120-277VAC 120-347VAC	60W max.	0-2500mA	24VDC	88%	215*33.5*29 mm/ 8.4×1.3×1.2 in.
CVW-A1-060S036X-VT	120-277VAC 120-347VAC	60W max.	0-1667mA	36VDC	89%	215*33.5*29 mm/ 8.4×1.3×1.2 in.
CVW-A1-060S048X-VT	120-277VAC 120-347VAC	60W max.	0-1250mA	48VDC	89%	215*33.5*29 mm/ 8.4×1.3×1.2 in.

Optional Function

Input voltage: 120-277VAC or 120-347VAC

Complies With Leading-edge/Trailing-edge Dimmer

Wide Load Range from 10% to 100%(TRIAC Dimming)

Aux power, 12V/50mA

Approvals

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

Model name code

CVW-A1	-	060S	024	X	–	VT
①		②	③	④		⑤

①	Series	CVW Series
②	Output power	Maximum output power: 60W
③	Output Voltage	012=12V 024=24V 036=36V 048=48V
④	Input voltage	U=120-277VAC M=120-347VAC
⑤	Dimming Control	Triac&0-10V

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Specification:

Parameters	Symbols	Test Conditions / Comment	Min	Typ	Max	Units
INPUT						
Input Voltage	V_{IN}	CVW-A1-060SXXXU-VT	108		305	V_{AC}
		CVW-A1-060SXXXM-VT	108		382	V_{AC}
Rated Input Voltage	$V_{IN\ RATED}$	CVW-A1-060SXXXU-VT	120		277	V_{AC}
		CVW-A1-060SXXXM-VT	120		347	V_{AC}
Input Frequency	f_{line}		47	50/60	63	Hz
Input Current	I_{IN}	Full Load, V_{IN} = 120V_{AC}			0.7	A
Inrush Current	I_{INRUSH}	Cold Start, V_{IN} = 347V_{AC}			50	A
Leakage Current	$I_{Leakage}$	V_{IN} = 347$V_{AC,}$ 60Hz			0.75	mA
General Characteristics						
Power Factor	PF	CVW-A1-060SXXXX-VT, 30-100% load, V_{IN} = 120V_{AC}	0.95			PF
		CVW-A1-060SXXXX-VT, 65~100% load, V_{IN} = 277V_{AC}	0.9			
		CVW-A1-060SXXXX-VT, 75~100% load, V_{IN} = 347V_{AC}	0.9			
Total Harmonic Distortion	THD	CVW-A1-060SXXXX-VT, 30-100% load, V_{IN} = 120V_{AC}			20	%
		CVW-A1-060SXXXX-VT, 65~100% load, V_{IN} = 277V_{AC}			20	
		CVW-A1-060SXXXX-VT, 75~100% load, V_{IN} = 347V_{AC}			20	
Efficiency	η	Full load,V_{IN} =120V_{AC}, V_{OUT}=12V, steady state	85	86		%
		Full load,V_{IN} =277V_{AC}(U type), V_{IN} =347V_{AC}(M type), V_{OUT}=12V, Steady state	86	87		
		Full load,V_{IN} =120V_{AC}, V_{OUT}=24V, Steady state	85	86		
		Full load,V_{IN} =277V_{AC}(U type), V_{IN} =347V_{AC}(M type), V_{OUT}=24V, Steady state	87	88		
		Full load,V_{IN} =120V_{AC}, V_{OUT}=36V, Steady state	86	87		
		Full load,V_{IN} =277V_{AC}(U type), V_{IN} =347V_{AC}(M type), V_{OUT}=36V, Steady state	88	89		
		Full load,V_{IN} =120V_{AC}, V_{OUT}=48, Steady state	86	87		
		Full load,V_{IN} =277V_{AC}(U type), V_{IN} =347V_{AC}(M type), V_{OUT}=48V, Steady state	88	89		
Turn On Delay Time	T_{on_delay}	Cold Start			0.5	S
OUTPUT						
Output Voltage Tolerance	t_{OUT}	No Dimming			3	%
No Load Output Voltage Tolerance	$t_{NO\ LOAD}$	No Load, No Dimming			1.5	%
Output Current	I_{OUT}	CVW-A1-060S012X-VT	0		5000	mA
		CVW-A1-060S024X-VT	0		2500	mA
		CVW-A1-060S036X-VT	0		1667	mA
		CVW-A1-060S048X-VT	0		1250	mA
Output Power	P_{OUT}				60	W
Line Regulation	$V_{OUT-LINE}$				1	%

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Ripple Voltage	$V_{OUT-LINE}$	Full Load, (pk-to-pk)/Average			5	%
Output Voltage Overshoot	$V_{OVERSHOOT}$	Turning Power ON			10	%

0~10V or Resistor Dimming

The 0~10V or resistor 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		15	V
Source Current on 0~10V Dimming Pin	I_{DIM}			200		uA
Light On	V_{DIM-on}	With AUX power version		0.6		V
Light Off	$V_{DIM-off}$	With AUX power version		0.5		V
Dimming Voltage for Full Bright	$V_{DIM-MAX}$		8			V
Leakage Voltage	V_{Leak_rms}	Voltage between DIM- and Ground			20	V_{AC}

Triac Dimming(Optional)

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

Input Voltage	$V_{IN-TRIAC\ DIM}$			120		V_{AC}
Dim Output Voltage	$V_{OUT-TRIAC}$	PWM Output	0	-	100	% of V_{OUT}
Suggest Load Range	$P_{Suggest}$	V_{IN} = 120 V_{AC}	10		100	%

Auxiliary source (Optional)

Voltage range	V_{AUX}	Standard product	11.4	12	12.6	Vdc
Current range	I_{AUX}	V_{AUX}=12V			50	mA
Output Power	P_{AUX}				0.6	W
Voltage tolerance	t_{AUX}				8	%

Protection

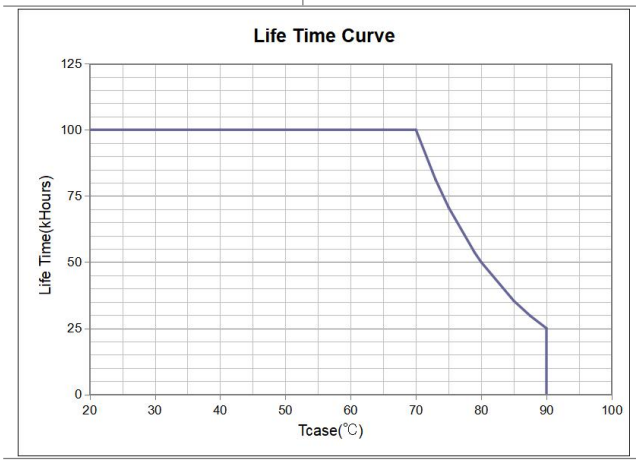
Over Voltage Protection	V_{OVP}	CVW-A1-060S012X-VT, Latch mode.	14		18	V
		CVW-A1-060S024X-VT, Latch mode.	28		36	V
		CVW-A1-060S036X-VT, Latch mode.	40		47	V
		CVW-A1-060S048X-VT, Latch mode.	56		63	V
Over Current Protection	I_{OCP}	CVW-A1-060S012X-VT, Hiccup mode.	5000		5600	mA
		CVW-A1-060S024X-VT, Hiccup mode.	2500		2810	mA
		CVW-A1-060S036X-VT, Hiccup mode.	1667		1900	mA
		CVW-A1-060S048X-VT, Hiccup mode.	1250		1400	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		-35	-	+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	Dry , damp and wet location, UL approved					

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}			450		g
Warranty	5 Years Warranty at T_c ≤80℃					
Flicker	IEEE 1789(≥1% dimming),Title 24					



Safety Compliance

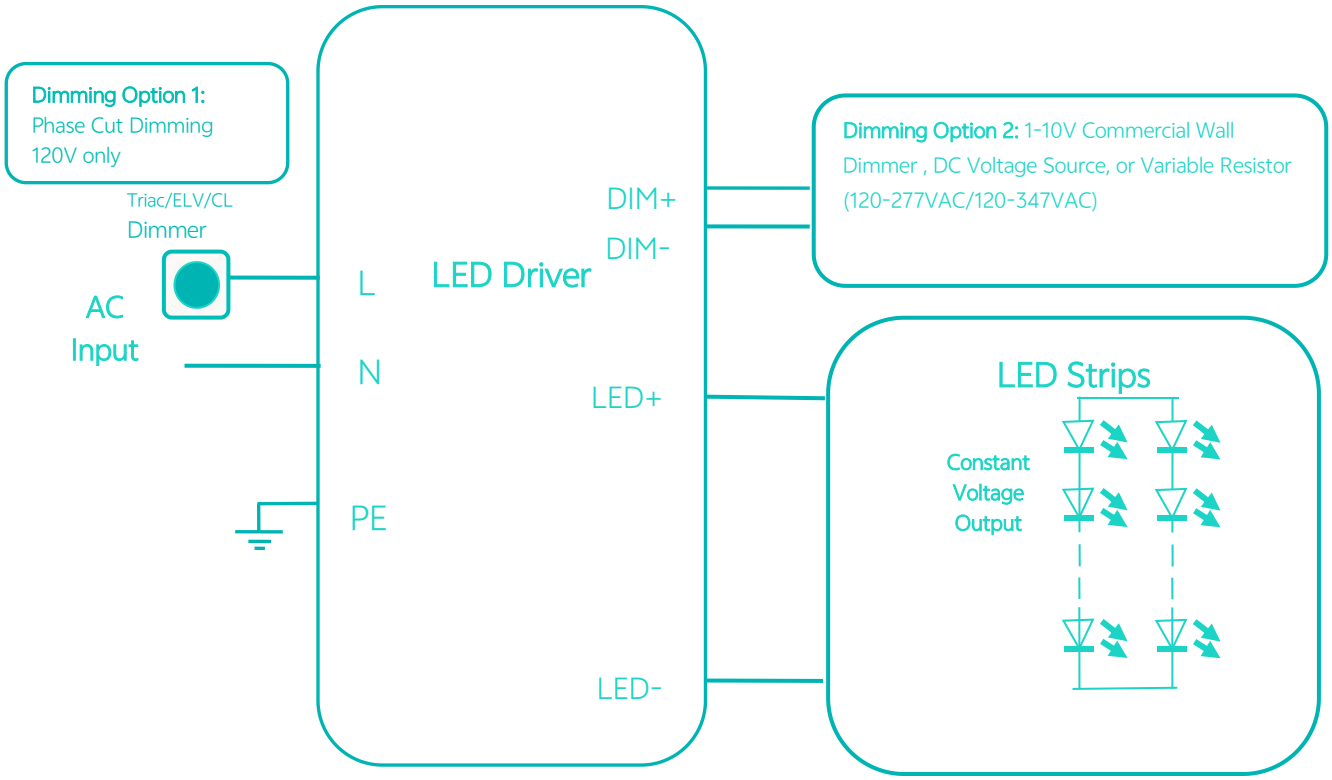
CUL/UL	UL8750, CAN/CSA-C22.2 No. 250.13

Electromagnetic Compliance

EMC Requirements	Standard	Conditions
EMI Emissions	FCC Title 47 Part 15B	Class B at 120VAC, Class A at 277VAC & 347VAC
Voltage Fluctuations and Flicker	IEC61000-3-3	
Immunity Compliance	IEC 61000-4-2	±8kV air Discharge, ±6kV Contact Discharge
	IEC 61000-4-5	± 4kV Common Mode(12 Ω), ± 2kV Differential Mode(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 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.

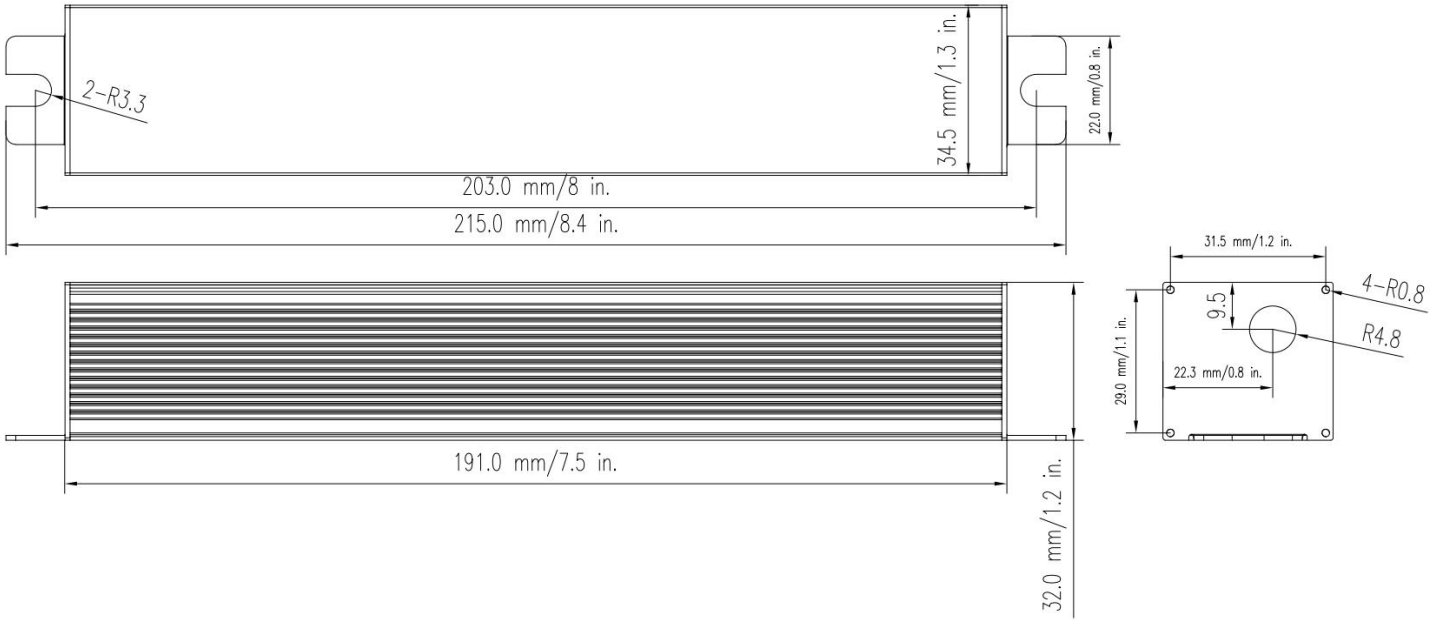
■ Typical Application



Packaging

Driver quantity (pcs)	Layer	Weight (kg)	Outer dimensions of Carton L*W*H(mm)
30pcs	6	15	330X305X 245

Mechanical Drawing:



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