TWLC(H)013 SERIES

13W Triac Dimming Constant Current LED Driver

- Input Voltage 100 to 140VAC, 60Hz
- Over Voltage / Short Circuit
- High Efficiency (up to 85%), Active Power Factor Correction (PFC)
- IP22 Waterproof Rating, Fully isolated
- Suitable for LED lighting & moving sign applications, for dry / damp
- Cooling by free air convection

3 Year Warranty

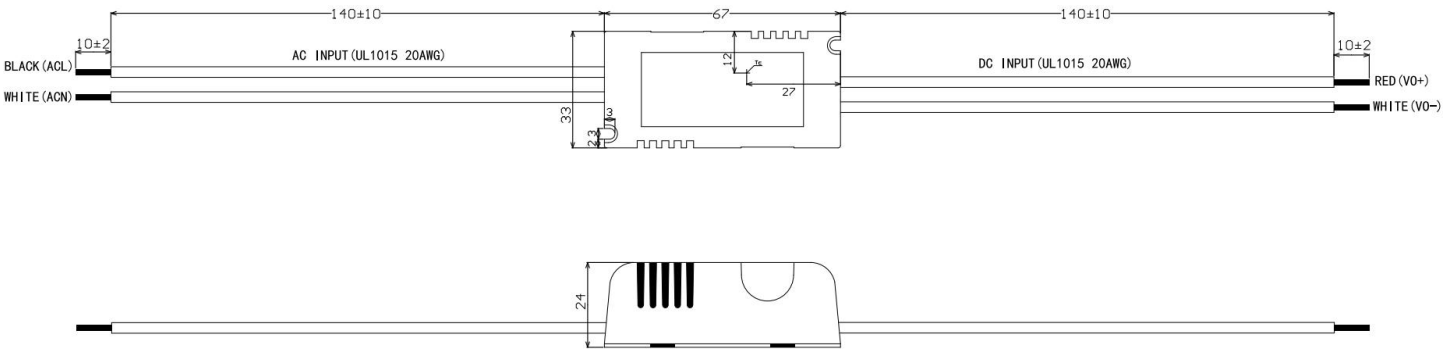
Approvals: **IP22** RoHS

SPECIFICATION

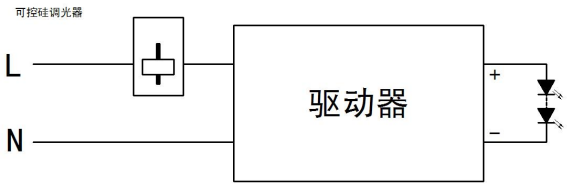
Part Number		TWL(H)C013-0330SR
OUTPUT	DC VOLTAGE	21-42V
	CONSTANT CURRENT REGION Note.4	330mA
	RATED POWER	13W
	RIPPLE & NOISE(max.) Note.2	3.8V
	VOLTAGE TOLERANCE Note.3	±5.0%
	LINE REGULATION	±3.0%
	LOAD REGULATION	±3.0%
	START TIME	<150ms@120V 100%load
INPUT	VOLTAGE RANGE Note.5	100 to 140VAC
	FREQUENCY RANGE	47 ~ 63Hz
	POWER FACTOR(Typ.)	>0.98@120Vac 100%load
	EFFICIENCY(Typ.)	85%@120Vac 100%load
	AC CURRENT(Typ.)	0.14A/120VAC
	INRUSH CURRENT(Typ.)	COLD START 9A (Twidth=5us measured at 50% Ipeak) at 120VAC
	LEAKAGE CURRENT	<1mA/277VAC
PROTECTION	OVER CURRENT Note.4	95 ~ 108%
		Protection type: Constant current limiting, recovers automatically after fault condition is removed
	SHORT CURRENT	Hiccup mode, recovers automatically after fault condition is removed
	OVER VOLTAGE	45V
		Protection type: Hiccup mode, recovers automatically after fault condition is removed
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to “Derating Curve”)
	WORKING HUMIDITY	10 ~ 80% RH non-condensing
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃,10 ~ 80% RH
	TEMP. COEFFICIENT	±0.2%℃ (0~50℃)
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes
SAFETY & EMC	SATETY STANDARDS Note.6	UL8750, UL935, UL1012, CSA-C22.2 No.107.1, EN61347-1, EN61347-2-13
	WITHSTAND VOLTAGE	I/P – O/P: 3.75kVAC
	ISOLTATION RESISTANCE	I/P – O/P: 100M Ohms / 500VDC /25℃ / 70% RH
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (≥60% load); EN61000-3-3
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, EN55024, light industry level (surge 0.5kV), criteria A
OTHERS	MTBF	450khrs min. MIL-HDBK-217F (25℃)
	DIMENSIION	67*33*24.5mm/2.64*1.3*0.96in(L*W*H)
	PACKING	57±5g

NOTE	1. All parameters NOT specially mentioned are measured at 120VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance: includes set up tolerance, line regulation & load regulation. 4. Please refer to "DRIVING METHODS OF LED MODULE". 5. Derating may bee needed under low input voltages. Please check the static characteristics for details. 6. Suitable for indoor use or outdoor use without direct sunlight exposure. Please avoid immerse in the water over 30 minutes. 7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time. 8. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufactures must re-qualify EMC DIRECTIVE on the complete installation again. 9. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers. 10. To fulfill requirements of the latest ERP regulation for lighting fixtures, this LED power supply can only be used behind switch without permanently connected to the mains.

Mechanical Specification



Dimming Function



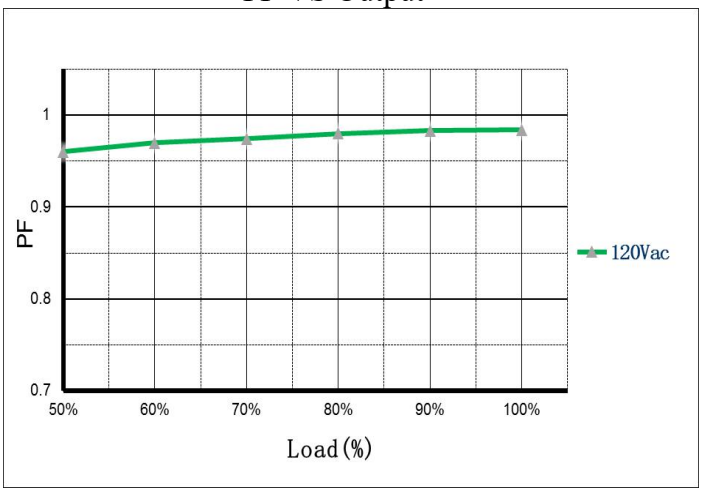
Mode 1: Triac Dimmer on Dimming Control

Parameter	Min.	Typ.	Max.	Conditions
Dimming Range	10%Io	-	100%Io	120Vac
Conduction Angle	30°	-	180°	120Vac

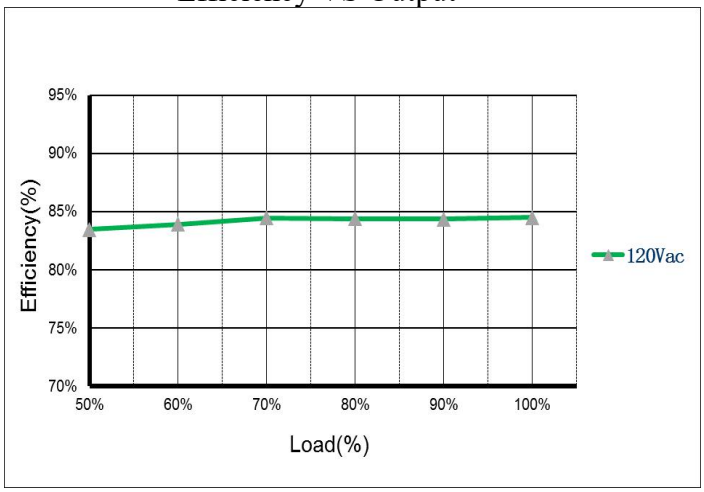
Dimmer Model	Dimming Mode	Model No.	Input Voltage	Output current without Dimmer(mA)	Cycle	Min time of dimmer turn on when reach the Max current(angle exceed 70%)	Dimmer turn on phase(Mult Pin)	Output current(mA)	Max Adjustment(%)
LEVITON	Triac dimming	6615-POT	120V 60Hz	326	8.33mS	5.83mS	6.68mS	326	100
		RPI06	120V 60Hz	326			7.44mS	326	100
		6683-IW	120V 60Hz	326			7.68mS	326	100
LUTRON		6621-PA	120V 60Hz	326			7.24mS	326	100
		S-600P	120V 60Hz	326			6.48mS	324	99.4
		S-603P	120V 60Hz	326			6.48mS	326	100
		DVCL-153P	120V 60Hz	326			6.24mS	326	100

Derating Curve

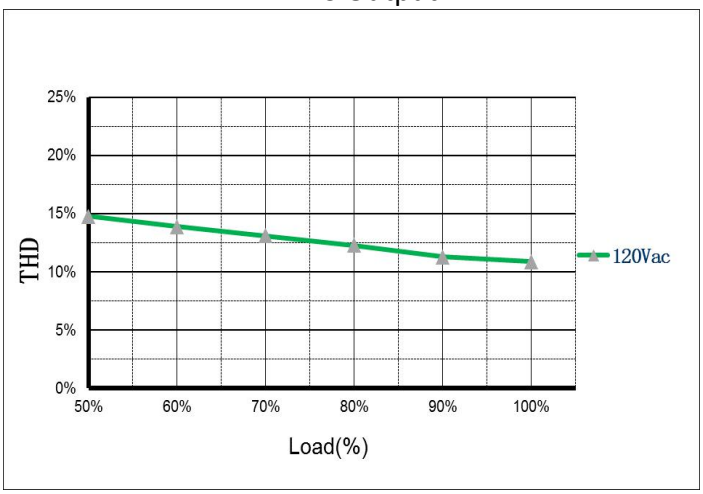
PF VS Output



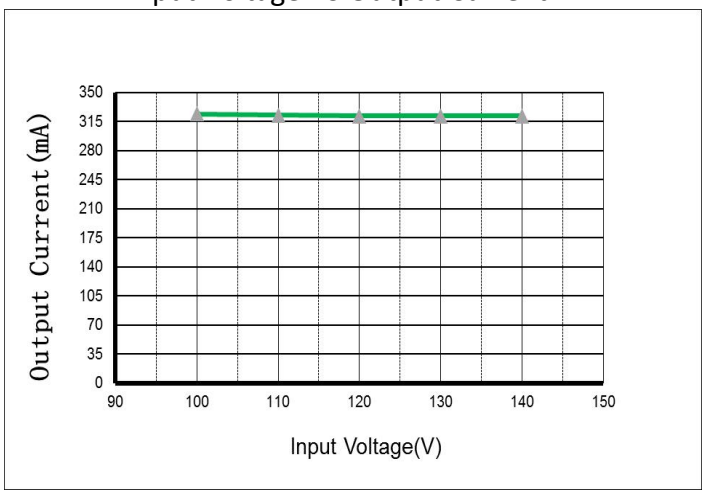
Efficiency VS Output



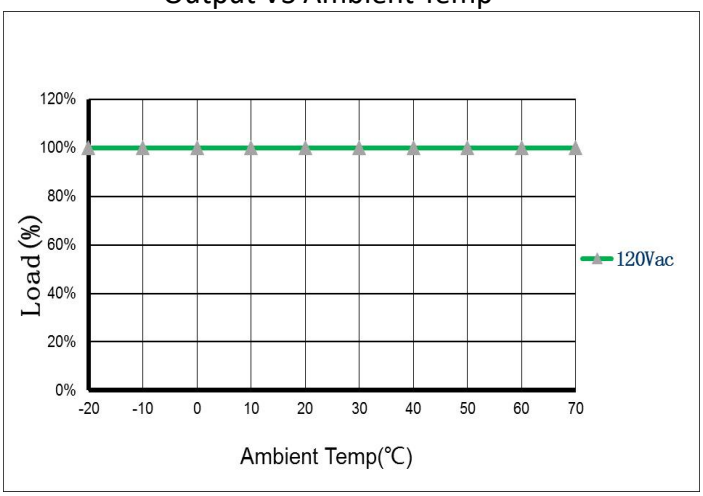
THD VS Output



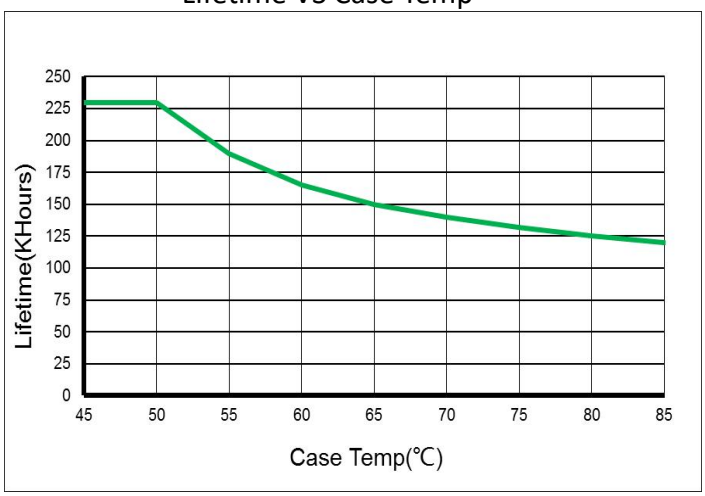
Input Voltage VS Output Current



Output VS Ambient Temp



Lifetime VS Case Temp



Output Current VS Input Vrms,Lutron Dimmer