



KTLD-12-UV-SC500-56-VDIM-AF1

CONSTANT POWER PROGRAMMABLE LED DRIVER

DESCRIPTION

LED Driver | 12W | 120–277V Input | 120–500mA Programmable Output Current



Class P



RoHS Compliant

10 YEAR
LIMITED WARRANTY

TOTAL POWER: 12W	OUTPUT CURRENT: 120–500mA
INPUT VOLTAGE: 120–277Vac $\pm 10\%$	DIMMING: 0–10V
INPUT FREQUENCY: 50/60 Hz	WARRANTY: 10 year limited



PRODUCT FEATURES

- Meets FCC Part 15 (Class B) consumer limits
- Short circuit overload and open load protection
- Dimmable with 0–10V dimmer (down to 1% at max. output current)
- THD: < 20%
- Flicker Free
- -40°C/-40°F to 50°C/122°F operating temperature
- 90°C/194°F maximum case temperature
- Input frequency: 60 Hz
- Programmable output current via Keystone supplied programming jig
- Class A Sound Rating

PROGRAMMING FEATURES

- Drive current (10mA increments)
- Minimum dimming level (1%, 3%, 5%, 7%, or 10%)
- Dimming curve (linear log, inverse log, or square-law) (.9V, 1V, 1.5V, 2V)
- Minimum dimming voltage (1V, 1.5V, or 2V)
- Maximum dimming voltage (7V, 8V, or 9V)
- Dim-to-off voltage (0.8V, 1V, 1.2V, or N/A)
- Thermal foldback temperature (75°C/167°F, 80°C/176°F, 85°C/185°F, or 90°C/194°F)

REQUIRED ACCESSORIES

Order Code	Description
KTLD-SC-ADPT-1C	AF1 and AF4 Case Adapter for Smart Current Programming
KTLD-SC-PGMR-1	Smart Current Programming Cradle with Micro-USB Cable

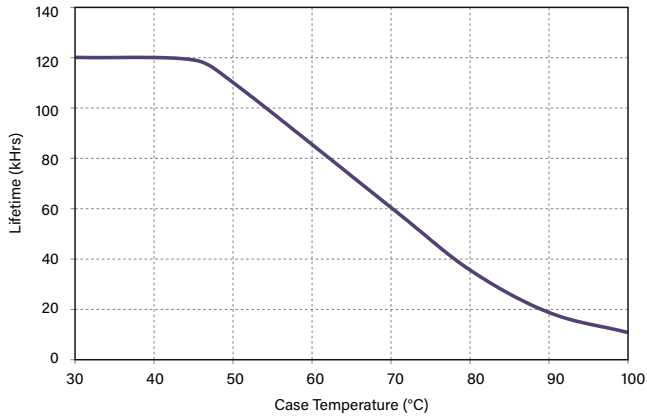
ELECTRICAL SPECIFICATIONS

Input Voltage Range	120–277Vac $\pm 10\%$
Frequency	50/60 Hz
Power Factor	> 0.9 under 120Vac Input with 80~100% load condition (for all output currents)
Inrush Current	20A @ 277V
Max. Input Current	0.14A @ 120V, 0.07A @ 240V and 0.06A @ 277V
THD	< 20% under 120Vac input with 80~100% load condition (for all output currents)
Load Regulation	$\pm 2\%$
Line Regulation	$\pm 1\%$
Output Tolerance	$\pm 5\%$ at full load condition
Turn-On Delay Time	< 0.50 seconds at full load condition
Overshoot	< 0.5s at 50~100% load, input 120V
No Load Power Consumption	< 1W
Ripple and Noise (pk-pk)	< 10%
Withstand Voltage	Input to output, 2,800Vdc, 2mA
Leakage Current	Maximum 0.5mA at 277Vac, 60Hz input
Protection	• Over Voltage Protection: Hiccup mode. Protection will trigger when load voltage exceeds specified output voltage and will auto recover after the fault mode is removed. • Over Current Protection: Hiccup mode. Protection will trigger when load current exceeds specified output current and will auto recover after the fault mode is removed. • Short Circuit Protection: Hiccup mode. Protection will trigger when short circuit and will auto recover after the fault mode is removed.
Dimming Sink Current	Maximum 2mA @ Vdim = 0V

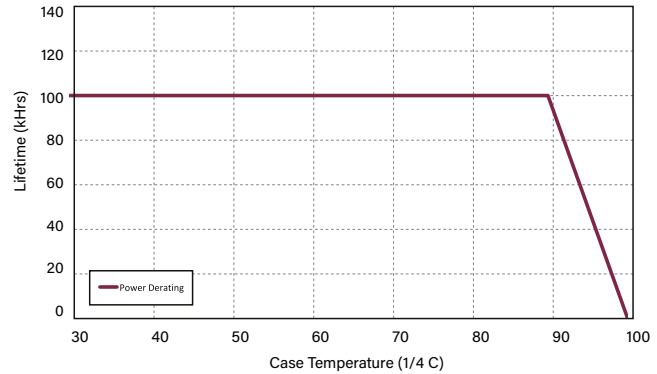
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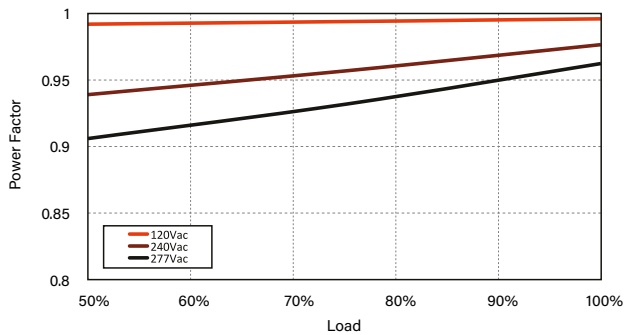
LIFETIME VS CASE TEMPERATURE



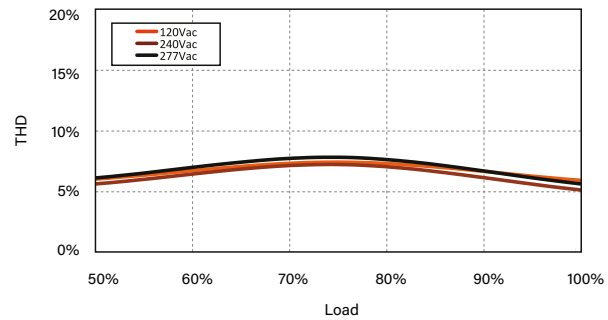
POWER DERATING VS CASE TEMPERATURE



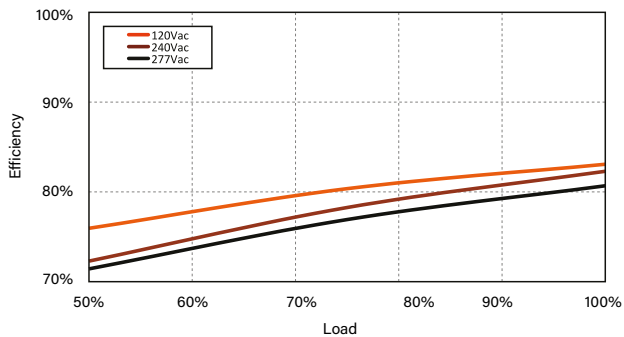
POWER FACTOR VS LOAD



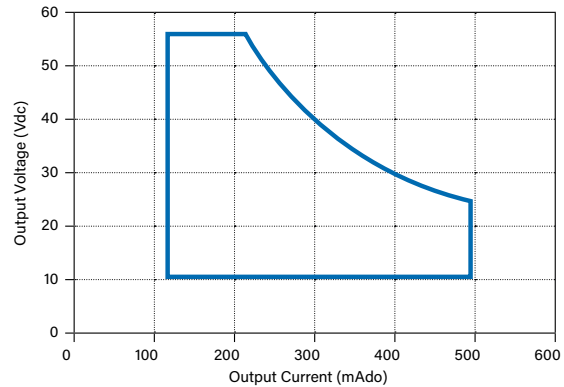
THD VS LOAD



EFFICIENCY VS LOAD



LED DRIVER OUTPUT WINDOW



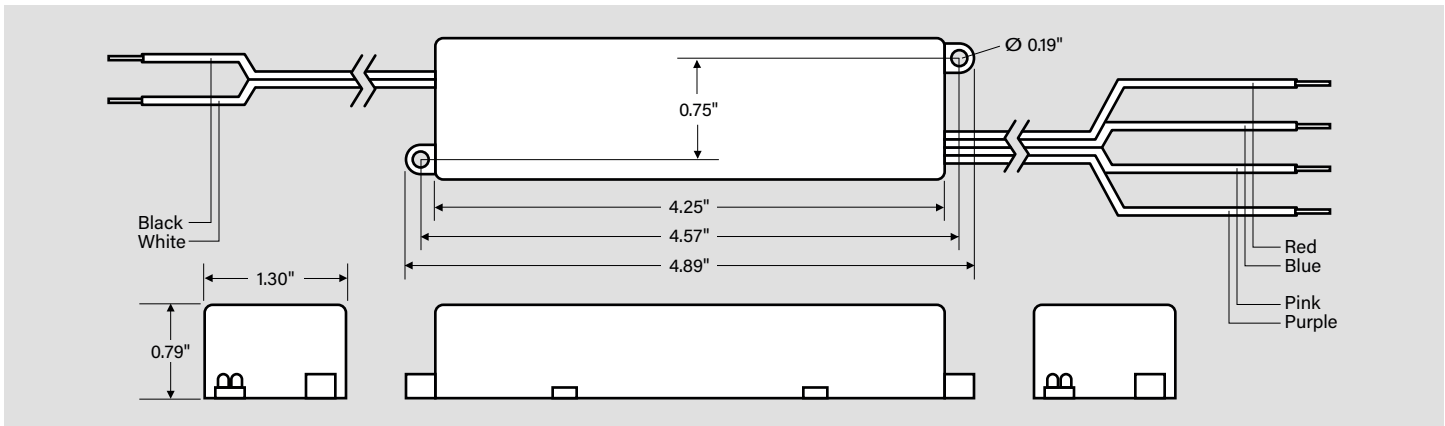
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PRODUCT SPECIFICATIONS

Max. Output Power	Output Current	Output Voltage	OCV	Typical Efficiency at 120V	Typical Efficiency at 240V	Typical Efficiency at 277V	Remote Mounting Distance (#22 AWG)	Class 2	
								US	Canada
12W	120–500mA	10–56V	60V	85%	84%	83%	24 ft.	✓	

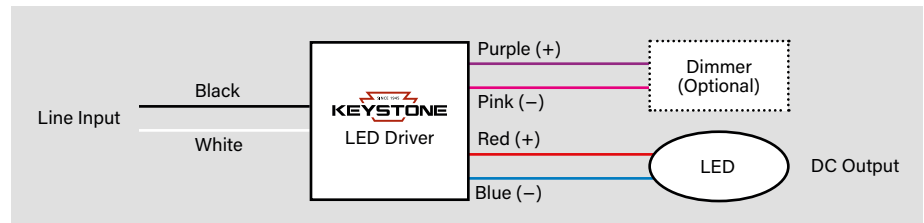
PHYSICAL SPECIFICATIONS



WIRING SPECIFICATIONS

Input	Black	12.00", UL 1316 #18AWG
	White	12.00", UL 1316 #18AWG
Output	Blue	12.00", UL 1430 #22AWG
	Red	12.00", UL 1430 #22AWG
Dimming	Purple	12.00", UL 1430 #22AWG
	Pink	12.00", UL 1430 #22AWG

WIRING DIAGRAM



ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	–40°C/–40°F to 60°C/140°F
Storage Temperature	–40°C/–40°F to 85°C/185°F
Humidity	5% to 95%
MTBF	358,000 hours at 40°C ambient (~70°C Case Temp)
Life Rating	85,000 hours at 120Vac input, 100% load and 60°C Case Temp
Maximum Case Temperature	90°C/194°F
Maximum Case Temperature (tc) for 5-Year Warranty	75°C/167°F

SAFETY AND EMC COMPLIANCE

UL/cUL	UL 8750, Class P, Type HL, UL1310 Class 2
CE	EN61347-1, EN61347-2-13
FCC, 47CFR Part 15	ANSI C63.4:2009 Class B (consumer limit)
EN61000-3-2	Harmonic Current Emissions Class C



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ORDERING INFORMATION

ORDER CODE	PACKAGING STYLE	PACK QUANTITY	CARTON WEIGHT	ITEM STATUS
KTLD-12-UV-SC500-56-VDIM-AF1-CP	Carton Pack	40 Pcs	4.5Kg	Quick Ship

CATALOG NUMBER BREAKDOWN

KTLD-12-UV-SC500-56-VDIM-AF1-CP

1 2 3 4 5 6 7 8 9

- 1 Keystone Technologies LED Driver
- 2 Max. Output Wattage
- 3 120-277V Input
- 4 Smart Current
- 5 Max. Output Current
- 6 Max. Output Voltage
- 7 0-10V Dimming
- 8 Case Style
- 9 Packaging Style