CUI INC

SERIES: PLDS60 | **DESCRIPTION:** LED DRIVER

FEATURES

- up to 60 W continuous power
- universal input range (90~305 Vac)
- single output
- dimming options: PWM, 1~10 Vdc, resistive, DALI
- power factor correction ≥ 0.9
- cc and cv function
- low profile for easy installation
- IP67/IP65 rated
- over voltage, continuous short circuit, and over temperature protection
- UL 8750, IEC/EN61347-2-13 approval
- EN61000-3-2 Class C (harmonic current) approval
- efficiency up to 90%
- suitable for LED lighting and signage applications

IP67

MODEL	output voltage range[1] min (Vdc)	output voltage range[1] max (Vdc)	output current (A)	Vout adjustment range[2] (Vdc)	Iout adjustment range[2] (A)	output power max (W)	ripple and noise[3] max (mVp-p)	efficiency typ (%)
PLDS60-A-277	6.5	12	5	10.8~13.2	3~5	60	120	87
PLDS60-B-277	13	24	2.5	21.6~26.4	1.5~2.5	60	120	88
PLDS60-C-277	19	36	1.67	32.4~39.6	1~1.67	60	120	89
PLDS60-D-277	26	48	1.25	43.2~52.8	0.75~1.25	60	120	90

Notes:
1. constant current region
2. adjustability option only available on IP65 rated models
3. ripple and noise are measured at 95% rated current, 20MHz bandwidth with a 0.1uF ceramic capacitor and 10uF aluminum capacitor on the output.

PART NUMBER KEY

PLDS60 - X - 277XXX

Base Number

Output Current
A = 5 A
B = 2.5 A
C = 1.67 A
D = 1.25 A

Input Voltage
277 = (90~305 Vac)

Dimming
PE = PWM, 1~10 Vdc, resistive
D = DALI
"blank" = no dimming

IP Rating
A = IP67
B = IP65

INPUT

parameter	conditions/description	min	typ	max	units
voltage		90 127		305 420	Vac Vdc
frequency		47		63	Hz
current	at 110 Vac, 59W at 230 Vac, 59W		0.6 0.31		A A
inrush current	at 110/240 Vac, cold start, 25°C			60	A
leakage current	at 277 Vac			0.75	mA
power factor correction	at 115 Vac/230 Vac, 60~100% load	0.9			
no load power consumption	at 230 Vac			1.5	W

OUTPUT

parameter	conditions/description	min	typ	max	units
current line regulation	measured from high line to low line at 90% load			±1	%
current load regulation	measured from 10~90% load			±2	%
constant current accuracy				±5	%
voltage accuracy	at 90% rated current			±1	%
adjustability[1]	Vout Iout	 60	±10 	 100	% %
switching frequency	at 100% rated current			75	kHz
start-up time	at 90~305 Vac			2.5	s
rise time	at 90~305 Vac		50		ms
hold-up time	at 115 Vac		16		ms
temperature coefficient			±0.05		%/°C

Notes: 1. adjustability option only available on IP65 rated models via built-in potentiometer

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	TVS clamp, auto recovery				
over current protection	hiccup mode				
short circuit protection	hiccup mode, auto recovery				
over temperature protection			110		°C

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, for 1 minute input to ground, for 1 minute output to ground, for 1 minute			3,750 1,875 500	Vac Vac Vac
isolation resistance		100			MΩ
safety approvals	UL8750, IEC/EN61347-1, IEC/EN61347-2-13				
DALI	IEC62386-102, IEC62386-207				
EMI/EMC	EN55015, CISPR22, EN61547, EN61000-3-2 Class C (>60% load), EN61000-3-3, EN61000-4-2 Criteria A				
MTBF	as per MIL-HDBK-217F, at 25°C, 115 Vac		150,000		hours
RoHS	2011/65/EU				

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-40		70	°C
storage temperature		-40		85	°C
operating altitude				2,000	m
vibration	15~2000 Hz, 60 min. along each X, Y, and Z axes		4		G

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	8.15 x 1.575 x 1.102 (207 x 40 x 28 mm)				inches
weight			454		g

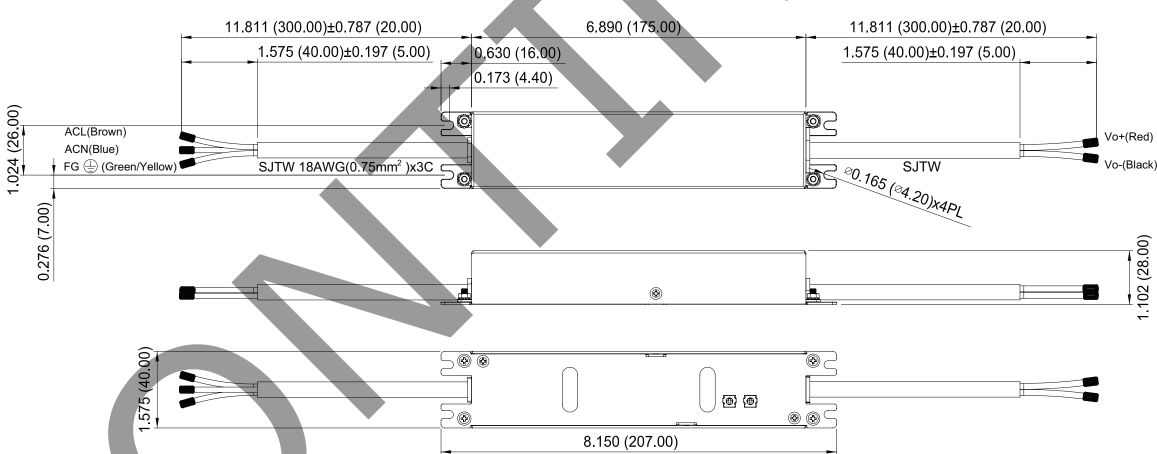
MECHANICAL DRAWING

MODELS WITHOUT DIMMING

units: inches[mm]
tolerance: ±0.02[±0.5]
unless otherwise specified

INPUT WIRE CONNECTIONS	
Color	Function
Brown	ACL
Blue	ACN
Green/ Yellow	FG

OUTPUT WIRE CONNECTIONS	
Color	Function
Red	Vo+
Black	Vo-



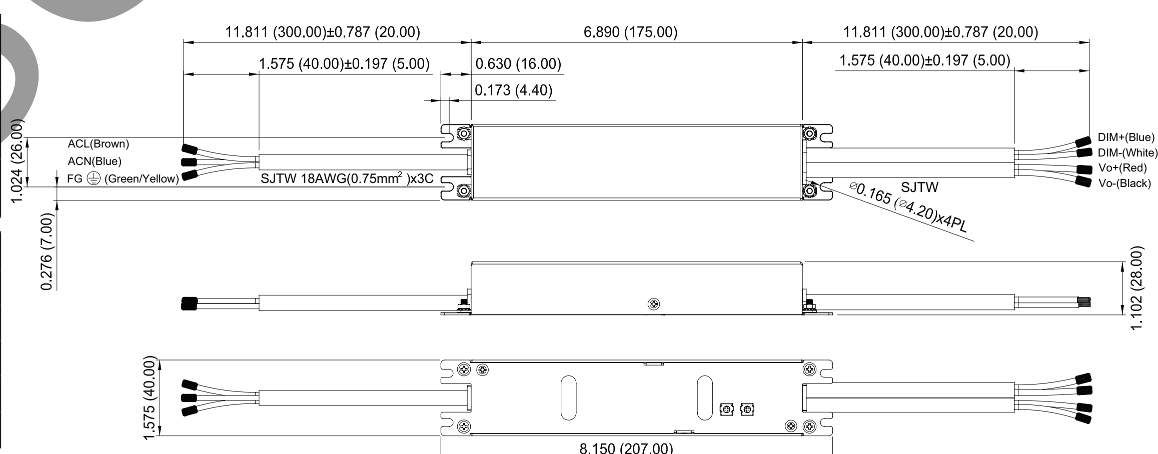
MODELS WITH DIMMING

units: inches[mm]
tolerance: ±0.02[±0.5]
unless otherwise specified

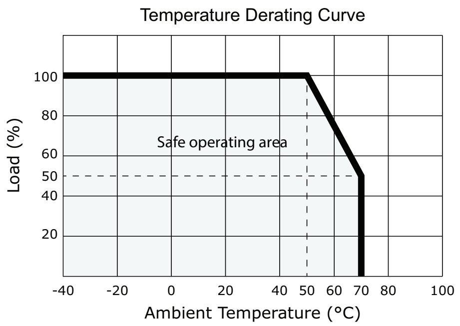
INPUT WIRE CONNECTIONS	
Color	Function
Brown	ACL
Blue	ACN
Green/ Yellow	FG

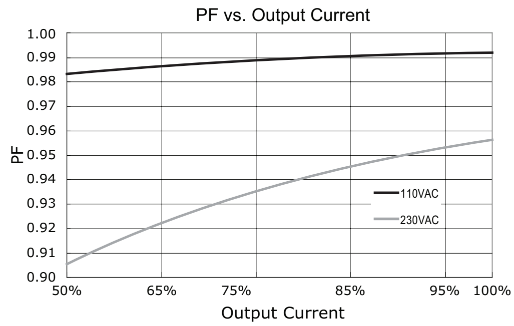
OUTPUT WIRE CONNECTIONS	
Color	Function
Red	Vo+
Black	Vo-
Blue[1]	DIM+/DA+
White[1]	DIM-/DA-

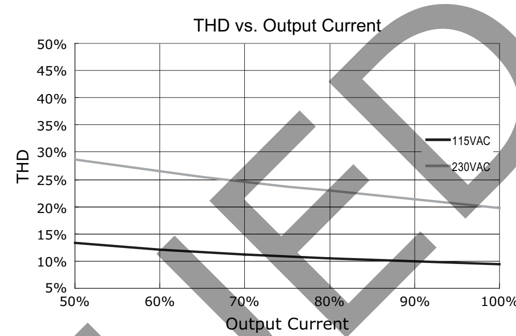
Note: 1. DALI models are marked with "DA"



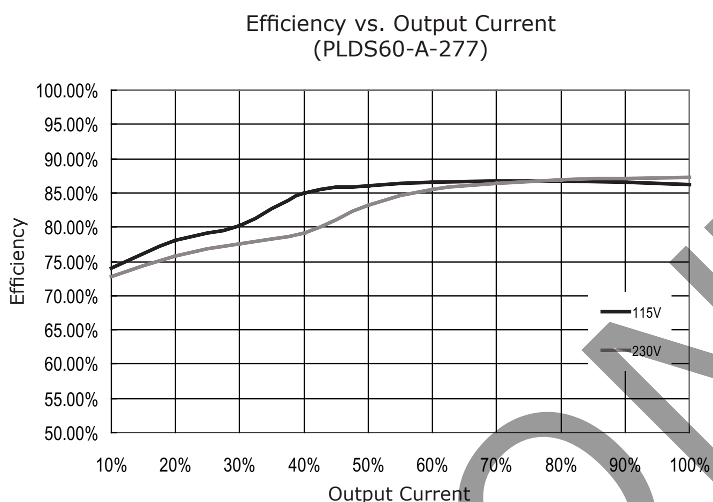
DERATING CURVES

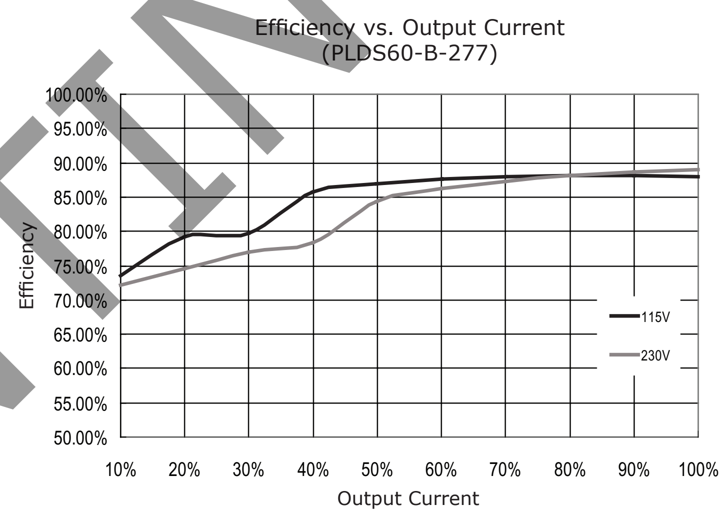


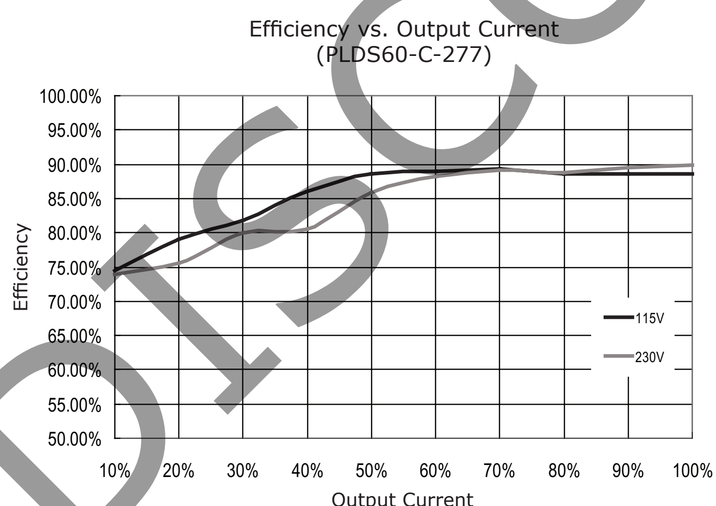


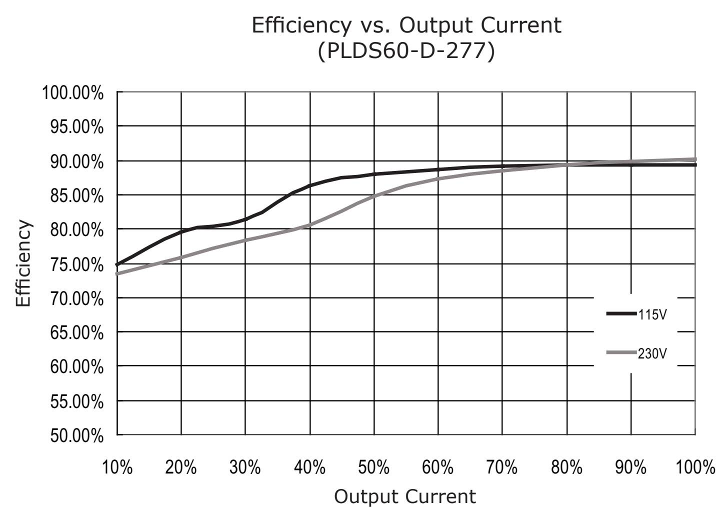


EFFICIENCY CURVES





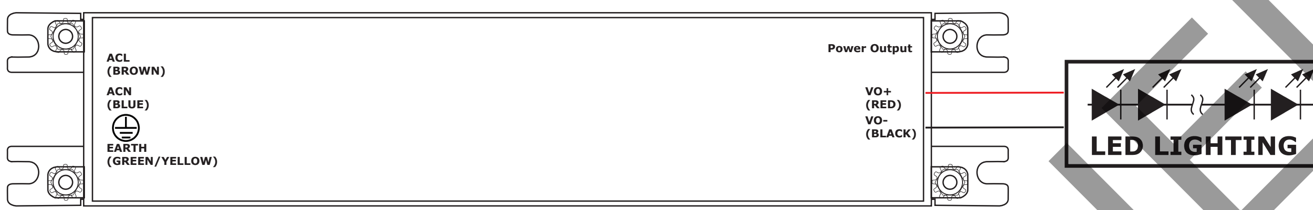




APPLICATION NOTES

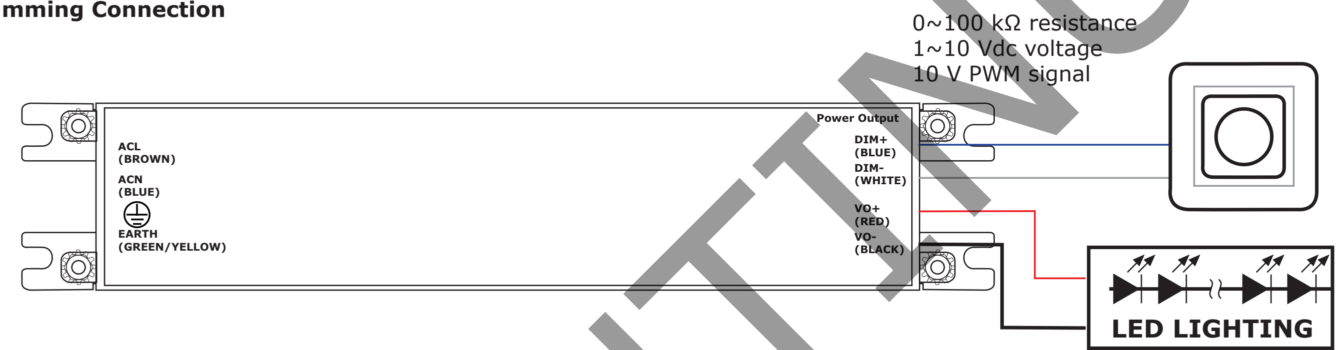
1. **Installation Instructions**

Direct Connection



Note: Output voltage of power supply must be higher than total forward voltage of series connecting LED.

Dimming Connection



Notes: 1. Output constant current can be adjusted through output cable by connecting 10~100 kΩ resistance, 1~10 Vdc, or 10 V PWM signal between DIM+ and DIM-.
2. Do not connect DIM- to V-.
3. The output will shutdown when dimming is less than 1 Vdc, 10 kΩ, or 10% PWM according to each dimming option.

1~10 Vdc Dimming

Voltage	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	Open
Output Current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

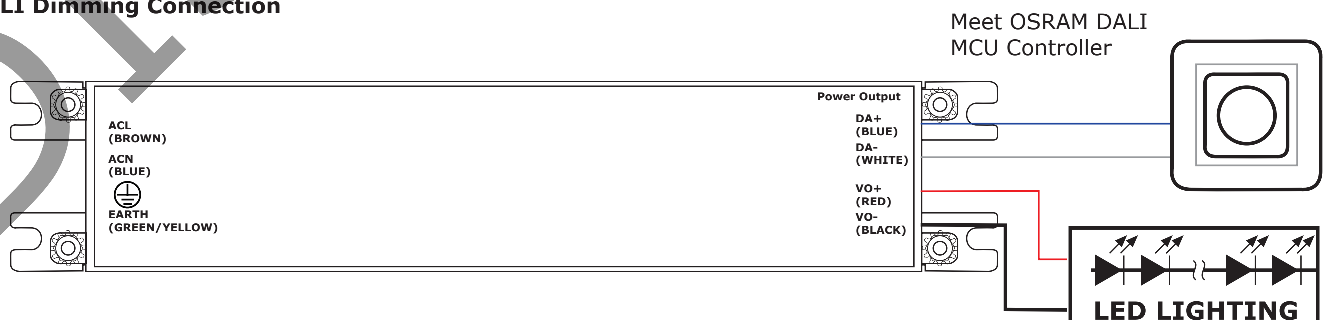
10~100 kΩ Resistance Dimming

Resistance	10K	20K	30K	40K	50K	60K	70K	80K	90K	100K	Open
Output Current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

10~100% PWM (10V) 10V 0V Frequency range: 250~1000 Hz

Duty Cycle	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Open
Output Current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

DALI Dimming Connection

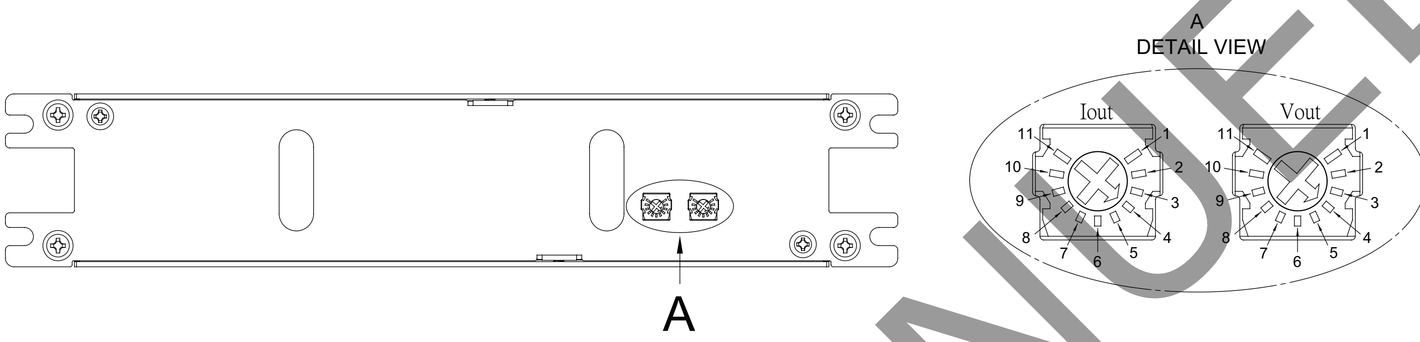


Note: Output constant current can be adjusted through output cable by connecting DALI controller.

APPLICATION NOTES (CONTINUED)

2. **Output Voltage/Output Current Adjustment**

For the PLDS60-X-277XXB models there are two potentiometers to adjust the output voltage/output current. Each potentiometer has 11 tick marks, please refer to the below diagram and tables for specific values. Maximum output power is 60W.



Output Current (Iout)				
Tick #	**PLDS60-A-277XXB**	**PLDS60-B-277XXB**	**PLDS60-C-277XXB**	**PLDS60-D-277XXB**
1	5.4A	2.6A	2.0A	1.33A
2	5.4A	2.6A	2.0A	1.33A
3	5.1A	2.5A	1.9A	1.27A
4	4.9A	2.3A	1.8A	1.18A
5	4.6A	2.2A	1.7A	1.14A
6	4.3A	2.0A	1.5A	1.00A
7	3.9A	1.9A	1.3A	0.97A
8	3.5A	1.7A	1.2A	0.89A
9	3.2A	1.6A	1.1A	0.81A
10	2.9A	1.4A	0.9A	0.70A
11	2.8A	1.3A	0.9A	0.70A

Output Voltage (Vout)				
Tick #	**PLDS60-A-277XXB**	**PLDS60-B-277XXB**	**PLDS60-C-277XXB**	**PLDS60-D-277XXB**
1	10.6V	21.3V	31.6V	43.1V
2	10.6V	21.3V	31.6V	43.1V
3	10.9V	21.7V	32.2V	43.9V
4	11.1V	22.3V	33.2V	44.2V
5	11.3V	22.8V	34.1V	45.1V
6	11.6V	23.5V	35.2V	46.3V
7	12.0V	24.2V	36.4V	47.3V
8	12.5V	25.0V	37.5V	48.9V
9	12.8V	25.6V	38.8V	50.9V
10	13.1V	26.4V	40.0V	53.2V
11	13.3V	26.6V	40.3V	53.4V

Note: 1. All specifications are measured at Ta=25°C, 115/230 Vac input voltage, and 75% rated output load unless otherwise specified.

REVISION HISTORY

rev.	description	date
1.0	initial release	09/23/2014

The revision history provided is for informational purposes only and is believed to be accurate.

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