

**SERIES:** PLDS100 | **DESCRIPTION:** LED DRIVER

**FEATURES**

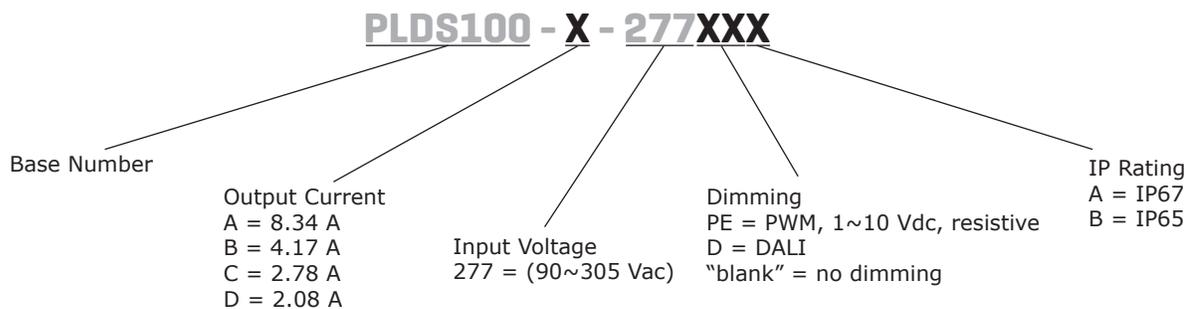
- up to 100 W continuous power
- universal input range (90~305 Vac)
- single output
- dimming options: PWM, 1~10 Vdc, resistive, DALI
- power factor correction  $\geq 0.9$
- cc and cv function
- low profile for easy installation
- IP67/IP65 rated
- over voltage, continuous short circuit, and over temperature 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



MODEL	output voltage range <sup>1</sup>		output current (A)	Vout adjustment range <sup>2</sup> (Vdc)	Iout adjustment range <sup>2</sup> (A)	output power max (W)	ripple and noise <sup>3</sup> max (mVp-p)	efficiency typ (%)
	min (Vdc)	max (Vdc)						
PLDS100-A-277	6.5	12	8.34	10.8~13.2	5.3~8.34	100	120	88
PLDS100-B-277	13	24	4.17	21.6~26.4	2.6~4.17	100	120	89
PLDS100-C-277	19	36	2.78	32.4~39.6	1.74~2.78	100	120	90
PLDS100-D-277	26	48	2.08	43.2~52.8	1.3~2.08	100	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**



## INPUT

parameter	conditions/description	min	typ	max	units
voltage		90 127		305 420	Vac Vdc
frequency		47		63	Hz
current	at 110 Vac, 99W at 230 Vac, 99W		1.1 0.55		A A
inrush current	at 110/240 Vac, cold start, 25°C			75	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 <sup>1</sup>	Vout Iout	63	±10	100	% %
switching frequency	at 100% rated current			75	kHz
start-up time	at 90~305 Vac			2	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		160,000		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	9.134 x 1.575 x 1.102 (232 x 40 x 28 mm)				inches
weight			504		g

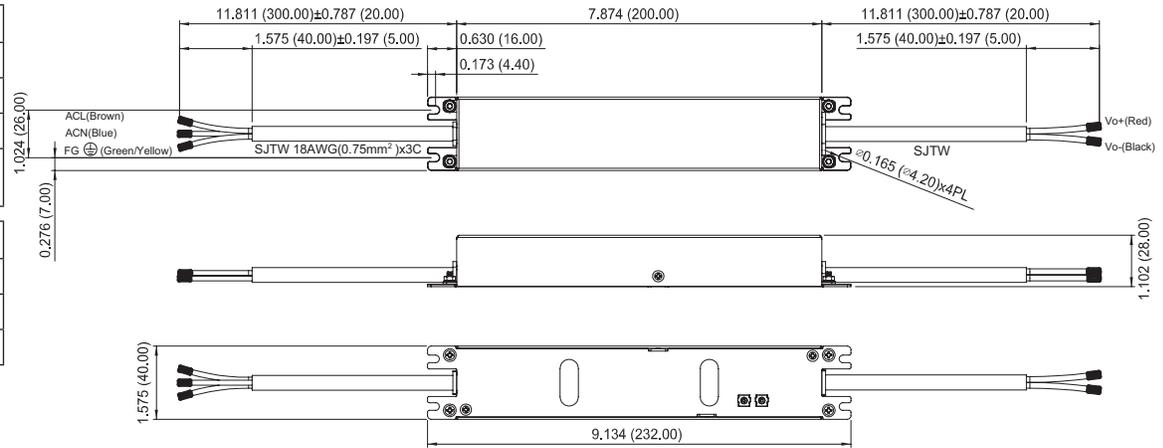
## MECHANICAL DRAWING

### 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-

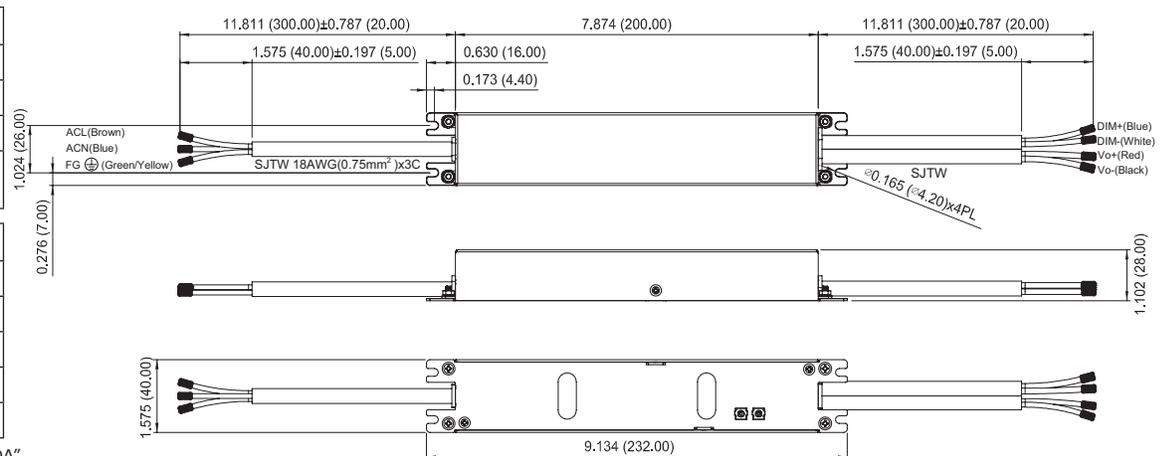


### MODELS WITH DIMMING

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

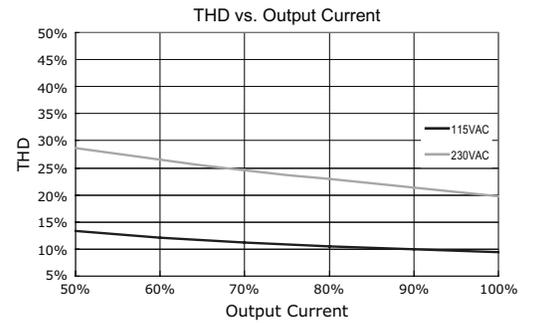
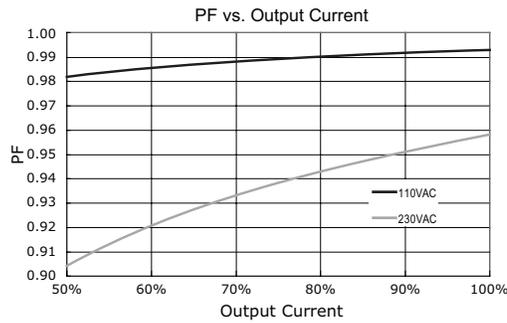
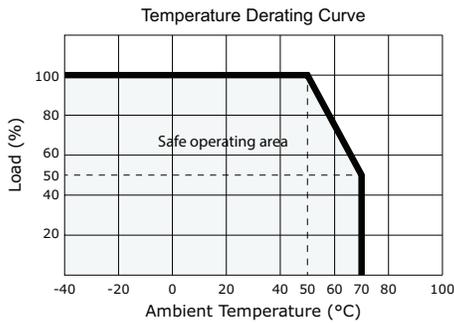
INPUT WIRE CONNECTIONS	
Color	Function
Brown	ACL
Blue	ACN
Green/ Yellow	FG

OUTPUT WIRE CONNECTIONS	
Color	Function
Red	Vo+
Black	Vo-
Blue <sup>1</sup>	DIM+ / DA+
White <sup>1</sup>	DIM- / DA-



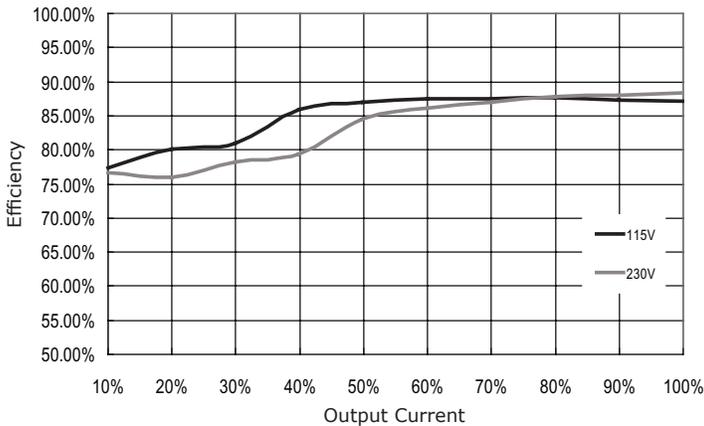
Note: 1. DALI models are marked with "DA"

## DERATING CURVES

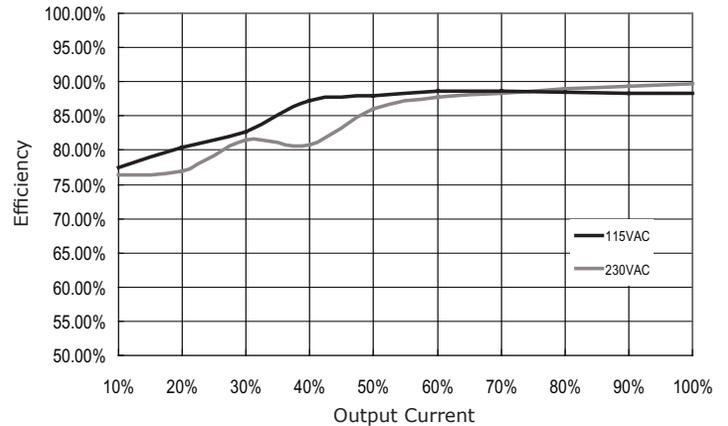


## EFFICIENCY CURVES

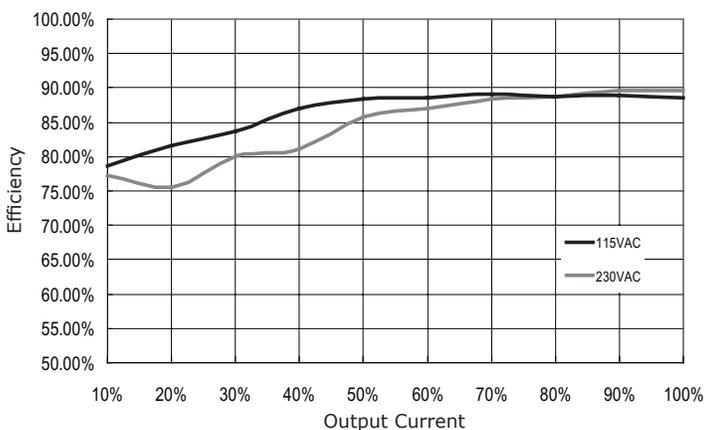
Efficiency vs. Output Current (PLDS100-A-277)



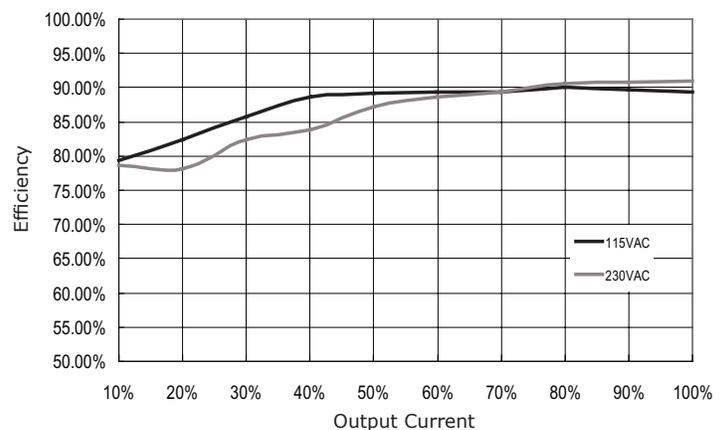
Efficiency vs. Output Current (PLDS100-B-277)



Efficiency vs. Output Current (PLDS100-C-277)



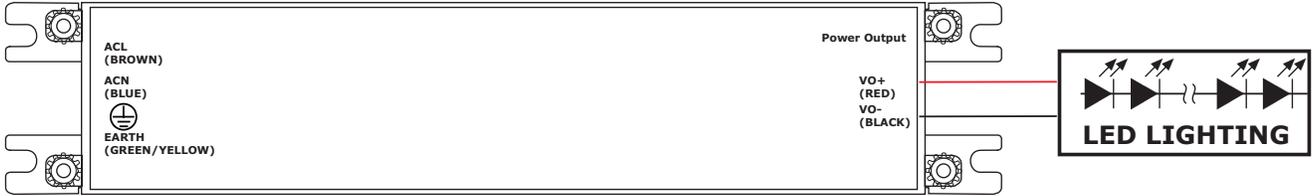
Efficiency vs. Output Current (PLDS100-D-277)



## APPLICATION NOTES

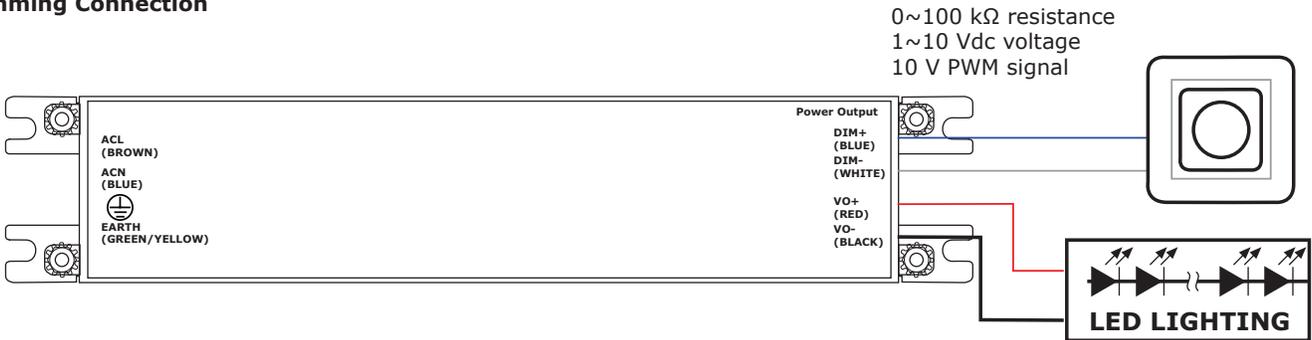
### 1. Installation Instructions

#### 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%

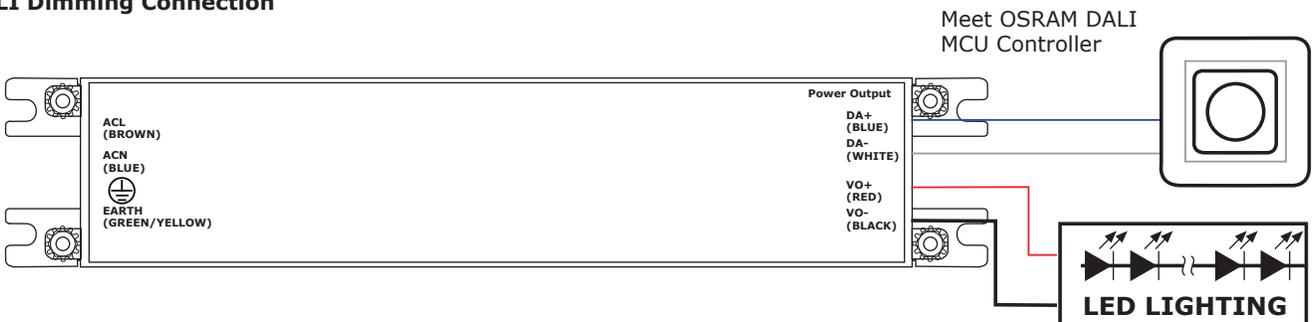
#### 10~100 kΩ Resistance Dimming

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) 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

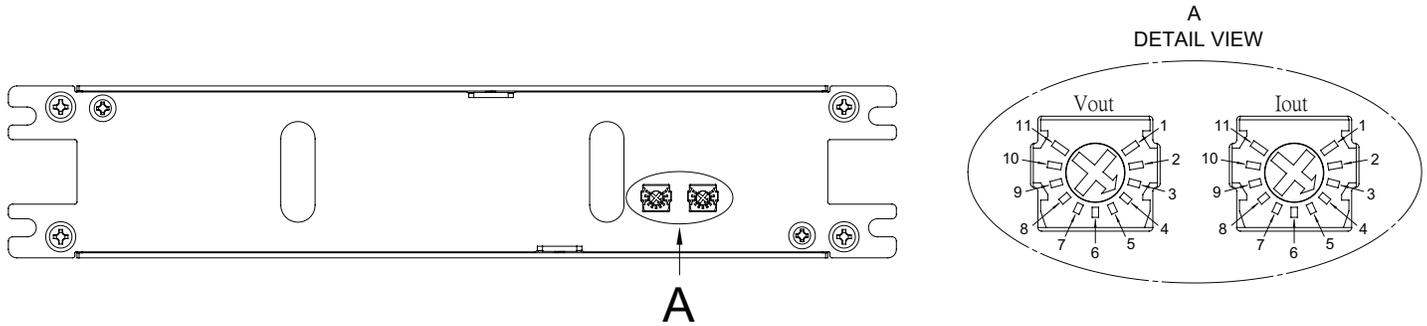


Note: Output constant current can be adjusted through output cable by connecting DALI controller.

## APPLICATION NOTES (CONTINUED)

### 2. Output Voltage/Output Current Adjustment

For the PLDS100-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 100W.



Output Voltage (Vout)				
Tick #	PLDS100-A-277XXB	PLDS100-B-277XXB	PLDS100-C-277XXB	PLDS100-D-277XXB
1	10.6V	21.3V	32.1V	42.2V
2	10.6V	21.3V	32.1V	42.2V
3	10.8V	21.6V	32.7V	43.4V
4	11.0V	22.0V	33.5V	44.3V
5	11.4V	22.7V	34.5V	45.5V
6	11.7V	23.5V	35.4V	47.4V
7	12.1V	24.2V	36.7V	49.0V
8	12.5V	25.0V	37.6V	50.0V
9	12.8V	25.6V	38.6V	51.2V
10	13.3V	26.6V	40.0V	53.5V
11	13.3V	26.6V	40.0V	53.5V

Output Current (Iout)				
Tick #	PLDS100-A-277XXB	PLDS100-B-277XXB	PLDS100-C-277XXB	PLDS100-D-277XXB
1	8.5A	4.3A	2.9A	2.2A
2	8.5A	4.3A	2.9A	2.2A
3	8.1A	4.2A	2.8A	2.1A
4	7.7A	4.0A	2.7A	2.0A
5	7.4A	3.7A	2.5A	1.9A
6	6.8A	3.4A	2.3A	1.8A
7	6.5A	3.1A	2.1A	1.6A
8	6.0A	2.9A	2.0A	1.5A
9	5.7A	2.7A	1.8A	1.4A
10	5.2A	2.4A	1.5A	1.3A
11	5.2A	2.4A	1.5A	1.3A

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.



**CUI INC**<sup>®</sup>

**Headquarters**  
20050 SW 112th Ave.  
Tualatin, OR 97062  
**800.275.4899**

Fax 503.612.2383  
**cui.com**  
techsupport@cui.com

CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.