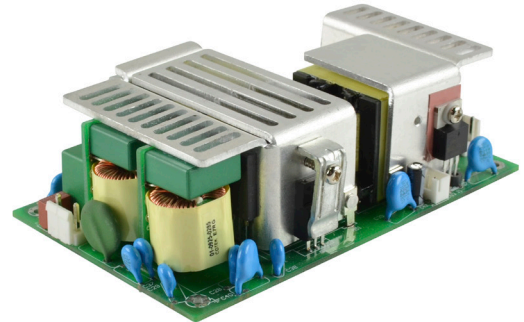




**SERIES:** VOF-185 | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

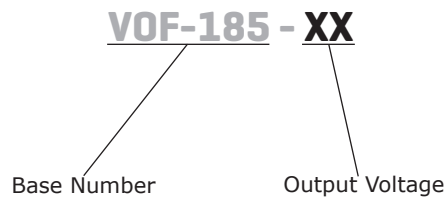
- up to 185 W continuous power
- universal input voltage range
- industry standard 3" x 5" footprint
- power factor correction
- low no load power consumption
- over voltage, over current, and short circuit protections
- output trim
- UL/cUL and TUV safety approvals
- efficiency up to 85%



MODEL	output voltage	output current	output power <sup>1</sup>	ripple and noise <sup>2</sup>	efficiency <sup>3</sup>
	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VOF-185-12	12	15.42	185	120	85
VOF-185-15	15	12.33	185	150	85
VOF-185-24	24	7.71	185	240	85
VOF-185-36	36	5.14	185	360	85
VOF-185-48	48	3.85	185	480	85

- Notes:
1. Maximum output power of 185 W with forced air cooling (8.48 CFM), 111 W with convection cooling.
  2. At full load, nominal input, 20 MHz bandwidth oscilloscope, using a 12" twisted pair wire terminated together with a 0.1 μF and 47 μF capacitor.
  3. At full load, 230 Vac input, without external fan.
  4. All specifications are measured at Ta=25°C, 230 Vac input voltage, and rated output load unless otherwise specified.

**PART NUMBER KEY**



## INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		277	Vac
frequency		47		63	Hz
current	at 115 Vac, full load at 230 Vac, full load		2.3 1.2		A A
inrush current	at 230 Vac, cold start			80	A
leakage current	at 264 Vac			3.5	mA
power factor correction	at 230 Vac, full load	0.9			
no load power consumption	at 230 Vac			0.5	W
input fuse	6.3 A / 250 V time delay fuse (included)				

## OUTPUT

parameter	conditions/description	min	typ	max	units
initial set point accuracy			±3		%
line regulation			±0.5		%
load regulation	from 100%~10% load		±2		%
transient response	1 kHz, 100%~10% load				
	VOF-185-12		1,200		mVp-p
	VOF-185-15		1,500		mVp-p
	VOF-185-24		2,400		mVp-p
	VOF-185-36		3,600		mVp-p
VOF-185-48		4,800		mVp-p	
start-up delay time	at 115 Vac		3		s
	at 230 Vac		2.5		s
start-up rise time	at 115 Vac, full load		50		ms
hold-up time	at 115 Vac, full load	10			ms
adjustability	built in trim pot		±5		%
switching frequency		30		300	kHz
temperature coefficient	at 0~50°C		±0.03		%/°C
fan output	12 Vdc / 100 mA				

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	clamped by TVS				
over current protection	hiccup, auto recovery	105			%
short circuit protection	hiccup, auto recovery	105			%

## SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output		3,000		Vac
	input to ground		1,500		Vac
	output to ground		500		Vac
safety approvals	UL 60950-1, EN 60950-1, IEC 60950-1				
EMI/EMC <sup>1</sup>	EN 55022: 2010 Class B, EN 61204-3:2000, EN 61000-6-3: 2007 +A1: 2011, EN 61000-3-2: 2006 +A2: 2009, EN 61000-3-3: 2008, EN 55024: 2010, EN 61000-6-1: 2007, ENV 50204: 1995, CE, FCC				

Notes: 1. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

## SAFETY & COMPLIANCE (CONTINUED)

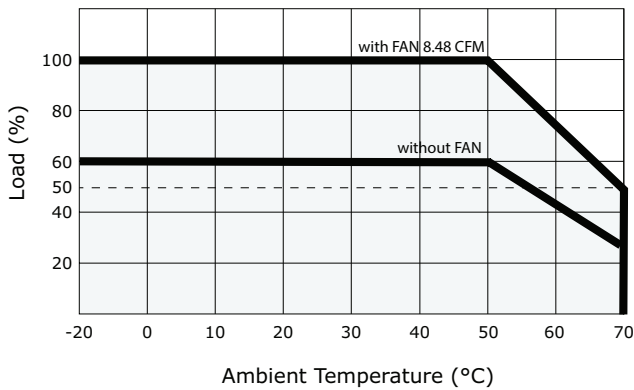
parameter	conditions/description	min	typ	max	units
class	class I				
MTBF	as per MIL-HDBK-217F	250,000			hours
RoHS	2011/65/EU				

## ENVIRONMENTAL

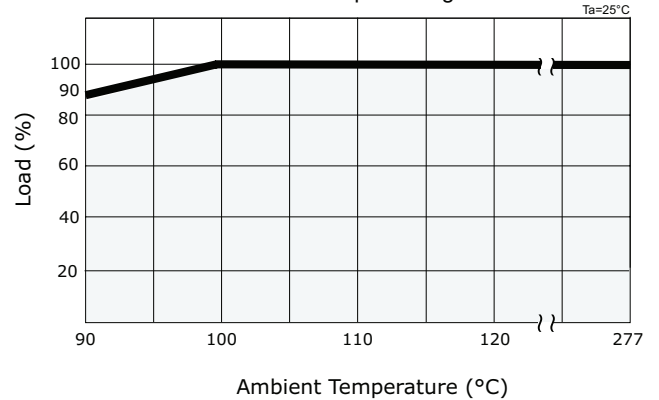
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-20		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	20		90	%
storage humidity	non-condensing	20		90	%
operating altitude			5000		m
vibration & shock	10~3000Hz, 10 minutes per cycle, for 1 hour along each of the X, Y, and Z axes		2		G

## DERATING CURVES

Temperature Derating Curve  
Load vs. Temperature

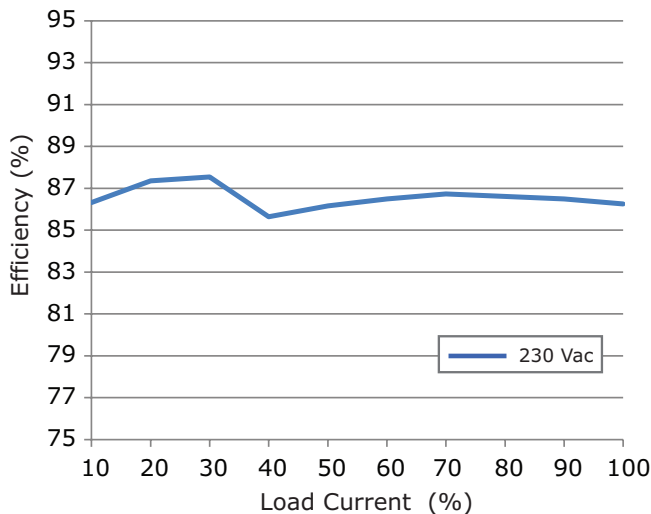


Temperature Derating Curve  
Load vs. Input Voltage

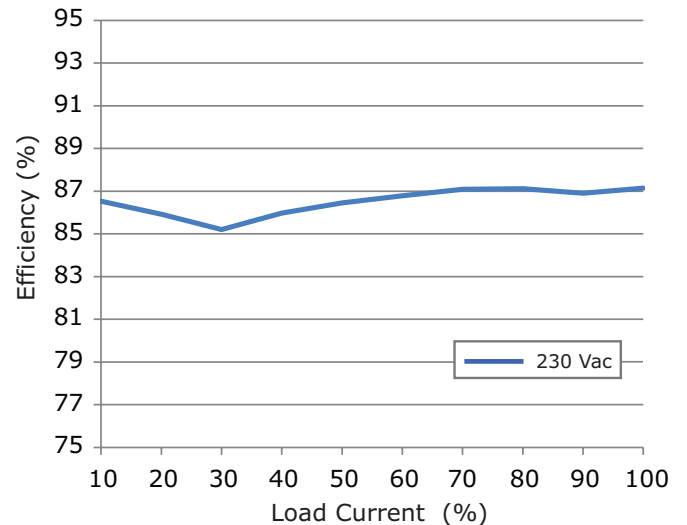


## EFFICIENCY CURVES

VOF-185-12 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)

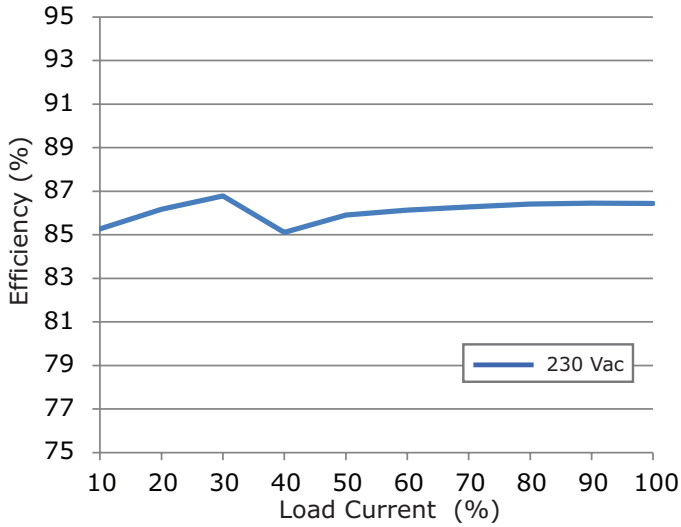


VOF-185-15 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)

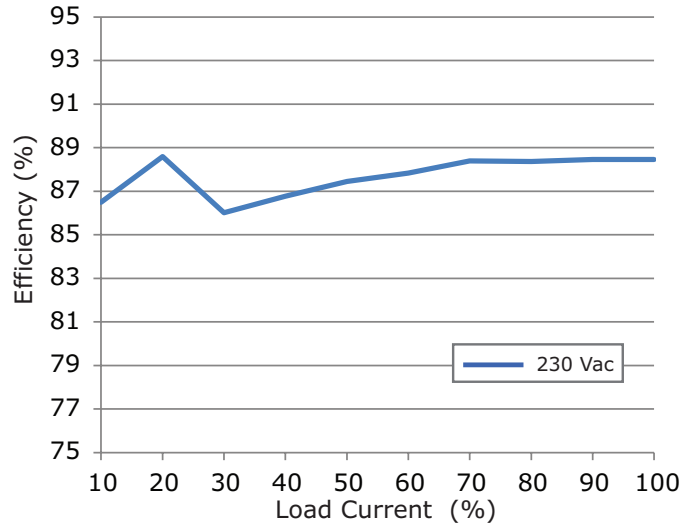


## EFFICIENCY CURVES (CONTINUED)

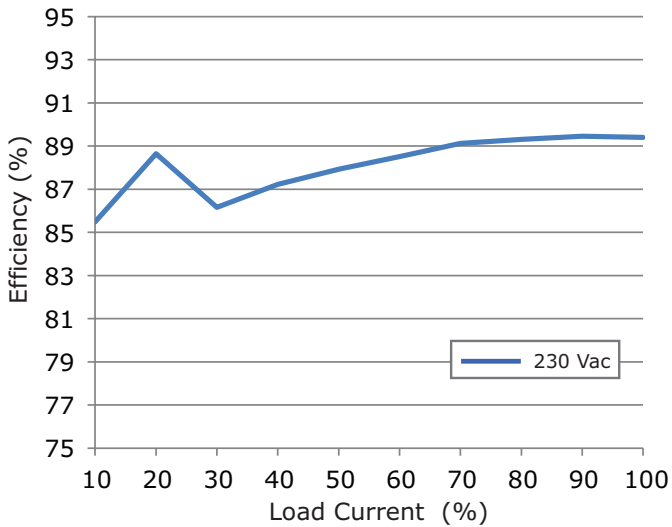
VOF-185-24 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



VOF-185-36 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



VOF-185-48 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	127 x 76.2 x 39.6				mm
weight			0.36		kg
cooling	external fan				
AC input	CN1 mates with Molex 09-50-7031 housing with Molex 2478 series crimp contact or equivalent				
DC output	CN2 mates with Molex 09-50-7101 housing with Molex 2478 series crimp contact or equivalent				
Auxiliary (Fan) output	Fan mates with JST XHP-2 housing with JST SXH-001T-P0.6 contact or equivalent				

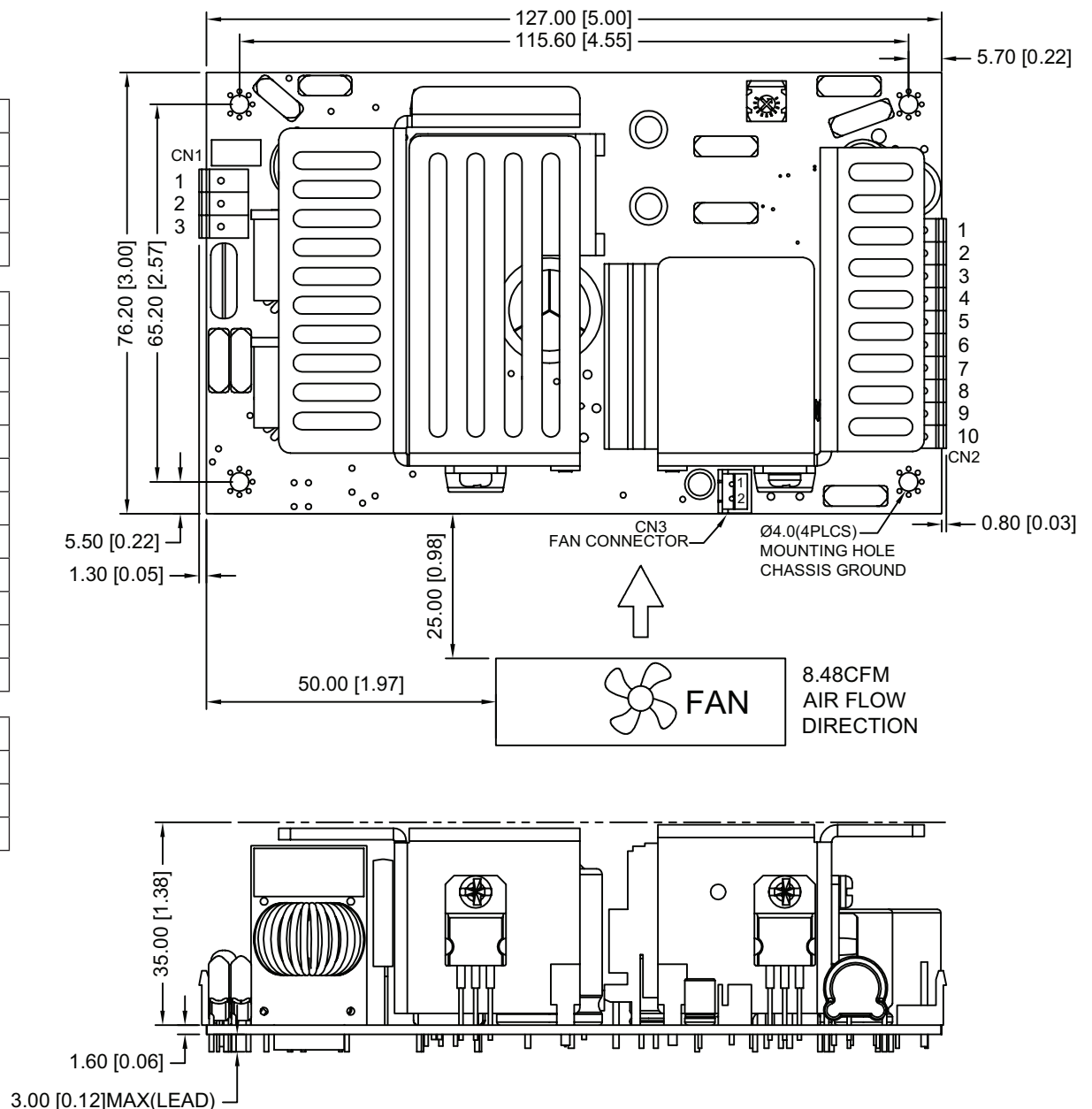
## MECHANICAL DRAWING

units: mm [inch]  
tolerance: ±0.3 mm

CN1	
PIN	Function
1	L
2	NP
3	N

CN2	
PIN	Function
1	+Vo
2	+Vo
3	+Vo
4	+Vo
5	+Vo
6	-Vo
7	-Vo
8	-Vo
9	-Vo
10	-Vo

CN3 (FAN)	
PIN	Function
1	+FAN
2	-FAN



## REVISION HISTORY

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rev.	description	date
1.0	initial release	06/27/2016
1.01	added efficiency curves	09/27/2016

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



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

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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.