

**SERIES:** VOF-260B | **DESCRIPTION:** INTERNAL AC-DC POWER SUPPLY

**FEATURES**

- universal input range 85~264 Vac
- no load input power consumption <0.2W
- high efficiency up to 93.5%
- 12V fan output
- continuous short circuit protection
- over temperature protection
- operating altitude 5,000m
- certified to EN/UL 62368-1
- designed to meet IEC/EN 60335-1
- operating temperature range -30~80 °C with derating
- adjustable output voltage


**MODEL**

MODEL	output voltage		output current <sup>1</sup>	output power	ripple and noise <sup>2</sup>	efficiency <sup>3</sup>
	nom (Vdc)	range (Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VOF-260B-12	12	11.4~12.6	21.67	260	120	92
VOF-260B-24	24	22.8~25.2	10.83	260	240	93.5
VOF-260B-36	36	34.2~37.8	7.22	260	360	93
VOF-260B-48	48	45.6~50.4	5.42	260	480	93.5

Notes: 1. Forced air convection with fan. (Open-frame with 19CFM, Base & Case with 10 CFM)  
 2. At full load, nominal input, 20 MHz bandwidth oscilloscope, with 0.1 µF ceramic and 10 µF electrolytic capacitors on the output.  
 3. At 230 Vac input and 100% full load at 25°C.

**PART NUMBER KEY**
**VOF - 260B - XX - XXX**

Base Number

Output Voltage

 Chassis:  
 "blank" = chassis mount  
 BP = base plate  
 C = covered

## INPUT

parameter	conditions/description	min	typ	max	units
voltage		85		264	Vac
frequency		47		63	Hz
current	at 100 Vac, full load			3.5	A
inrush current	at 240 Vac, cold start at 25°C			150	A
leakage current				3.5	mA
no load power consumption				0.2	W

## OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	115 Vac ~ 230 Vac, full load, 25°C			22,000	μF
	12 Vdc			10,880	μF
	24 Vdc			7,220	μF
	36 Vdc			3,960	μF
output voltage adjust			±5		%
output voltage set point	at nominal input, full load, 25°C			±1	%
line regulation	at input high to low			±0.5	%
load regulation	10~100% load			±1	%
hold-up time	115 Vac		16		ms
switching frequency			100		kHz
fan	+12 Vdc can only operate normally when main output is greater than 1A			0.3	A

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	latch off (ac recycle to reset)			16	Vdc
	12 Vdc			35	Vdc
	15 Vdc			50	Vdc
	24 Vdc			63	Vdc
over current protection	auto recovery, hiccup	120		190	%
short circuit protection	auto recovery, hiccup				

## SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute			3,000	Vac
insulation resistance	input to output	100			MΩ
safety approvals	certified to 62368-1: EN, BS EN, UL designed to meet 60335-1: IEC, EN, UL				
safety class	Class I				
EMI/EMC	EN55032 Class B, 47 CFR FCC Part 15 Subpart B, Oct.2014 EN61000-3-2:2014, EN61000-3-3:2013, EN61000-6-3:2012, EN61000-6-4:2011, EN61204-3:2000				
conducted emissions	EN 55032, EN 61204-3:2000, EN 61000-6-3:2012, EN 61000-6-4:2011, Class B, 47 CFR FCC Part 15 Subpart B				
radiated emissions	EN 55032, EN 61204-3:2000, EN 61000-6-3:2012, EN 61000-6-4:2011, Class B, 47 CFR FCC Part 15 Subpart B				
ESD	IEC 61000-4-2:2008, Air Discharge: ±8kV, Contact Discharge: ±4kV, perf. Criteria A				
radiated immunity	IEC 61000-4-3:2010, perf. Criteria A				
EFT/burst	IEC 61000-4-4:2012, ±1kV, ±2kV, perf. Criteria A				

## SAFETY & COMPLIANCE (CONTINUED)

parameter	conditions/description	min	typ	max	units
surge	IEC 61000-4-5:2014, L-N: $\pm 0.5kV$ , $\pm 1kV$ , L-E(Ground): $\pm 0.5kV$ , $\pm 1kV$ , $\pm 2kV$ , perf. Criteria A				
conducted immunity	IEC 61000-4-6:2013, perf. Criteria A				
power frequency magnetic field	IEC 61000-4-8:2009, perf. Criteria A				
voltage dips	IEC 61000-4-11:2004, Dip: 30% Reduction, Dip >95% Reduction, perf. Criteria A				
voltage interruption	IEC 61000-4-11:2004, >95% Reduction, perf. Criteria B				
vibration	Meet MIL-STD-810F Table 514.5 CVIII, 15~2000Hz, X,Y,Z axis, 1 hour (each axis). total 3 hrs		4		g
shock	Meet MIL-STD-810F Table 516.5, Table 516.5-I 10ms, each axis 3 times ( $\pm X, \pm Y, \pm Z$ axis)		75		g
MTBF	MIL-HDBK-217F at 25°C	270,000			hours
RoHS	yes				

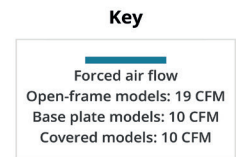
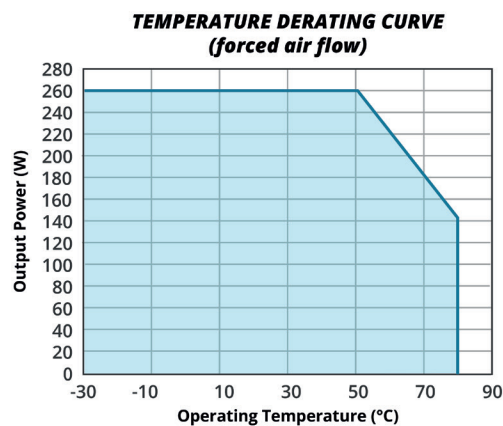
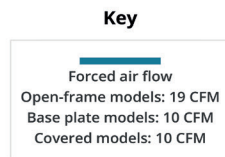
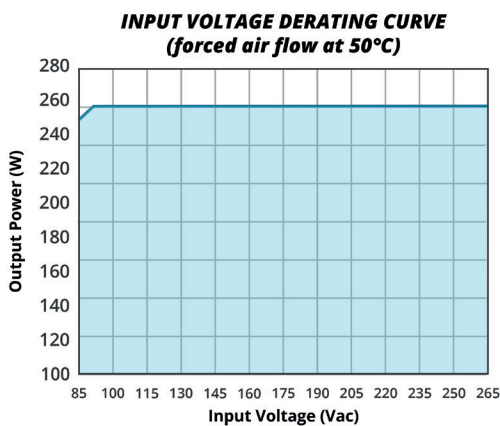
## ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-30		80	°C
storage temperature		-40		85	°C
storage humidity	non-condensing			93	%
altitude				5,000	m

## MECHANICAL

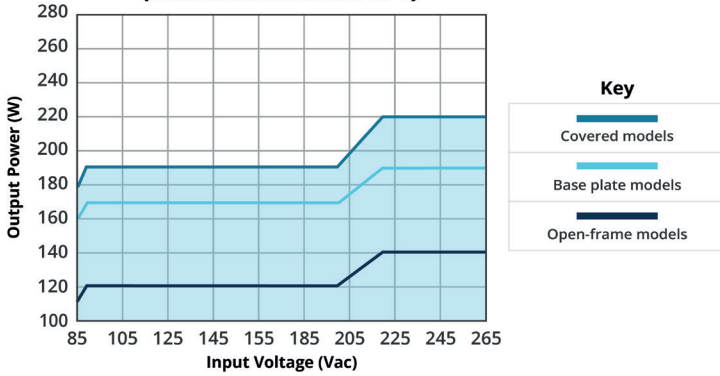
parameter	conditions/description	min	typ	max	units
dimensions	chassis mount: 101.60 x 50.8 x 36.60 [4.000 x 2.000 x 1.441 inch]				mm
	base plate: 116.80 x 50.8 x 38.60 [4.598 x 2.000 x 1.520 inch]				mm
	covered: 116.80 x 64.00 x 40.50 [4.598 x 2.520 x 1.594 inch]				mm
weight	chassis mount		245		g
	base plate		280		g
	covered		332		g

## DERATING CURVE

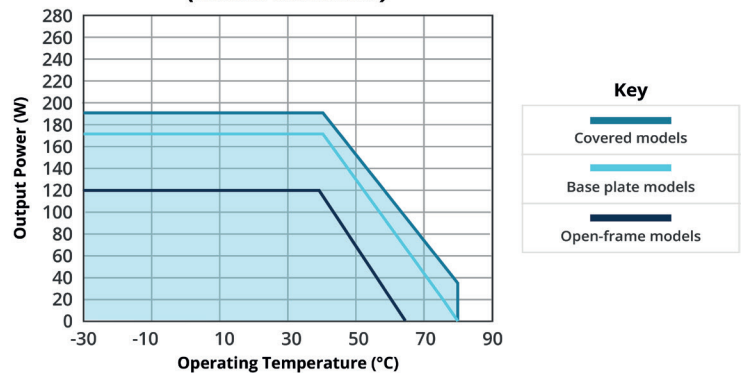


## DERATING CURVE (CONTINUED)

**INPUT VOLTAGE DERATING CURVE**  
(natural convection at 40°C)

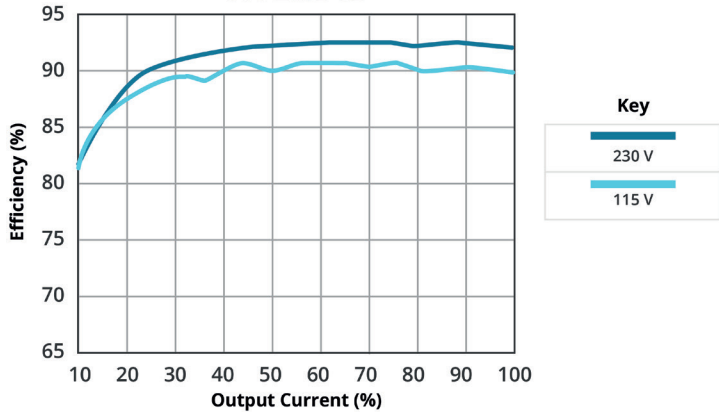


**TEMPERATURE DERATING CURVE**  
(natural convection)

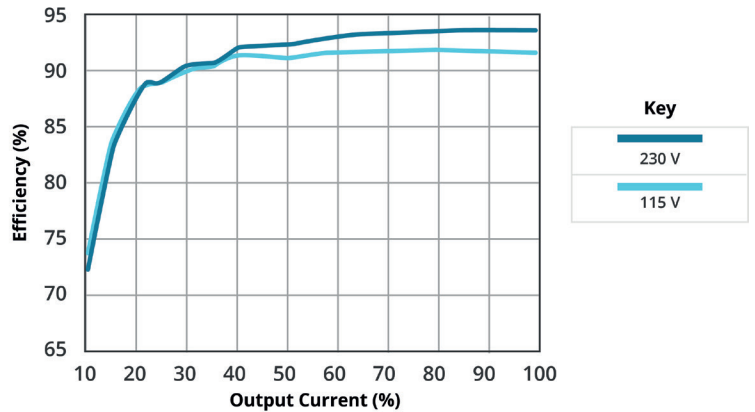


## EFFICIENCY CURVES

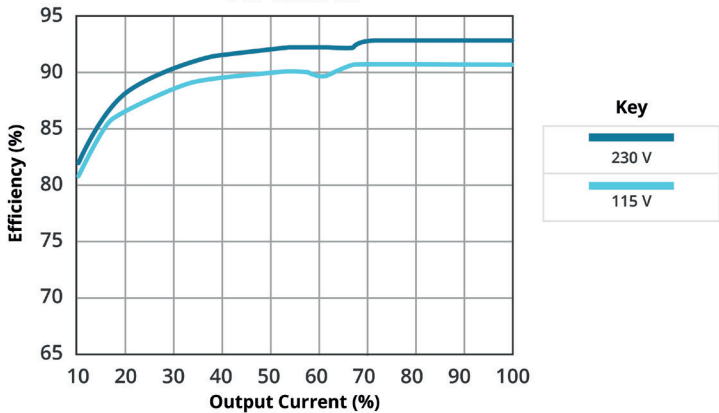
**EFFICIENCY VS INPUT LOAD**  
**VOF-260B-12**



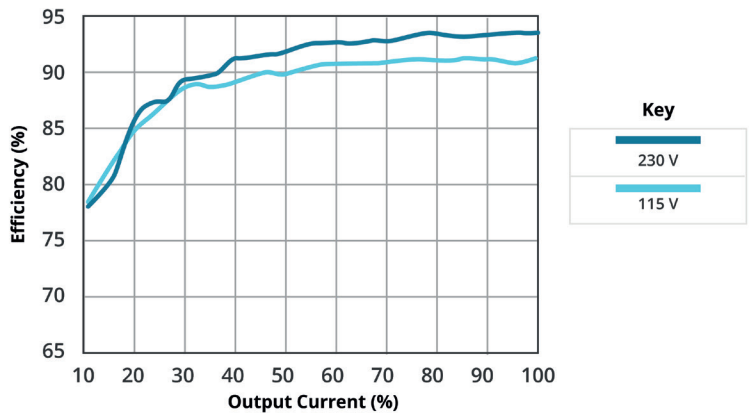
**EFFICIENCY VS INPUT LOAD**  
**VOF-260B-24**



**EFFICIENCY VS INPUT LOAD**  
**VOF-260B-36**



**EFFICIENCY VS INPUT LOAD**  
**VOF-260B-48**



## MECHANICAL DRAWING

### Chassis mount

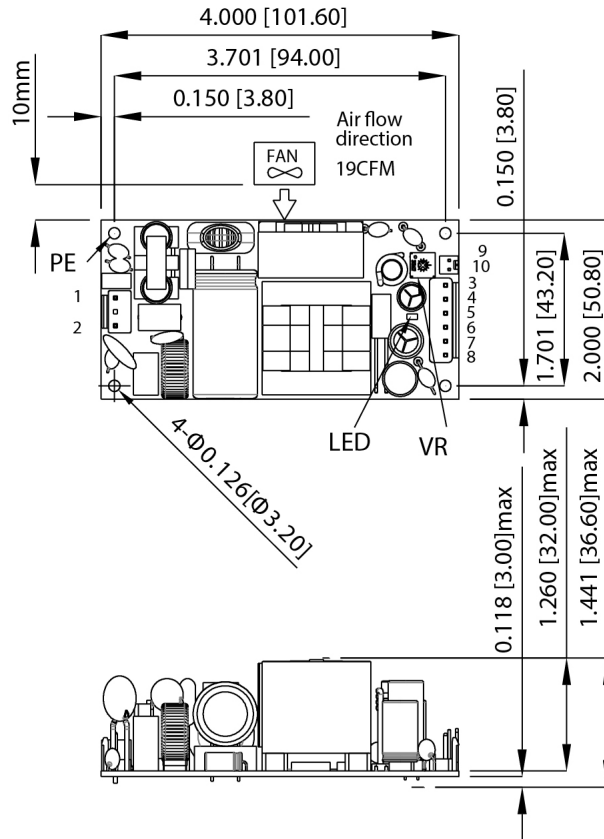
units: inches [mm]

tolerance inches: x.xxx = ±0.02

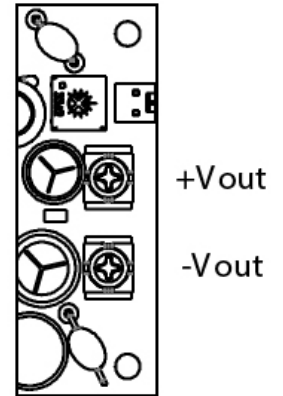
mm: x.xx = ±0.5

PIN CONNECTIONS	
PIN	Function
1	AC(L)
2	AC(N)
3	+Vout
4	+Vout
5	+Vout
6	-Vout
7	-Vout
8	-Vout
9	+Fan output
10	-Fan output

### PIN CONNECTORS 24, 36 & 48 Vdc output models



### SCREW TERMINAL OUTPUT 12 Vdc output model



## MECHANICAL DRAWING (CONTINUED)

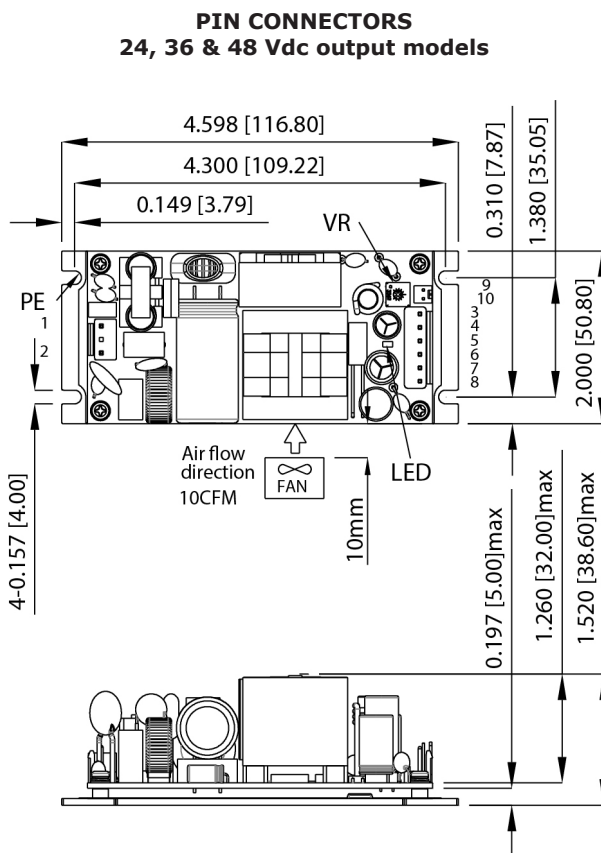
### Base plate

units: inches [mm]

tolerance inches: x.xxx = ±0.02

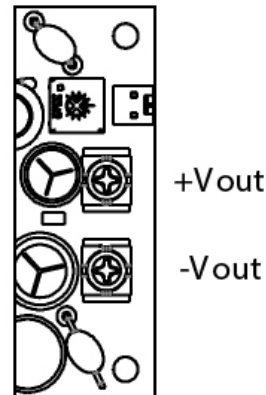
mm: x.xx = ±0.5

PIN CONNECTIONS	
PIN	Function
1	AC(L)
2	AC(N)
3	+Vout
4	+Vout
5	+Vout
6	-Vout
7	-Vout
8	-Vout
9	+Fan output
10	-Fan output



### SCREW TERMINAL OUTPUT

12 Vdc output model



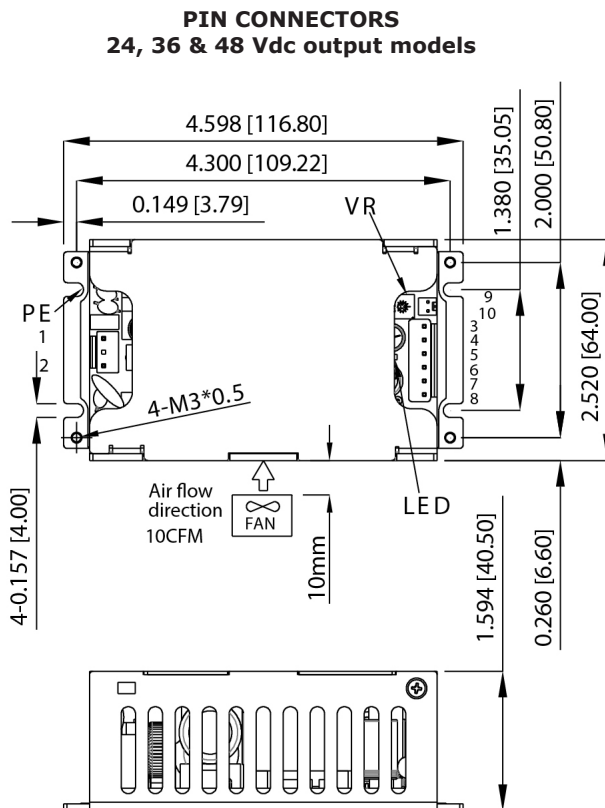
### Covered

units: inches [mm]

tolerance inches: x.xxx = ±0.02

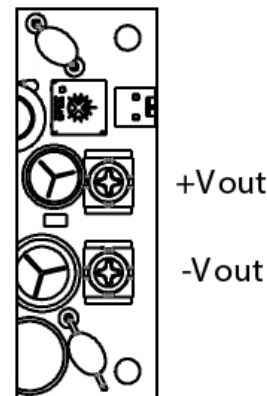
mm: x.xx = ±0.5

PIN CONNECTIONS	
PIN	Function
1	AC(L)
2	AC(N)
3	+Vout
4	+Vout
5	+Vout
6	-Vout
7	-Vout
8	-Vout
9	+Fan output
10	-Fan output



### SCREW TERMINAL OUTPUT

12 Vdc output model



## REVISION HISTORY

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rev.	description	date
1.0	initial release	11/04/2023

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



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

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

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