



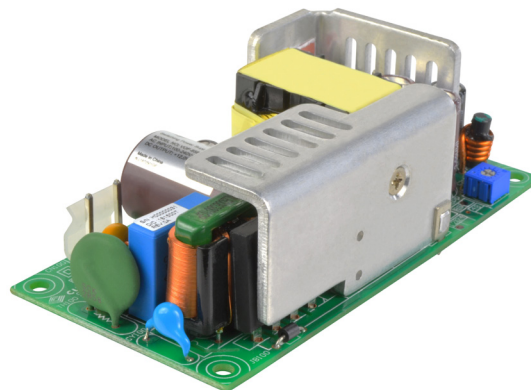
date 10/16/2018

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## SERIES: VOF-85B | DESCRIPTION: AC-DC POWER SUPPLY

### FEATURES

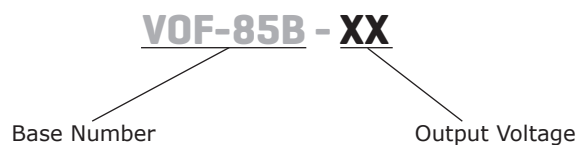
- safety Class II design
- industry standard 2" x 4" footprint
- no-load power consumption < 0.3 W
- EN 55032 Class B radiated emissions
- 5k meters high altitude operation



MODEL	output voltage	output current max	output power max	ripple and noise <sup>1</sup> max	efficiency <sup>2</sup>
	(Vdc)	(A)	(W)	(mVp-p)	typ (%)
VOF-85B-12	12	7.10	85.2	120	87
VOF-85B-24	24	3.55	85.2	240	89
VOF-85B-48	48	1.77	85	300	89

Notes: 1. Measured at output within 20 MHz BW, at rated line voltage and output load, with a 10  $\mu$ F tantalum and a 0.1  $\mu$ F ceramic capacitor across the output.  
2. At 230 Vac.

### PART NUMBER KEY



## INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		264	Vac
frequency		47		63	Hz
current	at 115 Vac at 230 Vac		2.0 1.0		A A
inrush current	at 230 Vac, cold start, 25 °C		90		A
leakage current	at 264 Vac, 63 Hz			0.25	mA
no load power consumption	at 110 Vac at 230 Vac			0.2 0.3	W W

## OUTPUT

parameter	conditions/description	min	typ	max	units
initial set point accuracy			±3		%
line regulation	at full load			±0.5	%
load regulation	at 10% to full load		±1		%
adjustability	built in trim pot		±5		%
start-up time	at 100 Vac, full load			1	s
rise time	at 100 Vac, full load		50		ms
hold-up time	at 115 Vac, full load	10			ms
switching frequency	at full load	60		85	kHz
temperature coefficient				±0.04	%/°C

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	latch off	110		130	%
over current protection	auto recovery				
short circuit protection	auto recovery				
over temperature protection	latch off				

## SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output		3,000		Vac
safety approvals	UL 62368-1, EN 62368-1, IEC 62368-1				
safety class	Class II				
conducted emissions	EN 55032 Class B, FCC Class B				
radiated emissions	EN 55032 Class B, FCC Class B				
input current harmonics	EN 61000-3-2 Class A				
voltage fluctuation and flicker	EN 61000-3-3				
ESD immunity	EN 61000-4-2, air: ±8 kV; contact: ±4 kV contact				
radiated field immunity	EN 61000-4-3, 3 V/m				
electrical fast transient immunity	EN 61000-4-4, ±2 kV				

Notes: 3. 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
surge immunity	EN 61000-4-5, $\pm 2$ kV diff, $\pm 4$ kV com				
conducted immunity	EN 61000-4-6, 3 Vrms				
magnetic field immunity	EN 61000-4-8, 50 Hz, 1 A/m (rms), Class A				
voltage dips, interruptions	EN 61000-4-11: voltage dips 30% reduction for 500 ms, Class A voltage dips >95% reduction for 10 ms, Class A voltage dips >95% reduction for 5000 ms, Class B				
MTBF	as per MIL-HDBK-217F, 25°C, full load	350,000			hours
RoHS	yes				

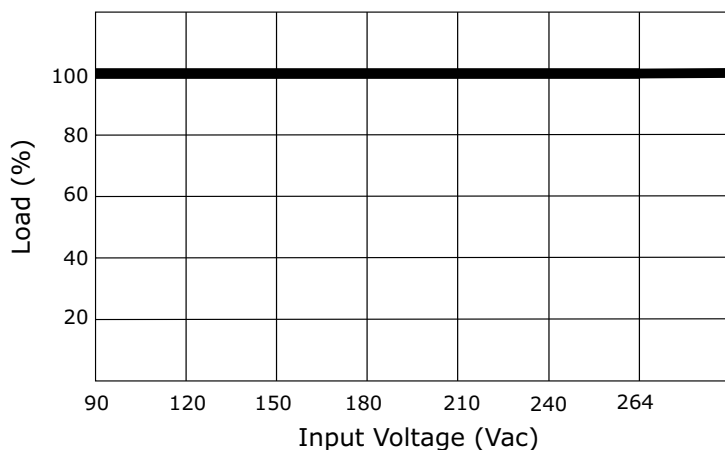
Notes: 4. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

## ENVIRONMENTAL

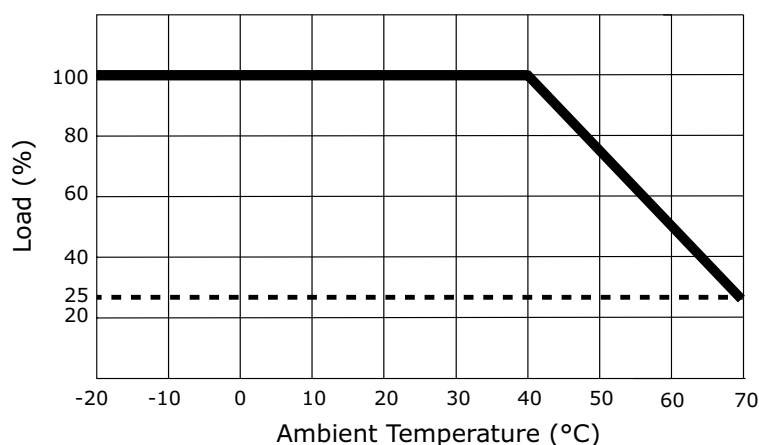
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-20		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	5		95	%
altitude				5,000	m

## DERATING CURVES

Output Load vs. Input Voltage

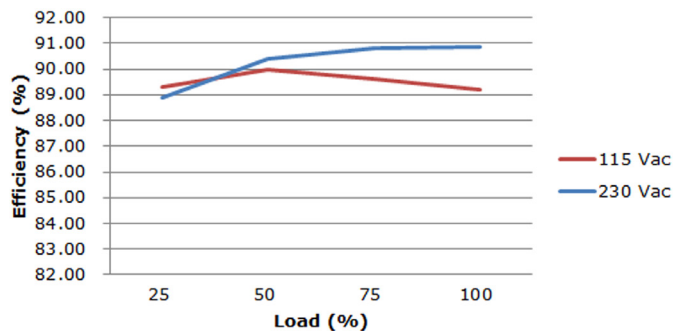


Output Load vs. Ambient Temperature

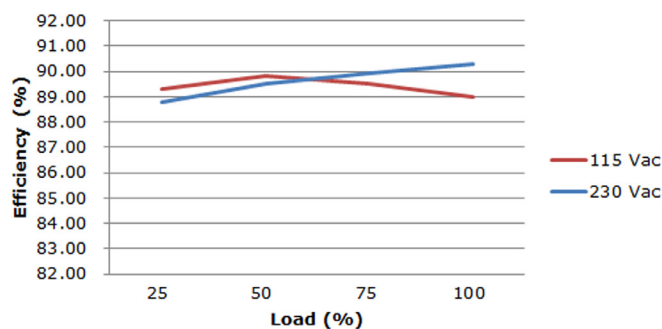


## EFFICIENCY CURVES

VOF-85B-12 Efficiency vs. Output Load (Natural Convection)

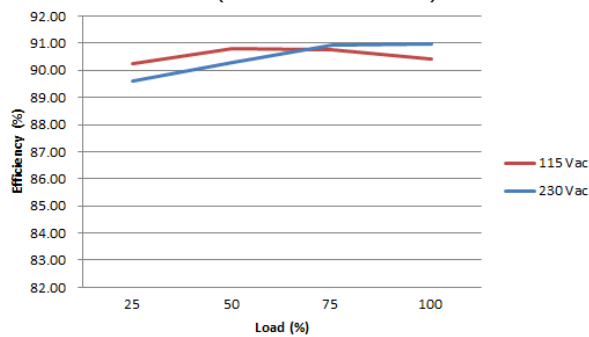


VOF-85B-24 Efficiency vs. Output Load (Natural Convection)



## EFFICIENCY CURVES (CONTINUED)

VOF-85B-48 Efficiency vs. Output Load  
(Natural Convection)



## MECHANICAL

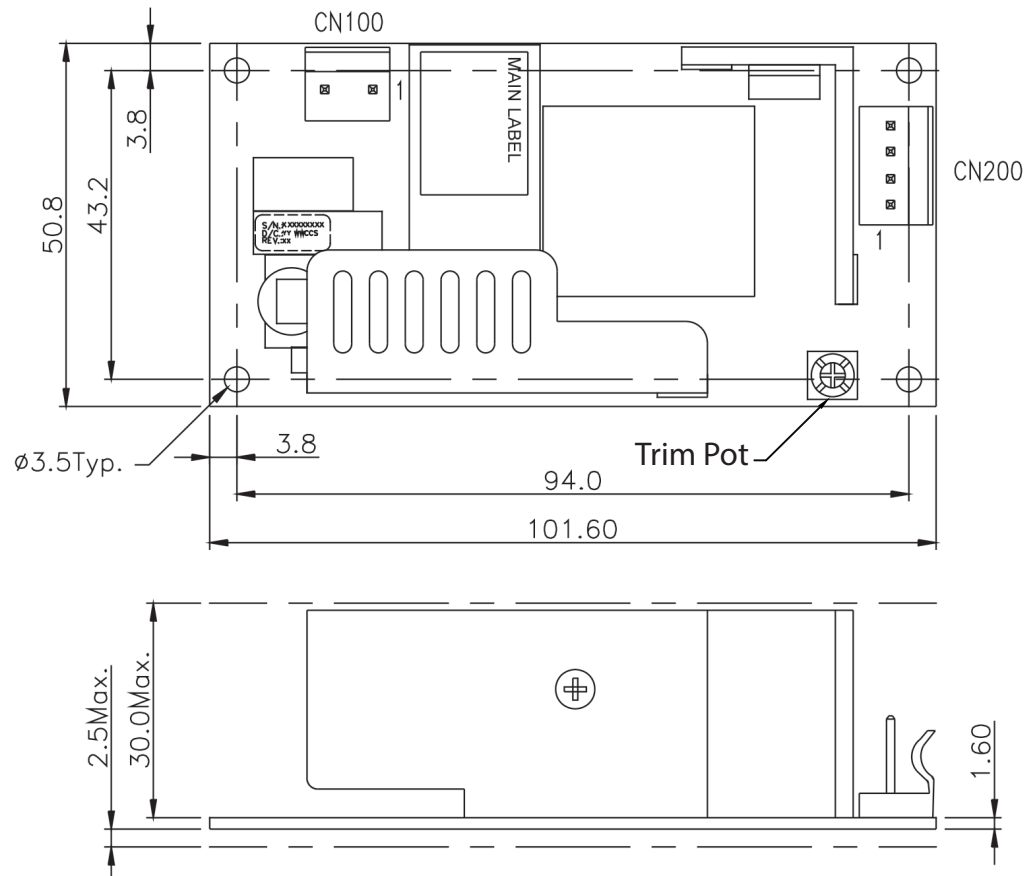
parameter	conditions/description	min	typ	max	units
dimensions	101.6 x 50.8 x 31.6 (4.0 x 2.0 x 1.24 inch)				mm
weight			152		g
cooling	natural convection				
CN100 input connector	CN100 mates with Jowle A3961H02-3P, crimp pin A3961T2P-2C, or Molex 09-50-3031, crimp pin 2478 series				
CN200 output connector	CN200 mates with Jowle A3961H02-4P, crimp pin A3961T2P-2C, or Molex 09-50-3041, crimp pin 2478 series				

## MECHANICAL DRAWING

units: mm  
tolerance:  
X≤30: ±0.25 mm  
30<X≤100: ±0.35 mm  
100<X≤300: ±0.50 mm  
holes: ±0.20 mm

CN100 Connector	
PIN	Function
1	AC(L)
2	NP
3	AC(N)

CN200 Connector	
PIN	Function
1	+V
2	+V
3	RTN
4	RTN



## REVISION HISTORY

rev.	description	date
1.0	initial release	10/16/2018

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



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