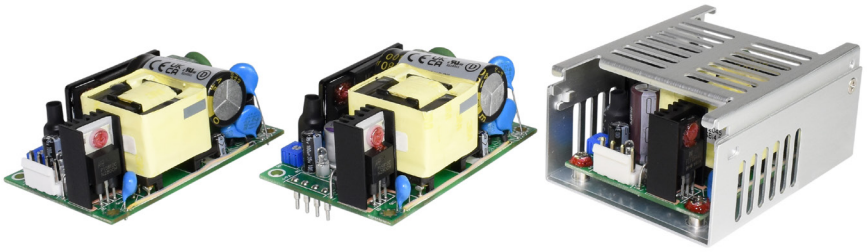
CUI INC
a bel group

SERIES: VOF-80B | DESCRIPTION: INTERNAL AC-DC POWER SUPPLY

FEATURES

- universal input range 90~264 Vac
- high efficiency up to 91%
- 2”x3” open frame compact size
- Class I and Class II
- operating altitude 5,000 m
- continuous short circuit protection
- certified to EN/BS EN/UL 62368-1
- designed to meet IEC/EN 60335-1, EN 55032



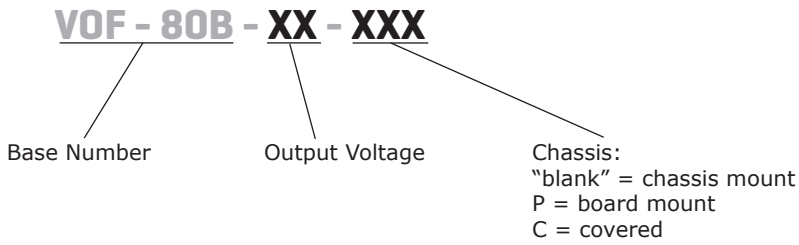
RoHS c UL us CE UKCA

MODEL

MODEL	output voltage nom (Vdc)	output voltage range (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency[2] typ (%)
VOF-80B-12	12	11.4~12.6	6.7	80	120	89
VOF-80B-15	15	14.25~15.75	5.36	80	150	89
VOF-80B-24	24	22.8~25.2	3.35	80	240	90
VOF-80B-48	48	45.6~50.4	1.67	80	480	91

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, with 10 µF electrolytic and 0.1 µF ceramic capacitors on the output.
2. At 230 Vac input and 100% full load at 25°C.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage[3]	ac input dc input	90 120		264 370	Vac Vdc
frequency		50		60	Hz
current	at 100 Vac, full load			1.7	A
inrush current	at 240 Vac, cold start at 25°C			100	A
leakage current				0.25	mA
no load power consumption	48 Vdc output all other output models		0.35 0.3		W W

Note: 3. Safety approvals only apply to the ac input.

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	12 Vdc 15 Vdc 24 Vdc 48 Vdc			13,400 11,000 6,700 3,340	µF µF µF µF
output voltage set point	90 Vac ~ 264 Vac, full load, 25°C	11.88 14.85 23.76 47.52	12 15 24 48	12.12 15.15 24.24 48.48	Vdc Vdc Vdc Vdc
line regulation	90 Vac ~ 264 Vac, full load			±0.5	%
load regulation	10~100% load			±1	%
hold-up time	115 Vac		12		ms
switching frequency	output power = max. rated power		65		kHz

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	built-in TVS component to clamp output voltage 12 Vdc 15 Vdc 24 Vdc 48 Vdc			 16.2 18.9 31.5 58.8	 Vdc Vdc Vdc Vdc
short circuit protection	continuous, auto recovery				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute			3,000	Vac
safety approvals	certified to 62368-1: EN, BS EN, UL designed to meet 60335-1: IEC, EN designed to meet 55032: EN				
safety class	Class I or Class II				
conducted emissions	EN55032, EN61204-3:2000, EN61000-6-3:2012, EN61000-6-4:2011, Class B, 47 CFR FCC Part 15 Subpart B				
radiated emissions	EN55032, EN61204-3:2000, EN61000-6-3:2012, EN61000-6-4:2011, 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	IEC61000-4-4:2012, ±1kV, ±2kV, perf. Criteria A				
surge	IEC61000-4-5:2014, L-N: ±0.5kV, ±1kV, L-E (Ground): ±0.5kV, ±1kV, ±2kV, perf. Criteria A				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
conducted immunity	IEC 61000-4-6:2013, perf. Criteria A				
voltage dips and interruption	IEC 61000-4-11:2004, Dip: 30% reduction, dip >95% reduction, perf. Criteria A IEC 61000-4-11:2004, >95% reduction, perf. Criteria B				
power frequency magnetic field	IEC 61000-4-8:2009, perf. Criteria A				
vibration	meet MIL-STD-810F table 514.5CVIII,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 (±X,±Y,±Z axis)		75		g
MTBF	MIL-HDBK-217F at 25°C	300,000			hours
RoHS	yes				

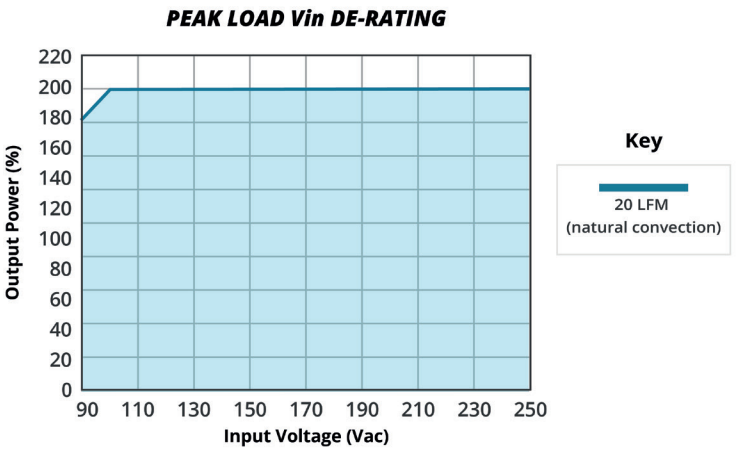
ENVIRONMENTAL

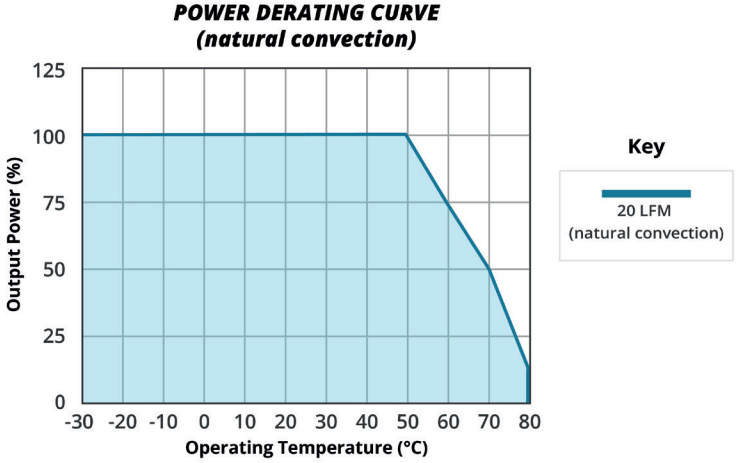
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-30		80	°C
storage temperature		-30		85	°C
storage humidity	non-condensing			93	%
altitude				5,000	m

MECHANICAL

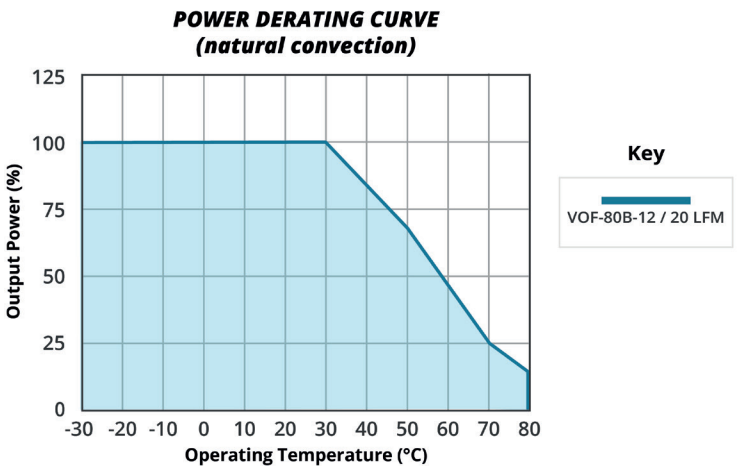
parameter	conditions/description	min	typ	max	units
dimensions	chassis mount: 76.20 x 50.80 x 34.00 [3.000 x 2.000 x 1.339 inch] board mount: 76.20 x 50.80 x 35.90 [3.000 x 2.000 x 1.413 inch] covered: 81.28 x 62.00 x 40.00 [3.200 x 2.441 x 1.575 inch]				mm mm mm
weight	chassis mount board mount covered		135 133 174		g g g

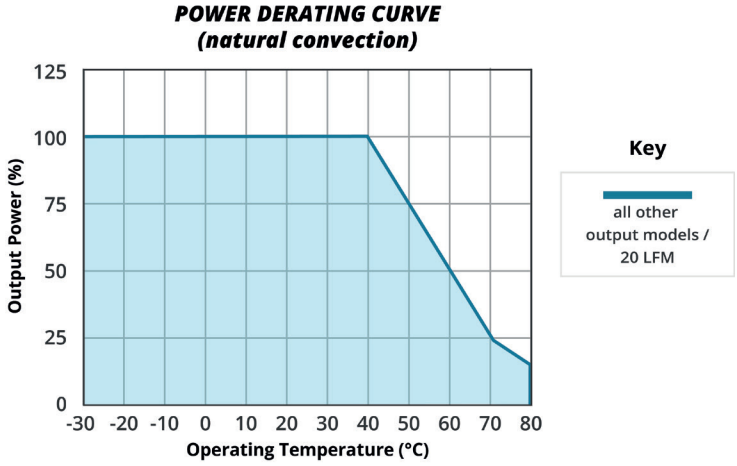
DERATING CURVE



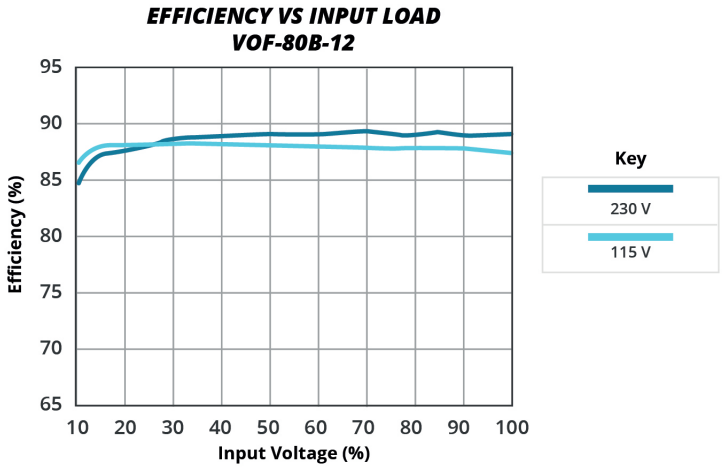


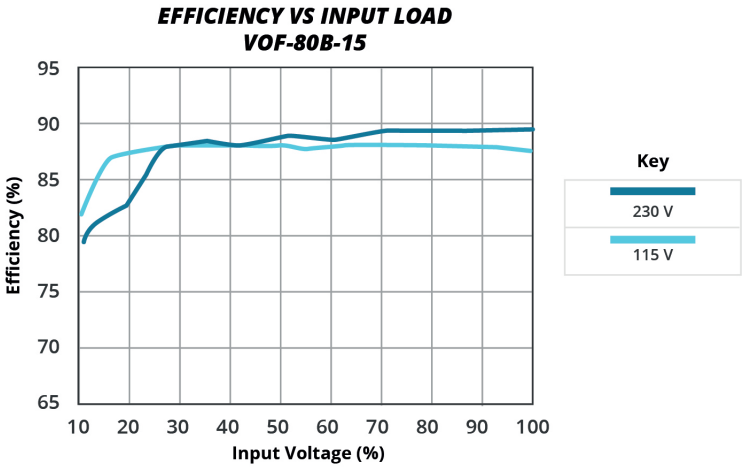
DERATING CURVE (CONTINUED)

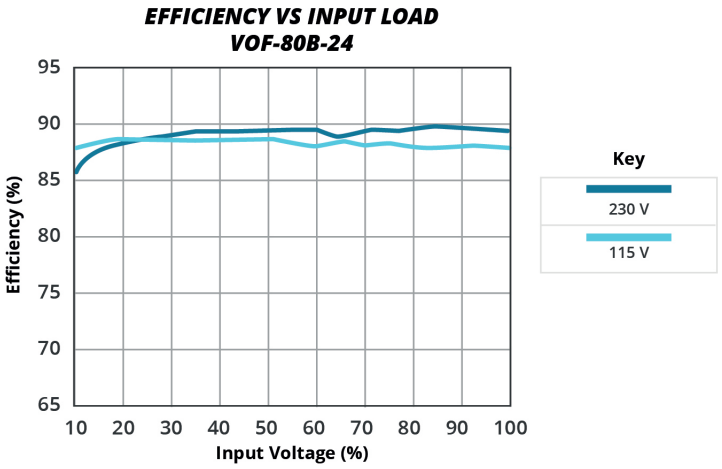


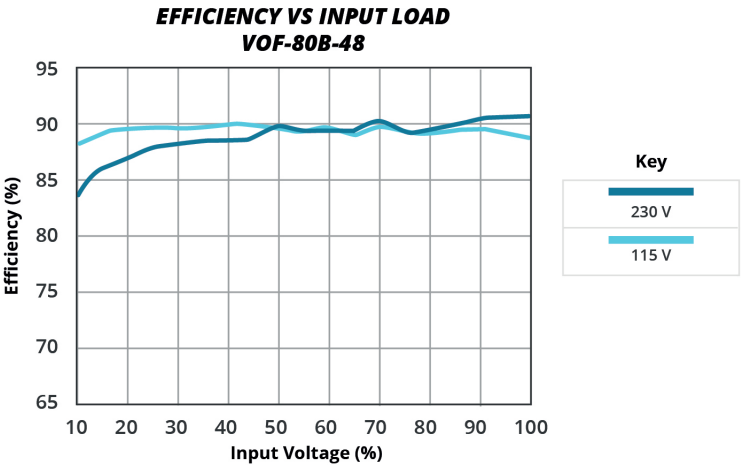


EFFICIENCY CURVES









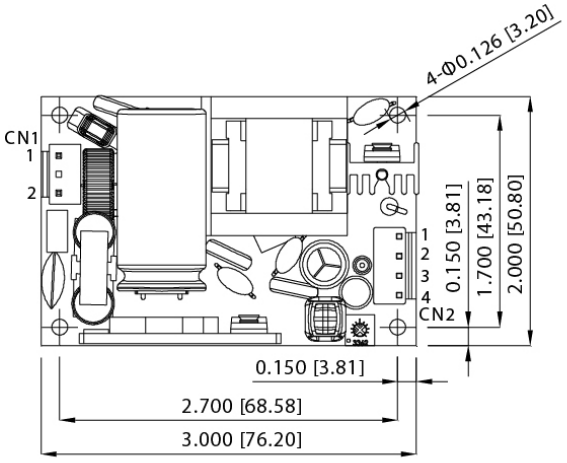
MECHANICAL DRAWING

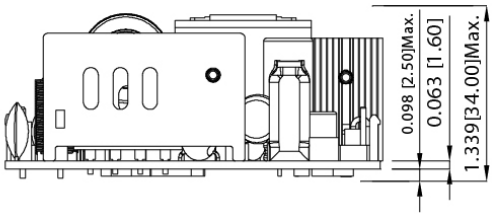
Chassis mount

units: inches [mm]
tolerance inches: x.xxx = +0.039/-0
mm: x.xx = +1.0/-0

PIN CONNECTIONS	
PIN	Function
1	AC(N)
2	AC(L)

PIN CONNECTIONS	
PIN	Function
1	-Vout
2	-Vout
3	+Vout
4	+Vout



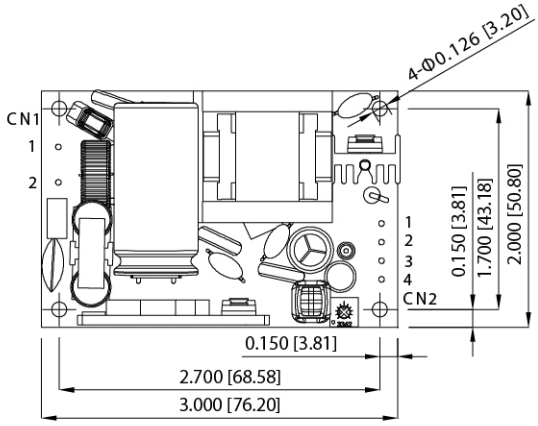


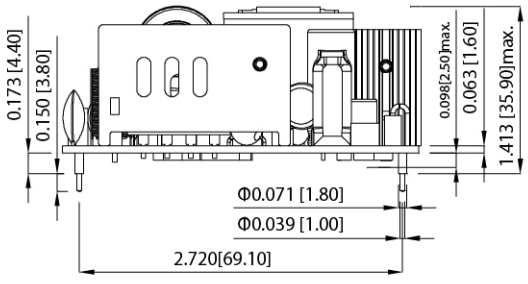
Board mount:

units: mm [inch]
units: inches [mm]
tolerance inches: x.xxx = +0.039/-0
mm: x.xx = +1.0/-0

PIN CONNECTIONS	
PIN	Function
1	AC(N)
2	AC(L)

PIN CONNECTIONS	
PIN	Function
1	-Vout
2	-Vout
3	+Vout
4	+Vout



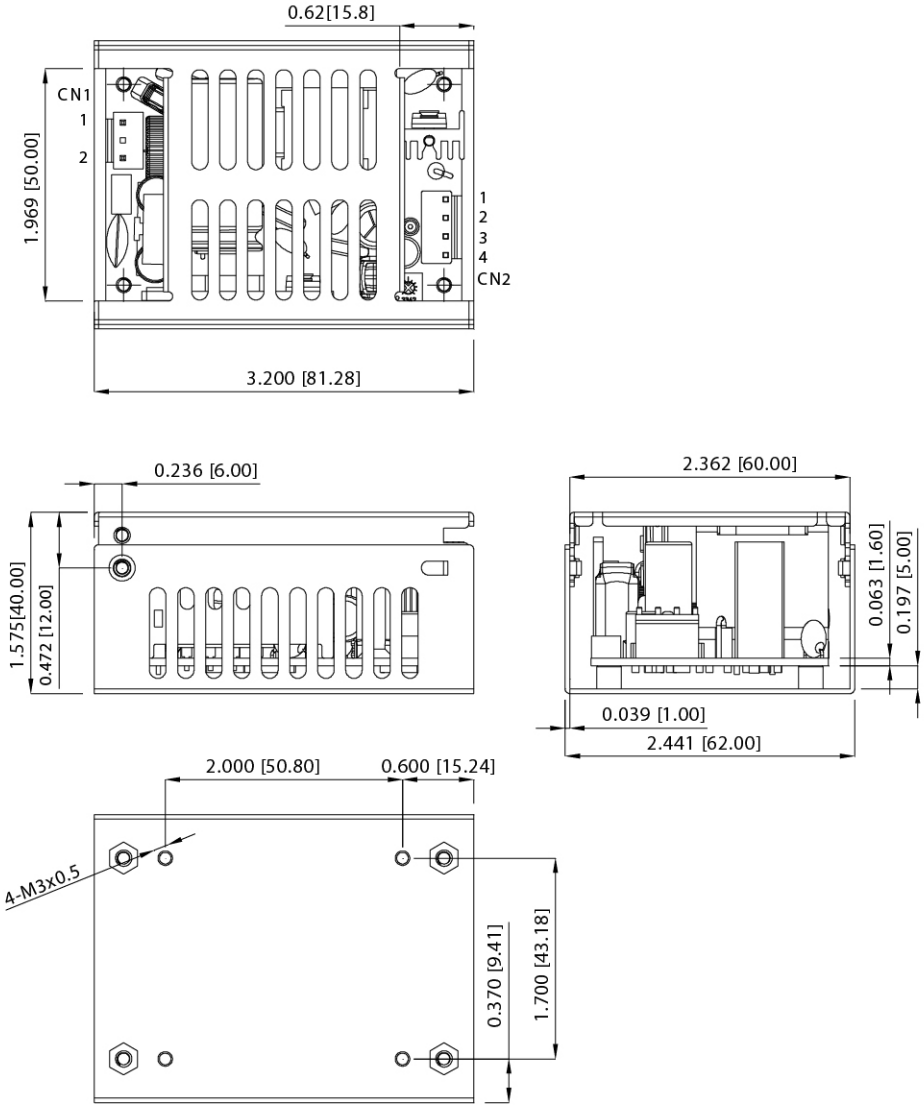


Covered:

units: mm [inch]
units: inches [mm]
tolerance inches: x.xxx = +0.039/-0
mm: x.xx = +1.0/-0

PIN CONNECTIONS	
PIN	Function
1	AC(N)
2	AC(L)

PIN CONNECTIONS	
PIN	Function
1	-Vout
2	-Vout
3	+Vout
4	+Vout



REVISION HISTORY

rev.	description	date
1.0	initial release	10/19/2023

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

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