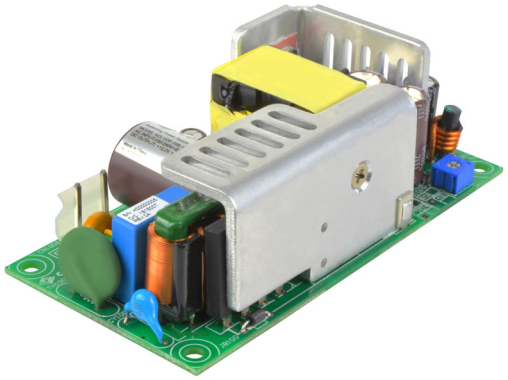
SERIES: VOF-70B | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

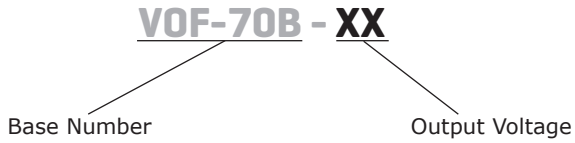
- safety Class II design
- industry standard 2" x 4" footprint
- no-load power consumption < 0.3 W
- EN 55032 Class B radiated emissions
- 5k meters high altitude operation



MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency[2] typ (%)
VOF-70B-12	12	5.84	70	120	87
VOF-70B-24	24	2.92	70	240	89
VOF-70B-48	48	1.46	70	300	89

Notes: 1. Measured at output within 20 MHz BW, at rated line voltage and output load, with a 10 µF tantalum and a 0.1 µF 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		1.8 0.9		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	auto recovery				

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, ±2 kV diff, ±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				

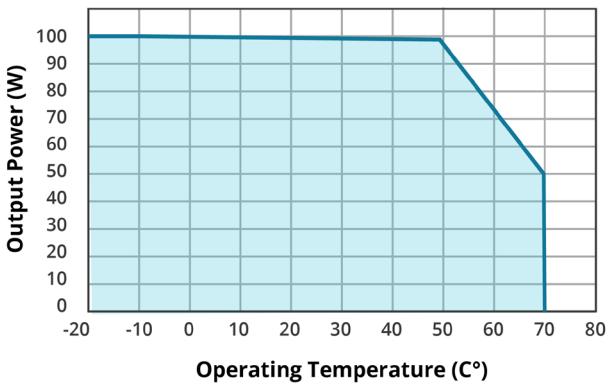
Notes: 4. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

ENVIRONMENTAL

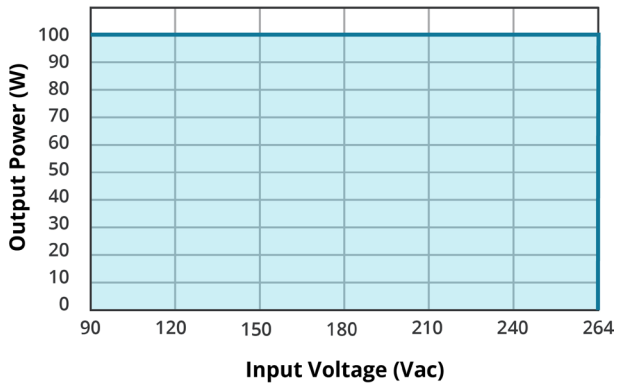
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-20		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	5		95	%
altitude				5,000	m

DERATING CURVES

TEMPERATURE DERATING CURVE

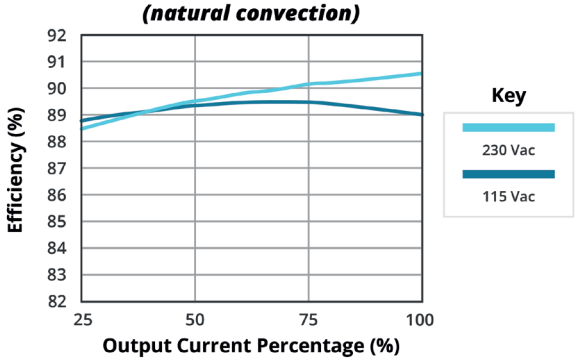


INPUT VOLTAGE DERATING CURVE

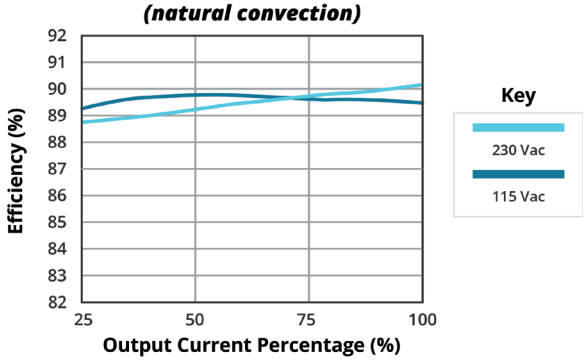


EFFICIENCY CURVES

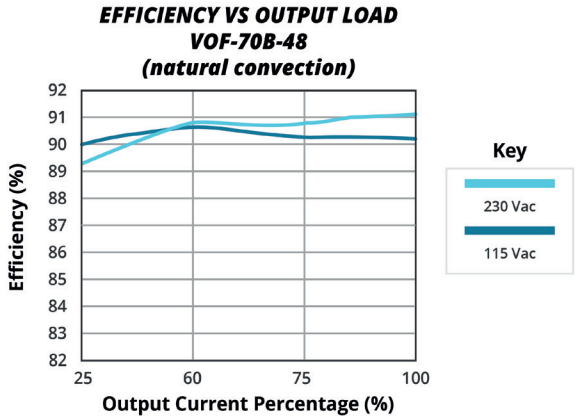
EFFICIENCY VS OUTPUT LOAD
VOF-70B-12
(natural convection)



EFFICIENCY VS OUTPUT LOAD
VOF-70B-24
(natural convection)



EFFICIENCY CURVES (CONTINUED)



MECHANICAL

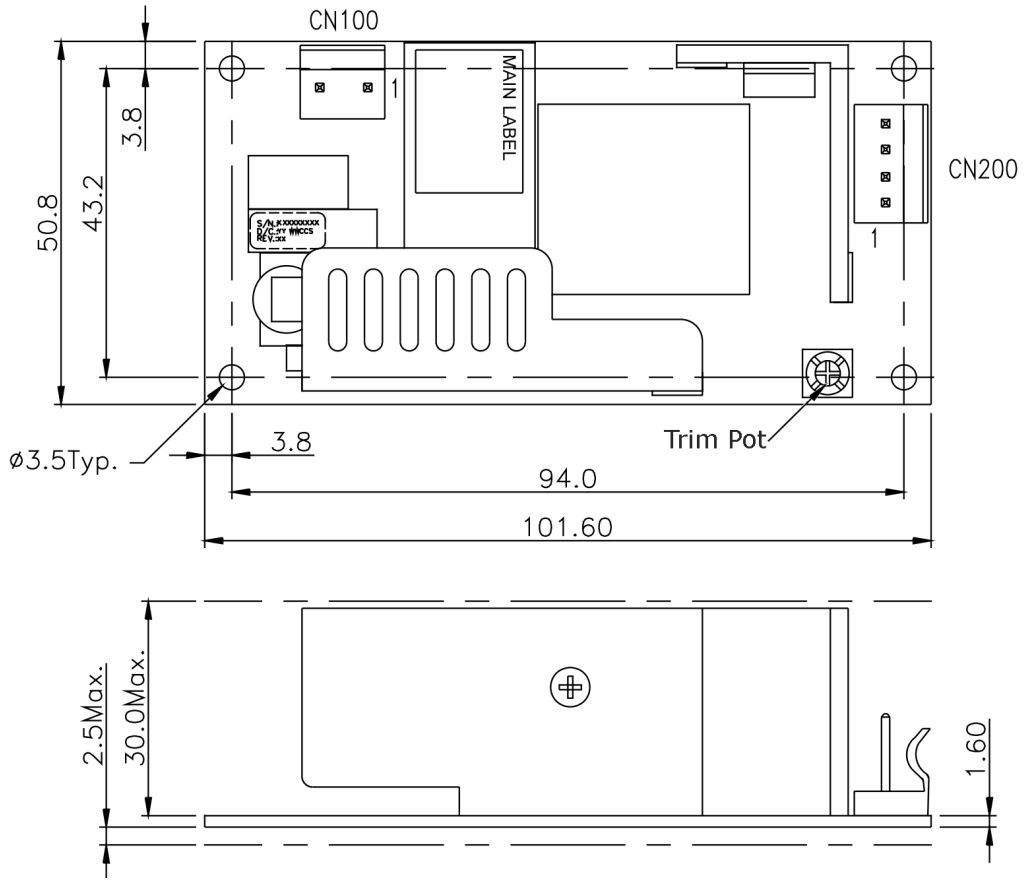
parameter	conditions/description	min	typ	max	units
dimensions	101.6 x 50.8 x 31.6 (4.0 x 2.0 x 1.24 inch)				mm
weight			152		g
cooling	natural convection				
CN100 input connector	CN100 mates with Jowle A3961H02-3P, crimp pin A3961T2P-2C, or Molex 09-50-3031, crimp pin 2478 series				
CN200 output connector	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
1.01	company logo updated	11/30/2020
1.02	over temperature protection updated	04/06/2021
1.03	derating and efficiency curves updated	05/11/2021

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

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