# 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

| 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.
3. * Discontinued model.

## PART NUMBER KEY

VOF-70B - XX

Base Number — Output Voltage



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## INPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| voltage | | 90 | | 264 | Vac |
| frequency | | 47 | | 63 | Hz |
| current | at 115 Vac<br>at 230 Vac | | 1.8<br>0.9 | | A<br>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<br>at 230 Vac | | | 0.2<br>0.3 | W<br>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.



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## 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:<br>voltage dips 30% reduction for 500 ms, Class A<br>voltage dips >95% reduction for 10 ms, Class A<br>voltage dips >95% reduction for 5000 ms, Class B | | | | |
| MTBF | as per MIL-HDBK-217F, 25°C, full load | 350,000 | | | hours |
| RoHS | yes | | | | |

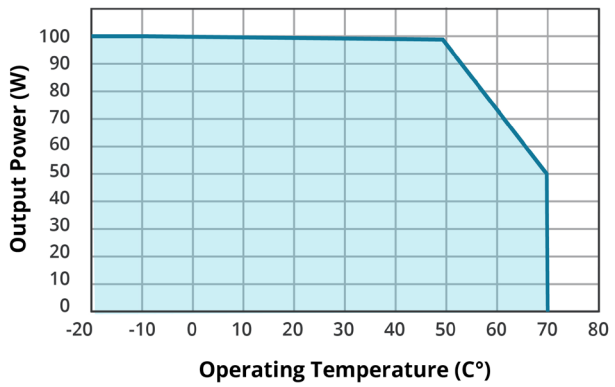
Notes: 4. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

## ENVIRONMENTAL

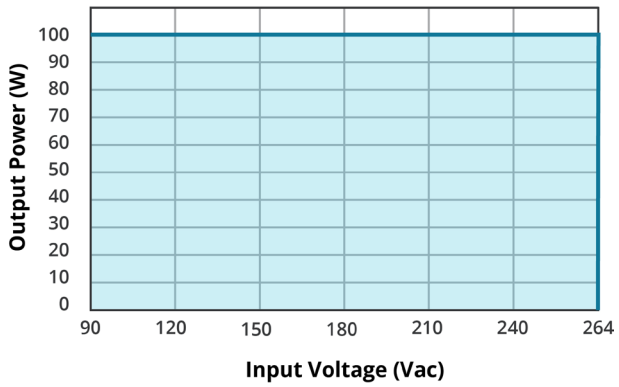
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| operating temperature | see derating curves | -20 | | 70 | °C |
| storage temperature | | -40 | | 85 | °C |
| operating humidity | non-condensing | 5 | | 95 | % |
| altitude | | | | 5,000 | m |

## DERATING CURVES

***TEMPERATURE DERATING CURVE***

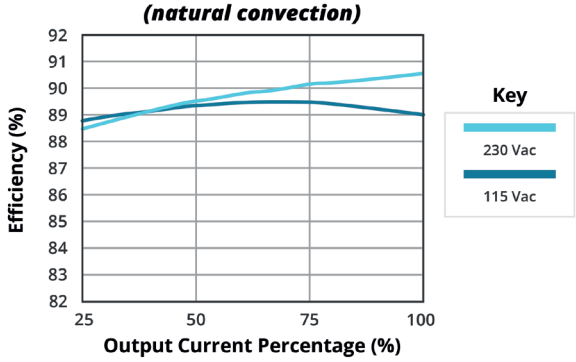



***INPUT VOLTAGE DERATING CURVE***

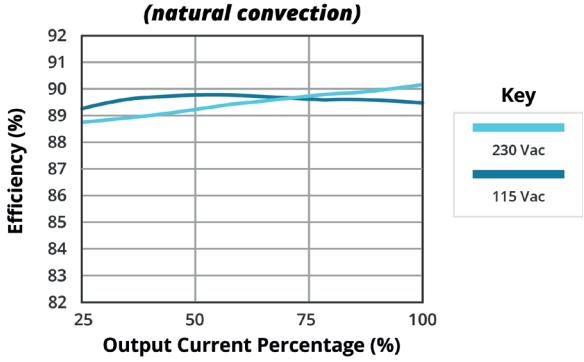



## EFFICIENCY CURVES

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




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



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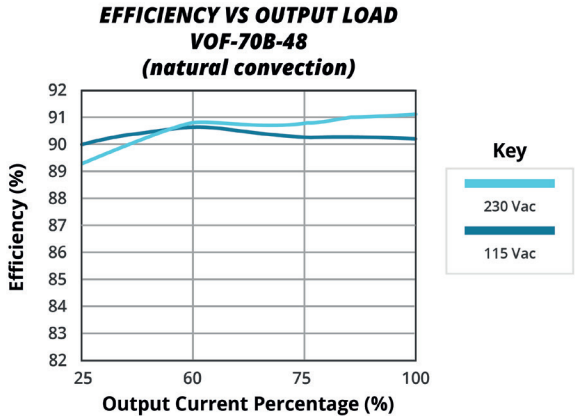
## EFFICIENCY CURVES (CONTINUED)




## MECHANICAL

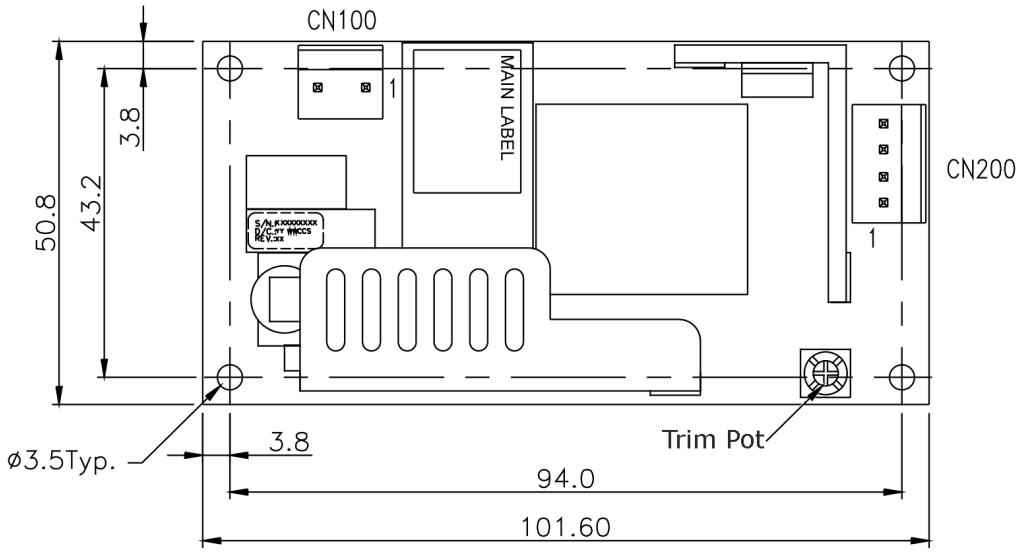
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| dimensions | 101.6 x 50.8 x 31.6 (4.0 x 2.0 x 1.24 inch) | | | | mm |
| weight | | | 152 | | g |
| cooling | natural convection | | | | |
| CN100 input connector | CN100 mates with Jowle A3961H02-3P, crimp pin 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 | | | | |

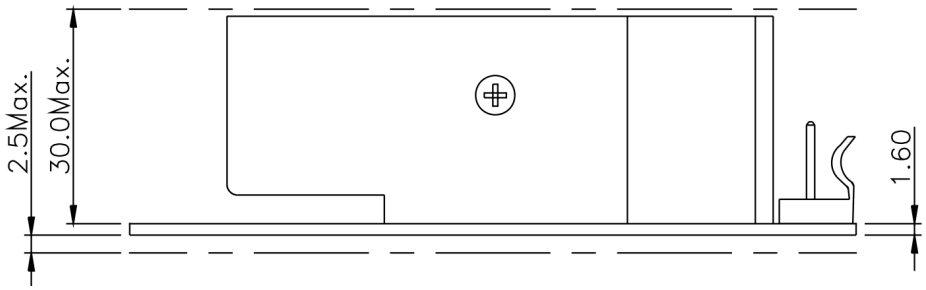
## MECHANICAL DRAWING

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 |



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## 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 |
| 1.04 | discontinued model VOF-70B-48 | 01/04/2026 |

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

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