

SERIES: VOF-130 | DESCRIPTION: AC-DC POWER SUPPLY
FEATURES

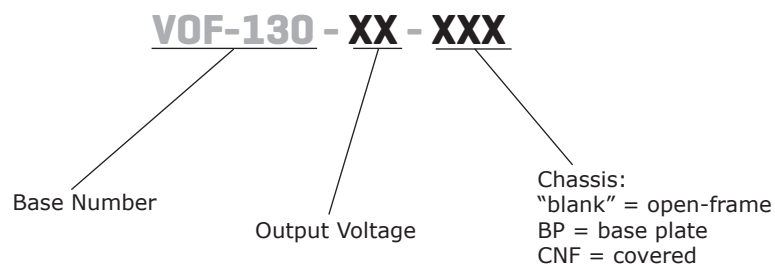
- 80 ~ 264 Vac input voltage range
- 2" x 3" open frame chassis
- 100 W power output with natural convection
- 130 W power output with forced air cooling
- active PFC
- IEC 62368-1 approved
- IEC Class I & Class II safety approved



| MODEL | output voltage | output current ¹ | output power ² | ripple and noise ³ | efficiency ⁴ |
|------------|----------------|-----------------------------|---------------------------|-------------------------------|-------------------------|
| | (Vdc) | max (A) | max (W) | max (mVp-p) | typ (%) |
| VOF-130-12 | 12 | 10.8 | 130 | 120 | 93 |
| VOF-130-24 | 24 | 5.4 | 130 | 240 | 93 |
| VOF-130-36 | 36 | 3.6 | 130 | 360 | 94 |
| VOF-130-48 | 48 | 2.7 | 130 | 480 | 94 |

Notes:

1. Maximum output power of 130 W with 10 CFM forced air cooling, and 100 W with natural convection. See derating curves.
2. With forced air (10 CFM).
3. At full load, nominal input, 20 MHz bandwidth oscilloscope with 10 μ F electrolytic and 0.1 μ F ceramic capacitors.
4. At 230 Vac, 25°C, 75% load.

PART NUMBER KEY

INPUT

| parameter | conditions/description | min | typ | max | units |
|-----------------|------------------------|-----|-----|-----|-------|
| voltage | | 80 | | 264 | Vac |
| frequency | | 47 | | 60 | Hz |
| current | at 100 Vac, full load | | | 1.8 | A |
| inrush current | at 240 Vac, cold start | | | 100 | A |
| leakage current | | | | 0.1 | mA |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|----------------------------|--------------------------|-----|-----|-------|-------|
| output capacitance | 12 Vdc output model | | | 8,400 | μF |
| | 24 Vdc output model | | | 4,200 | μF |
| | 36 Vdc output model | | | 2,720 | μF |
| | 48 Vdc output model | | | 2,040 | μF |
| initial set point accuracy | at full load | | | ±2 | % |
| line regulation | 100 ~ 240 Vac, full load | | | ±0.5 | % |
| load regulation | 10 ~ 100% load | | | ±1 | % |
| hold-up time | at 115 Vac, 25°C | | 20 | | ms |
| switching frequency | | | 105 | | kHz |

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------|------------------------|-----|------|-----|-------|
| over voltage protection | auto recovery | | | | |
| | 12 Vdc output model | | 13.5 | | Vdc |
| | 24 Vdc output model | | 30 | | Vdc |
| | 36 Vdc output model | | 42 | | Vdc |
| | 48 Vdc output model | | 54 | | Vdc |
| over current protection | auto recovery | 115 | 130 | 145 | % |
| short circuit protection | auto recovery | | | | |

SAFETY & COMPLIANCE

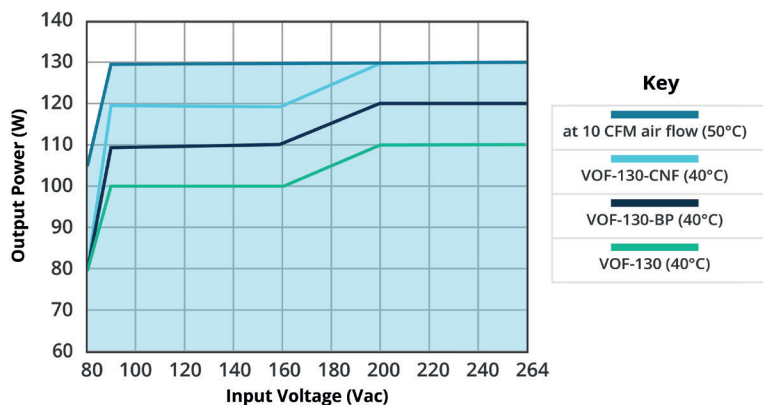
| parameter | conditions/description | min | typ | max | units |
|----------------------------------|--|-------|---------|-----|-------|
| isolation voltage | input to output, for 1 minute | 3,000 | | | Vac |
| | input to ground, for 1 minute | 1,500 | | | Vac |
| | output to ground, for 1 minute | 500 | | | Vac |
| safety approvals | certified to 62368: IEC/EN/UL | | | | |
| safety class | class I, class II | | | | |
| conducted emissions | EN 55032, 47 CFR FCC Part 15 (Class I & Class II meets Class B) | | | | |
| radiated emissions | EN 55032, 47 CFR FCC Part 15 (Class I Meet Class B; Class II Meet Class A) | | | | |
| harmonic current | EN 61000-3-2:2014 | | | | |
| voltage fluctuations and flicker | EN 61000-3-3:2013 | | | | |
| 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 | | | | |
| surge | IEC 61000-4-5:2014, L-N: ±0.5kV, ±1kV, L-E(Ground): ±0.5kV, ±1kV, ±2kV, perf. Criteria A | | | | |
| conducted immunity | IEC 61000-4-6:2013 | | | | |
| voltage dips and interruptions | IEC 61000-4-11:2004, Dip: 30% Reduction, Dip >95% Reduction, perf. Criteria A | | | | |
| | IEC 61000-4-11:2004, >95% Reduction, perf. Criteria B | | | | |
| MTBF | as per MIL-HDBK-217F at 25°C | | 400,000 | | hours |
| RoHS | yes | | | | |

ENVIRONMENTAL

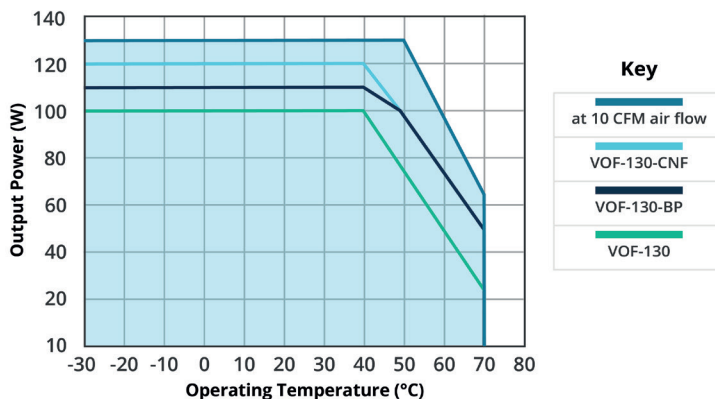
| parameter | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | see derating curve | -30 | | 70 | °C |
| storage temperature | | -40 | | 85 | °C |
| operating humidity | non-condensing | | | 93 | % |

DERATING CURVES

INPUT VOLTAGE DERATING CURVE

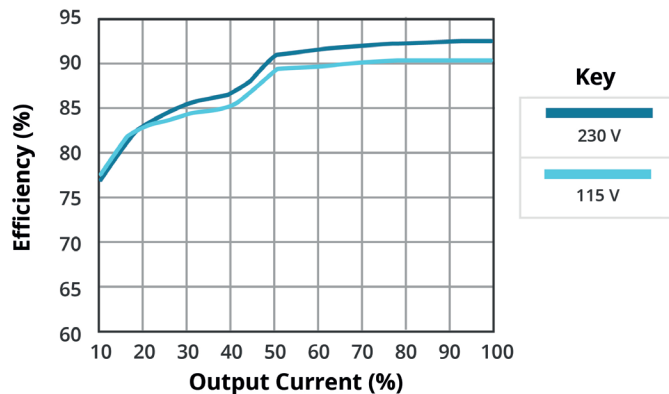


TEMPERATURE DERATING CURVE

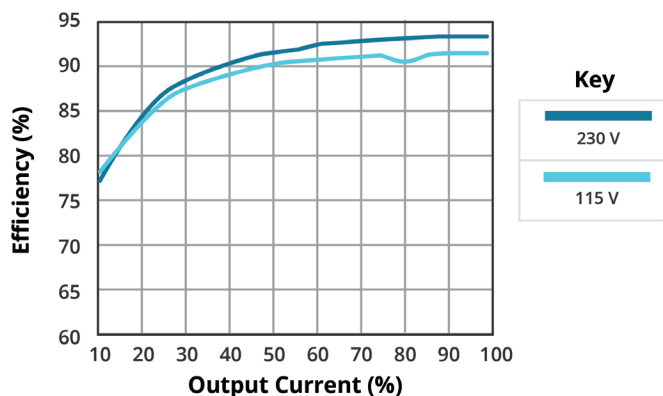


EFFICIENCY CURVES

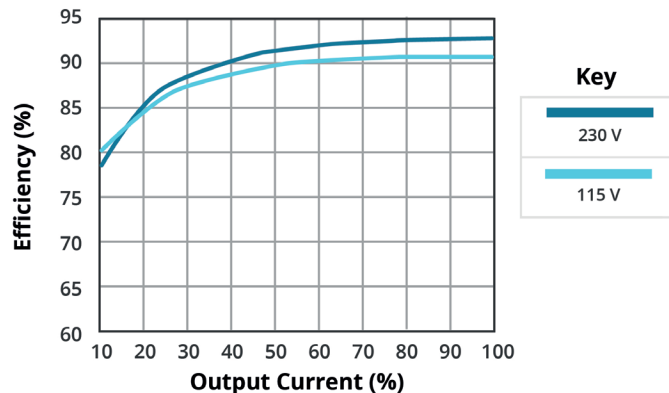
**EFFICIENCY VS OUTPUT LOAD
VOF-130-12**



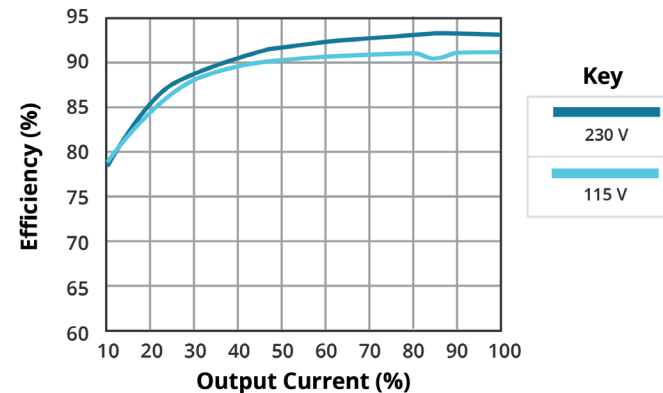
**EFFICIENCY VS OUTPUT LOAD
VOF-130-24**



**EFFICIENCY VS OUTPUT LOAD
VOF-130-36**



**EFFICIENCY VS OUTPUT LOAD
VOF-130-48**



MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|------------|--|---|-----|-----|--------|
| dimensions | open frame models: | 3.000 x 2.000 x 1.201 [76.2 x 50.8 x 30.5 mm] | | | inches |
| | base plate models: | 3.598 x 2.000 x 1.299 [91.4 x 50.8 x 33.0 mm] | | | inches |
| | covered models: | 3.598 x 2.520 x 1.358 [91.4 x 64.0 x 34.5 mm] | | | inches |
| weight | open frame models | | 135 | | g |
| | base plate models | | 170 | | g |
| | covered models | | 218 | | g |
| cooling | natural convection (no integrated fan), see derating curve | | 100 | | W |
| | 10 CFM | | 130 | | W |

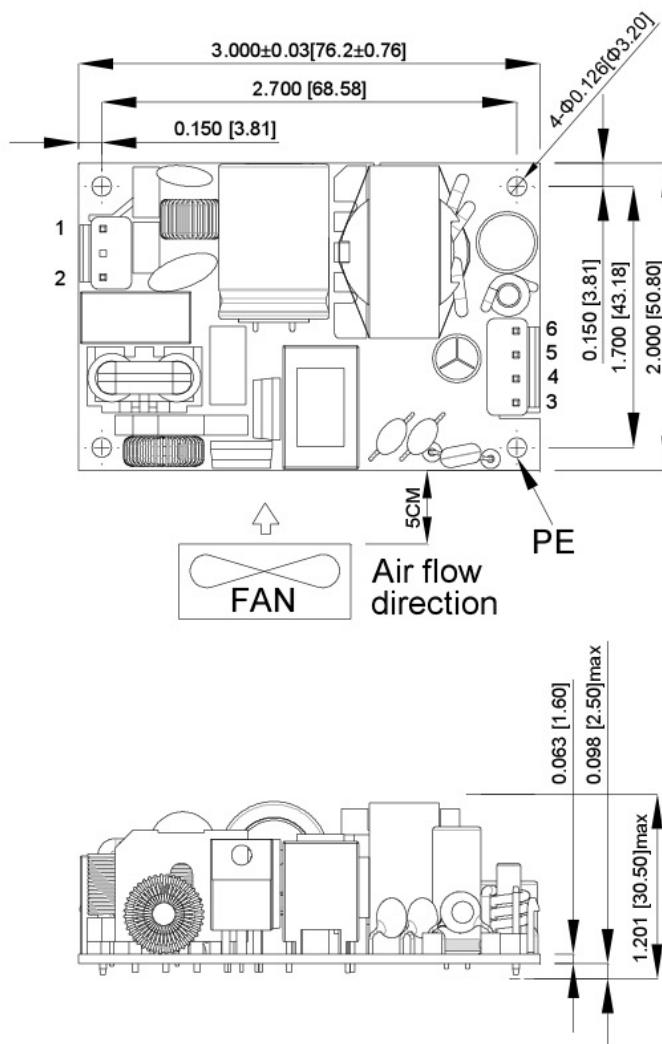
MECHANICAL DRAWING

Open-frame

units: inch [mm]

general tolerance: ±0.02 [±0.5]

| PIN-OUT | |
|---------|----------|
| PIN | Function |
| 1 | AC (L) |
| 2 | AC (N) |
| 3 | -Vo |
| 4 | -Vo |
| 5 | +Vo |
| 6 | +Vo |



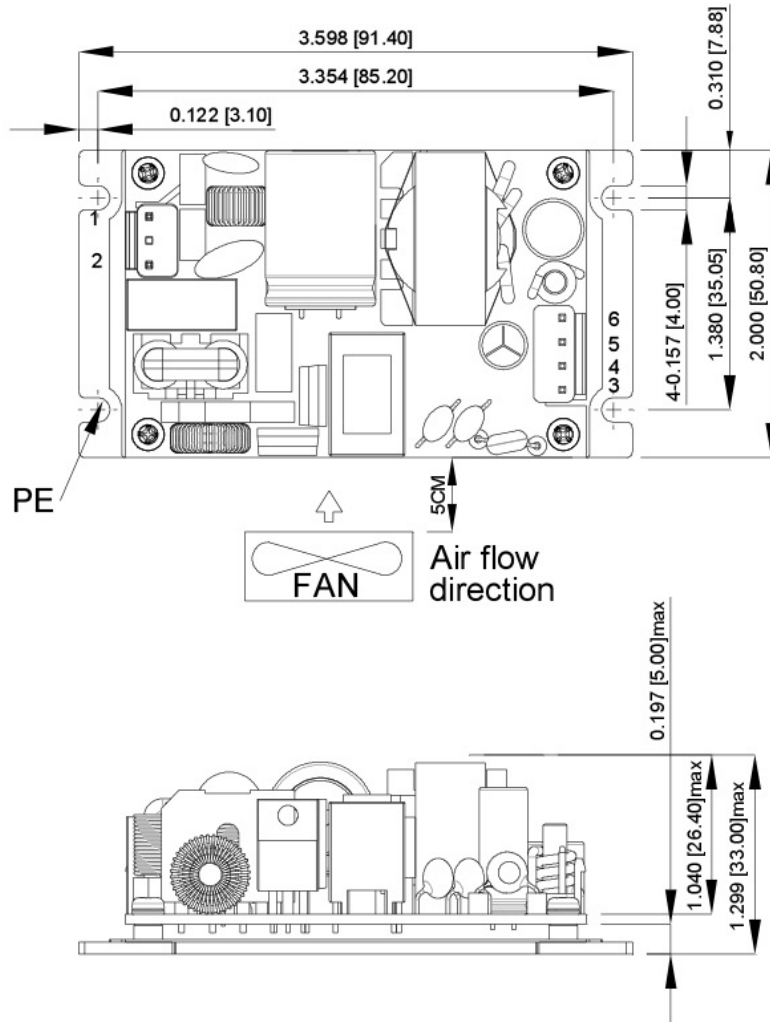
MECHANICAL DRAWING (CONTINUED)

Base plate

units: inch [mm]

general tolerance: ± 0.02 [± 0.5]

| PIN-OUT | |
|---------|----------|
| PIN | Function |
| 1 | AC (L) |
| 2 | AC (N) |
| 3 | -Vo |
| 4 | -Vo |
| 5 | +Vo |
| 6 | +Vo |



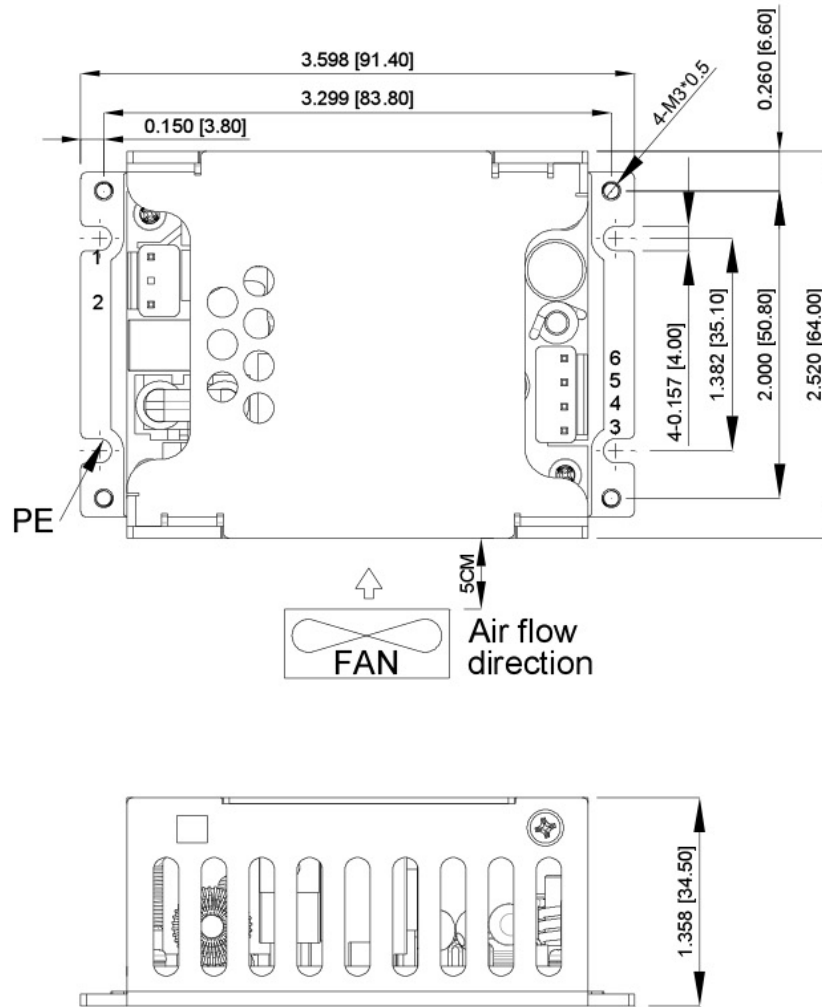
MECHANICAL DRAWING (CONTINUED)

Covered

units: inch [mm]

general tolerance: ± 0.02 [± 0.5]

| PIN-OUT | |
|---------|----------|
| PIN | Function |
| 1 | AC (L) |
| 2 | AC (N) |
| 3 | -Vo |
| 4 | -Vo |
| 5 | +Vo |
| 6 | +Vo |



REVISION HISTORY

| rev. | description | date |
|------|----------------------------|------------|
| 1.0 | initial release | 11/08/2021 |
| 1.01 | mechanical drawing updated | 07/13/2022 |

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



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