

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

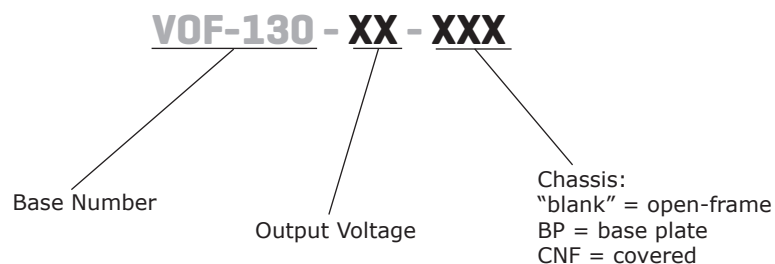
- 80 ~ 264 Vac input voltage range
- 2" x 3" open frame chassis
- 100 W power output with natural convection
- 130 W power output with forced air cooling
- active PFC
- IEC 62368-1 approved
- IEC Class I & Class II safety approved



| MODEL      | output voltage | output current <sup>1</sup> | output power <sup>2</sup> | ripple and noise <sup>3</sup> | efficiency <sup>4</sup> |
|------------|----------------|-----------------------------|---------------------------|-------------------------------|-------------------------|
|            | (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  $\mu$ F electrolytic and 0.1  $\mu$ 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

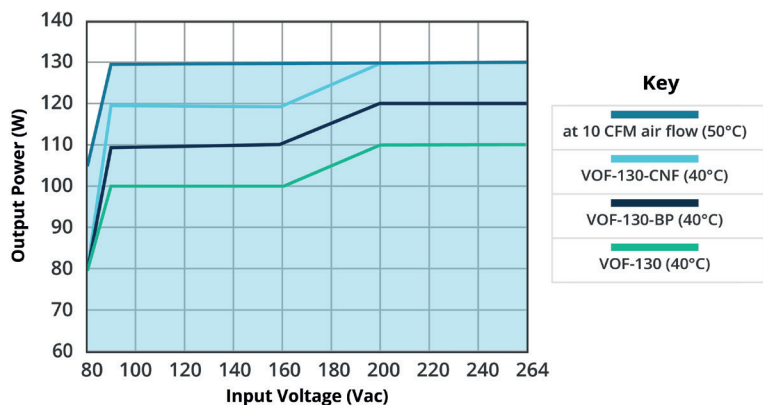
| parameter                        | conditions/description   | min   | typ     | max | units |
|----------------------------------|--|-------|---------|-----|-------|
| isolation voltage                | input to output, for 1 minute  | 3,000 |         |     | Vac   |
|                                  | 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

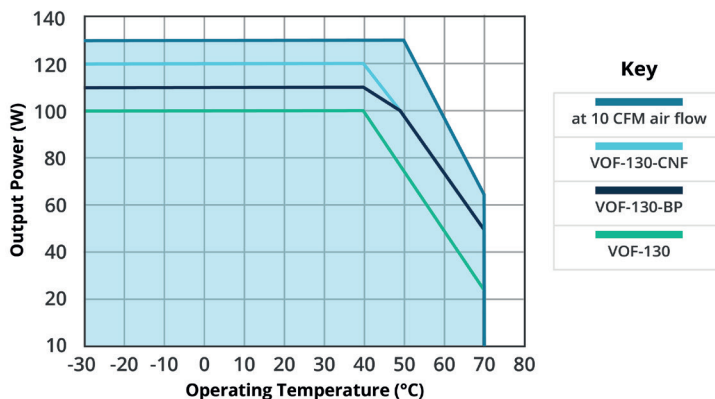
| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | see derating curve     | -30 |     | 70  | °C    |
| storage temperature   |                        | -40 |     | 85  | °C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

## DERATING CURVES

**INPUT VOLTAGE DERATING CURVE**

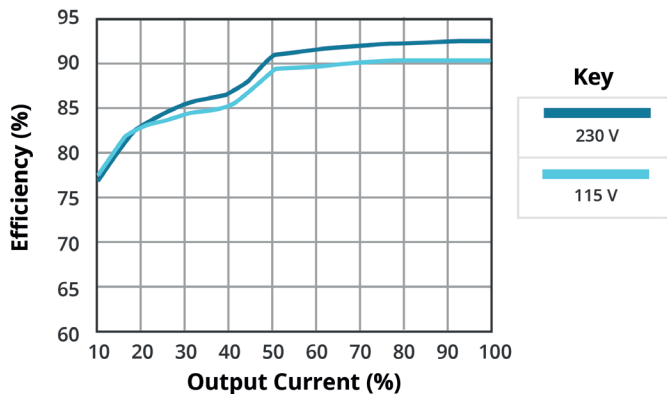


**TEMPERATURE DERATING CURVE**

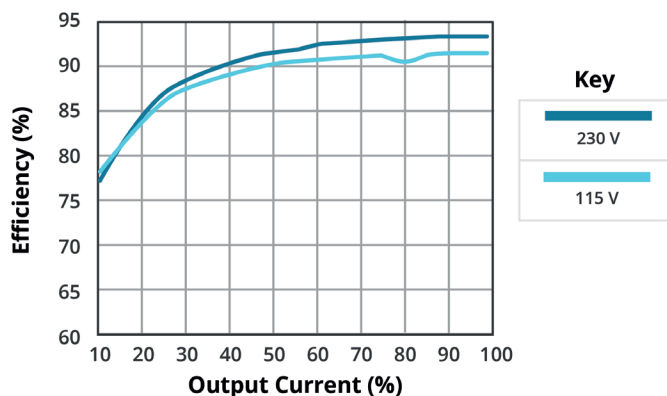


## EFFICIENCY CURVES

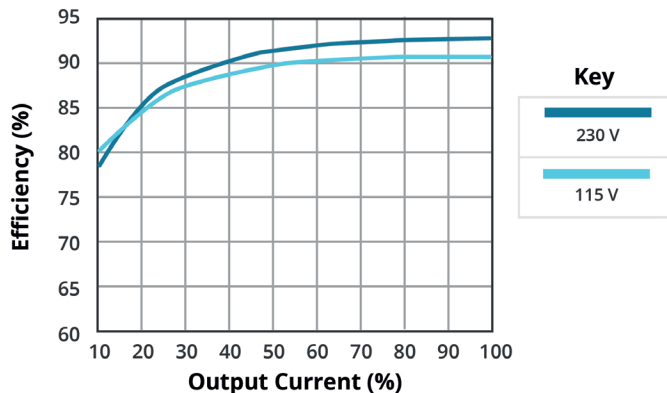
**EFFICIENCY VS OUTPUT LOAD  
VOF-130-12**



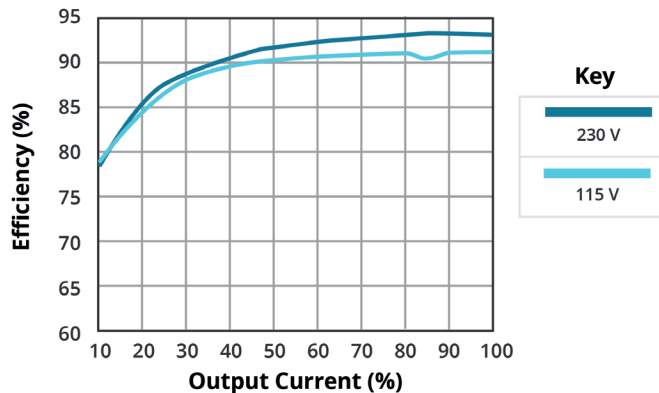
**EFFICIENCY VS OUTPUT LOAD  
VOF-130-24**



**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      |

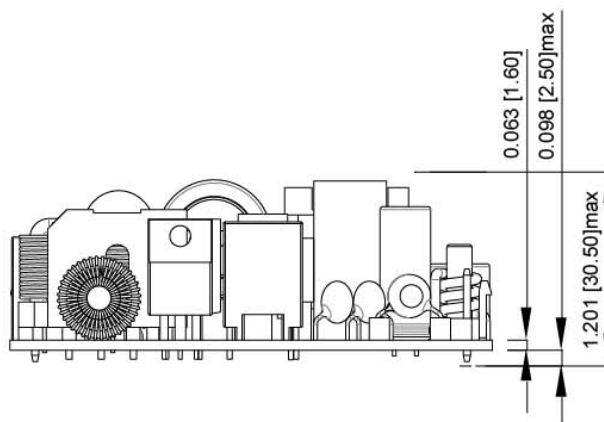
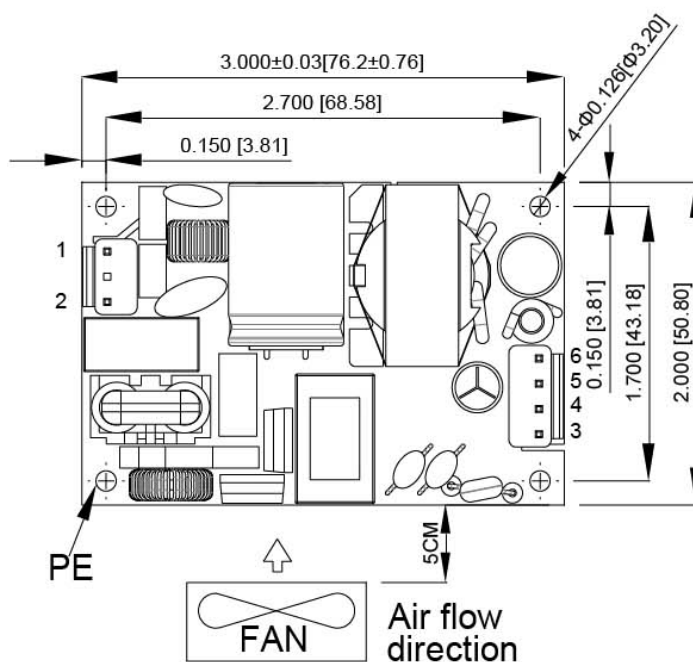
## MECHANICAL DRAWING

### Open-frame

units: inch [mm]

general tolerance:  $\pm 0.02$  [ $\pm 0.5$ ]

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



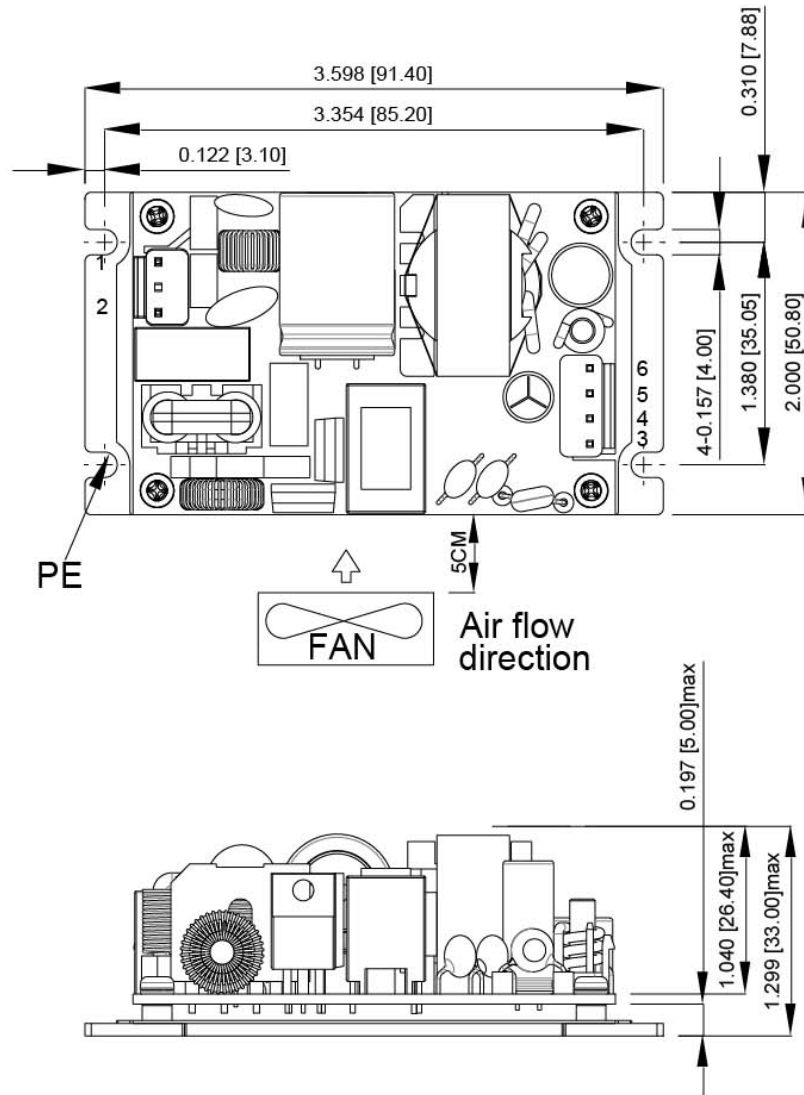
## MECHANICAL DRAWING (CONTINUED)

### Base plate

units: inch [mm]

general tolerance:  $\pm 0.02$  [ $\pm 0.5$ ]

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



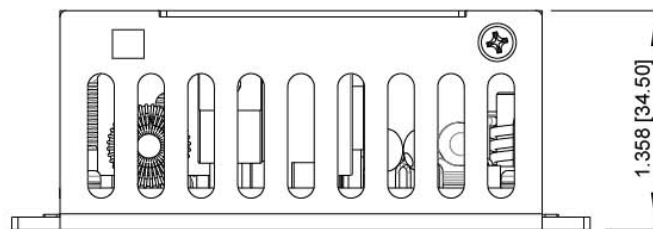
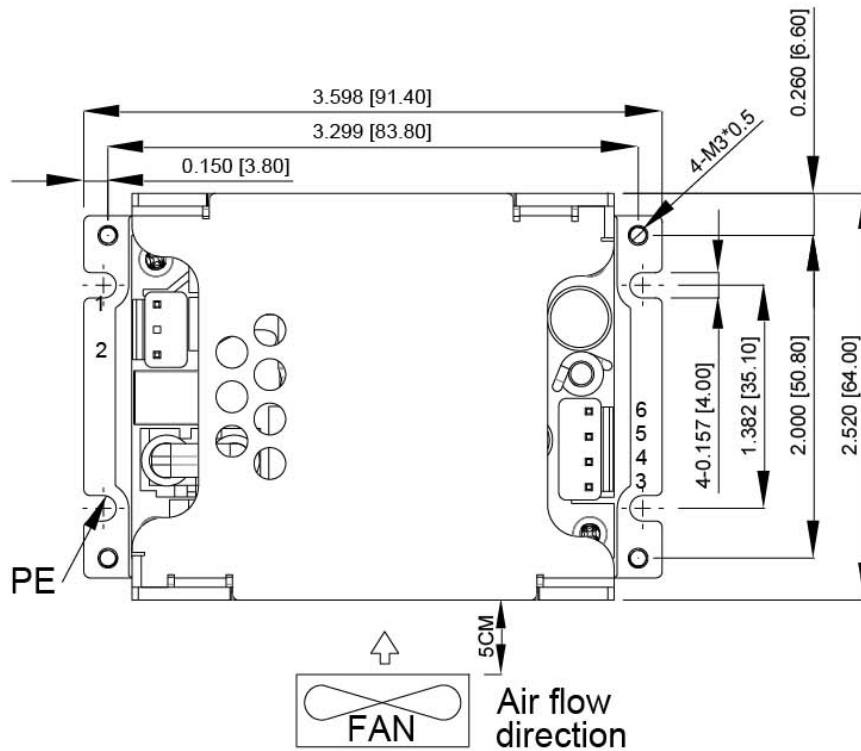
## MECHANICAL DRAWING (CONTINUED)

**Covered**

units: inch [mm]

general tolerance:  $\pm 0.02$  [ $\pm 0.5$ ]

| 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 |

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



**CUI INC**

a bel group

**Headquarters**

20050 SW 112th Ave.  
Tualatin, OR 97062  
**800.275.4899**

Fax 503.612.2383  
**cui.com**  
techsupport@cui.com

CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.