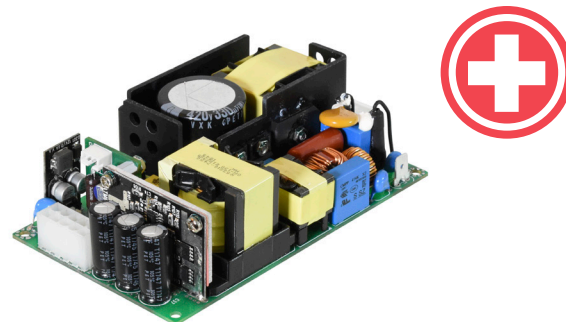


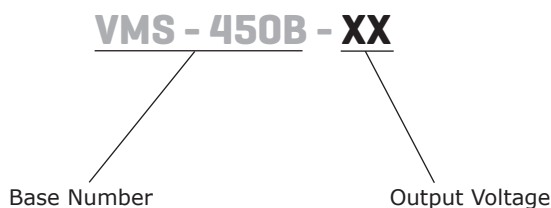
SERIES: VMS-450B | **DESCRIPTION:** AC-DC POWER SUPPLY**FEATURES**

- up to 450 W continuous power
- universal input voltage range
- industry standard 3" x 5" footprint
- power factor correction
- 12 Vdc Fan output
- 5 Vdc AUX output
- certified to IEC/EN/UL 60601-1
- over voltage, over current, over temperature and short circuit protections



| MODEL | output voltage | output current ¹ | output power ¹ | ripple and noise ^{2,3} | efficiency |
|-------------|----------------|-----------------------------|---------------------------|---------------------------------|------------|
| | (Vdc) | max (A) | max (W) | max (mVp-p) | typ (%) |
| VMS-450B-12 | 12 | 37.5 | 450 | 240 | 90 |
| VMS-450B-15 | 15 | 30.0 | 450 | 225 | 89 |
| VMS-450B-19 | 19 | 23.7 | 450 | 190 | 92 |
| VMS-450B-24 | 24 | 18.8 | 450 | 240 | 92 |
| VMS-450B-36 | 36 | 12.5 | 450 | 360 | 91 |
| VMS-450B-48 | 48 | 9.4 | 450 | 480 | 92 |
| VMS-450B-54 | 54 | 8.3 | 450 | 540 | 92 |
| VMS-450B-56 | 56 | 8.0 | 450 | 560 | 92 |

Notes: 1. Maximum power of main output must not exceed 250 W with convection cooling or 450 W with 13.8 CFM forced air.
 2. Ripple and noise is measured with 20 MHz bandwidth with a 0.1 μ F ceramic capacitor and a low ESR 47 μ F electrolytic capacitor at output connector terminals.

PART NUMBER KEY

INPUT

| parameter | conditions/description | min | typ | max | units |
|----------------|--|-----|------------|-----|--------|
| voltage | | 90 | 100~240 | 264 | Vac |
| frequency | | 47 | 50~60 | 63 | Hz |
| current | at 115 Vac, full load at 230 Vac, full load | | 5.3 2.2 | | A A |
| inrush current | at 230 Vac, cold start at 25 °C, full load | | | 100 | A |
| power factor | at full load | 0.9 | | | |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---------------|--|-----|-----|-----|-------|
| regulation | | | ±5 | | % |
| fan drive | 12 Vdc / 600 mA for external fan | | ±5 | | % |
| aux | 5 Vdc / 1 A Max | | ±5 | | % |
| remote on/off | on: open or short to 5 V off: short to DC RTN | | | | |

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|-----------------------------|---|-----|-----|-----|-------|
| over voltage protection | shut down | | | 150 | % |
| over current protection | automatically recovers | | | 130 | % |
| short circuit protection | automatically recovers after short-circuit fault is removed | | | | |
| over temperature protection | shut down | | | | |

SAFETY & COMPLIANCE

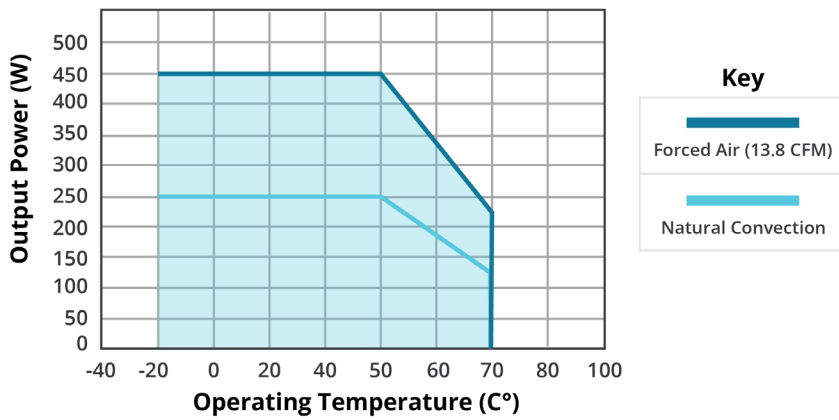
| parameter | conditions/description | min | typ | max | units |
|---------------------------------|---|----------------|---------|-----|------------|
| isolation voltage | input to output, one minute input to ground, one minute | 4,000 1,500 | | | Vac Vac |
| certified to | IEC / EN / UL 60601-1 | | | | |
| safety class | class I | | | | |
| conducted emissions | EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0 | | | | |
| radiated emissions | EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0 | | | | |
| harmonic current emissions | EN 61000-3-2:2014 | | | | |
| voltage fluctuation and flicker | EN 61000-3-3: 2013 | | | | |
| ESD | EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0, IEC 61000-4-2:2008 | | | | |
| radiated immunity | EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0, IEC61000-4-3:2006+A1: 2007+A2: 2010 | | | | |
| EFT/Burst | EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0, IEC 61000-4-4: 2012 | | | | |
| surge | EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0, IEC 61000-4-5:2014+A1: 2017 | | | | |
| conducted immunity | EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0, IEC 61000-4-6: 2013 | | | | |
| magnet field measurement | EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0, IEC 61000-4-8: 2009 | | | | |
| voltage dips and interruptions | EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0, IEC 61000-4-11:2004+A1: 2017 | | | | |
| MTBF | Telcordia SR-332, 250 W, 25 °C | | 300,000 | | hrs |
| RoHS | yes | | | | |

ENVIRONMENTAL

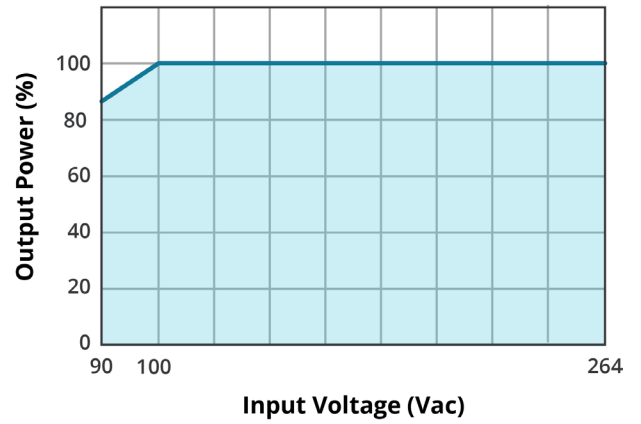
| parameter | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | see derating curve | -20 | | 70 | °C |
| storage temperature | | -20 | | 80 | °C |
| operating humidity | non-condensing | 20 | | 80 | % |
| storage humidity | non-condensing | 10 | | 90 | % |

DERATING CURVE

TEMPERATURE DERATING CURVE



INPUT VOLTAGE DERATING CURVE (25 °C)



MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|------------|--------------------------------------|-----|-----|-----|-------|
| dimensions | 127 x 76.2 x 38.1 (5 x 3 x 1.5 inch) | | | | mm |
| weight | | | 390 | | g |

MECHANICAL DRAWING (12 ~ 24 V models)

units: mm [inches]

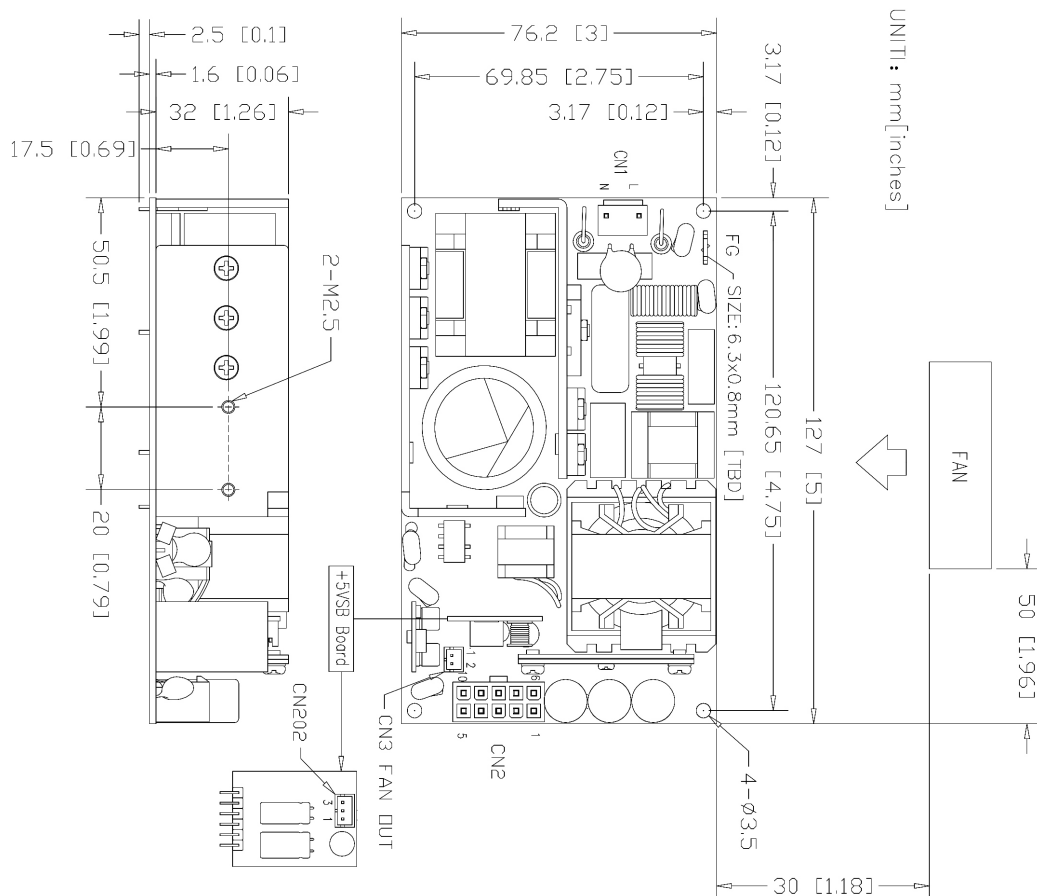
| CN1 | |
|-----|----------|
| PIN | Function |
| 1 | Line |
| 2 | Neutral |

| CN2 | |
|-----|----------|
| PIN | Function |
| 1 | VO+ |
| 2 | VO+ |
| 3 | VO+ |
| 4 | DC RTN |
| 5 | DC RTN |
| 6 | VO+ |
| 7 | VO+ |
| 8 | DC RTN |
| 9 | DC RTN |
| 10 | DC RTN |

| CN3 | |
|-----|--------------|
| PIN | Function |
| 1 | 12 V for Fan |
| 2 | DC RTN |

| CN202 | |
|-------|-----------------|
| PIN | Function |
| 1 | 5 V for standby |
| 2 | DC RTN |
| 3 | Remote on / off |

| Metal tab (6.3 x 0.8 mm) | |
|--------------------------|--------|
| FG | Ground |
| | |



| | CONNECTOR | MATE |
|---------|---|----------------------------------|
| CN 1: | JST, B2P3-VH, or equivalent | JST, VAR-2, or equivalent |
| CN 2: | Joint Tech, C4255WVA-F2-2X05, or equivalent | Molex, 39-01-2100, or equivalent |
| CN 3: | Cherng Weei, CP-W20-02, or equivalent | JST, PHR-2, or equivalent |
| CN 202: | Cherng Weei, CP-W20-03, or equivalent | JST, PHR-3, or equivalent |

MECHANICAL DRAWING (36 ~ 56 V models)

units: mm [inches]

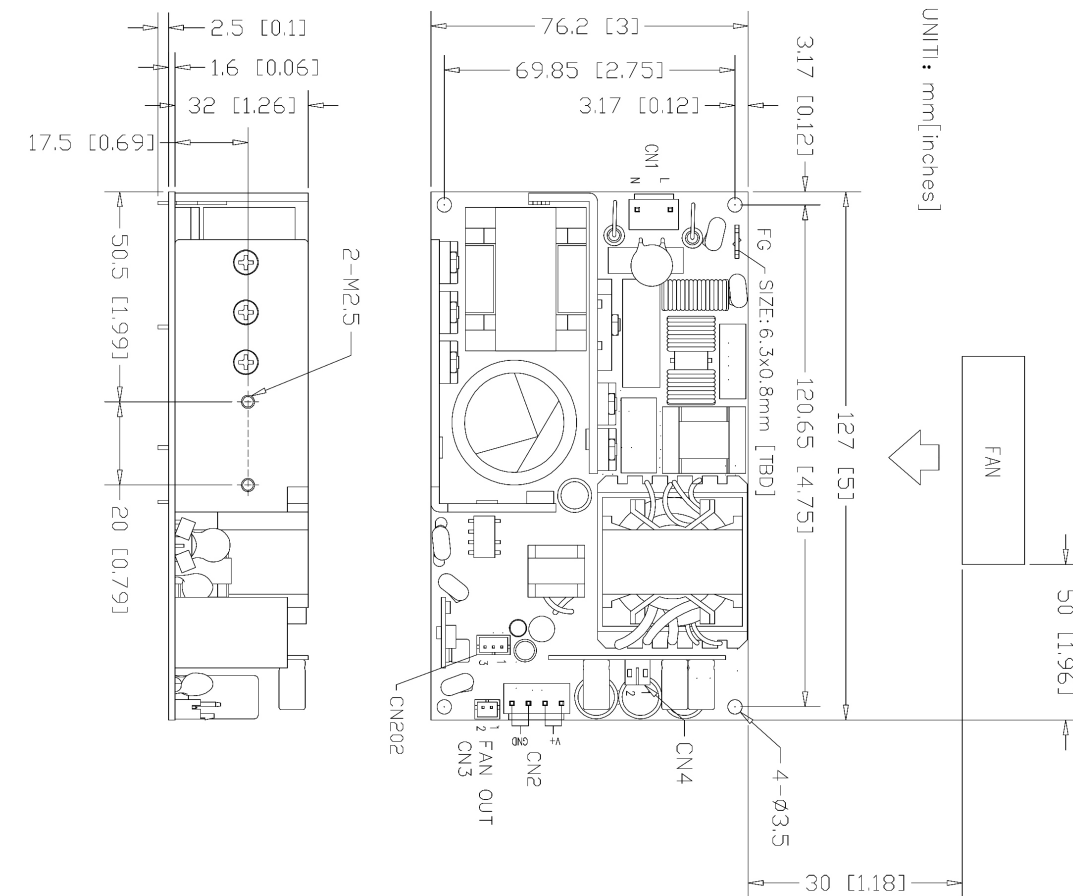
| CN1 | |
|-----|----------|
| PIN | Function |
| 1 | Line |
| 2 | Neutral |

| CN2 | |
|-----|----------|
| PIN | Function |
| 1 | VO+ |
| 2 | VO+ |
| 3 | DC RTN |
| 4 | DC RTN |

| CN3 | |
|-----|--------------|
| PIN | Function |
| 1 | 12 V for Fan |
| 2 | DC RTN |

| CN202 | |
|-------|-----------------|
| PIN | Function |
| 1 | 5 V for standby |
| 2 | DC RTN |
| 3 | Remote on / off |

| CN4 | |
|-----|-----------------|
| PIN | Function |
| 1 | sense+ |
| 2 | sense- (DC RTN) |



| Metal tab (6.3 x 0.8 mm) | |
|--------------------------|--------|
| FG | Ground |
| | |

| | CONNECTOR | MATE |
|---------|---|----------------------------|
| CN 1: | JST, B2P3-VH, or equivalent | JST, VAR-2, or equivalent |
| CN 2: | Cherng Weei, CV-W3961-04, or equivalent | JST, VHR-4N, or equivalent |
| CN 3: | Cherng Weei, CP-W20-02, or equivalent | JST, PHR-2, or equivalent |
| CN 202: | Cherng Weei, CP-W20-03, or equivalent | JST, PHR-3, or equivalent |
| CN 4: | Cherng Weei, CP-W20-02, or equivalent | JST, PHR-2, or equivalent |

REVISION HISTORY

| rev. | description | date |
|------|------------------------------------|------------|
| 1.0 | initial release | 02/12/2020 |
| 1.01 | darkened drawings | 05/07/2020 |
| 1.02 | added FCC mark | 07/09/2020 |
| 1.03 | derating curves updated | 04/20/2021 |
| 1.04 | input voltage updated | 01/18/2023 |
| 1.05 | mechanical drawing section updated | 06/16/2023 |

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



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.