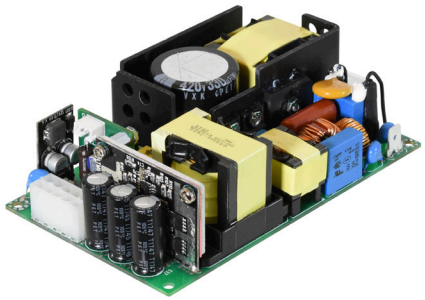
CUI INC
a bel group

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

FEATURES

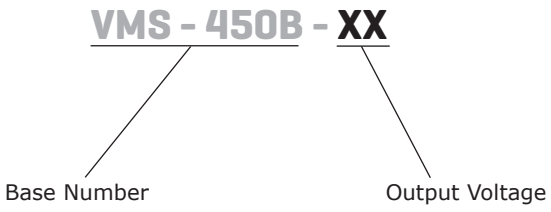
- up to 450 W continuous power
- universal input voltage range
- industry standard 3" x 5" footprint
- power factor correction
- 12 Vdc Fan output
- 5 Vdc AUX output
- certified to IEC/EN/UL 60601-1
- over voltage, over current, over temperature and short circuit protections



MODEL	output voltage (Vdc)	output current [1] max (A)	output power [1] max (W)	ripple and noise [2,3] max (mVp-p)	efficiency 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 µF ceramic capacitor and a low ESR 47 µF 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

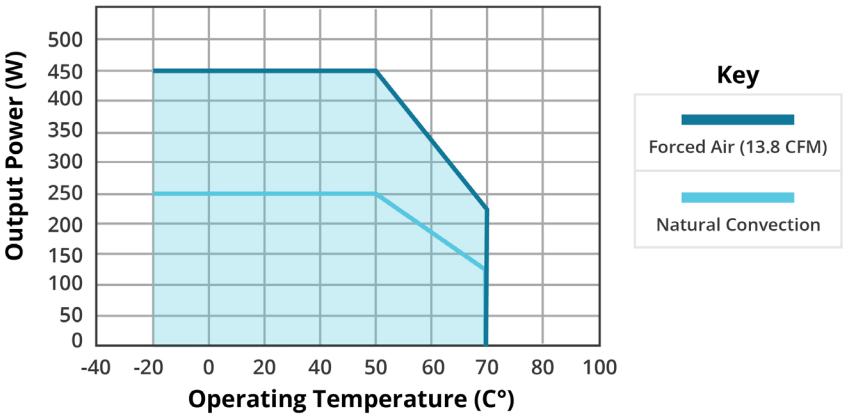
parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, one minute input to ground, one minute	4,000 1,500			Vac Vac
certified to	IEC / EN / UL 60601-1				
safety class	class I				
conducted emissions	EN 60601-1-2:2015 and IEC 60601-1-2 ed 4.0				
radiated emissions	EN 60601-1-2:2015 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 ºC		300,000		hrs
RoHS	yes				

ENVIRONMENTAL

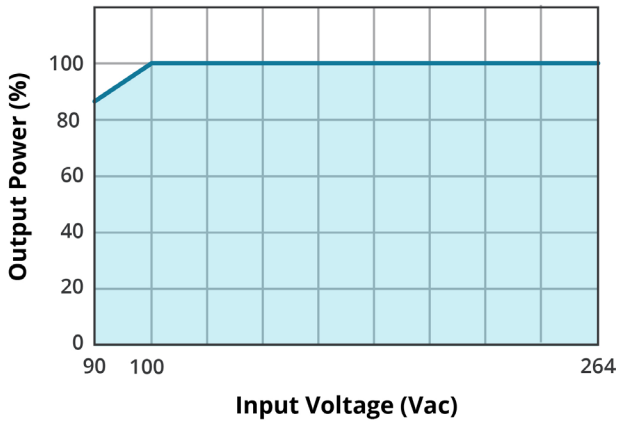
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-20		70	°C
storage temperature		-20		80	°C
operating humidity	non-condensing	20		80	%
storage humidity	non-condensing	10		90	%

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]

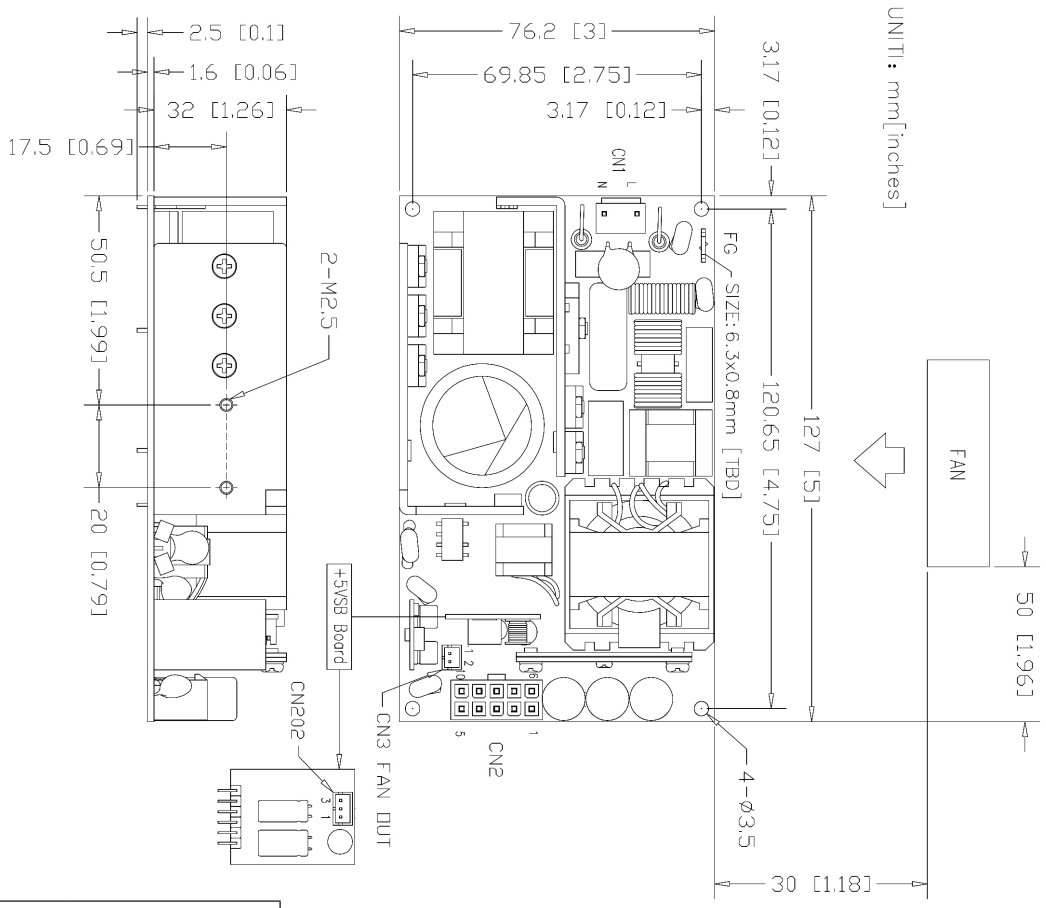
CN1	
PIN	Function
1	Line
2	Neutral

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 eqivalent	JST, PHR-2, or eqivalent
CN 202:	Cherng Weei, CP-W20-03, or eqivalent	JST, PHR-3, or eqivalent

MECHANICAL DRAWING (36 ~ 56 V models)

units: mm [inches]

CN1	
PIN	Function
1	Line
2	Neutral

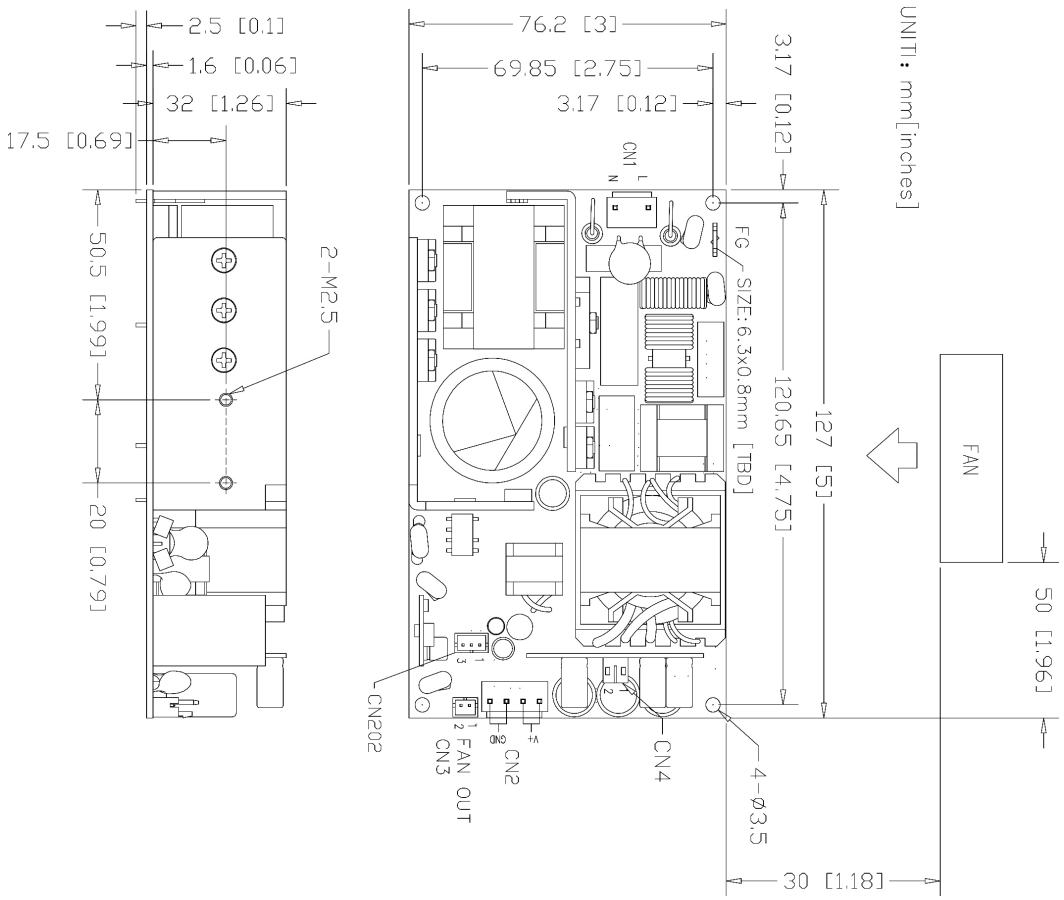
CN2	
PIN	Function
1	VO+
2	VO+
3	DC RTN
4	DC RTN

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 eqivalent	JST, VAR-2, or equivalent
CN 2:	Cherng Weei, CV-W3961-04, or eqivalent	JST, VHR-4N, or equivalent
CN 3:	Cherng Weei, CP-W20-02, or eqivalent	JST, PHR-2, or eqivalent
CN 202:	Cherng Weei, CP-W20-03, or eqivalent	JST, PHR-3, or eqivalent
CN 4:	Cherng Weei, CP-W20-02, or eqivalent	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.

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