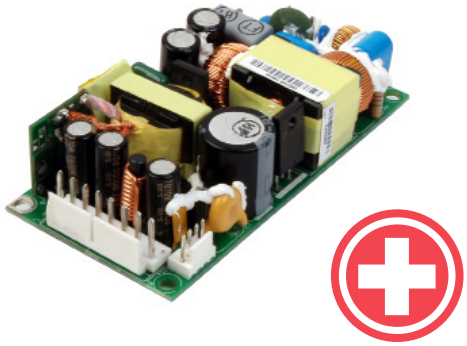
SERIES: VMS-160 | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

- up to 160 W continuous power
- industry standard 2” x 4” footprint
- 18 W/in^3 power density
- universal input (85~264 Vac / 125~373 Vdc)
- single output from 5~48 V
- active power correction (98%)
- 12 V auxiliary fan output
- no minimum load required
- over load, over voltage, and short circuit protections
- full medical and ITE safety approvals
- efficiency up to 90%

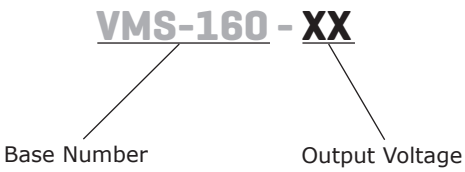


MODEL

MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[4] max (mVp-p)	efficiency typ (%)
VMS-160-5	5	20	100[1]	50	90
VMS-160-12	12	13.3	160[3]	120	90
VMS-160-15*	15	8	120[2]	50	90
VMS-160-24	24	6.66	160[3]	240	90
VMS-160-48*	48	3.33	160[3]	480	90

Notes:
1. Total continuous output power will not exceed 100 W forced air (400 LFM), 70 W without fan.
2. Total continuous output power will not exceed 120 W forced air (400 LFM), 90 W without fan.
3. Total continuous output power will not exceed 160 W forced air (400 LFM), 100 W without fan.
4. Measured at 20 MHz, twisted pair with 0.47 µF ceramic and 22 µF tantalum parallel capacitors.
5. * Discontinued model.

PART NUMBER KEY



Please read our datasheet & drawing disclaimer here.

INPUT

parameter	conditions/description	min	typ	max	units
voltage		90 125		264 373	Vac Vdc
frequency		47		63	Hz
current	at 100 Vac, cold start at 200 Vac, cold start			2.5 1.25	A A
inrush current	at 230 Vac, full load, cold start				
power factor correction	measured at full load and 115 Vac/60 Hz and 230 Vac/50 Hz input source input will be less than 0.25Ω, compliant to EN61000-3-2 for harmonic currents	0.85	0.98		

OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation	low line to high line		±1		%
load regulation	all other outputs 12 V aux. output		±1 ±20		% %
temperature coefficient			0.25		mV/°C
transient response	25% I_{max} to I_{max} , 0.1 A/µs slew rate, ±5% max. deviation, 1 ms recovery				
start-up			1		s
rise time		0.2		20	ms
hold-up		16			ms
adjustability			±5		%
fan drive	12 Vdc / 500 mA for external fan				

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection				130	%
over current protection	automatically recovers			150	%
short circuit protection	auto recovery with no damage from a short on any output				

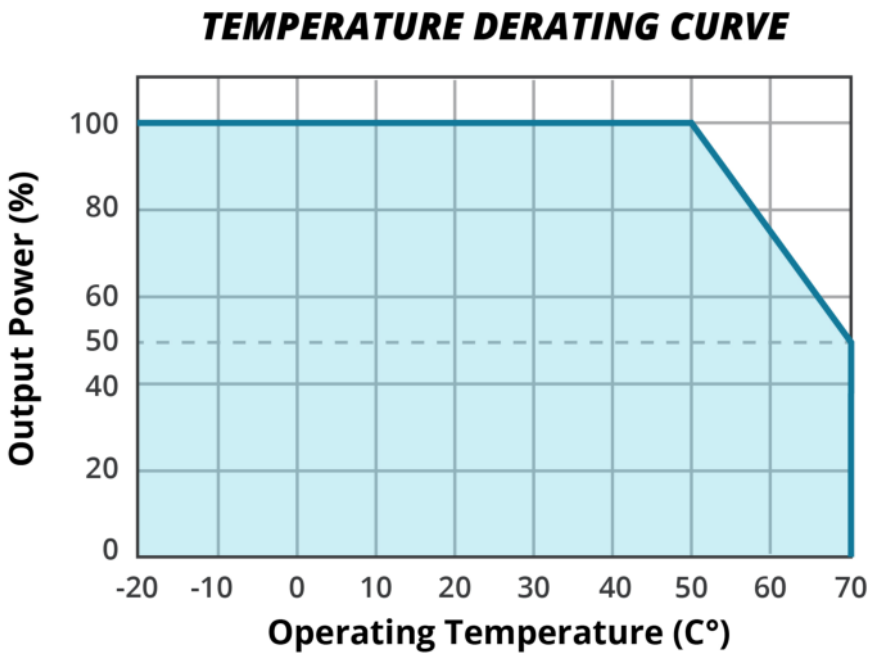
SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	primary to secondary (for 1 second): primary to earth ground (for 1 second):	5,656 5,656			Vdc Vdc
safety approvals	UL 60950-1/60601-1, NEMKO EN 60950-1/EN 60601-1, CE				
EMI/EMC	EN 55022:1998 (Class B, conducted), EN 61000-3-2: 2000, EN 61000-3-3: A1:2001, EN 55024 (IEC 61000-4-2: 1995, IEC 61000-4-3: 1995, IEC 61000-4-4: 1995, IEC 61000-4-5: 1995, IEC 61000-4-6: 1996, IEC 61000-4-11: 1994)				
leakage current	measured per IEC 60950-1, paragraph 5.1, test voltage of 120 Vac/60 Hz			275	µA
MTBF	with 400 LFM forced air, MIL-HDBK-217E-1, 75% of rated full load, 25°C ambient	200,000			hrs
RoHS	2011/65/EU				

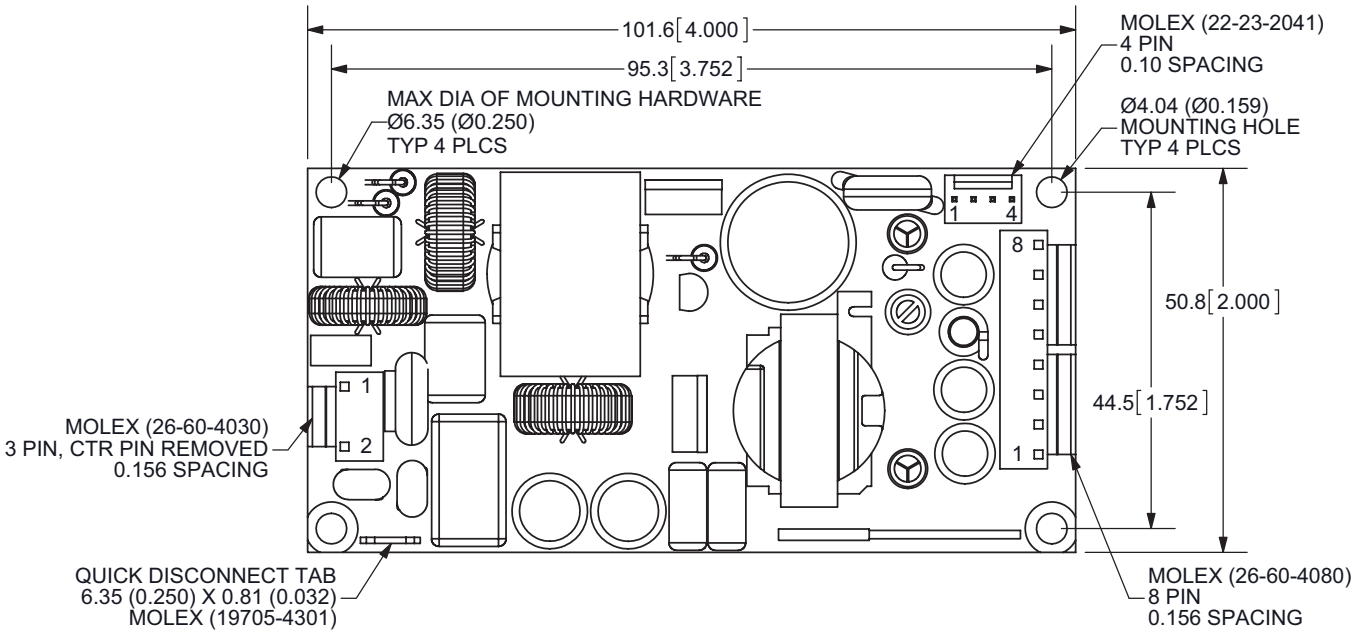
ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-20		70	°C
storage temperature	see derating curve	-40		80	°C
operating humidity storage humidity	non-condensing non-condensing	8		90 95	% %
shock	operating (11 ms, half sine, for a total of 6 shock inputs) non-operating (2 ms, half sine, for a total of 6 shock inputs)		10 140		G G
vibration	operating (10 ~ 300 Hz, 1 hour per axis, 3 hours total) non-operating (10 ~ 500 Hz, 1 hour per axis, 3 hours total)		1 2		Grms Grms

DERATING CURVE



MECHANICAL DRAWING



CN1	
1	ac neutral
2	ac line

CN3	
1	GND
2	GND
3	12V (fan)
4	12V (fan)

CN2	
1	dc return
2	dc return
3	dc return
4	dc return
5	V1
6	V1
7	V1
8	V1

REVISION HISTORY

rev.	description	date
1.0	initial release	05/5/2009
1.01	new template applied	06/16/2011
1.02	V-Infinity branding removed	08/15/2012
1.03	corrected power output data, updated derating curve	11/02/2012
1.04	corrected CN3 connector part number	12/04/2012
1.05	updated EMI/EMC section	01/30/2014
1.06	updated datasheet	07/01/2016
1.07	company logo updated	12/21/2020
1.08	derating curve updated	05/06/2021
1.09	discontinued models VMS-160-48 & VMS-160-15	07/13/2022

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

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

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