



# 500 Watt MEDICAL AC/DC Power Supply with PFC Series DVC500M



## Features

- Single Output
- Universal Input 80 – 264Vac
- Active PFC Meets EN61000-3-2
- 390W with Natural Convection
- 470-500W with Conduction Convection
- No Load Input Power Consumption <0,5W
- Approved UL/IEC/EN60601-1 2 MOPP
- Meet EN55011 Class B
- High Efficiency up to 94,5% Typical
- Low Inrush Current
- PS Remote ON/OFF Control
- Power Good & Power Fail Signal
- Over Temperature Protection
- +5V Stand-by, 12V Fan Output
- Meet IEC/EN60335
- Meet Class I

MODEL NUMBER	OUTPUT VOLTAGE [ VDC ]	OUTPUT CURRENT WITH FAN (NOTE 1) [ A ]	OUTPUT CURRENT WITHOUT FAN COVER [ A ]	OUTPUT CURRENT WITHOUT FAN OPEN [ A ]	VOLTAGE ACCURACY [ % ] (NOTE 2)	OUTPUT VOLTAGE ADJ. RANGE [ VDC ]	LOAD CAP. MAX. (NOTE 3) [ μF ]	EFF. [%] (TYP.)
DVC500M12-B	12	41,67	27,5	25	±1	11,4-12,6	42900	92,5
DVC500M18-B	18	27,78	18,33	16,67	±1	17,1-18,9	28600	93,5
DVC500M24-B	24	20,83	17,08	15,83	±1	22,8-25,2	20800	94,5
DVC500M36-B	36	13,89	11,39	10,56	±1	34,2-37,8	14000	94,5
DVC500M48-B	48	10,42	8,54	7,92	±1	45,6-50,4	10800	94,5
<b>Stand-by Output Voltage</b>								
All	+5	1,0			±3			
<b>Fan Output Voltage</b>								
All	+12	0,5 (Note4)						

### Note:

1. Forced air Convection with 21CFM Fan.
2. Voltage Accuracy is Set at Full Load and 25°C Ta.
3. Input Voltage is 115VAC and 230VAC. Output is max. Load.
4. Fan Output Can Only Operate Normal When the Stand-by Output is Above 0.5A.
5. Model Examples:  
DVC500M24-B: Open Frame with Baseplate  
DVC500M24-C: With Case  
DVC500M24-B-HT: Open Frame with Baseplate, Horizontal Type Terminal  
DVC500M24-C-HT: With Case, Horizontal Type Terminal

## INPUT CHARACTERISTICS:

Input Voltage Range.....	Safety approvals only to the AC input .....	80-264Vac
Input Frequency Range.....	.....	47 to 63Hz
Input Current.....	100% Load, $V_{in}=100Vac$ .....	6,0A max.
Inrush Current.....	$V_{in}$ 240Vac, Cold Start at 25°C .....	8,5A typ.
Leakage Current.....	.....	0,3mA max.
Power Factor .....	$V_{in}$ 230Vac .....	0,97 typ.

## OUTPUT CHARACTERISTICS:

Efficiency .....	.....	see table
Output Voltage Accuracy .....	.....	see table
Operating Output Current Range.....	.....	see table
Hold-up Time .....	$V_{in}=115Vac$ .....	16mS typ.
Line Regulation.....	$V_{in}$ =High Line to Low Line .....	±0,5% max.
Load Regulation .....	10% Load to Full Load .....	±1,0% max.
Short Circuit Protection .....	.....	Auto Recovery, continuous
Over Current Protection .....	.....	Auto Recovery, 120-190%
Over Voltage Protection ( Latch Off (AC Recycle to Reset) ) .....	$V_o$ 12V .....	16Vdc max.
	$V_o$ 18V .....	30Vdc max.
	$V_o$ 24V .....	35Vdc max.
	$V_o$ 36V .....	50Vdc max.
	$V_o$ 48V .....	63Vdc max.
Output Ripple & Noise ( Note 1 ) .....	$V_o$ 12V .....	120mV max.
	$V_o$ 18V .....	150mV max.
	$V_o$ 24V .....	150mV max.
	$V_o$ 36V .....	200mV max.
	$V_o$ 48V .....	250mV max.
PS-ON Signal .....	Power on .....	0Vdc min / 2Vdc max.
	Power off (PS-ON and GND open) .....	4Vdc typ.
	Power on (PS-ON and GND short) .....	10mA typ.
	Power-off (PS-ON and GND open) .....	0mA
Power Good ( PG ) .....	$V_{in}$ 90-264VAC. $V_{out}$ max. load. ....	TTL goes high after power set up .....
	.....	100ms min. / 500ms max.
Power Fail ( PF ) .....	$V_{in}$ 90-264VAC. $V_{out}$ max. load. ....	TTL goes low before $V_o$ below 90% rated value .....
	.....	1ms min. / 10ms typ.
Output Voltage Adjustment .....	.....	±5%

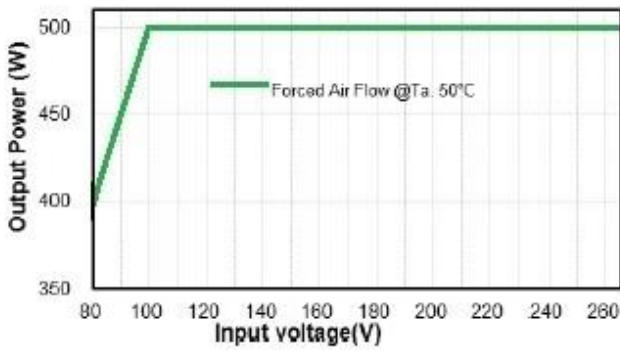
## GENERAL SPECIFICATIONS:

Isolation.....	Input/Output, 1 min. ....	4000 VAC max.
Isolation Resistance .....	Input to Output .....	100 MΩ min.
Switching Frequency .....	.....	65 kHz typ.
Operating Case Temperature Range .....	see Derating Curve .....	-40°C to +85°C
Storage Temperature Range .....	.....	-40°C to +85°C
Humidity .....	Non condensing .....	93% RH max.
Operating Altitude.....	.....	5000m
MTBF .....	MIL-HDBK-217F, $I_o=100%$ , $T_a=25^\circ C$ .....	200Khrs typ.
Shock .....	Meets MIL-STD-810F .....	75g typ.
Vibration.....	Meets MIL-STD-810F .....	4g typ.
Safety .....	.....	Class I, Approved IEC/EN/UL60601-1
EMC Emission .....	EN55011 Class B, EN61000-3-2, EN6100-3-3, FCC CFR47 Part 15 .....	EN55011, FCC CFR 47 Part 15 (Class B)
Conducted Disturbance.....	.....	EN55011, FCC CFR 47 Part 15 (Class B)
Radiated Disturbance.....	.....	EN55011, FCC CFR 47 Part 15 (Class B)
Harmonic Current Emissions .....	.....	EN61000-3-2
Voltage Fluctuations & Flicker .....	.....	EN61000-3-3
EMC Immunity .....	.....	EN60601-1-2, IEC61000-4-2,3,4,5,6,8,11
Electrostatic Discharge (ESD) .....	IEC61000-4-2, Air Discharge: ±8kV, Contact Discharge: ±4kV .....	IEC 61000-4-3
Radio-Frequency, Continuous Radiated Disturbance .....	.....	IEC 61000-4-3
Electrical Fast Transient (EFT) .....	.....	IEC61000-4-4, ±1kV, ±2kV
Surge .....	IEC61000-4-5, L-N: ±0.5kV, ±1kV, L-E(Ground): ±0.5kV, ±1kV, ±2kV .....	IEC 61000-4-6
Conducted Disturbances, Induced by RF Fields.....	.....	IEC 61000-4-6
Power Frequency Magnetic Field .....	.....	IEC 61000-4-8
Voltage Dips .....	IEC 61000-4-11, Dip: 30% Reduction, Dip >95% Reduction .....	IEC 61000-4-11, >95% Reduction
Voltage Interruptions .....	.....	IEC 61000-4-11, >95% Reduction
Dimensions .....	Open frame with Baseplate .....	5.000x3.000x1.540 Inches (127.00x76.20x39.10mm)
	-C ( with Cover ) .....	5.354x3.425x1.673 Inches (136.00x87.00x42.50mm)
Weight .....	Open frame with Baseplate .....	515g typ.
	-C ( with Cover ) .....	635g typ.

### Note:

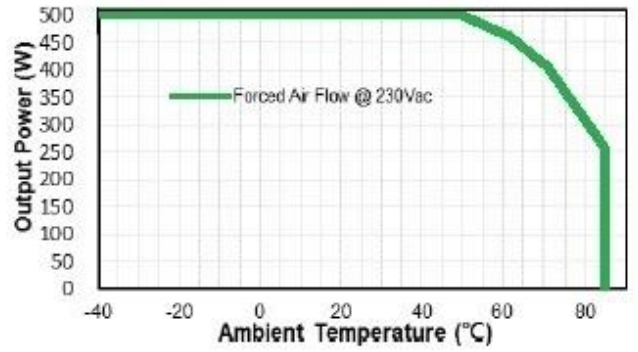
1. Add a 0.1uF Ceramic Capacitor and a 10uF Aluminum Electrolyt Capacitor to Output for Ripple & Noise Measuring @20MHz BW

Output power & Input voltage



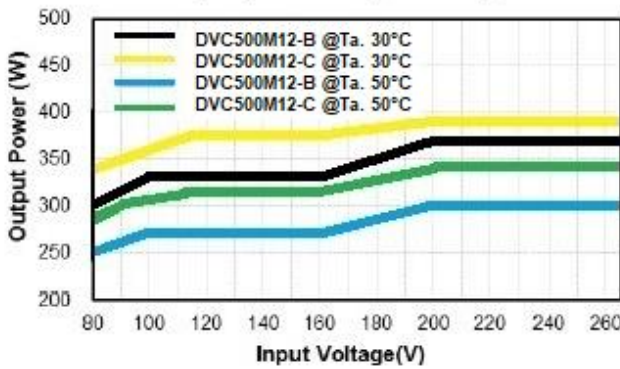
Natural Convection

Output power vs Ambient Temperature

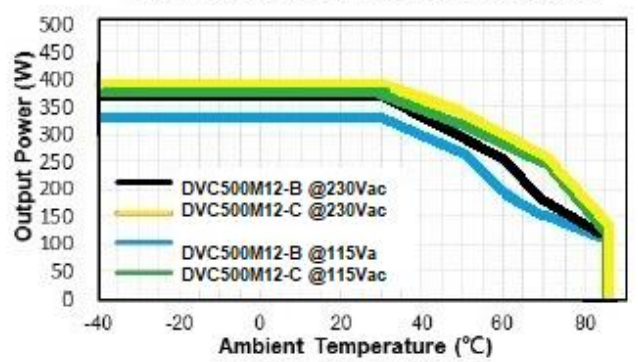


Natural Convection

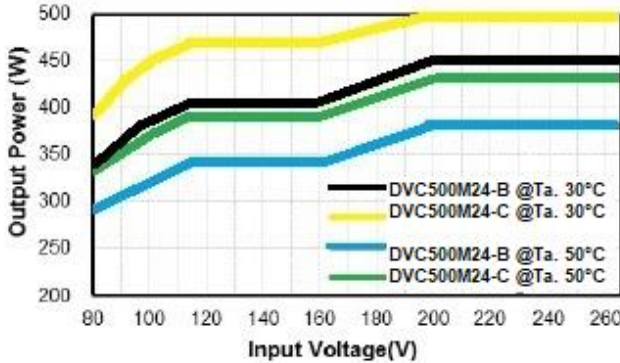
Output power & Input Voltage



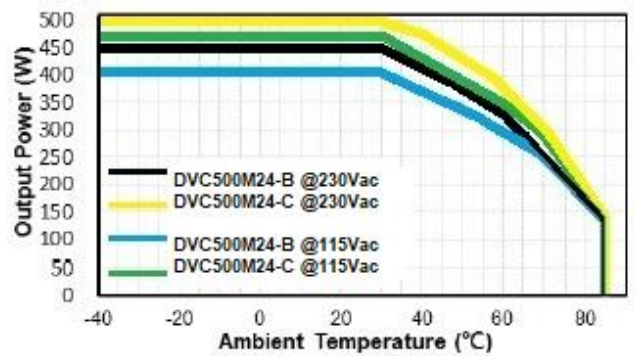
Output power vs Ambient Temperature



Output power & Input Voltage



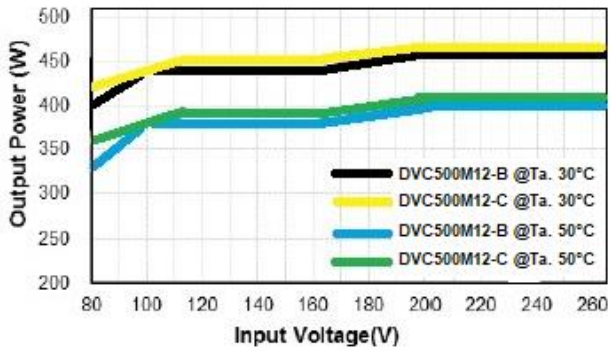
Output power vs Ambient Temperature



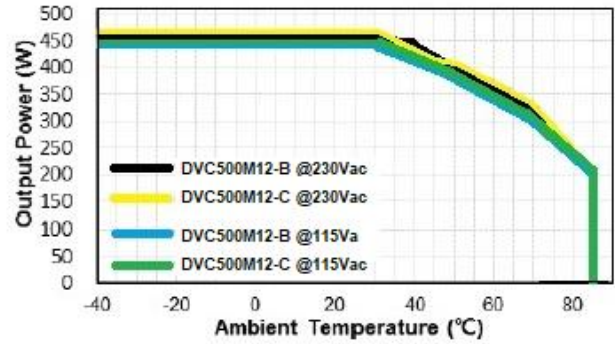
Conduction Convection with External Baseplate (48x24.8x0.12cm)

Conduction Convection with External Baseplate (48x24.8x0.12cm)

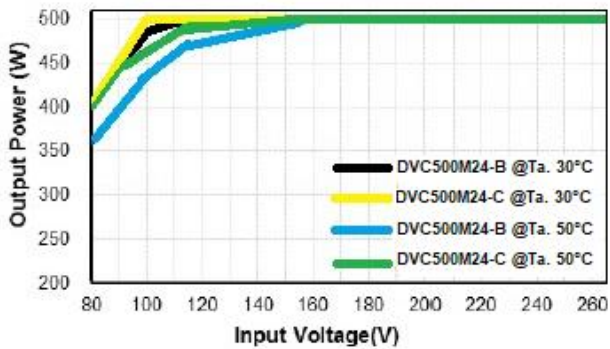
Output power & Input Voltage



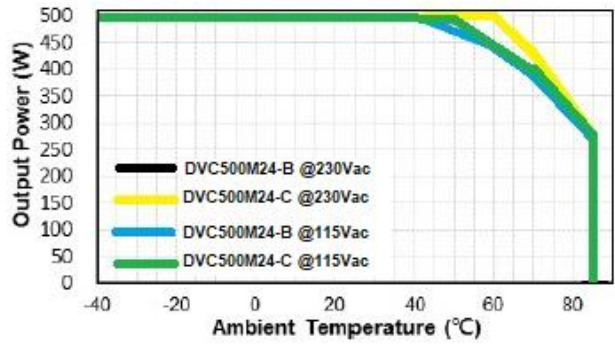
Output power vs Ambient Temperature



Output power & Input Voltage



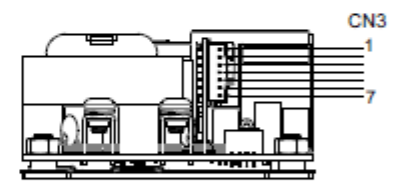
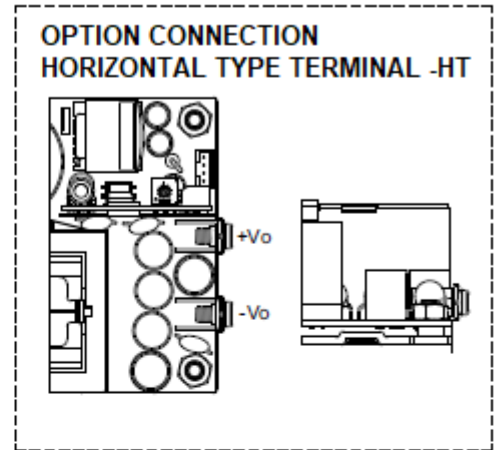
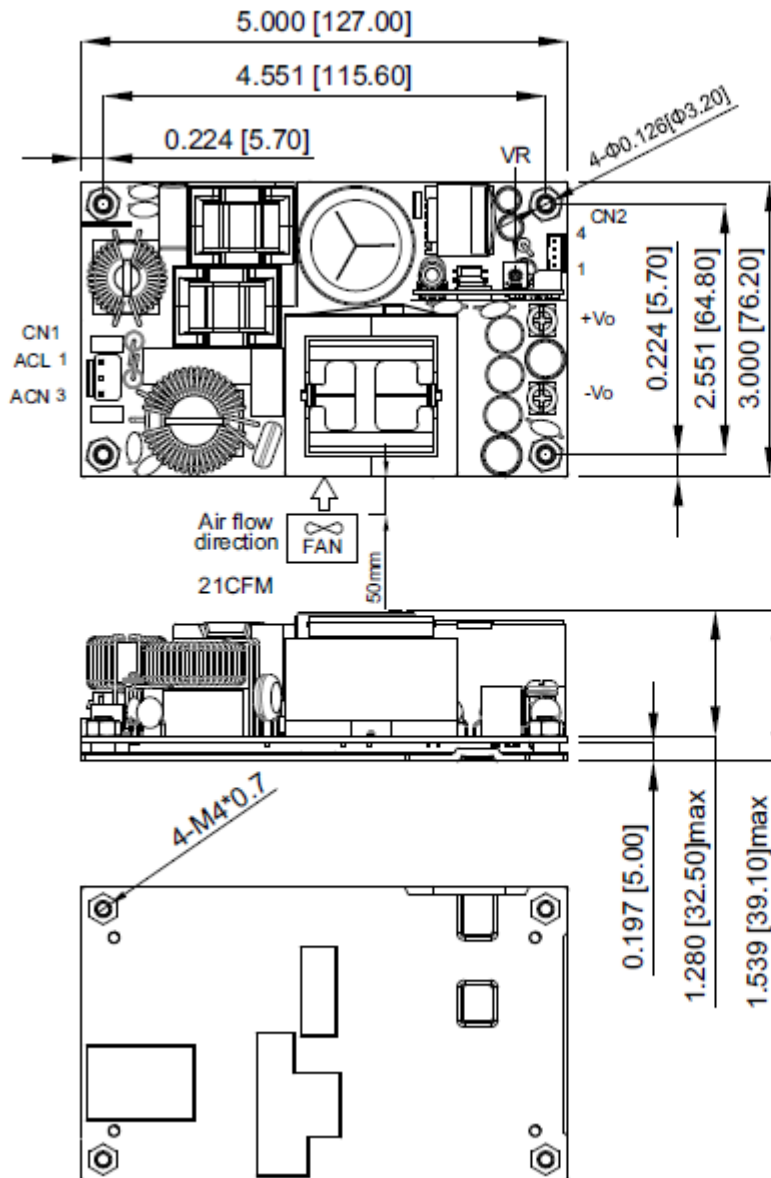
Output power vs Ambient Temperature



# Mechanical Specification DVC500Mxx-B

# Series DVC500M

All Dimensions in inches[mm], Tolerances : Inches : x.xxx=±0.02, Millimeters : x.xx=±0.5



**CN1:  
PIN CONNECTION**

Pin	Function
1	ACL
2	-
3	ACN

**CN2:  
PIN CONNECTION**

Pin	Function
1	GND
2	+5VSB
3	GND
4	+12V-FAN

**CN3:  
PIN CONNECTION**

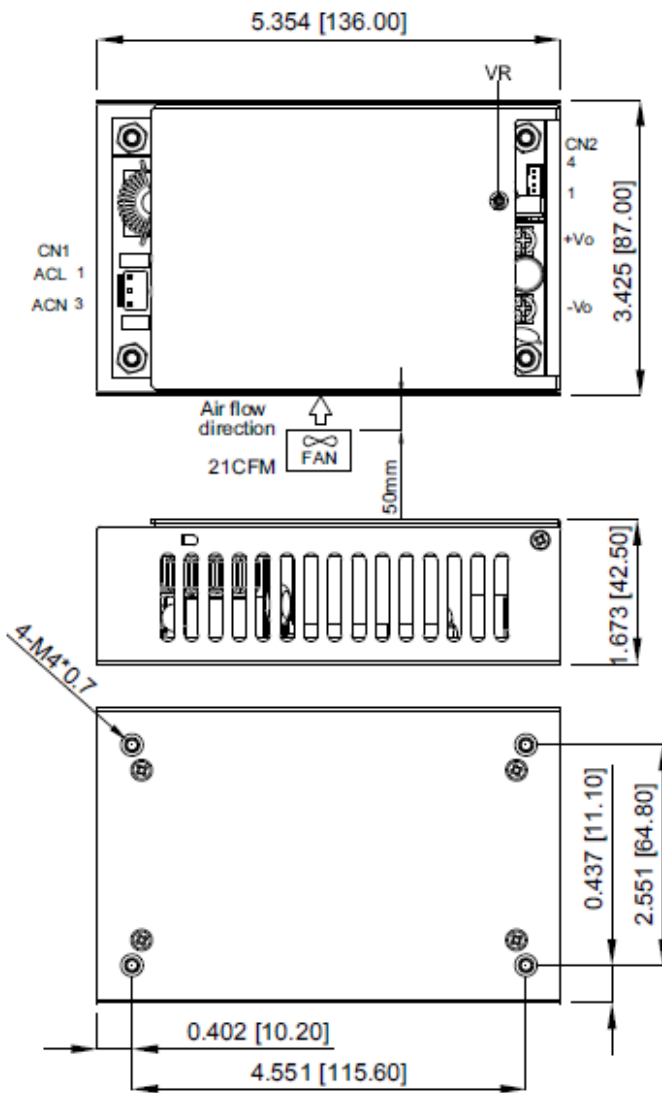
Pin	Function
1	GND
2	PF
3	FAN-EN
4	PS-ON
5	-Sense
6	+Sense
7	OPTION

Technische Änderungen vorbehalten / Specifications are subject to change without notice

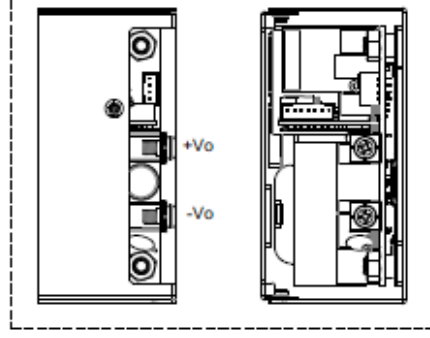
# Mechanical Specification DVC500Mxx-C

# Series DVC500M

All Dimensions in inches[mm], Tolerances : Inches : x.xxx=±0.02, Millimeters : x.xx=±0.5



## OPTION CONNECTION HORIZONTAL TYPE TERMINAL -HT



### CN1: PIN CONNECTION

Pin	Function
1	ACL
2	-
3	ACN

### CN2: PIN CONNECTION

Pin	Function
1	GND
2	+5VSB
3	GND
4	+12V-FAN

### CN3: PIN CONNECTION

Pin	Function
1	GND
2	PF
3	FAN-EN
4	PS-ON
5	-Sense
6	+Sense
7	OPTION

