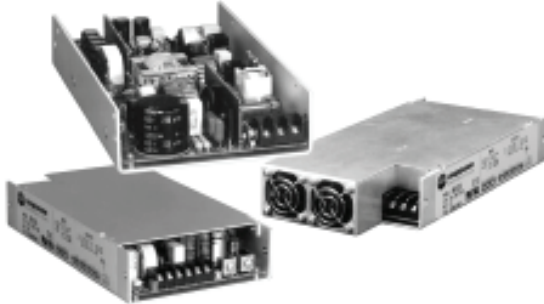


## MD/MF SERIES: THIN-250™ AND THIN-400™

### Low Profile with PFC: Single Output, 250 or 400 Watts



#### FEATURES

- Low Profile, 1.75 Inches
- Three Package Configurations
- Active Power Factor Correction
- Meets EN61000-3-2
- Up to 5.2 Watts/Cu. Inch
- Class B Input EMI Filter
- Single-Wire Current Share
- 3.3V Output Available
- 5V, 100mA Supervisory Output
- Remote Sense
- Overvoltage Protection
- Overload & Short Circuit Protection
- Thermal Protection
- AC Power Fail & DC Power Good
- Remote Inhibit, Open or Short

#### TWO-YEAR WARRANTY

#### STANDARD MODELS

(Other Modules Available, Consult Factory)

SINGLE OUTPUT 250W			
Max Watts	Output Voltage	Output Current	MODEL NUMBER
165	3.3V	50.0A	MD9000
250	5.0V	50.0A	MD2000
250	12.0V	21.0A	MD3000
250	15.0V	16.7A	MD4000
250	24.0V	10.4A	MD5000
250	28.0V	9.0A	MD6000
250	48.0V	5.2A	MD7000

SINGLE OUTPUT 400W			
Max Watts	Output Voltage	Output Current	MODEL NUMBER
198	3.3V	60.0A	MF9000
300	5.0V	60.0A	MF2000
400	12.0V	33.3A	MF3000
400	15.0V	26.7A	MF4000
400	24.0V	16.7A	MF5000
400	28.0V	14.3A	MF6000
400	48.0V	8.3A	MF7000

For modified versions, call our Modification Center at 954-346-2442, Ext. 400

#### NOTES:

1. For option, add option code as suffix to model number.
2. Standard model no. is open frame version.

#### SAFETY CERTIFICATIONS

AGENCY	STANDARD
UL	UL1950
CUL	CSA22.2, No. 950
DEMKO	EN60950

OPTIONS <sup>1</sup>	
C	Top Mounted Cover
N	Full Cover with 2 End Mounted Fans

## SPECIFICATIONS, MD/MF SERIES

Typical at Nominal 115/230VAC Line, Full Load and 25°C Unless Otherwise Noted.

### OUTPUT SPECIFICATIONS

Voltage Adjustment Range.....	>±5%
Total Regulation <sup>1</sup> .....	<±2.0%
Ripple & Noise, Pk-Pk <sup>2</sup> .....	<1% or 50mV
Hold-Up Time <sup>3</sup> .....	>20ms
Dynamic Response <sup>4</sup> .....	300µs
Temperature Coefficient.....	±0.02%/°C
Minimum Load.....	0A
Overload Protection.....	Power Shutdown
Overvoltage Protection.....	Power Shutdown
Remote Sense.....	Up to 0.25V Per Wire

### INPUT SPECIFICATIONS

Input Voltage Range.....	85-264VAC
Power Factor.....	0.99
Input Frequency.....	47-63Hz
Inrush Limiting.....	30A peak (Cold Start)
Input Current, 250W.....	2.8A, 120VAC; 1.5A, 230VAC
400W.....	4.5A, 120VAC; 2.3A, 230VAC
Input EMI Filter, Conducted.....	EN55022 Curve B FCC20780 pt. 15J Curve B
Harmonic Distortion.....	EN61000-3-2
Input Immunity, Conducted	
Fast Transients, Line-Line.....	±2kV (EN61000-4-4 Level 3)
Surges, Line-Line.....	±1kV (EN61000-4-5 Level 2)
Surges, Line-Ground.....	±2kV (EN61000-4-5 Level 3)
Input Protection.....	Internal Fuse, 6.3A

### GENERAL SPECIFICATIONS

Efficiency.....	>75% at Full Load
Switching Frequency.....	150kHz Nominal
Isolation, Class I <sup>5</sup> .....	>3000VAC Input - Output >1500VAC Input - Ground >50VDC Output - Ground
Safety Standards.....	EN60950, UL1950, CSA22.2-950

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature.....	0°C to 70°C Ambient
Derating.....	2.5% / °C, 50°C to 70°C
Storage Temperature.....	-40°C to +85°C
Cooling	
Standard & "C" Option.....	30 CFM
"N" Option.....	2 Integral Ball Bearing Fans

### PHYSICAL SPECIFICATIONS

Case Material.....	Aluminum
Dimensions, Inches (mm)	
Standard.....	1.70 (43.2)H x 5.00 (127.0)W x 9.00 (229.0)D
"C" Option.....	1.75 (44.5)H x 5.00 (127.0)W x 9.00 (229.0)D
"N" Option.....	1.75 (44.5)H x 5.00 (127.0)W x 10.50 (267.0)D

#### NOTES:

1. No Load to full load, including line regulation and load regulation.
2. Whichever is greater. 20MHz bandwidth. Measured with 0.1µF ceramic and 10µF tantalum capacitors in parallel across the output.
3. Full load at nominal AC line.
4. <4% deviation recovering to within 1% for 25% load change.
5. Input - output isolation figure is for isolation components only. 100% production Hipot tested.

#### J1 CONTROL & SUPERVISORY SIGNALS

PIN	FUNCTION	PIN	FUNCTION
1	+ Sense	6	DC Power Good
2	- Sense	7	Inhibit (N.O.)
3	N.C.	8	Inhibit (N.C.)
4	N.C.	9	AC Power Fail
5	Current Share	10	Control Common

J2: 12VDC FAN SUPPLY

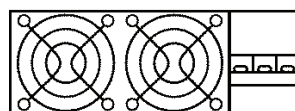
PIN	FUNCTION
1	12V Return
2	+12VDC

J3: 5V, 100mA AUX. SUPPLY

PIN	FUNCTION
1	+5VDC
2	5V Return

**\*NOTE:** This composite drawing illustrates all three versions of the M Series. The open frame version has no fan or cover and is 1.70" high. Option C has a cover without fans. Both of these versions are 9.00 Inches (229mm) deep as shown by the dotted line. Option N has a cover and two end fans and is 10.50 Inches (267mm) deep. Air flow is from the fans into the power supply.

The power supply top view shows eight threaded inserts which are on the bottom of the supply. The "A" inserts accept 6-32 screws and are also on both sides of the supply; the "B" inserts accept M3 screws and are on the bottom only. Max. penetration of screws is 0.125 inch (3.2mm).

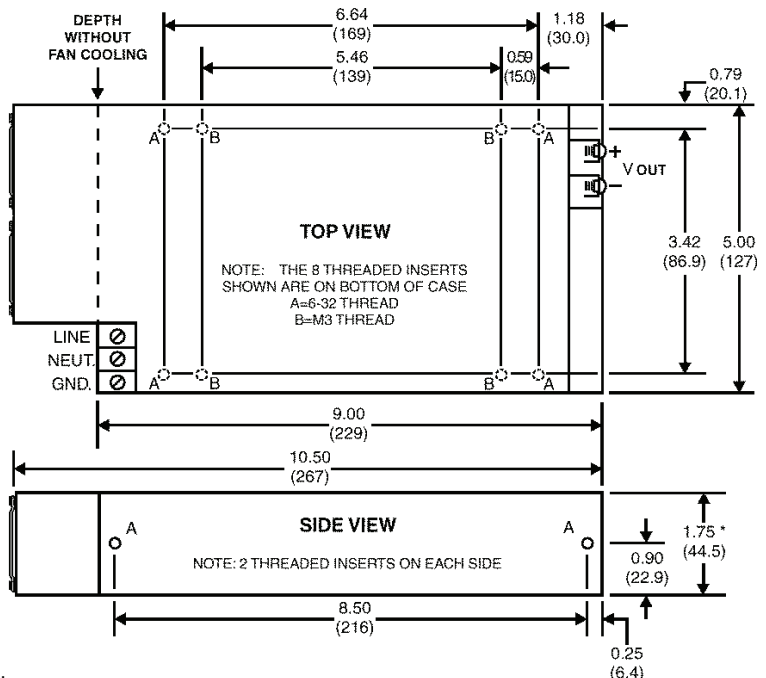


#### CONNECTORS

J1:	AMP 173981-0	10-PIN
J2:	AMP 171825-2	2-PIN
J3:	AMP 171825-2	2-PIN

#### MATING CONNECTOR KIT

Kit provides mating connectors for M Series models  
Order Kit No. 775-1417-0000 \$8.00



ALL DIMENSIONS IN INCHES (mm).

All specifications subject to change without notice.