

TMF SERIES: 1U HOT-PLUG POWER SYSTEM

Single Output 400 Watt Modules with PFC



MODULE FEATURES

- Only 1U High
- Power Good LED
- Integral Isolation Diodes
- Power Factor Correction
- Meets EN61000-3-2
- Single-Wire Current Sharing
- Class B EMI Filter
- High Reliability Connectors
- 3.3, 5, 12, 15, 24, 28 or 48VDC Output
- Universal AC Input: 85-264VAC
- 5V, 100mA Supervisory Output
- Overvoltage Protection
- Inhibit Control
- Front Panel Switch Option

SYSTEM RACK FEATURES

- 1U High, Standard 19" Rack Mount
- True Hot-Plug Replacement
- 800W 2+1 Redundant
- 1200W Non-Redundant

TWO-YEAR WARRANTY

HOT-PLUG MODULE ORDERING GUIDE

(Other Modules Available, Consult Factory)

Max Watts	Output Voltage	Output Current	PFC	Minimum Load	Total Regulation	MODEL NUMBER
200	3.3V	60.0A	✓	0A	2%	TMF9000
300	5.0V	60.0A	✓	0A	2%	TMF2000
400	12.0V	33.3A	✓	0A	2%	TMF3000
400	15.0V	26.7A	✓	0A	2%	TMF4000
400	24.0V	16.7A	✓	0A	2%	TMF5000
400	28.0V	14.3A	✓	0A	2%	TMF6000
400	48.0V	8.3A	✓	0A	2%	TMF7000

Option S: Front-Panel On/Off Switch. Add "S" as suffix to the module model number.

For modified versions call, (800) 966-PSUI (7784)

ORDERING GUIDE

The hot-plug modules and the mating rack-mount are separate items and must be ordered separately.

HOT-PLUG MODULES: Order quantity using model number from the table.

SYSTEM RACK: Order TMFR1U and add option suffix.

SAFETY CERTIFICATIONS

AGENCY	STANDARD
UL	UL1950
CUL	CSA22.2, No. 950
DEMKO	EN60-950

MATING CONNECTOR KITS

Module Evaluation Connector Kit:
For each TMF Hot-Plug Module
Order Kit No. 775-1419-000 \$95.00

Rack-Mount Interconnection Kit:
For TMFR1U Rack-Mount
Order Kit No. 775-1423-000 \$25.00

SYSTEM RACK OPTIONS

CODE	OPTION
A	Standard: 3-position terminal block connector for 1200W maximum output with 85-264VAC input.
B	Optional: IEC320 AC connector for 800W maximum output with nominal 115VAC input or 1200W maximum output with nominal 230VAC input.

SPECIFICATIONS

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

OUTPUT SPECIFICATIONS

Total Output Power, Max..... 400 watts
Voltage Adjustment Range..... >±5%
Total Regulation¹..... <±2.0%
Ripple & Noise (Pk-Pk)²..... <1% or 50mV
Hold-Up³..... >15mS
Dynamic Response⁴..... 300µS
Temperature Coefficient..... ±0.02%/°C
Minimum Load..... 0A
Overload Protection..... Foldback Current Limiting
Overvoltage Protection..... Power Shutdown
Remote Sense..... Up to 0.25V Per Wire

INPUT SPECIFICATIONS

Input Voltage Range..... 85-264VAC Single Phase
Power Factor..... 0.99
Input Frequency..... 47-63Hz
Inrush Limiting..... 30A Peak (Cold Start)
Input Current, Full Load..... 4.5A, 120VAC
2.4A, 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 I⁵..... >3000VAC Input - Output
>1500VAC Input - Ground
>50VDC Output - Ground
Safety Standards..... EN60-950, UL1950, CSA22.2-950

ENVIRONMENTAL SPECIFICATIONS

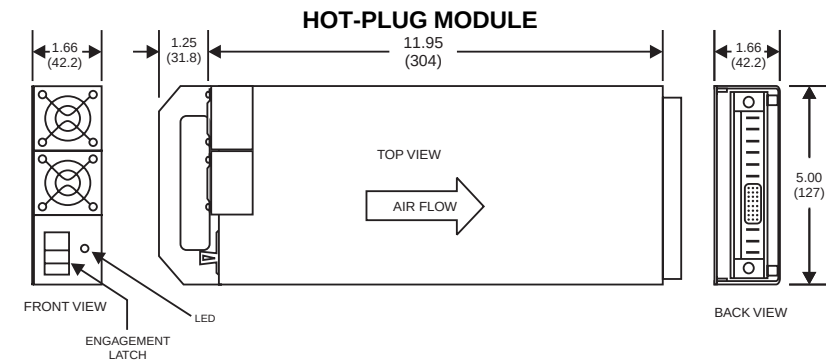
Operating Temperature..... 0°C to 70°C Ambient
Derating 2.5% / °C 50°C to 70°C
Storage Temperature..... -40°C to +85°C
Cooling..... 2 Integral Ball Bearing Fans

PHYSICAL SPECIFICATIONS

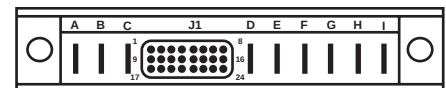
Case Material..... Aluminum
Dimensions, Inches (mm)
Hot-Plug Module..... 1.66 (42.2)H x 5.00 (127.0)W x 11.95 (303.5)D
3-Module Rack..... 1.72 (43.7)H x 16.88 (428.8)W x 16.00 (406.4)D

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. 400W output power 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.



MODULE CONNECTOR



MODULE

J1 POWER CONNECTIONS

TERMINAL	FUNCTION	TERMINAL	FUNCTION
A	Frame Ground	F	+V Output
B	AC Neutral	G	+V Output
C	AC Line	H	-V Output
D	Not Used	I	-V Output
E	Not Used		

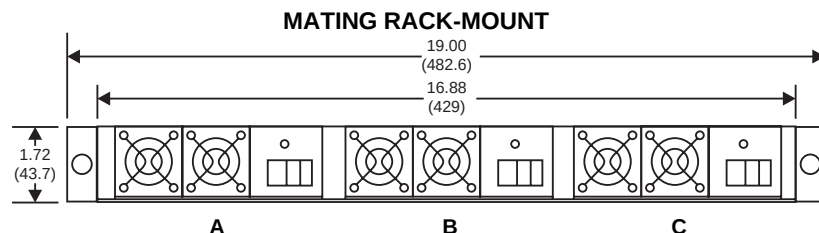
NOTE: J1 connector is an ELCON FLATPAQ No. 279-0320-00100.
Mating receptacle is No. 279-0320-00200.

MODULE

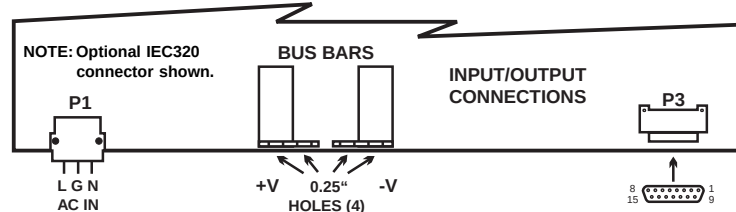
J1 CONTROL & SUPERVISORY SIGNALS

PIN	FUNCTION	PIN	FUNCTION
1	Interlock	13	Control Common
3	Inhibit	14	- Sense
4	DC Good	20	Current Share
9	Control Common	21	5V, 100mA Aux.
12	AC Power Fail	22	+ Sense

NOTE: All other pins are No Connection.



REAR, TOP VIEW OF RACK-MOUNT



ALL DIMENSIONS IN INCHES (mm).

All specifications subject to change without notice.

RACK MOUNT

P3 CONTROL & SUPERVISORY SIGNALS

PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION
1	AC Power Fail-C	6	DC Power Good-B	11	Control Common
2	AC Power Fail-B	7	DC Power Good-A	12	5V, 100mA Aux.
3	AC Power Fail-A	8	Inhibit-C	13	- Sense
4	Current Share	9	Inhibit-B	14	+ Sense
5	DC Power Good-C	10	Inhibit-A	15	Not Used

NOTE: 1. A, B and C refer to the module position from left to right, viewed from the front of the system.

2. P3 is AMP Mini MATE-N-LOK No. 770190-1.