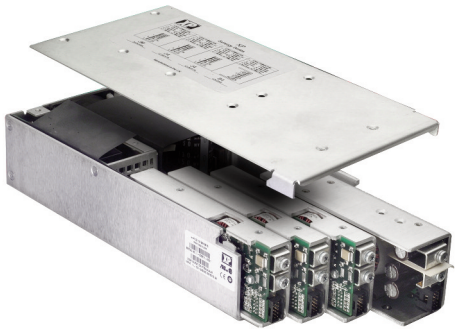
300–2400 Watts

MP Series



- Configurable for Fast Time to Market
- 1 to 24 Outputs
- Floating Outputs
- Fully Featured Signal Set
- SEMI F47 Compliant
- Extra Power Available at High Line
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Inrush Current	• 40 A max at 230 VAC, cold start 25 °C
Power Factor	• Compliant with EN61000-3-2, Class A
Earth Leakage Current	• <1.5 mA
Input Protection	• F3/FF: Internal T6.3 A/250 V fuse in line F4/F6: Internal T10 A/250 V fuse in line F7: Internal T12 A/250 V fuse in line F8: Internal T15 A/250 V fuse in line FX: Internal T20 A/250 V fuse in line

Output

Output Voltage	• See module table
Output Voltage Trim	• ±5% typical all outputs
Hold Up Time	• 20 ms min
Line Regulation	• Typically 0.1%, maximum 0.3%
Load Regulation	• 1% max for single output modules & V1 of dual & triple output modules. 2% max for V2 & V3 of dual & triple output modules. The E module requires up to 10% load & the K module up to 5% load on V1 to achieve the specified regulation figures on V2 & V3
Ripple & Noise	• 50 mV or 1% pk-pk, whichever is greater, 20 MHz bandwidth
Overvoltage Protection	• 115-130% Vnom for single output and output 1 of dual & triple output modules. No OVP fitted to G modules or H modules.
Overload Protection	• <140% of nominal rating
Short Circuit Protection	• Continuous trip & restart (Hiccup mode)
Temperature Coefficient	• 0.03%/°C
Remote Sense	• See signals & controls page
Current Share	• Single wire parallel current share. See signals & controls page
Inhibit	• TTL compatible. See signals & controls page

General

Efficiency	• 75% typical at nominal input
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Signals & Controls	• AC OK, DC OK, Current share, Global Inhibit, Module Inhibit, Remote Sense, Voltage Programming & 5V Standby
MTBF	• 750 kHrs Demonstrated

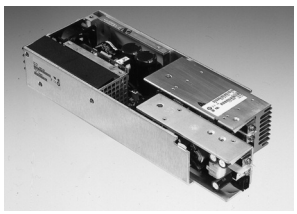
Environmental

Operating Temperature	• 0 °C to +70 °C, derate linearly from 100% at +50 °C to 50% at +70 °C for standard models. Derate linearly from 100% at +40 °C to 50% at +60 °C for reverse air models.
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 3000 m
Shock	• 30 g, 11 ms (half sine), 3 shocks each axis, 18 shocks total. Compliant with EN60068-2-27
Vibration	• 2 g, 10-500 Hz, 10 sweeps 3 axes. Compliant with EN60068-2-6

EMC & Safety

Emissions	• EN55022, level B conducted
Harmonic Currents	• EN61000-3-2, Class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, level 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 3 Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B
Safety Approvals	• EN60950, UL60950, CSA22.2-No 950 CE Mark LVD, SEMI F47 compliant (high line only)

Model Selection & Power Supply Construction



STEP 1
In order to configure a model number for your MP Series power supply first select the appropriate chassis, dependent on your application's continuous, maximum output power requirements.
STEP 2
Next, from the ratings on the following page, select the output modules that suit your output voltage and current requirements. Modules can be positioned as denoted by the ■, ▲ and ● sequence shown below.
STEP 3
Once the chassis & output modules have been selected, form the model number as shown below.

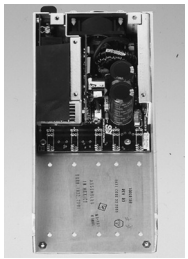
F3 (300 W)[1] & FF (350 W)[1]

Module Position

3 2 1

● ● ●
● ● ▲
▲ ▲ ■

F4 (400 W)[1] & F6 (600 W)[1] & F7 (700 W)[1]

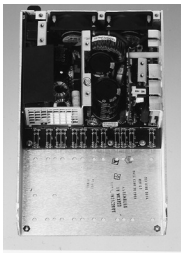


Module Position

4 3 2 1

● ● ● ●
● ● ● ▲
● ● ▲ ■
● ▲ ● ■
▲

F8 (800 W)[1] & FX (1000 W)[1]



Module Position

6 5 4 3 2 1

● ● ● ● ● ●
● ● ● ● ● ▲
● ● ● ● ▲ ▲
● ● ● ▲ ▲ ■
● ● ▲ ● ■ ■
▲ ▲ ● ■ ■
● ■ ■

Note
1. Output power can be increased by 200 W if used at 181-264 VAC input, FF chassis 175 W, F6 chassis 150 W.

Model Number Construction

Chassis Power		Module Position 1		Module Position 2		Module Position 3		Module Position 4		Module Position 5		Module Position 6			Option	Option
F	7	B	3	J	6	J	6	G	2					-	22	1R
Add the chassis code first. F7 = 700W Chassis		Add Module 1 B3 = ▲ Single O/P 5 V @ 60 A		Add Module 2 J6 = ● Single O/P 24 V @ 8 A		Add Module 3 J6 = ● Single O/P 24 V @ 8 A		Add Module 4 G2 = ● Dual O/P 15 V @ 3 A 15 V @ 3 A F4, F6, F7, F8 & FX only		Add Module 5 F8 & FX only		Add Module 6 F8 & FX only			Add Option Codes	
															Denotes J6 modules in parallel to give 24 V @ 16 A	Denotes reverse air flow

(For single slot, single O/P modules (●), insert highest power first and the lowest voltage if power is equal.)

Option Codes

No.	Option	Function
01	2 x B modules	parallel connect in slots 1 & 2
02	2 x B modules	parallel connect in slots 2 & 3
03	2 x B modules	parallel connect in slots 3 & 4
04	4 x B modules	2 x B modules parallel connect in slots 1 & 2 and 2 x B modules parallel connect in slots 3 & 4
05	2 x C modules	parallel connect in slots 1 & 2 (2 V to 8 V)
06	2 x C modules	parallel connect in slots 1 & 2 (18 V to 48 V)
21	2 x J modules	parallel connect in slots 1 & 2
22	2 x J modules	parallel connect in slots 2 & 3
23	2 x J modules	parallel connect in slots 3 & 4
24	2 x J modules	parallel connect in slots 4 & 5
25	2 x J modules	parallel connect in slots 5 & 6
1R	Reverse Air	fans in exhaust configuration using standard fans
1S	Low Noise	standard (air inflow) configuration using low noise fans (F8 & FX only)
2R	Reverse Air	fans in exhaust configuration using low noise fans (F8 & FX only)

Note: 1. Consult sales for 1200-2400 W model numbers.