

## MP Series

### 400 - 1200 Watts

**Total Power:** 400 - 1200 Watts

**Input Voltage:** 85 - 264 VAC  
120 - 350 VDC

**# of Outputs:** Up to 21

### Special Features

- Current share on all outputs with ratings of 10 A or greater
- Remote sense on all outputs with ratings greater than 2 A
- Overload protection on all outputs
- Voltage adjustment on all outputs
- Margining on all single output modules
- Input OK signal and status indicator LED
- Global DC OK signal and status indicator LED
- Global and individual module inhibits/enable
- 2 year warranty
- Forced air cooling, field replaceable fan
- Isolated 5 V bias voltage
- Power factor correction
- EN61000-3-2 harmonic distortion compliance
- CISPR 22, EN55022 Curve B conducted / radiated EMI
- European CE Mark requirements
- Optional VME timing and system DC OK module
- Customer-provided air option
- Additional 200 W output @ high line (180-264 VAC)
- Low leakage option for medical applications
- EN61000 immunity standards
- Standard modification flexibility (consult factory)
  - Low noise fan
  - Fan fail signal
  - Module enable
  - Outputs down to 0.5V
- Field Demonstrated MTBF: > 550,000 hours at full load, 220 Vac & 25 °C ambient conditions

### Safety

- **UL** UL1950
- **CSA** CSA22.2 No. 234 Level 5
- **IEC** IEC950, Class 1
- **VDE** EN60950,
- **BABT** Compliance to EN 60950, BS 7002
- **CB** Certificate and report
- **CE** Mark



## Electrical Specifications

### Input

|                                       |                                                                                         |
|---------------------------------------|-----------------------------------------------------------------------------------------|
| Input range:                          | 85 - 264 Vac<br>120 - 350 Vdc                                                           |
| Frequency:                            | 47 - 440 Hz                                                                             |
| Inrush current:                       | 40 A peak max. (soft start)                                                             |
| Efficiency:                           | 70 - 80% typ. @ full case load                                                          |
| Power Factor:                         | 0.99 typ. meets EN61000-3-2                                                             |
| Turn-on time:                         | AC on 1.5 sec typ.<br>inhibit/enable 150 ms typ.                                        |
| EMI filter standard:                  | CISPR 22/EN55022 Level "B"                                                              |
| EMI filter (low leakage option):      | CISPR 22/EN55022 Level "A"                                                              |
| Leakage current standard:             | 2.0 mA max. @240 Vac                                                                    |
| Leakage current (low leakage option): | 300µA max. @ 240 Vac                                                                    |
| Radiated EMI:                         | CISPR 22/EN55022 Level "B"                                                              |
| Holdover storage:                     | 20 ms minimum (independent of input Vac)                                                |
| AC OK:                                | >5 ms early warning min. before outputs lose regulation<br>Full cycle ride thru (50 Hz) |
| Harmonic distortion:                  | Meets EN61000-3-2                                                                       |
| Isolation:                            | Meets EN60950                                                                           |
| Global Inhibit/Enable:                | TTL, Logic "1" and Logic "0"                                                            |
| Input fuse (internal):                | MP4: 10 A; MP6: 15 A; MP8: 20 A; MP1: 20 A                                              |
| Warranty:                             | 2 years                                                                                 |



| Output                                                                                                     |                                                                                                                                                                    | Output (cont.)                                                                              |                                                                                                                    |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Adjustment range:                                                                                          | ± 10% minimum all outputs                                                                                                                                          | Thermal protection:                                                                         | All outputs disabled when internal temp exceeds safe operating range. > 5ms warning (AC OK signal) before shutdown |
| Margining:                                                                                                 | ± 4 - 6% nominal <sup>1</sup>                                                                                                                                      | Remote sense:                                                                               | Up to 0.5 V total drop (not avbl on triple output module)                                                          |
| Overall regulation:                                                                                        | 0.4% or 20mV max.<br>(36 W modules 4% maximum)                                                                                                                     | Single wire parallel:                                                                       | Current share to within 2% of total rated current <sup>2</sup>                                                     |
| Ripple:                                                                                                    | RMS: 0.1% or 10mV, whichever is greater<br>Pk-Pk: 1.0% or 50mV, whichever is greater<br>Bandwidth limited to 20 MHz                                                | DC OK:                                                                                      | -2% to -8% of nominal for any monitored output <sup>2</sup>                                                        |
| Dynamic response:                                                                                          | < 2% or 100 mV, with 25% load step                                                                                                                                 | Minimum load:                                                                               | Not required on single or triple output. 10% required on main of dual output <sup>3</sup>                          |
| Recovery time:                                                                                             | To within 1% in < 300 µsec                                                                                                                                         | Housekeeping bias voltage:                                                                  | 5 Vdc @ 1.0 A max. present whenever AC input is applied                                                            |
| Overcurrent protection:**                                                                                  | Single output module & main output of dual output module<br>105-120% of rated output current.<br>Aux output of dual output module 105-140% of rated output current | Module inhibit:                                                                             | TTL, isolated, singles and dual (both outputs) only                                                                |
| Short-circuit protection:                                                                                  | Protected for continuous short-circuit<br>Recovery auto upon removal of short                                                                                      | Switching frequency:                                                                        | 250k Hz                                                                                                            |
| Overvoltage protection:<br>(measured at sense connection)                                                  |                                                                                                                                                                    | Output/Output isolation:                                                                    | >1 Megohm                                                                                                          |
| Single output module: 2-5.5 V 122-134% ; 6-60 V 100-120%                                                   |                                                                                                                                                                    | VME signal option board:                                                                    | POR signal & quad external DC OK                                                                                   |
| Dual output module: 2-6 V 122-134% ; 8-28 V 110-120%                                                       |                                                                                                                                                                    | Hold-up module (HUP):                                                                       | 1-slot module providing additional 34mSec (60mSec total); hold-up @ 600 W loading.                                 |
| Triple output module: No overvoltage protection provided.<br>Recycle AC input voltage to reset OVP circuit |                                                                                                                                                                    |                                                                                             |                                                                                                                    |
| Reverse voltage protection: 100% of rated output current                                                   |                                                                                                                                                                    | 1. Single output modules only.                                                              |                                                                                                                    |
|                                                                                                            |                                                                                                                                                                    | 2. Single and main of dual output modules only                                              |                                                                                                                    |
|                                                                                                            |                                                                                                                                                                    | 3. Contact factory for optional preload if required                                         |                                                                                                                    |
|                                                                                                            |                                                                                                                                                                    | Field Demonstrated MTBF: > 550,000 hours at full load, 220 Vac and 25 °C ambient conditions |                                                                                                                    |

## Environmental Specifications

|                          |                                                                                                                                |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature:   | -20 °C to 50 °C (start @ 0 °C)<br>(derate each output linearly to 50% at 70 °C)<br>(-20 °C to 40 °C max. with rear air option) |
| Shock/Vibration:         | Mil-Hdbk 810E                                                                                                                  |
| Humidity:                | 95% non-condensing                                                                                                             |
| Storage temperature:     | -40 °C to 85 °C                                                                                                                |
| Temperature coefficient: | 0.02% per °C                                                                                                                   |
| Cooling:                 | Internal DC fan or customer provided air (option)                                                                              |

## Output Module Line-up

| Module Type                            | Single | Single | Single | Dual                | Triple       |
|----------------------------------------|--------|--------|--------|---------------------|--------------|
| Output                                 | 1      | 1      | 1      | 2                   | 3            |
| Max output power                       | 210 W  | 360 W  | 600 W  | 144 W               | 36 W         |
| Max output current                     | 35 A   | 60 A   | 120 A  | 10 A                | 2 A          |
| Volts                                  | 2-60 V | 2-60 V | 2-60 V | 2-28 V              | 2-28V        |
| Standard voltage increments            | 25     | 25     | 25     | 19                  | 18           |
| Remote sense on outputs                | Yes    | Yes    | Yes    | Yes, both           | No           |
| Remote margin/V-Program                | Yes    | Yes    | Yes    | No                  | No           |
| Module Inhibit (isolated)              | Yes    | Yes    | Yes    | --                  | --           |
| Single wire active current share       | Yes    | Yes    | Yes    | Yes, main only      | --           |
| Over voltage / over current protection | Yes    | Yes    | Yes    | Yes                 | Over current |
| Minimum load required                  | No     | No     | No     | Yes (10%) main only | No           |
| Slots occupied in any MP case          | 1      | 2      | 3      | 1                   | 1            |

# Output Module Voltage/Current

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| Voltage       | Voltage Code | Single Output Module Code                            |        |        | Dual Output** |      | Triple Output |       |       |
|---------------|--------------|------------------------------------------------------|--------|--------|---------------|------|---------------|-------|-------|
|               |              | 1                                                    | 2      | 3      | V1            | V2   | V1            | V2    | V3    |
| 2 V           | A            | 35 A                                                 | 60 A   | 120 A  | —             | 10 A | —             | —     | 2 A   |
| 2.2 V         | B            | 35 A                                                 | 60 A   | 120 A  | —             | 10 A | —             | —     | 2 A   |
| 3 V           | C            | 35 A                                                 | 60 A   | 120 A  | —             | 10 A | —             | —     | 2 A   |
| 3.3 V         | D            | 35 A                                                 | 60 A   | 120 A  | —             | 10 A | —             | —     | 2 A   |
| 5 V           | E            | 35 A                                                 | 60 A   | 120 A  | 10 A          | 10 A | —             | —     | 2 A   |
| 5.2 V         | F            | 35 A                                                 | 60 A   | 115 A  | —             | 10 A | —             | —     | 2 A   |
| 5.5 V         | G            | 34 A                                                 | 58 A   | 109 A  | —             | 10 A | —             | —     | 2 A   |
| 6.0 V         | H            | 23 A                                                 | 42 A   | 78 A   | —             | 10 A | —             | —     | 2 A   |
| 8.0 V         | I            | 20 A                                                 | 36 A   | 68 A   | —             | —    | 1 A           | 1 A   | 1 A   |
| 10 V          | J            | 18 A                                                 | 32 A   | 60 A   | —             | —    | 1 A           | 1 A   | 1 A   |
| 11 V          | K            | 17 A                                                 | 31 A   | 54.5 A | —             | —    | 1 A           | 1 A   | 1 A   |
| 12 V          | L            | 17 A                                                 | 30 A   | 50 A   | 10 A          | 4 A  | 1 A           | 1 A   | 1 A   |
| 14 V          | M            | 14 A                                                 | 21 A   | 40.5 A | 9 A           | 4 A  | 1 A           | 1 A   | 1 A   |
| 15 V          | N            | 14 A                                                 | 20 A   | 39 A   | 8 A           | 4 A  | 1 A           | 1 A   | 1 A   |
| 18 V          | O            | 11 A                                                 | 19 A   | 33.3 A | —             | —    | —             | 0.5 A | 0.5 A |
| 20 V          | P            | 10.5 A                                               | 18 A   | 30 A   | —             | —    | —             | 0.5 A | 0.5 A |
| 24 V          | Q            | 8.5 A                                                | 15 A   | 23.5 A | 4 A           | 2 A  | —             | 0.5 A | 0.5 A |
| 28 V          | R            | 6.7 A                                                | 12.8 A | 21.4 A | 3 A           | 2 A  | —             | 0.5 A | 0.5 A |
| 30 V          | S            | 6.5 A                                                | 12 A   | 20 A   | —             | —    | —             | —     | —     |
| 33 V          | T            | 6.2 A                                                | 10.9 A | 18.2 A | —             | —    | —             | —     | —     |
| 36 V          | U            | 5.8 A                                                | 10 A   | 16.6 A | —             | —    | —             | —     | —     |
| 42 V          | V            | 4.2 A                                                | 7.5 A  | 12.5 A | —             | —    | —             | —     | —     |
| 48 V          | W            | 4.0 A                                                | 7.5 A  | 12.5 A | —             | —    | —             | —     | —     |
| 54 V          | X            | 3.7 A                                                | 6.0 A  | 11 A   | —             | —    | —             | —     | —     |
| 60 V          | Y            | 3.5 A                                                | 6.0 A  | 10 A   | —             | —    | —             | —     | —     |
| Non-std*      | Z            | Special Voltage - Consult Factory for specifications |        |        |               |      |               |       |       |
| 2.4 V - 2.7 V |              | 35 A                                                 | 60 A   | 120 A  | —             | 10 A | —             | —     | 2 A   |
| 3.6 V - 4.5 V |              | 35 A                                                 | 60 A   | 120 A  | —             | 10 A | —             | —     | 2 A   |
| 6.6 V - 9.2 V |              | 20 A                                                 | 36 A   | 68 A   | 10 A          | 4 A  | —             | —     | 1 A   |
| 8.8 V - 9.0 V |              | 18 A                                                 | 32 A   | 60 A   | 10 A          | 4 A  | —             | —     | 1 A   |

| Parallel Codes |        |        |        |        |        |        |                           |
|----------------|--------|--------|--------|--------|--------|--------|---------------------------|
| Slot 7         | Slot 6 | Slot 5 | Slot 4 | Slot 3 | Slot 2 | Slot 1 | MP4 & MP6 available slots |
|                |        |        |        |        |        |        | MP8 available slots       |
|                |        |        |        |        |        |        | MP1 available slots       |
| 7              | 6      | 5      | 4      | 3      | 2      | 1      |                           |
| ●              | ●      | ●      | ●      | ●      | ●      | ●      | 0 = no parallel           |
| ●              | ●      | ●      | ●      | ●      | —      | —      | 1 = 1 & 2                 |
| ●              | ●      | ●      | ●      | —      | —      | —      | 2 = 2 & 3                 |
| ●              | ●      | ●      | —      | —      | —      | —      | 3 = 3 & 4                 |
| ●              | ●      | —      | —      | —      | —      | —      | 4 = 4 & 5                 |
| ●              | —      | —      | —      | —      | —      | —      | 5 = 3 & 4 & 5             |
| ●              | —      | —      | —      | —      | —      | —      | 6 = 5 & 6                 |
| ●              | —      | —      | —      | —      | —      | —      | 7 = 4 & 5 & 6             |
| —              | —      | —      | —      | —      | —      | —      | 8 = 6 & 7                 |
| —              | —      | —      | —      | —      | —      | —      | 9 = 3 & 4, 6 & 7          |
| —              | —      | —      | —      | —      | —      | —      | A = 1 & 2, 3 & 4, 5 & 6   |
| —              | —      | —      | —      | —      | —      | —      | C = 2 & 3, 4 & 5          |
| —              | —      | —      | —      | —      | —      | —      | E = 3 & 4, 5 & 6          |
| —              | —      | —      | —      | —      | —      | —      | F = 2 & 3, 4 & 5, 6 & 7   |

## Notes:

- Omit digits that do not apply.
- Specify modules from lowest number of outputs to highest. (Single/Dual/Triple)
- If number of outputs are equal, specify modules from highest to lowest power increments. If power increments are equal, specify in descending alphabetical order (1A, B, C . . .).
- Always start with Slot 1.
- All MP model configurations created using this selection guide are standard MP products with standard availability and lead times.
- Optional VME/DCOK module must always be located in the last slot. Module designator is "VME".

## Ordering Information

| Case Size                                                                                                                                                                                                                                                                                         | Module/Voltage/Option Codes<br>First - Module Code<br>Second - Voltage Code                                                                                                                                                                                                                                                                | Add-on Modules                                               | Case Option Codes                                                                                                                                                                                                                                                                                                                     | Hardware Code                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| <b>MP1</b>                                                                                                                                                                                                                                                                                        | <b>-3L - 2E - 1Q -4LL</b>                                                                                                                                                                                                                                                                                                                  | <b>- HUP</b>                                                 | <b>- 00</b>                                                                                                                                                                                                                                                                                                                           | <b>-###</b>                        |
| <b>Case Size (mm)</b><br>4 = 2.5" x 5" x 10"; 400 W-600 W, 5 Slots (63.5 x 127 x 254)<br>6 = 2.5" x 5" x 11"; 600 W-800 W, 5 Slots (63.5 x 127 x 279.4)<br>8 = 2.5" x 7" x 10"; 800 W-1000 W, 6 Slots (63.5 x 177.8 x 254)<br>1 = 2.5" x 8" x 11"; 1000 W-1200 W, 7 Slots* (63.5 x 203.2 x 279.4) | <b>Module Codes</b><br>Module/Voltage/Option Codes<br>Module codes:<br>(None) = 36 W triple O/P (1 slot)<br>1 = 210 W single O/P (1 slot)<br>2 = 360 W single O/P (2 slot)<br>3 = 600 W single O/P (3 slot)<br>4 = 144 W dual O/P (1 slot)<br>5 - 9 = future<br><br><b>Voltage Codes:</b><br>See Output Module Voltage/Current table above | HUP = Hold up module<br>VME = VME POR signal and isolated DC | <b>Case Option Codes</b><br><br>First digit<br>0 - 9 = parallel code (See Parallel Codes table above)<br><br>Second digit<br>Standard Options<br>0 = No options<br>1 = Rear Air Exhaust<br>3 = Global enable<br>5 = Opt 1 + Opt 3<br>M = Low Leakage<br>N = Low Leakage + Opt 1<br>P = Low Leakage + Opt 3<br>R = Low Leakage + Opt 5 | Factory assigned for modifications |

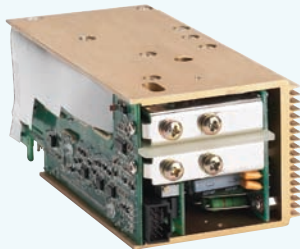
## Single



210 W



360 W



600 W

## Dual



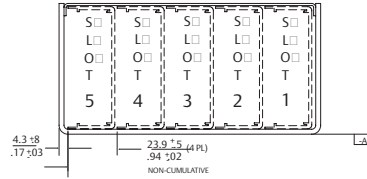
144 W

## Triple



36 W

### MP4 & MP6



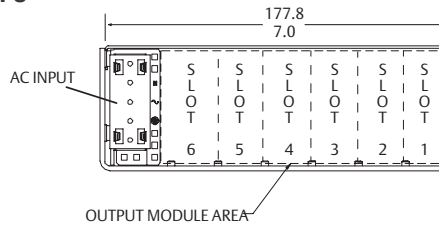
**MP4** = 2.5" x 5" x 10" 5 available slots  
(63.5 x 127 x 254mm)

**MP6** = 2.5" x 8" x 11" 5 available slots  
(63.5 x 127 x 279.4mm)

Input  
85-264 Vac 180-264 Vac  
400 W max. 600 W max.

600 W max. 800 W max.

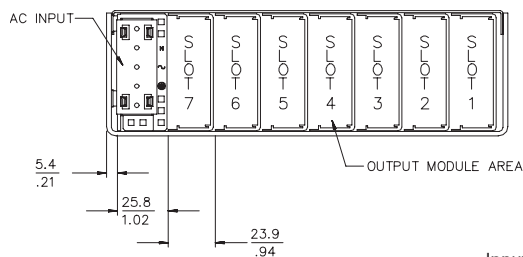
### MP8



**MP8** = 2.5" x 7" x 10" 6 available slots  
(63.5 x 177.8 x 254mm)

Input  
85-264 Vac 180-264 Vac  
800 W max. 1000 W max.

### MP1

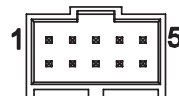


**MP1** = 2.5" x 8" x 11" 7 available slots  
(63.5 x 203.2 x 279.4mm)

Input  
85-264 Vac 180-264 Vac  
1000 W max. 1200 W max.

## Pin Connectors

Figure 1. Connector J1



Mates with  
Molex 90142-0010 Housing  
90119-2110 Pin

### PFC Input Connector

J1 Control Connector Standard for all cases

#### Pin No. Function

|       |                                          |
|-------|------------------------------------------|
| J1-1  | Input AC OK - "emitter"                  |
| J1-2  | Input AC OK - "collector"                |
| J1-3  | Global DC OK - "emitter"                 |
| J1-4  | Global DC OK - "collector"               |
| J1-5  | Spare                                    |
| J1-6  | Global inhibit/optional enable logic "0" |
| J1-7  | Global inhibit/optional enable logic "1" |
| J1-8  | Global inhibit/optional enable return    |
| J1-9  | SELV 5 V housekeeping                    |
| J1-10 | SE:V 5 V housekeeping return             |

## Mechanical Drawings

### MP Modules

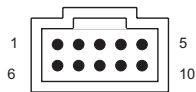
#### DC-DC Converter Output Modules

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##### PFC Input Connector

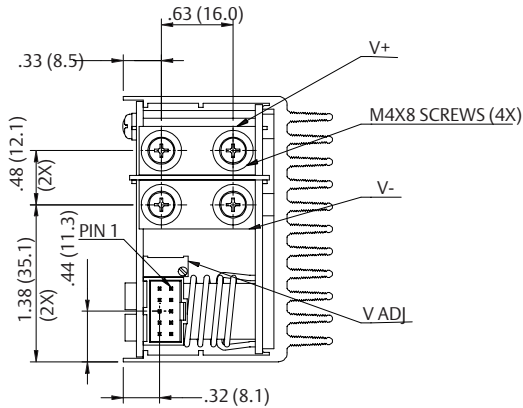
| Pin No. | Function                   |                           |
|---------|----------------------------|---------------------------|
| 1       | + Remote Sense             | single or dual o/p main   |
| 2       | Remote Margin / V. Program | single o/p                |
| 3       | Margin High                | single o/p                |
| 4       | - Remote Sense/Margin Low  | single or dual o/p main   |
| 5       | Spare                      |                           |
| 6       | Module, Isolated Inhibit   | single or dual o/p        |
| 7       | Module Inhibit Return      | single or dual o/p        |
| 8       | Current Share (SWP)        | single or dual o/p main   |
| 9       | + Remote Sense V2          | dual o/p, single is spare |
| 10      | - Remote Sense V2          | dual o/p, single is spare |

Figure 4. Connector J1

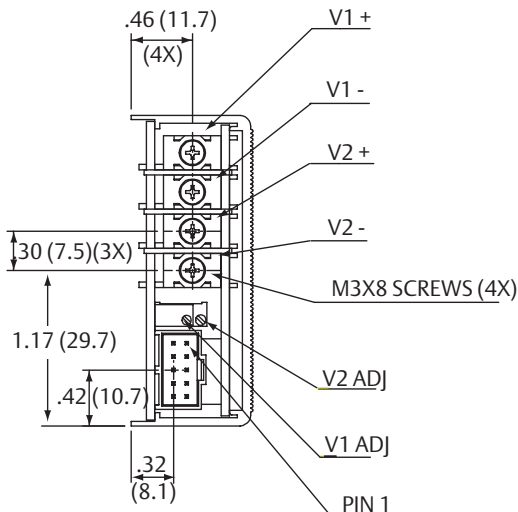


Mates with  
Molex 90142-0010 Housing  
90119-2110 Pin

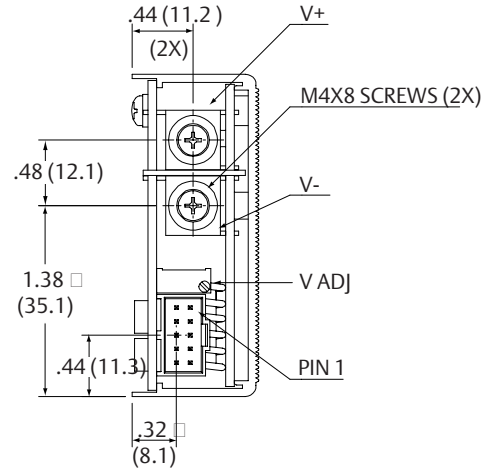
##### Single 360 Watt



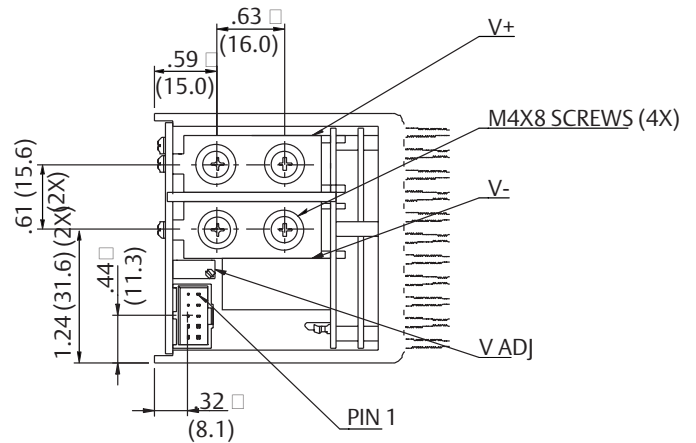
##### Dual 144 Watt



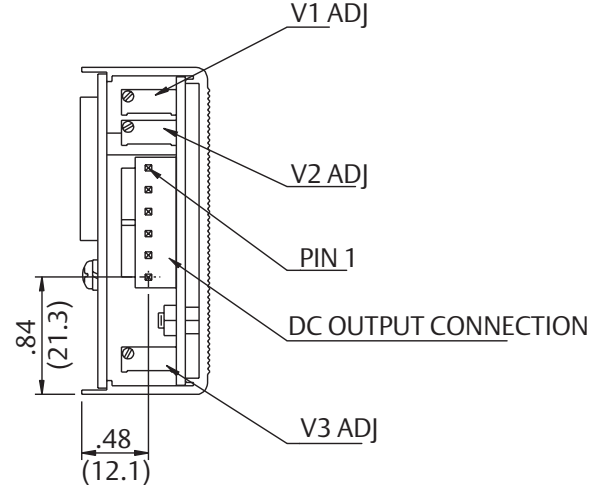
##### Single 210 Watt



##### Single 600 Watt



##### Triple 36 Watt



|   |     |
|---|-----|
| ⊗ | V1+ |
| ⊗ | V1- |
| ⊗ | V2+ |
| ⊗ | V2- |
| ⊗ | V3+ |
| ⊗ | V3- |

## MP Series

**MP4 (400/600 Watts Max)**

**MP6 (600/800 Watts Max)**

5-Inch Case Size: MP4: 2.5" x 5" x 10" (63.5mm x 127mm x 254mm)

5-Inch Case Size: MP6: 2.5" x 5" x 11" (63.5mm x 127mm x 279.4mm)

Weight: MP4 Case: 2.6 lbs. • MP6 Case: 3.2 lbs. • 36 W Triple: 0.5 lb.

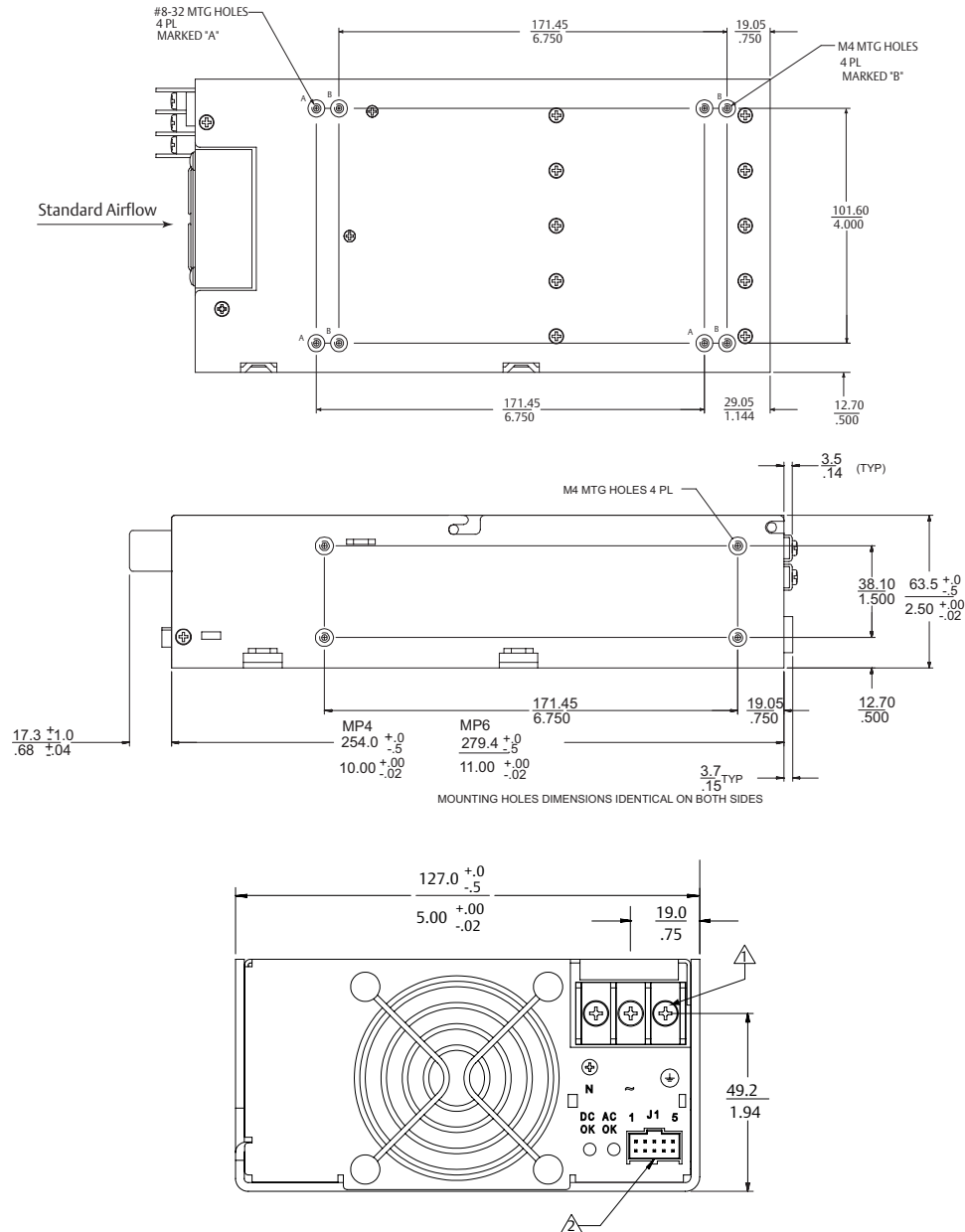
• 210 W Single: 0.6 lb. • 360 W Single: 1.0 lb. • 600 W Single: 2.0 lbs

• 144 W Dual: 0.6 lb

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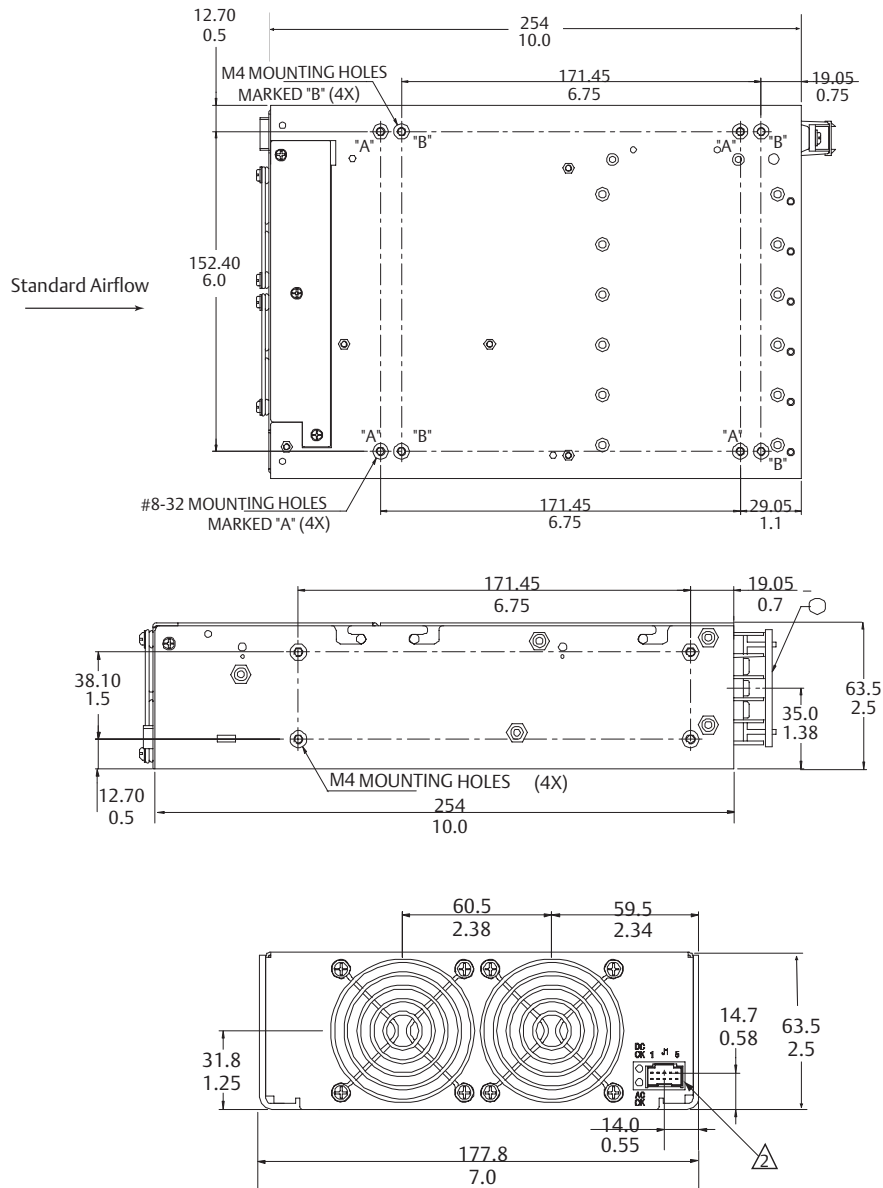
## Notes

1. Input: Barrier type. Three No. 6-32 B.H. screws (0.375" centers). Max torque: 6 in-lbs. (0.67 N-m).
2. Control connectors: (J1 and J2) 10 position housing, gold plated contacts. Mates with Molex 90142-0010 housing with 90119-2110 crimp contacts (Molex C - Grid III Series). Connector kit includes mating connector and 10 pins, Astec part #70-841-004.
3. Chassis material: aluminum with chemical film coating (conductive).
4. All dimensions are in millimeters and inches, and are typical.
5. Customer mounting -3 sides M4, bottom also includes 8-32 mounting holes. Max. penetration is 0.150" (3.8 mm). Max. torque: 5 in-lbs.
6. Output module connections: All single O/P modules are M4 x 8mm screws. Max. torque: 10 in-lbs.  
Dual O/P module is M3 x 8mm screws. Max. torque: 5 in-lbs.  
Triple O/P module is .045" square pins on .156" centers. Mates with Moelx 09-50-8063 or equivalent.

## MP Series MP8 (800/1000 Watts Max)

7-Inch Case Size: MP8: 2.5" x 7" x 10" (63.5mm x 177.8mm x 254mm)  
Weight: MP8 Case: 4.1 lbs. • 36 W Triple: 0.5 lb. • 210 W Single: 0.6 lb.  
• 360 W Single: 1.0 lb. • 600 W Single: 2.6 lbs. • 144 W Dual: 0.6 lb.

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## Notes

1. Input: Barrier type. Three No. 6-32 B.H. screws (0.375" centers). Max torque: 6 in-lbs. (0.67 N-m).
2. Control connectors: (J1 and J2) 10 position housing, gold plated contacts. Mates with Molex 90142-0010 housing with 90119-2110 crimp contacts (Molex C - Grid III Series). Connector kit includes mating connector and 10 pins, Astec part #70-841-004.
3. Chassis material: aluminum with chemical film coating (conductive).
4. All dimensions are in millimeters and inches, and are typical.
5. Customer mounting -3 sides M4, bottom also includes 8-32 mounting holes. Max. penetration is 0.150" (3.8 mm). Max. torque: 5 in-lbs.
6. Output module connections: All single O/P modules are M4 x 8mm screws. Max. torque: 10 in-lbs.  
Dual O/P module is M3 x 8mm screws. Max. torque: 5 in-lbs.  
Triple O/P Module is .045" square pins on .156 centers. Mates with Moelx 09-50-8063 or equivalent.

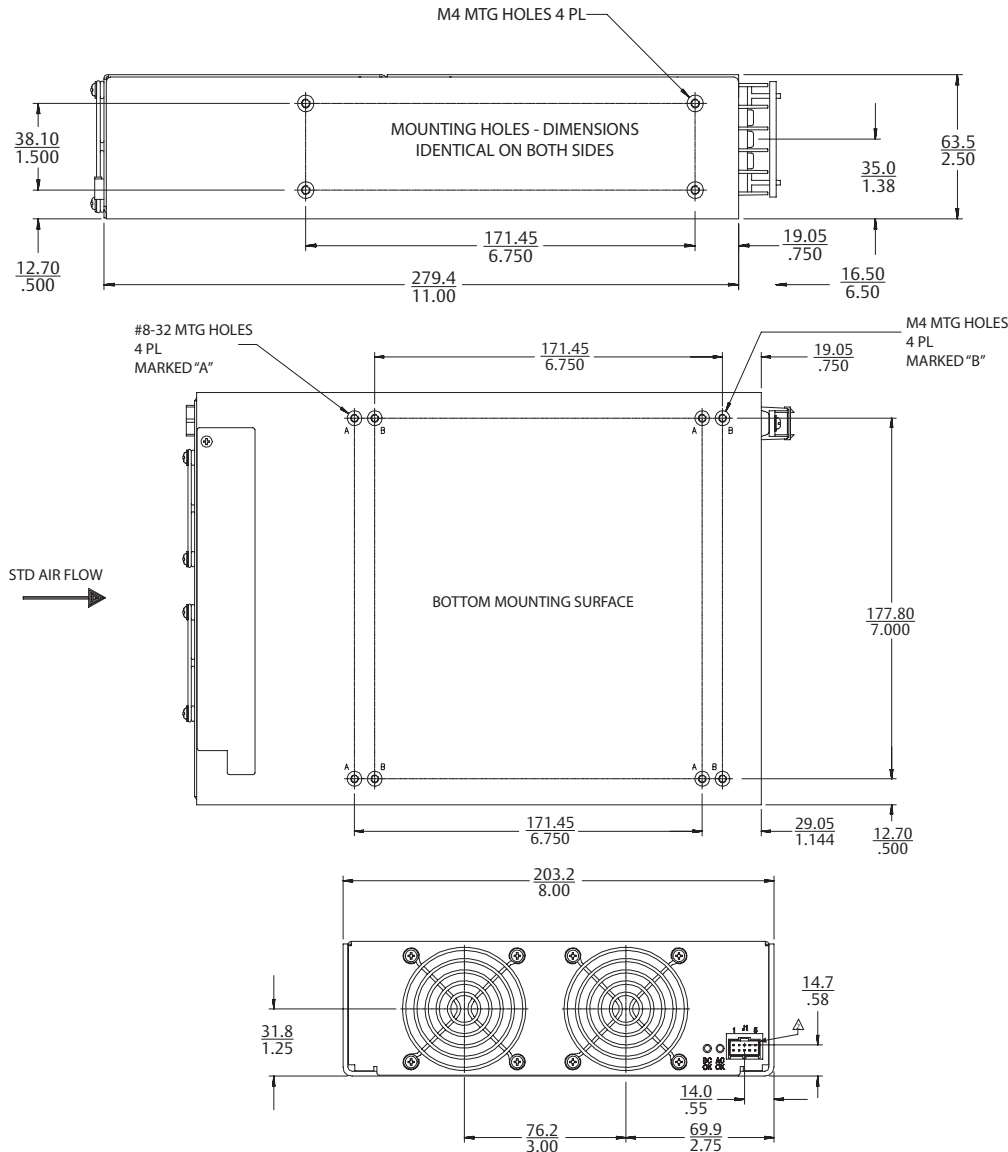
## MP Series MP1 (1000/1200 Watts Max)

8-Inch Case Size: MP1: 2.5" x 8" x 11" (63.5mm x 203.2mm x 279.4mm)

Weight: MP1 Case: 5.0 lbs. • 36 W Triple: 0.5 lb.

• 210 W Single: 0.6 lb. • 360 W Single: 1.0 lb.

• 600 W Single: 2.0 lbs. • 144 W Dual: 0.6 lb.



STD AIR FLOW  
→

## Notes

1. Input: Barrier type. Three No. 6-32 B.H. screws (0.375" centers). Max torque: 6 in-lbs (0.67 N-m).
2. Control connectors: (J1 and J2) 10 position housing, gold plated contacts. Mates with Molex 90142-0010 housing with 90119-2110 crimp contacts (Molex C - Grid III Series). Connector kit includes mating connector and 10 pins, Astec part #70-841-004.
3. Chassis material: aluminum with chemical film coating (conductive).
4. All dimensions are in millimeters and inches, and are typical.
5. Customer mounting -3 sides M4, bottom also includes 8-32 mounting holes. Max. penetration is 0.150" (3.8 mm). Max. torque: 5 in-lbs.
6. Output module connections: All single O/P modules are M4 x 8mm screws. Max. torque: 10 in-lbs. Dual O/P module is M3 x 8mm screws. Max. torque: 5 in-lbs. Triple O/P module is .045" square pins on .156 centers. Mates with Molex 09-50-8063 or equivalent.

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