

## Intelligent MP Series

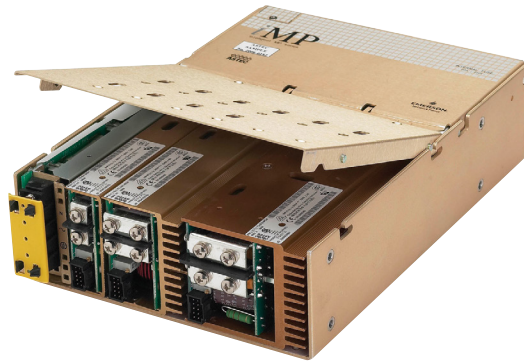
Up to 1500 Watts

**Total Power:** Up to 1500 Watts

**Input Voltage:** 85 - 264 Vac  
120-300 Vdc

**# of Outputs:** Up to 21

iMP®



### Special Features

- Full Medical EN60601 approval
- Intelligent I<sup>2</sup>C control
- Voltage adjustment on all outputs (Manual or I<sup>2</sup>C)
- Configurable input and output (case and module) OK signals and indicators
- Configurable inhibit/enable
- Configurable output UP/DOWN sequencing
- Configurable current limit (foldback or constant current)
- High power density (8.8 W/cu-in)
- Intelligent fan (speed control/fault status)
- Downloadable GUI from website
- Customer provided air option
- uP controlled PFC input with active inrush protection
- I<sup>2</sup>C monitor of voltage, current, and temp
- Programmable voltage, current limit, inhibit/enable through I<sup>2</sup>C
- Optional extended hold-up module (SEMI F47 compliance)
- Increased power density to 50% over standard MP
- External switching frequency sync input
- Optional conformal coating
- Industrial temp range (-40 °C to 70 °C)
- No preload required
- Industrial shock/vibration (> 50G's)

### Electrical Specifications

| Input                  |                                                                                                                                                                           |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input range:           | 85 - 264 Vac 120 - 350 Vdc<br>(limited to 300 Vdc in medical applications)                                                                                                |
| Frequency:             | 47 - 440 Hz                                                                                                                                                               |
| Inrush current:        | 40 A peak max. (soft start)                                                                                                                                               |
| Efficiency:            | Up to 85% @ full case load                                                                                                                                                |
| Power Factor:          | 0.99 typ. meets EN61000-3-2 (n/a @ 440 Hz)                                                                                                                                |
| Turn-on time:          | AC on 2.0 sec typ., inhibit/enable 150 ms typical<br>Programmable delay; 50 ms internal turn-on delay (Dual Output only)                                                  |
| EMI filter:            | CISPR 22/EN55022 Level "B"***                                                                                                                                             |
| Leakage current:       | 300 µA max. @ 240 Vac; 47 - 63 Hz                                                                                                                                         |
| Radiated EMI:          | CISPR 22/EN55022 Level "B"***                                                                                                                                             |
| Holdover storage:      | 20 ms minimum (independent of input Vac) additional 34ms holdover<br>storage with optional HUP module (SEMI F47 compatible). For iMP4 15 ms (low-line), 10 ms (high-line) |
| AC OK:                 | > 5 ms early warning min. before outputs lose regulation<br>Full cycle ride thru (50 Hz) (n/a on iMP4 > 750 W @ 90 Vac)                                                   |
| Harmonic distortion:   | Meets EN61000-3-2                                                                                                                                                         |
| Isolation:             | Meets EN60950 and EN60601                                                                                                                                                 |
| Global Inhibit/Enable: | TTL, Logic "1" and Logic "0"; configurable                                                                                                                                |
| Input fuse (internal): | iMP4: 16 A; iMP8: 20 A; iMP1: 25 A (both lines fused)                                                                                                                     |
| Warranty:              | 2 years                                                                                                                                                                   |

### Safety

- **UL** UL60950/UL2601\*\*
- **CSA** CSA22.2 No. 234 Level 5
- **VDE** EN60950/EN60601-1\*\*
- **BABT** Compliance to EN60950/EN60601 BS7002
- **CB** Certificate and report
- **CE** Mark to LVD



## Output

|                                           |                                                                                                                                                                                                                                                  |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Adjustment range: *</b>                | ± 10% minimum all outputs (manual)<br>(full module adjustment range using I <sup>2</sup> C)                                                                                                                                                      |
| Factory set point accuracy:               | ± 1%                                                                                                                                                                                                                                             |
| I <sup>2</sup> C output program accuracy: | ± 5%                                                                                                                                                                                                                                             |
| Margining:                                | ± 4 - 6% nominal analog<br>(single output module only)                                                                                                                                                                                           |
| Overall regulation:                       | 0.4% or 20 mV max. (1500W modules 1% max.)<br>(36 W modules 4% maximum)                                                                                                                                                                          |
| 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                                                                                                                              |
| Dynamic response:                         | < 2% or 100 mV, with 25% load step                                                                                                                                                                                                               |
| Recovery time:                            | To within 1% in < 300 µsec                                                                                                                                                                                                                       |
| <b>Overcurrent protection: **</b>         | Configurable through I <sup>2</sup> C (calibration required).<br>Single output module and main output of the<br>dual output module 105 - 120% of rated output<br>current. Aux output of dual output module 105<br>- 140% of rated output current |
| Short-circuit protection:                 | Protected for continuous short-circuit<br>Recovery is automatic upon removal of short                                                                                                                                                            |
| <b>Overvoltage protection: *</b>          | Configurable through I <sup>2</sup> C                                                                                                                                                                                                            |
| Single output module:                     | 2 - 5.5 V 122 - 134%; 6 - 60 V 110 - 120%                                                                                                                                                                                                        |
| Dual output module:                       | 2 - 6 V 122 - 134%; 8 - 28 V 110 - 120%                                                                                                                                                                                                          |
| Triple output module:                     | 110 - 120% of highest voltage rating                                                                                                                                                                                                             |

## Output Continued

|                                               |                                                                                                                                                                    |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reverse voltage protection:                   | 100% of rated output current                                                                                                                                       |
| <b>Thermal protection: *</b><br>(OTP and OTW) | Configurable through I <sup>2</sup> C<br>All outputs disabled when internal temp<br>exceeds safe operating range. > 5 ms warning<br>(AC OK signal) before shutdown |
| Remote sense:                                 | Up to 0.5 V total drop (not available on triple<br>output module)                                                                                                  |
| Single wire parallel:                         | Current share to within 2% of total rated<br>current                                                                                                               |
| DC OK: *                                      | ± 5% of nominal. Configurable through I <sup>2</sup> C                                                                                                             |
| Minimum load:                                 | Not required                                                                                                                                                       |
| Housekeeping standby:                         | 5 Vdc @ 1.0 A max. present whenever AC input<br>is applied (Optional 2.0 A available)                                                                              |
| <b>Module inhibit: *</b>                      | Configured and controlled through I <sup>2</sup> C                                                                                                                 |
| Switching frequency:                          | 250k Hz accepts external sync signal                                                                                                                               |
| Output/Output isolation:                      | >1 Megohm, 500 V                                                                                                                                                   |
| External sync:                                | TTL clock input signal used to adjust switching<br>frequency. Frequency 500 kHz ± 20%; Duty<br>cycle 40 - 55%                                                      |

\* Can be controlled via I<sup>2</sup>C

\*\* Controlled via I<sup>2</sup>C but requires load calibration

## Environmental Specifications

|                                 |                                                                                                    |
|---------------------------------|----------------------------------------------------------------------------------------------------|
| Operating temperature:          | -40 ° to 70 °C ambient. Derate each output 2.5% per degree from 50 °C to 70 °C. ( -20 °C start up) |
| Storage temperature:            | -40 °C to 85 °C                                                                                    |
| Electromagnetic susceptibility: | Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3                                    |
| Humidity:                       | Operating; non-condensing 10% to 95% RH                                                            |
| Vibration:                      | IEC68-2-6 to the levels of IEC721-3-2                                                              |
| MTBF demonstrated               | > 550,000 hours at full load, 220 Vac and 25 °C ambient conditions                                 |

## Output Module Line-up

| Module Code                               | 1      | 2      | 3      | 5      | 4                                                                                                        | —                                                                         |
|-------------------------------------------|--------|--------|--------|--------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Module Type                               | Single | Single | Single | Single | Dual                                                                                                     | Triple                                                                    |
| Max output power                          | 210 W  | 360 W  | 750 W  | 1500 W | 144 W                                                                                                    | 36 W                                                                      |
| Max output current                        | 35 A   | 60 A   | 150 A  | 140 A  | 10 A                                                                                                     | 2 A                                                                       |
| Output voltages available*                | 2-60 V | 2-60 V | 2-60 V | 6-60 V | 8 - 15*, 24 - 28; 8 - 15*, 8 - 15*; 8 - 15*,<br>2 - 6; 2 - 6, 2 - 6; 24 - 28, 24 - 28;<br>24 - 28, 2 - 6 | 8-15, 8-15, 2-6; 8-15, 8-15, 8-15;<br>8-15, 8-15, 18-28; 8-15, 18-28, 2-6 |
| Standard voltage increments               | 25     | 25     | 25     | 18     | 16                                                                                                       | 18                                                                        |
| Remote sense                              | Yes    | Yes    | Yes    | Yes    | Yes                                                                                                      | No                                                                        |
| Remote margin                             | Yes    | Yes    | Yes    | Yes    | No                                                                                                       | No                                                                        |
| V-Program - I <sup>2</sup> C Control      | Yes    | Yes    | Yes    | Yes    | Yes                                                                                                      | No                                                                        |
| Active Current Share                      | Yes    | Yes    | Yes    | Yes    | Yes                                                                                                      | No                                                                        |
| Module Inhibit - I <sup>2</sup> C Control | Yes    | Yes    | Yes    | Yes    | Yes                                                                                                      | Yes                                                                       |
| Module Inhibit - Analog                   | Yes    | Yes    | Yes    | Yes    | Yes                                                                                                      | No                                                                        |
| Overvoltage/Overcurrent protection        | Yes    | Yes    | Yes    | Yes    | Yes                                                                                                      | Yes                                                                       |
| Minimum load required                     | No     | No     | No     | No     | No                                                                                                       | No                                                                        |
| Slots occupied in any iVS case            | 1      | 2      | 3      | 4      | 1                                                                                                        | 1                                                                         |

\* Note: Contact Factory for extended range down to 6 V

# Output Module Voltage/Current

| Voltage | Voltage Code | Single Output Module Code |        |        |                | Dual Output*** |       | Triple Output |       |       | I <sup>2</sup> C Adjustment Ranges**** |
|---------|--------------|---------------------------|--------|--------|----------------|----------------|-------|---------------|-------|-------|----------------------------------------|
|         |              | 1                         | 2      | 3      | 5 <sup>+</sup> | 4              | 4     | -             | -     | -     |                                        |
| 2 V     | A            | 35 A                      | 60 A   | 150 A  | —              | 10 A           | 10 A  | —             | —     | 2 A   | 1.8 - 2.2                              |
| 2.2 V   | B            | 35 A                      | 60 A   | 150 A  | —              | 10 A           | 10 A  | —             | —     | 2 A   | 2.0 - 2.4                              |
| 3 V     | C            | 35 A                      | 60 A   | 150 A  | —              | 10 A           | 10 A  | —             | —     | 2 A   | 2.7 - 3.3                              |
| 3.3 V   | D            | 35 A                      | 60 A   | 150 A  | —              | 10 A           | 10 A  | —             | —     | 2 A   | 3.0 - 3.6                              |
| 5 V     | E            | 35 A                      | 60 A   | 150 A  | —              | 10 A           | 10 A  | —             | —     | 2 A   | 4.5 - 5.5                              |
| 5.2 V   | F            | 35 A                      | 60 A   | 144 A  | —              | 10 A           | 10 A  | —             | —     | 2 A   | 4.7 - 5.7                              |
| 5.5 V   | G            | 34 A                      | 58 A   | 136 A  | —              | 10 A           | 10 A  | —             | —     | 2 A   | 5.0 - 6.1                              |
| 6.0 V   | H            | 23 A                      | 42 A   | 97.5 A | 140 A          | 10 A*          | 10 A* | —             | —     | 2 A   | 5.4 - 6.6                              |
| 8.0 V   | I            | 20 A                      | 36 A   | 84.4 A | 140 A          | 10 A           | 4 A   | 1 A           | 1 A   | 1 A   | 7.2 - 8.8                              |
| 10 V    | J            | 18 A                      | 32 A   | 75 A   | 140 A          | 10 A           | 4 A   | 1 A           | 1 A   | 1 A   | 9.0 - 11.0                             |
| 11 V    | K            | 17 A                      | 31 A   | 68 A   | 136.3 A        | 10 A           | 4 A   | 1 A           | 1 A   | 1 A   | 9.9 - 12.1                             |
| 12 V    | L            | 17 A                      | 30 A   | 62.5 A | 125 A          | 10 A           | 4 A   | 1 A           | 1 A   | 1 A   | 10.8 - 13.2                            |
| 14 V    | M            | 14 A                      | 21 A   | 53.5 A | 107 A          | 9 A            | 4 A   | 1 A           | 1 A   | 1 A   | 12.6 - 15.4                            |
| 15 V    | N            | 14 A                      | 20 A   | 50 A   | 100 A          | 8 A            | 4 A   | 1 A           | 1 A   | 1 A   | 13.5 - 16.5                            |
| 18 V    | O            | 11 A                      | 19 A   | 41.6 A | 83.3 A         | —              | —     | —             | 0.5 A | 0.5 A | 16.2 - 19.8                            |
| 20 V    | P            | 10.5 A                    | 18 A   | 37.5 A | 75 A           | —              | —     | —             | 0.5 A | 0.5 A | 18.0 - 22.0                            |
| 24 V    | Q            | 8.5 A                     | 15 A   | 30 A   | 62.5 A         | 4 A            | 2 A   | —             | 0.5 A | 0.5 A | 21.6 - 26.4                            |
| 28 V    | R            | 6.7 A                     | 11 A   | 26.8 A | 53.5 A         | 3 A            | 2 A   | —             | 0.5 A | 0.5 A | 25.2 - 30.8                            |
| 30 V    | S            | 6.5 A                     | 11 A   | 25 A   | 50 A           | —              | —     | —             | —     | —     | 27.0 - 33.0                            |
| 33 V    | T            | 6.2 A                     | 10.9 A | 22.7 A | 35.8 A         | —              | —     | —             | —     | —     | 29.7 - 36.3                            |
| 36 V    | U            | 5.8 A                     | 10 A   | 20.8 A | 35.8 A         | —              | —     | —             | —     | —     | 32.4 - 39.6                            |
| 42 V    | V            | 4.2 A                     | 7.5 A  | 16 A   | 35.7 A         | —              | —     | —             | —     | —     | 37.8 - 46.2                            |
| 48 V    | W            | 4.0 A                     | 7.5 A  | 15.6 A | 31.2 A         | —              | —     | —             | —     | —     | 43.2 - 52.8                            |
| 54 V    | X            | 3.7 A                     | 6.0 A  | 13.9 A | 27.7 A         | —              | —     | —             | —     | —     | 48.6 - 59.4                            |
| 60 V    | Y            | 3.5 A                     | 6.0 A  | 12.5 A | 25 A           | —              | —     | —             | —     | —     | 54.0 - 66.0                            |

**Non-std\*\*** Z Special Voltage - Consult Factory for specifications

\*Note: Contact Factory for extended range down to 6 V.

\*\*Increments of current not shown can be achieved by paralleling modules

(add currents of each module selected).

\*\*\*Total output power on dual module must not exceed 144 W.

\*\*\*\* For single output modules only.

+ Applicable for iMP1 only.

## Ordering Note:

1. The cases and modules of both MP and iMP series can be interchanged to allow more flexibility. If intelligent modules are used with non-intelligent cases, a numeric code "4" is placed at the end of the module code (ex. 4LL0 becomes 4LL4).

2. USB to I<sup>2</sup>C module order code 73-769-001

## Parallel Codes

| Slot 7 | Slot 6 | Slot 5 | Slot 4 | Slot 3 | Slot 2 | Slot 1 |                         |
|--------|--------|--------|--------|--------|--------|--------|-------------------------|
|        |        |        |        |        |        |        | iMP4 available slots    |
|        |        |        |        |        |        |        | iMP8 available slots    |
|        |        |        |        |        |        |        | iMP1 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 |

## Ordering Information

| Case Size                                                                                                                                                                                                                                                                                                                                | Module/Voltage/Option Codes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Case Option Codes                                                                                                                                                                                                                                                                                                                                                             | Software Code                                                                | Hardware Code                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>iMP1*</b>                                                                                                                                                                                                                                                                                                                             | First - Module Code<br>Second - Voltage Code<br>Third - Option Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                               |                                                                              |                                                                    |
| <b>Case Size (mm)</b><br>4 = 2.5" x 5" x 10"; 750 W-1158 W, 5 Slots (63.5 x 127 x 254)<br>8 = 2.5" x 7" x 10"; 1000 W-1200 W, 6 Slots (63.5 x 177.8 x 254)<br>1 = 2.5" x 8" x 11"; 1200 W-1500 W, 7 Slots (63.5 x 203.2 x 279.4)<br><br>*Note: Add "E" after iMP4 to denote IEC input option. e.g. iMP4E (Not available on iMP8 or iMP1) | <b>3L0 - 2E2 - 1Q1 - 4LL0</b><br><br><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 = 750 W single O/P (3 slot)<br>4 = 144 W dual O/P (1 slot)<br>5 = 1500 W single O/P (4 slot)<br>6 - 9 = future<br><b>Voltage Codes:</b><br>See Output Module Voltage/Current table above<br><b>Option Codes:</b><br>0 = Standard<br>1 = Module enable<br>2 = Constant current<br>3 = 1 & 2 combined<br>4 = Set for use in standard (non-intelligent case)<br>5 = Shutdown mode for 1500W<br>6 = 1 & 5 combined<br>7 - 9 = future | <b>00</b><br><br><b>Case Option Codes</b><br><br>First digit<br>0 - 9, A-Z parallel code (See Parallel Codes table above)<br><br>Second digit<br>0 = No options<br>1 = Reverse air<br>3 = Global enable<br>4 = Fan idle with inhibit<br>5 = Opt 1 + Opt 3<br>6 = Opt 1 + Opt 4<br>7 = Opt 3 + Opt 4<br>8 = Opt 1 + 3 + 4<br>9 = CAN BUS/RS485 73-544-002<br>C = Opt 3 + Opt 9 | <b>A</b><br><br>Software code used for configuration change. "A" is standard | <b>###</b><br><br>Factory assembled for hardware of firmware mods. |

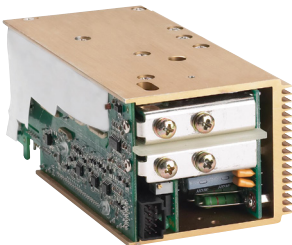
## Single



210 W



360 W

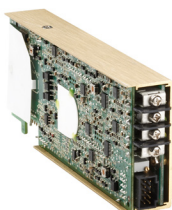


750 W



1500 W

## Dual



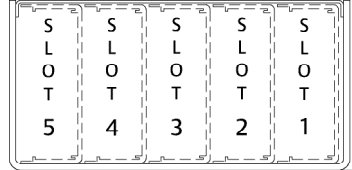
144 W

## Triple



36 W

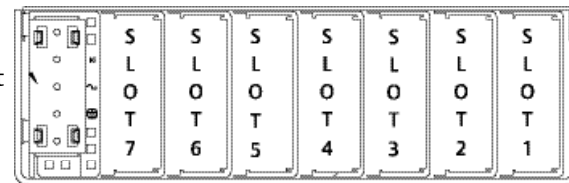
### iMP4 (AC input on opposite side)



iMP4 = 2.5" x 5" x 10" 5 available slots  
(63.5 x 127 x 254)

### iMP8 and iMP1

AC input



iMP1 only

iMP8 = 2.5" x 7" x 10" 6 available slots  
(63.5 x 177.8 x 254mm)

iMP1 = 2.5" x 8" x 11" 7 available slots  
(63.5 x 203.2 x 279.4mm)

Input  
90-264 Vac 180-264 Vac  
750 W max. 1158 W max.

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

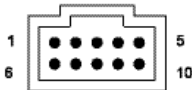
1200 W max. 1500 W max.

## Pin Connectors

Figure 1. AC Input

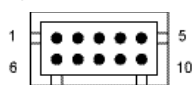


Figure 2. Connector J1



Mates with  
Molex 90142-0010 Housing  
90119-2110 Pin  
Connector Kit Part No.:  
70-841-004

Figure 3. Connector J2



Mates with  
Landwin 2050S1000 Housing  
2053T011V Pin  
or  
JST PHDR-10VS Housing  
JST SPHD-002T-P0.5 (28-24)  
JST SPHD-001T-P0.5 (26-22)

Connector Kit Part No.:  
70-841-023

### AC Input

| Pin No. | Function               |
|---------|------------------------|
| 1       | AC neutral             |
| 2       | AC line (hot)          |
| 3       | Chassis (earth) ground |

### PFC Input Connector (control and signals)

| Pin No. | Function                                 |
|---------|------------------------------------------|
| 1       | Input AC OK - "emitter"                  |
| 2       | Input AC OK - "collector"                |
| 3       | Global DC OK - "emitter"                 |
| 4       | Global DC OK - "collector"               |
| 5       | External Sync                            |
| 6       | Global inhibit/optional enable logic "0" |
| 7       | Global inhibit/optional enable logic "1" |
| 8       | Global inhibit/optional enable return    |
| 9       | +5 VSB housekeeping                      |
| 10      | +5 VSB housekeeping return               |

### PC Bus Output Connector

| Pin No. | Function                        |
|---------|---------------------------------|
| 1       | No connection                   |
| 2       | No connection                   |
| 3       | No connection                   |
| 4       | Serial clock signal (SCL)       |
| 5       | Serial data signal (SDA)        |
| 6       | Address bit 0 (A0)              |
| 7       | Address bit 1 (A1)              |
| 8       | Address bit 2 (A2)              |
| 9       | Secondary return (GND)          |
| 10      | 5 Vcc external bus (5 VCC. Bus) |

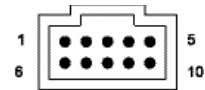
## iMP Modules DC-DC Converter Output Modules

Control Signal Information, J1 Control 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 |

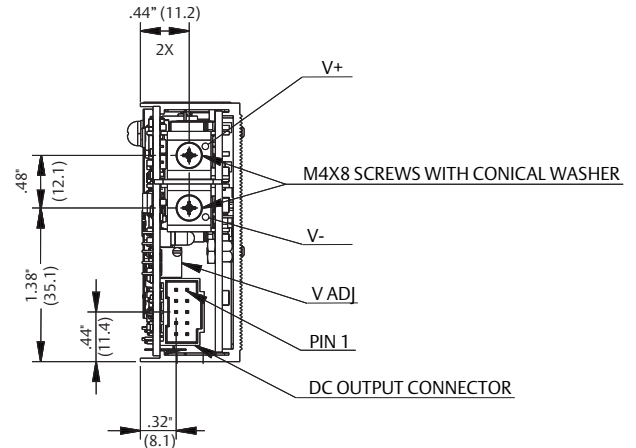
\*Note: All iMP modules have a green DCOK LED.  
(except for 36 W module)

Figure 4. Connector J1

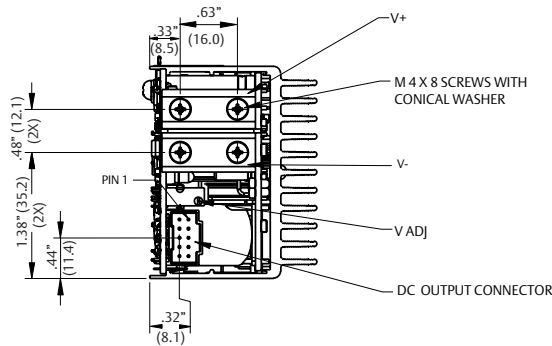


Mates with  
Molex 90142-0010 Housing  
90119-2110 Pin

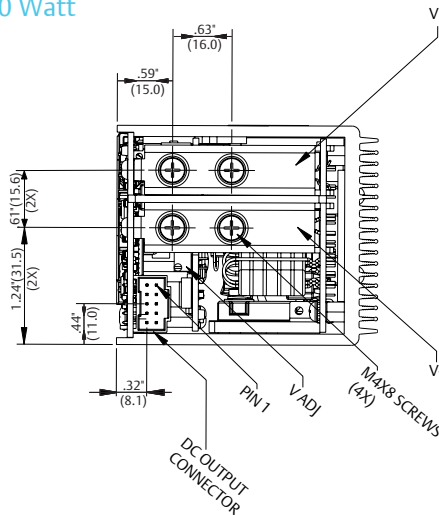
### Single 210 Watt



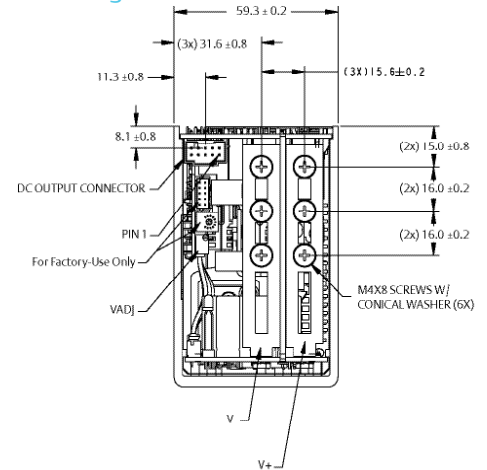
### Single 360 Watt



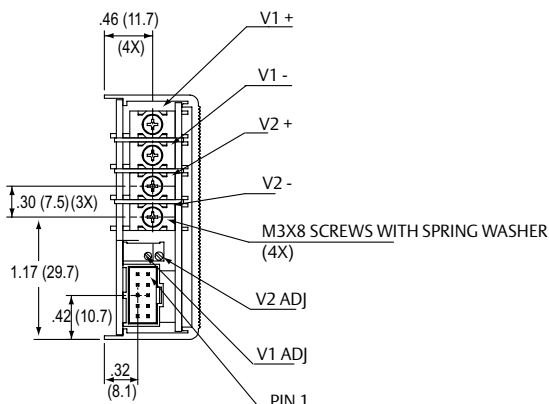
### Single 750 Watt



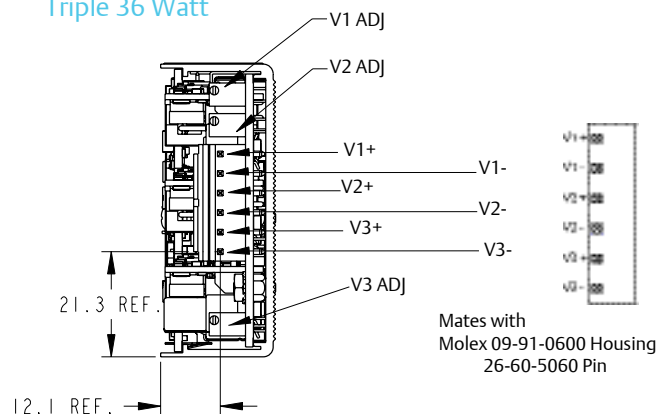
### Single 1500 Watt



### Dual 144 Watt



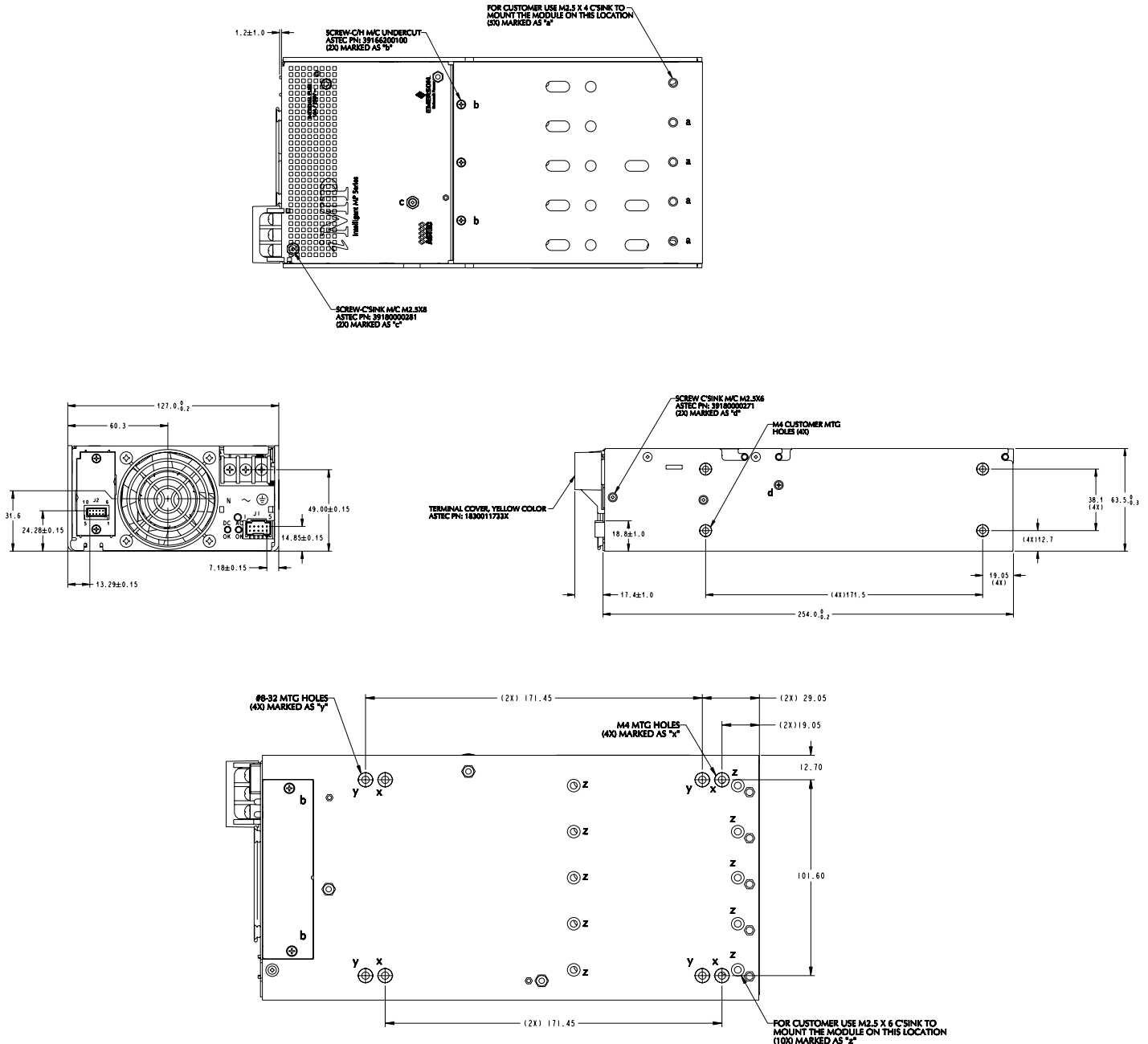
### Triple 36 Watt



## iMP Series iMP4 (750/1158 Watts Max)

5-Inch Case Size: iMP4: 2.5" x 5" x 10" (63.5mm x 127mm x 254mm)  
Weight: iMP4 Case: 3 lbs. • 360 W Single 1.0 lb.  
• 750 W Single: 1.6 lbs. 144 W Dual: 0.6 lb.

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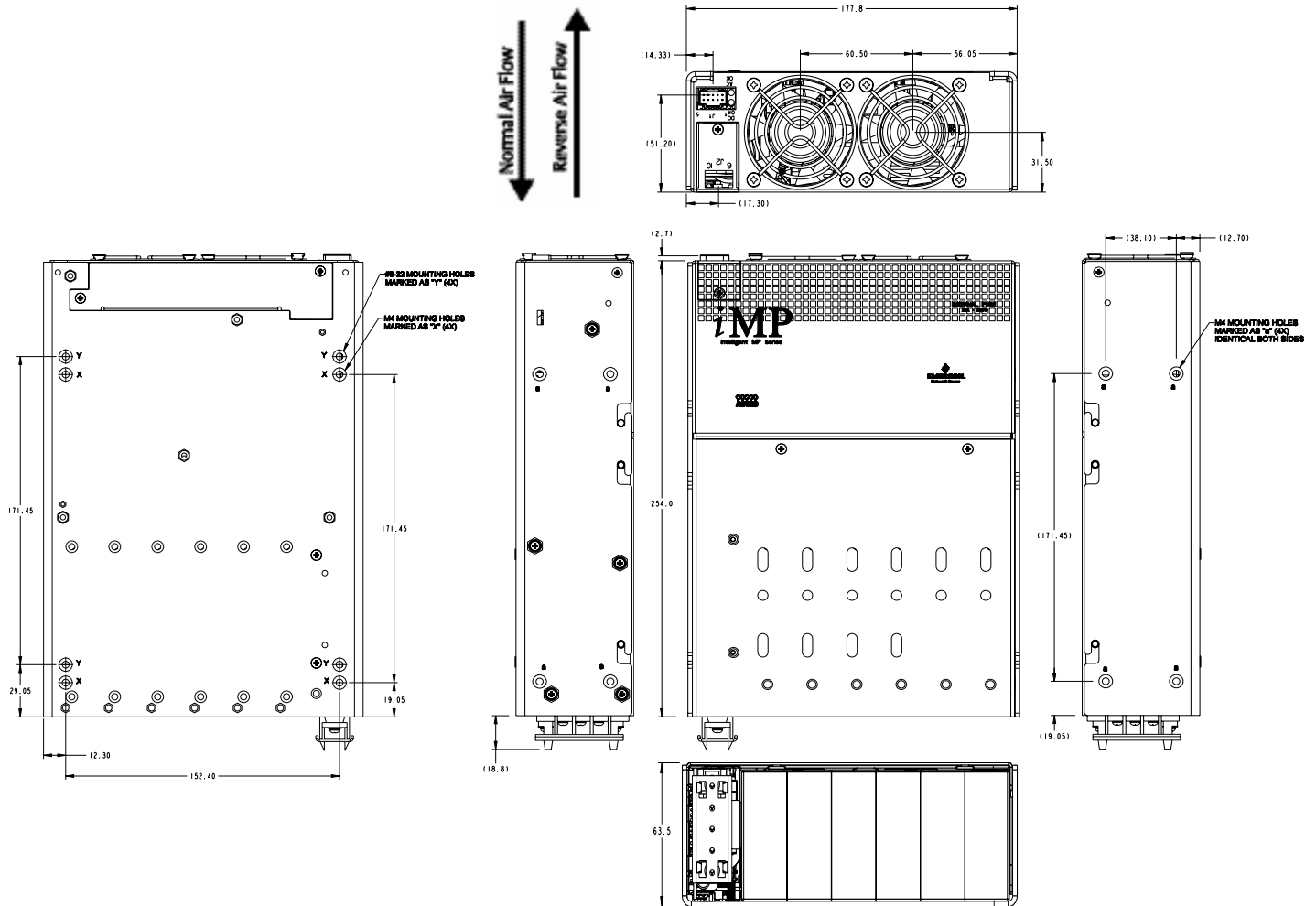
## Notes

1. Input: Barrier type. Three No. 6-32 B.H. screws (0.375" centers). Max torque: 6 in-lbs. (0.67 N-m). (Optional IEC input connector)
2. Control connectors: (J1) 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. (J2) 10 position housing (Landwin 2051P1000T). Mates with housing 2050S1000 (Landwin) with 2053T011P (Landwin) pins or JST PHDR-IOVS Housing and JST SPHD-002T-PO.5 pins.
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. (0.57 N-m).
6. Output module connections: All single O/P modules are M4 x 8mm screws. Max. torque: 10 in-lbs. (1.13 N-m). Dual O/P module is M3 x 8mm screws. Max. torque: 5 in-lbs. (0.57 N-m).

## iMP Series iMP8 (1000/1200 Watts Max)

7-Inch Case Size: iMP8: 2.5" x 7" x 10" (63.5mm x 177.8mm x 254mm)  
Weight: iMP8 Case: 4.1 lbs. • 210 W Single: 0.6 lb. • 360 W Single: 1.0 lb.  
• 750 W Single: 1.6 lbs. 144 W Dual: 0.6 lb.

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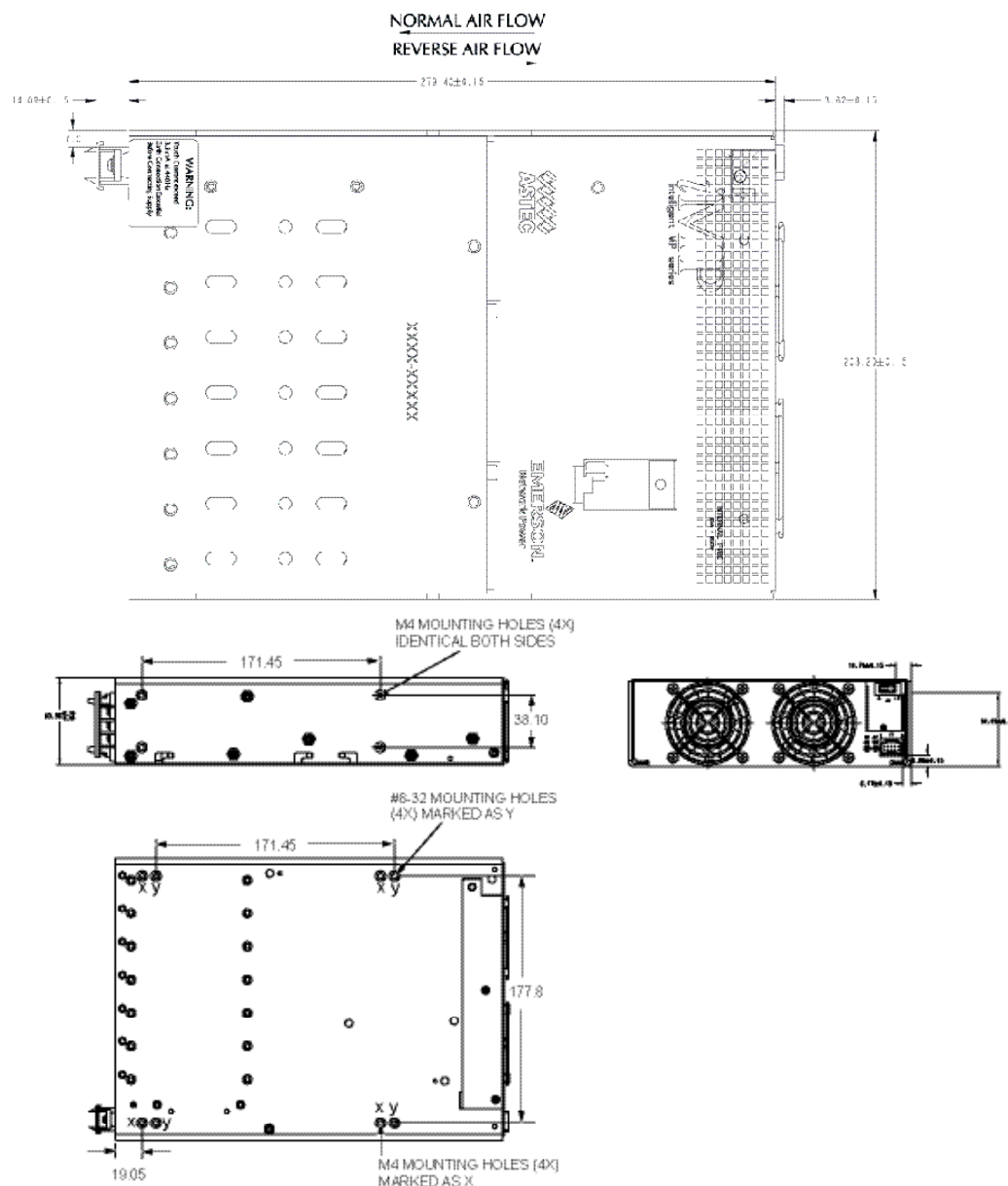


## Notes

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) 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. (J2) 10 position housing (Landwin 2051P1000T). Mates with housing 2050S1000 (Landwin) with 2053T011P (Landwin) pins or JST PHDR-IOVS Housing and JST SPHD-002T-PO.5 pins.
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. (0.57 N-m).
6. Output module connections: All single O/P modules are M4 x 8mm screws. Max. torque: 10 in-lbs. (1.13 N-m).  
Dual O/P module is M3 x 8mm screws. Max. torque: 5 in-lbs. (0.57 N-m).

**iMP Series**  
**iMP1 (1200/1500 Watts Max)**

8-Inch Case Size: iMP1: 2.5" x 8" x 11" (63.5mm x 203.2mm x 279.4mm)  
Weight: iMP1 Case: 5.0 lb. • 210 W Single: 0.6 lb.  
• 360 W Single: 1.0 lb. • 750 W Single: 1.6 lb.  
• 144 W Dual: 0.6 lb.



## Notes

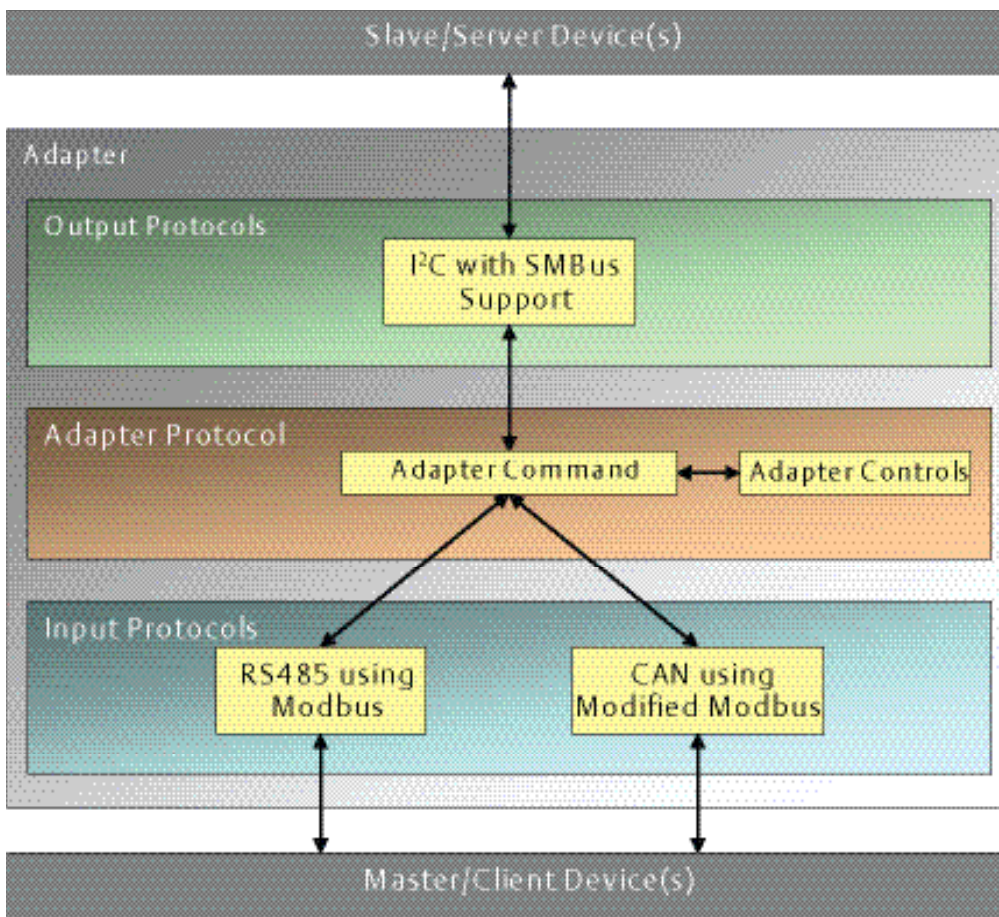
1. Input: Barrier type. Three No. 6-32 B.H. screws (0.375" centers). Max torque: 6 in-lbs (0.67 N-m).
2. Control connectors: (J1) 10 position housing, gold plated contacts. Mates with Molex 90142-0010 housing with 90119-2110 crimp contacts (Molex C - Grid III Series). Connector kit includes mating connector and 10 pins, Astec part #70-841-004. (J2) 10 position housing (Landwin 2051P1000T). Mates with housing 2050S1000 (Landwin) with 2053T011P (Landwin) pins or JST PHDR-IOVS Housing and JST SPHD-002T-PO.5 pins.
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. (0.57 N-m).
6. Output module connections: All single O/P modules are M4 x 8mm screws. Max. torque: 10 in-lbs. (1.13 N-m).  
Dual O/P module is M3 x 8mm screws. Max. torque: 5 in-lbs. (0.57 N-m).

## Optional CANBUS or RS485 Interface

The RS485/CAN-to-I<sup>2</sup>C uses 2 Input Protocols and 1 Output Protocol.

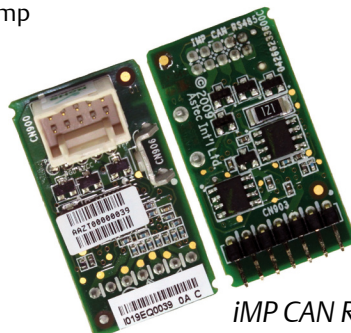
The Input Protocols used are RS485 using Modbus (Command Index: 0x01), and CAN using modified Modus (Command Index: 0x02).

The Output Protocol use is: I<sup>2</sup>C with SMBus support (Command Index: 0x80).



RS485/CAN - to - I2C

For Detailed Info, Download the Software Requirements Specification (SRS) from  
[www.PowerConversion.com/imp](http://www.PowerConversion.com/imp)



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