

IPM300

Dual 48 V ATCA Input Power Module

Total Power: 300 Watts
Input Voltage: -48 Vdc
Output: 3.3 V Management Bus
5.0 V Management Bus



Special Features

- Optimized footprint for high density ATCA applications
- Accepts inputs from -48 V and B Feeds
- Hot Swap and ORing functionality
- 3.3 Vdc and 5.0 Vdc Isolated Management Power
- Adjustable Hold Up Voltage from 50 to 95 Vdc
- I2C serial bus interface for monitoring and reporting
- Programmable alarm thresholds via I2C bus
- Hardware alarms via opto-isolators for loss of A or B Feeds
- Comprehensive protection circuitry - current, voltage and temperature, inrush current, reverse polarity
- EU directive 2002/95/EC compliant for RoHS

Safety

- UL/cUL 60950-1 (E186249)
- TUV EN60950-1 (B100551485779)

Electrical Specifications

| Input | | |
|--------------------------------------|---------------------------------|---------------------------------|
| Input Range: | -36 V to -75 Vdc | |
| Transient: | -100 Vdc (< 1 ms) | |
| External Input Capacitance: | 82 uF max | |
| Inrush Current: | 13 A typ | |
| Inrush Duration: | < 2 ms | |
| Undervoltage Lockout: | $-36 < V_{in}$ | |
| Overvoltage Lockout: | $-78 \leq V_{in} < 85$ Vdc | |
| Efficiency: | 98% @ 300 W | |
| Output | | |
| | 5.0 V Management Bus | 3.3 V Management Bus |
| Nominal Setpoint: | 5.0 V | 3.35 V |
| Total Regulation Band ¹ : | 4.8 - 5.2 V | 3.17 - 3.43 V |
| Output Current: | 0 - 0.15 A | 0 - 3.6 A |
| Current Limit: | 130% I _o , max (typ) | 130% I _o , max (typ) |
| Short Circuit: | Shutdown/Autorecovery | |
| Ripple and Noise ² : | 60 mVp-p | 65 mVp-p |
| Overvoltage: | V _o > 13.4 Vdc | V _o > 5.0 Vdc (typ) |
| External Output Capacitance: | TBD | 1000 uF max |
| Isolation Characteristics | | |
| Input to Output Isolation Voltage: | 2250 Vdc | |
| Input to Output Insulation: | Basic | |

Environmental Specifications

| | |
|------------------------------|----------------------------|
| Operating temperature range: | -40 °C to +85 °C ambient |
| Storage temperature: | -55 °C to +125 °C |
| MTBF: | > 1 MHrs @ 25 °C 100% Load |

Part Number System with Options

Ordering Information

| Model Number | Input | Output | Output Current | Typical | Note |
|--------------|----------------|----------------|------------------|---------------------|---------------------------------|
| IPM300 | -36 to -75 Vdc | 3.3 V 5.0 V | 3.6 A 0.150 A | 98% @ -48 V / 300 W | With I ² C Interface |

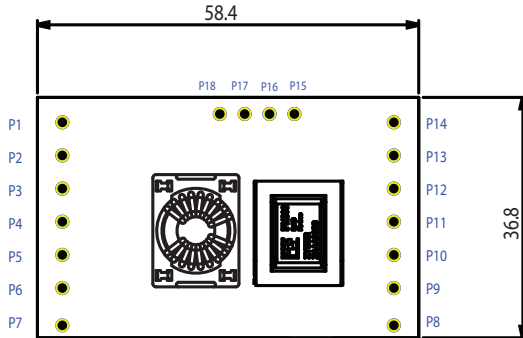
| Pin Assignments | | |
|---------------------------|--|--|
| Pin Number/Pin Name | Function | Note |
| 1. -48V A Feed | Power input from A' bus | Connects to ATCAZone 1 connector pin 33 via external 12 A fuse |
| 2. -48V B Feed | Power input from B' bus | Connects to ATCAZone 1 connector pin 34 via external 12 A fuse |
| 3. 48V Return A Feed | Power return from A' bus | Connects to ATCAZone 1 connector pin 28 via external 12 A fuse |
| 4. 48V Return B Feed | Power return from B' bus | Connects to ATCAZone 1 connector pin 29 via external 12 A fuse |
| 5. Enable A Feed | When connected to RTN A, turns ON isolated open collector A enabled' device (See Note 3) | Connects to ATCAZone 1 connector pin 32 via external 1 A fuse. Used to signal to management suystem correct board insertion and presence of A' bus |
| 6. Enable B Feed | When connected to RTN B, turns ON isolated open collector B enabled' device (See Note 3) | Connects to ATCAZone 1 connector pin 27 via external 1 A fuse. Used to signal to management suystem correct board insertion and presence of B' bus |
| 7. SHELF_GND | Shelf/Chassis/Safety Ground | |
| 8. +5.0V Management Power | +5.0V Management Power - Blue Service LED | |
| 9. +3.3V Management Power | 3.3V Isolated Management Power Output | |
| 10. Address | I ² C Address | I ² C lines, address strapping |
| 11. Data | I ² C Data | I ² C lines, serial data |
| 12. Clock | I ² C Clock | I ² C lines, clock line input |
| 13. LOGIC_GND | Logic/Secondary/Isolated Ground | |
| 14. ALARM | Opto-Isolated -48V A/B Feed Loss or Open Fuse Alarm with respect to LOGIC_GND | |
| 15. -48V_OUT | OR'd and Inrush Protected -48VDC Output | The -48VDC Output connects directly to the Input of an External DC-DC Converter |
| 16. Holdup Trim | Adjustable 50 to 95 V Hold Up Trim | |
| 17. VRTN_OUT | OR'd and Inrush Protected -VRTN Output | The VRTN_Out connects directly to the Input of an External DC-DC Converter |
| 18. Holdup Capacitor | Holdup/Bulk Capacitor output voltage | |

Notes:

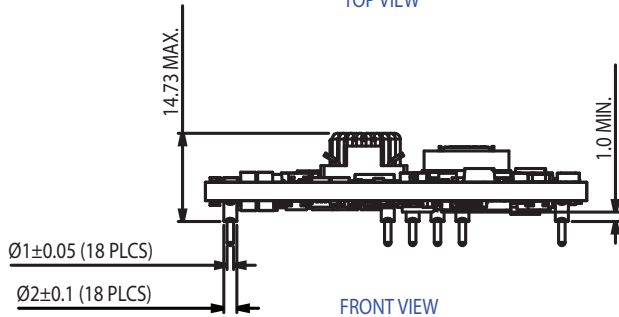
1. Regulation band over line, load and temperature.
2. Measured at 20 MHz with external 22 μ F Tantalum in parallel with 1 μ F ceramic, 25 V rated low ESR type capacitors across each output.
3. Both Enables (A/B) have to be connected to their respective RTNS to enable the Internal power management I²C.
4. All specifications are typical at nominal line, T_A = 25 °C unless otherwise indicated.
5. All specifications are subject to change without notice.
6. Technical Reference Notes and Application Notes should be consulted for complete product details
7. Warranty 2 years.

Mechanical Drawing

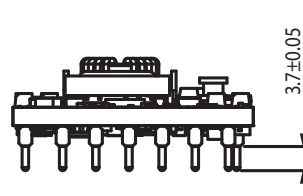
IPM300



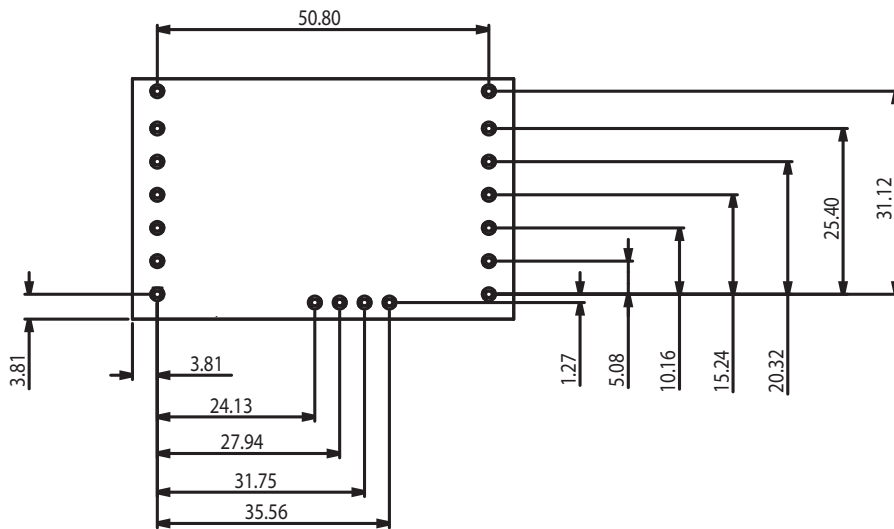
TOP VIEW



FRONT VIEW



SIDE VIEW



BOTTOM VIEW

Note: Dimensions in mm.

Americas

5810 Van Allen Way
Carlsbad, CA 92008
USA
Telephone: +1 760 930 4600
Facsimile: +1 760 930 0698

Europe (UK)

Waterfront Business Park
Merry Hill, Dudley
West Midlands, DY5 1LX
United Kingdom
Telephone: +44 (0) 1384 842 211
Facsimile: +44 (0) 1384 843 355

Asia (HK)

14/F, Lu Plaza
2 Wing Yip Street
Kwun Tong, Kowloon
Hong Kong
Telephone: +852 2176 3333
Facsimile: +852 2176 3888

For global contact, visit:

www.Emerson.com/EmbeddedPower
techsupport.embeddedpower@emerson.com

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