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IPM300

Dual 48 V ATCA Input Power Module

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

Special Features • Optimized footprint for high

- 50 to 95 Vdc

- EU directive 2002/95/EC

Safety



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 ≤ 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
Total Regulation Band ¹ : Output Current:	4.8 - 5.2 V 0 - 0.15 A	3.17 - 3.43 V 0 - 3.6 A
-		
Output Current:	0 - 0.15 A	0 - 3.6 A
Output Current: Current Limit:	0 - 0.15 A 130% lo, max (typ)	0 - 3.6 A
Output Current: Current Limit: Short Circuit:	0 - 0.15 A 130% Io, max (typ) Shutdown/Autorecovery	0 - 3.6 A 130% lo, max (typ)
Output Current: Current Limit: Short Circuit: Ripple and Noise ² :	0 - 0.15 A 130% lo, max (typ) Shutdown/Autorecovery 60 mVp-p	0 - 3.6 A 130% lo, max (typ) 65 mVp-p
Output Current: Current Limit: Short Circuit: Ripple and Noise ² : Overvoltage:	0 - 0.15 A 130% Io, max (typ) Shutdown/Autorecovery 60 mVp-p Vo > 13.4 Vdc	0 - 3.6 A 130% lo, max (typ) 65 mVp-p Vo > 5.0 Vdc (typ)

Input to Output Insulation: Basic

Environmental Specifications

Operating temperature range: Storage temperature: MTBF:

-40 °C to +85 °C ambient -55 °C to +125 °C > 1 MHrs @ 25 °C 100% Load (Target)



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Part Number System with Options

Ordering Information						
Model Number	Input	Output	Output Current	Typical	Max. Load	Note
IPM300	-36 to -75 Vdc	3.3 V 5.0 V	3.6 A 0.150 A	98% @ -48 V / 300 W	3%	With I ² C Interface

Pin Assignments		
Pin Number/Pin Name	Function	Note
148V A Feed	Power input from A' bus	Connects to ATCAZone 1 connector pin 33 via external 10 A fuse
248V B Feed	Power input from B' bus	Connects to ATCAZone 1 connector pin 34 via external 10 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 V 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	l 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	
1548V_OUT	OR'd and Inrush Protected -48VDC Output	The -48VDC Output connects directly to the Input of an External Intermediate Bus Converter (IBC) from Emerson
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 Intermediate Bus Converter (IBC) from Emerson
18.Holdup Capacitor	Holdup/Bulk Capacitor output voltage	

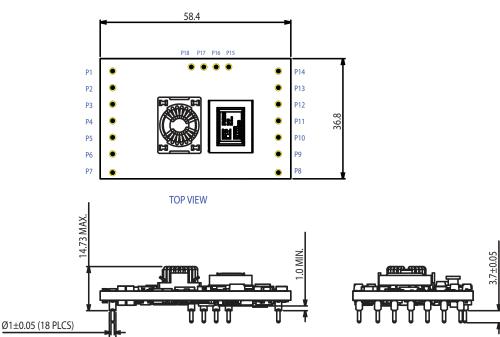
Notes:

- 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 l^2C . 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

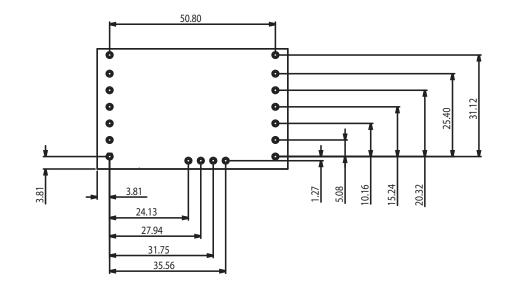
IPM300











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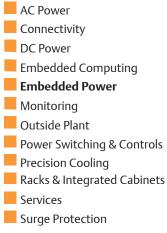
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