

M167 SERIES 3-PHASE AC/DC POWER SUPPLY

M167 SERIES

*3-PHASE AC/DC
POWER SUPPLY*



PRODUCT HIGHLIGHTS

- **COMPACT**
- **HIGH DENSITY**
- **HIGH EFFICIENCY**
- **SINGLE OUTPUT**
- **AC/DC POWER SUPPLY**
- **UP TO 1600 W**

M167 SERIES 3-PHASE AC/DC POWER SUPPLY

Applications Military (Airborne, ground-fix, shipboard), Ruggedized, Telecom, Industrial											
Special Features • High efficiency • Wide input range • Input / Output isolation • Limited Inrush Current • <u>Fixed</u> switching frequency • <u>EMI</u> filters included • Indefinite short circuit protection with auto-recovery • Over-voltage shutdown with auto-recovery • Over temperature shutdown with auto-recovery											
Electrical Specifications <table> <tr> <td> <u>AC Input Range:</u> 115V/400 Hz (320-520Hz), 3-phase per MIL-STD-704A/D </td><td> <u>DC Output:</u> Voltage: 3.3V to 50V Current: Up to 55A Power: Up to 1.6kW </td><td> <u>Isolation:</u> 500V between Input and Output 500V between Input and Case 100V between Output and Case </td></tr> <tr> <td> <u>Line/Load regulation:</u> Less than 1% (no load to full load, -40°C to +71°C). </td><td> <u>Efficiency:</u> 85% - minimum (full load, room temperature) </td><td> <u>EMC:</u> Designed to meet MIL-STD- 461F at 45A: CE102, CS101, CS114, CS115, CS106, RE101, RE102, RS101, RS103 </td></tr> <tr> <td> <u>Ripple and Noise:</u> 100÷150mV_{p-p}, typical (max. 1%) without external capacitance. When connected to system capacitance ripple drops significantly. </td><td> <u>Turn on Transient</u> No Voltage over shoot during power on. </td><td></td></tr> </table>			<u>AC Input Range:</u> 115V/400 Hz (320-520Hz), 3-phase per MIL-STD-704A/D	<u>DC Output:</u> Voltage: 3.3V to 50V Current: Up to 55A Power: Up to 1.6kW	<u>Isolation:</u> 500V between Input and Output 500V between Input and Case 100V between Output and Case	<u>Line/Load regulation:</u> Less than 1% (no load to full load, -40°C to +71°C).	<u>Efficiency:</u> 85% - minimum (full load, room temperature)	<u>EMC:</u> Designed to meet MIL-STD- 461F at 45A: CE102, CS101, CS114, CS115, CS106, RE101, RE102, RS101, RS103	<u>Ripple and Noise:</u> 100÷150mV _{p-p} , typical (max. 1%) without external capacitance. When connected to system capacitance ripple drops significantly.	<u>Turn on Transient</u> No Voltage over shoot during power on.	
<u>AC Input Range:</u> 115V/400 Hz (320-520Hz), 3-phase per MIL-STD-704A/D	<u>DC Output:</u> Voltage: 3.3V to 50V Current: Up to 55A Power: Up to 1.6kW	<u>Isolation:</u> 500V between Input and Output 500V between Input and Case 100V between Output and Case									
<u>Line/Load regulation:</u> Less than 1% (no load to full load, -40°C to +71°C).	<u>Efficiency:</u> 85% - minimum (full load, room temperature)	<u>EMC:</u> Designed to meet MIL-STD- 461F at 45A: CE102, CS101, CS114, CS115, CS106, RE101, RE102, RS101, RS103									
<u>Ripple and Noise:</u> 100÷150mV _{p-p} , typical (max. 1%) without external capacitance. When connected to system capacitance ripple drops significantly.	<u>Turn on Transient</u> No Voltage over shoot during power on.										
Protections * <table> <tr> <td> <u>Input</u> • Inrush Current Limiter peak value of 6 x I_{IN} </td><td> <u>Output</u> • Passive transorb on outputs 20% above nominal voltage. • Current limiting Continuous protection (10-30% above maximum current) for unlimited time. </td><td> <u>General</u> • Over temperature protection: Shutdown at base plate temperature of +105°C (±5°C) Automatic recovery at base plate temperature lower than +95°C (±5°C) </td></tr> </table>			<u>Input</u> • Inrush Current Limiter peak value of 6 x I _{IN}	<u>Output</u> • Passive transorb on outputs 20% above nominal voltage. • Current limiting Continuous protection (10-30% above maximum current) for unlimited time.	<u>General</u> • Over temperature protection: Shutdown at base plate temperature of +105°C (±5°C) Automatic recovery at base plate temperature lower than +95°C (±5°C)						
<u>Input</u> • Inrush Current Limiter peak value of 6 x I _{IN}	<u>Output</u> • Passive transorb on outputs 20% above nominal voltage. • Current limiting Continuous protection (10-30% above maximum current) for unlimited time.	<u>General</u> • Over temperature protection: Shutdown at base plate temperature of +105°C (±5°C) Automatic recovery at base plate temperature lower than +95°C (±5°C)									

* Thresholds and protections can be modified / removed – please consult factory.

M167 SERIES 3-PHASE AC/DC POWER SUPPLY

Environmental

Designed to meet MIL-STD-810E

Temperature:

Operating: -40°C to +71°C (at base plate)

Storage: -55°C to +125°C

Altitude:

Method 500.4, Procedure I & II, 40,000 ft. and 70,000 ft.

Operational

Salt Fog:

Method 509-4

Humidity:

Method 507.4 - Up to 95%.

Vibration and Shock:

Shock - Sow-tooth, 20g peak, 11mS.

Vibration - method 514.6, proc. I. and method 519.6, proc. I

Reliability

Min 50,000 hours, calculated per MIL-STD-217F at +70°C base plate, Ground fixed.

Note: at 100°C base plate MTBF will be lower

Environmental Stress Screening (ESS)

Including random vibration and thermal cycles is also available. **Please consult factory for details.**

Pin Assignment (Input Connector)

Pin No.	Function
1	CHASSIS
2	PHASE A
3	N.C.
4	PHASE B
5	PHASE B
6	N.C.
7	PHASE C
8	N.C.

Pin No.	Function
9	PHASE A
10	PHASE A
11	N.C.
12	PHASE B
13	N.C.
14	PHASE C
15	PHASE C

Pin Assignment (Output Connector)

Pin No.	Function
1	- OUT
2	INHIBIT
3	+ OUT
4	+ OUT
5	+ OUT
6	+ OUT
7	+ OUT
8	+ OUT
9	- OUT
10	- OUT
11	- OUT

Pin No.	Function
12	- OUT
13	- OUT
14	- OUT
15	- OUT
16	+ OUT
17	+ OUT
18	+ OUT
19	+ OUT
20	+ OUT
21	+ OUT
22	+ OUT

Pin No.	Function
23	+ OUT
24	- OUT
25	- OUT
26	- OUT
27	- OUT
28	- OUT
29	- OUT
30	- OUT
31	-INHIBIT
32	+ OUT
33	+ OUT

Pin No.	Function
34	+ OUT
35	+ OUT
36	+ OUT
37	+ OUT
38	+ OUT
39	- OUT
40	- OUT
41	- OUT
42	- OUT
43	- OUT
44	- OUT

- All output parallel pins should be connected together for best performance.

M167 SERIES 3-PHASE AC/DC POWER SUPPLY

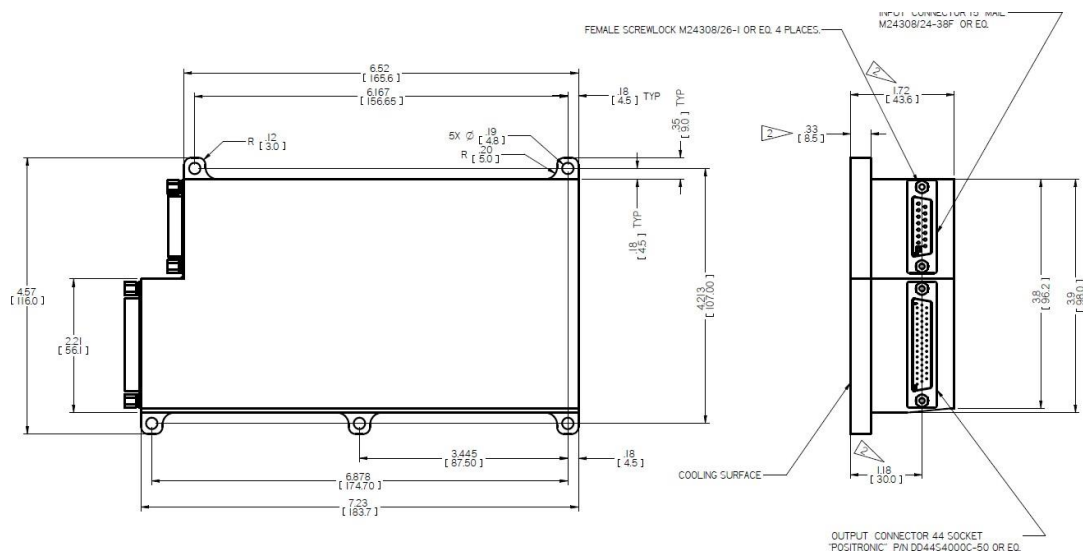
Functions and Signals

INHIBIT signal

The INHIBIT signal is used to turn the power supply ON and OFF. OPEN – will turn on the power supply.

SHORT – between pin 2 and pin 31 will turn off the power supply.

Outline Drawing



- Dimensions are in Inches [mm]
- Tolerance is:
XX ±.02 IN
.XXX ±.01 IN
- Weight: 1,600gr (preliminary)
- Parasolid 3D module is available

• Specifications are subject to change without prior notice by the manufacturer