



System Interface Products

iRPM – intelligent Redundant Power Module



Redundant Power Inputs, LED indicators

How to order an iRPM – Redundant Power Module

Module
iRPM - Redundant Power Module

J-1: Alarm Output

J-2: DC Input 1

J-3: DC Output

J-4: DC Input 2

iRPM -BBBB-12-C-15

Alarm threshold Voltage:

12 - 12.1 V
14 - 14 V
16 - 16V

Alarm Contacts Option:

O - Alarmed contacts HiZ (open Drain)
C - Alarmed contacts LoZ (Grounded)

Current capacity

15 – 1.5A internal thermal fuse
40 – 4.0A External fuse required

Connectors available:

J1, J2, J3, J4

B - BNC (preferred)	N - N
S - SMA	T - TNC
ft - feedthru	P - Plug

BNC-to-pigtail adapters and BNC-to-binding post adapters sold separately. See SIP price list for part number and price.

Orbital Design:

While modern power supplies are sophisticated designs with superlative performance, they remain the device with the shortest MTBF. To mitigate this threat, Orbital Research introduces the iRPM (Intelligent Redundant Power Module), to provide one for one (1:1) DC power redundancy. This simple low cost module provides an extremely reliable passive method of providing automatic backup power for the majority of satellite system devices. It has two inputs, one for each power supply.

Since the iRPM uses our standard SIP chassis, it integrates easily into stacks, plates or rackmountable chassis with our other modules.

Switch Mechanism

The Orbital iRPM uses *Ideal Diode FETs* to switch between the primary and backup power supplies. The *Ideal Diodes* have very low resistance and thus have little or no voltage drop from the input to the output.

Alarm

Alarm output and Status LEDs are used to indicate the stated of the Output Power. The Alarms indicate which voltage input has failed, therefore, allowing replacement of failed power supplies in live systems, avoiding the need to take the entire system off line.

Orbital Features:

Functional

- Will operate with Orbital SIP modules, LNBS, BDCs, BUCs, Receivers and Modems
- O-ring sealed connectors and Hylomar sealed enclosure

Structural

- The system mounts on the back of the rack, out of the way. This makes this product ideal for flyaway systems.
- Diode protection to prevent accidental reverse polarity DC.
- Solid billet milled box and lid.
- Blue Anodized finish, MIL-STD-595
- RoHS & REACH compliant

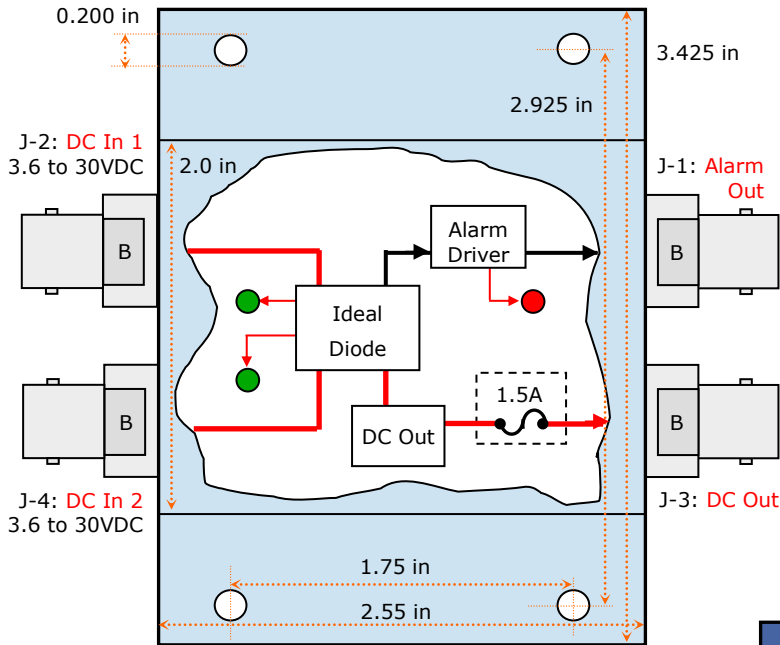
Tel: (604) 419-8585

sales@orbitalresearch.net

www.orbitalresearch.net

SIP: iRPM – Redundant Power Module Specifications

**Orbital iRedundant Power Module
Mechanical Dimensions +
Functional Block Diagram
Viewed from the top**



Electrical Specifications

Power Capacity: 3.6 to 30 VDC,
1.5 A (standard)
4.0 A (optional)

Voltage Threshold: 12.1 VDC
14 VDC, or
16 VDC

Operational ALARM Contacts Options:

O: Alarmed contacts HiZ (Open Drain)
C: Alarmed contact LoZ (Grounded)

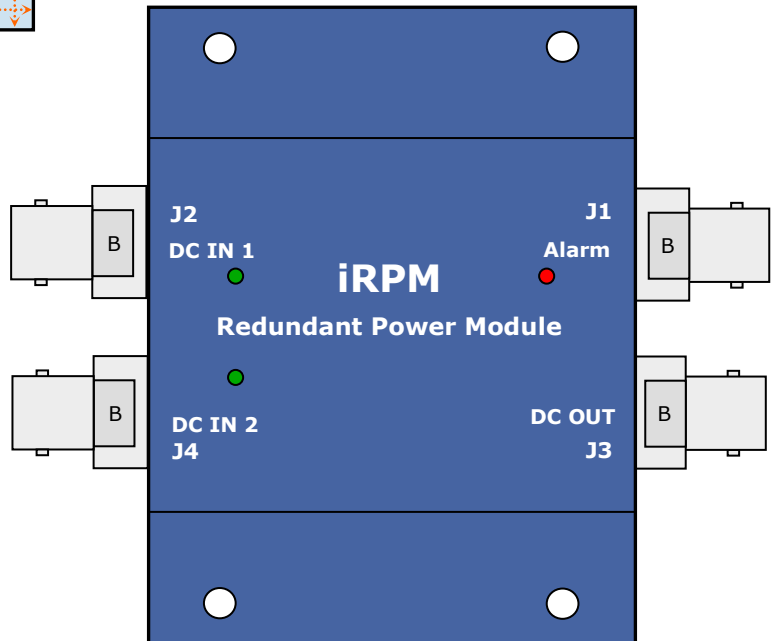
**See Reference Manual for full
information on Alarm output
specification and installation.**

Environmental Specifications

Operating Temp: -40 to +85° Celsius
Relative Humidity: Up to 100% condensation
and frost

Mechanical Specifications

Measurements: Tolerance ±.005 in.
Size (case): 3.425l x 2.55w x 0.88h in.
Size (with conn): 3.425l x 3.8w x 0.88h in.
Weight: 5 oz
Paint / Color: Blue Anodized finish
MIL-STD-595
Mounting holes: 0.200" (5mm)
Accepts standard
rackmounting screws:
10/32 or 10/34
Compliances: RoHs & REACH Compliant



Switching Power Supplies

**See PS1 or PS2 brochure for ordering
information**

LED Indicators

Green:	Power supply is functioning properly.
Red – Single Flash	Primary power supply is not functioning properly (below threshold)
Red – Double Flash	Secondary Power supply is not functioning properly (below threshold)



Orbital iRPM-Redundant Power Module_190408

Orbital Research Ltd. designs and builds products for satellite communications applications. Orbital website: www.orbitalresearch.net. All rights reserved. Specifications subject to change without notice.