

ICT 100A REDUNDANT ISOLATION MODULE

The ICT 100A Redundant Isolation Module connects two power supplies in parallel to create a redundant 12, 24, or 48V power system for critical loads. Under normal operation low loss electronically controlled solid state switches connect each supply to the output so they can share the load of up to 100A equally. If the voltage on one of the supplies falls below the output level due to a failure or other reason, the switch on that input will immediately open to ensure the failed supply cannot pull down the output of the good supply. The higher voltage supply will then fully power the load without interruption.

The solid state MOSFET devices used in the Isolation Module have a much lower voltage drop and resulting heat dissipation than seen in a conventional diode based unit. This enables the module to run much cooler, with the load experiencing a minimal drop in the supply voltage.

WARNINGS

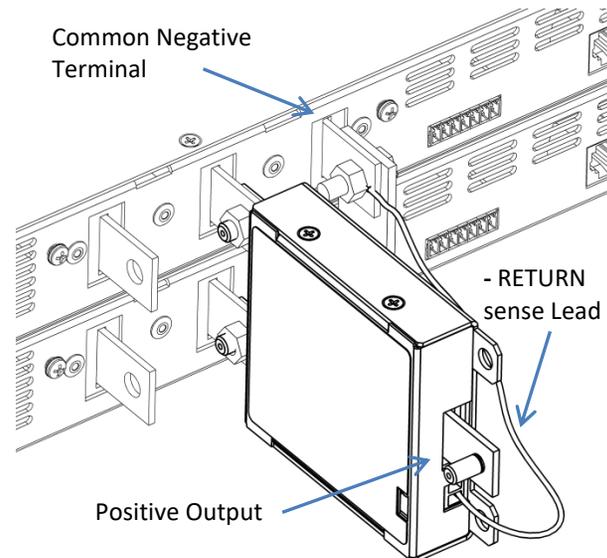
Risk of personal injury or damage to equipment and property! Always observe the following:

- Install and operate unit in a Restricted Access location, such as an enclosed equipment rack
- Ensure the RETURN lead on the module is connected to the power supply common negative terminal
- Use an appropriate dc over-current protection device in line with any battery used as one of the dc sources
- Use wire and connectors rated for the maximum load current
- Ensure supply polarity is correct before connecting
- Ensure required load current does not exceed the maximum 100A rating of unit
- Ensure the input voltage does not exceed the maximum 65V rating of the unit

INSTALLATION

Procure and install two redundant power supplies (with the same output rating, $\leq 100A$, $\leq 65V$) in an equipment rack or other suitable location according to their installation instructions. Set each output to the voltage required by the critical load, then switch off input power.

Mount the ICT100-RIM module inputs directly on the Positive (+) Output bus bars of two matching ICT Digital series, Platinum Series, or Pro Series dc power supplies, by placing the $\frac{1}{4}$ -20 input studs through the power supply output bus bar holes, and then securing tightly using the nuts and lock washers provided. (as shown below)



Connect the power supply Negative terminals together with a conductor rated for the full output load current, installing the module Negative RETURN lead ring tongue under one of the fastening bolts, as shown above. (Use the ICT-PAR high current paralleling strap from ICT to simplify connecting bus bar outputs together on ICT Digital Series and Pro series power supplies, as shown)

Note: When using back-up batteries with your supplies a battery must be independently connected to the +BAT terminal on each unit, with a common connection to the supply Negative terminals only. Do not tie the power supply +BAT input terminals together with a single battery, as this will defeat the isolation function of the ICT100-RIM device.

WARNING

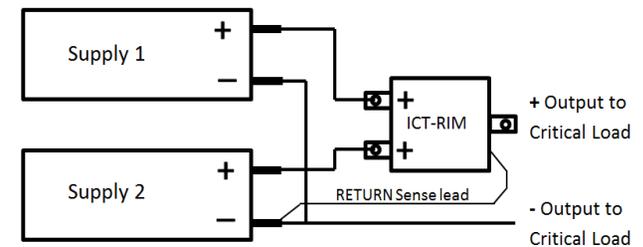
Risk of personal injury or damage to equipment and property! Always observe the following:

When using batteries or other high current device as an input power source you must install an inline fuse or circuit breaker rated for 100A or less, between the supply and the module input. This is required to limit the maximum fault current through the module to a safe level if the critical load input is shorted.

Connect the critical load to the module + OUTPUT stud, and to the common Negative terminal of the power supplies using appropriately rated wire and ring terminals. Slip the output load cable through the terminal boot (included) before connecting it to the +OUTPUT stud. Position the boot to help insulate the connection after tightening the nut on the output terminal.

Note: When using the unit with other models of power supplies the ICT100-RIM should be mounted directly to a flat surface such as a rack shelf using the 3 mounting tabs on the module. (Mounting hardware not provided) Make power connections to the dual inputs and output using suitably rated wire terminated with ring lugs sized to fit the $\frac{1}{4}$ -20 gauge studs on the module.

CONNECTION DIAGRAM



Note: For -48V (positive ground) applications ensure the ground connection is made on the load side of the Isolation Module only. Otherwise the isolation function may be bypassed by a ground connection on both the input and the output.

OPERATION

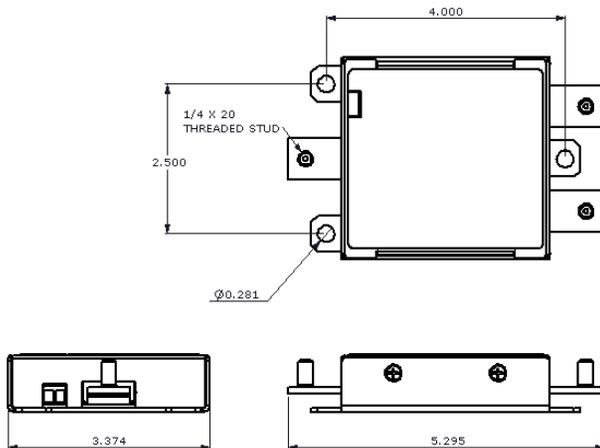
Once the unit is mounted and all wiring is connected per the INSTALLATION section instructions, connect a dc voltmeter from the module output, to the common supply negative terminal. Switch on both supplies and verify that the output voltage to the critical load is within 0.15V of the ICT100-RIM Module input voltage.

The system is now operational, and will disconnect either input if its voltage drops lower than the output voltage.

SPECIFICATIONS

Number of input channels:	2
Input channel current (max continuous):	100A dc
Output current rating (max continuous):	100A dc
Input voltage range (both channels):	5 to 65V dc
Reverse channel detection voltage (Vsd):	-28mV (typical)
Channel switch-off time:	< 2 μ s
Forward voltage drop (at 100A):	< 0.15V (at Amb = 25C)
Operating Ambient Temperature:	-40°C to 60°C

DIMENSIONS (inches)



ICT LIMITED WARRANTY

The warranty period on ICT products is two (2) years from date of purchase from an authorized ICT reseller or OEM with valid proof of purchase, or from date of shipment from the ICT manufacturing facility. The warranty period for a repaired product or part is ninety (90) days or the remainder of the unexpired term of the new product warranty period, whichever is greater. Repair or replacement of a defective product or part does not extend the original warranty coverage period.

ICT Limited Warranty is only intended for the benefit of the original purchaser and user of this product. This Warranty is not transferable or assignable without the prior written permission of ICT. ICT's sole obligation and liability under this warranty is limited to either repairing or replacing defective products at the sole discretion of ICT. When repairing or replacing the products, ICT may use products or parts that are new, equivalent to new or re-conditioned. Parts repaired or replaced during the warranty period will be under warranty for the remainder of the warranty period.

No claim will be accepted unless written notice of the claim is received by ICT in accordance with ICT's Return Material Authorization (RMA) procedure, as soon as reasonably possible after the defect is discovered. A valid product serial number must be provided with the RMA claim to prove eligibility. The RMA form is available on the ICT website at www.ict-power.com/support/warranty-repair/.

The Purchaser shall at their own risk and cost return the defective product to ICT's factory or designated repair center once an RMA is issued by ICT. Return of the products to the customer after repair is completed shall be prepaid by ICT unless otherwise mutually agreed between the parties. Products shipped to ICT which have incurred freight damage will not be covered by this Warranty and any repairs or replacement parts, components or products needed will be invoiced in the full current price amount and returned freight collect to Purchaser. It is the Purchaser's responsibility to check the product upon receipt for any damage during shipping and to **contact the carrier or shipper regarding such damage**. Product that is returned as defective, which is determined to operate within published specifications will be returned to the Purchaser freight collect.

ICT assigns to Purchaser any warranties which are made by manufacturers and suppliers of components of, or accessories for, the ICT product and which are assignable. ICT makes no representations as to the effectiveness or extent of such warranties, assumes no responsibility for any matters which may be warranted by such manufacturers or suppliers and

extends no additional coverage under this Warranty to such components or accessories.

In no event shall ICT be liable for any special, indirect or consequential damages such as, but not limited to, loss of use, business or goodwill, loss of revenue, or loss of profits, which may result, either directly or indirectly, from defects in products provided by ICT.

This Warranty will be void if the product has been subjected to misuse, neglect, accident, exposure to environmental conditions not conforming to the products' limits of operation, improper installation or maintenance, improper use of an electrical source, defects caused by sharp items or by impact pressure, a force majeure event, has been modified or repaired by anyone other than ICT or its authorized representative, has been subjected to unreasonable physical, thermal or electrical stress, improper maintenance, or causes external to the unit including but not limited to general environmental conditions such as rust, corrosive atmospheres, sustained temperatures outside the specified operating range of the equipment, exposure to power surges and/or electrical surges, improper grounding, mold or dust, animal or insect damage, water damage or immersion in liquid of any kind, or if the serial number has been altered, defaced, or removed.

ICT does not control the installation and use of any ICT product. Accordingly, it is understood this does not constitute a warranty of performance or a warranty of fitness for a particular purpose. This Warranty represents the entire agreement between ICT and Purchaser with respect to the subject matter herein and supersedes all prior verbal or written communications, representations, understandings or agreements relating to this subject.

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