STATIC POWER
SMART | SOLID | SAFE

STATIC POWER

Static Transfer Switch

A novel approach for dual corded loads

STATIC POWER Pty Ltd
ABN 42 101 765 913

iDUAL for Datacentres

Post to:
Box 2003
Research Delivery centre
Research, VIC 3095 - Australia

Manufactured at:
5 Candlebark Court
Research, VIC 3095
Australia

Contact us:
+61 3 9437 0494
support@staticpower.com.au
www.staticpower.com.au

AUSTRALIAN MADE

STATIC POWER
SMART | SOLID | SAFE

CONTENTS

1. DUAL CORDED DIRECTLY CONNECTED TO SOURCES **2**
- 1.1 Source Failure or Maintenance 2
- 1.2 Load Balancing 2
- 1.3 Scalability 2

2. CENTRALISED CROSS- CONNECTED STATIC TRANSFER SWITCH **2**
- 2.1 Source Failure or Maintenance 3
- 2.2 Centralised STS Failure or Maintenance 3
- 2.3 Load Balancing 3
- 2.4 Scalability 3

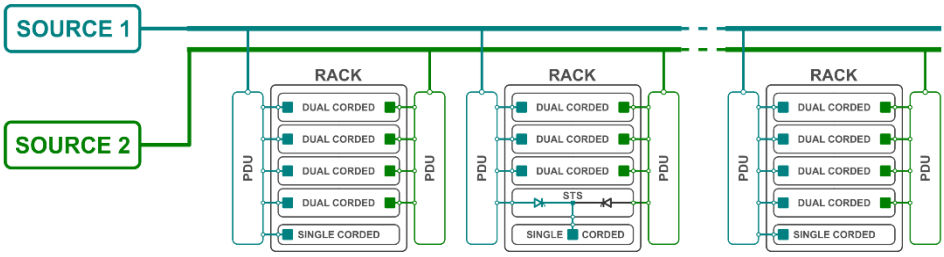
3. iDUAL: DISTRIBUTED CROSS-CONNECTED STATIC TRANSFER SWITCH **4**
- 3.1 Source Failure or Maintenance 5
- 3.2 One STS Failure or Maintenance 6
- 3.3 Load Balancing 6
- 3.4 Scalability 6

4. CENTRALISED or DISTRIBUTED? **7**

As technology advances and the cost of dual-corded devices decreases, their adoption is increasing, especially in mission-critical environments.

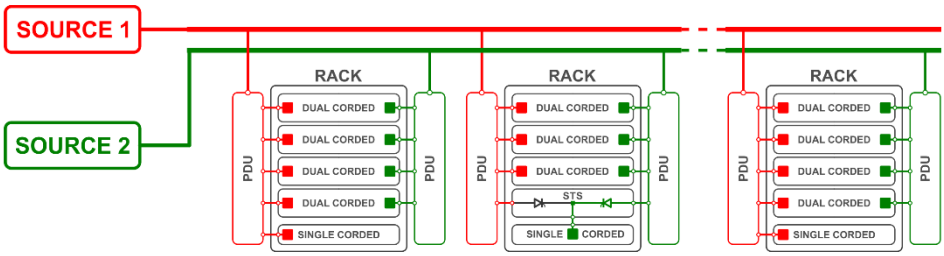
1. DUAL CORDED DIRECTLY CONNECTED TO SOURCES

A way to supply power to dual-corded loads is to connect each cord directly to its own source.



1.1 Source Failure or Maintenance

If one source fails, all dual-corded loads will be only supplied from a single side.



1.2 Load Balancing

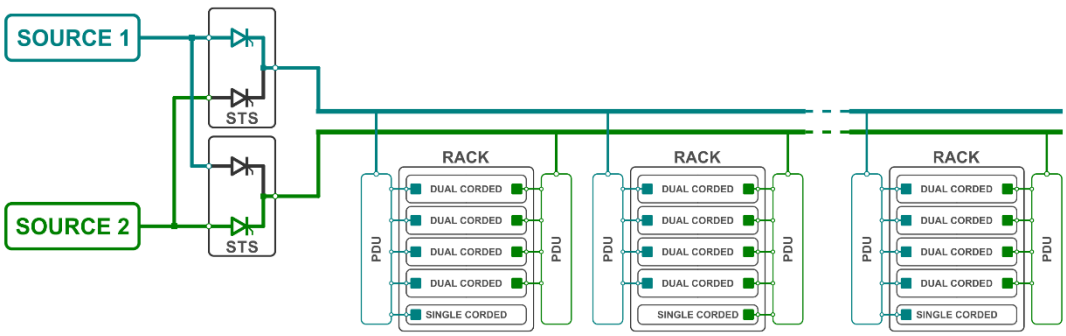
This solution – *Dual corded loads directly supplied from two independent sources* – does not allow load balancing and trusts only on the ability of the loads to switch from one of its supplies to the other.

1.3 Scalability

New loads can be added.

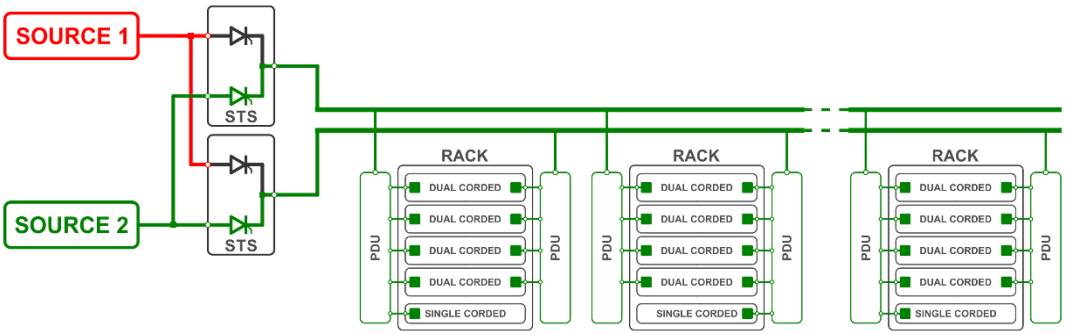
2. CENTRALISED CROSS- CONNECTED STATIC TRANSFER SWITCH

Two "large" cross-connected Static Transfer Switches are inserted between the sources and the loads



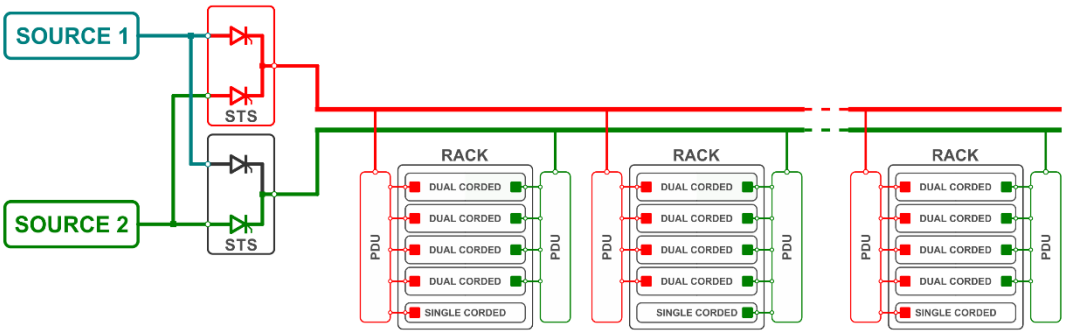
2.1 Source Failure or Maintenance

Centralised cross-connected Static Transfer Switches (STS) provide dual power supply to all loads, ensuring continuous operation during a source failure.



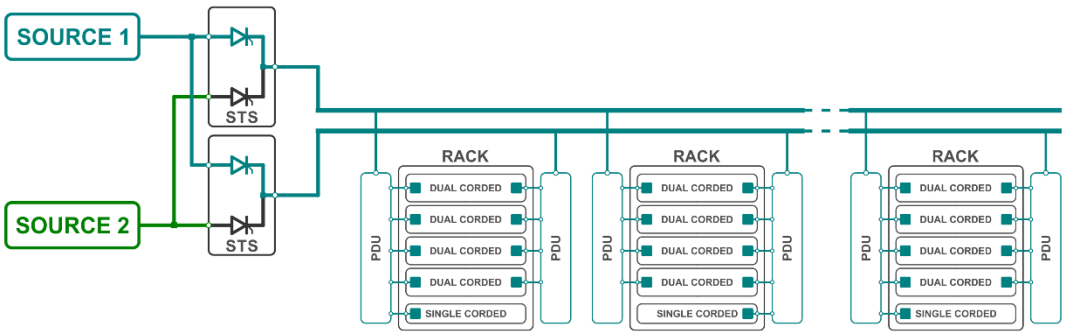
2.2 Centralised STS Failure or Maintenance

In the event of a failure of one centralised STS, all loads will be supplied from a single source, significantly increasing the risk of a load loss.



2.3 Load Balancing

Load balancing is very limited: In the best case, half of the total load can be moved from one source to the other.

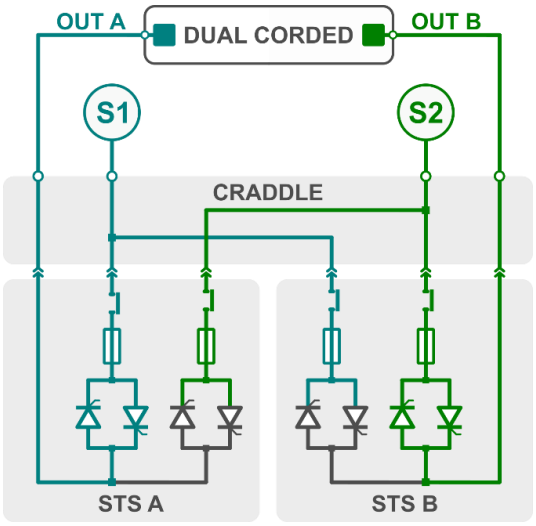


2.4 Scalability

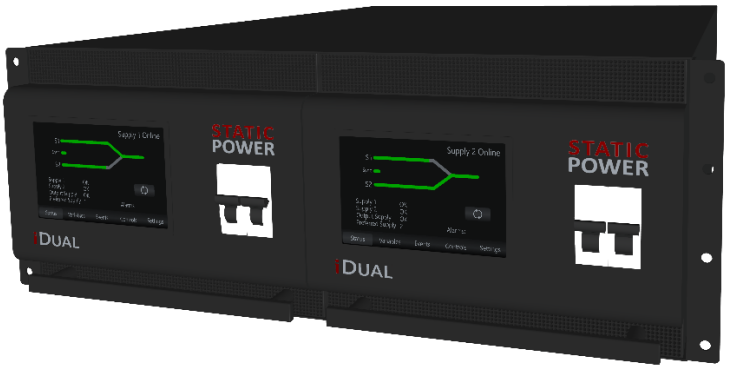
The addition of loads is limited by the size of the centralised STS.

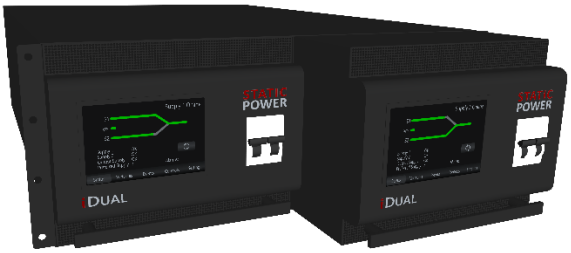
3. iDUAL: DISTRIBUTED CROSS-CONNECTED STATIC TRANSFER SWITCH

Static Power propose the **iDUAL** to overcome above solution's limitations.
The **iDUAL** is constituted of a 19" fix cradle and two well-known Static Power's iRACK STSs:



To minimise downtime, the two STS are hot swappable and do not require specific skills to replace them.

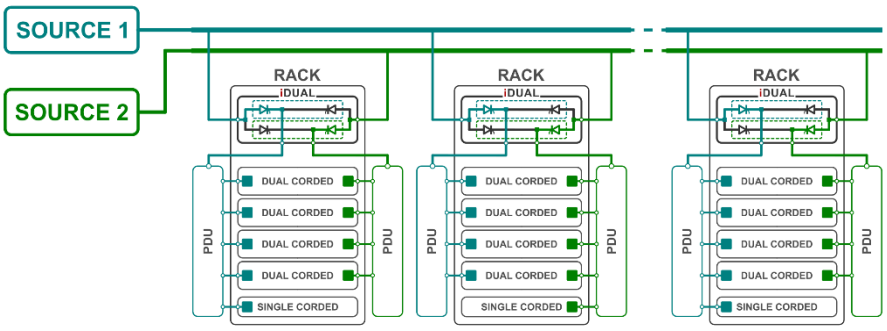




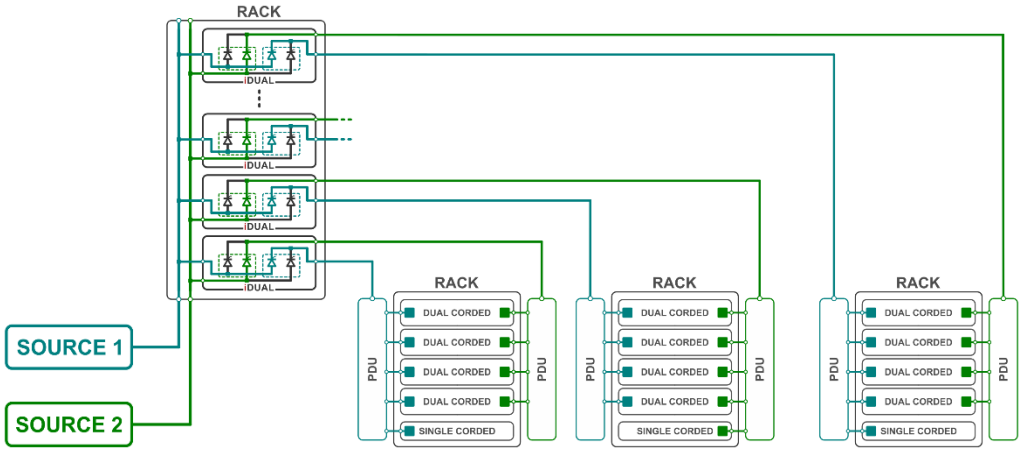
Each STS of the iDUAL can be monitored and controlled remotely.

The **iDUAL** can be installed in two configurations:

1. **Distributed**, each rack is supplied by one **iDUAL**

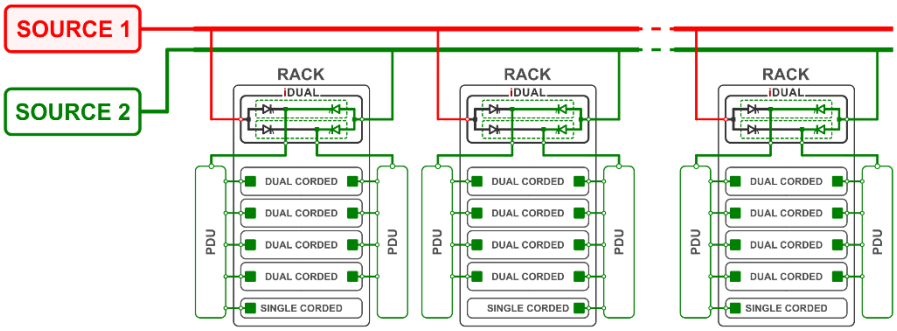


2. **Hybrid**, many **iDUAL** are grouped (e.g. Head of row), each of them suppling one rack.



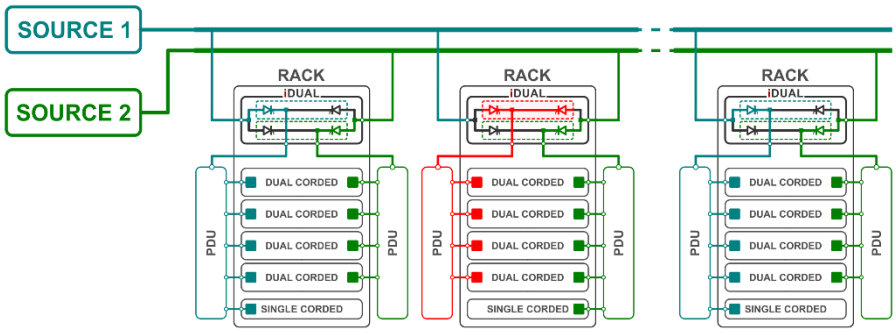
3.1 Source Failure or Maintenance

In case of failure of one source, all **iDUAL** will transfer to the alternative one: all loads will be supplied on both sides.



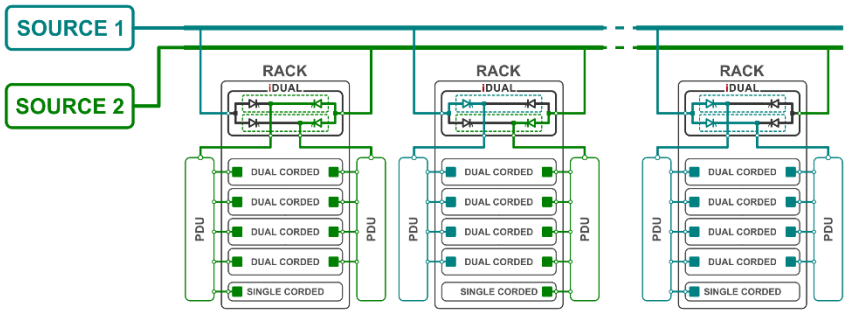
3.2 One STS Failure or Maintenance

In case of failure on one STS of the **iDUAL**, only loads on the concerned rack will be one-side supplied: No impact on all other loads.



3.3 Load Balancing

The outputs of each individual **iDUAL** can be set dynamically at any time allowing load balancing at the rack level without any supply interruption.



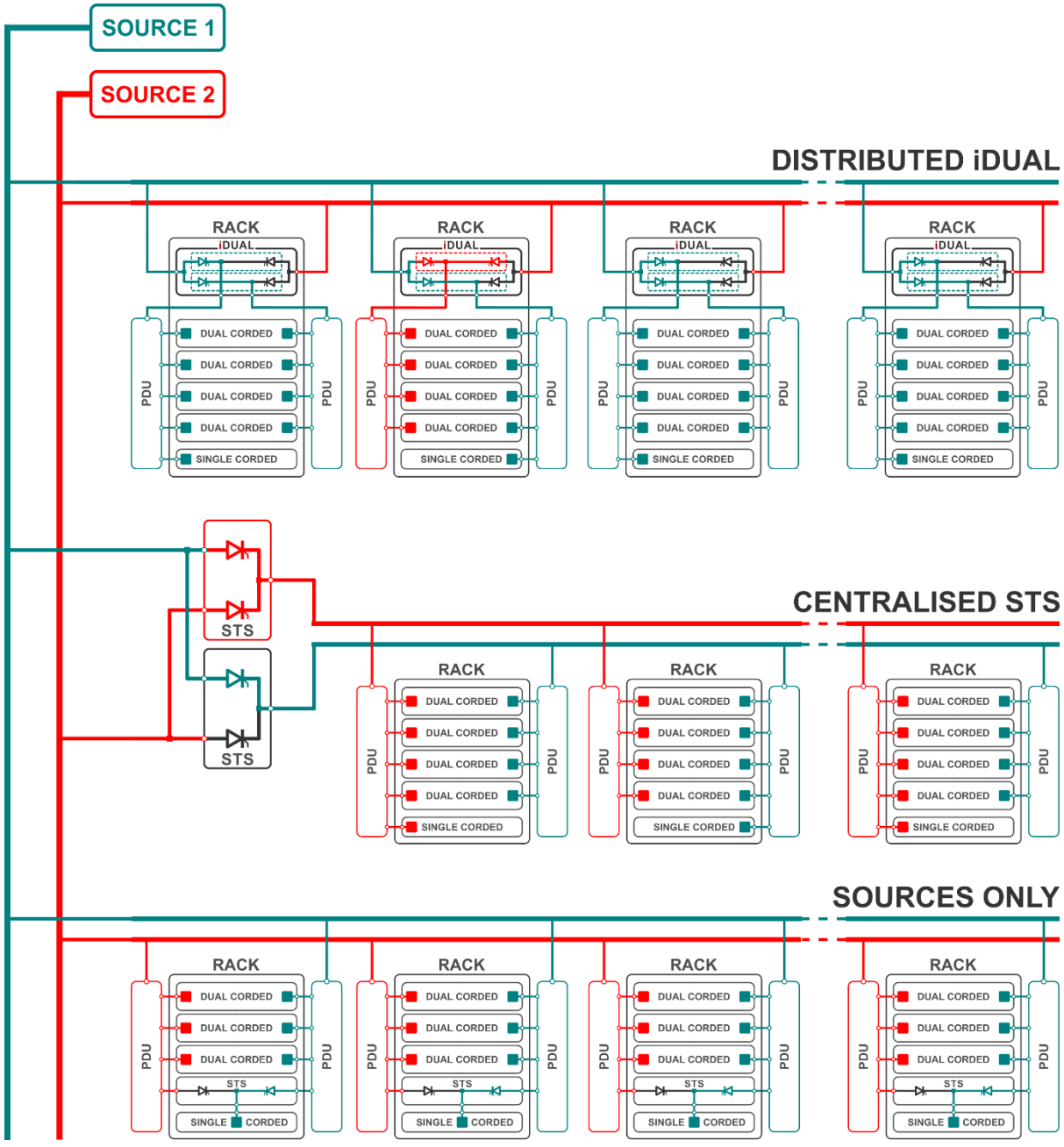
Maintenance of a source can be prepared by gradually transferring all loads to the alternative source. Once the maintenance finish, all loads will be gradually transferred back, levelling the current demand.

3.4 Scalability

iDUAL is fully scalable and can be added as the business grow.
iDUAL is an ideal solution to extend or replace a centralised STS system.

4. CENTRALISED or DISTRIBUTED?

	iDUAL	Centralised STS	Two Source Only
Power Distribution	Distributed	Centralised	
Failure	Limited to one rack	Whole system impacted	
Load Balancing	By Rack	Very limited	None
Maintenance	Short. Hot swappable requires no special skills	Long, requiring specialised labour	
Scalability	Loads can be installed incrementally based on demand	Fixed capacity	Loads can be installed incrementally based on demand.



STATIC POWER

SMART | SOLID | SAFE

STATIC POWER Pty Ltd
ABN 42 101 765 913

Post to:
Box 2003
Research Delivery centre
Research, VIC 3095 - Australia

Manufactured at:
5 Candlebark Court
Research, VIC 3095
Australia

Contact us:
+61 3 9437 0494
support@staticpower.com.au
www.staticpower.com.au

AUSTRALIAN MADE