



# TwinSource

## **DCC-I MagLatch™ RMATS**

### **Rack Mount Automatic Transfer Switch**

TwinSource is proud to introduce our Dual Cord Converter DCC-I MagLatch™ RMATS automatic transfer switches to protect loads in IT, industrial and telecom applications. This family of rack-mount transfer switches utilizes the latest state-of-the-art and patented (Patent No.: US 7,535,129), MagLatch™ technology. The product offers the following benefits:

- The patented MagLatch™ design makes use of dual coil magnetically latched relays, rather than standard single coil relays, to eliminate contact bounce and relay failures caused by their coils remaining continuously energized. Coils that remain energized can experience winding failures due to heat if they remain on for too long which is what happens in ATSS when they transfer or if the alternate source is selected as preferred. The dual coil feature enables



fast electrically forced transfers in both directions vs. only in one direction. Single coil relays have to return back by the force of their contact spring only which takes longer since the coil is not doing the retransfer, the spring is. This also causes contact bounce as the spring relaxes whereby the output voltage will drop to zero and come back repetitively several times before settling. This repetitive turning on and off the source has reportedly led to some sensitive electronic loads dropping off line.

- Dual coils per relay assures fast transfers to and from the alternate source. As the return transfer time is never published this should be of concern and be verified.
- The product comes with a rich array of monitoring options including in circuit monitoring of critical metering parameters.

The TwinSource MagLatch™ RMATSs are a cost effective way to convert single corded IT loads to dual corded configuration so as to achieve the same availability as the dual corded loads.

Our systems use a Power Quality Seeking sense circuit that enables the critical load to always be on the better of the two sources. The system does this through the use of a unique triple band power quality discriminator that categorizes voltage bands at each source into: Good, Marginal, and Unacceptable Quality. The system always seeks the Good Power Quality band. The bands are user settable. This unique failure avoidance feature enables the MagLatch™ RMATS to keep the load in a safe zone of power quality, unlike switching devices that stay on the edge of power failure before initiating a transfer at higher risk. Transferring from the edge has higher risk because the source has completely failed and there is no returning to it if something goes wrong with the transfer or if the opposite side feeder trips. Transferring in a load acceptable range avoids these issues.

The comprehensive user adjustable settings feature allows the user full customization capability to match the specific load requirements to the facility power. The MagLatch™ RMATS also comes with an optional RS-485 interface for connection to a BMS if desired. The monitoring features come with standard as well as several optional choices for the user:

## Standard Features

- MagLatch™ Technology
- Fast Transfers < ½ cycle
- 1U high form factor
- 10KA short circuit withstand (see the user manual)
- Anti-cross connection logic
- Mimic bus diagram
- Power flow LED indicators
- Summary & Service Alarm LEDs and remote contacts
- Preferred Source Select Button
- Alarm Silence Button
- 4' input and output cords with plugs and sockets (North America only) (Cords only for other locations)
- Unit can be set up for any nominal voltage by the user
- Two Pole Device
- Certified to comply with CE, UL & IEC60950 Standards
- Redundant logic supplies
- Convection cooled
- User selectable settings
- "Auto-retransfer Off" selection option
- Power Quality Seeking System

## Applications

Data Centers  
Telecommunications Sites  
Petrochemical Plants  
Semiconductor Fab Plants  
Controls  
Power Plant Controls

## Options

- RS485 status and metering data, V, I, pf, f, KW transfer count
- Wave form capture of last transfer

TwinSource LLC with corporate offices in the US and UK is a worldwide leading supplier of single-phase, rack mount high MTBF SCR based or electromechanical MagLatch™ automatic transfer switches for a full range of applications. Our Dual Cord Converter products are ideal for protecting IT devices where speed of transfer and reliability are pre-requisite requirements of the mission.

Our electromechanical relay type RMATS product is ideal for the less critical applications while our SCR based systems with a field accumulated run time of over 50M hours are the most reliable product of their type worldwide enabling 8x9's availability. Both products utilize the same reliable TwinSource sense and control logic. Both can be used at the same data center by assigning two levels of expected availability for two groups of loads.

TwinSource product lines are well known for their reliability, excellent quality of workmanship, ease of use, and have set a new standard for rack-mount transfer switches in the industry.

 **TwinSource, LLC, USA**

32333 Aurora Road  
Solon, Ohio, 44139, USA  
Phone: (440) 248-6800  
Fax: (440) 349-2678  
Web: www.twinsource.net

 **TwinSource Ltd, UK**

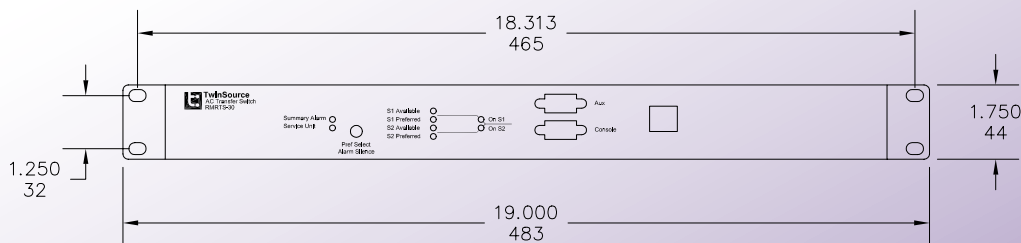
78 Kenyon Street,  
London SW6 6LB, UK  
Phone: +44(0) 20 7610 3770  
Fax: +44(0) 20 7386 8715  
Web: www.twinsource.net

- Included at no charge are remote isolated summary alarm contacts.
- Optional RS485 interface lists the status of all alarms and reports it in Modbus RTU open protocol format compatible with all open protocol BMS systems.
- Optional analogue read out of values of parameters such as V, A, KVA, KW, pf and f are shown through the console seen on a laptop, or through the RS485 thus eliminating the need for the very costly in-circuit metering gear in upstream panels.
- Optional data logger provides time stamped chronologically recorded list of events including transfers or crossing of the voltage set points, down to a millisecond resolution.
- Optional Waveform Capture enables you to download the output waveform of the voltage during the last transfer right before, during, and right after the transfer from the front of the unit using a lap top. As a facility watch dog device this is a fabulous diagnostic tool to see what really happened to the sources in a graphic form to help you troubleshoot distribution voltage issues.

The combination of the above interface features provides invaluable power quality diagnostic data available to the user at every rack. To enable this level of data acquisition at rack level would require thousands of dollars of sophisticated monitoring devices at each rack. With your TwinSource MagLatch™ RMATS Transfer Switch all this high performance measuring capability can be built-in as a part of your transfer switch.

This product is available in all worldwide voltages and frequencies making it ideal for multinational operations worldwide.

### DCC-I MagLatch™ RMATS Transfer System Front View:



### Basic Specifications

#### Electrical Characteristics:

Current Rating	24A continuous
Voltage	100, 120, 208, 220, 230, 240V
	1-ph, 50 and 60Hz
Poles	2

#### Operational Characteristics:

Sense and transfer time  
< ½ cycle for all source phase angles

#### User Adjustable Settings:

- Over and Under Voltage
- Phase Angle for Manual Transfer
- Default Preferred
- Manual Transfer Enabled/Disabled
- Auto-retransfer On/Off
- Pref. Source Select Button Enabled/Disabled
- Audible Alarm Enabled/Disabled

#### Panel Controls:

- Preferred Select
- Alarm Silence

#### Remote Contacts (Standard):

- Summary Alarm
- Service Alarm

#### Panel Status LEDs:

- Source 1 Available
- Source 2 Available
- Source 1 Preferred
- Source 2 Preferred
- On Source 1
- On Source 2

#### Alarm LEDs:

- Summary Alarm
- Service Alarm

#### Environmental Specifications:

Operating Temperature	
Range	0°C to 40°C
Relative Humidity	0% to 95% non-condensing

#### Physical Specifications:

Weight	13 lbs/6 kg
Dimensions	H - 1.75 in/45 mm
	W - 19 in/483 mm
	D - 13 in/330 mm