



## RGU™ Isolation Board Replacement

### Contents

This document shows how to remove and replace the isolation board and burden resistors in a Regenerative DC Bus Supply Unit (RGU).

### What This Kit Contains

Using the table below, verify that you have received the appropriate items in your kit.

If you have received an isolation board kit:

For this part:	You should receive this quantity:
isolation board	1
ESD wrist strap	1

If you have received a burden resistor kit:

For this part:	You should receive this quantity:
burden resistors	2 (for Series A RGUs) 3 (for Series B RGUs)

*Note: Refer to Table A to verify that you have received the appropriate burden resistor kit.*

### Other Items Needed

Before you begin, be sure you also have the following:

- Tools you will need for:
  - Measuring voltages
  - Removing, loosening, and tightening screws (including terminal screws)
  - Torquing screws (6 lb-in / 0.7 N-m)
- Documentation:
  - Your drive system schematics
  - Publication 2364F-5.01, *Regenerative DC Bus Supply Unit (RGU)–User Manual*

*Note: If the existing burden resistors are damaged, you will need to order the appropriate resistor kit (see Table A on page 4).*

## Safety Precautions

The following general precautions apply when servicing an RGU or a drive system lineup:



**ATTENTION:** Only those familiar with the drive system, the products used in the system, and the associated machinery should plan or implement the installation, startup, and future maintenance of the system. Failure to comply can result in personal injury and/or equipment damage.

**ATTENTION:** Verify that all sources of AC and DC power are deenergized and locked out or tagged out in accordance with the requirements of ANSI/NFPA 70E, Part II.

**ATTENTION:** The system may contain stored energy devices. To avoid the hazard of electrical shock, verify that all voltage on capacitors has been discharged before attempting to service, repair, or remove a drive system or its components. You should only attempt the procedures in this manual if you are qualified to do so and are familiar with solid-state control equipment and the safety procedures in publication NFPA 70E.

**ATTENTION:** When servicing any unit, do not drop any nuts, bolts, washers, etc. inside the unit, as they may cause a short circuit on power up.

**ATTENTION:** This drive system contains ESD (Electrostatic Discharge) sensitive parts and assemblies. Static control precautions are required when installing, testing, or repairing this assembly. Component damage can result if ESD control procedures are not followed. If you are not familiar with static control procedures, refer to Allen-Bradley publication 8000-4.5.2, *Guarding Against Electrostatic Damage* or any other applicable ESD protection handbook.

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## Special Instructions

**Important:** You will need to reuse parts that are removed from the unit. Place parts, in the order removed, on a clean surface.

## Preliminary Steps

Before replacing the power supply, shut off the power; lockout/tagout the unit; and wait five minutes for all voltage to discharge. Open the bay door to the power structure.

## Replacing the Isolation Board

1. Using a meter, test the voltage across the AC line, across the DC bus, and across the terminals on the isolation board.

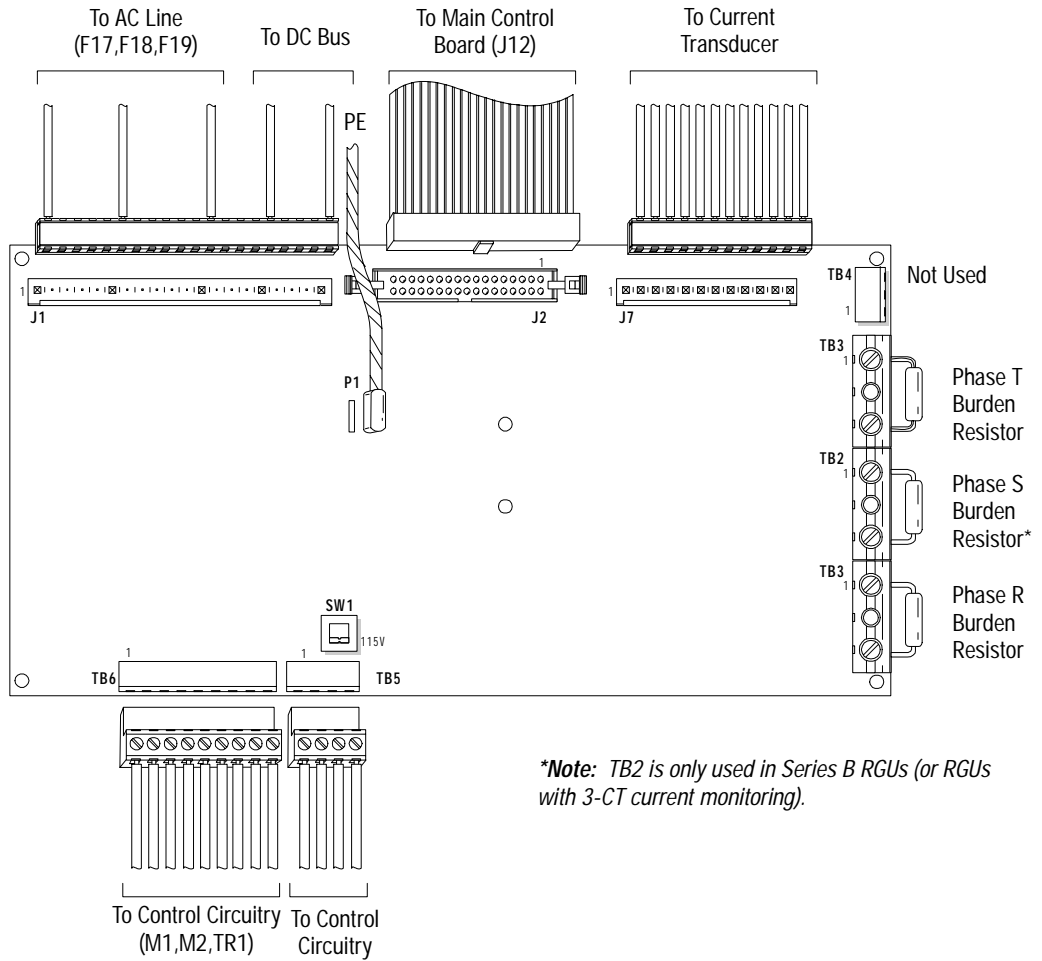


**ATTENTION:** If there is any voltage present, remove the source of the voltage. Check for voltages again before proceeding to the next step.

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2. Put on the ESD wrist strap and attach it to the PE busbar (rear grounding bar in the bottom of the unit).
3. Remove the Lexan™ guard (and its standoffs) from the isolation board.
4. Disconnect the ground connection from P1, the feedback connection from J1, the ribbon cable from J2, and the current transducer connection from J7 (as shown in Figure 1).
5. Disconnect the terminal blocks TB5 and TB6.
6. Turn the six mounting standoffs counterclockwise to loosen the board and pull the board out.
7. Remove the burden resistors from each of the terminal blocks.
8. Place the isolation board in an anti-static bag.

**Figure 1**  
RGU Isolation Board



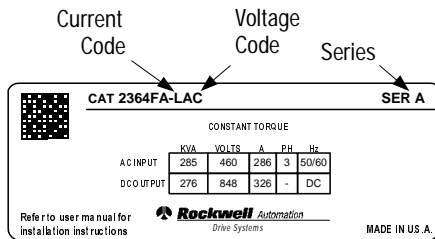
*\*Note: TB2 is only used in Series B RGUs (or RGUs with 3-CT current monitoring).*

**Table A: Burden Resistor Kits**

	Current Code	Voltage Code	Burden Resistor Kit Number	Ohms	% Tolerance	Type
Series A	J	N, B	2364-SPD01A	8.87	0.5	Metal Film
	J	C	2364-SPD02A	11.0	0.5	Metal Film
	K	N, B, C	2364-SPD03A	7.5	0.5	Metal Film
	L	N, B	2364-SPD05A	6.19	0.5	Metal Film
	L	C	2364-SPD06A	7.15	0.5	Metal Film
	M	N, B	2364-SPD07A	4.02	0.5	Metal Film
	M	C	2364-SPD08A	4.53	0.5	Metal Film
	N	N, B	2364-SPD09A	3.01	0.5	Metal Film
	N	C	2364-SPD10A	3.40	0.5	Metal Film
	Series B	M	N, B	2364-SPD07B	4.02	0.5
M		C	2364-SPD08B	4.53	0.5	Metal Film
N		N, B	2364-SPD09B	3.01	0.5	Metal Film
N		C	2364-SPD10B	3.40	0.5	Metal Film

**Typical RGU Nameplate**

Located Near the Main Control Board



For example, this nameplate shows current code L and voltage code C. The appropriate kit would be 2364-SPD06A.

Since the nameplate shows this to be a Series A unit, a resistor would not be required in TB2.

## Installing the Isolation Board

1. Secure the burden resistors in the terminals on the new board (verify that the clear insulation does not enter the terminals). Torque to 6 lb-in (0.7 N-m).

*Note:* TB2 is only used in Series B RGUs (see the data nameplate).

2. Place the board on the six standoffs and secure the board.
3. Connect terminal blocks TB5 and TB6 to the isolation board. The terminal blocks must be firmly pressed into the appropriate sockets.
4. Connect the feedback connection to J1, the ribbon cable to J2, the current transducer connection to J7, and the PE ground wire to P1.
5. Replace the Lexan guard to the isolation board.
6. Verify that SW1 is set appropriately (115V AC).



**ATTENTION:** SW1 must be set to the appropriate control power. Setting SW1 to the wrong setting will result in damage to the isolation board and other components.

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## Concluding Steps

After installing the isolation board, replace all Lexan shielding and secure the bay door. Send the board to Rockwell Automation for repair, or dispose of the old board according to your company's procedures and local ordinances.

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**Americas Headquarters**, 1201 South Second Street, Milwaukee, WI 53204, USA, Tel: (1) 414 382-2000, Fax: (1) 414 382-4444

**European Headquarters SA/NV**, avenue Herrmann Debroux, 46, 1160 Brussels, Belgium, Tel: (32) 2 663 06 00, Fax: (32) 2 663 06 40

**Asia Pacific Headquarters**, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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