



## RGU™ Main Control Board Replacement Firmware Version 3.01

### Contents

This document shows how to remove and replace the main control board 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:

<b>For this part:</b>	<b>You should receive this quantity:</b>
main control board	1
ESD wrist strap	1

### 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 (4 to 14 lb-in / 0.5 to 1.5 N-m)
- Documentation:
  - Your drive system schematics
  - Publication 2364F-5.01, *Regenerative DC Bus Supply Unit (RGU)– User Manual*

## 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.

**Important:** The new main control board may not include the same parameter settings as the existing board. If necessary, record the parameter settings before replacing the main control board.

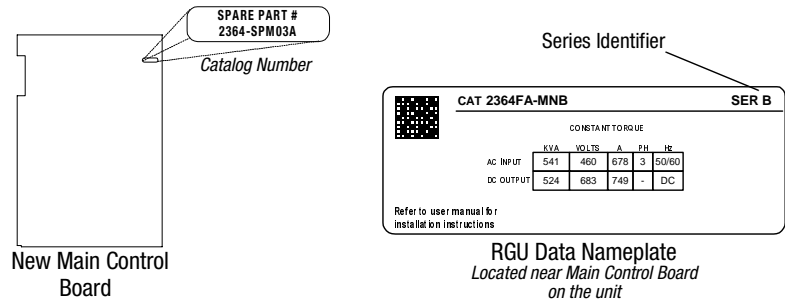
## Preliminary Steps

Before replacing the main control board, 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. Verify that the board is labeled with the appropriate catalog number (see the example in Figure 1).

**Figure 1**  
Checking the Catalog Number of the Main Control Board

Catalog Number	Series Type
2364-SPM01C	Series A units
2364-SPM03A	Series B units

For example, if the data nameplate for an RGU has a Series B identifier (or 3 CT current monitoring), the new main control board should be labeled with the catalog number 2364-SPM03A.



## Replacing the Main Control Board

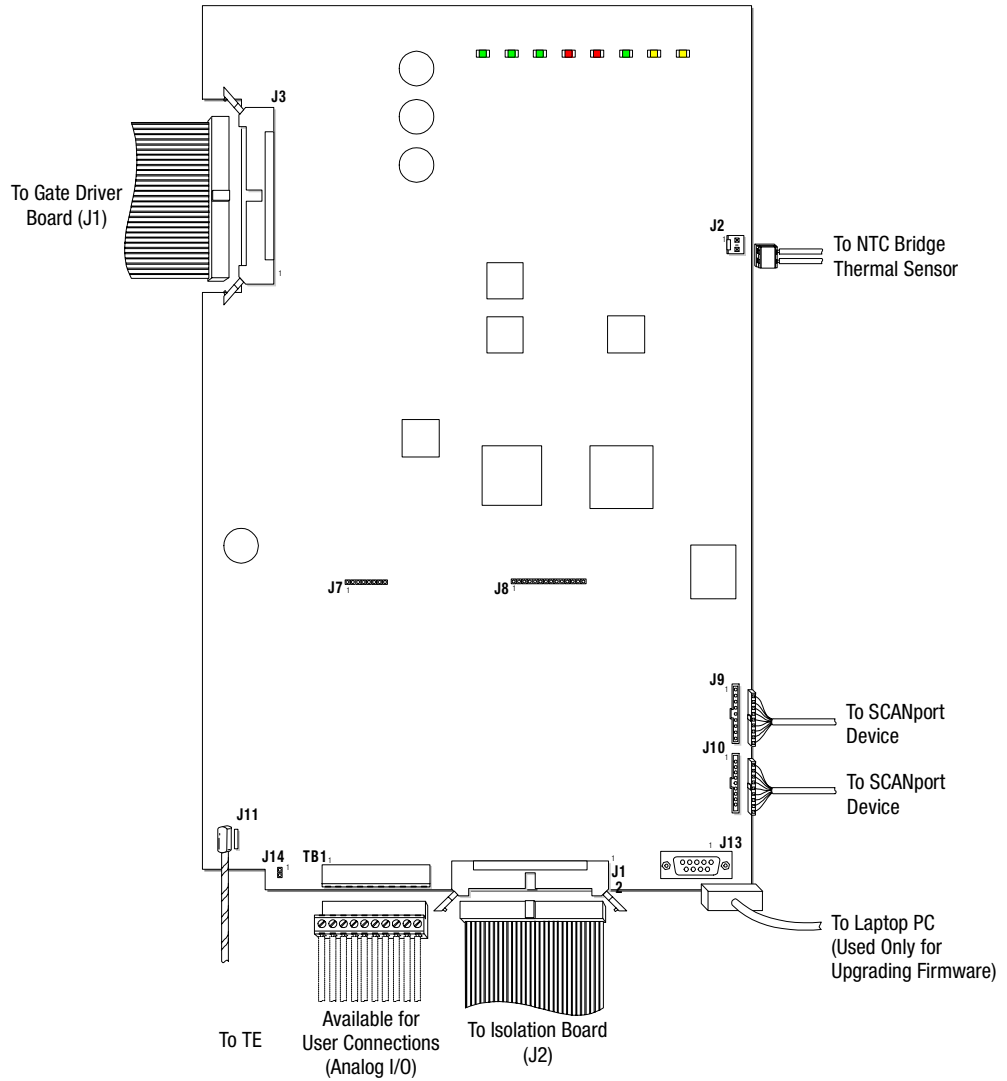
- Using a meter, test the voltage across the AC line, across the DC bus, and across the terminals and test points on the main control board.



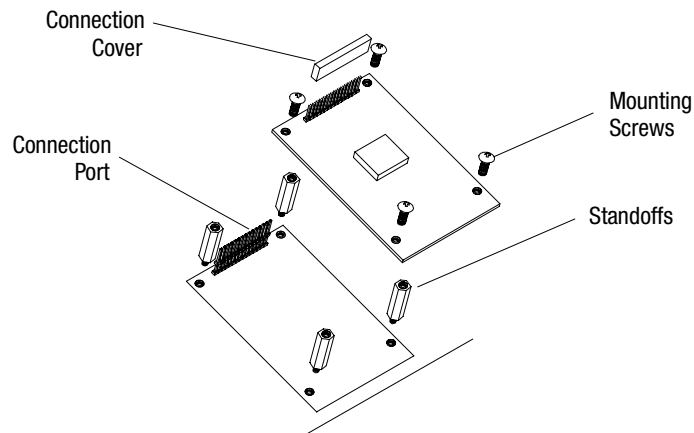
**ATTENTION:** If there is any voltage present, remove the source of the voltage. Check for voltages again before proceeding to the next step.

- Put on the ESD wrist strap and attach it to the PE busbar (back grounding bar in the bottom of the unit).
- Disconnect J2, J3, J9, J10, J11, J12 from the main control board (as shown in Figure 2).
- Disconnect TB1 from the main control board.
- Remove the screws which mount the main control board to the mounting plate.
- Slide the main control board upward, then pull the board off.
- Remove any communication boards (and standoffs) which are attached to the main control board (as shown in Figure 3).
- Place the main control board in an anti-static bag.

**Figure 2  
Main Control Board**



**Figure 3  
Removing/Installing a Communication Board**



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## Installing the Main Control Board

1. Put on the ESD wrist strap and attach it to the PE busbar.
2. Mount any communication boards that were previously removed from the main control board (as shown in Figure 3). Torque all mounting screws to 4 lb-in (0.5 N-m).
3. Slide the main control board downward onto the slide-mount standoffs.
4. Mount the main control board to the mounting plate. Torque the mounting screws to 14 lb-in (1.5 N-m).
5. Connect TB1 to the main control board. Verify that all the terminals are secure.
6. Connect J2, J3, J9, J10, J11, and J12 as shown in Figure 2.

## Concluding Steps

After installing the main control board, remove all tools and debris from the unit and secure the bay door. Send the old board to Rockwell Automation for repair or dispose of the board according to your company's procedures and local ordinances.



**ATTENTION:** The parameters must be configured before operating the unit. See the startup chapter of publication 2364F-5.01 to configure the parameters in the new main control board.

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