



620 Frame RC Snubber Board IS200RCSBG1B

Safety Symbol Legend



Warning

Indicates a procedure or condition that, if not strictly observed, could result in personal injury or death.

These instructions do not purport to cover all details or variations in equipment, nor to provide every possible contingency to be met during installation, operation, and maintenance. If further information is desired or if particular problems arise that are not covered sufficiently for the purchaser's purpose, the matter should be referred to GE Industrial Systems.

This document contains proprietary information of General Electric Company, USA, and is furnished to its customer solely to assist that customer in the installation, testing, operation, and/or maintenance of the equipment described. This document shall not be reproduced in whole or in part, nor shall its contents be disclosed to any third party without the written approval of GE Industrial Systems.



Caution

Indicates a procedure or condition that, if not strictly observed, could result in damage to or destruction of equipment.

Note Indicates an essential or important procedure or statement.

Section	Page
Functional Description	1
Application Data.....	2
Snubber Circuit Description.....	2
Snubber Circuit Requirements.....	2
I/O Definition and Requirements	2
Mechanical Requirements	2
Renewal/Warranty Replacement	3
How to Order a Board	3
Board Identification	3
Warranty Terms	3
Placing the Order	4
Handling Precautions	4
Replacement Procedures	5

Functional Description

The IS200RCSB 620 Frame RC Snubber Board (RCSB) provides snubber capacitors for the SCRs and diodes that make up one phase of a 620 frame SCR-diode source bridge. There is one RCSB per 620 frame source bridge.

The RCSB board provides the capacitors for snubber circuitry that protects the SCRs and diodes from voltage overshoots that are greater-than device rating during commutation from one device to another.

The board is designed based on the characteristics of the SCR-diode modules used in the 620 frame source bridges. It is also designed for an ac input to the source bridge of up to 600 VLL rms.

Application Data

Snubber Circuit Description

There are six sets of two capacitors, one for each device (SCR/diode).

Component/Operating Conditions	Description
Capacitance	0.136 μF (Two 0.068 μF capacitors in parallel)
Maximum Specification Current Through Snubber Capacitance (Peak with PW and frequency)	8.5 A pk, PW \approx 3-5 μs , Frequency= 720 Hz (each capacitor) 0.5 A rms

Snubber Circuit Requirements

There are six sets of capacitors, one for each power device in the bridge.

Specification Name / Conditions	Specification
Capacitance	0.095 to 0.150 μF
Maximum Current Through Capacitors (Clamping)	8.5 Apk, 0.5 A rms

I/O Definition and Requirements

- Stab-on connections for ac input: E4, E8, E11
- Stab-on connections for snubber resistor connections: E1, E10, E3, E14, E7, E16
- SCR anode/diode cathode connections: E5, E9, E13
- Two positive and two negative bus terminal connections: E2, E6, E12, E15

The board is mounted directly to the SCR-diode modules for each phase. The board is held in place by the SCR and diode connections.

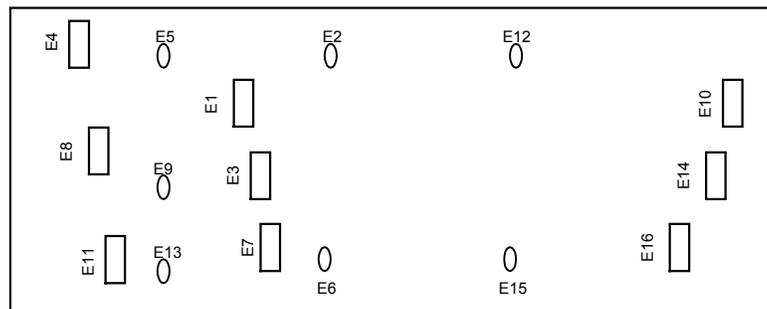


Figure 1. RCSB Layout Diagram

Mechanical Requirements

This board will be mounted directly to the SCR-diode modules for each phase. The board will be held in place by the SCR and diode connections. Proper positioning of these mounting holes is essential.

Renewal/Warranty Replacement

How to Order a Board

When ordering a replacement board for a GE drive, you need to know:

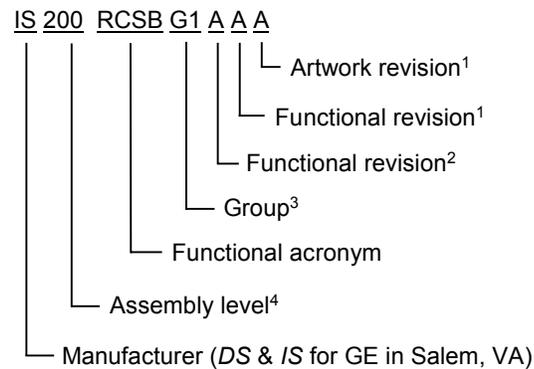
- How to accurately identify the part
- If the part is under warranty
- How to place the order

This information helps ensure that GE can process the order accurately and as soon as possible.

Board Identification

A printed wiring board is identified by an alphanumeric **part (catalog) number** located near its edge. Figure 2 explains the structure of the part number.

The board's functional acronym is normally based on the **board description**, or name. For example, the RCSB board is described as the 620 Frame RC Snubber Board.



¹Backward compatible

²Not backward compatible

³G or H = group variation

⁴200 indicates a base-level board; 215 indicates a higher-level assembly or added components (such as PROM)

Figure 2. Board Part Number Conventions

Warranty Terms

The GE *Terms and Conditions* brochure details product warranty information, including **warranty period** and **parts and service coverage**. The brochure is included with customer documentation. It may be obtained separately from the nearest GE Sales Office or authorized GE Sales Representative.

Placing the Order

Parts still under **warranty** may be obtained directly from the factory:

GE Industrial Systems
Product Service Engineering
1501 Roanoke Blvd.
Salem, VA 24153-6492 USA
Phone: + 1 540 387 7595
Fax: + 1 540 387 8606

("+" indicates the international access code required when calling from outside of the USA.)

Renewals (spares or those not under warranty) should be ordered by contacting the nearest GE Sales or Service Office. Be sure to include:

- Complete part number and description
- Drive serial number
- Drive Material List (ML) number

Note All digits are important when ordering or replacing any board. The factory may substitute later versions of boards based on availability and design enhancements. However, GE Industrial Systems ensures backward compatibility of replacement boards.

Handling Precautions



Caution

To prevent component damage caused by static electricity, treat all boards with static sensitive handling techniques. Wear a wrist grounding strap when handling boards or components, but only after boards or components have been removed from potentially energized equipment and are at a normally grounded workstation.

Printed wiring boards may contain static-sensitive components. Therefore, GE ships all replacement boards in antistatic bags.

Use the following guidelines when handling boards:

- Store boards in antistatic bags or boxes.
- Use a grounding strap when handling boards or board components (per previous *Caution* criteria).

Replacement Procedures



Warning

Bridge cabinet doors should not be opened when drive power is ON. To prevent electric shock, turn off power to the board, then test to verify that no power exists in the board before touching it or any connected circuits.



Caution

To prevent equipment damage, do not remove, insert, or adjust board connections while power is applied to the equipment.

➤ To replace an RCSB board

1. Make sure the drive that the board is in has been de-energized and follow all local safety practices of Lock-Out/Tag-Out.
 2. Open the bridge cabinet doors and, using equipment designed for high voltages, test any electrical circuits **before touching them** to ensure that power is OFF and has dissipated.
 3. Cut and remove any wire ties that secure wires to the holes located at the corners of the board.
 4. Remove the nuts with washers at the eyelet connections that secure the RCSB board to the SCR/diode module terminals.
-



Caution

Avoid dropping mounting hardware into the unit, which could cause damage.

1. Remove the old RCSB board from the SCR/diode module terminals.
2. Orient the new RCSB board in the same position as the one removed, install it onto the SCR/diode module terminals
 - Secure the new RCSB board to the terminals with the three nuts and washers removed in step 4 and torque them to 13 in/lb.
 - Resecure any wires that were cut loose from the board's corner holes in step 3 with new wire ties.
3. Close the bridge cabinet doors

Notes



GE Industrial Systems

Issue date: 1999-08-19
© 1999 by General Electric Company, USA.
All rights reserved.

General Electric Company
1501 Roanoke Blvd.
Salem, VA 24153-6492 USA