



# GE Industrial Control Systems

## LAN CURRENT SOURCE BOARD

### 531X207LCS\_\_G1

*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 Control Systems.*

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## FUNCTIONAL DESCRIPTION

### WARNING

**This equipment contains a potential hazard of electric shock or burn. Only adequately trained persons who are thoroughly familiar with the equipment and the instructions should install or maintain this equipment.**

## INTRODUCTION

The 531X207LCS LAN Current Source Board (LCS) provides a 5 or 15 V dc power supply and a voltage-limited 0.3 A current source. For LAN installations, the LCS board's power supply should be configured for 15 V dc output. A Berg-type jumper (JP1) is used to select the output voltage of the dc power supply. A potentiometer (pot, P1) is used to adjust the output voltage of the 5/15 V dc power supply.

The LCS board operates from 115 V ac input power that is fuse protected. All inputs and outputs for the LCS board are through one terminal board, TB1.

There is only one group of the LCS board, G1.

## SAFETY SYMBOL LEGEND

### WARNING

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

### CAUTION

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

**NOTE** Indicates an essential or important procedure, practice, condition, or statement.

## APPLICATION DATA

### BOARD HARDWARE

The LCS board includes a potentiometer, one configurable jumper, a fuse, and a terminal board as part of the board. (There are no testpoints, LEDs, or plug connectors.) These items are described in the following paragraphs of this section.

### CONFIGURABLE JUMPER (JP1)

A Berg-type jumper, JP1, is used to select the output voltage of the LCS board's dc power supply as follows:

- Place jumper in the 1.2 position (pins 1 and 2 connected) for 5 V dc operation
- Place jumper in the 2.3 position (pins 2 and 3 connected) for 15 V dc operation

See Figure 1 for the layout diagram of the LCS board showing the location of jumper JP1.

### POTENTIOMETER (POT, P1)

A Potentiometer (pot), P1, is used to adjust the output voltage of the 5/15 V dc power supply, as follows:

1. Position jumper JP1 for the desired dc output voltage (5 or 15 V dc).
2. Apply 115 V ac input power to the LCS board at TB1-1 and TB1-3.
3. Using a voltmeter, measure the output voltage across TB1-8 (V+) and TB1-7 (COM) for the power supply output, and TB1-11 (-) and TB1-12 (+) for the current source output.
4. Adjust pot P1 for nominal output voltage.

See Figure 1 for the layout diagram of the LCS board showing the location of pot P1.

### FUSE (FU1)

The LCS board operates from 115 V ac input power. The incoming ac line is protected by a 0.25 A, 250 V fuse, designated FU1. See Figure 1 for the location of fuse FU1.

### TERMINAL BOARD CONNECTOR

The LCS board receives input power and sends power outputs via one 12-point terminal board (TB1) connector. See Figure 1 for an LCS board layout diagram showing the location of this connector and see Table 1 for the signal description of each terminal.

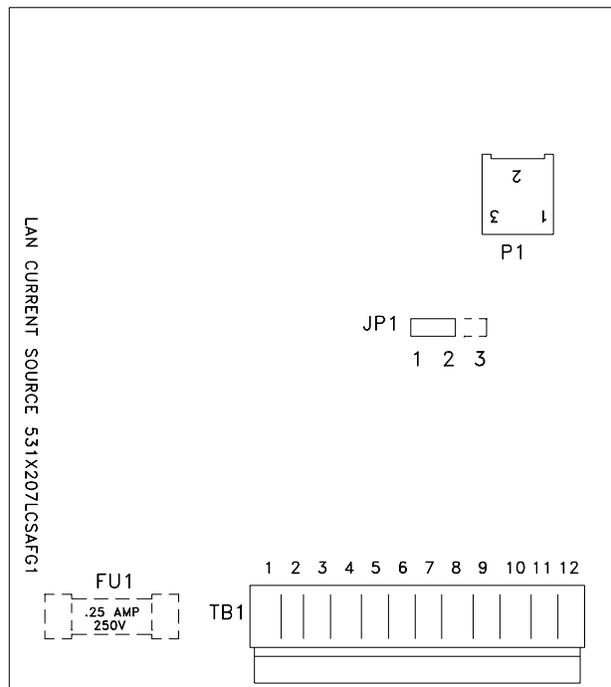


Figure 1. LCS Board Layout Diagram

Table 1. Connector TB1, LCS Board Power Connections

Terminal	Nomenclature	Description
TB1-1	—	115 V ac input to LCS board
TB1-2	—	Not connected
TB1-3	—	115 V ac input to LCS board
TB1-4	—	Not connected
TB1-5	—	Not connected
TB1-6	—	Not connected
TB1-7	COM	5/15 V dc power supply common
TB1-8	+V	5/15 V dc power supply positive output (+)
TB1-9	—	Not connected
TB1-10	—	Not connected
TB1-11	TXA	0.3 A current source negative output (-)
TB1-12	TXB	0.3 A current source positive output (+)

## RENEWAL/WARRANTY REPLACEMENT

### BOARD IDENTIFICATION

A printed wiring board is identified by an alphanumeric part (catalog) number stamped on its edge. For example, the LAN Current Source Board is identified by part number 531X207LCSrG1.

- The *531X207LCS* portion is the base number that specifically identifies the printed wiring board.
- The *c* and *r* digits are alphabetic characters that indicate the board configuration and revision level, respectively.
- The *G#* identifies a group, which is a variation of a particular board. The LCS board has one group, *G1*.

### NOTE

**All digits are important when ordering or replacing any board.**

### WARRANTY TERMS

The GE Industrial Control Systems Terms and Conditions brochure details product warranty information, including the **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.

## WARRANTY PARTS AND SERVICE

Fuse FU1 is the only end-user replaceable component on the LCS board. If any other components on the board fail, the board needs to be replaced as a unit.

To obtain a replacement board, or service assistance, contact the nearest GE Service Office.

Please have the following information ready to exactly identify the **part** and **application**:

- GE requisition or shop order number
- Equipment serial number and model number
- Board number and description

## PROCEDURE FOR REPLACING BOARDS

### WARNING

**To prevent electric shock, turn off power to the drive, then test to verify that no power exists on the LCS board before touching it or any connected circuits.**

**CAUTION**

**To prevent equipment damage, do not remove boards or connections, or re-insert them, while power is applied to the drive.**

**Treat all boards as static-sensitive. Use a grounding strap when changing boards, and always store boards in anti-static bags or boxes they were shipped in.**

To replace an LCS board:

1. **Turn off all power to the drive**, then wait several minutes for all the power supply's capacitors to discharge. Test any electrical circuits before touching them to ensure the power is off.
2. Open the drive's cabinet door to access the printed wiring boards and locate the LCS board (mounted on a bracket with four screws).
3. Carefully disconnect all wires from TB1 on the LCS board as follows:
  - Verify wires are labeled with the correct connector point (as marked on the terminal board) to simplify reconnection (or note the location of each wire if not labeled).
  - Loosen the screw at the top of each terminal board point and gently pull the individual wires free.
4. Remove the four screws (one in each corner) that secure the LCS board to the mounting bracket and remove the board.

**NOTE**

**Because of upgrades, boards of different revision levels may not contain identical hardware. However, GE Industrial Control Systems assures compatibility of its replacement boards.**

5. Verify that the pot and jumper on the new (replacement) LCS board are set in the exact same position as they were on the old board.
6. Orient the new LCS board in the same position as the one removed and install it onto the mounting bracket with the four screws removed in step 4, then fully tighten the screws.
7. Reconnect all wires to TB1 on the LCS board as labeled (that were disconnected in step 3) and tighten the terminal board screw to secure the wire in place.
8. Adjust the nominal output voltage with pot P1 using the procedure in the Potentiometers paragraph of this instruction (if necessary), then close the drive cabinet door.



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