GATE DRIVER PC BOARD REPLACEMENT

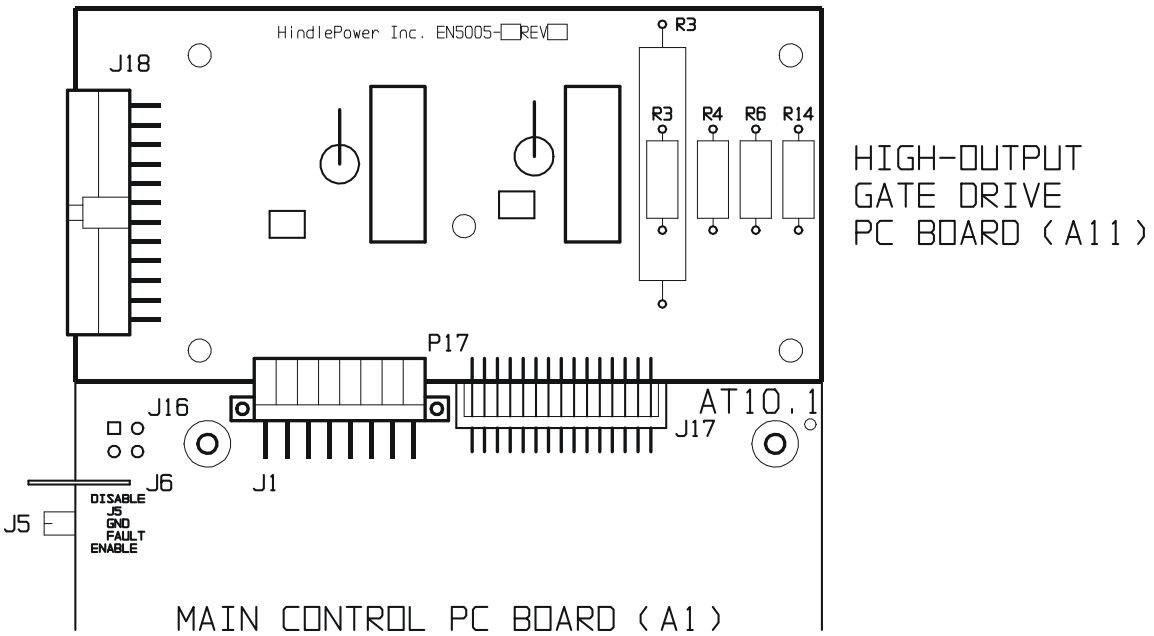
BACKGROUND

The AT10.1 Gate Driver PC Board (referenced as component "**A11**") accepts signals from the Main Control PC Board (A1), and triggers the SCRs (Q1 & Q2) to fire. The manufacturer's internal part number for the AT10.1 Gate Driver PCB is **EN5005-0#** (12Vdc **-01**, 24Vdc **-02**, 48Vdc **-03**, and 130Vdc **-04**). On occasion, this pc board may need to be replaced.

NOTICE

Printed circuit boards are sensitive to damage from static discharges. Leave replacement boards in their anti-static bags until you are ready to install them. Ground yourself before handling the board, by touching the ground stud on the back of the door. Always handle printed circuit boards by their edges.

REFERENCE IMAGE



REFERENCE DOCUMENTATION

1) Main Control PC Board (A1) Replacement ***Service Instruction*** (**JD5012-00**)
2) AT10.1 G2 Series battery charger ***Operating and Service Instructions*** (**JA0102-02**)
3) AT101. G2 standard drawings, featured online (**http://www.ATSeries.net/**)

TOOLS REQUIRED

1) standard hand tools
2) ground strap

PREPARATION

NOTICE ***Only qualified service technicians should perform this procedure. Follow all site and employer standard safety protocols.***

PROCEDURE

1. Shut down and lock out all power to the AT10.1.

   ⚠ WARNING ***Remove ALL ac power to the AT10.1, disconnect the batteries, and remove all signal contacts. Any optional filter capacitors (C1/C2) inside the charger store powerful electrical potential. Wait several minutes, then test for zero voltage at I/O panel (TB1) and capacitors (C1/C2).***

2. Open the AT10.1 front panel door.
3. Identify the ***square*** Main Control PC Board (A1) mounted to the back panel of the door, along with the ***rectangular*** Gate Driver PC Board (A11) mounted ***above***.
4. Remove any user wiring to the various pc board terminals (e.g. A1-TB3, -TB8/J6, -J3, etc.).
5. ***NOTICE*** A1 and A11 are mounted together as a pair.
6. Remove the signal wire harness plug (J18) from the left edge of A11.
7. The boards are mounted on ten (10) plastic standoffs. Compress the tab on each standoff, and pull the boards toward you until they clear all the standoffs.
8. If you are replacing only one board, carefully separate the existing boards (A1 & A11), and connect the new replacement Gate Driver PC Board (A11).
9. Insert the replacement board(s) onto the instrument panel with the same orientation, and push them onto the standoffs.
10. Make sure the board is fully seated on all ten (10) standoffs.
11. Reconnect the signal wire harness plug (J18) to the Gate Driver PC Board (A11), matching the orientation when removed.
12. Replace any user wiring to the various Main PCB (A1) terminals (e.g. TB3, TB8/J6, J3, etc.).
13. Check your work, making sure pc boards are properly mounting and wiring is secure.
14. Reconnect the battery, dc loads, and ac power to the AT10.1.
15. Close the AT10.1 front panel door.
16. Re-energize the AT10.1 by closing the dc output circuit breaker (CB2) ***first,*** followed by the ac input circuit breaker (CB1) ***second***. See Section 2.1 of the O&SI manual for details.
17. Installation of the AT10.1 Gate Driver PC Board (A11) is now complete.
18. ***NOTICE*** Replacement Main Control PC Boards (A1) ***must*** be recalibrated.
19. See Section 2.3.7 of the O&SI manual for adjusting the dc voltmeter accuracy.
20. If the installation's parameters (float voltage, etc.) are different from the AT10.1 factory preset values, these values should re-entered per Section 2.3 of the O&SI manual.

Replacing resistors (R3, R4, R6, or R14) on Gate Driver PC Board (A11)

In ***all*** AT10.1s, resistors R4, R6, and R14 are soldered directly onto the Gate Driver PC Board (A11). For 12 and 24 Vdc AT30s, R3 is ***also*** soldered directly onto A11. For proper location, see the image on Sheet 1 of 2. If any of these resistors need to be replaced, it is recommended to order a ***new*** Gate Driver PC Board (A11). If any of these resistors ***must*** be replaced, without replacing A11, see Section 3.6 on page 63 of the AT10.1 G2 O&SI manual. Select the proper part number listed in the table, and order it from the factory or your sales representative.

Remove A11. Using wire cutters, clip the soldered leads of the old resistor, and remove it from A11. Carefully solder on the new resistor, making sure not to damage any other components on the board. Polarity is ***not*** vital for these resistors. Once the solder cools, replace A11 as described above.