



1386 DROK Option Board

(Cat. No. 1386-K-DROK)

Instructions

Objective

This publication guides you through the installation and operation of the 1386-K-DROK Option Board. For detailed information on the 1386 DC Servo Drive, refer to the 1386 *User Manual* (publication 1386-5.0).

Description

The 1386 DROK Option provides a normally open “Drive OK” relay contact similar to that found in the 1389 and 1391 Servo Controllers. The DROK (Drive OK) contact is closed when the drive is functioning normally. If a fault occurs or any drive connected to the DROK is disabled, the contact will open. Allen-Bradley motion controllers may use this contact as part of the user supplied “Stop String.”

For individual axis control, a separate DROK board **must be used with each Servo Amplifier Module**. In multiple axis systems with a single DROK board, all Servo Amplifier Modules are disabled if one module faults or is disabled.



ATTENTION: To avoid an electrical shock hazard, assure that all power to the drive has been removed prior to performing the following procedure.



ATTENTION: ESD (Electrostatic Discharge) sensitive parts and assemblies are present. Static control precautions are required when installing, testing, servicing or repairing this assembly. Component damage may result if ESD control procedures are not followed. If you are not familiar with static control procedures, reference Allen-Bradley publication 8000-4.5.2, *Guarding Against Electrostatic Damage* or any other applicable ESD Protection Handbook.

Installation

The following procedure explains the steps needed to help you properly install the DROK Option Board on a 1386 Servo Amplifier Module. Refer to the *1386 User Manual* for component locations and wiring information.

- ❑ 1. Assure that all power to the drive has been removed.
- ❑ 2. Remove the Servo Amplifier Module corresponding to the axis to which the DROK Board will be installed.
- ❑ 3. Locate and remove the two nuts on the non-component side of the module that are closest to TB1 and TB2 (see Figure 1).
- ❑ 4. With the component side of the DROK Board facing out, position the board over the two studs. Refer to Figure 1 for board orientation.
- ❑ 5. Secure the board with the two nuts previously removed.
- ❑ 6. Connect the 3 pin female connector from the DROK Board to J1 on the Servo Amplifier Module.
- ❑ 7. Determine the type of control required and follow the appropriate step below.

Individual Axis Control (*use a single DROK board per axis*)

To disable a single axis – connect the single wire lead from the DROK Board (W3) to terminal 4 of TB2 (Drive Interlock) on the Servo Amplifier Module.

Multi-Axis Control (*use a single DROK board per multi-axis system*)

To disable all axes if any axis faults or is disabled – connect the single wire lead from the DROK Board (W3) to terminal 4 of TB2 (Drive Interlock) on the first amplifier module. Jumper each successive amplifier module as shown in Figure 2.

- ❑ 8. Replace the Servo Amplifier Module and connect the user supplied Stop String wires to terminals 2 and 4 of J1 on the DROK Board. The DROK relay contacts are rated at 5A/250V AC, 5A/30V DC.

Important: The $\pm 15V$ DC will now be available at connector J2 on the DROK Board.

Operation

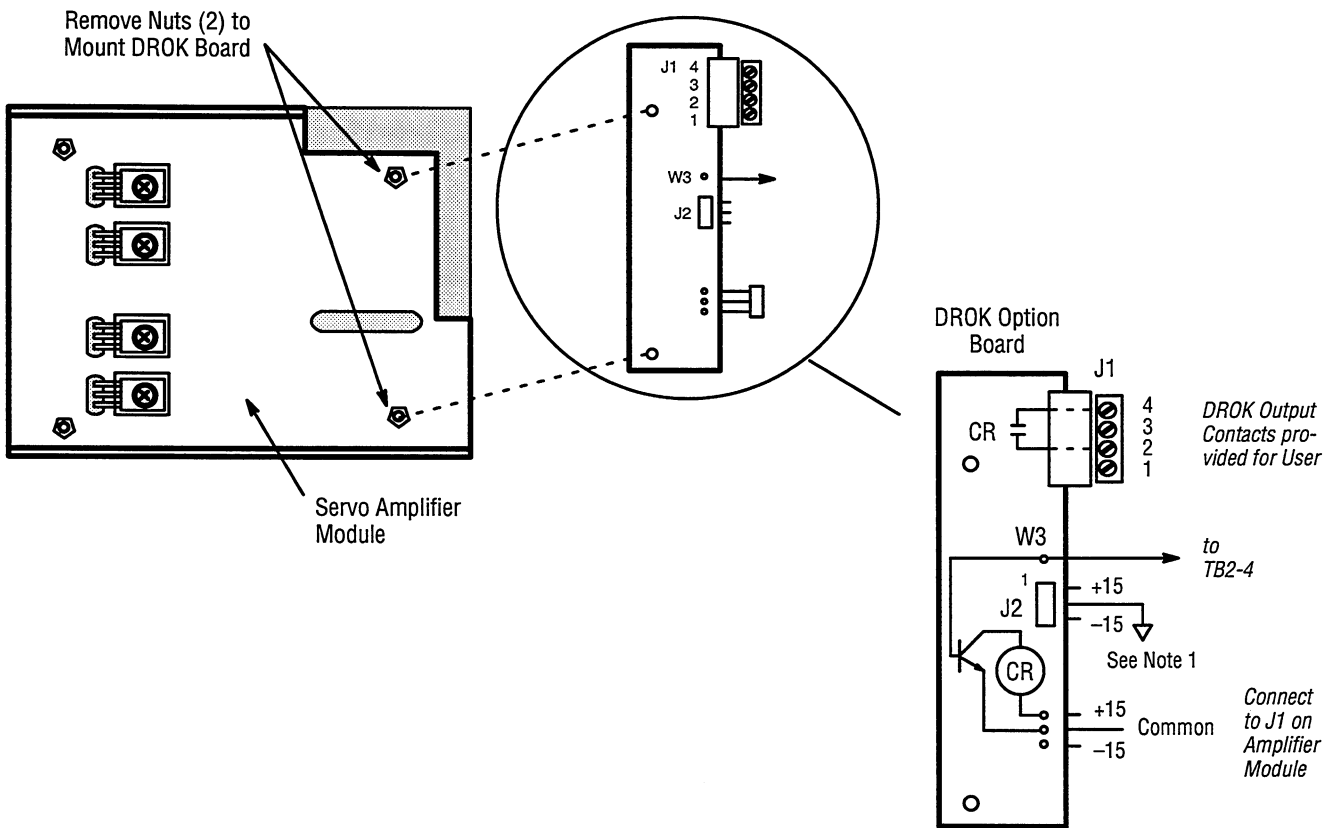
If the Servo Amplifier Module malfunctions, the DROK contact opens, breaking the user supplied Stop String.

The Interlock terminal (TB2-4) serves a dual purpose.

- 1) The output section of the Servo Amplifier Module can be disabled by grounding the Interlock terminal through user supplied external circuitry.
- 2) If a fault causes the Servo Amplifier Module to trip out, the Interlock terminal is at ground potential.

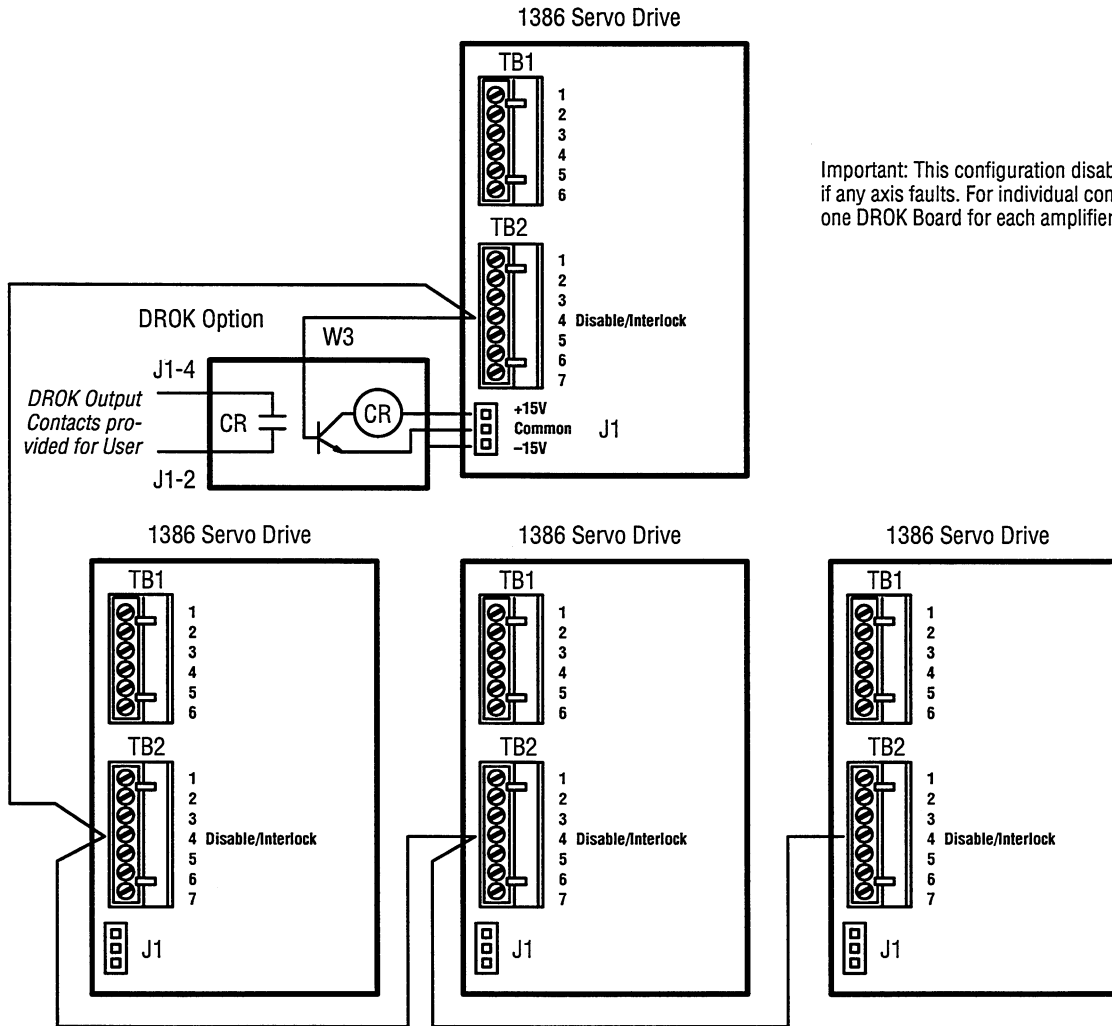
By using these functions, the user can connect the Interlock terminals of the amplifiers together. The output section of all connected axes disables if any axis faults or any amplifier module is disabled. Thus, the DROK contact opens regardless of the axis which it is connected to.

Figure 1
DROK Board Installation



Note 1 For external access to the ±15V DC, J2 connector, order mating connector A-B Part # 111224 (AMP #640428-3 or equivalent).

Figure 2
Multi-Axis Control Connections



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