MagneTek
Louis Allis
Drives & Systems

For use with Lancer JR. Type L1
General Purpose AC Inverter Drives.

LOW FREQUENCY DETECTION & COMPLETED ACCEL-ERATION/DECELERATION DETECTION MOD KIT

MODEL 92296 46802710-0010

Before installing this kit, a TECHNICALLY QUALIFIED INDIVIDUAL who is familiar with this type of equipment and the hazards involved, should READ this ENTIRE INSTRUCTION SHEET.

IMPORTANT

This kit may have been installed by the factory. In that event disregard the INSTALLATION section. Refer to DESCRIPTION for operational information and WIRING CONNECTIONS for wiring information.

DESCRIPTION

This Louis Allis kit consists of a printed circuit board (with metal spacer and hardware) 05P00090-0167 illustrated in Figure 1. It can only be installed in a Lancer JR. Type L1 inverter drive which has an ARNI-889 REV D or above Main Control PCB. If additional modifications are used with this kit, a Multi Adapter modification kit (Model 92327) MUST be employed.

When installed, this PCB provides a means (via relay contacts) of detecting two operational functions of the inverter: "Low Frequency (Speed)" and "Completed Acceleration or Deceleration."

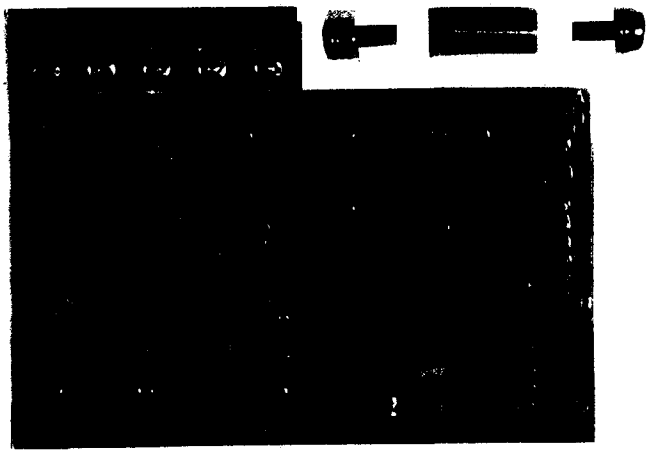

FIGURE 1.

Low Frequency (Speed) Detection

The circuit monitors output frequency of the inverter and initiates a relay contact action when the output is above the minimum useful value. This action occurs at approximately 0.4HZ when the inverter is set to operate in the low frequency mode (1F). The medium frequency mode (2F) and high frequency mode (4F) increase this pick-up point to 0.8HZ and 1.6HZ respectively. A form "C" 1N.O.-1N.C. relay contact is available at terminals LA, LB and LC of this PCB. These contacts are rated 3A maximum at 250 VAC or 30 VDC. Refer to Table 1 for the relay contact action.

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TABLE 1.

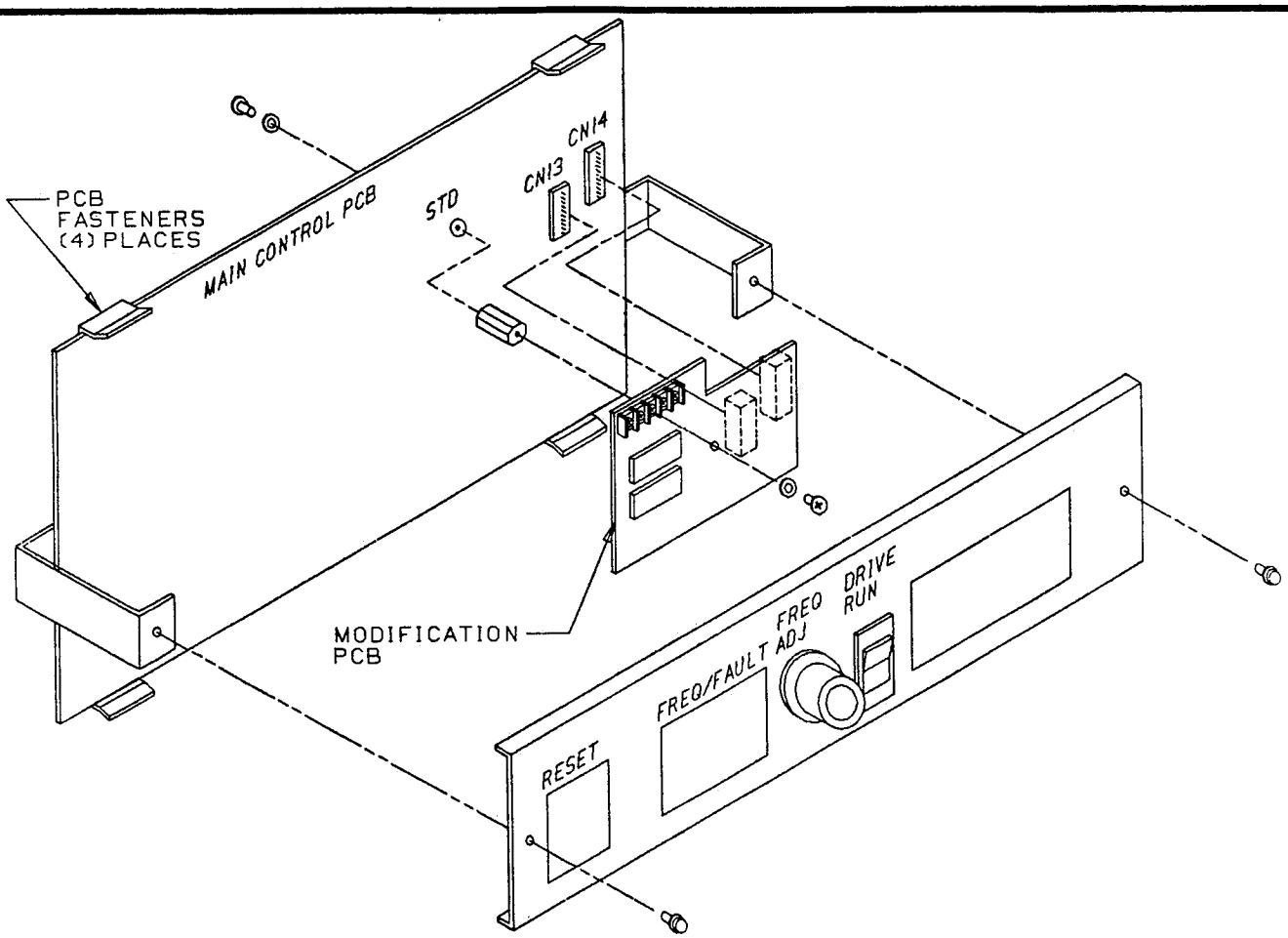
INVERTER CIRCUIT CONDITION	RELAY CONTACT ACTION	
	CONTACT ACROSS TERMS (LA) & (LC)	CONTACT ACROSS TERMS (LB) & (LC)
LINE INPUT POWER OFF	OPEN	CLOSED
LINE INPUT POWER ON, START COMMAND OFF	CLOSED	OPEN
LINE INPUT POWER ON, START COMMAND ON, DRIVE OUTPUT BELOW 0.4HZ	CLOSED	OPEN
LINE INPUT POWER ON, START COMMAND ON OR OFF, DRIVE OUTPUT ABOVE 0.4HZ	OPEN	CLOSED

Completed Acceleration/Deceleration Detection

The circuit monitors the frequency (speed) reference input to the inverter acceleration/deceleration ramp generator. A change in the speed reference, calling for either an increase or decrease in the inverter output frequency, is sensed and initiates a second relay contact action. This relay contact is rated at 3A maximum at 250 VAC or 30 VDC, and is available at terminals AA and AC of this PCB. Refer to Table 2 for the relay contact action.

TABLE 2.

INVERTER CIRCUIT CONDITION	RELAY CONTACT ACTION TERMS (AA) & (AC)
LINE INPUT POWER OFF	OPEN
LINE INPUT POWER ON, START COMMAND OFF	OPEN
LINE INPUT POWER ON, START COMMAND ON, DRIVE OUTPUT ACCELERATING OR DECELERATING TO SET SPEED	OPEN
LINE INPUT POWER ON, START COMMAND ON, DRIVE OUTPUT AT SET SPEED	CLOSED



TD.I 2Y25.0202.FIG2

FIGURE 2.

INSTALLATION

IMPORTANT

a. If this mod kit is to be installed in the inverter, proceed to install according to these installation instructions.

b. If this mod kit is to be installed in a Multi Adapter mod assembly, FIRST complete installation steps stated in 02Y00025-0204. Then continue with these installatiion instructions.

1. Disconnect all electrical power to drive.

2. Open or remove drive front cover.

3. Verify voltage has been disconnected by using a voltmeter to check for voltage at incoming power terminals.

WARNING

HAZARDOUS VOLTAGE CAN CAUSE SEVERE INJURY OR DEATH.

LOCK ALL POWER SOURCES FEEDING DRIVE IN "OFF" POSITION.

4. Remove both sets of hardware and the standoff from the Ground Fault Detection PCB. Retain standoff and hardware.

5. If installed in inverter:

a. See Figure 2. Remove the two screws which secure the existing Operators Control Station (OCS) plate; retain the screws. Leave the wiring between the OCS plate and the Main Control PCB terminal strip intact. Allow the plate to drop down below the PCB.

b. See Figure 2. The Main Control PCB is held in place by (4) hinged locking PCB fasteners. Grasp the top of board in a convenient location and release from the top (2) fasteners by gently pulling the board forward while pushing upward on the locking portion of the fasteners. Pivot the top portion of PCB out and away from chassis.

c. See Figure 2. Insert one set of mounting hardware thru the 0.12 inch diameter hole designated "STD" on the Main Control PCB, from the rear side. Tighten the metal spacer onto the screw. Then snap the Main Control PCB back into place.

d. See Figure 2. Note that the modification PCB has (2) 11-pin female connectors (CN13A and CN14A) mounted on the back side of the board. Align these connectors with the male pin CN13 and CN14 connectors on the Main Control PCB. Ensure that all 22 pins are engaged, then snap into place. Use the other set of hardware to secure the PCB to the metal spacer.

6. If installed in Multi Adapter:

NOTE

For this installation, the metal spacer and hardware provided with the PCB will not be used.

a. At the option position where the board will be installed in the Multi Adapter, remove the hardware from the end of the metal spacer.

b. Note that there are (2) 11-pin female connectors (CN13A and CN14A) on the back side of the modification PCB. Align these connectors with male pin connectors CN13( ) and CN14( ) on the Multi Adapter PCB. Ensure that all 22 pins engage and then snap into place. Use the hardware to secure the board to the metal spacer.

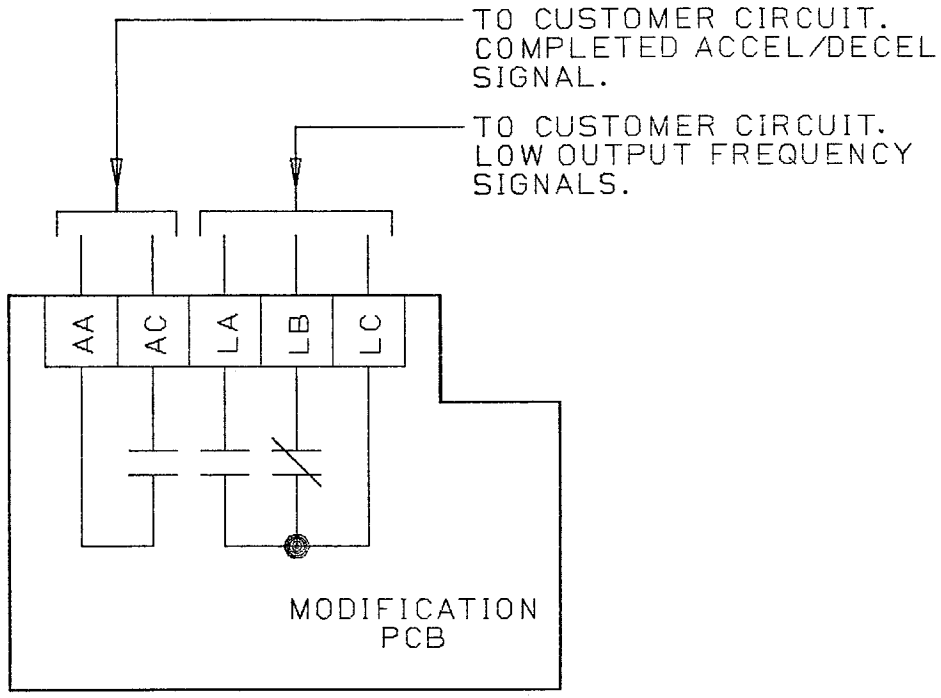
WIRING CONNECTIONS

7. See Figure 3 for relay contact termination points. Note: relay contact states are shown as they are with the inverter line input power off.

8. Replace and secure all enclosure cover.

9. Place this instruction sheet directly behind the inverter instruction manual front cover.

This completes installation of this kit.



TD.I.2Y25.0202.FIG3

FIGURE 3.

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