INSTRUCTION SHEET D-3940

POSITION LOOP KIT Model 14C279

For use with FlexPak Plus (S2C) and Regenerative FlexPak Plus (S2R) D-C V+S® Drives

This instruction sheet is general information only. Refer to the Sales Order Wiring Diagrams for complete Position Loop Kit application data.

WARNING

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THE POSITION LOOP KIT IS SPECIALLY CON-FIGURED FOR EACH CUSTOMER ORDER. WHEN REPLACING AN EXISTING UNIT, IT IS IMPERATIVE THAT ALL JUMPERS, CLIPPED/ ADDED COMPONENTS AND WIRING BE DUPLICATED EXACTLY AS ON THE UNIT BEING REPLACED.

WARNING

INSTALLATION OF THIS MODIFICATION KIT SHOULD BE PERFORMED ONLY BY QUALI-FIED ELECTRICAL MAINTENANCE PERSON-NEL FAMILIAR WITH THE DESIGN AND OPERATION OF THIS EQUIPMENT. DAMAGE COULD RESULT IF THIS IS NOT HEEDED.

Complete details for the installation of the Position Loop Kit are given in Paragraph 5.4 in the FlexPak Plus (S2C) Instruction Manual D-3936 and in the Regenerative FlexPak Plus (S2R) Instruction Manual D-3936.

DANGER

INSTALLATION IS TO BE DONE ONLY AFTER A-C LINE VOLTAGE IS DISCONNECTED AND LOCKED OUT AT THE MAIN DISCONNECT SWITCH. DO NOT INSTALL KIT WHEN POWER IS APPLIED TO THE CONTROLLER. SERIOUS PERSONAL INJURY AND EQUIPMENT DAM-AGE COULD RESULT.

Position Loop Kit – The Position Loop Kit (Figure 5.8) is used in conjunction with the Process Line K t Mode. 14C278. It will provide the necessary electronics for most vernier and true position applications without the need of an additional rack and 44-pin module. It also provides the ability to be modified to serve for current or tension loop applications.

This Kit contains the Position Loop Module and two mounting screws. The circuit Module has been

designed to include standard values for system interfacing but also provides for modifying the Module forspecific applications.

The dircuitry on the Position Loop Kit is divided into four major sections. Refer to Figure 5.8A (Figure 6.7 in Instruction Manual D-3935 or Figure 6.6 in Instruction Manual D-3935).

- A summing amplifier type active feedback loop for use around the position loop summing amplifier.
 - Provides control of the closed loop gain and fraquency characteristics of the summing amplifiers.
 - Provides a stability control in the feedback path to adjust the feedback amplifier gain.
 - Provides a high input impedance and a low output impedance feedback path.
- Position loop summing amplifier with adjustable clamps.
 - Limits the magnitude of the reference output of the summing amplifier which limits the recovery time to return to its operating region.
 - Typically the adjustable clamps are set at about mid-range (5.5 voits).

3. Position lead circuitry and buffers.

- Provides buffered lead circuitry for dancer feedback applications.
- Dancer position and cancer potentiometers must bo 10K phms.
- 4. Standby circultry
 - Provides terminals to allow control of Fiun and Standby operations.

To install the Kit, follow these procedures.

Step 1 · Orient the Position Loop Module over the Process Line Module so the pin guides on the Module are aligned over the pin connectors.

NOTE: The pins on all new Modules have been lubricated. Older modules must have the contact pins cleaned and re-lubricated (Amp Lubricant 561232-1 cr equivalent) before installing this Module. Lower the Position Loop Mocule making sure all pins pass thru the corresponding pinguides and the mounting spacer seats in the mounting hole. Secure the Module with the two mounting screws.

NOTE: A common installation problem is caused by bent, broken or incorrectly placed pins. Since improper operation could occur, care must be taken. Exact alignment is critical. Visually check that only **one** pin extends to the top of **each** slot once the connection is made. Step 2 — Connect the black pig-tail jumper at location. AD51 on the Process Line Module to pin 167.

Step 3 — It is important that all modifications and inferconnections on the Position Loop Module be duplicated onto any replacement Position Loop Module used on the drive system. This includes jumpers, added/clipped components and all external connections. This will ensure maintaining the same performance and operating characteristics of the drive system.



Figure 5.8. Position Loop Module.



Figure 5.8A. Position Loop schematic.

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