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Enhanced PLC-5 Programmable Controller Firmware Upgrade

(Catalog Numbers 1785-L11B, -L20B, -L30B, -L40B, -L40L, -L60B, -L60L, -L80B)

Using These Instructions

These instructions describe:

- an important safety precaution involving static electricity discharges
- how to upgrade the processor firmware



For more information about PLC-5 processors, see the Enhanced and Ethernet PLC-5 User Manual, publication number 1786-6.5.12. For more information, contact your Allen-Bradley service representative.

Before You Install ...

Printed circuit board components and Programmable Read-only Memory (PROM) devices can be damaged during routine handling and installation. Follow these precautions to reduce static electricity discharges before you upgrade the processor firmware.

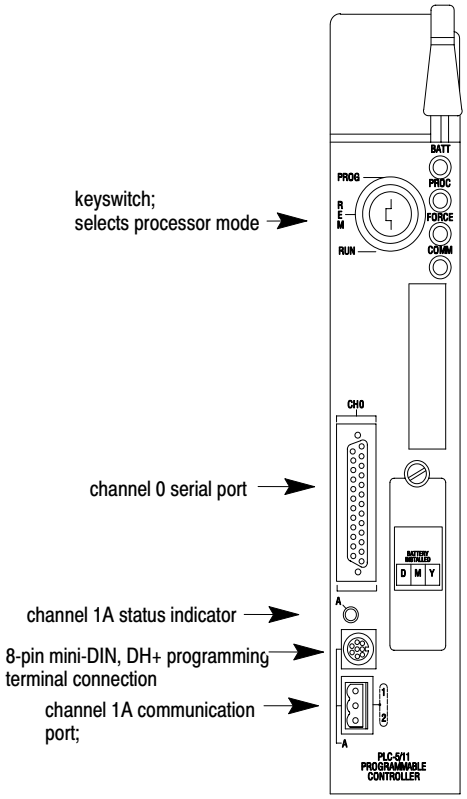
- Handle the printed circuit boards and PROMs by the case or carrier without touching the pins or the edge connector.
- Use a static-free workstation.
- Connect the static-free workstation to ground through a minimum 200K ohm resistance.
- Wear a grounded, conductive wrist strap with a minimum 200K ohm resistance.
- Ground all tools before you begin to upgrade the firmware.
- Control the relative humidity of the installation area – ideal conditions are 40% to 60% relative humidity.

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To Upgrade the Processor Firmware ...

Follow these steps to upgrade the processor firmware.



1 Save processor memory using the programming software.

2 Remove the battery cover and disconnect the battery.

3 **Skip this step if you have a PLC-5/11 or -5/20 processor**. Remove the phillips head screw near the channel 1B LED and gently remove the channel 1 communication plug. Be aware that the memory grounding clip may move or drop off from the cover mounting tab.

4 **Skip this step if you have a PLC-5/11 or -5/20 processor**. Remove the lug nuts that hold the serial channel to the metal face plate. These lug nuts are located on the exposed circuit board for PLC-5/40 and -5/60 processors.

5 Remove the four screws that hold the right side plastic cover.

6 Remove the washers and two remaining screws located in the middle of the exposed circuit board.

7 Separate the two processor boards by pulling the exposed circuit board at the backplane edge connector away from the metal cover as you would open a book. Notice the direction in which the battery cable is wrapped around the nearby standoff to prevent obstruction of the dip switch. After you separate the boards, pull the battery cable through the battery housing (still attached to the circuit board.)

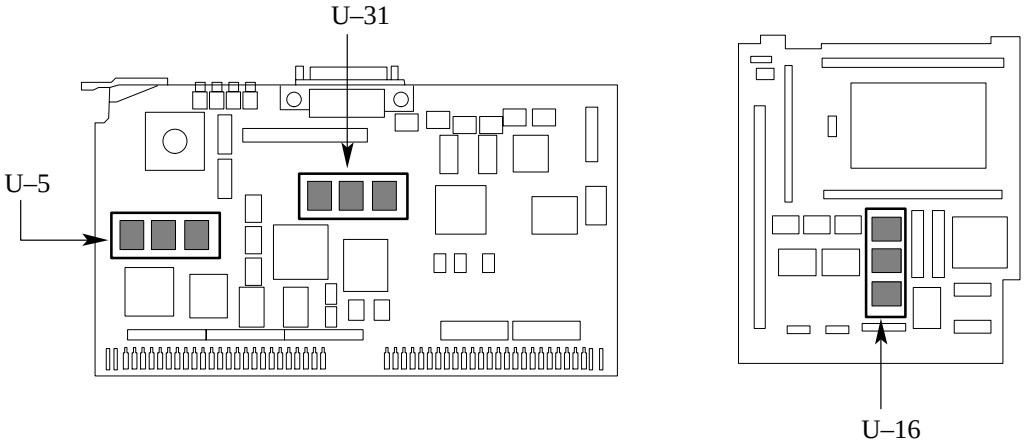
8 Disconnect the wires leading from the keyswitch to the stake pins on the exposed circuit board.

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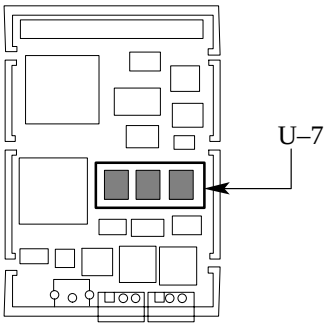
9 Observe the orientation of the pin 1 indicators before you remove each PROM. Replace each of the indicated PROMS, checking to see that the pin 1 indicators are correctly oriented.

For this processor:	Replace these PROMs:
PLC-5/11 and -5/20 series A and C	U70 and U61
PLC-5/30 series A and C	U5 and U31
PLC-5/40, -5/60, and -5/80 series A, B, and C	U5, U16 or U13, and U31

Example (for PLC-5/40, -5/60, and -5/80 series A, B, and C processors)



10 **Skip this step if you do not have plug firmware**. If you have communication plug PROMS, you may have received catalog number 6690-DS2 PROMs with your upgrade kit. To update these PROMs, follow the previous procedure to remove each plug and replace the PROM in socket U7.



11 Assemble the processor and check to see that it starts up properly. Reload your program and make certain that it runs properly. If you have any questions, call Allen-Bradley Technical Support at (216) 646-6800.

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