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Allen–Bradley
EEPROM Memory Module

(Cat. No. 1772-MJ)

Product Data

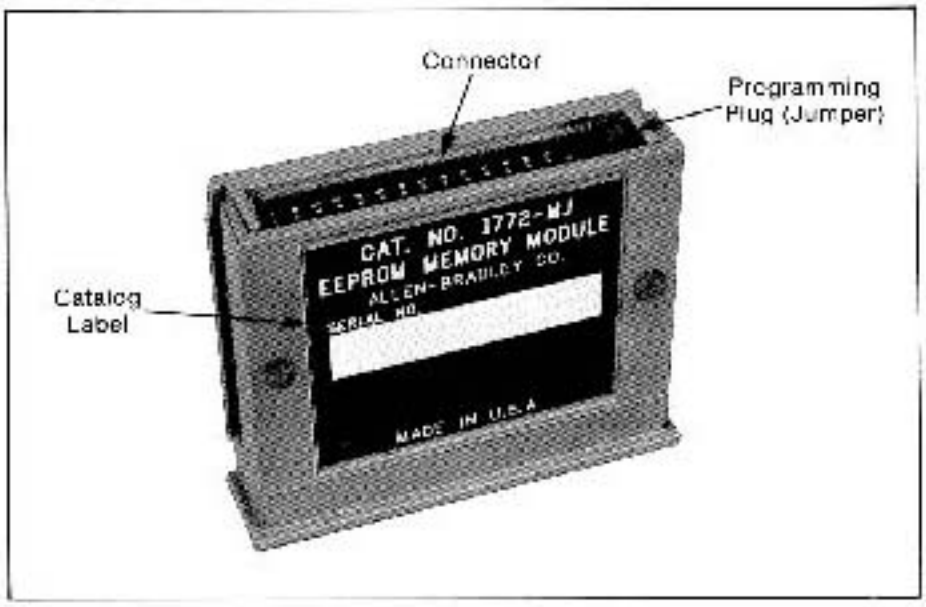


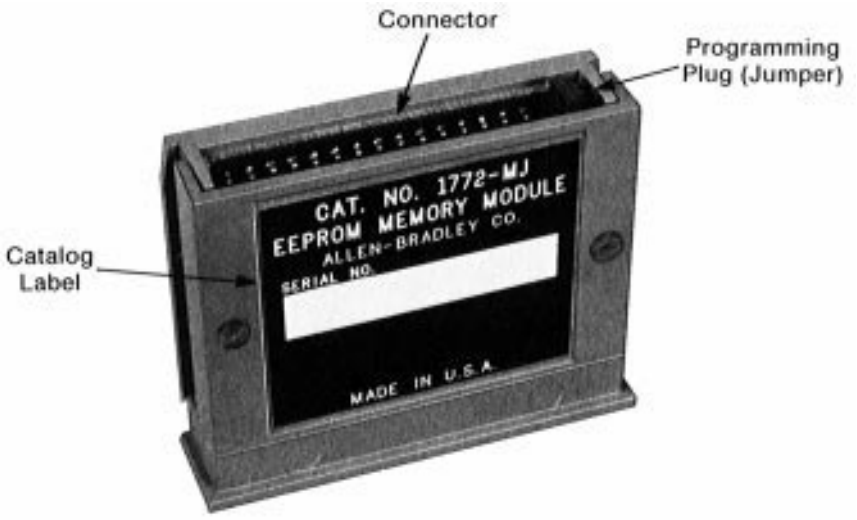
Figure 1 — Memory Module

Description

The EEPROM (Electrically Erasable Programmable Read Only Memory) Memory Module is a plug-in module that provides Mini-PLC-2/05 Processors (cat. no. 1772-LS, -LSP) with a back-up memory (figure 1). This 3K non-volatile EEPROM module is an option for these processors.

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Figure 1
Memory Module



You can duplicate and transfer processor memory from CMOS RAM to the EEPROM module when the processor is in remote program mode. You can select one of the following three modes that the processor will use to establish its memory when recovering from a power loss. The processor transfers back-up EEPROM automatically to its CMOS RAM, transfers only if its CMOS RAM is invalid, or does not transfer back-up EEPROM.

We also recommend that you use battery back-up to ensure that data table values are not reset to their initial start-up values after a power loss. Self-contained battery back-up is a feature of Mini-PLC-2/05 processors.

Alternate Memory Storage

You can store an alternate program in an EEPROM module and download the program into processor memory as an alternative to using a Data Cartridge Recorder (cat. no. 1770-SB).

Memory Protection

You can guard against changes to the back-up program, once you have programmed your EEPROM module, by removing a jumper on the module.

Erasing

Every time you duplicate and transfer processor memory to the EEPROM module, new data writes over old. Unused words in processor memory are transferred with zero value, erasing previous memory.

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Handling the EEPROM Module

Avoid touching the recessed conductors of the connector. Static charge can alter memory. Skin oil and dirt can can corrode metallic surfaces, inhibiting electrical contact.

Installation

Insert the EEPROM module into the bottom of the Mini-PLC-2/05 processor using the following steps:

1. Place the processor on a bench top with the battery label up.
2. Hold the EEPROM module with the catalog label up.
3. Slide the EEPROM module into the rectangular opening in the bottom of the processor, taking care to align the rails on the EEPROM module with the mating rails in the opening.
4. Gently but firmly push the EEPROM module into the opening until its bottom flange is flush with the bottom of the processor.

Removal

Remove the EEPROM module using the following steps:



CAUTION: Do not remove EEPROM under power.

1. Insert a coin or screwdriver blade into the opening between the bottom flange of the EEPROM module and the bottom of the processor.
2. Pry the EEPROM module out far enough to grasp the bottom flange with your fingers.
3. Carefully remove the EEPROM module.

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EEPROM Programming

You can duplicate and transfer your ladder diagram program from processor CMOS RAM to the EEPROM module when the processor is in remote program mode. Use the following steps:

If you have already inserted the programming plug (jumper) onto your EEPROM module and installed the EEPROM module in the processor, skip steps 1 thru 8. Inserting the jumper allows you to program the EEPROM module, removing the jumper guards against changes after you have programmed the EEPROM module.

CAUTION: Be sure that you have supported the processor's memory using a back-up battery before turning off power to your processor. Otherwise, you may lose processor memory.

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1. You may omit this step if your processor's memory is supported by the self-contained lithium battery.

Connect an Auxiliary Battery Pack (cat. no. 1771-BB) to the processor INTFC port using the Mini-Processor Transport Cable (cat. no. 1772-CD) to guard against loss of memory when removing power from the processor.

2. Turn off all power to the 1772-LSP processor and/or to the I/O chassis Power Supply Module (cat. no. 1771-P3, -P4, -P5).

WARNING: Avoid touching the screw terminals of the power cable on the lower front of the processor or power supply module when the power cable is connected to a power source. Touching an exposed 120V AC conductor can cause a lethal shock.

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3. Remove the power cable from the power source and then from the Processor (cat. no. 1772-LSP, only).

4. Remove the processor from the I/O chassis and place it on a bench top, battery label facing up.

5. Holding the back-up EEPROM module with the catalog label up, insert a programming plug (jumper) on the pair of pins at the upper right-hand corner.

6. Insert the back-up EEPROM module into the bottom of the processor (see Installation above). Then, insert the processor into the I/O chassis.

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7. Connect the power cable to the screw terminals on the processor, then connect the power cable to the power source.

8. Turn on power to the processor and power supply module.

9. With the processor operating in remote program mode, store any data table values that you want activated when the processor transfers EEPROM back-up memory to processor memory. Otherwise, the transition will occur with start-up data table values.

10. Duplicate and transfer your program to the EEPROM module. The processor must be in remote program mode. Do this by holding the processor's MEMORY STORE switch in the ON position until the green PROC RUN indicator on the processor turns on. This indicator turns off after a few seconds.

    If, for some reason, the EEPROM module cannot accept the program, the red PROC FAULT indicator on the processor turns on and stays on. Reset the fault by cycling power to the processor. Check that you inserted the programming plug (jumper) on the EEPROM module. Replace the EEPROM module, if necessary.

11. Remove the programming plug from your EEPROM module to guard against unauthorized changes. First, remove the processor from the I/O chassis according to steps 1 thru 4 of the EEPROM programming procedure. Second, remove the EEPROM module from the processor using the removal procedure. Remove the programming plug.

12. Using a blank label, identify the contents of your EEPROM module.

13. Re-install the EEPROM module in the processor by following the installation procedure.

14. Re-install the processor in the I/O chassis and re-connect the power cable.

MEMORY STORE Switch

Pressing the MEMORY STORE switch has no effect if you haven't installed an EEPROM module.

If you have installed an EEPROM module, pressing the MEMORY STORE switch has no effect when the processor is in remote test or run/program mode.

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EEPROM Downloading

You can download the program stored in any EEPROM module into processor memory using the following steps. Refer to installation, removal, and EEPROM programming procedures for details.

1. Turn off all power to the I/O chassis and processor.
2. Remove the processor from the I/O chassis.
3. Remove the back-up EEPROM module from the processor.
4. Insert the other EEPROM module into the processor.
5. Check that the processor's back-up lithium battery is installed and its expiration date has not passed.
6. Set switch 6 of the switch assembly group on the I/O chassis backplane to the OFF position. This allows the processor to unconditionally load its memory with EEPROM contents.
7. Insert the processor into the I/O chassis.
8. Turn on power to the 1771-LSP processor, or to the 1771-P3, -P4, -P5 power supply when using the 1772-LS processor.

   Program transfer and execution begin immediately.
9. If applicable, set switch 6 of the switch assembly group on the I/O chassis backplane to its original setting, and/or transfer the new program to back-up EEPROM.

Backplane Switch Settings

Use switches 6 and 7 of the switch group assembly on the I/O chassis backplane to select the mode of memory transfer at power-up.

If Switch 6 Is	And Switch 7 Is	Then EEPROM Contents
Off	Either position	Always transfers to CMOS RAM.
On	On	Does not transfer if CMOS RAM is valid
		Transfers if CMOS RAM is invalid
On	Off	Never transfers to CMOS RAM

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