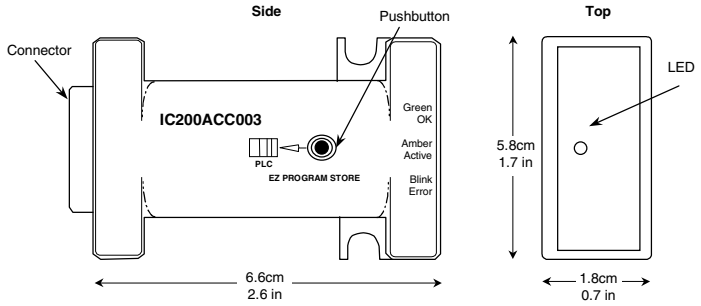
EZ Program Store Device

June 2002 GFK-1811C

Product *Description*

The EZ Program Store device (IC200ACC003) can be used to transfer program, configuration, and reference tables data from one PLC to one or more of the same type.



Features

- 2-Megabit Serial Data Flash for non-volatile storage
- Pushbutton initiates update from the device to a PLC
- Dual color status LED
- Configurable OEM key password protection

The EZ Program Store device can store and update the configuration, application program, and reference tables data of a PLC. The update can include Ethernet Global Data and Advanced User Parameters for Ethernet. A programmer and PLC CPU are used to initially write data to the device. In addition to writing data to the device, the programmer can read data already stored on an EZ Program Store device, and compare that data with similar files already present in the programmer.

Once the data is written to the EZ Program Store device, the data can be written to one or more other PLC CPUs of the same type, with no programmer needed.

The EZ Program Store device does not perform special processing for other types of passwords.

The EZ Program Store device plugs directly into a PLC serial port. For a Series 90-30 PLC, the serial port on the power supply is used. On a VersaMax PLC, port 2 on the CPU is used. No cables or connectors are required. Power for the device comes from the port. Because the EZ Program Store device is not used during normal operation, it does not need to be screwed down to the PLC. It can be hot inserted and hot removed without disrupting the system.

Compatibility

EZ Program Store device can be used with the following CPUs:

VersaMax

IC200CPU001-C* with SW release 2.1 or later
IC200CPU002-A* with SW release 2.1 or later
IC200CPU005-A* with SW release 2.1 or later
IC200CPUE05-A* with SW release 2.1 or later
* firmware version

and VersaPro release 1.5 or later

Series 90-30

IC693CPU374-A* with SW release 11.0 or later
* firmware version

and VersaPro release 2.03 or later or CIMPLICITY Machine Edition Logic Developer release 2.60 or later

and High Capacity Power Supply IC693PWR330 or Standard Power Supply IC693PWR321 Rev. S or later.

Read/Write/Verify Data with a Programmer Present

With a programmer present, the PLC CPU can read, write, or verify a program, configuration and tables in the EZ Program Store device. When reading or verifying data, it is possible to select hardware configuration, logic, and/or reference tables data. However, when writing data to the EZ Program Store device, all three data types must be written. If the hardware configuration includes Ethernet Global Data and/or a file of Advanced User Parameters for Ethernet communications, they will also be included. After a Write to the device is complete, a Verify should be performed.

WARNING

Do not use the pushbutton on the EZ Program Store device to invoke an update while:

1. Loading program logic, configuration data, and/or reference tables from the PLC to the programmer.
2. Verifying program logic, configuration data, and/or reference tables in the PLC with the programmer.

Doing so may corrupt the data being loaded or verified and produce unexpected results. You should power-cycle the PLC to restore normal operation.

Including All the Necessary Information

When the EZ Program Store device updates a PLC, it writes over existing configuration, program files and data in the target PLC. Therefore, it is important to be sure that the information placed on the EZ Program Store device is complete for proper operation of the PLC system. For example, if the EZ Program Store device contains an application program, but instead of a customized hardware configuration it contains the default PLC configuration, the update will overwrite any existing configuration data in a PLC being updated. If that happens, the modules in the PLC system will then use their default configuration, which may cause unexpected operation.

Matching OEM Protection

The EZ Program Store device and PLC must both have either no OEM key password or the same OEM key password for an update to occur.

If a PLC that will be updated by the EZ Program Store device is protected by an OEM key password, be sure the same OEM key password is present in the configuration stored to the EZ Program Store device, otherwise no update will be possible. If the PLC being updated has no OEM key password assigned, the EZ Program Store device must also not have an OEM key password. The device does not use other system passwords.

Adjusting the Configuration Timeouts

Reading and writing large programs, hardware configurations, and reference tables to or from the EZ Program Store device may take 60 seconds or more to complete. To avoid possible disconnect errors or read/write errors, adjust the request timeouts in the configuration to 63 seconds (63,000mS). For instructions, please see the programming software user manual.

Writing Data to RAM or Flash

Folder data is stored from the programmer to the EZ Program Store device in the same way data is stored to Flash memory. Writing to either Flash or to the EZ Program Store device always writes all folder data (regardless of what types are selected). Data stored to the EZ Program Store device is verified in the same manner as data stored in Flash memory is verified. Data can also be read from the device in the same manner as reading from Flash.

The EZ Program Store device can be used to update data in a PLC's RAM memory only, or in both RAM and Flash memory. In the configuration data stored to the EZ Program Store device, be sure to specify which type of memory should be updated. Select "RAM only" to update only RAM memory in the target PLC. Select "RAM & FLASH" to update both.

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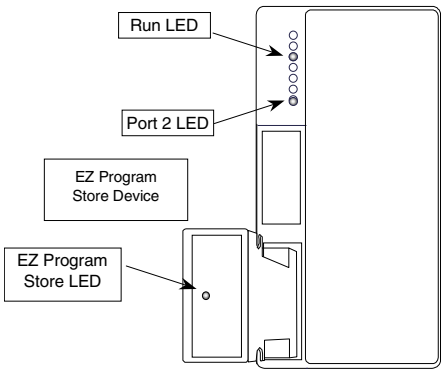
Using the EZ Program Store Device with the Programmer

To read/write or verify some or all of the data, follow these steps:

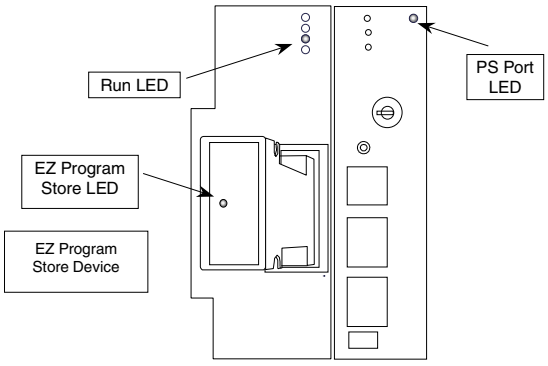
1. Plug the EZ Program Store device into port 2 of the VersaMax PLC CPU:

VersaMax PLC



or into the serial port on the power supply of the Series 90-30 PLC:

Series 90-30 PLC



The EZ Program Store device's LED turns green after about 2 seconds. The delay allows time for proper seating of the device.

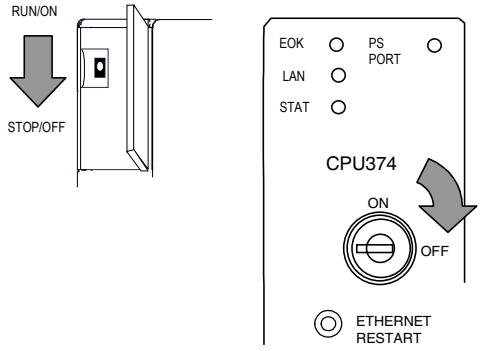
If used with a Series 90-30 PLC, the PS Port LED on the CPU will blink.

If the PLC is in Run mode when the EZ Program Store device is connected, the PLC's Run LED blinks at a 1 Hz rate. The Run LED on a VersaMax PLC CPU is on the CPU module. The Run LED on a Series 90-30 PLC CPU is on the power supply.

This blinking indicates that the Run/Stop switch is enabled, regardless of the configuration of the switch.

2. If the EZ Program Store device's LED is green and the PLC's Run LED is blinking, stop the PLC by moving the On/Off switch from the On/Run position to the Stop/Off position.

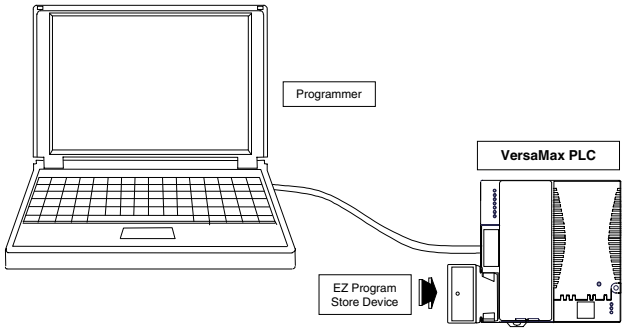
VersaMax PLC CPU **Series 90-30 PLC CPU**



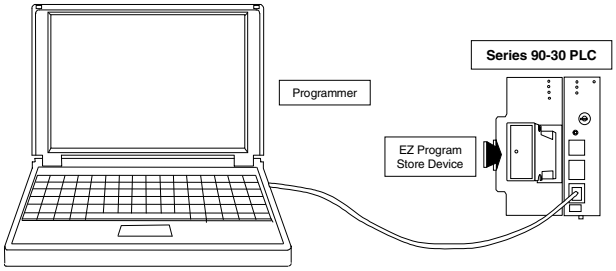
If the switch is already on the Stop/Off position, move it to On/Run then back to Off/Stop to affirm the change. After the mode is changed to Stop No I/O, the Run LED goes off.

Note that to change the PLC mode from Run to Stop or from Stop to Run mode when an EZ Program Store device is attached, the PLC's On/Off switch must be used. If a programmer (computer) is also connected to the PLC at the same time, the programmer cannot be used to change the PLC mode.

3. Start the programming software and change the request timeout values as needed.
4. Connect the programmer to the PLC CPU, either serially through an alternate port such as port 1 on the VersaMax PLC:



or over Ethernet through an Ethernet port such as the two Ethernet ports on the Series 90-30 CPU374:



5. Use the programming software to read, write, or verify the data.

When performing an update with the programmer present, the pushbutton on the EZ Program Store device is not used.

Note: When the programmer is used to read from the EZ Program Store Device, the data is always read into RAM only, regardless of configuration.

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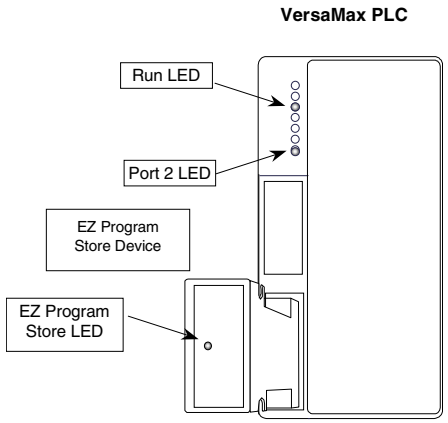
Update a PLC CPU without a Programmer Present

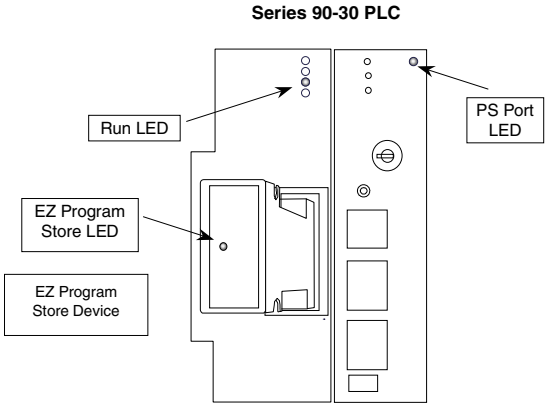
With a program, configuration, tables, Ethernet Global Data, and Advanced User Parameters (if any) already stored in an EZ Program Store device, it can be used to update one or more other PLC CPUs of the same type. All the data stored in the EZ Program Store device will be updated in the PLC CPU.

To update all of the data in a PLC CPU, follow these steps:

1. Plug the EZ Program Store device into port 2 of the VersaMax PLC CPU:



or into the serial port on the power supply of the Series 90-30 PLC:

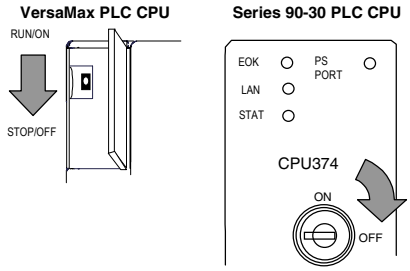


The EZ Program Store device's LED turns green after about 2 seconds. The delay allows time for proper seating of the device.

2. If used with a Series 90-30 PLC, the PS Port LED on the CPU will blink.

   If the PLC is in Run mode when the EZ Program Store device is connected, the PLC's Run LED blinks at a 1 Hz rate. This blinking indicates that the Run/Stop switch is enabled, regardless of the configuration of the switch. The Run LED on a VersaMax PLC is on the CPU module. The Run LED on a Series 90-30 PLC is on the Power supply.

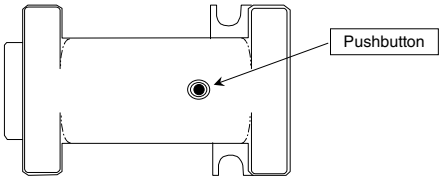
3. If the EZ Program Store device's LED is green and the PLC's Run LED is blinking, stop the PLC by moving the On/Off switch from the On/Run position to the Stop/Off position.



   If the switch is already on the Stop/Off position, move it to On/Run then back to Off/Stop to affirm the change. After the mode is changed to Stop No I/O, the Run LED goes off.

   Note: The Series 90-30 PLC will not write to flash, if the keyswitch is in the On/Run position. If the PLC is configured to write updates from the EZ Program Store Device to flash, make sure the switch is in the Stop/Off position before starting the update or the update will fail and the device will blink to indicate an error.

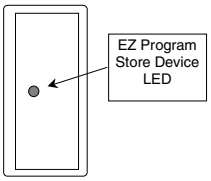
4. To start the update, press the pushbutton on the EZ Program Store device.



   The LED on the EZ Program Store device turns amber. If used with a VersaMax PLC CPU, the Port 2 LED on the PLC also blinks.

5. Wait for the update to complete. Reading and writing large programs, hardware configurations, and reference tables to or from the EZ Program Store device may take 60 seconds or more to complete.

When the device's LED turns solid green and the PLC's Run LED starts blinking, the update has completed successfully.



When the PLC is placed into Run mode (by moving the On/Off switch from Stop/Off to Run/On position) it uses the new data immediately.

Error During Update

If the EZ Program Store device's LED is blinking green/amber and the PLC's Run LED is blinking, an error was detected before the old data was erased. When the PLC is placed into Run mode, it continues using the old data.

If the device's LED is blinking green/amber and the PLC's Run LED is off, an error occurred during the transfer after the data in the PLC was erased. Try the update again by disconnecting and reconnecting the device and pressing the pushbutton. If the second update fails, contact the update provider for service.

Update errors are reported as USD Flash Read faults in the PLC Fault Table. The first two bytes of extra fault data describe the fault.