MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE VERSAMAX

IC200CPUE05-MV

CPU WITH EMBEDDED ETHERNET INTERFACE

Used with the applicable VersaMax controllers configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE official manufacturer documentation

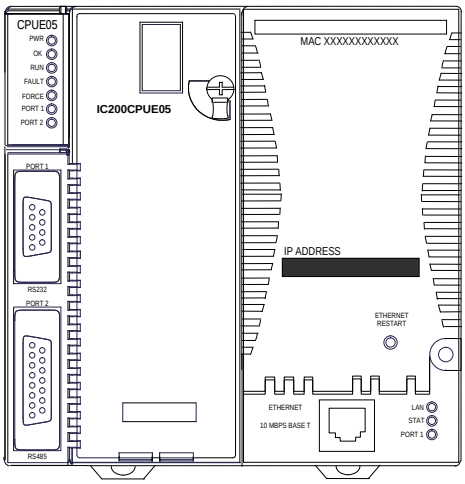
Important Product Information

*VersaMax**

IC200CPUE05

GFK-1892T
January 2016

CPU with Embedded Ethernet Interface



IC200CPUE05 shares the basic features of the other VersaMax* PLC CPUs. It provides powerful PLC functionality in a small, versatile system. CPUE05 can serve as the system controller for up to 64 modules with up to 2048 I/O points. Two serial ports provide RS-232 and RS-485 interfaces for serial communications. CPUE05 also provides a built-in Ethernet Interface. The RS-232 serial port can be configured for Local Station manager operation to provide access to diagnostic information about the Ethernet interface. CPUE05 has 128KB of configurable memory.

In addition, CPUE05 is compatible with the EZ Program Store device, which can be used to write, read, update, and verify programs, configuration, and reference table data without a programmer or programming software.

Features

- Supports up to 64 modules with up to 2048 I/O points
- Can be either auto-configured or configured from a programmer using configuration software
- 128KB of configurable memory for the application program, hardware configuration, registers (%R), analog inputs (%AI), and analog outputs (%AQ)
- Programming in Ladder Diagram and Instruction List
- Non-volatile flash memory for program storage
- Battery backup for program, data, and time of day clock
- Super capacitor provides power to memory for 1 hour
  - Over 1 hour, backup battery protects memory contents up to 6 months.
  - Backup battery has shelf life of 5 years when not in use.
- Run/Stop switch
- Floating point (real) data functions
- Embedded RS-232, RS-485, and Ethernet communications
- 70mm height when mounted on DIN rail with power supply (sold separately)

Product Information

Revision	IC200CPUE05-JP
Power Supply	Requires PWRx02
Firmware	Version 3.10
Programmer Compatibility	VersaPro software version 2.0 or later and Machine Edition Logic Developer.
Expansion I/O Compatibility	All types of I/O and communications modules can be used in expansion racks. Some analog modules require specific module revisions in expansion racks, as listed below: ***Module*** — ***Module Revision*** ALG320 — B or later ALG321 — B or later ALG322 — B or later ALG430 — C or later ALG431 — C or later ALG432 — B or later

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Specifications: IC200CPUE05

Size	Width: 4.95" (126mm) - along DIN rail Length: 5.04" (128mm) Depth: 2.72" (69.1mm)	
Program storage	System flash, battery-backed RAM	
Power Supply current consumption with no serial port converter or EZ Program Store device	5Vdc uses 220mA	3.3Vdc uses: 570mA
Power Supply current consumption with serial port converter or EZ Program Store device	5Vdc uses: 320mA	
Floating point	Yes	
Boolean execution speed	0.8 ms/K (typical)	
Real time clock accuracy (for timer functions)	100ppm (0.01%) or ±9sec/day	
Time of day clock accuracy	23ppm (0.0023%) or ±2sec/day @ 30°C. 100ppm (0.01%) or ±9sec/day @ full temperature range	
Embedded communications	RS-232, RS-485, Ethernet	
Configurable memory	128K bytes maximum	
Ethernet Interface Specifications		
Ethernet data rate	10Mbps (half- or full-duplex)	
Ethernet port	RJ-45, UTP	
Number of SRTP server connections	8	
Number of Ethernet Global Data (EGD) configuration-based exchanges	32	
EGD Exchange limits	100 data ranges per exchange 1400 bytes of data per exchange	
EGD Time Synchronization	Not Supported	
EGD Selective Consumption	Yes	
Load EGD configuration from PLC to programmer	Yes	
Remote Station Manager over UDP	Yes	
Local Station Manager (RS-232)	Via CPU Port 1	

EMC Installation Requirements

To meet EN 55011 and FCC Class A radiated emissions, the Control system in which the IC695PNC001 module is used shall be mounted in a metal enclosure when three or more IC695PNC001 modules are used. All surfaces of the enclosure must be adequately grounded to adjacent surfaces to provide electrical conductivity. Wiring external to the enclosure must be routed in metal conduit or the equivalent. The conduit must be mounted to the enclosure using standard procedures and hardware to ensure electrical conductivity between the enclosure and conduit.

When installing, operating, or maintaining the IC695PNC001, personnel must insure any electrostatic charge is discharged through the use of a grounded ESD strap or other means.

Installation Location

This product is intended for use with the VersaMax system. Its components are considered open equipment (having live electrical parts that may be accessible to users) and must be installed in an ultimate enclosure that is manufactured to provide safety. At a minimum, the enclosure shall provide a degree of protection against solid objects as small as 12mm (fingers, for example). This equates to a NEMA/UL Type 1 enclosure or an IEC60529 IP20 rating providing at least a pollution degree 2 environment. For details about installing VersaMax rack systems, refer to *VersaMax Modules, Power Supplies and Carriers User's Manual*, GFK-1504.

Installation in Hazardous Areas

The following information is for products bearing the UL marking for Hazardous Areas or ATEX marking for explosive atmospheres:

CLASS 1 DIVISION 2 GROUPS ABCD

- This equipment is an open-type device and is meant to be installed in an enclosure suitable for the environment that is only accessible with the use of a tool.
- Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations, or nonhazardous locations only.

Warning – EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.

Warning – EXPLOSION HAZARD – DO NOT CONNECT OR DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.

ATEX Zone 2

This module must be mounted in an enclosure certified in accordance with EN60079-15 for use in Zone 2, Group IIC and rated IP54. The enclosure shall only be able to be opened with the use of a tool.

Quick Start

Installation and initial startup procedures for the CPUE05 include the following steps. Before installing and operating the CPUE05, refer to *VersaMax PLC User's Manual,* GFK-1503 for detailed information.

Pre-Installation check

Carefully inspect all shipping containers for damage. If any equipment is damaged, notify the delivery service immediately. Save the damaged shipping container for inspection by the delivery service. After unpacking the equipment, record all serial numbers. Save the shipping containers and packing material in case it is necessary to transport or ship any part of the system.

Module Installation

This equipment may be mounted on a horizontal or vertical DIN rail. If mounted on a vertical DIN rail, the CPU module must be located at the bottom. The CPU and connecting carriers must be installed on the same section of 35mm (1.38in) x 7.5mm (.3in) DIN rail, 1mm (.04in) thick. Steel DIN rail is recommended. The DIN rail must be electrically grounded to provide EMC protection. The rail must have a conductive (unpainted) corrosion-resistant finish. DIN rails compliant with DIN EN50022 are preferred. For vibration resistance, the DIN rail should be installed on a panel using screws spaced approximately 15.24cm (6in) apart.

Rated thermal specifications for the CPU module are based on a clearance of 50.8mm (2in) above and below the equipment and 25.4 mm (1 inch) to the left of the CPU module.

1. Allow sufficient finger clearance for opening CPU door.
2. Allow adequate clearance for serial port and Ethernet cables.
3. Allow adequate space for power wiring.

The CPU with power supply attached fits into a 70mm (2.76in) deep enclosure.

Installing the CPU on the DIN Rail

The CPU snaps easily onto the DIN rail. No tools are required for mounting or grounding to the DIN rail.

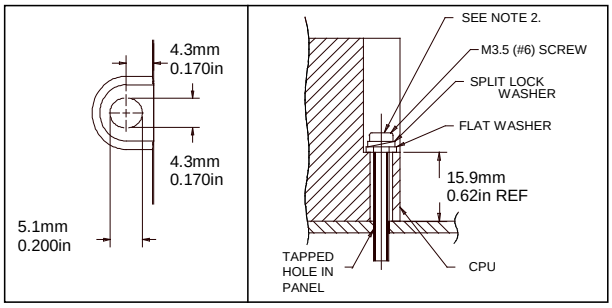
Before joining module carriers to the CPU, remove the connector cover on the right-hand side of the CPU. Do not discard this cover: you will need to install it on the last carrier, to protect the connector pins from contamination and damage during use.

Panel-Mounting

If excessive vibration is a factor, the CPU should also be screwed down to the mounting panel.

Note 1. Tolerances are ±0.13mm (0.005in) non-cumulative.

Note 2. 1.1-1.4Nm (10-12 in/lbs) of torque should be applied to M3.5 (#6-32) steel screw threaded into material containing internal threads and having a minimum thickness of 2.4mm (0.093in).

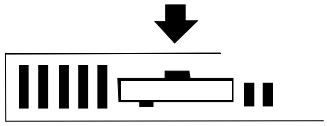


Removing the CPU from the DIN Rail

1. Turn off power to the power supply.
2. (If the CPU is attached to the panel with a screw) remove the power supply module. Remove the panel-mount screw.
3. Slide the CPU away from the other modules until the connector on the right side disengages from the next carrier.
4. With a small flathead screwdriver, pull the DIN rail latch outward while tilting the other end of the module down to disengage it from the DIN rail.

Activating or Replacing the Backup Battery

The CPU is shipped with a battery already installed. The battery holder is located in the top side of the CPU module. Before the first use, activate the battery by pulling and removing the insulator tab.

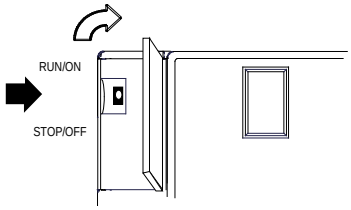


To replace the battery, use a small screwdriver to gently pry open the battery holder. Replace battery only withACC001 from your PLC supplier, or with Panasonic battery: BR2032. Use of another battery may present a risk of fire or explosion.

Caution
Battery may explode if mistreated.
Do not recharge, disassemble, heat above 100°C (212°F), or incinerate.

Switching the PLC Operating Mode

The CPU Run/Stop mode switch is located behind the module door. This switch can be used to place the CPU in Stop or Run mode. It can also be used to block accidental writing to CPU memory and forcing or overriding discrete data. Use of this feature is configurable. The default configuration enables Run/Stop mode selection and disables memory protection.



If Run/Stop mode switch operation is enabled, the switch can be used to place the CPU in Run mode.

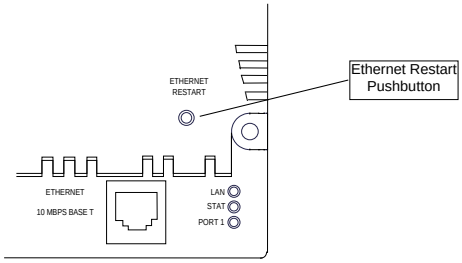
If the CPU has non-fatal faults and is not in Stop/Fault mode, placing the switch in Run position causes the CPU to go to Run mode. Faults are NOT cleared.

If the CPU has fatal faults and is in Stop/Fault mode, placing the switch in Run position causes the Run LED to blink for 5 seconds. While the Run LED is blinking, the CPU switch can be used to clear the fault table and put the CPU in Run mode. After the switch has been in Run position for at least ½ second, move it to Stop position for at least ½ second. Then move it back to Run position. The faults are cleared and the CPU goes to Run mode. The LED stops blinking and stays on. This can be repeated if necessary.

If the switch is not toggled, after 5 seconds the Run LED goes off and the CPU remains in Stop/Fault mode. Faults stay in the fault table.

Ethernet Restart Pushbutton

The Ethernet Restart pushbutton is located on the right side of the module.



The Ethernet Restart pushbutton has two functions:

- When pressed for less than 5 seconds, it resets the Ethernet hardware, tests the Ethernet LEDs, and restarts the Ethernet firmware. This disrupts any Ethernet communications that are presently underway.
- When pressed for at least 5 seconds, it toggles the function of Port 1 between its configured operation and forced local Station Manager operation.