



# Series 90™-30

## High Performance CPU374

### Data Sheet

## GE Fanuc Automation

The new CPU374 is the latest high performance CPU from GE Fanuc. With its superior speed and performance, the CPU374 is truly in a class by itself. The CPU374 has an AMD520 processor running at 133 Megahertz.

In addition to high speed processing, the Series 90-30 CPU374 features a built-in Ethernet switch with two 10/100Mbit ports (RJ-45). The CPU374 built-in Ethernet supports one IP address. The CPU374 Ethernet ports are auto-sensing for data rate, duality, and cable crossover.

The CPU374 supports SRTP server and Ethernet Global Data (EGD) protocol. The CPU374 is compatible with the EZ Program Store device that enables users to download program and configuration without a computer.

The CPU374 has a Boolean execution of 0.15 milliseconds per K, has 240Kbytes of configurable memory and is programmed in RLD, C or State Logic®. Up to 4096 I/O, remote and local, are supported by the CPU374.



*The CPU374 reduces hardware cost with a built-in switch that enables users to easily connect a laptop or operator interface without the need for an external*

### Series 90-30 Product Features:

#### CPU374:

- The processor has a built-in Hardware Math Coprocessor for faster process execution.
- The CPU374 has auto-sensing 10/100Mbit Ethernet ports for easy connection to a high-speed LAN and comes with a built-in switch that reduces hardware installation cost.
- Support for EZ Program Store device that enables the user to store the configuration and program without the need of a PC.
- High-speed logic execution of 0.15msec per 1K of Boolean logic.
- The CPU374 can be programmed in Relay Ladder Logic, C or State Logic.

#### Series 90-30 Systems:

- Over 100 different types of I/O modules to choose from for a wide range of applications.
- Field bus support includes Ethernet, Genius®, Profibus DP™ and DeviceNet™.
- For high availability applications, GE Fanuc offers redundant power supplies and redundant controllers using the Max ON software tools.
- There are a wide range of intelligent modules to choose from, including, Motion, Power Monitoring, Temperature Loop Controllers, Coprocessor and more.

### Series 90-30 Application Benefits:

- High speed processing of the CPU374 is ideal for applications such as test stands, inspection systems, process control and much more.
- The 100Mbit full duplex Ethernet provides the speed and performance required for a wide range of plant wide applications. Multiple controllers can share information using Ethernet Global Data.
- Energy management or power generation can be simplified by using the CPU374 and the Power Transducer Module (PTM). The PTM provides an intelligent system for measuring electrical power consumption or for monitoring voltages between an electrical generator and power grid. The module digitizes and analyzes the inputs and can be used to calculate generator synchronization.
- When the CPU374 is combined with the motion modules, a wide range of applications can be solved, such as material handling, metal forming, pick and place, packaging and many more.
- Distributed control is easy using the many field busses available, including the built-in Ethernet on the CPU374, to control remote GE Fanuc I/O such as VersaMax® or VersaPoint™.

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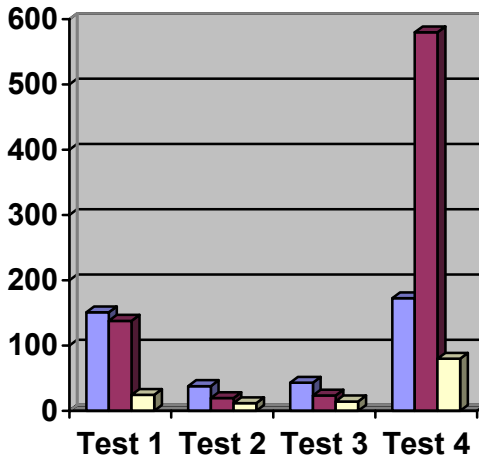
# Series 90-30 CPU374 Specifications

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<b>Controller Type</b>		<b>Single slot CPU module with embedded Ethernet Interface</b>
<b>Processor</b>		
<b>Processor Speed</b>	133 MegaHertz	
<b>Processor Type</b>	AMD SC520	
<b>Execution Time (Boolean Operation)</b>	0.15 $\mu$ sec per Boolean instruction	
<b>Type of Memory Storage</b>	RAM and Flash (Can be configured to have program in FLASH and registers in battery backed RAM)	
<b>Memory</b>		
<b>User Memory (total)</b>	240K (245,760) Bytes. Note: Actual size of available user program memory depends on the amounts configured for the %R, %AI, and %AQ configurable word memory types.	
<b>Discrete Input Points - %I</b>	2,048 (fixed)	
<b>Discrete Output Points - %Q</b>	2,048 (fixed)	
<b>Discrete Global Memory - %G</b>	1,280 bits (fixed)	
<b>Internal Coils - %M</b>	4,096 bits (fixed)	
<b>Output (Temporary) Coils - %T</b>	256 bits (fixed)	
<b>System Status References - %S</b>	128 bits (%S, %SA, %SB, %SC - 32 bits each) (fixed)	
<b>Register Memory - %R</b>	Configurable 128 to 32,640 words	
<b>Analog Inputs - %AI</b>	Configurable 128 to 32,640 words	
<b>Analog Outputs - %AQ</b>	Configurable 128 to 32,640 words	
<b>System Registers - %SR</b>	28 words (fixed)	
<b>Timers/Counters</b>	>2,000 (depends on available user memory)	
<b>Hardware Support</b>		
<b>Battery Backed Clock</b>	Yes	
<b>Battery Back Up (Number of months with no power)</b>	1.2 months for internal battery (installed in the power supply) 15 months with external battery (IC693ACC302)	
<b>Load Required from Power Supply</b>	7.4 watts of 5VDC. High Capacity power supplies recommended.	
<b>Hand Held Programmer</b>	CPU374 does not support Hand Held Programmer	
<b>EZ Store Device</b>	Yes	
<b>Total Baseplates per System</b>	8 (CPU baseplate + 7 expansion and/or remote)	
<b>Software Support</b>		
<b>Interrupt Support</b>	Supports the periodic subroutine feature.	
<b>Communications and Programmable Coprocessor Compatibility</b>	Yes	
<b>Override</b>	Yes	
<b>Floating Point Math</b>	Yes, Hardware Floating Point Math	
<b>Programming Support</b>	VersaPro™ 2.03 or greater and CIMPLICITY® Machine Edition Logic Developer 3.00 or greater	
<b>Communications Support</b>		
<b>Built-in Serial Ports</b>	No serial ports on CPU374. RS-485 port on power supply is supported.	
<b>Protocols Support</b>	SNP and SNPX on power supply RS-485 port	
<b>Built-in Ethernet Communications</b>	Ethernet (built-in) – 10/100 base-T/TX Ethernet Switch	
<b>Number of Ports</b>	Two, both are 10/100baseT/TX ports with auto sensing. RJ-45 connection	
<b>Number of IP Addresses</b>	One	
<b>Protocols</b>	SRTP and Ethernet Global Data (EGD). No channel support.	
<b>Web Server Support</b>	None	
<b>Environmental and Agency Specifications</b>		
<b>Operating Temperature</b>	0 to 60 degrees C (32 to 140 degrees F) ambient	
<b>Storage Temperature</b>	-40C to +85 degrees C	
<b>Agency Approvals</b>	UL508, C-UL (Class I, DIV II, A, B, C, D), CE Mark	
<b>Low Temperature (LT) Testing</b>	Yes. The CPU374 is available for -40 to 60C operation.	

# Series 90-30 CPU374

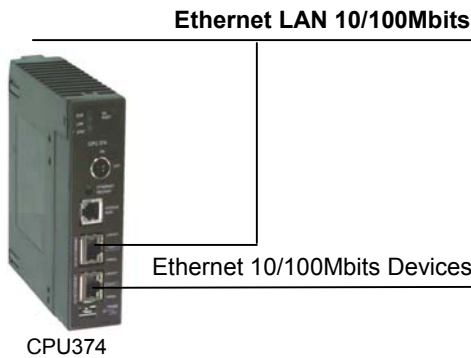
## CPU374 versus CPU364 Logic Performance Comparison



■ Memory in Kbytes  
■ CPU364 Scan time in mseconds  
■ CPU374 Scan time in mseconds

**Test 1** – 35% Boolean and 65% Non-Boolean  
**Test 2** – 80% Boolean and 20% Non-Boolean  
**Test 3** – 60% Boolean and 40% Non-Boolean  
**Test 4** – 100% C program (running OpenProcess™)

## CPU374 Ethernet Connectivity Options



The built-in Ethernet Switch easily bridges devices (such as the following) to the CPU374 without added hardware cost:

- ▶ Laptop/PC running VersaPro or CIMPLICITY Machine Edition
- ▶ Operator Interfaces such as the new Ethernet QuickPanel™
- ▶ Other PLCs

## Series 90-30 CPU374 Ordering Information

Part Number	Description
IC693CPU374	CPU374 module (240K Bytes configurable user memory), embedded Ethernet 10/100Mbps with built-in switch. Recommend that a high capacity power supply be used.
IC693ACC302	High capacity battery pack. The new Auxiliary Battery Pack (IC693ACC302) will enable Series 90-30 and Series 90-70 CPUs (except CPU374) to go up to 75 months (shelf life of 10 years) of RAM memory backup with no power. The CPU374 backup is 15 months

Additional Information can be found on <http://www.gefanuc.com/support/plc/s9030.htm> such as:

- Series 90-30 Manuals
- Revision History
- Series 90-30 CAD Drawings
- Series 90-30 firmware upgrades (free downloads)
- Application Notes
- Knowledge Base



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