FANUC

Controller Solutions

More choices for your applications

Product Catalog

PACSystems™ RX3i
PACSystems RX7i
Series 90™-30
Series 90-70
VersaMax® I/O & Control
VersaMax Nano/Micro
Proficy™ Machine Edition
QuickPanel™ Control

imagination at work

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Power and Flexibility Offering You a Choice to Meet Your Automation Challenges

With technology ranging from compact and economical micro programmable logic controllers (PLCs) to cutting-edge programmable automation controllers (PACs) and the open flexibility of industrial PCs, GE Fanuc has a wide array of off-the-shelf solutions offering you a choice to meet your exact needs. And because we integrate these flexible automation products with a single powerful software suite providing the universal engineering development environment for all of our controllers, motion and operator interface/HMI, both your knowledge and your applications are portable as you move from platform to platform and expand from generation to generation.

PACSystems™ RX7i and Rx3i

The new GE Fanuc PACSystems delivers the first Programmable Automation Control – one control engine and one development environment for multiple hardware platforms. PACSystems offers enhanced processing and communications speed and programming capacity over existing PLC technologies for high-speed processing, data acquisition and memory-intensive tasks like recipe storage and data-logging.

Both the VME-based RX7i and the PCI-based RX3i provide powerful CPUs and high-bandwidth backplanes, making complex programming easy to implement and faster to execute. The PACSystems also offers an industry leading migration platform for Series 90 PLCs with interchangeable I/O modules and easy software program conversion tools. PACSystems provide:

The Best of PLCs combined with the Best of PCs

- Multi-discipline, deterministic control for every application
- Application portability to multiple platforms

Performance and Productivity

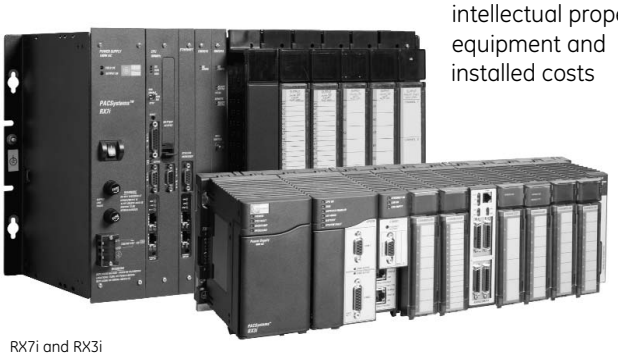
- Follow technology enhancements for continuous performance improvement
- Single multi-discipline development platform

Flexibility and Openness

- Users' choice of appropriate platform, programming language and communication scheme
- Connectivity to all levels of production operations

Obsolescence Avoidance

- Bring applications forward, protect your investments in intellectual property, equipment and installed costs



RX7i and RX3i

Series 90 PLCs

Series 90™-70

Series 90-70 PLCs have become the industry standard for complex applications requiring safety systems with large numbers of I/O and large amounts of process memory. The open architecture backplane of the Series 90-70 unlocks the versatility of hundreds of unique VME-based cards for applications involving elements such as vision, highly specialized motion, or fiber-optic networks.

You can customize your system architecture even further with a variety of available I/O and specialty modules as well as motion controllers for a broad range of stand-alone or distributed system configurations.

Series 90-30

With its modular design, over 100 I/O modules, and a range of CPU options, Series 90-30 offers you the versatility to configure a system based on your specific performance needs. Superior networking and communications capabilities enable you to network, transfer data, upload and download programs and perform diagnostics over one non-proprietary network.

Motion control integrated into the Series 90-30 facilitates high performance point-to-point applications, and supports a variety of motor types and system architectures.

VersaMax® PLC

Modular and scalable, VersaMax offers big PLC power in a small package. It is part of an innovative control family that combines a powerful CPU with a broad selection of discrete, analog, mixed and specialty I/O modules, terminations and power supplies, as well as communications modules to link to a variety of networks.

VersaMax Nano and Micro PLC

Palm-sized, powerful and economical, VersaMax® Nano and Micro PLCs give you all-in-one construction to save panel space. Its easy application provides you with a quick solution by snapping onto a DIN-rail or mounting in a panel.

QuickPanel™ Control

QuickPanel Control combines flexible, integrated control with visualization on a single, rugged hardware platform for more functionality in a smaller space. It provides access to a broad range of I/O, communicates via a variety of networks, and enables remote monitoring of your systems.

Match Your Needs with the Right Solution

	PACSystems RX7i	Series 90-70 PLC	PACSystems RX3i	Series 90-30 PLC	VersaMax PLC	QuickPanel Control	Nano and Micro PLCs
Specialized Control • Memory intensive • Coordinated control • Genius Modular Redundancy • High-speed processing • Typically 1,000 or more points of I/O • Applications such as SIL 1 and 2, automotive paint shop, fire and gas detection, reactor shutdown systems, and critical control							
Complex Control • High availability • High-speed data transfer • Integration with industry-standard technologies • Typically 200 to 5,000 points of I/O • Motion components • Applications such as printing, flying shear, and winding machines							
Moderate Control • Expanded communication via Fieldbus (Genius®, DeviceNet™, Profibus-DP) and Ethernet interfaces • Wide range of I/O requirements • Typically between 100 and 512 points of I/O • Applications such as food processing, semiconductor wafer fab, material handling, and plastic injection molding							
Simple Control • Minimal memory requirements • Simple communications • Typically fewer than 100 points of I/O • Applications such as vending machines, low-end labeling and packaging, and dispensing							

QuickPanel Control

VersaMax PLC and VersaMax Nano and Micro Controllers

Series 90-70 and 90-30 PLCs

Proficy™ Overview

At GE Fanuc, we understand that real-time information is the enabler of the e-business world and the foundation for fast and effective supply-chain execution. In order to help companies realize the full benefits of e-business, we are helping them adapt to a new manufacturing model that utilizes Web-based integration to free the flow of real-time data throughout the enterprise. By combining the best selection of software productivity tools with the latest communication and networking technologies, GE Fanuc's Proficy software family provides solutions that make it easier for you to integrate your systems and empower your people.

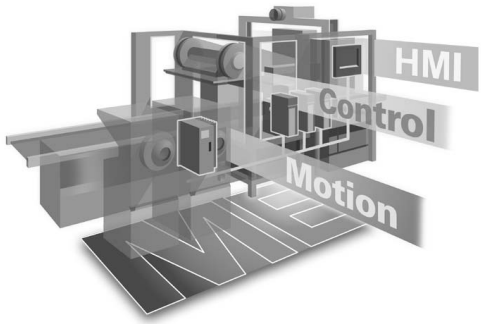
From the machine, to the cell, to the plant floor, and throughout the enterprise, Proficy's interactive set of software business tools provides real-time collaboration between customers, manufacturers, and suppliers.

Proficy Machine Edition

GE Fanuc's Proficy Machine Edition is a universal development environment for all your operator interface, motion and control applications. Proficy Machine Edition provides a common user interface, drag-and-drop editing, and support for the many editing components required for a project.

Enabling fast, powerful, object-oriented programming, Proficy Machine Edition takes full advantage of industry-standard technologies like XML, COM/DCOM, OPC and ActiveX®. And Machine Edition also includes Web-enabled functions like a built-in Web server that delivers real-time data to anyone in the enterprise.

All components and applications within Proficy Machine Edition share a single workspace and tool set. A standardized user interface results in a reduced learning curve, and the integration of new applications does not involve learning additional paradigms. This, coupled with an efficient, user-friendly design makes Proficy Machine Edition the perfect choice for HMI, motion, PLC, and PC-based control.



In addition to sharing common editing tools, all Proficy Machine Edition components share common objects across applications, including logic, scripts, graphical panels, and data structures. Once a variable with its properties is created, it can be reused in other components of the project.

By combining the best of traditional programming and graphics applications with powerful open industry-standard technologies, Proficy Machine Edition provides a smooth migration path to the latest development tools.

Proficy Machine Edition Components:

Proficy View

An HMI specifically designed for the full range of machine-level operator interface/HMI applications. Includes support for the following Runtime options:

- QuickPanel™
- QuickPanel View (Windows CE-based)
- Windows NT/2000/XP

Proficy Logic Developer-PC

PC Control software combines ease of use and functionality for fast application development. Includes support for the following Runtime options:

- QuickPanel Control (Windows CE-based)
- Windows NT/2000/XP
- Embedded NT

Proficy Logic Developer-PLC

Programs and configures all GE Fanuc PLCs, PACSystems Controllers and Remote I/O

- Available in Professional, Standard, and Nano/Micro versions

Proficy Motion Developer

Programs and configures GE Fanuc S2K motion controllers

Proficy Logic Developer-PLC: A Superior Set of PLC Programming Tools

Fully Integrated Development System

Proficy Machine Edition's development system provides a clean, easy-to-learn interface for its components. Proficy Logic Developer-PLC automatically shares editing and configuration tools with other components when they are installed, creating an integrated, drag-and-drop workspace that makes developing applications simple. Just drag PLC logic or a variable to an HMI animation panel to link them, or vice versa. Work on all parts of your automation system simultaneously, without switching between programs!

Toolchest Offers Object Oriented Reusability and Pre-defined Tools

Build applications rapidly with pre-configured objects from the Toolchest, a storage system for objects including their associated logic or HMI elements and data structures. Drag your own work to the Toolchest for easy reuse—logic, scripting, graphical objects—anything you want to save and reuse.

Configure

Proficy Logic Developer-PLC supports the full range of GE Fanuc PLCs, PACSystems controllers and Remote I/O products including the Series 90™-30, Series 90-70, PACSystems™ RX3i and RX7i, VersaMax®, and VersaMax Nano/Micro PLCs, and VersaMax Remote I/O. Configuration support is also provided for a wide range of field busses such as Ethernet Global Data (EGD), Genius®, DeviceNet™, ModBus TCP, and Profibus™.

Program

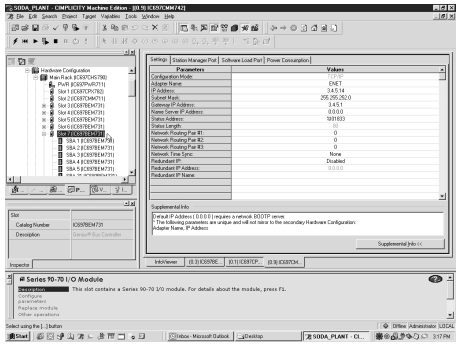
Proficy Logic Developer-PLC provides a full set of programming languages for you to develop your PLC applications. Ladder Diagram (LD), Structured Text (ST), and C Block programming languages are all supported by Logic Developer-PLC.

Commission

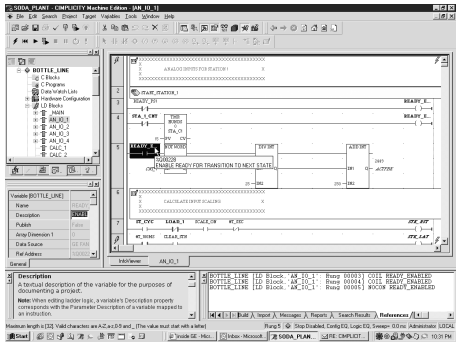
Proficy Logic Developer-PLC provides a complete set of on-line development tools to aid in commissioning your PLC application. Tools such as Run Mode Store (RMS) of Logic, Online Test Mode and Word-for-Word Change of Logic allow you to tune the application in real-time without stopping the process. Data monitoring tools such as Data Watches and Reference View Tables allow you to create custom data monitor tables and provide a window into your PLC application execution.

Maintain

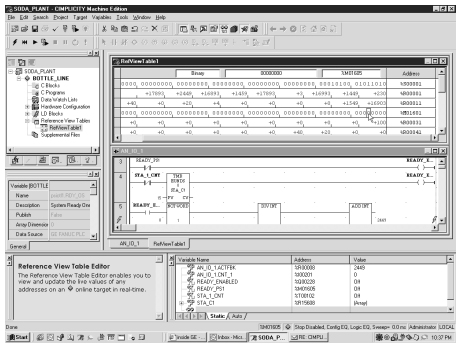
Logic Developer-PLC provides a complete set of development tools to aid in maintaining your PLC applications. Diagnostic tools such as On-line Fault Tables and Forced Variables Report provide you with the ability to diagnose issues and problems that may have occurred with your system.



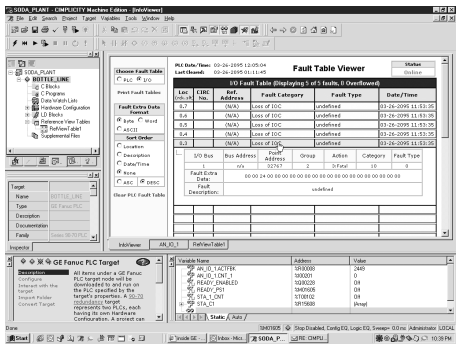
Configure: Supports the full array of GE Fanuc PLCs, PACSystems controllers and remote I/O



Program: Full set of programming languages, including Ladder Diagram, Structured Text, and C Blocks



Commission: Complete set of on-line development tools for monitoring and adjusting the application without stopping the process



Maintain: Diagnostic tools such as On-Line Fault Tables for pinpointing and diagnosing issues with your system

Product Selection Guide

CONTROL Platform Products

PLC-Based Control

Development licenses work on a hierarchical basis

	Supported PLC Platforms							Key							
	Remote I/O Config. Tools	VersaMax Nano/Micro	VersaMax	Series 90-30	Series 90-70	PACSystems RX3i/RX7i		Software Authorization	Hardware Key	Single License	Single User License Plus Cable	5 Pack	10 Pack	50 Pack	50-Seat Site License	Unlimited Seat Site License
Logic Developer-PDA		•	•	•	•			•		BC646MPH001	BC646MPH101	-	BC646MPH010	-	-	See Prod Bulletin
Logic Developer-PLC Configuration	•							•		BC646MPC001	BC646MPC101	-	-	-	-	-
Logic Developer-PLC Nano/Micro	•	•						•		BC646MPM001	BC646MPM101	-	-	-	-	-
Logic Developer-PLC Standard	•	•	•	•				•		BC646MPS001	BC646MPS101	BC646MPS005	BC646MPS010	BC646MPS050	BC646MPSS50	BC646MPSS99
Logic Developer-PLC Standard (Hardware Key)	•	•	•	•					•	BC647MPS001	BC647MPS101	BC647MPS005	BC647MPS010	BC647MPS050	-	-
Logic Developer-PLC Professional	•	•	•	•	•	•		•		BC646MPP001	BC646MPP101	BC646MPP005	BC646MPP010	BC646MPP050	BC646MPPS50	BC646MPPS99
Logic Developer-PLC Professional (Hardware Key)	•	•	•	•	•	•			•	BC647MPP001	BC647MPP101	BC647MPP005	BC647MPP010	BC647MPP050	-	-
Logic Developer-State Standard*	•	•	•	•				•		BC646MSS001	BC646MSS101	BC646MSS005	-	-	-	-
Logic Developer-State Professional*	•	•	•	•	•	•		•		BC646MSP001	BC646MSP101	BC646MSP005	-	-	-	-

*State Logic licenses also provide basic configuration and programming capability for the indicated PLC platforms. Note that State Logic can only be mixed with other types of Logic (Ladder and C) for the Series 90-70 platform. Only the Series 90-30 and Series 90-70 platforms support State Logic programming.

QuickPanel Control

Development software for QuickPanel Control, QuickPanel View, ControlStation™ CE, and ViewStation™ CE panels. Runtime licenses are included in the hardware purchase.

	Supported Platforms/Features							Key			
	QuickPanel	QuickPanel View (Basic/Intermediate)	QuickPanel View (Loaded)/Control	ViewStation/ControlStation CE				Software Authorization	Hardware Key	Single License	Unlimited Seat Site License
QuickPanel Control (CE) Development Software	•	•	•	•				•		BC646CSCEMK	BC646MOSS99
QuickPanel Control (CE) Development Software /w hardware key	•	•	•	•					•	BC647CSCEMK	-

Motion Developer

Programming/ Configuration software for GE Fanuc S2K motion controllers.

	Key				
	Software Authorization	Hardware Key	Single License	5 Pack	10 Pack
Motion Developer	•		BC646MODEV	BC646MODEV05PK	BC646MODEV10PK
Motion Developer with hardware key		•	BC647MODEV	-	-

PC-Based Control

Available as development only, runtime only, and development with runtime - with or without a View component.

	Supported Platforms/Features							Key						
	QuickPanel	QuickPanel View/Control	ControlStation / ViewStation CE	Windows NT, 2000, XP	Development	Runtime	With View	Software Authorization	Hardware Key	75 Point	150 Point	300 Point	700 Point	1500 Point	8000 Point
Logic Developer-PC & View Development	•	•	•	•	•		•	•		-	-	-	-	-	BC646MOP001
Logic Developer-PC & View Development with hardware key	•	•	•	•	•		•		•	-	-	-	-	-	BC647MOP001
Logic PC Runtime				•		•		•		BC646MRB075	BC646MRB150	BC646MRB300	BC646MRB700	BC646MRB159	BC646MRB000
Logic PC & View Runtime				•		•	•	•		BC646MRC075	BC646MRC150	BC646MRC300	BC646MRC700	BC646MRC159	BC646MRC000
Logic Developer-PC with Runtime	•	•	•	•	•	•		•		BC646MDB075	BC646MDB150	BC646MDB300	BC646MDB700	BC646MDB159	BC646MDB000
Logic Developer-PC & View with Runtime	•	•	•	•	•	•	•	•		BC646MDC075	BC646MDC150	BC646MDC300	BC646MDC700	BC646MDC159	BC646MDC000

Control Upgrades

Low-cost mechanism to transition to the Machine Edition platform. Upgrades require existing software serial number at time of order.

	Key		
	Software Authorization	Hardware Key	Single License Upgrade P/N
Logic Developer-PLC Nano/Micro - Upgrade from VersaPro™ Nano/Micro Edition	•		BC646MPMU01
Logic Developer-PLC Standard - Upgrade from LM90-30, CC90-30, VersaPro Standard Edition	•		BC646MPSU01
Logic Developer-PLC Standard - Upgrade from LM90-30, CC90-30, VersaPro Std. Edition w/ hardware key		•	BC647MPSU01
Logic Developer-PLC Professional - Upgrade from LM90-70, CC90-70, VersaPro Professional Edition	•		BC646MPPU01
Logic Developer-PLC Professional - Upgrade from LM90-70, CC90-70, VersaPro Prof. Ed. w/ hardware key		•	BC647MPPU01
Logic Developer-PLC Professional - Upgrade from Logic Developer-PLC Standard	•		IC646MPPU03

Notes on Part Numbers and SAFE

- BC Prefix part numbers include one year of SAFE Gold Support
- SAFE Renewal part numbers change BC646 or BC647 prefix to SA648
- Licenses without SAFE change BC prefix to IC

Product Selection Guide

OI/HMI Platform Products & Product Suites

Proficy View Platforms - non PC-Based

Development software for non PC-bundled solutions. Runtime licenses included in hardware purchase of non PC-based solutions

	Supported Platforms/Features							Key				
	QuickPanel	QuickPanel View (Basic/Intermediate)	QuickPanel View (Loaded)	ViewStation CE		Development	Runtime	Software Authorization	Hardware Key	Single License	10 pack	Unlimited Seat Site License
Proficy View (CE) Standard Edition	•	•	•	•		•		•		BC646VSCEMK	-	BC646MVSS99
Proficy View (CE) Standard Edition with hardware key	•	•	•	•		•			•	BC647VSCEMK	-	-
Proficy View for QuickPanel (includes cable)	•	•				•		•		BC646MQP001	BC646MQP010	BC646MQPS99
Proficy View for QuickPanel (includes cable) with hardware key	•	•				•			•	BC647MQP001	BC647MQP010	-

Proficy View Platform - PC Based

Available as development only, runtime only, and development with runtime.

	Supported Platforms/Features								Key						
	QuickPanel	QuickPanel View (Basic/Intermediate)	QuickPanel View (Loaded)	ViewStation CE	Windows NT, 2000, XP	Development	Runtime	Software Authorization	Hardware Key	75 Point	150 Point	300 Point	700 Point	1500 Point	8000 Point
Proficy View Runtime					•		•	•		BC646MRA075	BC646MRA150	BC646MRA300	BC646MRA700	BC646MRA159	BC646MRA000
Proficy View Development w/ Runtime	•	•	•	•	•	•	•	•		BC646MDA075	BC646MDA150	BC646MDA300	BC646MDA700	BC646MDA159	BC646MDA000
Proficy View Development only includes LD-PC (no runtime)	•	•	•	•	•	•		•		-	-	-	-	-	BC646MOP001
Proficy View Development only (no runtime) with hardware key	•	•	•	•	•	•			•	-	-	-	-	-	BC647MOP001

Proficy View Upgrades

Low cost mechanism to transition to the Machine Edition platform. Upgrades require existing software serial number at time of order.

	Key		
	Software Authorization	Hardware Key	Single License Upgrade P/N
Proficy View for QuickPanel-Upgrade from QuickDesigner™ (Single License)	•		BC646MQPU01
Proficy View for QuickPanel-Upgrade from QuickDesigner™ (Single License) with hardware key		•	BC647MQPU01
Proficy View Standard Edition - Upgrade from QuickDesigner (Single License)	•		BC646MVSU01
Proficy View Standard Edition - Upgrade from Proficy View for QuickPanel (Single License)	•		BC646MVSU02

Machine Edition Product Suites

Bundles of commonly used ME components. Advantages include lower cost, easier to authorize, and easier to maintain as one serial number covers the whole suite.

	Supported Platforms/Features											Key			
	VersaMax Nano/Micro	VersaMax and Series 90-30	Series 90-70/PACSystems RX3i/RX7i	QuickPanel	QuickPanel View (Basic/Intermediate)	QuickPanel View (Loaded)/Control	ViewStation/ControlStation CE	View Development NT/2000/XP	8000 Point R/T for View NT/2000/XP	Motion Developer	Software Authorization	Hardware Key	Single License	Unlimited Seat Site License
Machine Edition Lite Development Suite	•			•	•						•		BC646MBL001	BC646MBLS99
Machine Edition Lite Development Suite with hardware key	•			•	•							•	BC647MBL001	-
Machine Edition Traditional Development Suite	•	•		•	•						•		BC646MBT001	BC646MBTS99
Machine Edition Traditional Development Suite with hardware key	•	•		•	•							•	BC647MBT001	-
Machine Edition Standard Development Suite	•	•		•	•	•	•			•	•		BC646MBS001	BC646MBSS99
Machine Edition Standard Development Suite with hardware key	•	•		•	•	•	•			•		•	BC647MBS001	-
Machine Edition Professional Development Suite	•	•	•	•	•	•	•	•		•	•		BC646MBP001	BC646MBPS99
Machine Edition Professional Development Suite with hardware key	•	•	•	•	•	•	•	•		•		•	BC647MBP001	-
Machine Edition Professional Development Suite with Runtimes	•	•	•	•	•	•	•	•	•	•	•		BC646MBW001	-

Proficy Machine Edition Demo Disks

	10-Pack
Demo Disks	IC646MED010

Notes on Part Numbers and SAFE

- BC Prefix part numbers include one year of SAFE Gold Support
- SAFE Renewal part numbers change BC646 or BC647 prefix to SA648
- Licenses without SAFE change BC prefix to IC

PACSystems RX7i Controller

Built on a standard embedded open architecture, the PACSystems RX7i is the first member of the groundbreaking PACSystems family of programmable controllers (PACs). The RX7i features a single control engine and universal programming environment to provide application portability across multiple hardware platforms. Designed to address mid- to high-end applications for OEMs, integrators, and end users, the RX7i is ideally suited for integrated solutions that require open architecture, large memory, distributed I/O and high performance.

The RX7i Features

- Celeron 300mHz and Pentium III 700 mHz CPUs
- A VME64 Backplane providing up to four times the bandwidth of existing Series 90-70 systems
- 10/100 Ethernet built into the CPU, with easy cabling RJ-45 dual ports connected through an auto-sensing switch, so there is no need for additional switches or hubs rack to rack
- 10MB memory for fast execution, storage of the complete program with all documentation—all in one CPU
- Supports existing Series 90-70 modules and expansion racks, VME modules and GENIUS networks—protecting your hardware investment

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

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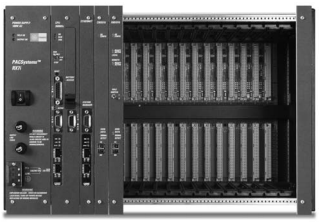
Publication Reference Chart

GFK-2222	PACSystems CPU Reference Manual
GFK-2223	PACSystems RX7i Installation Manual
GFK-2224	TCP/IP Ethernet Communications for PACSystems
GFK-2225	PACSystems Station Manager User's Manual
GFK-2235	PACSystems RX7i User's Guide to Integration of VME Modules
GFK-2259	C Programmer's Toolkit for PACSystems User's Manual
GFK-2300	PACSystems RX7i Memory Xchange Modules User's Manual
GFK-2308	PACSystems Hot Standby CPU Redundancy User's Guide

CPUs

PACSystems RX7i CPUs feature Intel Celeron and Pentium III processors and offer fast execution, larger memory capacity and upgradability to track future technology growth. RX7i CPUs are available with various memory sizes, performance capabilities and advanced functionalities, such as software configuration of data and program memory. PACSystems CPUs also provide 10K of user RAM along with 10K of non-volatile user flash memory for added protection of your data and programs.

	IC698CPE010	IC698CPE020	IC698CRE020
Product Name	**Central Processing Unit, 300 MHz, Floating Point**	**Central Processing Unit, 700 MHz, Floating Point**	**Redundancy Central Processing Unit, 700 MHz, Floating Point**
PACSystems Processor Speed	300 MHz	700 MHz	700 MHz
PACSystems CPU Memory	10 Mbytes of User Logic RAM	10 Mbytes of User Logic RAM	10 Mbytes of User Logic RAM
PACSystems User Flash Memory	Yes (10 Mbytes)	Yes (10 Mbytes)	Yes (10 Mbytes)
Floating Point Math	Yes	Yes	Yes
PACSystems I/O Discrete Points Available	32 Kbits	32 Kbits	32 Kbits
Other Memory Allocations	%W: Configurable up to 4 Mbytes, Symbolic: Configurable up to 10 Mbytes	%W: Configurable up to 4 Mbytes, Symbolic: Configurable up to 10 Mbytes	%W: Configurable up to the maximum available user RAM, Symbolic: Configurable up to 10 Mbytes
Embedded Communications	Serial, Ethernet	Serial, Ethernet	Serial, Ethernet
Protocols Supported	Modbus RTU Slave	Modbus RTU Slave	Modbus RTU Slave
Built-in Serial Ports	3 (RS-232, RS-485, Ethernet)	3 (RS-232, RS-485, Ethernet)	3 (RS-232, RS-485, Ethernet)
Current Required from 5V Bus	3.6 Amps	4.0 Amps	4.0 Amps



Racks

PACSystems RX7i Racks set the pace for the latest PLC technology. They are built to support the high-power PACSystems power supplies along with the latest technology in the PACSystems CPUs. The VME64 backplane provides up to four times the bandwidth of existing VME based systems for faster I/O throughput. The VME64 base supports all standard VME modules including Series 90-70 I/O and VMIC modules.

	IC698CHS017	IC698CHS117
Product Name	**Standard PACSystems 17-slot Wall (Rear) Mount**	**Standard PACSystems 17-slot Wall (Panel) Mount**
Number of Slots	15 Single Width, 8 Double Width (plus one for power supply)	15 Single Width, 8 Double Width (plus one for power supply)
Mounting Location	Rear (Panel)	Front (Rack)
Rack Configurations	RX7i CPU and I/O, Series 90-70 I/O, VME modules	RX7i CPU and I/O, Series 90-70 I/O, VME modules
Rack Slot Size	0.8 inch	0.8 inch
Compatible Power Supplies	RX7i Power Supply (IC698)	RX7i Power Supply (IC698)
Dimensions	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"

Power Supplies

PACSystems RX7i Power Supply modules simply slide into the PLC rack just like I/O, and they work with any PACSystems CPU. The low capacity power supply delivers up to 100W total output without forced air cooling. The high capacity power supply accommodates applications requiring more power, providing up to 350W total output, and requires forced air cooling, provided by a fan tray mounted on the bottom of the rack. PACSystems power supplies also have built-in protection for autoranging power factor corrections as well as overcurrent, overvoltage, and overtemperature fault conditions.

	IC698PSA100	IC698PSA350	IC698PSD300
Product Name	**PACSystems Power Supply, 100 W**	**PACSystems Power Supply, 350 W**	**PACSystems Power Supply, 300 W**
Power Source	85-264 VAC or 125 VDC	85-264 VAC or 125 VDC	24 VDC
Output Source	100 Watts; 5 VDC @ 20 Amps, +12 VDC @ 2 Amps, -12 VDC @ 1 Amp	350 Watts;5 VDC @ 60 Amps, +12 VDC @ 12 Amps, -12 VDC @ 4 Amps	300 Watts; 5 VDC @ 50 Amps, +12 VDC @ 10 Amps, -12 VDC @ 4 Amps

Discrete I/O Modules (Input)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL252	IC697MDL253	IC697MDL254	IC697MDL250	IC697MDL240	IC697MDL251
Product Name	**Input 12 VAC**	**Input 24 VAC**	**Input 48 VAC**	**Input 120 VAC**	**Input 120 VAC (Isolated)**	**Input 120 VAC (non-isolated)**
Module Type	Discrete	Discrete	Discrete	Discrete	Discrete	Discrete
Module Function	Input	Input	Input	Input	Input	Input
Discrete Input Rated Voltage	12 VAC, 47 to 63 Hz Sinusoidal	24 VAC, 47 to 63 Hz Sinusoidal	48 VAC, 47 to 63 Hz Sinusoidal	120 VAC, 47 to 63 Hz Sinusoidal	120 VAC, 60 Hz Sinusoidal	120 VAC, 47 to 63 Hz Sinusoidal
Inputs per Discrete Module	32 (four isolated groups of eight inputs each)	32 (four isolated groups of eight inputs each)	32 (four isolated groups of eight inputs each)	32 (four isolated groups of eight inputs each)	16 Individually Isolated Points	16 (four isolated groups of four inputs each)
Discrete Input Current	10 mA (typical) at rated voltage	10 mA (typical) at rated voltage	4.7 mA (typical) at rated voltage	10 mA (typical) at rated voltage (reactive)	10 mA (typical) at rated voltage (reactive)	10 mA (typical) at rated voltage (reactive)
Discrete Input Voltage Range (Vs)	N/A	N/A	N/A	N/A	N/A	N/A
On-State Voltage	7.5 to 15 Volts RMS, 47 to 63 Hz Sinusoidal	13.5 to 30 Volts RMS, 47 to 63 Hz Sinusoidal	33 to 56 Volts RMS, 47 to 63 Hz Sinusoidal	75 to 132 VAC, 47 to 63 Hz Sinusoidal	75 to 132 VAC, 60 Hz Sinusoidal	75 to 132 VAC, 47 to 63 Hz Sinusoidal
Off-State Voltage	0 to 2.5 Volts RMS, 47 to 63 Hz Sinusoidal	0 to 5 Volts RMS, 47 to 63 Hz Sinusoidal	0 to 10 Volts RMS, 47 to 63 Hz Sinusoidal	0 to 25 VAC, 47 to 63 Hz Sinusoidal	0 to 20 VAC, 60 Hz Sinusoidal	0 to 25 VAC, 47 to 63 Hz Sinusoidal
On-State Current	6 mA to 15 mA	6 mA to 15 mA	3 mA to 7 mA	6 mA to 15 mA	8 mA to 15 mA	6 mA to 15 mA
Off-State Current	0 to 2.5 mA (2 mA minimum at 2.5 V input)	0 to 2 mA (2 mA minimum at 5 V input)	0 to 2 mA (2 mA minimum at 5 V input)	0 to 3 mA (2.2 mA minimum at 25 V input)	0 to 4 mA (2.2 mA minimum at 25 V input)	0 to 3 mA (2.2 mA minimum at 25 V input)
Isolation (any input to backplane)	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS
Isolation (between inputs)	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS
Impedance	1.12 Kohms typical	2.6 Kohms typical	10.3 Kohms typical			
Filter Delay Time	20 ms typical	20 ms typical	20 ms typical	20 ms typical	20 ms typical	20 ms typical
Proximity Switch Compatible	Yes	Yes	Yes	Yes	Yes	Yes
Current Required from 5V Bus	0.3 Amp	0.3 Amp	0.3 Amp	0.35 Amp	0.25 Amp	0.35 Amp

Discrete I/O Modules (Input)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL241	IC697MDL653	IC697MDL652	IC697MDL654	IC697MDL640	IC697MDL651
Product Name	**Input 240 VAC (Isolated)**	**Input 24 VDC Positive/Negative Logic**	**Input 12 VDC Positive/Negative Logic**	**Input 48 VDC Positive/Negative Logic**	**Input 125 VDC Positive/Negative Logic**	**Input TTL**
Module Type	Discrete	Discrete	Discrete	Discrete	Discrete	Discrete
Module Function	Input	Input	Input	Input	Input	Input
Discrete Input Rated Voltage	240 VAC, 60 Hz Sinusoidal	24 VDC, Positive/ Negative Logic	12 VDC, Positive/ Negative Logic	48 VDC, Positive/ Negative Logic	125 VDC, Positive/ Negative Logic	5 VDC (No user power required)
Inputs per Discrete Module	16 Individually Isolated Points	32 (four isolated groups of eight inputs each)	32 (four isolated groups of eight inputs each)	32 (four isolated groups of eight inputs each)	16 (four isolated groups of four inputs each)	32 TTL Compatible Inputs
Discrete Input Current	20 mA (typical) at rated voltage (reactive)	10 mA (typical) at rated voltage	4.7 mA (typical) at rated voltage	4.7 mA (typical) at rated voltage	5 mA (typical) at rated voltage	N/A
Discrete Input Voltage Range (Vs)	N/A	(-3 to +30 VDC)	(-2.5 to +15 VDC)	(-3 to +56 VDC)	(-35 to +145 VDC)	(-3 to +7 VDC)
On-State Voltage	160 to 264 VAC, 60 Hz Sinusoidal	13.5 to 30 Volts	7.5 to 15 Volts	33 to 56 Volts	Positive (+90 to +145 Volts), Negative (-20 to -90 Volts)	(-3 to +0.5 Volts)
Off-State Voltage	0 to 40 VAC, 60 Hz Sinusoidal	0 to 5 Volts	0 to 2.5 Volts	0 to 10 Volts	Positive (-35 to +35 Volts), Negative (-35 to 56 Volts)	2 to 7 Volts
On-State Current	10 mA to 15 mA	6 mA to 15 mA	6 mA to 15 mA	3 mA to 7 mA	3 mA to 7 mA	1.7 mA (typical) at rated voltage
Off-State Current	0 to 5 mA (2.2minimum at 40 V input)	0 to 2 mA (2 mA minimum at 5 V input)	0 to 2.5 mA (2 mA minimum at 2.5 V input)	0 to 2 mA (2 mA minimum at 5 V input)	0 to 2 mA (2 mA minimum at 125 V input)	1.1 mA (maximum)
Isolation (any input to backplane)	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS
Isolation (between inputs)	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	
Impedance		2.6 Kohms typical	1.12 Kohms typical	10.3 Kohms typical	24.5 Kohms typical	5.9 Kohms, +5%
Filter Delay Time	20 ms typical	1 ms or 10 ms configurable	1 ms or 10 ms configurable	1 ms or 10 ms configurable	1 ms or 10 ms configurable	1 ms or 10 ms configurable
Proximity Switch Compatible	Yes	Yes	Yes	Yes	Yes	No
Current Required from 5V Bus	0.25 Amp	0.3 Amp	0.3 Amp	0.3 Amp	0.3 Amp	0.53 Amp

Discrete I/O Modules (Input)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL671	IC697VDD100
Product Name	**Interrupt Input (14 Interrupt Points, 2 Configurable Points)**	**64-Channel Isolated Digital Input Board with Multifunctional Intelligent Controller**
Module Type	Discrete	Discrete
Module Function	Input	Input
Discrete Input Rated Voltage	24 VDC, Positive/ Negative Logic	5 to 250 VDC
Inputs per Discrete Module	14 interrupts (total of 16 inputs with four groups of four inputs each)	64 Individually Isolated Channels
Discrete Input Current	10 mA (typical) at rated voltage	0.7 mA to 1.0 mA at various Input Voltages
Discrete Input Voltage Range (Vs)	(-3 to +30 VDC)	(+5 to +250 VDC)
On-State Voltage	Positive State (+13.5 to +30 Volts), Negative State (-3 to -13.5 Volts)	Various according to Input Voltage (See Data Sheet GFK-2107)
Off-State Voltage	Positive (-3 to +5 Volts), Negative (-5 to +30 Volts)	Various according to Input Voltage (See Data Sheet GFK-2107)
On-State Current	6 mA to 15 mA	
Off-State Current	0 to 2 mA (2 mA minimum at 5 V input)	
Isolation (any input to backplane)	1500 Volts RMS	1100 Volts RMS
Isolation (between inputs)	500 Volts RMS	1100 Volts RMS
Impedance	2.6 Kohms typical	
Filter Delay Time	1 ms or 10 ms configurable	
Minimum Pulse Width	With 1 ms Filter Select: 1 ms on and off; With 10 ms Filter Select: 11 ms on and off	
Minimum Interrupt Burst (1 ms Filter Selection)	With CPM915: 500 Hz; With CPU731: 290 Hz	
Proximity Switch Compatible	Yes	
Current Required from 5 V Bus	0.3 Amp	2.0 Amps typical

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697ALG230	IC697ALG440	IC697ALG441
Product Name	**Analog Input, High Level**	**Analog Expander, Current**	**Analog Expander, Voltage**
Module Type	Analog	Analog	Analog
Module Function	Input	Input	Input
Analog Input Type	Current or Voltage	Current Expander	Voltage Expander
Inputs per Analog Module	8 (individually configurable for voltage or current)	16	16
Analog Input Current	4 to 20 mA	4 to 20 mA	N/A
Analog Input Voltage Range (Vs)	(-10 to +10 Volts)	N/A	(-10 to +10 Volts)
Response Time-On	5.0% 30 ms 1.0% 42 ms 0.5% 51 ms 0.1% 67 ms	5.0% 30 ms 1.0% 42 ms 0.5% 51 ms 0.1% 67 ms	5.0% 30 ms 1.0% 42 ms 0.5% 51 ms 0.1% 67 ms
Impedance	Greater than 10 Mohms at DC, 20 Kohms in series with 0.47 mfd capacitor at AC	Greater than 10 Mohms at DC, 20 Kohms in series with 0.47 mfd capacitor at AC	Greater than 10 Mohms at DC, 20 Kohms in series with 0.47 mfd capacitor at AC
Resolution (Voltage)	312.5 microvolts per LSB step		312.5 microvolts per LSB step
Resolution (Current)	0.5 microamps per LSB step on 4 to 20 mA	0.5 microamps per LSB step on 4 to 20 mA	
Accuracy of Base Converter (Voltage) 10 Volts	(±0.01% of full scale, ±0.02% of value)		
Accuracy of Base Converter (Current)	(+0.05% of full scale, +0.1% ofvalue)		
Accuracy of Expander (Voltage)			(+0.03% of full scale, +0.02% of value)
Accuracy of Expander (Current)		(+0.07% of full scale, +0.1% of value)	
Current Required from 5V Bus	0.8 Amp	0.4 Amp	0.4 Amp

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697VAL132	IC697VAL134	IC697VAL264
Product Name	**Isolated Scanning 12-bit 31-Channel Current Analog-to-Digital Converter Board (6U) with Built-in-Test and Screw Terminal interface**	**Isolated Scanning 12-bit 31-Channel Voltage Analog-to-Digital Converter Board (6U) with Built-in-Test and Screw Terminal interface**	**High-Performance 16-bit Analog-to-Digital Converter (ADC) - 64 Channels**
Module Type	Analog	Analog	Analog
Module Function	Input	Input	Input
Analog Input Type	Current, Analog-to-Digital Converter	Current, Analog-to-Digital Converter	Current, Analog-to-Digital Converter
Inputs per Analog Module	31 Single Ended or 16 Differential	31 Single Ended or 16 Differential	64 Channel
Analog Input Current	0 to 20 mA, 4 to 20 mA, 5 to 25 mA	N/A	N/A
Analog Input Voltage Range (Vs)	N/A	(±50 mV to ±10 Volts bipolar; 0 to +100 mV, 0 to +10 Volts unipolar)	0 to +5 Volts 0 to +10 Volts ±2.5 Volts ±5 Volts ±10 Volts
Isolation (any input to backplane)	1500 Volts RMS	1500 Volts RMS	
Impedance	10 Mohm minimum, line-to-line and line-to-common	10 Mohm minimum, line-to-line and line-to-common	5 Mohm minimum in parallel with 50 pF
Resolution (Voltage)		12 bits	16 bits
Resolution (Current)	12 bits		
Accuracy of Voltage Input		(±0.04% reading ±0.03% range ±2.0 mV)	(±0.005% range ±100 uV)
Built-in Serial Ports	32 Pin DIN 41 612, VG and ICE Connectors	32 Pin DIN 41 612, VG and ICE Connectors	96-Pin DIN Non-Latching Connectors
Current Required from 5 V Bus	2.5 Amps maximum	2.5 Amps maximum	7.0 Amps maximum

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697VAL232	IC697VAL216	IC697VRD008
Product Name	**High-Performance 16-bit Analog-to-Digital Converter (ADC) - 32 Channels**	**High-Performance 16-bit Analog-to-Digital Converter (ADC) - 16 Channels**	**Intelligent 8-Channel RTD / Strain Bridge, Analog Voltage Input Board with Screw Terminal Interface**
Module Type	Analog	Analog	Analog
Module Function	Input	Input	Input
Analog Input Type	Current, Analog-to-Digital Converter	Current, Analog-to-Digital Converter	Voltage, RTD/ Strain Bridge
Inputs per Analog Module	32 Channel	16 Channel	8 (individually configurable for voltage, RTD, or strain gage)
Analog Input Current	N/A	N/A	N/A
Analog Input Voltage Range (Vs)	0 to +5 Volts 0 to +10 Volts ±2.5 Volts ±5 Volts ±10 Volts	0 to +5 Volts 0 to +10 Volts ±2.5 Volts ±5 Volts ±10 Volts	(±30 mV, ±100 mV)
Impedance	5 Mohm minimum in parallel with 50 pF	5 Mohm minimum in parallel with 50 pF	10 Mohms minimum with power supplied, 70 Kohms with power removed
Resolution (Voltage)	16 bits	16 bits	12 bits plus sign
Accuracy of Voltage Input	(±0.005% range ±100 uV)	(±0.005% range ±100 uV)	(+0.03% maximum)
Strain Bridge Configurations			Full-, half-, or quarter-bridges
Strain Bridge Excitation			(+5.0 or +10.0 at 190 mA
RTD Temperature Range			(-200 to +850° C)
Processing Resolution			0.015° C at 0° C
Processing Accuracy			(±0.25° C at 0° C)
Built-in Serial Ports	96-Pin DIN Non-Latching Connectors	96-Pin DIN Non-Latching Connectors	
Current Required from 5V Bus	7.0 Amps maximum	7.0 Amps maximum	2.5 Amps typical (3.8 Amps maximum)

Discrete I/O Modules (Output)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL350	IC697MDL340	IC697MDL341	IC697MDL753	IC697MDL752	IC697MDL750
Product Name	**Output 120 VAC 0.5A**	**Output 120 VAC 2A**	**Output 120/240 VAC 2A (Isolated)**	**Output 5/48 VDC 0.5A Negative Logic**	**Output 24/48 VDC 2A**	**Output 24/48 VDC 0.5A**
Module Type	Discrete	Discrete	Discrete	Discrete	Discrete	Discrete
Module Function	Output	Output	Output	Output	Output	Output
Discrete Output Type	Point	Point	Point	Point	Point	Point
Discrete Output Rated Voltage	120 VAC	120 VAC	120 / 240 VAC	5 / 48 VDC	12 VDC	24 / 48 VDC
Discrete Outputs per Module	32 (four isolated groups of eight outputs each)	16 (four isolated groups of four outputs each)	12 Individually Isolated Points	32 (two isolated groups of 16 outputs each)	32 (four isolated groups of eight outputs each)	32 (four isolated groups of eight outputs each)
Discrete Output Voltage Range	85 to 132 Volts, 47 to 63Hz	85 to 132 Volts, 47 to 63Hz	85 to 264 Volts, 47 to 63 Hz	5 Volts or 10 to 60 Volts	10 to 15 Volts	20 to 60 Volts
Discrete Output Current	0.5 Amps maximum per point, 2 Amps maximum per group	2 Amps maximum per point, 4 Amps maximum per group	2 Amps maximum per point, 16 Amps maximum per module	16 mA maximum per point @ 5 VDC; 0.5 Amps maximum per point, 4 Amps maximum per group @ 10 to 60 VDC	0.5 Amps maximum per point, 2 Amps maximum per group	0.5 Amps maximum per point, 2 Amps maximum per group
Response Time-On	1 ms maximum	1 ms maximum	1 ms maximum	1 ms typical	1 ms typical	1 ms maximum
Response Time-Off	1/2 cycle	1/2 cycle	1/2 cycle	1 ms typical	1 ms typical	1 ms maximum
Output Leakage	1.5 mA maximum	1.5 mA maximum	3 mA maximum at 120 VAC; 6 mA maximum at 240 VAC	250 uA maximum @ 5 VDC; 1 mA maximum @ 10 to 60 VDC	1 mA maximum	1 mA maximum
Isolation (any output to backplane)	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS
Isolation (between outputs)	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS
Inrush Current	10 Amps maximum per point for one cycle (20 ms)	20 Amps maximum per point for one cycle (20 ms)	20 Amps maximum per point for one cycle (20 ms)	5 Amps maximum for 20 ms	10 Amps maximum per point for one cycle (20 ms)	10 Amps maximum per point for one cycle (20 ms)
Output Voltage Drop	3 Volts maximum	3 Volts maximum	1.5 Volts maximum	5 VDC: 0.5 Volts Maximum (16 mA); 10 to 60 VDC: 1 Volt (2 Ohms) maximum	1 Volt (2 ohms) maximum	1 Volt (2 ohms) maximum
Current Required from 5V Bus	0.5 Amp	0.25 Amp	0.25 Amp	0.25 Amp	0.25 Amp	0.25 Amp

Discrete I/O Modules (Output)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL740	IC697MDL940
Product Name	**Output 12 VDC 0.5A**	**Output Relay**
Module Type	Discrete	Discrete
Module Function	Output	Output
Discrete Output Type	Point	Relay
Discrete Output Rated Voltage	24/48 VDC	120/240 VAC or 5/24/125 VDC (No user power required)
Discrete Outputs per Module	16 (four isolated groups of four outputs each)	16 (Form C: 8 individually isolated points; Form A: 2 groups with 4 points per group)
Discrete Output Voltage Range	20 to 60 Volts	N/A
Discrete Output Current	2 Amps maximum per point, 4 Amps maximum per group	4 Amps per group (Form A), 16 Amps Load Current per module
Response Time-On	2 ms maximum	10 ms maximum
Response Time-Off	2 ms maximum	10 ms maximum
Output Leakage	1 mA maximum	1 mA maximum at 120 VAC
Maximum Power		480 Volts (AC loads) or 60 Watts (DC loads)
Maximum Load Current (Resistive)		2.0 Amps from 5 to 265 VAC (47 to 63 Hz) or 5 to 30 VDC; 0.2 Amps from 31 to 125 VDC (31 to 150 VDC for Form A only)
Isolation (any output to backplane)	1500 Volts RMS	1500 Volts RMS
Isolation (between outputs)	500 Volts RMS	500 Volts RMS
Inrush Current	20 Amps maximum per point for one cycle (20 ms)	
Output Voltage Drop	0.8 Volt (0.4 ohm) maximum	
Minimum Load Current		10 mA
Switching Frequency		20 cycles/minute (inductive load)
Contact Type		Silver Alloy
Contact Resistance		0.2 ohm (maximum)
Protection (Each Output)		3 Amp fuse, Snubber (R=47 ohms, C=0.015 ufd)
Current Required from 5V Bus	0.15 Amp	0.075 Amp

Discrete I/O Modules (Output)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697VDQ120	IC697VDR150	IC697VDR151
Product Name	**64-bit High Current Source/ Sink Driver Board**	**Relay Output, 32 Points, Non-Latching, 2 Amp**	**Relay Output, 64 Points, Non-Latching**
Module Type	Discrete	Discrete	Discrete
Module Function	Output	Output	Output
Discrete Output Type	Point	Relay	Relay
Discrete Output Rated Voltage	N/A	N/A	N/A
Discrete Outputs per Module	8	32	64
Discrete Output Voltage Range	24 VDC	N/A	N/A
Discrete Output Current	0.5 Amps continuous source and/or sink, 3.5 Amps maximum	2 Amps	N/A
Response Time-On		6.5 ms maximum with 0.5 ms typical bounce time	6.5 ms maximum with 0.5 ms typical bounce time
Output Leakage	500 uA over 0 to 33 Volts		
Maximum Power		60 Watts	60 Watts
Resolution (Current)	64 bits		
Maximum Switching Voltage		220 VDC, 250 VAC resistive load	220 VDC, 250 VAC resistive load
Maximum Switching Current		2 Amps DC, AC resistive load	2 Amps DC, AC resistive load
Output Voltage Drop	2 Volts maximum at 2 Amps with a 31 Volt output		
Output Breakdown Voltage	Vs +2.0 Volts		
Output Saturation Voltage	2 Volts maximum at 2 Amps		
Output Driver Supply Voltage Vs.	8.0 to 33 Volts		
Contact Type		Silver alloy (Gold clad)	Silver alloy (Gold clad)
Contact Resistance		50 mW (by voltage drop 6 VDC 1A)	50 mW (by voltage drop 6 VDC 1A)
Built-in Serial Ports	2 64-pin Connectors DIN 41612	2 96-pin DIN Connectors	2 96-pin DIN Connectors
Current Required from 5V Bus	5.1 Amps maximum	4.0 Amps maximum	4.0 Amps maximum

Analog I/O Modules (Output)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697VAL301	IC697VAL304	IC697VAL324	IC697VAL308	IC697VAL328	IC697VAL348
Product Name	**Analog Output, Voltage, 32 Channel with Built-in-Test**	**Analog Output, Isolated, 4 Channel, 12-bit, Voltage - Bipolar**	**Analog Output, Isolated, 4 Channel, 12-bit, Voltage - Unipolar**	**Analog Output, Isolated, 8 Channel, 12-bit, Voltage - Bipolar**	**Analog Output, Isolated, 8 Channel, 12-bit, Voltage - Unipolar**	**Analog Output, 8 Channel, 16-bit, Voltage Bipolar**
Module Type	Analog	Analog	Analog	Analog	Analog	Analog
Module Function	Output	Output	Output	Output	Output	Output
Analog Output Type	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage
Analog Outputs per Module	32	4	4	8	8	8
Analog Output Voltage Range	Unipolar (0 to +10 Volt, 0 to +5 Volt); Bipolar (±2.5, ±5, or ±10 Volts)	Bipolar (±2.5, ±5, or ±10 Volts)	Unipolar (0 to +2.5 Volt, +5 Volt, or +10 Volts)	Bipolar (±2.5, ±5, or ±10 Volts)	Unipolar (0 to +2.5 Volt, +5 Volt, or +10 Volts)	Bipolar (±10 Volts)
Analog Output Current	10 mA	N/A	N/A	N/A	N/A	5 mA
Isolation (any output to backplane)		1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	
Isolation (between outputs)		1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	
Impedance	0.1 Ohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	0.15 Ohm
Resolution (Voltage)	12 bits	12 bits	12 bits	12 bits	12 bits	16 bits
Current Required from 5 V Bus	3.5 Amps maximum	6.5 Amps maximum	6.5 Amps maximum	6.5 Amps maximum	6.5 Amps maximum	2.5 Amps maximum

Analog I/O Modules (Output)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697VAL314	IC697VAL318	IC697ALG320	IC697VAL306
Product Name	**Analog Output, Isolated, 4 Channel, 12-bit, Current - 4 to 20 mA**	**Analog Output, Isolated, 8 Channel, 12-bit, Current - 4 to 20 mA**	**Analog Output, Voltage/Current**	**Analog Output, Voltage/Current, 16 Channel**
Module Type	Analog	Analog	Analog	Analog
Module Function	Output	Output	Output	Output
Analog Output Type	Current	Current	Current or Voltage	Current or Voltage
Analog Outputs per Module	4	8	4 (individually configurable for voltage or current)	16
Analog Output Voltage Range	N/A	N/A	(-10 Volts to +10 Volts)	Unipolar (0 to +10 Volt, 0 to +5 Volt); Bipolar (+2.5, +5, or +10 Volts)
Analog Output Current	4 to 20 mA, 0 to 20 mA, or 5 to 25 mA	4 to 20 mA, 0 to 20 mA, or 5 to 25 mA	0.0 mA to 22.5 mA (4 to 20 mA default)	5 mA
Response Time-On			Voltage: 5.0% 0.5 ms, 0.1% 2.0 ms; Current: 5.0% 1.0 ms, 0.1% 5.0 ms	
Isolation (any output to backplane)	1500 Volts RMS	1500 Volts RMS		
Isolation (between outputs)	1500 Volts RMS	1500 Volts RMS		
Impedance	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm		0.33 Ohm
Resolution (Voltage)	12 bits	12 bits	312.5 microvolts per LSB step	12 bits
Current Required from 5V Bus	6.5 Amps maximum	6.5 Amps maximum	1.66 Amps	2.5 Amps typical (4.0 Amps maximum)

I/O Interface Modules

PACSystems and Series 90-70 feature a variety of communications options for distributed control and/or I/O, supporting a wide range of communication protocols and configurations. These communication modules are easy to install and quick to configure. Some distributed I/O communications modules allow for numerous remote drops or additional racks, while others provide an interface for GE Fanuc products up to 7500 feet away from the controller.

	IC697BEM731	IC697BEM713	IC697BEM711	IC697BEM733
Product Name	**Genius Bus Controller**	**Bus Tansmitter Module**	**Bus Receiver Module**	**Remote I/O Scanner**
Module Type	Bus Controller	Bus Transmitter	Bus Receiver	Remote I/O Scanner
Supports Redundancy	Yes	No	No	Yes
Discrete Points Available				128 Bytes Per Drop
Programmer Effective Data Rate		500 Kbytes/sec		
Time to Store 16 Kbyte Program		20 - 30 Seconds		
Effective Data Rate		500 Kbytes/sec	500 Kbytes/sec	38.4 Kbaud
Total Allowed Distance of Interconnecting Cable		50 feet (15 meters)	50 feet (15 meters)	
Maximum Distance from Controller				7500 feet (2275 meters)
Electrical Isolation		Non-isolated differential communication	Non-isolated differential communication	
Built-in Serial Ports	1 (Hand Held Monitor Port)	2 (Programmer Port, Expansion Port Out)	2 (Expansion Port In, Expansion Port Out)	2 (RS-422 Compatible Serial Port, Hand Held Monitor Port)
Current Required from 5V Bus	1.3 Amps	1.4 Amps	0.8 Amp	0.8 Amp

Communications Modules

PACSystems and Series 90-70 feature a variety of communications options for distributed control and/or I/O, supporting a wide range of communication protocols and configurations. These communication modules are easy to install and quick to configure. Some distributed I/O communications modules allow for numerous remote drops or additional racks, while others provide an interface for GE Fanuc products up to 7500 feet away from the controller.

	IC698RMX016	IC698CMX016	IC697CMM711	IC697VRM015	IC698ETM001
Product Name	**Redundancy Memory Xchange Module**	**Control Memory Xchange Module**	**Communications Coprocessor**	**Fiber-Optic Reflective Memory with Interrupts**	**RX7i Standalone Ethernet Module 10/100**
Module Type	Redundancy Communications (High Availability)	Control Memory Xchange	Communications Coprocessor	Reflective Memory	Ethernet Controller
Supports Redundancy	Yes	No	No	No	No
Protocols Supported			SNP/SNPX (master, slave), CCM (master, slave, peer), RTU Modbus (slave only)		
Effective Data Rate	2.12 gigabaud	2.12 gigabaud			
Electrical Isolation	Non-isolated differential communication	Non-isolated differential communication			
Communications Processor Speed			12 MHz (80C186)		
Simultaneous Communication Speed			9.6 Kbps		
Individual Communication Speed			19.2 Kbps		
Reflective Memory Available	16 Mbytes	16 Mbytes		256 Kbytes of Reflective Memory	
Distance Between Nodes	Up to 300 meters	Up to 300 meters		Up to 2000 meters (up to 256 nodes)	
Access Time	400 ns (worst-case), 200 ns (best-case)	400 ns (worst-case), 200 ns (best-case)		400 ns (worst-case), 200 ns (best-case)	
Transfer Rate	6.2 Mbyte/s without redundant transfer, 3.2 Mbyte/s with redundant transfer	6.2 Mbyte/s without redundant transfer, 3.2 Mbyte/s with redundant transfer		6.2 Mbyte/s without redundant transfer, 3.2 Mbyte/s with redundant transfer	
Cable Requirements	Connector (LC type, conforms to IEC61754-20) Cable (ST Type Fiber-Optic Multimode; 62.5 Micron core)	Connector (LC type, conforms to IEC61754-20) Cable (ST Type Fiber-Optic Multimode; 62.5 Micron core)		ST Type Fiber-Optic cables Multimode; 62.5 Micron core	
Built-in Serial Ports	None	None	2 (Serial RS-422/RS485 or RS-232)	Compatible with Fiber Optic Cable	2 Twisted pair 10 Base T/100 Base TX RJ-45
Current Required from 5V Bus	1.2 Amps	1.2 Amps	0.7 Amp	5.0 Amps maximum	

Specialty Modules

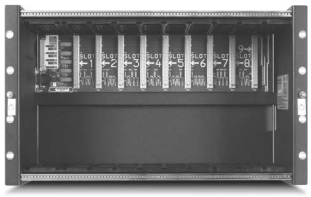
PACSystems and Series 90-70 feature a wide range of Specialty Modules to meet all of your application needs. From High-Speed Counters, Programmable Coprocessor Modules and Alphanumeric Display Coprocessors to Hard Disk Drives and Single Board Computers, these Specialty Modules are designed to fill your requirement for versatile industrial solutions.

	IC697PCM711	IC697HSC700	IC697VHD001	IC697VSC096
Product Name	**Programmable Coprocessor Module**	**High Speed Counter**	**Single-Slot VMEbus Hard Disk Module**	**Single-Slot Celeron Socket 370 Processor-Based VMEbus Single-Board Computer**
Module Type	Programmable Coprocessor Module	High Speed Counter	Hard Disk	Single Board Computer
Processor Speed	12 MHz (80C186)	N/A	N/A	N/A
Clock	Real Time Calendar synchronized to PLC			
Protocols Supported	CCM2			
Simultaneous Communication Speed	9.6 Kbaud			
Individual Communication Speed	19.2 Kbaud			
Processor				Single-Slot Celeron Socket 370 Processor-Based
Memory Available	96 Kbytes of User Logic RAM and 512 Kbytes of Expansion Memory			32 Kbytes of User Logic SRAM
Flash Memory Available				96 Mbyte IDE CompactFlash
HSC Available Output Voltages		4 (Positive Logic) with LED Indicators and +5 VDC		
Programmed By	IC647, IC640, or IBM-compatible Personal Computer			
Counter Types		5 Selectable Counter Types		
Input Thresholds		TTL, Non-TTL, and Magnetic Pickup		
Output Signal		Up To 200 KHz		
Hard Drive Size				12 Gbyte
Hard Disk Size			10 Gbyte	
Built-in Serial Ports	2 (RS-422/RS-485 or RS-232 Serial Ports)			4 (2 16550-compatible serial ports, 2 PS/2-style keyboard and mouse ports)
Current Required from 5V Bus	1.0 Amp		2.5 Amps maximum	6.0 Amps typical (8.0 Amps maximum)

Expansion Power Supplies

VME Power Supply Expansion modules simply slide into the PLC rack just like I/O, and they work with any VME Expansion Rack. Available with a variety of power ratings and Input Voltage Ranges for powering up systems of different sizes, VME Expansion Rack Power Supplies also have built-in protection for autoranging power factor corrections as well as overcurrent and overvoltage fault conditions. Depending on your application, it is possible to use one power supply for operation of two racks.

	IC697PWR710	IC697PWR711	IC697PWR724	IC697PWR748
Product Name	**Expansion Rack Power Supply, 120/240 VAC or 125 VDC, 55W**	**Expansion Rack Power Supply, 120/240 VAC or 125 VDC, 100W**	**Expansion Rack Power Supply, 24 VDC, 90W**	**Expansion Rack Power Supply, 48 VDC, 90W**
Module Function	Expansion Rack Power Supply	Expansion Rack Power Supply	Expansion Rack Power Supply	Expansion Rack Power Supply
Power Source	120/240 VAC or 125 VDC	120/240 VAC or 125 VDC	24 VDC	48 VDC
Output Source	55 Watts; 5 VDC @ 11 Amps	100 Watts; 5 VDC @ 20 Amps, +12 VDC @ 2 Amps, -12 VDC @ 1 Amp	90 Watts; 5 VDC @ 18 Amps, +12 VDC @ 1.5 Amps, -12 VDC @ 1 Amp	90 Watts; 5 VDC @ 18 Amps, +12 VDC @ 1.5 Amps, -12 VDC @ 1 Amp



Expansion Racks

VME Expansion Racks are available in a variety of configurations to meet the needs of your application. The choices vary from 5- and 9-slot Standard Racks to 17-slot VME Integrator Racks, each giving you the option of Front (Rack) Mount or Rear (Panel) Mount. These racks can be used for CPU, local and remote I/O and accept all plug-in IC697 Power Supplies. With available accessories, two racks can be run off a single Power Supply. GE Fanuc offers standard-length cables for easy installation and provides wiring information for custom applications.

	IC697CHS750	IC697CHS790	IC697CHS791	IC697CHS782	IC697CHS783
Product Name	**Standard Series 90-70 Expansion Rack, 5-slot, Rear (Panel) Mount**	**Standard Series 90-70 Expansion Rack, 9-slot, Rear (Panel) Mount**	**Standard Series 90-70 Expansion Rack, 9-slot, Front (Rack) Mount**	**VME Integrator Expansion Rack, 17-slot, Rear (Panel) Mount**	**VME Integrator Expansion Rack, 17-slot, Front (Rack) Mount**
Rack Type	Standard 90-70	Standard 90-70	Standard 90-70	VME Integrator	VME Integrator
Number of Slots	5 Double Width (plus one for power supply)	9 Double Width (plus one for power supply)	9 Double Width (plus one for power supply)	17 Single Width, 8 Double Width (plus one for power supply)	17 Single Width, 8 Double Width (plus one for power supply)
Mounting Location	Rear (Panel)	Rear (Panel)	Front (Rack)	Rear (Panel)	Front (Rack)
Rack Configurations	All IC697 PLC module types	All IC697 PLC module types	All IC697 PLC module types	All IC697 PLC module types, 3rd party VME modules with 0.8" spacing	All IC697 PLC module types, 3rd party VME modules with 0.8" spacing
Rack Slot Size	1.6 inch	1.6 inch	1.6 inch	0.8 inch	0.8 inch
Compatible Power Supplies	Plug-in AC or DC IC697	Plug-in AC or DC IC697	Plug-in AC or DC IC697	Plug-in AC/DC and DC IC697, or external power supply	Plug-in AC/DC and DC IC697, or external power supply
Dimensions	11.15" x 12.6" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"

Accessories

IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, Single-user License
IC697ACC721	Rack Fan Assembly, 120 VAC
IC697ACC724	Rack Fan Assembly, 240 VAC
IC697ACC736	Cable Shield Clamping Assembly
IC697ACC744	Rack Fan Assembly, 24 VDC
IC698ACC701	Replacement Battery
IC698ACC720	Gasketed Filler Faceplate, Double-width
IC698ACC735	Gasketed Filler Faceplate, Single-width

Cables

IC200CBL001	Station Manager Cable for Ethernet Interface
IC600WD002C	I/O Expansion Cable, 2 feet (0.6 meters)
IC600WD005C	I/O Expansion Cable, 5 feet (1.5 meters)
IC600WD010C	I/O Expansion Cable, 10 feet (3.0 meters)
IC600WD025C	I/O Expansion Cable, 25 feet (7.5 meters)
IC600WD050C	I/O Expansion Cable, 50 feet (15 meters)

PACSystems RX3i Controller

The PACSystems RX3i controller is the latest addition to the innovative PACSystems family of programmable automation controllers (PACs). Like the rest of the family, the PACSystems RX3i features a single control engine and universal programming environment to provide application portability across multiple hardware platforms and deliver a true convergence of control choices.

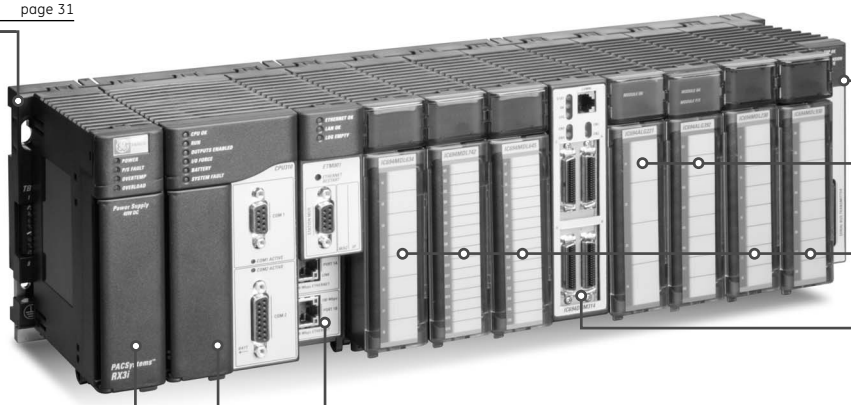
The RX3i features

- A high performance controller with a 300 MHz Intel® microprocessor and 10 Mbytes of user memory that eliminates the need for multiple controllers and simplifies control
- A universal backplane with a high-speed PCI bus running at 27 MHz for fast data throughput for complex I/O and a serial bus for simple I/O that optimizes performance and your investment. The universal backplane also supports HOT SWAP to minimize downtime.
- A wide range of I/O modules (over 40 types available) for simple to complex applications; various network modules are also available.

The PACSystems portable control engine provides high performance on several different platforms, allowing OEMs and end users with application variability to choose the exact control system hardware that best suits there needs - all in a single, compact and highly integrated package.

Proficy™ Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.



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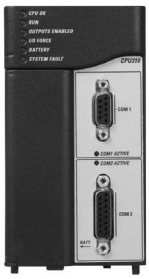
Publication Reference Chart

PACSystems CPU Reference Manual	GFK-2222
TCP/IP Ethernet Communications for PACSystems	GFK-2224
PACSystems Station Manager User's Manual	GFK-2225
C Programmer's Toolkit for PACSystems User's Manual	GFK-2259
PACSystems RX3i Hardware and Installation Manual	GFK-2314



CPUs

The high-performance CPU is based on the latest technology processor with fast computation and high throughput. The controller can manage up to 32K of I/O in a number of standard languages. The powerful CPU enables complex applications to be easily solved with its 300Mhz processor and 10Mbytes of user memory. The RX3i supports multiple IEC languages and C programming to give you program flexibility. The RX3i increases machine cycle times, reduces downtime with its extensive diagnostics and hot swap capability, and enables you to store large amounts of data to reduce external hardware cost.

	IC695CPU310
Product Name	**PACSystems RX3i CPU**
CPU Type	High Performance
Boolean Execution Speed (ms/K)	0.23
User Logic Memory	10Meg bytes
Real Time Clock	Yes
I/O Discrete Points	32K
Type of Memory Storage	SRAM, Flash
Processor Speed (MHz)	300MHz
Built-in Serial Ports	1 RS-485 port and one RS-232 port. Supports SNP, Serial I/O and Modbus Slave
Total Number of Racks	8
Communications Options	Serial, Genius, Ethernet, Profibus, and DeviceNet
Field Busses/Device Networks	Ethernet (Ethernet Global Data and Channels), Genius (3rd Qtr 2004), Profibus (4th Qtr 2004), DeviceNet (3rd Qtr 2004)
Software Programming Support	Proficy Machine Edition Logic Developer Professional edition 5.0 or above
Internal Power Used	1250 mA @ 3.3 VDC; 1000 mA @ 5 VDC

Baseplates

RX3i Universal baseplates are available in 12 and 16 slot configurations to the meet the needs of your application. The RX3i Universal baseplates support hot swap capability to reduce downtime. Expansion bases are available in 5 and 10 slot versions to maximize flexibility.

	IC695CHS016	IC695CHS012	IC694CHS392	IC693CHS393	IC694CHS398	IC693CHS399
Product Name	**PACSystems RX3i 16 slot high speed controller base supports PCI and serial bus**	**PACSystems RX3i 12 slot high speed controller base supports PCI and serial bus**	**PACSystems RX3i serial 10-slot Expansion Baseplate (serial bus only)**	**PACSystems RX3i serial 10-slot Remote Baseplate (serial bus only)**	**PACSystems RX3i serial 5-slot Expansion Baseplate**	**PACSystems RX3i serial 5-slot Remote Baseplate (serial bus only)**
Baseplate Option	Controller Base	Controller Base	Expansion	Expansion	Expansion	Expansion
Distance	N/A	N/A	Up to 50 feet	Up to 700 feet	Up to 50 feet	Up to 700 feet
Number of Slots	16	12	10	10	5	5
Dimension (WxHxD) in.(mm)	23.7x5.12x5.80 (601.98x130.04x147.32)	18.01x5.12x5.80 (457.5x130.04x147.32)	17.44x5.12x5.59 (443x130x142)	17.44x5.12x5.59 (443x130x142)	10.43x5.12x5.59 (245x130x142)	10.43x5.12x5.59 (245x130x142)
Internal Power Used	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	150 mA @ 5 VDC	460 mA @ 5 VDC	170 mA @ 5 VDC	480 mA @ 5 VDC

Power Supplies

The RX3i power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware. RX3i power supplies are tied into the performance of the CPU for simplex, fail-safe, and fault tolerance. Advanced diagnostics and built-in smart switch fusing are among the other performance and safety features.

	IC695PSA040	IC695PSD040	IC694PWR321	IC694PWR330	IC694PWR331	IC693PWR332
Product Name	**Power Supply, 120/240 VAC, 125 VDC**	**Power Supply, 24 VDC**	**Power Supply, 120/240 VAC, 125 VDC**	**Power Supply, 120/240 VAC, 125 VDC**	**Power Supply, 24 VDC**	**Power Supply, 12 VDC**
Power Source	100-240 VAC or 125 VDC	24 VDC	100-240 VAC or 125 VDC	100-240 VAC or 125 VDC	24 VDC	12 VDC
High Capacity	Yes	Yes	No	Yes	Yes	Yes
Output Source	40 watts total. 30 watts max at 3.3 VDC; 30 watts max at 5 VDC; 40 watts at 24 VDC Relay, no 24 VDC isolated available.	40 watts total. 30 watts max at 3.3 VDC; 30 watts max at 5 VDC; 40 watts at 24 VDC Relay, no 24 VDC isolated available.	30 watts total; 15 watts 24 VDC relay; 20 watts 24 VDC isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated
Number of Redundant Power Supplies Supported	N/A	N/A	N/A	N/A	N/A	N/A
Cable Length to Redundant Power Supply Adapter	N/A	N/A	N/A	N/A	N/A	N/A
Redundant Power Supply Adapter Rack Compatibility	N/A	N/A	N/A	N/A	N/A	N/A
24 VDC Output Current Capacity			0.8 A	0.8 A	0.8 A	0.8 A

Power Supplies

The RX3i power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware. RX3i power supplies are tied into the performance of the CPU for simplex, fail-safe, and fault tolerance. Advanced diagnostics and built-in smart switch fusing are among the other performance and safety features.

	IC693ACC340	IC693ACC341	IC693ACC350	IC693PWR328
Product Name	**Power Supply, Redundant Expansion Base. Supports two power supplies with 0.1 meter cable**	**Power Supply, Redundant Base. Supports two power supplies with 0.5 meter cable**	**Power Supply, Redundant Adapter for Expansion Base.**	**Power Supply, 48 VC**
Power Source	N/A	N/A	N/A	48 VDC
High Capacity	N/A	N/A	N/A	No
Output Source				30 watts total; 15 watts 5 V; 15 watts 24 V relay; 20 watt, 24 V isolated
Number of Redundant Power Supplies Supported	Two supplies. Power Supplies can be AC or DC	Two supplies. Power Supplies can be AC or DC	N/A	N/A
Cable Length to Redundant Power Supply Adapter	0.1 meter	0.5 meter	N/A	N/A
Redundant Power Supply Adapter Rack Compatibility	N/A	N/A	Compatible with all RX3i 5, 10 slot serial expansion racks	N/A
24 VDC Output Current Capacity				0.8 A

Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694ACC300	IC694MDL230	IC694MDL231	IC694MDL240	IC694MDL241	IC694MDL632
Product Name	**PACSystems RX3i DC Voltage Input Simulator, 8/16 Points**	**PACSystems RX3i AC Voltage Input Module, 120 VAC Isolated, 8 Point Input**	**PACSystems RX3i AC Voltage Input Module, 240 VAC Isolated, 8 Point Input**	**PACSystems RX3i AC Voltage Input Module, 120 VAC, 16 Point Input**	**AC/DC Voltage Input Module, 24 VAC/VDC**	**PACSystems RX3i DC Voltage Input Module, 125 VDC Pos/Neg Logic, 8 Point Input**
Power Type	DC	AC	AC	AC	Mixed	DC
Module Function	Input	Input	Input	Input	Input	Input
Input Voltage Range	N/A	0-132 VAC	0-264 VAC	0-132 VAC	0-30 VDC	0-150 VDC
Input Current (mA)		14.5	15	12	7	4.5
Number of Points	16	8	8	16	16	8
Load Current per Point	N/A	N/A	N/A	N/A	N/A	N/A
Response Time (ms)	20 on/30 off	30 on/45 off	30 on/45 off	30 on/45 off	12 on/28 off	7 on/7 off
Trigger Voltage		74-132	148-264	74-132	11.5-30	90-150
Points per Common	16	1	1	16	16	4
Connector Type	Switches	Terminal Block (20 screws)	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Internal Power Used	120 mA @ 5 VDC	60 mA @ 5 VDC	60 mA @ 5 VDC	90 mA @ 5 VDC	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated	40 mA @ 5 VDC

Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL634	IC694MDL645	IC694MDL646	IC694MDL654	IC694MDL655
Product Name	**PACSystems RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 8 Point Input**	**PACSystems RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 16 Point Input**	**PACSystems RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, FAST, 16 Point Input**	**PACSystems RX3i DC Voltage Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 Point**	**PACSystems RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input**
Power Type	DC	DC	DC	DC	DC
Module Function	Input	Input	Input	Input	Input
Input Voltage Range	0-30 VDC	0-30 VDC	0-30 VDC	0-15 VDC	0-30 VDC
Input Current (mA)	7	7	7	3.0 @ 5 V, 8.5 @ 12 V	7
Number of Points	8	16	16	32	32
Load Current per Point	N/A	N/A	N/A	N/A	N/A
Response Time (ms)	7 on/7 off	7 on/7 off	1 on/1 off	1 on/1 off	2 on/2 off
Trigger Voltage	11.5-30	11.5-30	11.5-30	4.2-15	11.5-30
Points per Common	8	16	16	8	8
Connector Type	Terminal Block	Terminal Block	Terminal Block	Fujitsu Connector	Fujitsu Connector
Internal Power Used	45 mA @ 5 VDC; 62 mA @ 24 VDC Isolated	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated	5 VDC - 195 mA @ 5 VDC; 12 VDC - 440 mA @ 5 VDC	195 mA @ 5 VDC

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC694ALG220	IC694ALG221	IC694ALG222	IC694ALG223
Product Name	**PACSystems RX3i Analog Input, Voltage, 4 Channel**	**PACSystems RX3i Analog Input, Current, 4 Channel**	**PACSystems RX3i Analog Input, Voltage, High Density (16 Channel)**	**PACSystems RX3i Analog Input, Current, High Density (16 Channel)**
Module Function	Input	Input	Input	Input
Isolation	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side
Range	-10 V to +10 V	4-20 mA, 0-20 mA	-10 V to +10 V, 0 to 10 V	0-20 mA, 4-20 mA
Number of Channels	4	4	16	16
Update Rate	4 ms all channels	2 ms all channels	13 ms all channels	13 ms all chanels
Resolution	12 bit; 5 mV/20 µA/bit	12 bit; 0-20 mA, 5 µA/bit; 4-20 mA, 4 µA/bit	12 bit; ±10 V, 5 mV/20 µA/bit; 0-10 V, 5 mV/20 µA/bit	12 bit; 0-20 mA, 5 µA/bit; 4-20 mA, 4 µA/bit; 4-20 mA Enhanced, 5 µA/bit
Accuracy	±10 mV/40 µA at 25°C (77°F)	0.1% full scale	0.25% at 25°C (77°F)	0.25% at 25°C (77°F)
Input Impedence	>9 Megohms	250 ohms	250 ohms	250 ohms
Input Filter Response	17 Hz	325 Hz	200 Hz	200 Hz
Internal Power Used	27 mA @ 5 VDC; 98 mA 24 VDC Isolated	25 mA @ 5 VDC; 100 mA @ 24 VDC Isolated	112 mA @ 5 VDC; 4150 mA -User Supplied 24 VDC	120 mA @ 5 VDC; 65 mA -User Supplied 24 VDC

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	HE693ADC405	HE693ADC410	HE693ADC415	HE693ADC420	HE693ADC816
Product Name	**Isolated Analog Input Module, Voltage, 500 VAC, Isolation**	**Isolated Analog Input Module, Voltage, 1500 VAC, Isolation**	**Isolated Analog Input Module, Current, 500 VAC, Isolation**	**Isolated Analog Input Module, Current, 1500 VAC, Isolation**	**Isolated Analog Input Module, Voltage, 8CH**
Module Function	Input	Input	Input	Input	Input
Range	± 10 V	± 10 V	4-20 mA, ± 20 mA	4-20 mA, ± 20 mA	± 10 V
Number of Channels	4	4	4	4	8
Channel-to-Channel Isolation	500 VAC (RMS), ± 700 VDC	1500 VAC (RMS), ± 2000 VDC	500 VAC (RMS), ± 700 VDC	1500 VAC (RMS), ± 2000 VDC	N/A
Input Impedence	1 Megohm	1 Megohm	100 ohms	100 ohms	1 Megohm
A/D Type, Resolution	Integrating, 18 bits	Integrating, 18 bits	Integrating, 18 bits	Integrating, 18 bits	Successive, Approx. 16 bits
Useable Resolution	13 bits plus sign	13 bits plus sign	13 bits plus sign	13 bits plus sign	16 bits
I/O Required	4 %AI, 4 %AQ, 16 %I	4 %AI, 4 %AQ, 16 %I	4 %AI, 4 %AQ, 16 %I	8 %AI, 8 %AQ, 16 %I	4 %AI, 4 %AQ, 16 %I
Sample Rate	45 channels/second	45 channels/second	45 channels/second	45 channels/second	3000 channels
Analog Filtering	1 KHz, 3 pole Bessel	1 KHz, 3 pole Bessel	1 KHz, 3 pole Bessel	1 KHz, 3 pole Bessel	1.6 KHz low pass
Digital Filtering	1-128 samples/update	1-128 samples/update	1-128 samples/update	1-128 samples/update	1-128 samples/update
Maximum Error	.05% full scale	.05% full scale	.05% full scale	.05% full scale	.03% full scale
Common Mode Range	500 VAC (RMS), ±700 VDC	1500 VAC (RMS), ± 2000 VDC	500 VAC (RMS), ±700 VDC	1500 VAC (RMS), ± 2000 VDC	500 VDC
Common Mode Rejection	>100 dB	>100 dB	>100 dB	>100 dB	>100 dB
Power Consumption at Steady State, Maximum	.4 W @ 5 V, 2.16 W @ 24 V	.7 W @ 5 V, 1.2 W @ 24 V	.4 W @ 5 V, 2.16 W @ 24 V	.7 W @ 5 V, 1.2 W @ 24 V	230 mA @ 5 VDC (440 mA inrush)
Internal Power Used	80 mA @ 5 VDC; 90 mA @ 24 VDC Relay	140 mA @ 5 VDC ; 50 mA @ 24 VDC Relay	80 mA @ 5 VDC; 90 mA @ 24 VDC Relay	140 mA @ 5 VDC; 50 mA @ 24 VDC Relay	230 mA @ 5 VDC

Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL310	IC694MDL330	IC694MDL340	IC694MDL390
Product Name	**PACSystems RX3i AC Voltage Output Module, 120 VAC, 0.5A, 12 Point Output**	**PACSystems RX3i AC Voltage Output Module, 120/240 VAC, 1A, 8 Point Output**	**PACSystems RX3i AC Voltage Output Module, 120 VAC, 0.5A, 16 Point Output**	**PACSystems RX3i AC Voltage Output Module, 120/240 VAC Isolated, 2A, 5 Point Output**
Power Type	AC	AC	AC	AC
Module Function	Output	Output	Output	Output
Output Voltage Range	85-132 VAC	85-264 VAC	85-132 VAC	85-264 VAC
Number of Points	12	8	16	5
Isolation	N/A	N/A	N/A	N/A
Load Current per Point	0.5 A	1 A	0.5 A	2 A
Response Time (ms)	1 on 1/2 cy off	1 on 1/2 cy off	1 on 1/2 cy off	1 on 1/2 cy off
Output Type	Triac	Triac	Triac	Triac
Polarity	N/A	N/A	N/A	N/A
Points per Common	6	4	4	1
Connector Type	Terminal Block (20 screws)	Terminal Block	Terminal Block	Terminal Block
Internal Power Used	210 mA @ 5 VDC	160 mA @ 5 VDC	315 mA @ 5 VDC	110 mA @ 5 VDC

Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL732	IC694MDL734	IC694MDL740	IC694MDL741
Product Name	**PACSystems RX3i DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5A, 8 Point Output**	**PACSystems RX3i DC Voltage Output Module, 125 VDC Pos/Neg Logic, 6 Point Output**	**PACSystems RX3i DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5A, 16 Point Output**	**PACSystems RX3i DC Voltage Output Module, 12/24 VDC Negative Logic, 0.5A, 16 Point Output**
Power Type	DC	DC	DC	DC
Module Function	Output	Output	Output	Output
Output Voltage Range	12-24 VDC	11-150 VDC	12-24 VDC	12-24 VDC
Number of Points	8	6	16	16
Isolation	N/A	N/A	N/A	N/A
Load Current per Point	0.5 A	1 A	0.5 A	0.5 A
Response Time (ms)	2 on/2 off	7 on/5 off	2 on/2 off	2 on/2 off
Output Type	Transistor	Transistor	Transistor	Transistor
Polarity	Positive	Positive/Negative	Positive	Negative
Points per Common	8	1	8	8
Connector Type	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Internal Power Used	50 mA @ 5 VDC	90 mA @ 5 VDC	110 mA @ 5 VDC	110 mA @ 5 VDC

Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL742	IC694MDL752	IC694MDL753	IC694MDL930
Product Name	**PACSystems RX3i DC Voltage Output Module, 12/24 VDC Positive Logic ESCP, 1A, 16 Point Output**	**PACSystems RX3i DC Voltage Output Module, 5/24 VDC (TTL) Negative Logic, 0.5A, 32 Point**	**PACSystems RX3i DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5A, 32 Point Output**	**PACSystems RX3i AC/DC Voltage Output Module, Relay, N.O., 4A Isolated, 8 Point Output**
Power Type	DC	DC	DC	Mixed
Module Function	Output	Output	Output	Output
Output Voltage Range	12-24 VDC	5, 12-24 VDC	12-24 VDC	5-250 VAC
Number of Points	16	32	32	8
Isolation	N/A	N/A	N/A	N/A
Load Current per Point	1.0 A	0.5 A	0.5 A	4 A
Response Time (ms)	2 on/2 off	0.5 on/0.5 off	0.5 on/0.5 off	15 on/15 off
Output Type	Transistor	Transistor	Transistor	Relay
Polarity	Positive	Negative	Positive	N/A
Points per Common	8	8	8	1
Connector Type	Terminal Block	Fujitsu Connector	Fujitsu Connector	Terminal Block
Internal Power Used	130 mA @ 5 VDC	260 mA @ 5 VDC	260 mA @ 5 VDC	6 mA @ 5 VDC; 70 mA @ 24 VDC Relay

Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL931	IC694MDL940	HE693RLY100	HE693RLY110
Product Name	**PACSystems RX3i AC/DC Voltage Output Module, Relay, N.C. and Form C, 8A Isolated, 8 Point Out**	**PACSystems RX3i AC/DC Voltage Output Module, Relay, N.O., 2A, 16 Point Output**	**DC/AC Voltage Relay Output Module High Current**	**DC/AC Voltage Relay Output Module High Current (fused)**
Power Type	Mixed	Mixed	Mixed	Mixed
Module Function	Output	Output	Output	Output
Output Voltage Range	5-250 VAC	5-250 VAC	12-120 VAC, 12-30 VDC	12-120 VAC, 12-30 VDC
Number of Points	8	16	N/A	8
Isolation	N/A	N/A	N/A	no
Load Current per Point	8 A	2 A	8 A	8 A
Response Time (ms)	15 on/15 off	15 on/15 off	11 on/11 off	11 on/11 off
Output Type	Relay	Relay	Relay	Relay
Polarity	N/A	N/A	N/A	N/A
Points per Common	1	4		1
Connector Type	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Internal Power Used	6 mA @ 5 VDC; 110 mA @ 24 VDC Relay	7 mA @ 5 VDC; 135 mA @ 24 VDC Relay	180 mA @ 5 VDC; 200 mA @ 24 VDC Relay	180 mA @ 5 VDC; 200 mA @ 24 VDC Relay

Analog I/O Modules (Output)

GE Fanuc offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC694ALG390	IC694ALG391	IC694ALG392
Product Name	**PACSystems RX3i Analog Output, Voltage, 2 Channel**	**PACSystems RX3i Analog Output, Current, 2 Channel**	**PACSystems RX3i Analog Current/Voltage Output, 8 Channel**
Power Type	N/A	N/A	N/A
Module Function	Output	Output	Output
Isolation	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side
Range	-10 V to +10 V, 4-20 mA	1-5 V and 0-5 V, 0-20 mA, 4-20 mA	0 V to +10 V, -10 V to +10 V, 0-20 mA, 4-20 mA
Number of Channels	2	2	8
Channel-to-Channel Isolation	N/A	N/A	N/A
Update Rate	5 ms all channels	5 ms all channels	8 ms all channels
Resolution	12 bit; 2.5 mV/bit	12 bit; 0-20 mA, 5 µA/bit	16 bit; 0.312 mV/bit
Accuracy	±5 mV at 25 °C (77 °F)	0-20 mA, ±8 µA at 25 °C (77 °F); 0-20 mA, 4-20 mA ±0.1% at 25 °C (77 °F)	0-20 mA, 4-20 mA ±0.1% at 25 °C (77 °F); 0-10 V, -10F + 10 V ±0.25 at 25 °C (77 °F)
Maximum Output Load	5 mA (2 K ohms)	5 mA (2 K ohms)	5 mA (2 K ohms)
Output Load Capacitance	2000 pF	2000 pF, Inductance 1H	2000 pF, Inductance 1H
I/O Required			
Power Consumption at Steady State, Maximum			
User Supplied Loop Voltage			
Maximum Load (ohms)			
Maximum Linearity Error			
Common Mode Isolation			
D/A Resolution			
Internal Power Used	32 mA @ 5 VDC; 120 mA @ 24 VDC Isolated	30 mA @ 5 VDC; 215 mA 24 VDC Isolated	110 mA @ 5 VDC; 315 mA -User Supplied 24 VDC

Analog I/O Modules (Output)

GE Fanuc offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC694ALG442	HE693DAC410	HE693DAC420
Product Name	**PACSystems RX3i Analog Current/Voltage Combination 4 Channel In/2 Channel Out**	**Isolated Analog Output Module, Voltage**	**Isolated Analog Output Module, Current**
Power Type	N/A	N/A	N/A
Module Function	Mixed	Output	Output
Isolation	1500 volts RMS field to logic side	N/A	N/A
Range	0 V to +10 V, -10 V to +10 V, 0-20 mA, 4-20 mA	± 10 V	4-20 mA or 0-20 mA
Number of Channels	4 in/2 out	4	4
Channel-to-Channel Isolation	N/A	1500 VAC (RMS), ± 2000 VDC	1500 VAC (RMS), ± 2000 VDC
Update Rate	8 ms all channels/4 ms all channels		
Resolution	(Input) 12 bit; 0 V to 10 V, 2.5 mV/bit; -10 V to +10 V, 5 mV/bit; 0-20 mA,4-20 mA 5 µA/bit (Output) 16 bit; 0.312 mV/bit; 4-20 mA 0.5 µA/bit; 0-20 mA 0.625 µA/bit	1.2 5 mV	2.0 µA (4-20 mA); 2.5 µA (±20 mA)
Accuracy	(Input) 0.25 % at 25 °C (77 °F) (Output) 0-20 mA, 4-20 mA ±0.1% at 25 °C (77 °F)		
Maximum Output Load	5 mA (2 K ohms); 850 ohms		
Output Load Capacitance	2000 pF, Inductance 1H		
I/O Required		4 %AQ	4 %AQ
Power Consumption at Steady State, Maximum		0.75 W @ 5 V; 3.6 W @ 24 V	0.75 W @ 5 V; 3.6 W @ 24 V
User Supplied Loop Voltage			2-32 VDC
Maximum Load (ohms)		>/= 2 Kohms	</= 1.1 Kohms @ 24 V loop voltage
Maximum Linearity Error		0.02% full scale	0.02% full scale
Common Mode Isolation		1500 VAC (RMS), ± 2000 VDC	1500 VAC (RMS), ± 2000 VDC
D/A Resolution		13 bits plus sign	13 bits plus sign
Internal Power Used	95 mA @ 5 VDC; 129 mA 24 VDC Isolated	500 mA @ 5 VDC ; 150 mA @ 24 VDC Relay	150 mA @ 5 VDC; 110 mA @ 24 VDC Relay

Millivolt I/O Modules

The Millivolt Input Modules allow Millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

	HE693ADC409
Product Name	**Analog I/O Module, Millivolt Input**
Module Function	Input
Input Voltage Range	± 25 mV, ± 50 mV and ± 100mV
Number of Channels	4
Resolution	3 µV, 6µV, 9µV (respectively)
Accuracy	±0.5%
Input Impedence	>20 Mohms
I/O Required	4 %AI
A/D Conversion Type	Integrating
A/D Conversion Time	35 Channels/second
Strain Gages Supported	Bridged (load cells)
Maximum Normal Voltage Input	100 mV
Maximum Voltage Input	±35 V
Internal Power Used	100 mA @ 5 VDC

RTD I/O Modules

The RTD Input Modules provide six RTD inputs that allow the direct connection of 3-wire RTD temperature sensors without using external signal processing (transducers, transmitters, etc.). All analog and digital processing of the RTD signal is performed on the module.

	HE693RTD600	HE693RTD601	HE693RTD660	HE693RTD665	HE693RTD666
Product Name	**RTD Input Module, Low Resolution**	**RTD Input Module, High Resolution**	**RTD Input Module, Isolated**	**RTD Input Module, Isolated**	**RTD Input Module, Isolated**
Module Function	Input	Input	Input	Input	Input
Number of Channels	6	6	6	6	6
Channel-to-Channel Isolation	N/A	N/A	5 VAC	5 VAC	5 VAC
Notch Filter	N/A	N/A	None	50 Hz	60 Hz
Resolution	0.5 °C or 0.5 °F	0.125 °C , 0.1 °C, or 0.1 °F	0.05 °C, 0.05 °F, 0.1 °C, 0.1 °F, 0.5 °C or 0.5 °F	0.05 °C, 0.05 °F, 0.1 °C, 0.1 °F, 0.5 °C or 0.5 °F	0.05 °C, 0.05 °F, 0.1 °C, 0.1 °F, 0.5 °C or 0.5 °F
Accuracy	±0.5 °C, typical	±0.5 °C, typical	±0.3 °C	±0.3 °C	±0.3 °C
Input Impedence	> 1000 Megohms	> 1000 Megohms	> 1000 Megohms	> 1000 Megohms	> 1000 Megohms
I/O Required	6 %AI	6 %AI	6 %AI, 6 %AQ, 16 %I	6 %AI, 6 %AQ, 16 %I	6 %AI, 6 %AQ, 16 %I
Fault Protection	Zener Diode Clamp	Zener Diode Clamp	Suppression Diode	Suppression Diode	Suppression Diode
Update Time	50 Channels/second	50 Channels/second	50 Channels/second	50 Channels/second	50 Channels/second
A/D Conversion Type	18 bit, integrating	18 bit, integrating	18 bit, integrating	18 bit, integrating	18 bit, integrating
Average RTD Current, Pt-100	330 microamps	330 microamps	330 microamps	330 microamps	330 microamps
Channel-to-Channel Tracking	0.1 °C	0.1 °C	0.1 °C	0.1 °C	0.1 °C
Channel-to-Bus Isolation			1500 VAC	1500 VAC	1500 VAC
RTD Short			Indefinite without damage	Indefinite without damage	Indefinite without damage
Internal Power Used	70 mA @ 5 VDC	70 mA @ 5 VDC	200 mA @ 5 VDC	200 mA @ 5 VDC	200 mA @ 5 VDC

Strain Gage I/O Modules

The Millivolt Input Modules allow Millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

	HE693STG883	HE693STG884
Product Name	**Analog I/O Module, Strain Gage**	**Analog I/O Module, Strain Gage**
Module Function	Input	Input
Input Voltage Range	± 20 mV, ± 25 mV and ± 30 mV	± 25 mV, ± 50 mV and ± 100 mV
Number of Channels	8	8
Resolution	0.6 µV, 0.8 µV, 0.9 µV (respectively)	0.8 µV, 1.6 µV, 3.2 µV (respectively)
Accuracy	±0.3 %	±0.3 %
Input Impedence	>1000 Mohms	>1000 Mohms
I/O Required	8 %AI, 16 %I, 8 %AQ, 16 %Q	8 %AI, 16 %I, 8 %AQ, 16 %Q
A/D Conversion Type	Integrating	Integrating
A/D Conversion Time	35 Channels/second	35 Channels/second
Strain Gages Supported	Bridged (load cells)	Bridged (load cells)
Maximum Normal Voltage Input	100 mV	100 mV
Maximum Voltage Input	±35 V	±35 V
Internal Power Used	60 mA @ 5 VDC; 30 mA @ 24 VDC Relay	60 mA @ 5 VDC; 30 mA @ 24 VDC Relay

Thermocouple I/O Modules

The Thermocouple Input Modules allow thermocouple temperature sensors to be directly connected to the PLC with external signal processing (transducers, transmitters, etc.). The module performs all analog and digital processing of the thermocouple signal. The enhanced thermocouple input modules add isolation or high-resolution. On these modules, each channel can be configured for a specific type of sensor wire. An autodetect external AD592 cold junction compensation feature is also available.

	HE693THM166	HE693THM409	HE693THM449	HE693THM665	HE693THM666	HE693THM668
Product Name	**Analog I/O Thermocouple Input Module**	**Analog I/O Thermocouple Input Module**	**Analog I/O Thermocouple Input Module**	**Analog I/O Thermocouple Input Module (Enhanced)**	**Analog I/O Thermocouple Input Module (Enhanced)**	**Analog I/O Thermocouple Input Module (Enhanced)**
Module Function	Input	Input	Input	Input	Input	Input
Enhanced	No	No	No	Yes	Yes	Yes
Number of Channels	16	4	4	6	6	6
Channel-to-Channel Isolation	N/A	N/A	N/A	±250 VAC	±250 VAC	±250 VAC
Notch Filter	N/A	N/A	N/A	50 Hz	60 Hz	None
Open Circuit Alarm	Yes	No	Yes	Yes	Yes	Yes
Resolution	0.5˚C or 0.5˚F	0.5˚C or 0.5˚F	0.5˚C or 0.5˚F	0.5˚C,0.5˚F, 0.1˚C,0.1˚F	0.5˚C,0.5˚F, 0.1˚C,0.1˚F	0.5˚C,0.5˚F, 0.1˚C,0.1˚F
Accuracy	±0.5˚C, typical (J,K,N,T)	±0.5˚C, typical (J,K,N,T)	±0.5˚C, typical (J,K,N,T)	±1.0˚C(J,K,N,T); ±2.0˚C(S,E,B,R); ±4.0˚C(C)	±1.0˚C(J,K,N,T); ±2.0˚C(S,E,B,R); ±4.0˚C(C)	
I/O Required	16 %AI, 16 %I	4 %AI	4 %AI, 16 %I	6 %AI, 6 %AQ, 16 %I	6 %AI, 6 %AQ, 16 %I	6 %AI, 6 %AQ, 16 %I
A/D Conversion Type	Integrating	Integrating	Integrating	Integrating	Integrating	Integrating
A/D Conversion Time	40 Channels/second	40 Channels/second	40 Channels/second			
Channel-to-Bus Isolation				±1500 VAC	±1500 VAC	±1500 VAC
Open Circuit Detection	Yes	Yes	Yes	Yes	Yes	Yes
Setpoint Alarm				Yes	Yes	Yes
Internal Power Used	80 mA @ 5 VDC; 30 mA @ 24 VDC Relay	80 mA @ 5VDC; 60 mA @ 24VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay	200 mA @ 5 VDC	200 mA @ 5 VDC	200 mA @ 5 VDC

Thermocouple I/O Modules

The Thermocouple Input Modules allow thermocouple temperature sensors to be directly connected to the PLC with external signal processing (transducers, transmitters, etc.). The module performs all analog and digital processing of the thermocouple signal. The enhanced thermocouple input modules add isolation or high-resolution. On these modules, each channel can be configured for a specific type of sensor wire. An autodetect external AD592 cold junction compensation feature is also available.

	HE693THM809	HE693THM884	HE693THM888	HE693THM889
Product Name	**Analog I/O Thermocouple Input Module**	**Analog I/O Thermocouple Input Module (Enhanced)**	**Analog I/O Thermocouple Input Module (Enhanced)**	**Analog I/O Thermocouple Input Module**
Module Function	Input	Input	Input	Input
Enhanced	No	Yes	Yes	No
Number of Channels	8	8	8	8
Channel-to-Channel Isolation	N/A	N/A	N/A	N/A
Notch Filter	N/A	None	60 Hz	N/A
Open Circuit Alarm	No	Yes	Yes	Yes
Resolution	0.5˚C or 0.5˚F			0.5˚C or 0.5˚F
Accuracy	±0.5˚C, typical (J,K,N,T)			±0.5˚C, typical (J,K,N,T)
I/O Required	8 %AI	8 %AI, 8 %AQ, 16 %I	8 %AI, 8 %AQ, 16 %I	8 %AI, 16 %I
A/D Conversion Type	Integrating	Integrating	Integrating	Integrating
A/D Conversion Time	40 Channels/second			40 Channels/second
Channel-to-Bus Isolation				
Open Circuit Detection	Yes	Yes	Yes	Yes
Setpoint Alarm		Yes	Yes	
Internal Power Used	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay	100 mA @ 5 VDC; 60 mA @ 24 VDC Relay	100 mA @ 5 VDC; 60 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay

Distributed I/O Communications

The RX3i features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP (4th Qtr 2004), Genius (1st Qtr 2005) and DeviceNet (Third party support). These communication modules are easy to install and quick to configure.

	IC695ETM001
Product Name	**PACSystems RX3i Ethernet TCP/IP10/100Mbits, two RJ-45 ports with built-in switch Module**
Module Type	Ethernet
Internal Power Used	840 mA @ 3.3 VDC; 614 mA @ 5 VDC

Specialty Modules

The GE Fanuc RX3i features a wide range of Specialty Modules to meet all of your application needs. From temperature controls, high-speed counters, I/O processors, coprocessors, to PID auto-tuning modules, these Specialty Modules are designed to meet the demand for versatile industrial solutions.

	IC694APU300	HE693ASC900	HE693ASC940
Product Name	**PACSystems RX3i High Speed Counter**	**Horner ASCII Basic Module**	**Horner ASCII Basic Module**
Module Type	High Speed Counter	ASCII Basic	ASCII Basic
Input/Output Type	Positive Logic		
Off State Leakage Current	10 µA per point		
Output Protection	3 Amp Fuse for all points		
Counter Operation	Type A - Up or Down-Independent Pulse-4 counters; Type B - Both Directions-A QUAD B Encoder Inputs-2 Counters; Type C - Difference Between 2 changing values-A QUAD B Encoder Inputs -1 Counter		
Input Filters (Selectable)	High Frequency Filter - 2.5 µS; Low Frequency Filter - 12.5 ms		
Count Rate	High Frequency -80 kHz; Low Frequency -20 Hz		
Selectable On/Off Output Presets	Each Counter has 2 present points, On and Off		
Counters Per Timebase	Each counter stores the number of counts that have occurred in a specified time. A timebase value measurement from 1 ms to 65535 ms is configurable.		
Strobe Register	Each counter has one or more strobe registers that capture the current accumulator value when a strobe input transition in the direction selected during the last configuration of the module.		
Programming Languages		BASIC	BASIC
I/O Configuration Requirements		8 16-bit Inputs, 8 16-bit Outputs	8 16-bit Inputs, 8 16-bit Outputs
Program Storage		EEPROM	EEPROM
Communication Ports		RS-232, RS-232/485	RS-232, RS-232/485, modem
Internal Power Used	250 mA @ 5 VDC	375 mA @ 5 VDC	250 mA @ 5 VDC

Motion Modules

Motion control integrated into the RX3i fosters high performance point-to-point applications. GE Fanuc Motion Control modules can be flexibly applied to a variety of digital, analog, and stepper motion applications.

	IC694DSM314	HE693STP100	HE693STP101	HE693STP110	HE693STP111	HE693STP113
Product Name	**PACSystems RX3i Digital Servo Module, 4-Axis**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**
Drive	Servo	Stepper	Stepper	Stepper	Stepper	Stepper
Drive Interface	Analog	N/A	N/A	N/A	N/A	N/A
Axes	4	1	1	1	1	1
Encoder Support	N/A	No	No	Yes	Yes	Yes
Axis Configuration	Parallel or Cascade					
User Memory	15 KBytes					
Analog Inputs	1					
Power Supply Load (Minimum)	800 mA 5 V					
Local Fast Inputs	6 (24 V), 2 (5 V)					
Local Fast Outputs	4 (5 V)					
Switch Signal Level (DC)		5 V	12-24 V	5 V	12-24 V	12-24 V
Maximum Step/Direction Output (5V)		300 mA	300 mA	300 mA	300 mA	300 mA
Power Supply Minimum Load (5V)		400 mA	650 mA	400 mA	650 mA	650 mA
Power Supply Maximum Load (5V)		500 mA	750 mA	500 mA	750 mA	750 mA
Internal Power Used	1300 mA @ 5 VDC	500 mA @ 5 VDC	750 mA @ 5VDC	500 mA @ 5VDC	750 mA @ 5 VDC	750 mA @ 5 VDC

Motion Modules

Motion control integrated into the RX3i fosters high performance point-to-point applications. GE Fanuc Motion Control modules can be flexibly applied to a variety of digital, analog, and stepper motion applications.

	HE693STP300	HE693STP301	HE693STP310	HE693STP311
Product Name	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**
Drive	Stepper	Stepper	Stepper	Stepper
Drive Interface	N/A	N/A	N/A	N/A
Axes	3	3	3	3
Encoder Support	No	No	Yes	Yes
Switch Signal Level (DC)	5 V	12-24 V	5 V	12-24 V
Maximum Step/Direction Output (5V)	300 mA	300 mA	300 mA	300 mA
Power Supply Minimum Load (5V)	400 mA	650 mA	400 mA	650 mA
Power Supply Maximum Load (5V)	500 mA	750 mA	500 mA	750 mA
Internal Power Used	500 mA @ 5 VDC	750 mA @ 5 VDC	500 mA @ 5 VDC	750 mA @ 5 VDC

Expansion Modules for Local and Remote I/O

The RX3i supports various expansion options for local and remote I/O to optimize configurations. The RX3i can be expanded up to 8 expansion bases using the local remote expansion module. The Ethernet distributed I/O interface, ENIU (Ethernet Network Interface Unit), is a high performance Ethernet network interface module. The ENIU enables users to connect Series 90-30 I/O remotely over Ethernet to a master controller. The ENIU provides the power of Single Point of Connect. You can connect anywhere on the I/O network and monitor, configure, and troubleshoot any ENIU. The master controller is also accessible over the same network to program, troubleshoot and configure.

The ENIU features a built-in Ethernet switch with two 10/100Mbit ports (RJ-45) allowing the user to daisy chain to the next ENIU. The ENIU automatically senses the cable type, eliminating the need for a crossover cable. The ENIU supports one IP address. Redundancy is provided as a standard feature with the ENIU.

	IC695LRE001	IC693NIU004
Product Name	**PACSystems RX3i Expansion Module**	**PACSystems RX3i Ethernet Remote I/O Expansion (Slave)**
Module Type		Ethernet Communications
Drive Interface		Slave
Network Data Rate		10/100Mbit ports (RJ-45)
Network Distance		Media Dependent
Bus Diagnostics		Supported
Nodes/Drops		One and supports up to 2048 discrete inputs, 2048 discrete outputs, 1264 analog inputs and 512 analog outputs per drop.
Internal Power Used	132 mA @ 5 VDC	

Accessories

IC694TBB032	High Density 32 Point Terminal Block Box Style
IC694TBS032	High Density 32 Point Terminal Block Spring Style
IC694ACC310	Filler Module, Blank Slot
IC698ACC701	Lithium Battery pack
IC693ACC302	External High capacity battery pack.

Cables

IC693CBL300	Cable, I/O Expansion, 1 Meter
IC693CBL301	Cable, I/O Expansion, 2 Meters
IC693CBL302	Cable, I/O Expansion, 15 Meters
IC693CBL312	Cable, I/O Expansion, 0.15 Meters, Shielded
IC693CBL313	Cable, I/O Expansion, 8 Meters
IC693CBL314	Cable, I/O Expansion, 15 Meters, Shielded

Series 90-70 PLCs

GE Fanuc's Series 90-70 PLC provides a comprehensive solution that is equal to the most demanding applications. With our CPX family of CPUs, the Series 90-70 offers more for your automation dollar–more computing power, more memory for your applications, and more communications and redundancy capabilities. And with a wide range of isolated and high-density VME analog I/O modules, the Series 90-70 provides even more flexibility for a variety of applications.

The Series 90-70 Features

- Open architecture based on the VME-bus standard
- Redundancy for critical applications when combined with Genius I/O – Genius Modular Redundancy (GMR) systems and Hot Standby systems
- A wide variety of communications options including Ethernet TCP/IP, reflective memory, Genius LAN and serial communications modules

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

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Power Supplies page 60

I/O Interface Modules page 72

Specialty Modules page 74

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Communications Modules page 73

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Discrete I/O Modules (output) pgs 67-69

Analog I/O Modules (input) pages 64-66

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Expansion Memory page 75

Publication Reference Chart

GFK-0262	Series 90-70 Programmable Controller Installation Manual
GFK-0265	Series 90-70 PLC Reference Manual
GFK-0448	Series 90-70 Programmable Controller User's Guide to the Integration of 3rd Party VME Modules
GFK-0582	Series 90 PLC Serial Communications User's Manual
GFK-0600	Series 90-70 Programmable Controller Datasheets Manual
GFK-0646	C Programmer's Toolkit for Series 90-70 PLCs User's Manual
GFK-0868	Series 90 Ethernet Communications User's Manual
GFK-1527	Series 90-70 Enhanced Hot Standby CPU Redundancy User's Guide
GFK-1541	TCP/IP Ethernet Communications for the Series 90 PLC User's Manual
GFK-2017	Series 90-70 Genius Bus Controller

CPUs

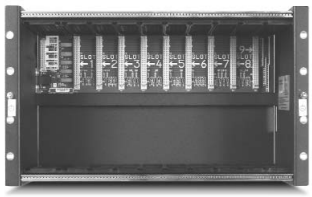
Series 90-70 CPUs feature various memory sizes, performance capabilities and advanced functionalities, such as software configuration of data and program memory. The highest performance CPUs are based on the latest 486DX4 microprocessor, which supports redundant operations. Series 90-70 CPUs can handle up to 12K of I/O, while providing as much as 6 Mbytes of battery-backed memory in the same slot. In addition, some modules contain 256K of non-volatile user flash memory for added protection of your data and programs.

	IC697CPU731	IC697CPX772	IC697CPX782	IC697CPX928	IC697CPX935	IC697CPU780
Product Name	**Central Processing Unit, 12 MHz, 32 Kbytes On-Board User Memory**	**Central Processing Unit, 96 MHz, 32-Bit, Floating Point, 512 Kbytes On-Board User Memory; 256K of Built-In Flash Memory**	**Central Processing Unit, 96 MHz, 32-Bit, Floating Point, 1 Mbyte On-Board User Memory; 256K of Built-In Flash Memory**	**Central Processing Unit, 96 MHz, 32-Bit, Floating Point, 6 Mbytes On-Board User Memory (requires 70 CFM forced air cooling); 256K of Built-In Flash Memory**	**Central Processing Unit, 96 MHz, 32-Bit, Floating Point, 1 Mbyte On-Board User Memory (requires 70 CFM forced air cooling); 256K of Built-In Flash Memory**	**Central Processing Unit, 16 MHz, 32-Bit, Expandable, Floating Point (for Hot Standby CPU Applications)**
CPU Type	Standard	Standard	Standard	Standard	Standard	Redundant (CPU Hot Standby)
CPU Memory	32 Kbytes of User Logic RAM	512 Kbytes of User Logic RAM	1 Mbyte of Slow Memory User Logic RAM	6 Mbytes of Medium Memory User Logic RAM	1 Mbyte of Fast Memory User Logic RAM	Requires Expansion Memory (Supports up to 512 Kbytes)
Non-Volatile User Flash Memory	No	Yes (256 Kbytes)	Yes (256 Kbytes)	Yes (256 Kbytes)	Yes (256 Kbytes)	No
Floating Point Math	No	Yes	Yes	Yes	Yes	Yes
Processor Speed	12 MHz) (80C186	96 MHz (80486DX4)	96 MHz (80486DX4)	96 MHz (80486DX4)	96 MHz (80486DX4)	16 MHz (80386DX)
I/O Discrete Points	512	2048	12288	12288	12288	12288
Boolean Execution Speed (us/boolean function)	0.4	0.4	0.4	0.4	0.4	0.4
Analog I/O	8 Kbytes	8 Kbytes	8 Kbytes	8 Kbytes	8 Kbytes	8 Kbytes
Embedded Communications	Serial	Serial	Serial	Serial	Serial	Serial
Protocols Supported	SNP Serial	SNP Serial	SNP Serial	SNP Serial	SNP Serial	SNP Serial
Built-in Serial Ports	1 (RS-422/485 compatible serial attachment)	3 (RS-232, 2 RS-485 optocoupler isolated/non isolated)	3 (RS-232, 2 RS-485 optocoupler isolated/non isolated)	3 (RS-232, 2 RS-485 optocoupler isolated/non isolated)	3 (RS-232, 2 RS-485 optocoupler isolated/non isolated)	1 (RS-422/485 compatible serial attachment)
Redundancy Featured Scan Extension						20 ms
Current Required from 5V Bus	1.0 Amp	3.1 Amps	3.1 Amps	3.1 Amps	3.1 Amps	1.6 Amps

CPUs

Series 90-70 CPUs feature various memory sizes, performance capabilities and advanced functionalities, such as software configuration of data and program memory. The highest performance CPUs are based on the latest 486DX4 microprocessor, which supports redundant operations. Series 90-70 CPUs can handle up to 12K of I/O, while providing as much as 6 Mbytes of battery-backed memory in the same slot. In addition, some modules contain 256K of non-volatile user flash memory for added protection of your data and programs.

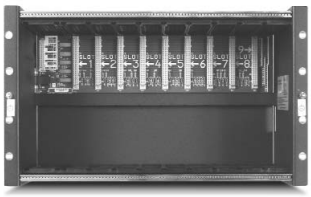
	IC697CGR772	IC697CGR935	IC697CPU788	IC697CPU789	IC697CPM790
Product Name	**Central Processing Unit for CPU Redundancy Applications, 96 MHz, 32-Bit, Floating Point, 512 Kbytes On-Board User Memory**	**Central Processing Unit for CPU Redundancy Applications, 96 MHz, 32-Bit, Floating Point, 1 Mbyte On-Board User Memory**	**Central Processing Unit, 16 MHz, 32-Bit, Expandable (for Genius Triple Modular Redundancy Systems), 352 Inputs and Outputs (any mix)**	**Central Processing Unit, 16 MHz, 32-Bit, Expandable (for Genius Triple Modular Redundancy Systems), 12K Inputs and Outputs (any mix)**	**Central Processing Unit, 64 MHz, 32-Bit, Floating Point, 1 Mbyte On-Board User Memory, (requires 70 CFM forced air cooling)**
CPU Type	Redundant (CPU Hot Standby)	Redundant (CPU Hot Standby)	Redundant (Genius Triple Modular)	Redundant (Genius Triple Modular)	Redundant (Genius Triple Modular)
CPU Memory	512 Kbytes of User Logic RAM	1 Mbyte of User Logic RAM	Requires Expansion Memory (Supports up to 512 Kbytes)	Requires Expansion Memory (Supports up to 512 Kbytes)	1 Mbyte of User Logic RAM
Non-Volatile User Flash Memory	No	No	No	No	No
Floating Point Math	Yes	Yes	No	No	Yes
Processor Speed	96 MHz (80486DX4)	96 MHz (80486DX4)	16 MHz (80386DX)	16 MHz (80386DX)	64 MHz (80486DX2)
I/O Discrete Points	2048	12288	352	12288	12288
Boolean Execution Speed (us/boolean function)	0.4	0.4	0.4	0.4	0.4
Analog I/O	8 Kbytes	8 Kbytes	8 Kbytes Input, 8 Kbytes Output	8 Kbytes Input, 8 Kbytes Output	8 Kbytes Input, 8 Kbytes Output
Embedded Communications	Serial	Serial	Serial	Serial	Serial
Protocols Supported	SNP Serial	SNP Serial	SNP Serial	SNP Serial	SNP Serial
Built-in Serial Ports	3 (RS-232, 2 RS-485 optocoupler isolated/non isolated)	3 (RS-232, 2 RS-485 optocoupler isolated/non isolated)	1 (RS-422/485 compatible serial attachment)	1 (RS-422/485 compatible serial attachment)	1 (RS-422/485 compatible serial attachment)
Redundancy Featured Scan Extension	5.9 ms	4.7 ms			
Current Required from 5V Bus	3.1 Amps	3.1 Amps	1.6 Amps	1.6 Amps	1.6 Amps



Racks

Series 90-70 PLC Racks are available in a variety of configurations to the meet the needs of your application. The choices vary from 5- and 9-slot Standard Racks, to 9-slot Redundant Racks and 17-slot VME Integrator Racks, each giving you the option of Front (Rack) Mount or Rear (Panel) Mount. These racks can be used for CPU, local and remote I/O and accept all plug-in IC697 Power Supplies. With available accessories, any of these racks can function as an Expansion Rack, and two racks can be run off a single Power Supply. GE Fanuc offers standard-length cables for easy installation and provides wiring information for custom applications.

	IC697CHS750	IC697CHS770	IC697CHS771	IC697CHS790	IC697CHS791	IC697CHS782
Product Name	**Standard Series 90-70 Rack, 5-slot, Rear (Panel) Mount**	**Redundant Series 90-70 Rack, 9-Slot, Rear (Panel) Mount**	**Redundant Series 90-70 Rack, 9-Slot, Front (Rack) Mount**	**Standard Series 90-70 Rack, 9-slot, Rear (Panel) Mount**	**Standard Series 90-70 Rack, 9-slot, Front (Rack) Mount**	**VME Integrator Rack, 17-slot, Rear (Panel) Mount**
Rack Type	Standard 90-70	Redundant 90-70	Redundant 90-70	Standard 90-70	Standard 90-70	VME Integrator
Number of Slots	5 Double Width (plus one for power supply)	6 Double Width (plus one for power supply)	6 Double Width (plus one for power supply)	9 Double Width (plus one for power supply)	9 Double Width (plus one for power supply)	17 Single Width, 8 Double Width (plus one for power supply)
Mounting Location	Rear (Panel)	Rear (Panel)	Front (Rack)	Rear (Panel)	Front (Rack)	Rear (Panel)
Rack Configurations	All IC697 PLC module types	All IC697 PLC module types, IC687 (VME) I/O and Communications module types	All IC697 PLC module types, IC687 (VME) I/O and Communications module types	All IC697 PLC module types	All IC697 PLC module types	All IC697 PLC module types, 3rd party VME modules with 0.8" spacing
Rack Slot Size	1.6 inch	1.6 inch	1.6 inch	1.6 inch	1.6 inch	0.8 inch
Compatible Power Supplies	Plug-in AC or DC IC697	Plug-in AC/DC and DC IC697, or external power supply	Plug-in AC/DC and DC IC697, or external power supply	Plug-in AC or DC IC697	Plug-in AC or DC IC697	Plug-in AC/DC and DC IC697, or external power supply
Dimensions	11.15" x 12.6" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"



Racks

Series 90-70 PLC Racks are available in a variety of configurations to the meet the needs of your application. The choices vary from 5- and 9-slot Standard Racks, to 9-slot Redundant Racks and 17-slot VME Integrator Racks, each giving you the option of Front (Rack) Mount or Rear (Panel) Mount. These racks can be used for CPU, local and remote I/O and accept all plug-in IC697 Power Supplies. With available accessories, any of these racks can function as an Expansion Rack, and two racks can be run off a single Power Supply. GE Fanuc offers standard-length cables for easy installation and provides wiring information for custom applications.

	IC697CHS783
Product Name	**VME Integrator Rack, 17-slot, Front (Rack) Mount**
Rack Type	VME Integrator
Number of Slots	17 Single Width, 8 Double Width (plus one for power supply)
Mounting Location	Front (Rack)
Rack Configurations	All IC697 PLC module types, 3rd party VME modules with 0.8" spacing
Rack Slot Size	0.8 inch
Compatible Power Supplies	Plug-in AC/DC and DC IC697, or external power supply
Dimensions	11.15" x 19.00" x 7.5"

Power Supplies

Series 90-70 Power Supply modules simply slide into the PLC rack just like I/O, and they work with any Series 90-70 CPU. Available with a variety of power ratings and Input Voltage Ranges for powering up systems of different sizes, Series 90-70 power supplies also have built-in protection for autoranging power factor corrections as well as overcurrent and overvoltage fault conditions. Depending on your application, it is possible to use one power supply for operation of two racks.

	IC697PWR720	IC697PWR710	IC697PWR711	IC697PWR724	IC697PWR748
Product Name	**Power Supply Adapter Module**	**Power Supply, 120/240 VAC or 125 VDC, 55W**	**Power Supply, 120/240 VAC or 125 VDC, 100W**	**Power Supply, 24 VDC, 90W**	**Power Supply, 48 VDC, 90W**
Module Function	Power Supply Adapter Module	Power Supply	Power Supply	Power Supply	Power Supply
Power Source	None (Adapter Module)	120/240 VAC or 125 VDC	120/240 VAC or 125 VDC	24 VDC	48 VDC
Output Source	5 VDC @ 18 Amps, +12 VDC @ 2 Amps, -12 VDC @ 1 Amp	55 Watts; 5 VDC @ 11 Amps	100 Watts; 5 VDC @ 20 Amps, +12 VDC @ 2 Amps, -12 VDC @ 1 Amp	90 Watts; 5 VDC @ 18 Amps, +12 VDC @ 1.5 Amps, -12 VDC @ 1 Amp	90 Watts; 5 VDC @ 18 Amps, +12 VDC @ 1.5 Amps, -12 VDC @ 1 Amp

Discrete I/O Modules (Input)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL252	IC697MDL253	IC697MDL254	IC697MDL250	IC697MDL240	IC697MDL251
Product Name	**Input 12 VAC**	**Input 24 VAC**	**Input 48 VAC**	**Input 120 VAC**	**Input 120 VAC (Isolated)**	**Input 120 VAC (non-isolated)**
Module Type	Discrete	Discrete	Discrete	Discrete	Discrete	Discrete
Module Function	Input	Input	Input	Input	Input	Input
Discrete Input Rated Voltage	12 VAC, 47 to 63 Hz Sinusoidal	24 VAC, 47 to 63 Hz Sinusoidal	48 VAC, 47 to 63 Hz Sinusoidal	120 VAC, 47 to 63 Hz Sinusoidal	120 VAC, 60 Hz Sinusoidal	120 VAC, 47 to 63 Hz Sinusoidal
Inputs per Discrete Module	32 (four isolated groups of eight inputs each)	32 (four isolated groups of eight inputs each)	32 (four isolated groups of eight inputs each)	32 (four isolated groups of eight inputs each)	16 Individually Isolated Points	16 (four isolated groups of four inputs each)
Discrete Input Current	10 mA (typical) at rated voltage	10 mA (typical) at rated voltage	4.7 mA (typical) at rated voltage	10 mA (typical) at rated voltage (reactive)	10 mA (typical) at rated voltage (reactive)	10 mA (typical) at rated voltage (reactive)
Discrete Input Voltage Range (Vs)	N/A	N/A	N/A	N/A	N/A	N/A
On-State Voltage	7.5 to 15 Volts RMS, 47 to 63 Hz Sinusoidal	13.5 to 30 Volts RMS, 47 to 63 Hz Sinusoidal	33 to 56 Volts RMS, 47 to 63 Hz Sinusoidal	75 to 132 VAC, 47 to 63 Hz Sinusoidal	75 to 132 VAC, 60 Hz Sinusoidal	75 to 132 VAC, 47 to 63 Hz Sinusoidal
Off-State Voltage	0 to 2.5 Volts RMS, 47 to 63 Hz Sinusoidal	0 to 5 Volts RMS, 47 to 63 Hz Sinusoidal	0 to 10 Volts RMS, 47 to 63 Hz Sinusoidal	0 to 25 VAC, 47 to 63 Hz Sinusoidal	0 to 20 VAC, 60 Hz Sinusoidal	0 to 25 VAC, 47 to 63 Hz Sinusoidal
On-State Current	6 mA to 15 mA	6 mA to 15 mA	3 mA to 7 mA	6 mA to 15 mA	8 mA to 15 mA	6 mA to 15 mA
Off-State Current	0 to 2.5 mA (2 mA minimum at 2.5 V input)	0 to 2 mA (2 mA minimum at 5 V input)	0 to 2 mA (2 mA minimum at 5 V input)	0 to 3 mA (2.2 mA minimum at 25 V input)	0 to 4 mA (2.2 mA minimum at 25 V input)	0 to 3 mA (2.2 mA minimum at 25 V input)
Isolation (any input to backplane)	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS
Isolation (between inputs)	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS
Impedance	1.12 Kohms typical	2.6 Kohms typical	10.3 Kohms typical			
Filter Delay Time	20 ms typical	20 ms typical	20 ms typical	20 ms typical	20 ms typical	20 ms typical
Proximity Switch Compatible	Yes	Yes	Yes	Yes	Yes	Yes
Current Required from 5V Bus	0.3 Amp	0.3 Amp	0.3 Amp	0.35 Amp	0.25 Amp	0.35 Amp

Discrete I/O Modules (Input)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL241	IC697MDL653	IC697MDL652	IC697MDL654	IC697MDL640	IC697MDL651
Product Name	**Input 240 VAC (Isolated)**	**Input 24 VDC Positive/Negative Logic**	**Input 12 VDC Positive/Negative Logic**	**Input 48 VDC Positive/Negative Logic**	**Input 125 VDC Positive/Negative Logic**	**Input TTL**
Module Type	Discrete	Discrete	Discrete	Discrete	Discrete	Discrete
Module Function	Input	Input	Input	Input	Input	Input
Discrete Input Rated Voltage	240 VAC, 60 Hz Sinusoidal	24 VDC, Positive/ Negative Logic	12 VDC, Positive/ Negative Logic	48 VDC, Positive/ Negative Logic	125 VDC, Positive/ Negative Logic	5 VDC (No user power required)
Inputs per Discrete Module	16 Individually Isolated Points	32 (four isolated groups of eight inputs each)	32 (four (four isolated groups of eight inputs each)	32 (four (four isolated groups of eight inputs each)	16 (four (four isolated groups of four inputs each)	32 TTL Compatible Inputs
Discrete Input Current	20 mA (typical) at rated voltage (reactive)	10 mA (typical) at rated voltage	4.7 mA (typical) at rated voltage	4.7 mA (typical) at rated voltage	5 mA (typical) at rated voltage	N/A
Discrete Input Voltage Range (Vs)	N/A	(-3 to +30 VDC)	(-2.5 to +15 VDC)	(-3 to +56 VDC)	(-35 to +145 VDC)	(-3 to +7 VDC)
On-State Voltage	160 to 264 VAC, 60 Hz Sinusoidal	13.5 to 30 Volts	7.5 to 15 Volts	33 to 56 Volts	Positive (+90 to +145 Volts), Negative (-20 to -90 Volts)	(-3 to +0.5 Volts)
Off-State Voltage	0 to 40 VAC, 60 Hz Sinusoidal	0 to 5 Volts	0 to 2.5 Volts	0 to 10 Volts	Positive (-35 to +35 Volts), Negative (-35 to 56 Volts)	2 to 7 Volts
On-State Current	10 mA to 15 mA	6 mA to 15 mA	6 mA to 15 mA	3 mA to 7 mA	3 mA to 7 mA	1.7 mA (typical) at rated voltage
Off-State Current	0 to 5 mA (2.2 minimum at 40 V input)	0 to 2 mA (2 mA minimum at 5 V input)	0 to 2.5 mA (2 mA minimum at 2.5 V input)	0 to 2 mA (2 mA minimum at 5 V input)	0 to 2 mA (2 mA minimum at 125 V input)	1.1 mA (maximum)
Isolation (any input to backplane)	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS
Isolation (between inputs)	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	
Impedance		2.6 Kohms typical	1.12 Kohms typical	10.3 Kohms typical	24.5 Kohms typical	5.9 Kohms, +5%
Filter Delay Time	20 ms typical	1 ms or 10 ms configurable	1 ms or 10 ms configurable	1 ms or 10 ms configurable	1 ms or 10 ms configurable	1 ms or 10 ms configurable
Proximity Switch Compatible	Yes	Yes	Yes	Yes	Yes	No
Current Required from 5V Bus	0.25 Amp	0.3 Amp	0.3 Amp	0.3 Amp	0.3 Amp	0.53 Amp

Discrete I/O Modules (Input)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL671	IC697VDD100
Product Name	**Interrupt Input (14 Interrupt Points, 2 Configurable Points)**	**64-Channel Isolated Digital Input Board with Multifunctional Intelligent Controller**
Module Type	Discrete	Discrete
Module Function	Input	Input
Discrete Input Rated Voltage	24 VDC, Positive/ Negative Logic	5 to 250 VDC
Inputs per Discrete Module	14 interrupts (total of 16 inputs with four groups of four inputs each)	64 Individually Isolated Channels
Discrete Input Current	10 mA (typical) at rated voltage	0.7 mA to 1.0 mA at various Input Voltages
Discrete Input Voltage Range (Vs)	(-3 to +30 VDC)	(+5 to +250 VDC)
On-State Voltage	Positive State (+13.5 to +30 Volts), Negative State (-3 to -13.5 Volts)	Various according to Input Voltage (See Data Sheet)
Off-State Voltage	Positive (-3 to +5 Volts), Negative (-5 to +30 Volts)	Various according to Input Voltage (See Data Sheet)
On-State Current	6 mA to 15 mA	
Off-State Current	0 to 2 mA (2 mA minimum at 5 V input)	
Isolation (any input to backplane)	1500 Volts RMS	1100 Volts RMS
Isolation (between inputs)	500 Volts RMS	1100 Volts RMS
Impedance	2.6 Kohms typical	
Filter Delay Time	1 ms or 10 ms configurable	
Minimum Pulse Width	With 1 ms Filter Select: 1 ms on and off; With 10 ms Filter Select: 11 ms on and off	
Minimum Interrupt Burst (1 ms Filter Selection)	With CPM915: 500 Hz; With CPU731: 290 Hz	
Proximity Switch Compatible	Yes	
Current Required from 5 V Bus	0.3 Amp	2.0 Amps typical

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697ALG230	IC697ALG440	IC697ALG441
Product Name	**Analog Input, High Level**	**Analog Expander, Current**	**Analog Expander, Voltage**
Module Type	Analog	Analog	Analog
Module Function	Input	Input	Input
Analog Input Type	Current or Voltage	Current Expander	Voltage Expander
Inputs per Analog Module	8 (individually configurable for voltage or current)	16	16
Analog Input Current	4 to 20 mA	4 to 20 mA	N/A
Analog Input Voltage Range (Vs)	(-10 to +10 Volts)	N/A	(-10 to +10 Volts)
Response Time-On	5.0% 30 ms, 1.0% 42 ms, 0.5% 51 ms, 0.1% 67 ms	5.0% 30 ms, 1.0% 42 ms, 0.5% 51 ms, 0.1% 67 ms	5.0% 30 ms, 1.0% 42 ms, 0.5% 51 ms, 0.1% 67 ms
Impedance	Greater than 10 Mohms at DC, 20 Kohms in series with 0.47 mfd capacitor at AC	Greater than 10 Mohms at DC, 20 Kohms in series with 0.47 mfd capacitor at AC	Greater than 10 Mohms at DC, 20 Kohms in series with 0.47 mfd capacitor at AC
Resolution (Voltage)	312.5 microvolts per LSB step		312.5 microvolts per LSB step
Resolution (Current)	0.5 microamps per LSB step on 4 to 20 mA	0.5 microamps per LSB step on 4 to 20 mA	
Accuracy of Base Converter (Voltage) 10 Volts	(±0.01% of full scale, ±0.02% of value)		
Accuracy of Base Converter (Current)	(+0.05% of full scale, +0.1% of value)		
Accuracy of Expander (Voltage)			(+0.03% of full scale, +0.02% of value)
Accuracy of Expander (Current)		(+0.07% of full scale, +0.1% of value)	
Current Required from 5V Bus	0.8 Amp	0.4 Amp	0.4 Amp

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697VAL132	IC697VAL134	IC697VAL264
Product Name	**Isolated Scanning 12-bit 31-Channel Current Analog-to-Digital Converter Board (6U) with Built-in-Test and Screw Terminal interface**	**Isolated Scanning 12-bit 31-Channel Voltage Analog-to-Digital Converter Board (6U) with Built-in-Test and Screw Terminal interface**	**High-Performance 16-bit Analog-to-Digital Converter (ADC) - 64 Channels**
Module Type	Analog	Analog	Analog
Module Function	Input	Input	Input
Analog Input Type	Current, Analog-to-Digital Converter	Current, Analog-to-Digital Converter	Current, Analog-to-Digital Converter
Inputs per Analog Module	31 Single Ended or 16 Differential	31 Single Ended or 16 Differential	64
Analog Input Current	0 to 20 mA, 4 to 20 mA, 5 to 25 mA	N/A	N/A
Analog Input Voltage Range (Vs)	N/A	(±50 mV to ±10 Volts bipolar; 0 to +100 mV, 0 to +10 Volts unipolar)	0 to +5 Volts, 0 to +10 Volts, ±2.5 Volts, ±5 Volts, ±10 Volts
Isolation (any input to backplane)	1500 Volts RMS	1500 Volts RMS	
Impedance	10 Mohm minimum, line-to-line and line-to-common	10 Mohm minimum, line-to-line and line-to-common	5 Mohm minimum in parallel with 50 pF
Resolution (Voltage)		12 bits	16 bits
Resolution (Current)	12 bits		
Accuracy of Voltage Input		(±0.04% reading ±0.03% range ±2.0 mV)	(±0.005% range ±100 uV)
Built-in Serial Ports	32 Pin DIN 41 612, VG and ICE Connectors	32 Pin DIN 41 612, VG and ICE Connectors	96-Pin DIN Non-Latching Connectors
Current Required from 5 V Bus	2.5 Amps maximum	2.5 Amps maximum	7.0 Amps maximum

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697VAL232	IC697VAL216	IC697VRD008
Product Name	**High-Performance 16-bit Analog-to-Digital Converter (ADC) - 32 Channels**	**High-Performance 16-bit Analog-to-Digital Converter (ADC) - 16 Channels**	**Intelligent 8-Channel RTD / Strain Bridge, Analog Voltage Input Board with Screw Terminal Interface**
Module Type	Analog	Analog	Analog
Module Function	Input	Input	Input
Analog Input Type	Current, Analog-to-Digital Converter	Current, Analog-to-Digital Converter	Voltage, RTD/ Strain Bridge
Inputs per Analog Module	32	16	8 (individually configurable for voltage, RTD, or strain gage)
Analog Input Current	N/A	N/A	N/A
Analog Input Voltage Range (Vs)	0 to +5 Volts, 0 to +10 Volts, ±2.5 Volts, ±5 Volts, ±10 Volts	0 to +5 Volts, 0 to +10 Volts, ±2.5 Volts, ±5 Volts, ±10 Volts	(±30 mV, ±100 mV)
Impedance	5 Mohm minimum in parallel with 50 pF	5 Mohm minimum in parallel with 50 pF	10 Mohms minimum with power supplied, 70 Kohms with power removed
Resolution (Voltage)	16 bits	16 bits	12 bits plus sign
Accuracy of Voltage Input	(±0.005% range ±100 uV)	(±0.005% range ±100 uV)	(+0.03% maximum)
Strain Bridge Configurations			Full-, half-, or quarter-bridges
Strain Bridge Excitation			(+5.0 or +10.0 at 190 mA
RTD Temperature Range			(-200 to +850° C)
Processing Resolution			0.015° C at 0° C
Processing Accuracy			(±0.25° C at 0° C)
Built-in Serial Ports	96-Pin DIN Non-Latching Connectors	96-Pin DIN Non-Latching Connectors	
Current Required from 5V Bus	7.0 Amps maximum	7.0 Amps maximum	2.5 Amps typical (3.8 Amps maximum)

Discrete I/O Modules (Output)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL350	IC697MDL340	IC697MDL341	IC697MDL753	IC697MDL752	IC697MDL750
Product Name	**Output 120 VAC 0.5A**	**Output 120 VAC 2A**	**Output 120/240 VAC 2A (Isolated)**	**Output 5/48 VDC 0.5A Negative Logic**	**Output 24/48 VDC 2A**	**Output 24/48 VDC 0.5A**
Module Type	Discrete	Discrete	Discrete	Discrete	Discrete	Discrete
Module Function	Output	Output	Output	Output	Output	Output
Discrete Output Type	Point	Point	Point	Point	Point	Point
Discrete Output Rated Voltage	120 VAC	120 VAC	120 / 240 VAC	5 / 48 VDC	12 VDC	24 / 48 VDC
Discrete Outputs per Module	32 (four isolated groups of eight outputs each)	16 (four isolated groups of four outputs each)	12 Individually Isolated Points	32 (two isolated groups of 16 outputs each)	32 (four isolated groups of eight outputs each)	32 (four isolated groups of eight outputs each)
Discrete Output Voltage Range	85 to 132 Volts, 47 to 63Hz	85 to 132 Volts, 47 to 63Hz	85 to 264 Volts, 47 to 63 Hz	5 Volts or 10 to 60 Volts	10 to 15 Volts	20 to 60 Volts
Discrete Output Current	0.5 Amps maximum per point, 2 Amps maximum per group	2 Amps maximum per point, 4 Amps maximum per group	2 Amps maximum per point, 16 Amps maximum per module	16 mA maximum per point @ 5 VDC; 0.5 Amps maximum per point, 4 Amps maximum per group @ 10 to 60 VDC	0.5 Amps maximum per point, 2 Amps maximum per group	0.5 Amps maximum per point, 2 Amps maximum per group
Response Time-On	1 ms maximum	1 ms maximum	1 ms maximum	1 ms typical	1 ms typical	1 ms maximum
Response Time-Off	1/2 cycle	1/2 cycle	1/2 cycle	1 ms typical	1 ms typical	1 ms maximum
Output Leakage	1.5 mA maximum	1.5 mA maximum	3 mA maximum at 120 VAC; 6 mA maximum at 240 VAC	250 uA maximum @ 5 VDC; 1 mA maximum @ 10 to 60 VDC	1 mA maximum	1 mA maximum
Isolation (any output to backplane)	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS
Isolation (between outputs)	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS	500 Volts RMS
Inrush Current	10 Amps maximum per point for one cycle (20 ms)	20 Amps maximum per point for one cycle (20 ms)	20 Amps maximum per point for one cycle (20 ms)	5 Amps maximum for 20 ms	10 Amps maximum per point for one cycle (20 ms)	10 Amps maximum per point for one cycle (20 ms)
Output Voltage Drop	3 Volts maximum	3 Volts maximum	1.5 Volts maximum	5 VDC: 0.5 Volts Maximum (16 mA); 10 to 60 VDC: 1 Volt (2 Ohms) maximum	1 Volt (2 ohms) maximum	1 Volt (2 ohms) maximum
Current Required from 5 V Bus	0.5 Amp	0.25 Amp	0.25 Amp	0.25 Amp	0.25 Amp	0.25 Amp

Discrete I/O Modules (Output)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697MDL740	IC697MDL940
Product Name	**Output 12 VDC 0.5A**	**Output Relay**
Module Type	Discrete	Discrete
Module Function	Output	Output
Discrete Output Type	Point	Relay
Discrete Output Rated Voltage	24/48 VDC	120/240 VAC or 5/24/125 VDC (No user power required)
Discrete Outputs per Module	16 (four isolated groups of four outputs each)	16 (Form C: 8 individually isolated points; Form A: 2 groups with 4 points per group)
Discrete Output Voltage Range	20 to 60 Volts	N/A
Discrete Output Current	2 Amps maximum per point, 4 Amps maximum per group	4 Amps per group (Form A), 16 Amps Load Current per module
Response Time-On	2 ms maximum	10 ms maximum
Response Time-Off	2 ms maximum	10 ms maximum
Output Leakage	1 mA maximum	1 mA maximum at 120 VAC
Maximum Power		480 Volts (AC loads) or 60 Watts (DC loads)
Maximum Load Current (Resistive)		2.0 Amps from 5 to 265 VAC (47 to 63 Hz) or 5 to 30 VDC; 0.2 Amps from 31 to 125 VDC (31 to 150 VDC for Form A only)
Isolation (any output to backplane)	1500 Volts RMS	1500 Volts RMS
Isolation (between outputs)	500 Volts RMS	500 Volts RMS
Inrush Current	20 Amps maximum per point for one cycle (20 ms)	
Output Voltage Drop	0.8 Volt (0.4 ohm) maximum	
Minimum Load Current		10 mA
Switching Frequency		20 cycles/minute (inductive load)
Contact Type		Silver Alloy
Contact Resistance		0.2 ohm (maximum)
Protection (Each Output)		3 Amp fuse, Snubber (R=47 ohms, C=0.015 ufd)
Current Required from 5V Bus	0.15 Amp	0.075 Amp

Discrete I/O Modules (Output)

PACSystems and Series 90-70 input modules provide the interface between the controller and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the controller and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC697VDQ120	IC697VDR150	IC697VDR151
Product Name	**64-bit High Current Source/ Sink Driver Board**	**Relay Output, 32 Points, Non-Latching, 2 Amp**	**Relay Output, 64 Points, Non-Latching**
Module Type	Discrete	Discrete	Discrete
Module Function	Output	Output	Output
Discrete Output Type	Point	Relay	Relay
Discrete Output Rated Voltage	N/A	N/A	N/A
Discrete Outputs per Module	8	32	64
Discrete Output Voltage Range	24 VDC	N/A	N/A
Discrete Output Current	0.5 Amps continuous source and/or sink, 3.5 Amps maximum	2 Amps	N/A
Response Time-On		6.5 ms maximum with 0.5 ms typical bounce time	6.5 ms maximum with 0.5 ms typical bounce time
Output Leakage	500 uA over 0 to 33 Volts		
Maximum Power		60 Watts	60 Watts
Resolution (Current)	64 bits		
Maximum Switching Voltage		220 VDC, 250 VAC resistive load	220 VDC, 250 VAC resistive load
Maximum Switching Current		2 Amps DC, AC resistive load	2 Amps DC, AC resistive load
Output Voltage Drop	2 Volts maximum at 2 Amps with a 31 Volt output		
Output Breakdown Voltage	Vs +2.0 Volts		
Output Saturation Voltage	2 Volts maximum at 2 Amps		
Output Driver Supply Voltage Vs.	8.0 to 33 Volts		
Contact Type		Silver alloy (Gold clad)	Silver alloy (Gold clad)
Contact Resistance		50 mW (by voltage drop 6 VDC 1A)	50 mW (by voltage drop 6 VDC 1A)
Built-in Serial Ports	2 64-pin Connectors DIN 41612	2 96-pin DIN Connectors	2 96-pin DIN Connectors
Current Required from 5V Bus	5.1 Amps maximum	4.0 Amps maximum	4.0 Amps maximum

Analog I/O Modules (Output)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697VAL301	IC697VAL304	IC697VAL324	IC697VAL308	IC697VAL328	IC697VAL348
Product Name	**Analog Output, Voltage, 32 Channel with Built-in-Test**	**Analog Output, Isolated, 4 Channel, 12-bit, Voltage - Bipolar**	**Analog Output, Isolated, 4 Channel, 12-bit, Voltage - Unipolar**	**Analog Output, Isolated, 8 Channel, 12-bit, Voltage - Bipolar**	**Analog Output, Isolated, 8 Channel, 12-bit, Voltage - Unipolar**	**Analog Output, 8 Channel, 16-bit, Voltage Bipolar**
Module Type	Analog	Analog	Analog	Analog	Analog	Analog
Module Function	Output	Output	Output	Output	Output	Output
Analog Output Type	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage
Analog Outputs per Module	32	4	4	8	8	8
Analog Output Voltage Range	Unipolar (0 to +10 Volt, 0 to +5 Volt); Bipolar (±2.5, ±5, or ±10 Volts)	Bipolar (±2.5, ±5, or ±10 Volts)	Unipolar (0 to +2.5 Volt, +5 Volt, or +10 Volts)	Bipolar (±2.5, ±5, or ±10 Volts)	Unipolar (0 to +2.5 Volt, +5 Volt, or +10 Volts)	Bipolar (±10 Volts)
Analog Output Current	10 mA	N/A	N/A	N/A	N/A	5 mA
Isolation (any output to backplane)		1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	
Isolation (between outputs)		1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	1500 Volts RMS	
Impedance	0.1 Ohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	0.15 Ohm
Resolution (Voltage)	12 bits	12 bits	12 bits	12 bits	12 bits	16 bits
Current Required from 5 V Bus	3.5 Amps maximum	6.5 Amps maximum	6.5 Amps maximum	6.5 Amps maximum	6.5 Amps maximum	2.5 Amps maximum

Analog I/O Modules (Output)

GE Fanuc offers easy-to-use analog modules for PACSystems and Series 90-70, supporting a wide array of control processes. These modules come in various input and output voltages and currents suitable for many different applications including flow and pressure control.

	IC697VAL314	IC697VAL318	IC697ALG320	IC697VAL306
Product Name	**Analog Output, Isolated, 4 Channel, 12-bit, Current - 4 to 20 mA**	**Analog Output, Isolated, 8 Channel, 12-bit, Current - 4 to 20 mA**	**Analog Output, Voltage/Current**	**Analog Output, Voltage/Current, 16 Channel**
Module Type	Analog	Analog	Analog	Analog
Module Function	Output	Output	Output	Output
Analog Output Type	Current	Current	Current or Voltage	Current or Voltage
Analog Outputs per Module	4	8	4 (individually configurable for voltage or current)	16
Analog Output Voltage Range	N/A	N/A	Bipolar (-10 Volts to +10 Volts)	Unipolar (0 to +10 Volt, 0 to +5 Volt); Bipolar (+2.5, +5, or +10 Volts)
Analog Output Current	4 to 20 mA, 0 to 20 mA, or 5 to 25 mA	4 to 20 mA, 0 to 20 mA, or 5 to 25 mA	0.0 mA to 22.5 mA (4 to 20 mA default)	5 mA
Response Time-On			Voltage: 5.0% 0.5 ms, 0.1% 2.0 ms; Current: 5.0% 1.0 ms, 0.1% 5.0 ms	
Isolation (any output to backplane)	1500 Volts RMS	1500 Volts RMS		
Isolation (between outputs)	1500 Volts RMS	1500 Volts RMS		
Impedance	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm	Current: Greater than 10 Mohms, 0 to 25 Volts; Voltage: Greater than 1 Mohm		0.33 Ohm
Resolution (Voltage)	12 bits	12 bits	312.5 microvolts per LSB step	12 bits
Current Required from 5V Bus	6.5 Amps maximum	6.5 Amps maximum	1.66 Amps	2.5 Amps typical (4.0 Amps maximum)

I/O Interface Modules

PACSystems and Series 90-70 feature a variety of communications options for distributed control and/or I/O, supporting a wide range of communication protocols and configurations. These communication modules are easy to install and quick to configure. Some distributed I/O communications modules allow for numerous remote drops or additional racks, while others provide an interface for GE Fanuc products up to 7500 feet away from the controller.

	IC697BEM731	IC697BEM713	IC697BEM711	IC697BEM733
Product Name	**Genius Bus Controller**	**Bus Tansmitter Module**	**Bus Receiver Module**	**Remote I/O Scanner**
Module Type	Bus Controller	Bus Transmitter	Bus Receiver	Remote I/O Scanner
Supports Redundancy	Yes	No	No	Yes
Discrete Points Available				128 Bytes Per Drop
Programmer Effective Data Rate		500 Kbytes/sec		
Time to Store 16 Kbyte Program		20 - 30 Seconds		
Effective Data Rate		500 Kbytes/sec	500 Kbytes/sec	38.4 Kbaud
Total Allowed Distance of Interconnecting Cable		50 feet (15 meters)	50 feet (15 meters)	
Maximum Distance from Controller				7500 feet (2275 meters)
Electrical Isolation		Non-isolated differential communication	Non-isolated differential communication	
Built-in Serial Ports	1 (Hand Held Monitor Port)	2 (Programmer Port, Expansion Port Out)	2 (Expansion Port In, Expansion Port Out)	2 (RS-422 Compatible Serial Port, Hand Held Monitor Port)
Current Required from 5V Bus	1.3 Amps	1.4 Amps	0.8 Amp	0.8 Amp

Communications Modules

PACSystems and Series 90-70 feature a variety of communications options for distributed control and/or I/O, supporting a wide range of communication protocols and configurations. These communication modules are easy to install and quick to configure. Some distributed I/O communications modules allow for numerous remote drops or additional racks, while others provide an interface for GE Fanuc products up to 7500 feet away from the controller.

	IC697CMM742	IC697CMM711	IC697RCM711	IC697VRM015
Product Name	**Ethernet Interface (Type 2) Module**	**Communications Coprocessor**	**Redundancy Communications Module**	**Fiber-Optic Reflective Memory with Interrupts**
Module Type	Ethernet Interface	Communications Coprocessor	Redundancy Communications (Hot Standby)	Reflective Memory
Supports Redundancy	No	No	Yes	No
Protocols Supported		SNP/SNPX (master, slave), CCM (master, slave,peer), RTU Modbus (slave only)		
Effective Data Rate	19200 bps Serial, 10 Mbps IEEE		500 Kbytes/sec	
Electrical Isolation			Non-isolated differential communication	
Communications Processor Speed		12 MHz (80C186)		
Simultaneous Communication Speed		9.6 Kbps		
Individual Communication Speed		19.2 Kbps		
RCM Maximum Cable Length			50 feet (15 meters)	
Reflective Memory Available				256 Kbytes of Reflective Memory
Distance Between Nodes				Up to 2000 meters (up to 256 nodes)
Access Time				200 ns (best-case), 400 ns (worst-case)
Transfer Rate				6.2 Mbyte/s without redundant transfer, 3.2 Mbyte/s with redundant transfer
Cable Requirements				ST Type Fiber-Optic cables Multimode; 62.5 Micron core
Built-in Serial Ports	5 (RS-232, RS-485, 10BaseT, AUP, 10Base2)	2 (Serial RS-422 / RS485 or RS-232)	2 (BTM or BRM, bottom connector is UNUSED)	Compatible with Fiber Optic Cable
Current Required from 5V Bus	2.0 Amps	0.7 Amp	1.2 Amps	5.0 Amps maximum

Specialty Modules

PACSystems and Series 90-70 feature a wide range of Specialty Modules to meet all of your application needs. From High-Speed Counters, Programmable Coprocessor Modules and Alphanumeric Display Coprocessors to Hard Disk Drives and Single Board Computers, these Specialty Modules are designed to fill your requirement for versatile industrial solutions.

	IC697PCM711	IC697HSC700	IC697VHD001	IC697VSC096
Product Name	**Programmable Coprocessor Module**	**High Speed Counter**	**Single-Slot VMEbus Hard Disk Module**	**Single-Slot Celeron Socket 370 Processor-Based VMEbus Single-Board Computer**
Module Type	Programmable Coprocessor Module	High Speed Counter	Hard Disk	Single Board Computer
Floating Point Math	N/A	N/A	N/A	N/A
Processor Speed	12 MHz (80C186)	N/A	N/A	N/A
Clock	Real Time Calendar synchronized to PLC			
Protocols Supported	CCM2			
Simultaneous Communication Speed	9.6 Kbaud			
Individual Communication Speed	19.2 Kbaud			
Processor				Single-Slot Celeron Socket 370 Processor-Based
Memory Available	96 Kbytes of User Logic RAM and 512 Kbytes of Expansion Memory			32 Kbytes of User Logic SRAM
Flash Memory Available				96 Mbyte IDE CompactFlash
HSC Available Output Voltages		4 (Positive Logic) with LED Indicators and +5 VDC		
Programmed By	IC647, IC640, or IBM-compatible Personal Computer			
Counter Types		5 Selectable Counter Types		
Input Thresholds		TTL, Non-TTL, and Magnetic Pickup		
Output Signal		Up To 200 KHz		
Hard Drive Size				12 Gbyte
Hard Disk Size			10 Gbyte	
Current Required from 5V Bus	1.0 Amp		2.5 Amps maximum	6.0 Amps typical (8.0 Amps maximum)

Expansion Memory

Series 90-70 Expansion Memory allows for expanded logic and data memory for CPUs and Programmable Coprocessor Modules. It is installed as a daughter board and resides in the same slot as the module it serves. Expansion memory is supplemental on some boards, but it is essential to CPUs without any base RAM memory. Memory is retained by the battery on the base board housing, or can be retained indefinitely in a model that contains flash memory.

	IC697MEM713	IC697MEM715	IC697MEM717	IC697MEM719
Product Name	**CMOS Expansion Memory, 64K bytes (for models CPU 771/CPU 772 and PCM)**	**CMOS Expansion Memory, 128K bytes (for models CPU 771/CPU 772 and PCM)**	**CMOS Expansion Memory, 256K bytes (for models CPU 771/CPU 772 and PCM)**	**CMOS Expansion Memory, 512K bytes (for models CPU 771/CPU 772 and PCM)**
Expandable Memory Size	64 Kbytes	128 Kbytes	256 Kbytes	512 Kbytes
Compatible CPUs	IC697CPU771, CPU772, or PCM	IC697CPU771, CPU772, or PCM	IC697CPU771, CPU772, or PCM	IC697CPU771, CPU772, or PCM

Accessories

IC690ACC901	Miniconverter Kit with cable (RS-232 to RS-485)
IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, Single-user License
IC697ACC700	Terminal Block, 40 Contacts (qty 6)
IC697ACC701	Replacement Battery for CPU and PCM (qty 2)
IC697ACC702	I/O Bus Terminator Plug
IC697ACC715	VME Option Kit, J2 Backplane Mounting
IC697ACC720	Blank Slot Filler (qty 6)
IC697ACC721	Rack Fan Assembly, 120VAC
IC697ACC722	VME Backplane Connector, Interrupt Jumper (qty 6)
IC697ACC723	Clear Plastic Doors (qty 6)
IC697ACC724	Rack Fan Assembly, 240VAC
IC697ACC725	CPU-style Painted Door, Blank (qty 6)
IC697ACC726	Top PWA Cover, CPU-style (qty 6)
IC697ACC727	Top and Bottom PWA Cover, GBC (qty 2)
IC697ACC728	Top and Bottom PWA Cover, BTM/BTR (qty 2)
IC697ACC729	Top and Bottom PWA Cover, I/O Link (qty 2)
IC697ACC730	Spare Slot Terminal Strip Retainer
IC697ACC732	Top PWA Cover, CPU77x and CPU78x (qty 2)
IC697ACC736	Cable Shield Clamping Assembly
IC697ACC744	Rack Fan Assembly, 24VDC
IC697ACC902	Miniconverter Kit with Cable for NEC9800 (RS-232 to RS-485)
IC697ACC903	RS-485 Port Isolator
IC697MLX000	Series 90-70 Labels Kit

I/O Cables

IC600WD002C	I/O Expansion Cable, 2 feet (0.6 meters)
IC600WD005C	I/O Expansion Cable, 5 feet (1.5 meters)
IC600WD010C	I/O Expansion Cable, 10 feet (3.0 meters)
IC600WD025C	I/O Expansion Cable, 25 feet (7.5 meters)
IC600WD050C	I/O Expansion Cable, 50 feet (15 meters)
IC690CBL700	Cable Kit, Power Supply Expansion (used for two-rack power supply function)
IC690CBL701	Cables - PCM to IC640 or PC-XT Computer, 10 feet (3 meters)
IC690CBL702	Cables - PCM to PC-AT Computer, 10 feet (3 meters)
IC690CBL705	Cables - PCM to IC642 or PS/2 Computer, 10 feet (3 meters)
IC697CBL709	Cable, MAP Controller to Broadband Modem
IC697CBL811	Cable, RCM Communications (10 feet) I/O Expansion Cable
IC697CBL826	Cable, RCM Communications (25 feet) I/O Expansion Cable
IC697CBL713	Cable - Power Supply Extension (used for two-rack power supply function)

Series 90™-30 PLCs

The Series 90-30 PLCs are a family of controllers, I/O systems and specialty modules designed to meet the demand for versatile industrial solutions. With a single overall control architecture and modular design, the Series 90-30 has been the PLC of record in over 200,000 applications, such as high speed packaging, material handling, complex motion control, water treatment, continuous emissions monitoring, mining, food processing, elevator control, injection molding, and many more.

One reason for the versatility of the Series 90-30 is the large variety of discrete and analog I/O modules (over 100 modules), as well as specialty modules, that are available. In addition, GE Fanuc offers a wide range of high-level communication options, from a simple serial connection to a high-speed Ethernet interface and a number of bus modules.

Proficy™ Machine Edition

Proficy™ Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

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Publication Reference Chart

GFK-0255	Series 90 Programmable Coprocessor Module & Support Software User's Manual
GFK-0293	Series 90-30 High Speed Counter User's Manual
GFK-0356	Series 90-30 PLC Installation and Hardware Manual
GFK-0412	Series 90-30 Genius Communications Module User's Manual
GFK-0467	Series 90-30/20/Micro PLC CPU Instruction Set Reference Manual
GFK-0529	Series 90 PLC SNP Communications User's Manual
GFK-0582	Series 90 PLC Serial Communications Driver User's Manual
GFK-0585	Series 90 PLC SNP Communications Driver User's Manual
GFK-0631	Series 90-30 I/O Link Slave Interface User's Manual
GFK-0664	Series 90-30 Axis Positioning Module (Power Mate-APM) Programmer's Manual
GFK-0695	Series 90-30 Enhanced Genius Communications Module User's Manual
GFK-0712	Series 90 Digital Event Recorder User's Manual
GFK-0726	State Logic Processor for Series 90-30 PLC User's Guide
GFK-0771	C Programmer's Toolkit for Series 90 PCMs User's Manual
GFK-0772	PCM C Function Library Reference Manual
GFK-0781	Power Mate APM for Series 90-30 PLC Follower Mode User's Manual
GFK-0814	C Programmer's Toolkit for Series 90 PCM Quick Reference Guide
GFK-0823	Series 90-30 I/O Link Master Module User's Manual
GFK-0828	Series 90-30 Diagnostic System User's Guide
GFK-0840	Power Mate APM for Series 90-30 PLC Standard Mode User's Manual
GFK-0854	Series 90 Sequential Function Chart Programming Language User's Manual
GFK-0898	Series 90-30 PLC I/O Module Specifications Manual
GFK-1028	Series 90-30 I/O Processor Module User's Manual
GFK-1034	Series 90-30 Genius Bus Controller User's Manual
GFK-1037	Series 90-30 FIP Remote I/O Scanner User's Manual
GFK-1056	Series 90-30 State Logic Control System User's Manual
GFK-1084	TCP/IP Ethernet Communications for the Series 90-30 PLC User's Manual
GFK-1179	Installation Requirements for Conformance to Standards
GFK-1186	TCP/IP Ethernet Communications for the Series 90 PLC Station Manager Manual
GFK-1213	Series 90-30 FIP Bus Controller User's Manual
GFK-1256	Power Mate for Series 90-30 User's Manual
GFK-1322	Series 90-30 PLC LonWorks Bus Interface Module User's Manual
GFK-1411	Series 90-30 System Manual for Windows® Users
GFK-1464	Motion Mate DSM302 for Series 90-30 PLCs User's Manual
GFK-1466	Temperature Control Module for the Series 90-30 PLC User's Manual
GFK-1541	TCP/IP Ethernet Communications for the Series 90 PLC User's Manual
GFK-1734	Power Transducer for the Series 90-30 PLC User's Manual
GFK-1868	Proficy Machine Edition Getting Started Guide
GFK-2121	Series 90-30 Profibus Modules User's Manual
GFS-062	Series 90-30 Quick Reference Guide for Maintenance
GFZ-0085	Series 90-30 Troubleshooting Pocket Guide
IC690CDU002	InfoLink for PLC CD-ROM

CPUs

For entry-level applications with low I/O counts, the CPU is embedded into the backplane, making all slots available for I/O. These modules are compatible with advanced modules such as Ethernet, various bus modules, and control. Mid-range CPU models are modular and come in various memory sizes, performance capability and increased functionality such as overrides, battery-backed clock and Programmable Coprocessor module support. The high-performance CPUs are based on the latest 386EX processor for fast computation and high throughput. They can handle up to 4,096 I/O and start at 32K of memory and are programmable in a number of standard languages.

	IC693CPU311	IC693CPU313	IC693CPU323	IC693CPU350	IC693CPU360	IC693CPU363
Product Name	**5-slot Baseplate (Model 311)**	**5-slot Baseplate (Model 313)**	**10-slot Baseplate (Model 323)**	**CPU (Model 350)**	**CPU (Model 360)**	**CPU (Model 363)**
CPU Type	Standard	Standard	Standard	High Performance	High Performance	High Performance
Boolean Execution Speed (ms/K)	18	0.6	0.6	0.22	0.22	0.22
User Logic Memory (K bytes)	6	12	12	32	240	240
Real Time Clock	No	No	No	Yes	Yes	Yes
I/O Discrete Points	160	160	320	4096	4096	4096
Floating Point	No	No	No	Yes (Firmware)	Yes (Firmware)	Yes (Firmware)
Type of Memory Storage	RAM, EPROM, EEPROM	RAM, EPROM, EEPROM	RAM, EPROM, EEPROM	RAM, Flash	RAM, Flash	RAM, Flash
Processor Speed (MHz)						
Built-in Communication Ports	One RS-485 port on power supply. Supports SNP	One RS-485 port on power supply. Supports SNP	One RS-485 port on power supply. Supports SNP	One RS-485 port on power supply. Supports SNP	One RS-485 port on power supply. Supports SNP	Three total. One RS-485 port on power supply, one RS-232 and one RS-485 port on CPU. Supports SNP, RTU Master and Slave, Serial Read and Write
Total Number of Racks	1 (CPU built in)	1 (CPU built in)	1 (CPU built in)	8	8	8
Communications Option Modules	Serial-SNP and RTU, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP and RTU, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP and RTU, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP
Field Busses/Device Networks	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN
Software Programming Support	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer-Machine Edition	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer-Machine Edition	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer-Machine Edition	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer-Machine Edition	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer-Machine Edition	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer-Machine Edition
Internal Power Used	410 mA @ 5 VDC	430 mA @ 5 VDC	430 mA @ 5 VDC	670 mA @ 5 VDC	670 mA @ 5 VDC	890 mA @ 5 VDC

CPUs

For entry-level applications with low I/O counts, the CPU is embedded into the backplane, making all slots available for I/O. These modules are compatible with advanced modules such as Ethernet, various bus modules, and control. Mid-range CPU models are modular and come in various memory sizes, performance capability and increased functionality such as overrides, battery-backed clock and Programmable Coprocessor module support. The high-performance CPUs are based on the latest 386EX processor for fast computation and high throughput. They can handle up to 4,096 I/O and start at 32K of memory and are programmable in a number of standard languages.

	IC693CPU364	IC693CPU366	IC693CPU367	IC693CPU374
Product Name	**CPU (Model 364)**	**CPU (Model 366 with built-in Profibus Master)**	**CPU (Model 367 with built-in Profibus Slave)**	**CPU (Model 374)**
CPU Type	High Performance	High Performance	High Performance	High Performance
Boolean Execution Speed (ms/K)	0.22	0.22	0.22	0.15
User Logic Memory (K bytes)	240	240	240	240
Real Time Clock	Yes	Yes	Yes	Yes
I/O Discrete Points	4096	4096	4096	4096
Floating Point	Yes (Firmware)	Yes (Firmware)	Yes (Firmware)	Yes (Hardware)
Type of Memory Storage	RAM, Flash	RAM, Flash	RAM, Flash	RAM, Flash
Processor Speed (MHz)				133Mhz
Built-in Communication Ports	One Ethernet on CPU; (10Mbps) SRTP - Channels (producer/consumer); EGD	One Profibus DP Slave port and RS-485 port on power supply. Supports SNP.	One Profibus DP Master port and RS-485 port on power supply. Supports SNP.	Two Ethernet ports; (one IP address) on CPU, 10/100 Mbps built-in switch, SRTP - channels (consumer only); EGD
Total Number of Racks	8	8	8	8
Communications Option Modules	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP
Field Busses/Device Networks	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN
Software Programming Support	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer-Machine Edition	Proficy Logic Developer-Machine Edition	Proficy Logic Developer-Machine Edition	VersaPro 2.03 or above (Windows), Proficy Logic Developer-Machine Edition 2.06 or above
Internal Power Used	1510 mA @ 5 VDC	940 mA @ 5 VDC	940 mA @ 5 VDC	1.4 Amps @ 5 VDC

Baseplates

Series 90-30 baseplates are available in 5- and 10-slot configurations to the meet the needs of your application. You can choose expansion or remote baseplates for multi-rack systems, covering distances of up to 700 feet from the CPU. GE Fanuc offers standard length cables for easy installation and provides wiring information for custom applications.

	IC693CHS391	IC693CHS392	IC693CHS393	IC693CHS397	IC693CHS398	IC693CHS399
Product Name	**10-slot CPU Baseplate (Model 331 and above)**	**10-slot Expansion Baseplate (Model 331 and above)**	**10-slot Remote Baseplate (Model 331 and above)**	**5-slot CPU Baseplate (Model 331 and above)**	**5-slot Expansion Baseplate (Model 331 and above)**	**5-slot Remote Baseplate (Model 331 and above)**
Baseplate Option	Main (With CPU Slot)	Expansion	Expansion	Main (With CPU Slot)	Expansion	Expansion
Distance	N/A	Up to 50 feet	Up to 700 feet	N/A	Up to 50 feet	Up to 700 feet
Number of Slots	10	10	10	5	5	5
Dimension (WxHxD) in.(mm)	17.44x5.12x5.59 (443x130x142)	17.44x5.12x5.59 (443x130x142)	17.44x5.12x5.59 (443x130x142)	10.43x5.12x5.59 (245x130x142)	10.43x5.12x5.59 (245x130x142)	10.43x5.12x5.59 (245x130x142)
Internal Power Used	420 mA @ 5 VDC	150 mA @ 5 VDC	460 mA @ 5 VDC	270 mA @ 5 VDC	170 mA @ 5 VDC	480 mA @ 5 VDC

Power Supplies

The Series 90-30 power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware. Series 90-30 power supplies are tied into the performance of the CPU for simplex, fail-safe, and fault tolerance. Advanced diagnostics and built-in smart switch fusing are among the other performance and safety features.

	IC693PWR321	IC693PWR328	IC693PWR330	IC693PWR331
Product Name	**Power Supply, 120/240VAC, 125 VDC**	**Power Supply, 48VC**	**Power Supply, 120/240VAC, 125 VDC**	**Power Supply, 24 VDC**
Power Source	100-240 VAC or 125 VDC	48 VDC	100-240 VAC or 125 VDC	24 VDC
High Capacity	No	No	Yes	Yes
Output Source	30 watts total; 15 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 15 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated
24 VDC Output Current Capacity	0.8 A	0.8 A	0.8 A	0.8 A

Power Supplies

The Series 90-30 power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware. Series 90-30 power supplies are tied into the performance of the CPU for simplex, fail-safe, and fault tolerance. Advanced diagnostics and built-in smart switch fusing are among the other performance and safety features.

	IC693PWR332	IC693ACC340	IC693ACC341	IC693ACC350
Product Name	**Power Supply, 12 VDC**	**Power Supply, Redundant Base. Supports two power supplies with 0.1 meter cable**	**Power Supply, Redundant Base. Supports two power supplies with 0.5 meter cable**	**Power Supply, Redundant Adapter for CPU and Expansion base.**
Power Source	12 VDC	N/A	N/A	N/A
High Capacity	Yes	N/A	N/A	N/A
Output Source	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated			
Number of Redundant Power Supplies Supported		Two supplies. Power Supplies can be AC or DC	Two supplies. Power Supplies can be AC or DC	
Cable Length to Redundant Power Supply Adapter		0.1 meter	0.5 meter	
Redundant Power Supply Adapter Rack Compatibility				Compatible with all Series 90-30 5, 10 slot CPU racks and expansion racks
24 VDC Output Current Capacity	0.8 A			
Notes		Requires IC693ACC350	Requires IC693ACC350	

Communications Modules

The Ethernet distributed I/O interface, ENIU (Ethernet Network Interface Unit), is a high performance Ethernet network interface module. The ENIU enables users to connect Series 90-30 I/O remotely over Ethernet to a master controller. The ENIU provides the power of Single Point of Connect. You can connect anywhere on the I/O network and monitor, configure, and troubleshoot any ENIU. The master controller is also accessible over the same network to program, troubleshoot and configure.

The ENIU features a built-in Ethernet switch with two 10/100Mbit ports (RJ-45) allowing the user to daisy chain to the next ENIU. The ENIU automatically senses the cable type, eliminating the need for a crossover cable. The ENIU supports one IP address. Redundancy is provided as a standard feature with the ENIU.

	IC693NIU004
Product Name	Communications Module, Ethernet Remote I/O
Module Type	Ethernet Communications
Entity Type	Slave
Network Data Rate	10/100Mbit ports (RJ-45)
Network Distance	Media Dependent
Bus Diagnostics	Supported
Nodes/Drops	One and supports up to 2048 discrete inputs, 2048 discrete outputs, 1264 analog inputs and 512 analog outputs per drop.

Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693ACC300	IC693MDL230	IC693MDL231	IC693MDL240	IC693MDL241	IC693MDL632
Product Name	**DC Voltage Input Simulator, 8/16 Points**	**AC Voltage Input Module, 120VAC Isolated, 8 Point Input**	**AC Voltage Input Module, 240VAC Isolated, 8 Point Input**	**AC Voltage Input Module, 120VAC, 16 Point Input**	**AC/DC Voltage Input Module, 24VAC/VDC**	**DC Voltage Input Module, 125 VDC Pos/Neg Logic, 8 Point Input**
Power Type	DC	AC	AC	AC	Mixed	DC
Module Function	Input	Input	Input	Input	Input	Input
Input Voltage Range	N/A	0-132 VAC	0-264 VAC	0-132 VAC	0-30 VDC	0-150 VDC
Input Current (mA)		14.5	15	12	7	4.5
Number of Points	16	8	8	16	16	8
Response Time (ms)	20 on/30 off	30 on/45 off	30 on/45 off	30 on/45 off	12 on/28 off	7 on/7 off
Trigger Voltage		74-132	148-264	74-132	11.5-30	90-150
Points per Common	16	1	1	16	16	4
Connector Type	Switches	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Internal Power Used	120 mA @ 5 VDC	60 mA @ 5 VDC	60 mA @ 5 VDC	90 mA @ 5 VDC	80 mA @ 5 VDC; 125 mA @ 24VDC Isolated	40 mA @ 5 VDC

Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL634	IC693MDL645	IC693MDL646	IC693MDL648	IC693MDL653	IC693MDL654
Product Name	**DC Voltage Input Module, 24 VDC Pos/Neg Logic, 8 Point Input**	**DC Voltage Input Module, 24 VDC Pos/Neg Logic, 16 Point Input**	**DC Voltage Input Module, 24 VDC Pos/Neg Logic, FAST, 16 Point Input**	**DC Voltage Input Module, 48 VDC Pos/Neg Logic, FAST, 16 Point Input**	**DC Voltage Input Module, 24 VDC Pos/Neg Logic, FAST, 32 Point Input**	**DC Voltage Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 Point**
Power Type	DC	DC	DC	DC	DC	DC
Module Function	Input	Input	Input	Input	Input	Input
Input Voltage Range	0-30 VDC	0-30 VDC	0-30 VDC	0-60 VDC	19-26 VDC	0-15 VDC
Input Current (mA)	7	7	7	4.2	7.5	3.0 @ 5 V, 8.5 @ 12 V
Number of Points	8	16	16	16	32	32
Response Time (ms)	7 on/7 off	7 on/7 off	1 on/1 off	1 on/1 off	2 on/2 off	1 on/1 off
Trigger Voltage	11.5-30	11.5-30	11.5-30	34 - 60 VDC		4.2-15
Points per Common	8	16	16	16	4	8
Connector Type	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Fujitsu Connector
Internal Power Used	45 mA @ 5 VDC; 62 mA @ 24 VDC Isolated	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated	80 mA @ 5 VDC; 125 mA @ 24 VDC	5 mA @ 5 VDC	5 VDC - 195 mA @ 5 VDC; 12 VDC - 440 mA @ 5 VDC

Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL655
Product Name	**DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input**
Power Type	DC
Module Function	Input
Input Voltage Range	0-30 VDC
Input Current (mA)	7
Number of Points	32
Response Time (ms)	2 on/2 off
Trigger Voltage	11.5-30
Points per Common	8
Connector Type	Fujitsu Connector
Internal Power Used	195 mA @ 5 VDC

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC693ALG220	IC693ALG221	IC693ALG222	IC693ALG223
Product Name	**Analog Input, Voltage, 4 Channel**	**Analog Input, Current, 4 Channel**	**Analog Input, Voltage, High Density (16 Channel)**	**Analog Input, Current, High Density (16 Channel)**
Module Function	Input	Input	Input	Input
Isolation	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side
Range	-10 V to +10 V	4-20 mA, 0-20 mA	-10 V to +10 V, 0 to 10 V	0-20 mA, 4-20 mA
Number of Channels	4	4	16	16
Update Rate	4 ms all channels	2 ms all channels	13 ms all channels	13 ms all chanels
Resolution	12 bit; 5 mV/20 µA/bit	12 bit; 0-20 mA, 5 µA/bit; 4-20 mA, 4 µA/bit	12 bit; ±10 V, 5 mV/20 µA/bit; 0-10 V, 5 mV/20 µA/bit	12 bit; 0-20 mA, 5 µA/bit; 4-20 mA, 4 µA/bit; 4-20 mA Enhanced, 5µA/bit
Accuracy	±10 mV/40 µA at 25°C (77°F)	0.1 % full scale	0.25% at 25°C (77°F)	0.25% at 25°C (77°F)
Input Impedence	>9 Megohms	250 ohms	250 ohms	250 ohms
Input Filter Response	17 Hz	325 Hz	200 Hz	200 Hz
Internal Power Used	27 mA @ 5 VDC; 98 mA 24 VDC Isolated	25 mA @ 5 VDC; 100 mA @ 24 VDC Isolated	112 mA @ 5 VDC; 4150 mA -User Supplied 24 VDC	120 mA @ 5 VDC; 65 mA-User Supplied 24 VDC

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	HE693ADC405	HE693ADC410	HE693ADC415	HE693ADC420
Product Name	**Isolated Analog Input Module, Voltage, 500VAC, Isolation**	**Isolated Analog Input Module, Voltage, 1500VAC, Isolation**	**Isolated Analog Input Module, Current, 500VAC, Isolation**	**Isolated Analog Input Module, Current, 1500VAC, Isolation**
Module Function	Input	Input	Input	Input
Range	±10 V	±10 V	4-20 mA, ±20 mA	4-20 mA, ±20 mA
Number of Channels	4	4	4	4
Channel-to-Channel Isolation	500 VAC (RMS), ±700 VDC	1500 VAC (RMS), ±2000 VDC	500 VAC (RMS), ±700 VDC	1500 VAC (RMS), ±2000 VDC
Input Impedence	1 Megohm	1 Megohm	100 ohms	100 ohms
A/D Type, Resolution	Integrating, 18 bits	Integrating, 18 bits	Integrating, 18 bits	Integrating, 18 bits
Useable Resolution	13 bits plus sign	13 bits plus sign	13 bits plus sign	13 bits plus sign
I/O Required	4 %AI, 4 %AQ, 16 %I	4 %AI, 4 %AQ, 16 %I	4 %AI, 4 %AQ, 16 %I	8 %AI, 8 %AQ, 16 %I
Sample Rate	45 channels/second	45 channels/second	45 channels/second	45 channels/second
Analog Filtering	1 KHz, 3 pole Bessel	1 KHz, 3 pole Bessel	1 KHz, 3 pole Bessel	1 KHz, 3 pole Bessel
Digital Filtering	1-128 samples/update	1-128 samples/update	1-128 samples/update	1-128 samples/update
Maximum Error	.05% full scale	.05% full scale	.05% full scale	.05% full scale
Common Mode Range	500 VAC (RMS), ±700 VDC	1500 VAC (RMS), ±2000 VDC	500 VAC (RMS), ±700 VDC	1500 VAC (RMS), ±2000 VDC
Common Mode Rejection	>100 dB	>100 dB	>100 dB	>100 dB
Power Consumption at Steady State, Maximum	0.4 W @ 5 V, 2.16 W @ 24 V	0.7 W @ 5 V, 1.2 W @ 24 V	0.4 W @ 5 V, 2.16 W @ 24 V	0.7 W @ 5 V, 1.2 W @ 24 V
Internal Power Used	80 mA @ 5 VDC; 90 mA @ 24 VDC Relay	140 mA @ 5 VDC ; 50 mA @ 24 VDC Relay	80 mA @ 5 VDC; 90 mA @ 24 VDC Relay	140 mA @ 5 VDC; 50 mA @ 24 VDC Relay

Analog I/O Modules (Input)

GE Fanuc offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	HE693ADC816
Product Name	**Isolated Analog Input Module, Voltage, 8 CH**
Module Function	Input
Range	±10 V
Number of Channels	8
Channel-to-Channel Isolation	None
Input Impedence	1 Megohm
A/D Type, Resolution	Successive, Approx. 16 bits
Useable Resolution	16 bits
I/O Required	4 %AI, 4 %AQ, 16 %I
Sample Rate	3000 channels/sec
Analog Filtering	1.6 KHz low pass
Digital Filtering	1-128 samples/update
Maximum Error	.03% full scale
Common Mode Range	500 VDC
Common Mode Rejection	>100 dB
Power Consumption at Steady State, Maximum	230 mA @ 5 VDC (440 mA inrush)
Internal Power Used	230 mA @ 5 VDC

Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL310	IC693MDL330	IC693MDL340	IC693MDL390	IC693MDL730	IC693MDL731
Product Name	**AC Voltage Output Module, 120VAC, 0.5A, 12 Point Output**	**AC Voltage Output Module, 120/240VAC, 1A, 8 Point Output**	**AC Voltage Output Module, 120VAC, 0.5A, 16 Point Output**	**AC Voltage Output Module, 120/240VAC Isolated, 2A, 5 Point Output**	**DC Voltage Output Module, 12/24 VDC Positive Logic, 2A, 8 Point Output**	**DC Voltage Output Module, 12/24 VDC Negative Logic, 2A, 8 Point Output**
Power Type	AC	AC	AC	AC	DC	DC
Module Function	Output	Output	Output	Output	Output	Output
Output Voltage Range	85-132 VAC	85-264 VAC	85-132 VAC	85-264 VAC	12-24 VDC	12-24 VDC
Input Voltage Range	N/A	N/A	N/A	N/A	N/A	N/A
Number of Points	12	8	16	5	8	8
Isolation	N/A	N/A	N/A	N/A	N/A	N/A
Load Current per Point	0.5 A	0.08 A	0.5 A	0.08 A	0.08 A	0.08 A
Response Time (ms)	1 on 1/2 cy off	1 on 1/2 cy off	1 on 1/2 cy off	1 on 1/2 cy off	2 on/2 off	2 on/2 off
Output Type	Triac	Triac	Triac	Triac	Transistor	Transistor
Polarity	N/A	N/A	N/A	N/A	Positive	Negative
Points per Common	6	4	4	1	8	8
Connector Type	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Internal Power Used	210 mA @ 5 VDC	160 mA @ 5 VDC	315 mA @ 5 VDC	110 mA @ 5 VDC	55 mA @ 5 VDC	55 mA @ 5 VDC

Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL732	IC693MDL733	IC693MDL734	IC693MDL740	IC693MDL741	IC693MDL742
Product Name	**DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5A, 8 Point Output**	**DC Voltage Output Module, 12/24 VDC Negative Logic, 0.5A, 8 Point Output**	**DC Voltage Output Module, 125 VDC Pos/Neg Logic, 6 Point Output**	**DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5A, 16 Point Output**	**DC Voltage Output Module, 12/24 VDC Negative Logic, 0.5A, 16 Point Output**	**DC Voltage Output Module, 12/24 VDC Positive Logic ESCP, 1A, 16 Point Output**
Power Type	DC	DC	DC	DC	DC	DC
Module Function	Output	Output	Output	Output	Output	Output
Output Voltage Range	12-24 VDC	12-24 VDC	11-150 VDC	12-24 VDC	12-24 VDC	12-24 VDC
Input Voltage Range	N/A	N/A	N/A	N/A	N/A	N/A
Number of Points	8	8	6	16	16	16
Isolation	N/A	N/A	N/A	N/A	N/A	N/A
Load Current per Point	0.5 A	0.5 A	0.04 A	0.5 A	0.5 A	0.04 A
Response Time (ms)	2 on/2 off	2 on/2 off	7 on/5 off	2 on/2 off	2 on/2 off	2 on/2 off
Output Type	Transistor	Transistor	Transistor	Transistor	Transistor	Transistor
Polarity	Positive	Negative	Positive/Negative	Positive	Negative	Positive
Points per Common	8	8	1	8	8	8
Connector Type	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Internal Power Used	50 mA @ 5 VDC	55 mA @ 5 VDC	90 mA @ 5 VDC	110 mA @ 5 VDC	110 mA @ 5 VDC	130 mA @ 5 VDC

Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL748	IC693MDL751	IC693MDL752	IC693MDL753	IC693MDL930	IC693MDL931
Product Name	**DC Voltage Output Module, 48/24 VDC Positive Logic, 0.5A, 8 Point Output**	**DC Voltage Output Module, 12/24 VDC Positive Logic, 32 Point Output**	**DC Voltage Output Module, 5/24 VDC (TTL) Negative Logic, 0.5A, 32 Point**	**DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5A, 32 Point Output**	**AC/DC Voltage Output Module, Relay, N.O., 4A Isolated, 8 Point Output**	**AC/DC Voltage Output Module, Relay, N.C. and Form C, 8A Isolated, 8 Point Out**
Power Type	DC	DC	DC	DC	Mixed	Mixed
Module Function	Output	Output	Output	Output	Output	Output
Output Voltage Range	24-48 VDC	12-24 VDC	5, 12-24 VDC	12-24 VDC	5-250 VAC	5-250 VAC
Input Voltage Range	N/A	N/A	N/A	N/A	N/A	N/A
Input Current (mA)						
Number of Points	8	32	32	32	8	8
Isolation	N/A	N/A	N/A	N/A	N/A	N/A
Load Current per Point	0.5 A	0.3 A	0.5 A	0.5 A	0.17 A	0.3 A
Response Time (ms)	2 on/2 off	2 on/2 off	0.5 on/0.5 off	0.5 on/0.5 off	15 on/15 off	15 on/15 off
Output Type	Transistor	Transistor	Transistor	Transistor	Relay	Relay
Polarity	Positive	Positive	Negative	Positive	N/A	N/A
Trigger Voltage						
Points per Common	8	8	8	8	1	1
Connector Type	Terminal Block	Fujitsu Connector	Fujitsu Connector	Fujitsu Connector	Terminal Block	Terminal Block
Internal Power Used	110 mA @ 5 VDC	21 mA @ 5 VDC	260 mA @ 5 VDC	260 mA @ 5 VDC	6 mA @ 5 VDC; 70 mA @ 24 VDC Relay	6 mA @ 5 VDC; 110 mA @ 24 VDC Relay

Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE Fanuc offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL940	IC693MAR590	IC693MDR390	HE693RLY100	HE693RLY110
Product Name	**AC/DC Voltage Output Module, Relay, N.D., 2A, 16 Point Output**	**AC/DC Voltage I/O Module, AC In/Relay Out N.O.**	**AC/DC Voltage Output Module, 24 VDC Input, Relay Output, 8 In/8 Out**	**DC Voltage Output Module, AC In/Relay Out (isolated)**	**DC Voltage Output Module, AC In/Relay Out (fused)**
Power Type	Mixed	Mixed	Mixed	Mixed	Mixed
Module Function	Output	Mixed	Mixed	Output	Output
Output Voltage Range	5-250 VAC	5-250 VAC/5-30	5-250 VAC/5-30 VDC	12-30 VDC	12-30 VDC
Input Voltage Range	N/A	0-132 VAC	- 30 to + 30 VDC	N/A	N/A
Input Current (mA)		12	7.5		
Number of Points	16	8	8	8	8
Isolation	N/A	N/A	N/A	yes	no
Load Current per Point	0.08 A	0.08 A	0.08 A	0.3 A	0.3 A
Response Time (ms)	15 on/15 off	30 on/45 off	1 on/1 off	11 on/11 off	11 on/11 off
Output Type	Relay	Relay	Relay	Relay	Relay
Polarity	N/A	N/A	N/A	N/A	N/A
Trigger Voltage		74-132	15-32		
Points per Common	4	8	8	1	1
Connector Type	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Internal Power Used	7 mA @ 5 VDC; 135 mA @ 24 VDC Relay	80 mA @ 5 VDC; 70 mA @ 24 VDC Relay	80 mA @ 5 VDC; 70 mA @ 24 VDC Relay	180 mA @ 5 VDC; 200 mA @ 24 VDC Relay	180 mA @ 5 VDC; 200 mA @ 24 VDC Relay

Analog I/O Modules (Output)

GE Fanuc offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC693ALG390	IC693ALG391	IC693ALG392	IC693ALG442
Product Name	**Analog Output, Voltage, 2 Channel**	**Analog Output, Current, 2 Channel**	**Analog Current/Voltage Output, 8 Channel**	**Analog Current/Voltage Combination 4 Channel In/ 2 Channel Out**
Power Type	N/A	N/A	N/A	N/A
Module Function	Output	Output	Output	Mixed
Isolation	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side
Range	-10 V to +10 V, 4-20 mA	1-5 V and 0-5 V, 0-20 mA, 4-20 mA	0 V to +10 V, -10 V to +10 V, 0-20 mA, 4-20 mA	0 V to +10 V, -10 V to +10 V 0-20 mA, 4-20 mA
Number of Channels	2	2	8	4 in/2 out
Channel-to-Channel Isolation	N/A	N/A	N/A	N/A
Update Rate	5 ms all channels	5 ms all channels	8 ms all channels	8 ms all channels/4 ms all channels
Resolution	12 bit; 2.5 mV/bit	12 bit; 0-20 mA, 5µA/bit	16 bit; 0.312 mV/bit	(Input) 12 bit; 0 V to 10 V, 2.5 mV/bit; -10 V to +10 V, 5 mV/bit; 0-20 mA, 4-20 mA 5 µA/bit (Output) 16 bit; 0.312 mV/bit; 4-20 mA 0.5 µA/bit; 0-20 mA 0.625 µA/bit
Accuracy	±5 mV at 25°C (77°F)	0-20 mA, ±8 µA at 25°C (77°F); 0-20 mA, 4-20 mA ±0.1% at 25°C (77°F)	0-20 mA, 4-20 mA ±0.1% at 25°C (77°F); 0-10 V, -10F + 10 V ±0.25 at 25°C (77°F)	(Input) 0.25 % at 25°C (77°F) (Output) 0-20 mA, 4-20 mA ±0.1% at 25°C (77°F)
Maximum Output Load	5 mA (2 K ohms)	5 mA (2 K ohms)	5 mA (2 K ohms)	5 mA (2 K ohms); 850 ohms
Output Load Capacitance	2000 pF	2000 pF, Inductance 1H	2000 pF, Inductance 1H	2000 pF, Inductance 1H
Internal Power Used	32 mA @ 5 VDC; 120 mA @ 24 VDC Isolated	30 mA @ 5 VDC; 215 mA 24 VDC Isolated	110 mA @ 5 VDC; 315 mA -User Supplied 24 VDC	95 mA @ 5 VDC; 129 mA 24 VDC Isolated

Analog I/O Modules (Output)

GE Fanuc offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	HE693DAC410	HE693DAC420
Product Name	**Isolated Analog Output Module, Voltage**	**Isolated Analog Output Module, Current**
Power Type	N/A	N/A
Module Function	Output	Output
Isolation	N/A	N/A
Range	±10 V	4-20 mA or 0-20 mA
Number of Channels	4	4
Channel-to-Channel Isolation	1500 VAC (RMS), ±2000 VDC	1500 VAC (RMS), ±2000 VDC
Update Rate		
Resolution	1.2 5 mV	2.0 µA (4-20 mA); 2.5 µA (±20 mA)
I/O Required	4 %AQ	4 %AQ
Power Consumption at Steady State, Maximum	0.75 W @ 5 V; 3.6 W @ 24 V	0.75 W @ 5 V; 3.6 W @ 24 V
D/A Resolution	13 bits plus sign	13 bits plus sign
User Supplied Loop Voltage		2-32 VDC
Maximum Load (ohms)	>/= 2 Kohms	</= 1.1 Kohms @ 24 V loop voltage
Maximum Linearity Error	0.02% full scale	0.02% full scale
Common Mode Isolation	1500 VAC (RMS), ±2000 VDC	1500 VAC (RMS), ±2000 VDC
Internal Power Used	500 mA @ 5 VDC; 150 mA @ 24 VDC Relay	150 mA @ 5 VDC; 110 mA @ 24 VDC Relay

Millivolt I/O Modules

The Millivolt Input Modules allow millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

	HE693ADC409
Product Name	**Analog I/O Module, Millivolt Input**
Module Function	Input
Input Voltage Range	±25 mV, ±50 mV and ±100mV
Number of Channels	4
Resolution	3 µV, 6 µV, 9 µV (respectively)
Accuracy	±0.5%
Input Impedence	>20 Mohms
I/O Required	4 %AI
A/D Conversion Type	Integrating
A/D Conversion Time	35 Channels/second
Strain Gages Supported	Bridged (load cells)
Maximum Normal Voltage Input	100 mV
Maximum Voltage Input	±35 V
Internal Power Used	100 mA @ 5 VDC

RTD I/O Modules

The RTD Input Modules provide six RTD inputs that allow the direct connection of 3-wire RTD temperature sensors without using external signal processing (transducers, transmitters, etc.). All analog and digital processing of the RTD signal is performed on the module.

	HE693RTD600	HE693RTD601	HE693RTD660	HE693RTD665	HE693RTD666
Product Name	**RTD Input Module, Low Resolution**	**RTD Input Module, High Resolution**	**RTD Input Module, Isolated**	**RTD Input Module, Isolated**	**RTD Input Module, Isolated**
Module Function	Input	Input	Input	Input	Input
Number of Channels	6	6	6	6	6
Channel-to-Channel Isolation	N/A	N/A	5 VAC	5 VAC	5 VAC
Notch Filter	N/A	N/A	None	50 Hz	60 Hz
Resolution	0.5°C or 0.5°F	0.125°C , 0.1°C, or 0.1°F	0.05°C, 0.05°F, 0.1°C, 0.1°F, 0.5°C or 0.5°F	0.05°C, 0.05°F, 0.1°C, 0.1°F, 0.5°C or 0.5°F	0.05°C, 0.05°F, 0.1°C, 0.1°F, 0.5°C or 0.5°F
Accuracy	±0.5°C, typical	±0.5°C, typical	±0.3°C	±0.3°C	±0.3°C
Input Impedence	>1000 Megohms	>1000 Megohms	>1000 Megohms	>1000 Megohms	>1000 Megohms
I/O Required	6 %AI	6 %AI	6 %AI, 6 %AQ, 16 %I	6 %AI, 6 %AQ, 16 %I	6 %AI, 6 %AQ, 16 %I
Fault Protection	Zener Diode Clamp	Zener Diode Clamp	Suppression Diode	Suppression Diode	Suppression Diode
Update Time	50 Channels/second	50 Channels/second	50 Channels/second	50 Channels/second	50 Channels/second
Average RTD Current, Pt-100	330 microamps	330 microamps	330 microamps	330 microamps	330 microamps
Channel-to-Channel Tracking	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C
Channel-to-Bus Isolation			1500 VAC	1500 VAC	1500 VAC
RTD Short			Indefinite without damage	Indefinite without damage	Indefinite without damage
Internal Power Used	70 mA @ 5 VDC	70 mA @ 5 VDC	200 mA @ 5 VDC	200 mA @ 5 VDC	200 mA @ 5 VDC

Strain Gage I/O Modules

The Millivolt Input Modules allow millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

	HE693STG883	HE693STG884
Product Name	**Analog I/O Module, Strain Gage**	**Analog I/O Module, Strain Gage**
Module Function	Input	Input
Input Voltage Range	±20 mV, ±25 mV and ±30mV	±25 mV, ±50 mV and ±100mV
Number of Channels	8	8
Resolution	0.6 µV, 0.8 µV, 0.9 µV (respectively)	0.8 µV, 1.6 µV, 3.2 µV (respectively)
Accuracy	±0.3%	±0.3 %
Input Impedence	>1000 Mohms	>1000 Mohms
I/O Required	8 %AI, 16 %I, 8 %AQ, 16 %Q	8 %AI, 16 %I, 8 %AQ, 16 %Q
A/D Conversion Type	Integrating	Integrating
A/D Conversion Time	35 Channels/second	35 Channels/second
Strain Gages Supported	Bridged (load cells)	Bridged (load cells)
Maximum Normal Voltage Input	100 mV	100 mV
Maximum Voltage Input	±35 V	±35 V
Internal Power Used	60 mA @ 5 VDC; 30 mA @ 24 VDC Relay	60 mA @ 5 VDC; 30 mA @ 24 VDC Relay

Thermocouple I/O Modules

The Thermocouple Input Modules allow thermocouple temperature sensors to be directly connected to the PLC with external signal processing (transducers, transmitters, etc.). The module performs all analog and digital processing of the thermocouple signal. The enhanced thermocouple input modules add isolation or high-resolution. On these modules, each channel can be configured for a specific type of sensor wire. An autodetect external AD592 cold junction compensation feature is also available

	HE693THM166	HE693THM409	HE693THM449	HE693THM665	HE693THM666	HE693THM668
Product Name	**Analog I/O Thermocouple Input Module**	**Analog I/O Thermocouple Input Module**	**Analog I/O Thermocouple Input Module**	**Analog I/O Thermocouple Input Module (Enhanced)**	**Analog I/O Thermocouple Input Module (Enhanced)**	**Analog I/O Thermocouple Input Module (Enhanced)**
Module Function	Input	Input	Input	Input	Input	Input
Enhanced	No	No	No	Yes	Yes	Yes
Number of Channels	16	4	4	6	6	6
Channel-to-Channel Isolation	N/A	N/A	N/A	±250 VAC	±250 VAC	±250 VAC
Notch Filter	N/A	N/A	N/A	50 Hz	60 Hz	None
Open Circuit Alarm	Yes	No	Yes	Yes	Yes	Yes
Resolution	0.5°C or 0.5°F	0.5°C or 0.5°F	0.5°C or 0.5°F	0.5°C, 0.5°F, 0.1°C, 0.1°F	0.5°C, 0.5°F, 0.1°C, 0.1°F	0.5°C, 0.5°F, 0.1°C, 0.1°F
Accuracy	±0.5°C, typical (J,K,N,T)	±0.5°C, typical (J,K,N,T)	±0.5°C, typical (J,K,N,T)	±1.0°C (J,K,N,T); ±2.0°C (S,E,B,R); ±4.0°C (C)	±1.0°C (J,K,N,T); ±2.0°C (S,E,B,R); ±4.0°C (C)	
I/O Required	16 %AI, 16 %I	4 %AI	4 %AI, 16 %I			
Input Range				6 %AI, 6 %AQ, 16 %I	6 %AI, 6 %AQ, 16 %I	6 %AI, 6 %AQ, 16 %I
A/D Conversion Type	Integrating	Integrating	Integrating			
A/D Conversion Time	40 Channels/second	40 Channels/second	40 Channels/second			
Channel-to-Bus Isolation				±1500 VAC	±1500 VAC	±1500 VAC
Open Circuit Detection	Yes	Yes	Yes	Yes	Yes	Yes
Setpoint Alarm				Yes	Yes	Yes
Internal Power Used	80 mA @ 5 VDC; 30 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay	200 mA @ 5 VDC	200 mA @ 5 VDC	200 mA @ 5 VDC

Thermocouple I/O Modules

The Thermocouple Input Modules allow thermocouple temperature sensors to be directly connected to the PLC with external signal processing (transducers, transmitters, etc.). The module performs all analog and digital processing of the thermocouple signal. The enhanced thermocouple input modules add isolation or high-resolution. On these modules, each channel can be configured for a specific type of sensor wire. An autodetect external AD592 cold junction compensation feature is also available

	HE693THM809	HE693THM884	HE693THM888	HE693THM889
Product Name	**Analog I/O Thermocouple Input Module**	**Analog I/O Thermocouple Input Module (Enhanced)**	**Analog I/O Thermocouple Input Module (Enhanced)**	**Analog I/O Thermocouple Input Module**
Module Function	Input	Input	Input	Input
Enhanced	No	Yes	Yes	No
Number of Channels	8	8	8	8
Channel-to-Channel Isolation	N/A	N/A	N/A	N/A
Notch Filter	N/A	None	60 Hz	N/A
Open Circuit Alarm	No	Yes	Yes	Yes
Resolution	0.5°C or 0.5°F			0.5°C or 0.5°F
Accuracy	±0.5°C, typical (J,K,N,T)			±0.5°C, typical (J,K,N,T)
I/O Required	8 %AI			8 %AI, 16 %I
Input Range		8 %AI, 8 %AQ, 16 %I	8 %AI, 8 %AQ, 16 %I	
A/D Conversion Type	Integrating			Integrating
A/D Conversion Time	40 Channels/second			40 Channels/second
Open Circuit Detection	Yes	Yes	Yes	Yes
Setpoint Alarm		Yes	Yes	
Internal Power Used	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay	100 mA @ 5 VDC; 60 mA @ 24 VDC Relay	100 mA @ 5 VDC; 60 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay

Distributed I/O Communications

The Series 90-30 features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP, Genius, DeviceNet, Interbus-S, Series 90 Protocol (SNP) and RTU modules. These communication modules are easy to install and quick to configure.

	IC693CMM311	IC693DNM200	IC693DNS201	IC693CMM321
Product Name	**Series 90-30 Communications Control Module**	**Series 90-30 Communications Module, DeviceNet, Master**	**Series 90-30 Communications Module, DeviceNet, Slave**	**Series 90-30 PLC Ethernet TCP/IP Module**
Module Type	Serial Communications	DeviceNet	DeviceNet	Ethernet Communications
Entity Type	N/A	Master	Slave	N/A
Communication Ports	1 RS-232, 1 RS-485			1 RJ-45
Protocol Supplier	SNP/SNPX; CCM; Modbus RTU			SRTP Modbus TCP
Bus Speed				10 Mbits
Internal Power Used	400 mA @ 5 VDC			750 mA @ 5 VDC

Distributed I/O Communications

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	IC693BEM331	IC693CMM302	IC693BEM320	IC693BEM321	IC693PBM200	IC693PBS200
Product Name	**Series 90-30 I/O Bus Module, Genius Bus Controller**	**Series 90-30 Enhanced Genius Communications Module**	**Series 90-30 Communication, I/O Link Interface Module (Slave)**	**Series 90-30 Communication, I/O Link Interface Module (Master)**	**Communications Module, Profibus-DP Module (Master)**	**Communications Module, Profibus-DP Module (Slave)**
Module Type	Genius	Genius	I/O Link	I/O Link	Profibus-DP	Profibus-DP
Entity Type	Master	Peer-to-Peer	Slave	Master	Master	Slave
Network Data Rate					12 Mbaud to 9600 baud	12 Mbaud to 9600 baud
Bus Speed			1.5 mHz	1.5 mHz		
Number of Drops			16	16		
Network Distance			10 meters (33 feet) RS-485; 200 meters (660 feet) Fiber optic bus	10 meters (33 feet) RS-485; 200 meters (660 feet) Fiber optic bus	12 Mbaud @ 100 meters; 9600 baud @ 1200 meters	12 Mbaud @ 100 meters; 9600 baud @ 1200 meters
Internal Power Used	300 mA @ 5 VDC	300 mA @ 5 VDC	205 mA @ 5 VDC	415 mA @ 5 VDC		

Distributed I/O Communications

The Series 90-30 features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP, Genius, DeviceNet, Interbus-S, Series 90 Protocol (SNP) and RTU modules. These communication modules are easy to install and quick to configure.

	HE693IBS100	HE693IBS313	HE693IBS323	HE693RTM705	HE693RTU900	HE693RTU940
Product Name	**I/O Bus Module, Interbus-S Slave Module from Horner Electric**	**I/O Bus Module, Interbus-S Slave 5 Slot Rack from Horner Electric**	**I/O Bus Module, Interbus-S Slave 10 Slot Rack from Horner Electric**	**Communications Module, Modbus RTU Master from Horner Electric**	**Communications Module, Modbus RTU Slave from Horner Electric**	**Communications Module, Modbus RTU Slave from Horner Electric**
Module Type	Interbus-S	Interbus-S	Interbus-S	Modbus RTU	Modbus RTU	Modbus RTU
Entity Type	Slave	Slave	Slave	Master	Slave	Slave
Communication Ports				RS-232, RS-232/485, modem	RS-232, RS-232/485	RS-232, RS-232/485, modem
Network Data Rate				19.2 Kbaud, maximum	115.2 Kbaud, maximum	115.2 Kbaud, maximum
CPU Requirements				CPU331 and higher	Version 5.01 or later	Version 5.01 or later
Network Distance	500 Kbits @ 400 meters	500 Kbits @ 400 meters	500 Kbits @ 400 meters			

Distributed I/O Communications

The Series 90-30 features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP, Genius, DeviceNet, Interbus-S, Series 90 Protocol (SNP) and RTU modules. These communication modules are easy to install and quick to configure.

	HE693SNP900	HE693SNP940
Product Name	**Communications Module, SNP Slave Module from Horner Electric**	**Communications Module, SNP Slave Module with modem from Horner Electric**
Module Type	SNP Module	SNP Module
Communication Ports	RS-232, RS-232/485	RS-232, RS-232/485, modem
Network Data Rate	Configurable, up to 19.2 K baud	Configurable, up to 19.2 K baud
CPU Requirements	Version 5.01 or later	Version 5.01 or later

Specialty Modules

GE Fanuc Series 90-30's feature a wide range of Specialty Modules to meet all of your application needs. From temperature controls, high-speed counters, I/O processors, coprocessors, to PID auto-tuning modules, these Specialty Modules are designed to meet the demand for versatile industrial solutions.

	IC693APU300	IC693APU305	IC693PTM100	IC693PTM101	IC693PCM301	IC693PCM311
Product Name	**Series 90-30 High Speed Counter**	**Series 90-30 I/O Processor Module**	**Series 90-30 Power Transducer Module**	**Series 90-30 Power Transducer Module**	**Series 90-30, Programmable Coprocessor Module, 85/192K**	**Series 90-30, Programmable Coprocessor Module, 380/640K**
Module Type	High Speed Counter	I/O Processor Module	Power Transduce Module (0.5 meter cable)	Power Transduce Module (1.0 meter cable)	Programmable Coprocessor Module	Programmable Coprocessor Module
Number of Points	N/A	N/A	1	1	N/A	N/A
Output Type	N/A	N/A	N/A	N/A	N/A	N/A
Programming Languages					Basic or C	Basic or C
Program Storage					192K of Battery Backed RAM or EPROM option	640K of Battery Backed RAM
Internal Power Used	250 mA @ 5 VDC	360 mA @ 5 VDC	400 mA @ 5 VDC	400 mA @ 5 VDC	425 mA @ 5 VDC	400 mA @ 5 VDC

Specialty Modules

GE Fanuc Series 90-30's feature a wide range of Specialty Modules to meet all of your application needs. From temperature controls, high-speed counters, I/O processors, coprocessors, to PID auto-tuning modules, these Specialty Modules are designed to meet the demand for versatile industrial solutions.

	IC693MDL760	IC693TCM302	IC693TCM303	HE693ASC900	HE693ASC940	HE693ACC102
Product Name	**Series 90-30 Solenoid Module**	**Series 90-30 Temperature Control Module, 8 T/C, 1 RTD and 8 24 VDC Output**	**Temperature Control Module, Extended Range, 8 T/C, 1 RTD and 8 24 VDC Output**	**Horner ASCII Basic Module**	**Horner ASCII Basic Module**	**DOS Coprocessor Module, PCMCIA Ethernet Card, supports 10 Base 2, 10 Base T**
Module Type	Solenoid Valve Output Module	Temperature Control	Temperature Control	ASCII Basic Module	ASCII Basic Module	DOS Coprocessor Module
Number of Points	16	N/A	N/A	N/A	N/A	N/A
Output Type	Pneumatic	N/A	N/A	N/A	N/A	N/A
Operating temperature		0 to 55°C	0 to 55°C			
Programming Languages				BASIC	BASIC	
I/O Configuration Requirements				8 16-bit Inputs, 8 16-bit Outputs	8 16-bit Inputs, 8 16-bit Outputs	
Program Storage				EEPROM	EEPROM	
Internal Power Used	110 mA @ 5 VDC	150 mA @ 5 VDC	150 mA @ 5 VDC	375 mA @ 5 VDC	250 mA 5 VDC	

Specialty Modules

GE Fanuc Series 90-30's feature a wide range of Specialty Modules to meet all of your application needs. From temperature controls, high-speed counters, I/O processors, coprocessors, to PID auto-tuning modules, these Specialty Modules are designed to meet the demand for versatile industrial solutions.

	HE693ACC144
Product Name	**DOS Coprocessor Module, PCMCIA Fax/Modem Card, 14.4 Kbaud data rate**
Module Type	DOS Coprocessor Module
Number of Points	N/A
Output Type	N/A

Motion Modules

Motion control integrated into the Series 90-30 fosters high performance point-to-point applications. GE Fanuc Motion Control modules can be flexibly applied to a variety of digital, analog, and stepper motion applications.

	IC693APU301	IC693APU302	IC693DSM302	IC693DSM314
Product Name	**Series 90-30 Motion Mate APM300 Module, 1-Axis**	**Series 90-30 Motion Mate APM300 Module, 2-Axis**	**PowerMotion, Motion Mate, DSM300 Motion Controller**	**PowerMotion, Motion Mate, DSM314 Motion Controller**
Drive	Servo	Servo	Servo	Servo
Drive Interface	Analog	Analog	Analog or Digital	Analog
Axes	1	2	2	4
Encoder Support	N/A	N/A	N/A	N/A
Axis Type	Linear or Rotary	Linear or Rotary	Linear or Rotary	
User Memory	15 KBytes	15 KBytes	15 KBytes (Flash)	15 KBytes
Analog Inputs	1	1	1 (12 Bits + sign)	1
Power Supply Load (Minimum)	800 mA 5 V	800 mA 5 V	850 mA, 5 V	800 mA 5 V
Local Inputs (per axis)			3 (24 V), 2 (5 V)	
Local Outputs (per axis)			1 (24 V), 1 (5 V)	
Internal Power Used	800 mA @ 5 VDC	800 mA @ 5 VDC	1300 mA @ 5 VDC	1300 mA @ 5 VDC

Motion Modules

Motion control integrated into the Series 90-30 fosters high performance point-to-point applications. GE Fanuc Motion Control modules can be flexibly applied to a variety of digital, analog, and stepper motion applications.

	HE693STP100	HE693STP101	HE693STP110	HE693STP111	HE693STP113	HE693STP300
Product Name	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**
Drive	Stepper	Stepper	Stepper	Stepper	Stepper	Stepper
Drive Interface	N/A	N/A	N/A	N/A	N/A	N/A
Axes	1	1	1	1	1	3
Encoder Support	No	No	Yes	Yes	Yes	No
Switch Signal Level (DC)	5 V	12-24 V	5 V	12-24 V	12-24 V	5 V
Maximum Step/Direction Output (5V)	300 mA	300 mA	300 mA	300 mA	300 mA	300 mA
Power Supply Minimum Load (5V)	400 mA	650 mA	400 mA	650 mA	650 mA	400 mA
Power Supply Maximum Load (5V)	500 mA	750 mA	500 mA	750 mA	750 mA	500 mA
Internal Power Used	500 mA @ 5 VDC	750 mA @ 5 VDC	500 mA @ 5 VDC	750 mA @ 5 VDC	750 mA @ 5 VDC	500 mA @ 5 VDC

Motion Modules

Motion control integrated into the Series 90-30 fosters high performance point-to-point applications. GE Fanuc Motion Control modules can be flexibly applied to a variety of digital, analog, and stepper motion applications.

	HE693STP301	HE693STP310	HE693STP311
Product Name	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**	**Motion Control Stepper Index Module**
Drive	Stepper	Stepper	Stepper
Drive Interface	N/A	N/A	N/A
Axes	3	3	3
Encoder Support	No	Yes	Yes
Switch Signal Level (DC)	12-24 V	5 V	12-24 V
Maximum Step/Direction Output (5V)	300 mA	300 mA	300 mA
Power Supply Minimum Load (5V)	650 mA	400 mA	650 mA
Power Supply Maximum Load (5V)	750 mA	500 mA	750 mA
Internal Power Used	750 mA @ 5 VDC	500 mA @ 5 VDC	750 mA @ 5 VDC

Accessories

IC690ACC901	Mini-Converter Kit with cable (RS-485/RS-232)
IC690ACC903	RS-485 Port Isolator
IC690PWR024	Field Power Supply 24 VDC 5 Amps
IC690PWR124	Field Power Supply 24 VDC 10 Amps
IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, Single-user License
IC693ACC301	Replacement Battery, CPU & PCM (qty 2)
IC693ACC302	High Capacity Battery Pack. The new Auxiliary Battery Pack (IC693ACC302) will enable Series 90-30 (except CPU374) to go up to 75 months (shelf life of 10 years) of RAM memory backup with no power & the CPU374 backup for 15 months
IC693ACC307	I/O Bus Terminator Plug
IC693ACC308	Rack Adaptor Bracket, Series 90-30 10 Slot to 19" (Front Mount)
IC693ACC310	Filler Module, Blank Slot
IC693ACC311	Terminal Blocks (qty 6)
IC693CBL300	Cable, I/O Expansion, 1 Meter
IC693CBL301	Cable, I/O Expansion, 2 Meters
IC693CBL302	Cable, I/O Expansion, 15 Meters
IC693CBL312	Cable, I/O Expansion, 0.15 Meters, Shielded
IC693CBL313	Cable, I/O Expansion, 8 Meters
IC693CBL314	Cable, I/O Expansion, 15 Meters, Shielded

VersaMax® I/O and Control

With its innovative modular architecture, VersaMax combines power and versatility to help provide performance in a compact and affordable control solution.

The VersaMax product family can be used as I/O, as a PLC, and as distributed control for up to 4096 I/O points. With its modular architecture, intuitive features, and unparalleled ease of use, it helps save machine builders and end users time and money.

VersaMax is the first GE Fanuc control product created using the unique Six Sigma design process. Six Sigma combines global research and development techniques, extensive customer needs analysis, and rigorous quality control standards.

The VersaMax I/O and Control product family features a broad selection of I/O modules, terminations, power supplies, and network interface options to enhance your control capability.

Proficy™ Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

Power Supplies page 115

I/O Network Interface Units pages 134-135

Analog I/O Modules pages 130-132

Discrete I/O Modules pages 116-129

Network Communications Modules page 136

CPUs page 113

Carriers page 114

Expansion Modules page 133

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Publication Reference Chart

GFK-1179	Installation Requirements for Conformance to Standards
GFK-1503	VersaMax PLC User's Manual
GFK-1504	VersaMax Modules, Power Supplies, and Carriers User's Manual
GFK-1533	VersaMax System DeviceNet Communications Modules User's Manual
GFK-1534	VersaMax System Profibus Network Modules User's Manual
GFK-1535	VersaMax System Genius Network Interface Unit User's Manual
GFK-1563	VersaMax I/O and Industrial Networking Application Guide
GFK-1697	VersaMax System AS-i Network Master Module User's Manual
GFK-1847	Remote I/O Manager User's Manual
GFK-1852	VersaMax Serial to Ethernet Adapter User's Manual
GFK-1860	VersaMax System Ethernet Network Interface Unit User's Manual
GFK-1868	Proficy Machine Edition Getting Started Guide
GFK-1876	VersaMax Ethernet Station Manager Manual
IC690CDU002	InfoLink for PLC CD-ROM

CPUs

VersaMax CPUs supply a number of features usually found only in PLCs with larger footprints, including up to 64K of memory for application programs, floating point math, and real-time clock. With a modular and scalable architecture, the VersaMax CPU is ideal for standalone control applications with up to 256 local I/O or expanded systems of up to 4,096 I/O points.

	IC200CPU001	IC200CPU002	IC200CPU005	IC200CPUE05
Product Name	**VersaMax PLC CPU 32K Configurable Memory, 2 Ports RS-232 and RS-485**	**VersaMax PLC CPU 42K Configurable Memory, 2 Ports RS-232 and RS-485**	**VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485**	**VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485, 10 MBIT Ethernet Port**
I/O Discrete Points	2048 in, 2048 out	2048 in, 2048 out	2048 in, 2048 out	2048 in, 2048 out
I/O Analog Words	Configurable	Configurable	Configurable	Configurable
Registers	Configurable	Configurable	Configurable	Configurable
Discrete Internal Bits	1024 points	1024 points	1024 points	1024 points
Discrete Temporary Bits	256 points	256 points	256 points	256 points
Global Discrete Bits	1280 points	1280 points	1280 points	1280 points
Program Memory	Configurable	Configurable	Configurable	Configurable
Boolean Execution Speed	1.8 ms/K (typical)	1.8 ms/K (typical)	0.8 ms/K (typical)	0.8 ms/K (typical)
Floating Points	Yes	Yes	Yes	Yes
Override	Yes	Yes	Yes	Yes
Built-in Communications	SNP Slave, RTU Master and Slave, Serial I/O	SNP Slave, RTU Master and Slave, Serial I/O	SNP Slave, RTU Master and Slave, Serial I/O	10 MBIT Ethernet Port, SNP Slave, RTU Master and Slave, Serial I/O
Type of Memory Storage	System flash, battery-backed RAM	System flash, battery-backed RAM	System flash, battery-backed RAM	System flash, battery-backed RAM
Battery-Backed Real-Time Clock	Yes	Yes	Yes	Yes
Power Consumption	140 mA maximum on 5 V output, 100 mA on +3.3 V output	141 mA maximum on 5 V output, 100 mA on +3.3 V output	180 mA maximum on 5 V output, 290 mA on +3.3 V output	260 mA maximum on 5 V output, 650 mA on +3.3 V output
5V Backplane Current Consumption (mA)	40/140	40/140	80/180	160/260
3.3V Backplane Current Consumption (mA)	100	290	650	650

Carriers

VersaMax provides several types of snap-together I/O carriers and interposing terminals to provide maximum wiring flexibility, as well as module hot insertion and removal. VersaMax carriers support IEC box-style, spring-style, and barrier-style terminals and are also available as snap-on auxiliary terminal strips and interposing terminals that can be mounted separately and connected to a connector-style carrier by an I/O cable.

	IC200CHS001	IC200CHS002	IC200CHS003	IC200CHS005	IC200CHS006	IC200CHS011
Product Name	**VersaMax I/O Carrier, Local Barrier Style**	**VersaMax I/O Carrier, Local Box Style**	**VersaMax I/O Carrier, Connector Style**	**VersaMax I/O Carrier, Local Spring Clamp Connection Style**	**VersaMax I/O, Local Communications Carrier**	**VersaMax I/O Carrier, Interposing Barrier Style**
Field Termination Type	Integrated	Integrated	Integrated	Integrated	Communications	Non-Integrated
Connection Style	Barrier	Box	Connector	Spring	N/A	Barrier

	IC200CHS012	IC200CHS014	IC200CHS015	IC200CHS022	IC200CHS025	IC200PWB001
Product Name	**VersaMax I/O Carrier, Interposing Box Style**	**VersaMax I/O Carrier, Interposing Box Thermocouple Compensation**	**VersaMax I/O, Carrier Interposing Spring Clamp**	**VersaMax Compact I/O Carrier, Local Box Clamp Connection Style**	**VersaMax Compact I/O Carrier, Local Spring Clamp Connection Style**	**VersaMax Power Supply Booster Carrier**
Field Termination Type	Non-Integrated	Integrated	Non-Integrated	Integrated	Integrated	Power Supply
Connection Style	Box	Box-Thermocouple Compensation	Spring	Local Box	Local Sprint	N/A

Power Supplies

VersaMax Power Supply modules snap onto any VersaMax CPU or Network Interface Unit, or onto a power supply booster carrier. Each power supply can be used as the main power source for modules in the I/O Station, or as a source of supplemental power for larger I/O applications.

	IC200PWR001	IC200PWR002	IC200PWR101	IC200PWR102	IC200PWR201	IC200PWR202
Product Name	**24VDC Power Supply**	**24VDC Power Supply with Expanded 3.3 V**	**120/240VAC Power Supply**	**120/240VAC Power Supply with Expanded 3.3 VDC**	**12 VDC Power Supply**	**12 VDC Power Supply with Expanded 3.3 VDC**
Input Voltage	24 VDC	24 VDC	120/240 VAC	120/240 VAC	9.6-15 VDC, 12 VDC nominal	9.6-15 VDC, 12 VDC nominal
Output Voltage	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC
Extended Power	No	Yes	No	Yes	No	Yes
Input Power	11 W	11 W	27 VA	27 VA	11 W	11 W
Holdup Time	10 ms	10 ms	20 ms	20 ms	10 ms	10 ms
Inrush Current	20 A @ 24 VDC; 25 A @ 30 VDC	20 A @ 24 VDC; 25 A @ 30 VDC			25 A at 12 VDC; 30 A at 15 VDC	25 A at 12 VDC; 30 A at 15 VDC
Protection	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	Short circuit, overload	Short circuit, overload	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity
Total Output Current	1.5 A maximum	1.5 A maximum	1.5 A maximum	1.5 A maximum	1.5 A maximum	1.5 A maximum
3.3V Output Current	0.25 A maximum	1.0 A maximum	0.25 A maximum	1.0 A maximum	0.25 A maximum	1.0 A maximum
5V Output Current	1.5 A-I(3.3V) maximum	1.5 A-I(3.3V) maximum	1.5 A-I(3.3V) maximum	1.5 A-I(3.3V) maximum	1.5 A-I(3.3V) maximum	1.5 A-I(3.3V) maximum

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDD840	IC200MDD841	IC200MDD842
Product Name	**VersaMax Discrete Mixed Modules, 24VDC Pos Logic Input 20 points/Output Relay 2.0 A, 12 points**	**VersaMax Discrete Mixed Modules 24VDC Pos Logic Input 20/Output 12/HSC, PWM or Pulse Train**	**VersaMax Discrete Mixed Modules 24VDC Pos Logic Input 16/Output 24 VDC 0.5 A with ESCP**
Input Voltage	24 VDC	24 VDC	24 VDC
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	24 VDC	24 VDC
Number of Points	20 in/12 out	20 in/12 out/4 configurable	16 in/16 out
Channel to Channel Isolation	No	No	No
Load Current per Point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC	N/A	0.5 A for 30 VDC
Input and Output Response Time-On/Off(ms)	0.5 and 10	7 and 0.5	0.5 and 0.5
Protection	No internal fuses or snubbers	No internal fuses	Short circuit protection, overcurrent protection, free-wheeling diodes
Points per Common			
On State Current	2-50.5 mA	3.0-8.0 mA	
Off State Current	0-0.5 mA	0-0.5 mA	0-0.5 mA
External Power Supply	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	24 VDC nominal, 18-30 VDC	18-30 VDC, 24 VDC nominal
Input Impedance	10 kOhms maximum	9.6 kOhms maximum	10 kOhms maximum
Load Current	2.0 A for 5-265 VAC or 5-30 VDC, 0.2 A for 31-125 VDC	0.5 A maximum	
5V Backplane Current Consumption (mA)	375 maximum	30	100 maximum
LED Indicators	One LED per point shows individual point on/off state; OK LED indicates backplane power is present	One LED per point shows individual point on/off state; FLD PWR indicates field power is present; OK LED indicates backplane power is present	One green LED per point shows individual point on/off state. One amber LED per point shows individual point overloads for outputs. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDD843	IC200MDD844	IC200MDD845
Product Name	**VersaMax Discrete Mixed Modules 24VDC Positive Logic Input 10/Output Relay 6**	**VersaMax Discrete Mixed Modules 24VDC Positive Logic Input 16/Output 24 VDC 0.5 A 16**	**VersaMax Discrete Mixed Modules 24VDC Positive Logic Input 16/Output Relay 2.0A Isolated 8 points**
Input Voltage	24 VDC	24 VDC	24 VDC
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	24 VDC	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	10 in/6 out	16 in/16 out	16 in/8 out
Channel to Channel Isolation	No	No	Yes, outputs
Load Current per Point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC	0.5 A for 30 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC
Input and Output Response Time-On/Off(ms)	0.5 and 10	0.5 and 0.2/1	0.5 and 10
Protection	No internal fuses or snubbers	No internal fuses	No internal fuses or snubbers
Points per Common			
On State Current			
Off State Current	0-0.5 mA	0-0.5 mA	0-0.5 mA
External Power Supply	0-125 VDC, 5/24/125 VDC nominal, 0-265 VAC (47-63 Hz), 120/240 VAC nominal	18-30 VDC, 24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Input Impedance	10 kOhms maximum	10 kOhms maximum	10 kOhms maximum
Load Current			
5V Backplane Current Consumption (mA)	190 maximum	70 maximum	270 maximum
LED Indicators	One LED per point shows individual point on/off state. OK LED indicates backplane power is present	One LED per point shows individual point on/off state; FLD PWR LED indicates field power is present; OK LED indicates backplane power is present	One green LED per point shows individual point on/off state. OK LED indicates backplane power is present

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDD846	IC200MDD847	IC200MDD848
Product Name	**VersaMax Discrete Mixed Modules 120VAC Input 8 points/Outpoints Relay 2.0A Isolated 8 points**	**VersaMax Discrete Mixed Modules 240VAC Input 8 points/Output Relay 2.0A Isolated 8 points**	**VersaMax Discrete Mixed Modules 120VAC Input 8 points/Output 120VAC 0.5A Isolated 8 points**
Input Voltage	120 VAC	240 VAC	120 VAC
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	120 VAC
Number of Points	8 in/8 out	8 in/8 out	8 in/8 out
Channel to Channel Isolation	Yes, outputs	Yes, outputs	Yes
Load Current per Point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC	10 mA min, 0.5 A max, 5 A for 1 cycle (20 ms) max inrush
Input and Output Response Time-On/Off(ms)	1 cycle/2 cycle and 10	1 cycle/2 cycle and 10	1 cycle/2 cycle and <1/2 cycle/<1/2 cycle
Protection	No internal fuses or snubbers	No internal fuses or snubbers	Snubber and MOVs (each output)
Points per Common			
On State Current	5 mA minimum	4 mA minimum	5 mA minimum
Off State Current	2.5 mA maximum	1.5 mA maximum	2.5 mA maximum
External Power Supply	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Input Impedance	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical
Load Current			10 mA minimum per point, 0.5 A maximum per point, 5.0 A for one cycle (20 ms) maximum inrush
5V Backplane Current Consumption (mA)	300 maximum	300 maximum	125 maximum
LED Indicators	One LED per point shows individual point on/off state. OK LED indicates backplane power is present.	One LED per point shows individual point on/off state; OK LED indicates backplane power is present	One LED per point shows individual point on/off state. OK LED indicates backplane power is present

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDD849	IC200MDD850	IC200MDD851
Product Name	**VersaMax Discrete Mixed Modules 120 VAC Input Isolated 8 points/Output Relay 2.0 A Isolated 8 points**	**VersaMax Discrete Mixed Modules 240 VAC Input Isolated 4 points/Output Relay 2.0 A Isolated 8 points**	**VersaMax Discrete Mixed Modules 5/12VDC Input 16 points/Output12/24VDC 16 points**
Input Voltage	0-132 VAC (47 to 63 Hz), 120 VAC nominal	0-264 VAC (47-63 Hz), 240 VAC nominal	0 to 15VDC, +5/12VDC Nominal
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	+10.2 to +30VDC, +12/24VDC nominal
Number of Points	8 in/8 out	8 out/4 in	16 out/16 in
Channel to Channel Isolation	Yes	Yes	No
Load Current per Point	2.0 A	2.0 A	0.5 Amps at 30VDC maximum (resistive) 2.0amps maximum for 100ms inrush
Input and Output Response Time-On/Off(ms)	1 cycle/2 cycle and 10/10	1 cycle/2 cycle and 10/10	0.25ms maximum/0.2ms ON and 1.0ms OFF maximum
Protection	No internal fuses or snubbers	No internal fuses or snubbers	No internal fuses or snubbers
Points per Common			
On State Current	5 mA minimum	4 mA minimum	1.45mA minimum
Off State Current	2.5 mA maximum	1.5 mA maximum	0 to 0.7 mA maximum
External Power Supply			+10.2 to +30VDC, +12/24VDC nominal
Input Impedance	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	2.4kOhms typical @ 12VDC
Load Current	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)	0.5 Amps at 30VDC maximum (resistive); 2.0 Amps maximum for 100ms inrush
5V Backplane Current Consumption (mA)	300 maximum	260 maximum	115 maximum
LED Indicators	One LED per point shows individual point on/off state. OK LED indicates backplane power is present	One LED per point shows individual point on/off state. OK LED indicates backplane power is present	One LED per point shows individual point on/off state. OK LED indicates backplane power is present

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL140	IC200MDL141	IC200MDL143
Product Name	**VersaMax Discrete Input Module 120 VAC, 8 points**	**VersaMax Discrete Input Module 240 VAC, 8 points**	**VersaMax Discrete Input Module 120 VAC Isolated, 8 points**
Input Voltage	0-132 VAC	0-264 VAC	0-132 VAC
Output Voltage	N/A	N/A	N/A
Number of Points	8	8	8
Channel to Channel Isolation	No	No	Yes
Load Current per Point	N/A	N/A	N/A
Input and Output Response Time-On/Off(ms)	1 cycle/2 cycles	1 cycle/2 cycles	1 cycle/2 cycles
Protection			
Points per Common			
On State Current	5 mA minimum	7 mA minimum	5 mA minimum
Off State Current	2.5 mA maximum	1.5 mA maximum	2.5 mA maximum
External Power Supply	None	None	None
Input Impedance	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical
Load Current			
5V Backplane Current Consumption (mA)	55 maximum	55 maximum	50 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL144	IC200MDL240	IC200MDL241
Product Name	**VersaMax Discrete Input Module 240 VAC Isolated, 4 points**	**VersaMax Discrete Input Module, 120VAC Positive Logic, 16 points**	**VersaMax Discrete Input Module, 240VAC Positive Logic, 16 points**
Input Voltage	0-264 VAC	0-132 VAC	0-264 VAC
Output Voltage	N/A	N/A	N/A
Number of Points	4	16	16
Channel to Channel Isolation	Yes	No	No
Load Current per Point	N/A	N/A	N/A
Input and Output Response Time-On/Off(ms)	1 cycle/2 cycles	1 cycle/2 cycles	1 cycle/2 cycles
Protection			
Points per Common		2 Groups of 8	2 Groups of 8
On State Current	7 mA minimum	5 mA minimum	4 mA minimum
Off State Current	3 mA maximum	2.5 mA maximum	1.5 mA maximum
External Power Supply	None	None	None
Input Impedance	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical
Load Current			
5V Backplane Current Consumption (mA)	30 maximum	110 maximum	110 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL243	IC200MDL244	IC200MDL329
Product Name	**VersaMax Discrete Input Module, 120 VAC Isolated, 16 points**	**VersaMax Discrete Input Module, 240 VAC Isolated, 8 points**	**VersaMax Discrete Output Module, 120 VAC, 0.5A per point Isolated, 8 points**
Input Voltage	0-132 VAC	0-264 VAC	N/A
Output Voltage	N/A	N/A	85-132 VAC (47-63 Hz), 120 VAC nominal
Number of Points	16	8	8
Channel to Channel Isolation	Yes	Yes	Yes
Load Current per Point	N/A	N/A	0.5 A per point
Input and Output Response Time-On/Off(ms)	1 cycle/2 cycles	1 cycle/2 cycles	<1/2 cycle/<1/2 cycle
Protection			Snubber and MOVs (each output)
Points per Common			
On State Current	5 mA minimum	7 mA minimum	
Off State Current	2.5 mA maximum	3 mA maximum	
External Power Supply	None	None	85-132 VAC (47-63 Hz), 120 VAC nominal
Input Impedance	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	
Load Current			10 mA minimum per point, 0.5 A maximum per point, 5.0 A for one cycle (20 ms) maximum inrush
5V Backplane Current Consumption (mA)	100 maximum	60 maximum	70 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL330	IC200MDL331	IC200MDL631
Product Name	**VersaMax Discrete Output Module, 120 VAC 0.5A per point Isolated, 16 points**	**VersaMax Discrete Output Module, 120 VAC 2.0A per point Isolated, 8 points**	**VersaMax Discrete Input Module 125 VDC, Pos/Neg Logic, Isolated, 8 points**
Input Voltage	N/A	N/A	0 to 150 VDC, 125 VDC nominal
Output Voltage	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal	N/A
Number of Points	16	8	8 isolated inputs
Channel to Channel Isolation	Yes	Yes	Yes
Load Current per Point	0.5 A per point	2.0 A per point	N/A
Input and Output Response Time-On/Off(ms)	<1/2 cycle/<1/2 cycle	<1/2 cycle/<1/2 cycle	0.5 maximum
Protection	Snubber and MOVs (each output)	Snubber and MOVs (each output)	
Points per Common	Isolated points	Isolated points	
On State Current			1.0 mA minimum
Off State Current			0 to 0.1 mA maximum
External Power Supply	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal	None
Input Impedance			74 K Ohm typical at 125 VDC
Load Current	10 mA minimum per point, 0.5 A maximum per point, 5.0 A for one cycle (20 ms) maximum inrush	10 mA minimum per point, 2.0 A maximum per point, 20 A for one cycle (20 ms) maximum inrush	
5V Backplane Current Consumption (mA)	140 maximum	85 maximum	40 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL632	IC200MDL635	IC200MDL636
Product Name	**VersaMax Discrete Input Module 125 VDC, Pos/Neg Logic, Isolated, 16 points**	**VersaMax Discrete Input Module 48 VDC, Pos/Neg Logic (2 Groups of 8), 16 points**	**VersaMax Discrete Input Module 48 VDC, Pos/Neg Logic (4 Groups of 8), 32 points**
Input Voltage	0 to 150 VDC, 125 VDC nominal	0-60 VDC, 48 VDC nominal	0-60 VDC, 48 VDC nominal
Output Voltage	N/A	N/A	N/A
Number of Points	16 isolated inputs	16 inputs (2 groups of 8)	32 (4 groups of 8)
Channel to Channel Isolation	Yes	No	No
Load Current per Point	N/A	N/A	N/A
Input and Output Response Time-On/Off(ms)	0.5 maximum	0.5 maximum	0.5 maximum
Protection			
Points per Common			
On State Current	1.0 mA minimum	1.0 mA minimum	1.0 mA minimum
Off State Current	0 to 0.1 mA maximum	0 to 0.4 mA maximum	0 to 0.4 mA maximum
External Power Supply	None	None	None
Input Impedance	74 K Ohm typical at 125 VDC	28 K Ohm typical	28 K Ohm typical
Load Current			
5V Backplane Current Consumption (mA)	80 maximum	70 maximum	140 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL640	IC200MDL643	IC200MDL644
Product Name	**VersaMax Discrete Input Module, 24 VDC Positive Logic, 16 points**	**VersaMax Discrete Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 16 points**	**VersaMax Discrete Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 points**
Input Voltage	0-30 VDC	0-15 VDC	0-15 VDC
Output Voltage	N/A	N/A	N/A
Number of Points	16	16	32
Channel to Channel Isolation	No	No	No
Load Current per Point	N/A	N/A	N/A
Input and Output Response Time-On/Off(ms)	0.5	0.25	0.25
Protection			
Points per Common	2 Groups of 8		
On State Current	2.0-5.5 mA	1.45 mA minimum	1.45 mA minimum
Off State Current	0-0.5 mA	0-0.7 mA maximum	0-0.7 mA maximum
External Power Supply	None	None	None
Input Impedance	10 kOhms maximum	2.4 kOhms at 12 VDC, typical	2.4 kOhms at 12 VDC, typical
Load Current			
5V Backplane Current Consumption (mA)	25 maximum	70 maximum	140 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL650	IC200MDL730	IC200MDL740
Product Name	**VersaMax Discrete Input Module, 24VDC Positive Logic, 32 points**	**VersaMax Discrete Output Module, 24 VDC Positive Logic 2.0A per point w/ESCP, 8 points**	**VersaMax Discrete Output Module, 24 VDC Positive Logic, 0.5A per point, 16 points**
Input Voltage	0-30 VDC	N/A	N/A
Output Voltage	N/A	17.5-30 VDC, 24 VDC nominal	10.2-30 VDC, 12/24 VDC nominal
Number of Points	32	8	16
Channel to Channel Isolation	No	No	No
Load Current per Point	N/A	2.0 A per point	0.5 A per point
Input and Output Response Time-On/Off(ms)	0.5	0.5	0.2/1.0
Protection		Short circuit protection, overcurrent protection (each output)	No internal fuses (each output)
Points per Common	2 Groups of 8	1 Group of 8	1 Group of 16
On State Current	2.0-5.5 mA		
Off State Current	0-0.5 mA		
External Power Supply	None	18-30 VDC, 24 VDC nominal	10.2-30 VDC, 12/24 VDC nominal
Input Impedance	10 kOhms maximum		
Load Current		2.0 A at 30 VDC maximum (resistive) per point, 8.0 A max per module	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms
5V Backplane Current Consumption (mA)	50 maximum	50 maximum	45 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One green LED per point shows individual point on/off state. One amber LED per point shows individual point overloads/short circuits. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL741	IC200MDL742	IC200MDL743
Product Name	**VersaMax Discrete Output Module, 24 VDC Positive Logic, 0.5A per point w/ESCP, 16 points**	**VersaMax Discrete Output Module, 24 VDC Positive Logic 0.5A with ESCP, 32 points**	**VersaMax Discrete Output Module, 5/12/24 VDC Negative Logic, 0.5 A per point (1 group of 16) 16 points**
Input Voltage	N/A	N/A	N/A
Output Voltage	18-30 VDC, 24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	5/12/24 VDC
Number of Points	16	32	16 (1 group of 16)
Channel to Channel Isolation	No	No	No
Load Current per Point	0.5 A per point	0.5 A per point	0.5 A per point
Input and Output Response Time-On/Off(ms)	0.5/0.5	0.5/0.5	0.2/1.0
Protection	Short circuit protection, overcurrent protection, free-wheeling diodes (each output)	Short circuit protection, overcurrent protection, free-wheeling diodes (each output)	No internal fuse
Points per Common	1 Group of 16		
On State Current			
Off State Current			
External Power Supply	18-30 VDC, 24 VDC nominal	18-30 VDC, 24 VDC nominal	4.75 to 5.25 VDC, 5 VDC nominal for 5 VDC-TTL mode; 10.2 to 30 VDC, 12/24 VDC nominal for 12/24 VDC mode
Input Impedance			
Load Current	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms	25 mA maximum for 5VDC-TTL mode, 0.5 A at 30 VDC maximum, 2.0 A inrush maximum for 100 ms for 12/24 VDC mode
5V Backplane Current Consumption (mA)	75 maximum	150 maximum	70 maximum
LED Indicators	One green LED per point shows individual point on/off state. One amber LED per point shows individual point overloads. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One green LED per point shows individual point on/off state. One amber LED per point shows individual point overloads. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL744	IC200MDL750	IC200MDL930
Product Name	**VersaMax Discrete Output Module, 5/12/24 VDC Negative Logic, 0.5 A per point (2 groups of 16) 32 points**	**VersaMax Discrete Output Module, 24 VDC Positive Logic, 0.5A per point, 32 points**	**VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 8 points**
Input Voltage	N/A	N/A	N/A
Output Voltage	5/12/24 VDC	10.2-30 VDC, 12/24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	32 (2 groups of 16)	32	8
Channel to Channel Isolation	No	No	Yes
Load Current per Point	0.5 A per point	0.5 A per point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC
Input and Output Response Time-On/Off(ms)	0.2/1.0	0.2/1.0	10/10
Protection	No internal fuse	No internal fuses	No internal fuses or snubbers
Points per Common		2 Groups of 16	Isolated points
On State Current			
Off State Current			
External Power Supply	4.75 to 5.25 VDC, 5 VDC nominal for 5 VDC-TTL mode; 10.2 to 30 VDC, 12/24 VDC nominal for 12/24 VDC mode	10.2-30 VDC, 12/24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Input Impedance			
Load Current	25 mA maximum for 5VDC-TTL mode, 0.5 A at 30 VDC maximum, 2.0 A inrush maximum for 100 ms for 12/24 VDC mode	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	140 maximum	90 maximum	245 maximum
LED Indicators	One LED per point shows individual point ON/OFF state. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.

Discrete I/O Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200MDL940
Product Name	**VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points**
Input Voltage	N/A
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	16
Channel to Channel Isolation	Yes
Load Current per Point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC
Input and Output Response Time-On/Off(ms)	10/10
Protection	No internal fuses or snubbers
Points per Common	Isolated points
On State Current	
Off State Current	
External Power Supply	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Input Impedance	
Load Current	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	490 maximum
LED Indicators	One LED per point shows individual point ON/OFF state. FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.

Analog I/O Modules

Analog input modules receive signals from current and voltage input devices. Specialty modules are available for RTD and Thermocouple inputs. Analog output modules provide voltage or current signals to analog output devices. Analog mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200ALG230	IC200ALG240	IC200ALG260	IC200ALG261	IC200ALG262	IC200ALG263
Product Name	**VersaMax Analog Input Module, 12 Bit Voltage/Current, 4 Channels**	**VersaMax Analog Input Module, 16 Bit Voltage/Current Isolated, 8 Channel**	**VersaMax Analog Input Module, 12 Bit Voltage/Current, 8 Channel**	**VersaMax Analog Input Module, 15 Bit Differential Voltage, 8 Channel**	**VersaMax Analog Input Module, 15 Bit Differential Current, 8 Channel**	**VersaMax Analog Input Module, 15 Bit Voltage, 15 Channel**
Input Range	± 10 VDC or 0-10 VDC	± 10 VDC, 1-20 mA	± 10 VDC or 0-10 VDC	± 10 VDC	0 to 20mA or 4 to 20mA	± 10 VDC
Output Range	N/A	N/A	N/A	N/A	N/A	N/A
Channel to Channel Isolation	No	Yes	No	No	No	No
External Power Supply	None	Range: 19.5-30 VDC including ripple; Current consumption: 100 mA maximum plus load currents	None	None	None	None
Resolution	Bipolar mode: 2.5 mV = 8 counts, Unipolar mode: 2.5 mV = 8 counts		Bipolar mode: 2.5 mV = 8 counts Unipolar mode: 2.5 mV = 8 counts	Bipolar mode: 0.3125 mV = 1 counts	4 to 20mA: 0.5micro Amp= 1 count ; 0 to 20mA: 0.625micro Amp = 1 count	Bipolar mode: 0.3125 mV = 1 count
Update Rate	0.4 ms		0.4 ms	7.5 ms	7.5 ms	7.5 ms
Accuracy at 25°C	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.1% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, 0.5% maximum ±of full scale
Input Impedance	Voltage mode: 126 kOhms maximum, Current mode: 200 Ohms maximum		Voltage mode: 126 kOhms, maximum, Current mode: 200 Ohms maximum	Voltage mode: 100 kOhms maximum	Current mode: 100 kOhms maximum	Voltage mode: 100 kOhms maximum
Input Filter Response	5.0 ms		5.0 ms			32 Hz ±20%
5V Backplane Current Consumption (mA)	125 maximum	15 maximum	130 maximum	200 maximum	200 maximum	150 maximum
3.3V Backplane Current Consumption (mA)		120 maximum				
LED Indicators	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates the presence of both logic power and user power. OK LED indicates module status.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.

Analog I/O Modules

Analog input modules receive signals from current and voltage input devices. Specialty modules are available for RTD and Thermocouple inputs. Analog output modules provide voltage or current signals to analog output devices. Analog mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200ALG264	IC200ALG320	IC200ALG321	IC200ALG322	IC200ALG325	IC200ALG327
Product Name	**VersaMax Analog Input Module, 15 Bit Current, 15 Channel**	**VersaMax Analog Output Module, 12 Bit Current, 4 Channel**	**VersaMax Analog Output Module, 12 Bit 0-10V Voltage, 4 Channel**	**VersaMax Analog Output Module, 12 Bit ±10V Voltage, 4 Channel**	**VersaMax Analog Output Module, 13 Bit ±10VDC or 0 to 10VDC Voltage, 8 Channel**	**VersaMax Analog Output Module, 13 Bit ±10VDC or 0 to 10VDC Voltage, 12 Channel**
Input Range	0 to 20mA or 4 to 20mA	N/A	N/A	N/A	N/A	N/A
Output Range	N/A	4-20 mA	0-10 VDC	± 10 VDC	± 10 VDC or 0 to 10VDC	± 10 VDC or 0 to 10VDC
Channel to Channel Isolation	No	N/A	N/A	N/A	N/A	N/A
External Power Supply	None	Range: 18-30 VDC including ripple; Current consumption: 160 mA maximum including load current	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 102 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 112 mA maximum
Resolution	4 to 20mA: 0.5micro Amp= 1 count ; 0 to 20mA: 0.625micro Amp =1 count	4 uA = 8 counts	2.5 mV = 8 counts	5 mV = 16 counts	1.25 mV = 4 counts	1.25 mV = 4 counts
Update Rate	7.5 ms	0.3 ms maximum	0.3 ms maximum	0.3 ms maximum	15.0 ms maximum	10.0 ms maximum
Accuracy at 25°C	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale
Input Impedance	Current mode: 100 kOhms maximum					
Input Filter Response	24 Hz ±20%					
5V Backplane Current Consumption (mA)	100 maximum	50 maximum	50 maximum	50 maximum	50 maximum	50 maximum
3.3V Backplane Current Consumption (mA)						
LED Indicators	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present OK LED indicates backplane power is present.

Analog I/O Modules

Analog input modules receive signals from current and voltage input devices. Specialty modules are available for RTD and Thermocouple inputs. Analog output modules provide voltage or current signals to analog output devices. Analog mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module.

	IC200ALG331	IC200ALG430	IC200ALG431	IC200ALG432	IC200ALG620	IC200ALG630
Product Name	**VersaMax Analog Output Module, 14 Bit Voltage/Current 1500VAC Isolation, 8 Channel**	**VersaMax Analog Mixed Module, 12 Bit Input Current 4 Channel/Output Current 2 Channel**	**VersaMax Analog Mixed Module, 12 Bit 0-10V Input 4 Channel/Output 0-10V 2 Channel**	**VersaMax Analog Mixed Module, 12 Bit±10V Input 4 Channel/Output ±10V 2 Channel**	**VersaMax Analog Input Module, 16 Bit RTD, 4 Channel**	**VersaMax Analog Input Module, 16 Bit Thermocouple, 7 Channel**
Input Range	N/A	4-20 mA	0-10 VDC	-10 to +10 VDC	RTD	Thermocouple
Output Range	± 10 VDC, 4-20 mA	4-20 mA	0-10 VDC	-10 to +10 VDC	N/A	N/A
Channel to Channel Isolation	N/A	N/A	N/A	N/A	Yes	Yes
External Power Supply	Range: 19.5-30 VDC including ripple; Current consumption: 100 mA maximum plus load currents	Range: 18-30 VDC including ripple; Current consumption 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	None	None
Resolution		4 uA = 8 counts	2.5 mV = 8 counts	Input: 2.5 mV = 8 counts, Output: 5 mV = 16 counts		
Update Rate		0.3 ms maximum	0.3 ms maximum	0.3 ms maximum		
Accuracy at 25°C	±0.1% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	Resistance: ±0.2% of reading, Temperature: ±2.0 degrees Celsius	On voltage measurement: ±0.2%, On temperature measurement: ± 3 degrees Celsius
Input Impedance		200 Ohms maximum	120 kOhms minimum	125 kOhms minimum		
Input Filter Response		5.0 ms	5.0 ms	5.0 ms		
5V Backplane Current Consumption (mA)	10 maximum	50 maximum	60 maximum	60 maximum	125 maximum	125 maximum
3.3V Backplane Current Consumption (mA)	115 maximum				125 maximum	125 maximum
LED Indicators	FLD PWR LED indicates the presence of both logic power and user power. OK LED indicates module status.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	OK LED: green indicates backplane power is present. Amber indicates module fault.	OK LED: green indicates backplane power is present. Amber indicates module fault.

Expansion Modules

Expansion Modules can be used to extend a VersaMax PLC or I/O station to include up to seven additional groups of up to eight modules each, providing the architectural flexibility to accommodate larger applications.

	IC200ERM001	IC200ERM002	IC200ETM001
Product Name	**Expansion Receiver Module, Isolated**	**Expansion Receiver Module, Non-Isolated**	**Bus Transmitter Expansion Module**
Distance	Up to 2460 feet	Up to 50 feet	N/A
5V Backplane Current Consumption (mA)	430 maximum	70 maximum	44 maximum
3.3V Backplane Current Consumption (mA)	20	20	
LED Indicators	PWR LED indicates 5 VDC power status; EXP RX LED indicates status of the expansion bus; SCAN indicates whether CPU/NIU is scanning I/O in expansion racks	PWR LED indicates 5 VDC power status; EXP RX LED indicates expansion bus communications status; SCAN indicates whether CPU/NIU is scanning I/O in expansion racks	PWR LED indicates 5 VDC power status; EXP TX LED indicates expansion bus communication status

I/O Network Interface Units

An I/O Network Interface Unit connects VersaMax I/O modules to a host PLC or computer via a variety of networks, which makes it easy to include VersaMax I/O in Genius, Profibus-DP, DeviceNet, or Ethernet installations. Together, the NIU and its modules form an I/O station capable of providing up to 256 points of I/O.

	IC200DBI001	IC200EBI001	IC200GBI001
Product Name	**Remote I/O DeviceNet Network Interface Unit (Slave)**	**Remote I/O Ethernet Network Interface Unit**	**Genius Network Interface Unit**
Input Power Type	N/A	Requires Expanded 3.3 V Power Supply	N/A
Expansion Type	N/A	Expansion Racks not supported	N/A
Distance	N/A	100 Meters max	N/A
I/O Discrete Points		256 bytes %Q, 256 bytes %I	
I/O Analog Words		256 byte %AI, 256 bytes %AQ	
I/O Data		256 Bytes of input, output, Analog input and Analog output	
Type of Memory Storage		RAM	
Network Data Rate	125 Kbaud, 250 Kbaud, 500 Kbaud	10/100 Mbaud	153.6 Kbaud extended, 153.6 Kbaud standard, 76.8 Kbaud, 38.4 Kbaud
Network Topology	Linear bus (trunkline/dropline); power and signal on the same network cable	Network dependent	Bus
Transmission Media	Shielded, dual twisted pair cable, terminated at both ends	Ethernet twisted pair	Shielded, twisted pair, fiber optic
Connector	5-pin open pluggable connector	RJ-45	
User Diagnostic Data	2 bytes of status/control	4	
Number of Modules	8 per NIU/station	8 per NIU/station	8 per NIU/station
Network Inputs per Bus Scan		250 bytes	128 bytes
Network Outputs per Bus Scan		250 bytes	128 bytes
Redundancy		No	Full media and hardware redundancy supported
5V Backplane Current Consumption (mA)		175	
3.3V Backplane Current Consumption (mA)		425	
LED Indicators		5	
Protocol		• Modbus TCP • EGD	

I/O Network Interface Units

An I/O Network Interface Unit connects VersaMax I/O modules to a host PLC or computer via a variety of networks, which makes it easy to include VersaMax I/O in Genius, Profibus-DP, DeviceNet, or Ethernet installations. Together, the NIU and its modules form an I/O station capable of providing up to 256 points of I/O.

	IC200PBI001
Product Name	**Remote I/O Profibus-DP Network Interface Unit (Slave)**
Input Power Type	N/A
Expansion Type	N/A
Distance	N/A
I/O Discrete Points	
I/O Analog Words	
I/O Data	375 bytes maximum; up to 244 bytes of inputs or 244 bytes of outputs
Type of Memory Storage	
Network Data Rate	9.6 Kbaud to 12 Mbaud
Network Topology	Linear bus, terminated at both ends. Stubs are possible.
Transmission Media	Shielded, twisted pair cable
Connector	9-pin D-sub connector
User Diagnostic Data	2 bytes of status/control, 5 bytes of standard Profibus diagnostics
Number of Modules	8 per NIU/station
Network Inputs per Bus Scan	
Network Outputs per Bus Scan	
Redundancy	
5V Backplane Current Consumption (mA)	
3.3V Backplane Current Consumption (mA)	
LED Indicators	
Protocol	

Network Communications Modules

Network Communications Modules allow a VersaMax PLC to operate as a master or slave on a network. Modules currently available support DeviceNet master or slave communications and Profibus-DP slave communications. An AS-i master communications module is also available.

	IC200BEM002	IC200BEM103	IC200BEM104
Product Name	**PLC Network Communications Profibus-DP (Slave)**	**PLC Network Communications DeviceNet (Master)**	**PLC Network Communications AS-i (Master)**
Number of Stations	32 without repeaters; up to 125 with repeaters		
I/O Data	384 Bytes maximum; up to 244 bytes of inputs or 244 bytes of outputs	Up to 128 bytes of inputs and 128 bytes of outputs	4 input bits and 4 output bits per slave
Network Data Tate	9.6 Kbaud to 12 Mbaud	125 Kbaud, 250 Kbaud, 500 Kbaud	166.6Kbits/second
Network Topology	Linear bus, terminated at both ends. Stubs are possible.	Linear bus (trunkline/dropline); power and signal on the same network cable	Tree Structure
Transmission Media	Shielded, twisted pair cable	Shielded, twisted pair cable	Rubber coated two wire cable
Connector	9-pin D-sub connector		
Number of Nodes		Supports up to 40 slave devices	Supports up to 31 slave devices
User Diagnostic Data		One presence bit per slave device	Display data
Power Consumption	460 mA maximum from 5 V output, 5 mA from +3.3 V output	490 mA maximum from 5 V output, 2 mA from +3.3 V output	350 mA maximum from 5 V output

Accessories

IC200ACC001	Replacement Battery for VersaMax CPUs
IC200ACC003	EZ Program Store, CPU RS485 Port Update Device
IC200ACC201	Expansion Terminator QTY 1
IC200ACC202	Expansion Connector QTY 2
IC200ACC301	I/O Filler Module
IC200ACC302	I/O Input Simulator
IC200ACC303	I/O Shorting Bar QTY 2

Cables

IC200CBL600	Cable Expansion Shielded Single Ended 1M
IC200CBL601	Cable Expansion Shielded 2 Connectors 1M
IC200CBL602	Cable Expansion Shielded 2 Connectors 2M
IC200CBL615	Cable Expansion Shielded 2 Connectors 15M
IC200ACC304	I/O Cable Connector Kit QTY 2

Starter Kits

IC200PKG001	PLC Starter Kit CPU001
IC200PKG101	I/O Starter Kit GENIUS
IC200PKG102	I/O Starter Kit Profibus-DP
IC200PKG103	I/O Starter Kit DeviceNet

VersaMax® Nano and Micro Controllers

Don't let size fool you. Although they are easy on valuable panel space, the VersaMax Nano and Micro PLCs are big on features. For high-volume applications where cost and fast processor speeds are an issue, the VersaMax Nano is the PLC of choice. For additional functionality, the modular VersaMax Micro offers the features and the flexibility to match application needs in such industries as food processing, chemicals, packaging, water and wastewater, construction equipment and plastics.

For tight spaces, the VersaMax Nano PLC is the perfect solution. Thanks to its all-in-one construction, installation is a breeze. All you have to do is snap it onto a DIN rail or screw it into a panel. With the VersaMax Nano, you save on initial as well as life cycle costs.

The small-footprint VersaMax Micro PLC offers the flexibility of modular design and a variety of built-in features, including up to 28 I/O points (expandable to 140 I/O points), fast cycle times, a robust instruction set and extensive memory that multiplies your programming options.

Proficy™ Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

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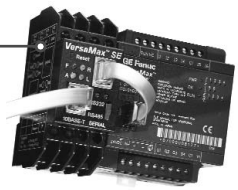

Publication Reference Chart

GFK-1645	VersaMax Micro PLCs and Nano PLCs User's Manual
IC690CDU002	InfoLink for PLC CD-ROM

Nano PLCs

The palm-sized VersaMax Nano PLC is highly compact, with an all-in-one construction that saves panel space. Installation is a breeze: simply snap it onto a DIN rail or mount it on a panel. Because it gives you more capabilities in a smaller, less expensive package, the Nano PLC is ideal for high-volume applications that require low cost, compact size, and fast processor speeds. The Nano decreases your life-cycle costs as well, with easy installation and long-term reliability.

	IC200NAL110	IC200NAL211	IC200NDD010	IC200NDD101	IC200NDR001	IC200NDR010
Product Name	**10 point (6) 12 VDC In, (1) Analog Voltage In, (4) Relay Out, 12 VDC Power Supply**	**10 point (6) 24 VDC In, (1) Analog Voltage In, (4) Relay Out, 24 VDC Power Supply**	**10 point (6) 12 VDC In, (4) 12 VDC Out, 12 VDC Power Supply**	**10 point (6) 24 VDC In, (4) 24 VDC Out, 24 VDC Power Supply**	**10 point (6) 24 VDC In, (4) Relay Out, 24 VDC Power Supply**	**10 point (6) 12 VDC In, (4) Relay Out, 12 VDC Power Supply**
Number of Inputs/Outputs	6 In / 4 Out	6 In / 4 Out	6 In / 4 Out	6 In / 4 Out	6 In / 4 Out	6 In / 4 Out
Power Voltage	12 VDC	24 VDC	12 VDC	24 VDC	24 VDC	12 VDC
Communication Ports	1	1	1	1	1	1
Input Device Voltage	12 VDC	24 VDC	12 VDC	24 VDC	24 VDC	12 VDC
Output Control Voltage	Relay Out	Relay Out	12 VDC	24 VDC	Relay Out	Relay Out
Dimensions (WxHxD) mm	75x80x47	75x80x47	75x80x47	75x80x47	75x80x47	75x80x47
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Programming Software	VersaPro 2.0 or greater	VersaPro 2.0 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater
User Program Logic Memory	2 K	2 K	2 K	2 K	2 K	2 K
Physical I/O Maximum	10	10	10	10	10	10
Relay Operating Voltage	5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC			5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC

Micro PLCs

Don't let size fool you. This Micro PLC is big on features; from up to 28 I/O (expandable to 140 I/O) points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UAA003	IC200UAA007	IC200UAL004	IC200UAL005	IC200UAL006	IC200UAR014
Product Name	**14 point (8) 120 VAC In, (6) 120 VAC Out, 120/240 VAC Power Supply**	**28 point; (16) 120 VAC In, (12) 120 VAC Out, 120/240 VAC Power Supply. Battery (IC200ACC403) is required for long term data retention. Battery is not included.**	**23 point; (13) 12 VDC In, (10) Relay Out, (2) Analog In and (1) Analog Out, 12 VDC Power Supply. Battery (IC200ACC403) is required for data retention. Battery is not included.**	**23 point; (13) 24 VDC In, (9) Relay Out, (1) 24 VDC Out, (2) Analog In and (1) Analog Out, 24 VDC Power Supply. Battery (IC200ACC403) is required for data retention. Battery is not included.**	**23 point; (13) 24 VDC In, (9) Relay Out, (1) 24 VDC Out, (2) Analog In and (1) Analog Out, 120/240 VAC Power Supply. Battery (IC200ACC403) is required for data retention. Battery is not included.**	**14 point, (8) 120VAC In, (6) Relay Out, 120/240VAC Power Supply**
Number of Inputs/Outputs	8 In / 6 Out	16 In / 12 Out	13 In / 10 Out	13 In / 10 Out	13 In / 10 Out	8 In / 6 Out
Power Voltage	120/240 VAC	120/240 VAC	12 VDC	24 VDC	120/240 VAC	120/240 VAC
Communication Ports	1	2	2	2	2	1
Input Device Voltage	120 VAC	120 VAC	12 VDC	24 VDC	24 VDC	120 VAC
Output Control Voltage	120 VAC	120 VAC	Relay Out	Relay Out	Relay Out	Relay Out
Dimensions (WxHxD) mm	95x90x76	150x90x76	150x90x76	150x90x76	150x90x76	95x90x76
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Programming Software	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater
User Program Logic Memory	9 K	9 K	9 K	9 K	9 K	9 K
Physical I/O Maximum	126	140	135	135	135	126
Relay Operating Voltage			5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC

Micro PLCs

Don't let size fool you. This Micro PLC is big on features; from up to 28 I/O (expandable to 140 I/O) points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UAR028	IC200UDD104	IC200UDD110	IC200UDD112	IC200UDD120	IC200UDD212
Product Name	**28 point, (16) 120VAC In, (12) Relay Out, 120/240VAC Power Supply. Battery (IC200ACC403) is required for data retention. Battery is not included.**	**14 point (8) 24 VDC In, (6) 12/24 VDC Out, (2) 1.0 A, (4) 0.5 A, 24 VDC Power Supply**	**28 point; (16) 24 VDC In, (12) 24 VDC Out (6) 1.0 A, (6) 0.5 A, 24 VDC Power Supply. Battery (IC200ACC403) is required for long term data retention. Battery is not included.**	**14 point (8) 12 VDC In, (6) 12 VDC Out, 0.7A, 12 VDC Power Supply**	**28 point; (16) 24 VDC In, (12) 24 VDC Out 6 1.0 A, 6 0.5 A, 24 VDC Power Supply. Battery (IC200ACC403) is required for long term data retention. Battery is not included.**	**28 point (16) 12 VDC In, (12) 12 VDC Out, 0.7A, 12 VDC Power Supply**
Number of Inputs/Outputs	16 In / 12 Out	8 In / 6 Out	16 In / 12 Out	8 In / 6 Out	16 In / 12 Out	16 In / 12 Out
Power Voltage	120/240 VAC	24 VDC	24 VDC	12 VDC	24 VDC	12 VDC
Communication Ports	2	1	2	1	2	2
Input Device Voltage	120 VAC	24 VDC	24 VDC	12 VDC	24 VDC	12 VDC
Output Control Voltage	Relay Out	24 VDC	24 VDC	12 VDC	24 VDC ESCP	12 VDC
Dimensions (WxHxD) mm	150x90x76	95x90x76	150x90x76	95x90x76	150x90x76	150x90x76
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Programming Software	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater
User Program Logic Memory	9 K	9 K	9 K	9 K	9 K	9 K
Physical I/O Maximum	135	126	140	126	140	140
Relay Operating Voltage	5 to 30 VDC and 5 to 250 VAC					

Micro PLCs

Don't let size fool you. This Micro PLC is big on features; from up to 28 I/O (expandable to 140 I/O) points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDR001	IC200UDR002	IC200UDR003	IC200UDR005	IC200UDR006	IC200UDR010
Product Name	**14 point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Power Supply**	**14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Power Supply**	**14 point (8) 24 VDC In, (6) Relay Out, 12 VDC Power Supply**	**28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 120/240 VAC Power Supply. Battery (IC200ACC403) is required for long term data retention. Battery is not included.**	**28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 24 VDC Power Supply. Battery (IC200ACC403) is required for long term data retention. Battery is not included.**	**28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 24 VDC Power Supply. Battery (IC200ACC403) is required for long term data retention. Battery is not included.**
Number of Inputs/Outputs	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out
Power Voltage	120/240 VAC	24 VDC	12 VDC	120/240 VAC	12 VDC	24 VDC
Communication Ports	1	1	1	2	2	2
Input Device Voltage	24 VDC	24 VDC	12 VDC	24 VDC	12 VDC	24 VDC
Output Control Voltage	Relay Out	Relay Out	Relay Out	Relay Out	Relay Out	Relay Out
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	150x90x76	150x90x76	150x90x76
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Programming Software	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater	VersaPro 1.1 or greater
User Program Logic Memory	9 K	9 K	9 K	9 K	9 K	9 K
Physical I/O Maximum	126	126	126	140	140	140
Relay Operating Voltage	5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC

Expansion Units

The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units, allowing you to expand up to 140 I/O with the 28-point Micro or 126 I/O using the 14-point Micro.

	IC200UEX009	IC200UEX010	IC200UEX011	IC200UEX012	IC200UEX013	IC200UEX014
Product Name	**14 point (8) 120 VAC In, (6) Relay Out (2 outputs at 10 amp and 4 outputs at 2 amp), 120/240 VAC Power Supply**	**14 point (8) 24 VDC In, (6) 120 VAC Out, 120/240 VAC Power Supply**	**14 point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Power Supply**	**14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Power Supply**	**14 point (8) 12 VDC In, (6) Relay Out, 12 VDC Power Supply**	**14 point (8) 24 VDC In, (6) 24 VDC Out, 24 VDC Power Supply**
Number of Inputs/Outputs	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out
Power Voltage	120/240 VAC	120/240 VAC	120/240 VAC	24 VDC	12 VDC	24 VDC
Input Device Voltage	120 VAC	120 VAC	24 VDC	24 VDC	12 VDC	24 VDC
Output Control Voltage	Relay Out	120 VAC	Relay Out	Relay Out	Relay Out	24 VDC
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Power Supply Voltage Range	85 to 264 VAC	85 to 264 VAC	85 to 264 VAC	19.2 VDC to 30 VDC	9.6 VDC to 15 VDC	19.2 VDC to 30 VDC
Input Power Supply Rating	11 VA	11 VA	11 VA	4 Watts	4 Watts	4 Watts
Input Power	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 12 VDC out	8 watts internal plus 5 watts out to user 24 VDC out
Relay Operating Voltage	5 to 30 VDC and 5 to 250 VAC		5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC	

Expansion Units

The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units, allowing you to expand up to 140 I/O with the 28-point Micro or 126 I/O using the 14-point Micro.

	IC200UEX015	IC200UEX122	IC200UEX209	IC200UEX210	IC200UEX211	IC200UEX212
Product Name	**14 point (8) 12 VDC In, (6) 12VDC Out, 12 VDC Power Supply**	**14 point (8) 24 VDC In, (6) 24VDC Out with ESCP, 24 VDC Power Supply**	**28 point (16) 120 VAC In, (12) Relay Out (2 outputs at 10 amp and 10 outputs at 2 amp), 120/240 VAC Power Supply**	**28 point (16) 24 VDC In, (12) 120VAC Out, 120/240 VAC Power Supply**	**28 point (16) 24 VDC In, (12) Relay Out, 120/240 VAC Power Supply**	**28 point (16) 24 VDC In, (12) Relay Out, 24 VDC Power Supply**
Number of Inputs/Outputs	8 In / 6 Out	8 In / 6 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out
Power Voltage	12 VDC	24 VDC	120/240 VAC	120/240 VAC	120/240 VAC	24 VDC
Input Device Voltage	12 VDC	24 VDC	120 VAC	120 VAC	24 VDC	24 VDC
Output Control Voltage	12 VDC	24 VDC ESCP	Relay Out, 2 outputs @ 10 Amps	120 VAC	Relay Out	Relay Out
Dimensions (WxHxD) mm	95x90x76	95x90x76	150x90x76	150x90x76	150x90x76	150x90x76
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Power Supply Voltage Range	9.6 VDC to 15 VDC	19.2 VDC to 30 VDC	85 to 264 VAC	85 to 264 VAC	85 to 264 VAC	19.2 VDC to 30 VDC
Input Power Supply Rating	4 Watts	4 Watts	35 VA	35 VA	35 VA	8 Watts
Input Power	8 watts internal plus 5 watts out to user 12 VDC out	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 24 VDC out
Relay Operating Voltage			5 to 30 VDC and 5 to 250 VAC		5 to 30 VDC and 5 to 250 VAC	5 to 30 VDC and 5 to 250 VAC

Expansion Units

The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units, allowing you to expand up to 140 I/O with the 28-point Micro or 126 I/O using the 14-point Micro.

	IC200UEX213	IC200UEX214	IC200UEX215	IC200UEX222
Product Name	**28 point (16) 12 VDC In, (12) Relay Out, 12 VDC Power Supply**	**28 point (16) 24 VDC In, (12) 24VDC Out, 24 VDC Power Supply**	**28 point (16) 12 VDC In, (12) 12VDC Out, 12 VDC Power Supply**	**28 point (16) 24 VDC In, (12) 24VDC Out with ESCP, 24 VDC Power Supply**
Number of Inputs/Outputs	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out
Power Voltage	12 VDC	24 VDC	12 VDC	24 VDC
Input Device Voltage	12 VDC	24 VDC	12 VDC	24 VDC
Output Control Voltage	Relay Out	24 VDC	12 VDC	24 VDC ESCP
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Power Supply Voltage Range	9.6 VDC to 15 VDC	19.2 VDC to 30 VDC	9.6 VDC to 15 VDC	19.2 VDC to 30 VDC
Input Power Supply Rating	8 Watts	8 Watts	8 Watts	8 Watts
Input Power	8 watts internal plus 5 watts out to user 12 VDC out	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 12 VDC out	8 watts internal plus 5 watts out to user 24 VDC out
Relay Operating Voltage	5 to 30 VDC and 5 to 250 VAC			

Analog Expansion Units

The VersaMax Micro also supports analog I/O. The versatile Micro PLC can support up to four Analog Expansion Units, allowing you to expand up to 16 inputs and 8 outputs with the 14-point or 28-point Micro, or 18 inputs and 9 outputs with the 23-point Micro.

	IC200UEX616	IC200UEX626	IC200UEX636
Product Name	**6 Analog Channels (4) 0 to 10VDC, ± 10VDC, 4 to 20ma, 0 to 20ma In, (2) 0 to 10VDC, 4 to 20ma, 0 to 20ma Out, VDC Power Supply**	**6 Analog Channels (4) 0 to 10VDC, ± 10VDC, 4 to 20ma, 0 to 20ma In, (2) 0 to 10VDC, 4 to 20ma, 0 to 20ma Out, 24 VDC Power Supply**	**6 Analog Channels (4) 0 to 10VDC, ± 10VDC, 4 to 20ma, 0 to 20ma In, (2) 0 to 10VDC, 4 to 20ma, 0 to 20ma Out, 120/240 VAC Power Supply**
Number of Inputs/Outputs	4 Channels In / 2 Channels Out	5 Channels In / 2 Channels Out	6 Channels In / 2 Channels Out
Power Voltage	12 VDC	24 VDC	120/240 VAC
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C
Power Supply Voltage Range	9.6 VDC to 15 VDC	19.2 VDC to 30 VDC	85 to 264 VAC
Input Power	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 24 VDC out	8 watts internal plus 5 watts out to user 24 VDC out
Analog Input Ranges	0-10 V (10.23 V Max); 0-±10 V (±10.23 V Max); 0-20 mA (20.47 mA Max); 4-20 mA	0-10 V (10.23 V Max); 0-±10 V (±10.23 V Max); 0-20 mA (20.47 mA Max); 4-20 mA	0-10 V (10.23 V Max); 0-±10 V (±10.23 V Max); 0-20 mA (20.47 mA Max); 4-20 mA
Analog Input Accuracy	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range
Output Ranges	0 to 10 VDC (10.24 V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.)	0 to 10 VDC (10.24 V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.)	0 to 10 VDC (10.24 V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.)
Analog Output Accuracy	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range

Analog Expansion Units

The VersaMax Micro also supports analog I/O. The versatile Micro PLC can support up to four Analog Expansion Units, allowing you to expand up to 16 inputs and 8 outputs with the 14-point or 28-point Micro, or 18 inputs and 9 outputs with the 23-point Micro.

	IC200UEX724	IC200UEX734	IC200UEX726	IC200UEX736
Product Name	**4 RTD Channels IN, 120/240 VAC Power Supply**	**4 RTD Channels IN, 24 VDC Power Supply**	**4 RTD Channels IN , (2) Analog Channels OUT 0 to 10VDC, 4 to 20ma, 0 to 20ma Out, 24 VDC Power Supply**	**4 RTD Channels IN , (2) Analog Channels OUT 0 to 10VDC, 4 to 20ma, 0 to 20ma Out, 120/240 VAC Power Supply**
Number of Inputs/Outputs	4 Channels RTD In	4 Channels RTD In	6 Channels In / 2 Channels Out	6 Channels In / 2 Channels Out
Power Voltage	24 VDC	120/240 VAC	24 VDC	120/240 VAC
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Power Supply Voltage Range	19.2 VDC to 30 VDC	85 to 264 VAC	19.2 VDC to 30 VDC	85 to 264 VAC
Input Power	4 Watts	11 VA	4 Watts	11 VA
Analog Input Ranges	2- and 3-wire types, PT 100	2- and 3-wire types, PT 100	2- and 3-wire types, PT 100	2- and 3-wire types, PT 100
Analog Input Accuracy	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range
Output Ranges	0 to 10 VDC (10.24 V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.)	0 to 10 VDC (10.24 V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.)	0 to 10 VDC (10.24 V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.)	0 to 10 VDC (10.24 V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.)
Analog Output Accuracy	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range	±1% of full scale over full operating temperature range

DataPanels

GE Fanuc VersaMax DataPanels are ideal for a broad range of applications ranging from simple timer/counter/register access to full text message display with numeric keypad. All VersaMax DataPanels are preprogrammed to connect quickly to a VersaMax Micro or Nano PLC without user configuration.

	IC200DTX200	IC200DTX450	IC200DTX650	IC200DTX850
Product Name	**Operator Interface for changing timer/counter/ register values. 2x16 character LCD backlight display and 6 operation keys. No stored messaging, PLC stores messages. Requires IC200CBL550 cable or equivalent. Operates on 5 VDC @ 100ma from Micro or Nano.**	**Operator Interface with up to 200 stored messages. 2x16 character LCD backlight display and 6 function keys. Requires IC200CBL550 or equivalent. Operates on external 24 VDC @ 40 ma.**	**Operator Interface with up to 200 stored messages. 4x16 character LCD backlight display and 8 function keys. Requires IC200CBL550 cable or equivalent. Operates on external 24 VDC @ 80 ma.**	**Operator Interface with up to 200 stored messages. 4x20 character LCD backlight display and 8 function keys. and numeric keypad. Requires IC200CBL550 cable or equivalent. Operates on external 24 VDC @ 50 ma.**
Characters Per Line	16	16	16	20
Function Keys	0	6	8	8
Numeric Keypad	0	0	0	Yes
Memory Size (Number of Messages)	Messages stored in PLC	200 stored in operator interface	200 stored in operator interface	200 stored in operator interface
DataPanel Dimensions (WxHxD) mm	108x60x27	108x60x45	96x96x44	182x101x37
Number of Lines	2	2	4	4
Display Type	LCD Display with Backlight	LCD Display with Backlight	LCD Display with Backlight	LCD Display with Backlight
Operating Temperature	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C
NEMA Rating	NEMA 4	NEMA 4	NEMA 4	NEMA 4
Programming Software	None required	DataDesigner (IC752DDZ000)	DataDesigner (IC752DDZ000)	DataDesigner (IC752DDZ000)

Communications

The VersaMax Micro and Nano can easily be connected to an Ethernet LAN via the VersaMax SE. The user can easily down load, upload and monitor VersaMax Micro and Nano controllers.

	IC200SET001
Product Name	Ethernet to Serial Network Module
Ethernet Port	10/100Mbits port supporting RJ45 connection
Serial Port	One RS-232 and one RS-485 port (up to 16 devices supported)
Communications Configurations	Communication configurations include Ethernet SRTP to SNP or Modbus TCP to Modbus Slave
Power Voltage	12/24VDC
Communication Ports	3
Dimensions (WxHxD) mm	36x90x60
Programming Software	VersaPro 2.0 or greater/ Proficy Logic Developer-Machine Edition
Mounting	35 mm DIN-Rail
Power Supply Voltage Range	12/24VDC

Accessories

IC200ACC402	Spare Removable Terminal Strips, 10 per pack
IC200ACC403	Coin Type Battery for 23 and 28 point Micro for data retention (Average 9.7 months)
IC200ACC414	Long Term Battery for 23 and 28 point Micro for data retention (Average 7 years)
IC200ACC404	Spare Parts Kit. Two terminal strips and four plastic doors and four covers
IC200ACC415	RS-232 to RS-485 Converter Requires IC200CBL500 or Equivalent
IC200ACC450	Simulator for VersaMax Nano. 6 Inputs
IC200ACC451	Simulator for VersaMax Micro. 8 Inputs

Cables

IC200CBL500	Programming Cable (RJ-45 to DB-9 pin) RS-232, 3 meters
IC200CBL501	I/O Expansion Cable, 0.1 meter long (Qty 5)
IC200CBL505	I/O Expansion Cable, 0.5 meter long
IC200CBL510	I/O Expansion Cable, 1 meter long

Starter Kits

IC200TBX010	Tool Box, 10 point, (IC200NDR001) 24VDC In/Relay Out, 24VDC Powered (requires an external 24VDC Supply) With Proficy Software, Manuals and Cables
IC200TBX014	Tool Box, 14 point, (IC200UDR001) 24VDC In/Relay Out, AC Power Supply With Proficy Software, Manuals and Cables
IC200TBX023	Tool Box, 23 point, (IC200UAL006) DC In/Relay Out, 2 Analog In, 1 Analog out, AC Power Supply With Software, Manuals and Cables (IC640VPS002)
IC200TBX028	Tool Box, 28 point, (IC200UDR005) 24VDC In/Relay Out, AC Power Supply With Proficy Software, Manuals and Cables
IC200TBX110	Tool Box, 10 point (IC200NDR001) 24VDCIn/Relay Out, 24VDC Powered (requires an external 24VDC Supply), VersaMax DataPanel DP45 with Programming Proficy Software and Cables, (IC752DDZ000, IC200CBL555)
IC200TBX114	Tool Box, 14 point (IC200UDR001) 24VDCIn/Relay Out, AC Power Supply, VersaMax DataPanel DP45 with Proficy Programming Software and Cables, (IC752DDZ000, IC200CBL555)
IC200TBX123	Tool Box, 23 point (IC200UAL006) 24VDCIn/Relay Out, 2 Analog In/1 Analog out, AC P/S, VersaMax DataPanel DP45 with Proficy Programming Software and Cables, (IC752DDZ000, IC200CBL555)
IC200TBX128	Tool Box, 28 point (IC200UDR005) 24VDCIn/Relay Out, AC P/S, VersaMax DataPanel DP45 with Proficy Programming Software and Cables, (IC752DDZ000, IC200CBL555)
IC200TBX210	Tool Box, 10 point, (IC200NDR001) 24VDC In/Relay Out, 24VDC Powered (requires an external 24VDC Supply), VersaMax SE (IC200SET001) with all Proficy Software, Cables and Manuals.
IC200TBX214	Tool Box, 14 point, (IC200UDR001) 24VDC In/Relay Out, requires 120VAC Power, VersaMax SE (IC200SET001) with all Proficy Software, Cables and Manuals.
IC200TBX223	Tool Box, 23 point, (IC200UAL006) 24VDC In/Relay Out, requires 120VAC Power, VersaMax SE (IC200SET001) with all Proficy Software, Cables and Manuals.
IC200TBX228	Tool Box, 28 point, (IC200UDR005) 24VDC In/Relay Out, requires 120VAC Power, VersaMax SE (IC200SET001) with all Proficy Software, Cables and Manuals.

QuickPanel Control

QuickPanel Control is designed to meet your converging control and visualization application needs with a combination of bright color TFT, or monochrome touch screens, multiple communication options and Proficy Logic Developer—Machine Edition and Proficy View—Machine Edition software.

Features include:

- Display sizes from 6" to 12"
- Microsoft Windows CE operating system
- Expandable memory and communication expansion cards
- CompactFlash
- Functions from data collection and trending to system security and alarming
- Built-in web server for access to data, panels and logic via the Internet or your Intranet using any standard browser
- Communication to I/O using GE Fanuc Series 90-30 I/O Interface, Genius I/O Interface, Open Fieldbus and Ethernet Connectivity
- Multi-language support selectable by the operator when the system is online
- Common database for increased productivity – greatly reduces development time by eliminating the need to re-enter tag names
- Extensive library of pre-configured animation objects
- UL Class 1 Div 2 (A, B, C, D), ATEX Class 1 Zone 2, and CE Mark

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

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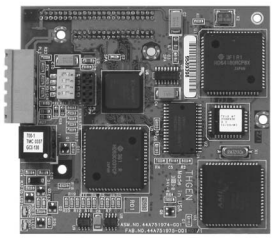
Publication Reference Chart

GFK-2243	6 Inch QuickPanel View & Control Hardware Reference Guide
GFK-2284	12 Inch QuickPanel View & Control Hardware Reference Guide
GFK-2245	GE Fanuc Series 90-30 I/O Interface
GFK-2270	DeviceNet Master Communication Card
GFK-2271	PROFIBUS Master Communication Card
GFK-2297	GE Fanuc Genius I/O Interface
GFK-2276	Expanded User Memory Installation Guide

Controllers

QuickPanel Control combines control and visualization into one platform for maximum productivity and cost efficiency. By integrating the QuickPanel family of touch screens with Proficy Machine Edition software, QuickPanel Control delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy Logic Developer–Machine Edition and Proficy View–Machine Edition software helps reduce application development time, and connectivity is made easy with a family of Ethernet and Fieldbus interfaces.

	IC754CSL06CTD	IC754CSL06MTD	IC754CSL12CTD
Product Name	**QuickPanel Control, 6" TFT**	**QuickPanel Control, 6" Monochrome**	**QuickPanel Control, 12" TFT**
Display Size	6 inch	6 inch	12 inch
Display Type	TFT	Monochrome	TFT
Resolution	320 x 240	320 x 240	800 x 600
Memory: DRAM	32MB	32MB	32MB
Memory: Expandable	to 96MB	to 96MB	to 96MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	10 Mbps
Communication Expansion	GE Fanuc Series 90-30 I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Fanuc Series 90-30 I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Fanuc Series 90-30 I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master
Compact Flash	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark
Environmental Rating	NEMA 4/12/4X	NEMA 4/12/4X	NEMA 4/12/4X
Panel Cut Out (WxHxD)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)
Bezel Dimensions and Depth (WxHxD)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)
Input Voltage	10.8 to 30.0 VDC	10.8 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%
Scripting	Visual Basic Script	Visual Basic Script	Visual Basic Script
Trending	Yes	Yes	Yes
Remote Connectivity	Yes	Yes	Yes
Remote Desktop Connection	Yes	Yes	Yes
Web Publishing	Yes	Yes	Yes
MS Viewers	Yes	Yes	Yes
USB	Yes	Yes	Yes
Operating Temperature	0 to 60 degrees C	-10 to 60 degrees C	0 to 50 degrees C
Operating Humidity	5 - 95% non-condensing	10 - 85% non-condensing	10 - 95% non-condensing
Indicators - LEDs	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector



Communications Cards

GE Fanuc 90-30 I/O Interface Card allows the QuickPanel Control unit to interface directly to 90-30 expansion racks using an expansion cable. GE Fanuc Genius Interface Card allows the QuickPanel Control unit to interface to devices on a Genius network and act as a controller. DeviceNet - Master Interface Card allows the QuickPanel Control unit to interface to devices on a DeviceNet Network acting as the master. PROFIBUS - Master Interface Card allows the QuickPanel Control unit to interface to devices on a PROFIBUS Network acting as the master.

	IC754PIF001	IC754GEN001	IC754DVNM01	IC754PBSM01
Product Name	**GE Fanuc 90-30 I/O Interface Card for QuickPanel Control**	**GE Fanuc Genius Interface Card for QuickPanel Control**	**DeviceNet - Master Interface Card for QuickPanel Control**	**PROFIBUS - Master Interface Card for QuickPanel Control**
Fieldbus Type	90-30 I/O Interface	Genius Interface	DeviceNet Master	PROFIBUS Master

Starter Kits

Starter Kits are an ideal package for first time users. The kits include a QuickPanel Control unit, Proficy View–Machine Edition software, 24 VDC power supply and Ethernet cable. QuickPanel Control combines control and visualization into one platform for maximum productivity and cost efficiency. By integrating the QuickPanel family of touch screens with Proficy Machine Edition software, QuickPanel Control delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy Machine Edition software helps reduce application development time, and connectivity is made easy with a family of Ethernet and Fieldbus interfaces.

	IC754CKL06CTD	IC754CKL06MTD	IC754CKL12CTD
Product Name	**QuickPanel Control Starter Kit, includes Display, 6" TFT**	**QuickPanel Control Starter Kit, includes Display, 6" Monochrome**	**QuickPanel Control Starter Kit, includes Display, 12" TFT**
Display Size	6 inch	6 inch	12 inch
Display Type	TFT	Monochrome	TFT
Resolution	320 x 240	320 x 240	800 x 600
Memory: DRAM	32MB	32MB	32MB
Memory: Expandable	to 96MB	to 96MB	to 96MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	10 Mbps
Communication Expansion	GE Fanuc Series 90-30 I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Fanuc Series 90-30 I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Fanuc Series 90-30 I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master
Compact Flash	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark
Environmental Rating	NEMA 4/12/4X	NEMA 4/12/4X	NEMA 4/12/4X
Panel Cut Out (WxHxD)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)
Bezel Dimensions and Depth(WxHxD)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)
Input Voltage	10.8 to 30.0 VDC	10.8 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%
Scripting	Visual Basic Script	Visual Basic Script	Visual Basic Script
Trending	Yes	Yes	Yes
Remote Connectivity	Yes	Yes	Yes
Remote Desktop Connection	Yes	Yes	Yes
Web Publishing	Yes	Yes	Yes
MS Viewers	Yes	Yes	Yes
USB	Yes	Yes	Yes
Operating Temperature	0 to 60 degrees C	-10 to 60 degrees C	0 to 50 degrees C
Operating Humidity	5 - 95% non-condensing	10 - 85% non-condensing	10 - 95% non-condensing
Indicators - LEDs	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector

Accessories

IC754ACC06GAS	6 Inch QuickPanel View & Control Gasket Kit
IC754ACC06MNT	6 Inch QuickPanel View & Control Mounting Clips (4) and Power Connector (1)
IC754ACC12GAS	12 Inch QuickPanel View & Control Gasket Kit
IC754ACC12MNT	12 Inch QuickPanel View & Control Mounting Clips (10) and Power Connector (1)
IC754ACC32MEM	Expandable User Memory – 32Mbyte
IC754ACC64MEM	Expandable User Memory – 64Mbyte

GE Fanuc performance-based training combines practical lectures with hands-on lab exercises to ensure that you get the value-added skills you need. From product courses to custom classes to application specific training, we can help you get the most from your automation products by providing expert training for your work force. Courses range from comprehensive introductory level offerings to in-depth advanced level offerings. Let GE Fanuc Training Services be your one-stop shop for technical training!

Technical training helps your employees set up, configure and troubleshoot more efficiently, decreasing downtime and increasing throughput. It also helps your employees stay current with new technology as well as find new ways to apply your technology, helping make your organization more productive. Industry studies have shown that technical training can lower production costs because of the subsequent increases in employee efficiency and reductions in downtime. Employee skill development and enhancement are invaluable company assets, the benefits of which can be realized in a very short time.

Open Enrollment Training

GE Fanuc has a nationwide network of regional training centers offering world-class technical training for maintenance, operations, and engineering personnel. Open Enrollment Training allows students to interact and network with fellow product users. GE Fanuc ensures that class sizes enhance student/instructor ratios. All classes are taught by GE Fanuc factory-certified instructors using GE Fanuc authorized training materials.

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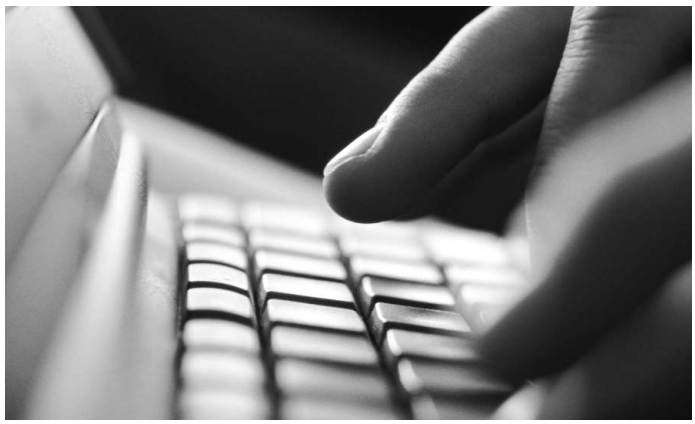
Course descriptions, schedule and registration information are available at **www.gefanuc.com/ttc**.

On-Site Training

In today's fast moving, cost conscious world, on-site training is an extremely effective tool to reduce your travel expenses and ensure your key personnel remain accessible in the event of a plant emergency. Depending on the class and your location, on-site training can be quite cost effective when you take into consideration how much you'll save on T&L expenses—even for as few as four students. Add to this the benefits of maintaining rapid access to your key teams (not to mention the ability to customize and focus the training in order to shorten the learning experience) and it's easy to see how on-site training can be a powerful option.



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The GE Fanuc Online Institute offers visually engaging, interactive courses to meet customer-training needs in today's challenging business climate. With the same content as instructor-led courses and available online with 24 x 7 access, the Online Institute has all the training with none of the travel expense. Each course is geared toward performance objectives and provides users with both guided and independent practice of concepts as well as interactive assessments with immediate feedback. You can now meet your time and cost budgets as well as your technical training requirements. Visit the Online Institute today at **http://onlineinstitute.gefanuc.com.**

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Train your personnel, test components and debug programs without taking systems out of production. Our classroom simulators are available to meet your training, development and maintenance requirements. We also develop custom simulators that match the equipment configuration in your operation to maximize your benefits.

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