



## VersaMax<sup>\*</sup> Nano and Micro Controllers

Don't let size fool you. Although they're easy on valuable panel space, the VersaMax<sup>\*</sup> Nano and Micro PLCs are big on features. For high-volume applications where cost and fast processor speeds are an issue, the palm-sized VersaMax Nano is the PLC of choice. When you need additional functionality, the modular VersaMax Micro offers the features and the flexibility to match your application needs. Both these compact PLCs offer ease-of-use and long-term reliability to further decrease your life-cycle costs.

### Pick the Palm-Sized PLC That's Light on Your Budget.

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.

### Select the Big-Featured PLC in a Compact Package.

The small footprint VersaMax Micro PLC offers the flexibility of modular design and a variety of built-in features, including up to 64 I/O points (expandable to 176 I/O points), fast cycle times, a robust instruction set and extensive memory that multiplies your programming options.

### Tap the Perfect Solution for Low-End Motion Applications.

Both the VersaMax Nano and Micro can be used with either a PWM or a pulse train device. In addition, both controllers come with built-in high-speed counters that can be used in either Type A or Type B configurations. The new Micro 20, Micro 40 and Micro 64 supports four 100Khz high-speed counters and four 65Khz PWM or pulse train outputs for high speed motion applications.

The new Micro Motion expansion module (2 axis of Servo or Stepper @ 500Khz pulses/second with encoder inputs) is ideal for either Micro integrated motion control or standalone motion control (over serial or Ethernet networking). The Micro Motion expansion module is loaded with features and supports 2 axis of stepper and servo control. The module supports a powerful function set, Home, Jog, Registration Input, S-Curve acceleration, Feedrate Override and more. Up to 256 move profiles are stored on the module and backed up with the Portable Memory device (removable Flash device) for easy program storage of the motion moves. The Micro 20, Micro 40, and Micro 64 support up to 2 Micro Motion expansion modules for a total of 4 axis high performance motion control.

### Take Advantage of a Host of Communications Options.

Both the VersaMax Nano and Micro have an RS-232 port that can be used for SNP slave, Modbus RTU or serial I/O commands. The Micro 23 and Micro 28 also have an RS-485 port that adds SNP master and Modbus master commands. With serial I/O commands, you can interface with such devices as pagers, intelligent scales, bar code readers and printers.

The new Micro 20, Micro 40 and Micro 64 have a second option port that supports either RS-232, RS-485 or USB communications module. The VersaMax Nano and Micro can easily be networked to Ethernet utilizing the powerful VersaMax SE (Serial to Ethernet module).

### Program Your Controllers in Record Time.

With GE Fanuc's Proficy<sup>®</sup> Machine Edition software, programming your VersaMax Nano and Micro PLCs is a simple and intuitive process. Mix Relay Ladder Diagram and Instruction List programming within an application. Develop and save custom view tables. View PLC and I/O system fault tables on demand.

Machine Edition is an automation software breakthrough deploying HMI, motion, and multi-target control in an integrated development environment. This environment provides a common user interface, drag-and-drop editing, and a rich set of development tools.

The Micro 20, Micro 40 and Micro 64 support a portable program FLASH Memory Module that provides a simple cost effective way of upgrading field controllers.

# VersaMax Nano and Micro Selection Guide

Features	Nano 10	Micro 14	Micro 23	Micro 28	Micro 20	Micro 40	Micro 64
Built-in Discrete I/O	6 in/ 4out	8 in/ 6 out	13 in/10 out	16 in/12 out	12 in/8 out	24 in/16 out	40 in/24 out
Built-in Analog I/O	1 on some models	none	2 in/ 1 out	none	none	none	none
I/O Expansion Units	none	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units
Logic Memory (Words)	2K	9K	9K	9K	24K	24K	24K
Data Storage (Words)	256	256	2K	2K	32K	32K	32K
Scan Time (msec/K)	1.3 msec	1.1 msec	1.1 msec	1.1 msec	1.1 msec	1.1 msec	1.1 msec
Battery Backed RAM	Super Cap only	Super Cap only	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap
Real Time Clock	none	none	Yes, Included	Yes, Included	Yes, Included	Yes, Included	Yes, Included
Ports Available	1 RS-232	1 RS-232	1 RS-232 and 1 RS-485	1 RS-232 and 1 RS-485	1 RS-232 and second port optional RS-232, RS-485, USB or Ethernet	1 RS-232 and second port optional RS-232, RS-485, USB or Ethernet	1 RS-232 and second port optional RS-232, RS-485, USB or Ethernet
Ethernet Option	Yes, VersaMax SE	Yes, VersaMax SE	Yes, VersaMax SE	Yes, VersaMax SE	Yes on second port	Yes on second port	Yes on second port
High Speed Counter	Up to 4 at 10Khz (16 bit)	Up to 4 at 10Khz (16 bit)	Up to 4 at 10Khz (16 bit)	Up to 4 at 10Khz (16 bit)	Up to 4 at 100Khz (32 bit)	Up to 4 at 100Khz (32 bit)	Up to 4 at 100Khz (32 bit)
Pulse Train/PWM	Up to 4 at 5Khz (16 bit)	Up to 4 at 5Khz (16 bit)	Up to 4 at 5Khz (16 bit)	Up to 4 at 5Khz (16 bit)	Up to 4 at 65Khz (32 bit)	Up to 4 at 65Khz (32 bit)	Up to 4 at 65Khz (32 bit)
Motion Commands	N/A	N/A	N/A	N/A	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)
Write Register Values to Internal Flash	No	Yes	Yes	Yes	Yes	Yes	Yes



The newest additions to the Micro family – the Micro 20, Micro 40 and Micro 64 PLCs – feature expansion to 132, 152 and 176 I/O points respectively, to fast cycle times, robust instruction sets, and generous memory to allow more flexible programming.

These new Micros each feature an optional second port that provides you with an additional RS-232 port, RS-485, USB, or Ethernet. The serial expansion ports come with two analog input channels. A user-friendly memory module is available to easily download changes to the controller without the need of a PC.

And it's all packaged in a sturdy modular design for easy access and long-term durability. These all-in-one PLCs give you everything you need to control a wide variety of applications.

# Ordering Information

Description	Catalog Number
<b>VersaMax Nano 10</b> CPU with 6 discrete inputs and 4 discrete outputs, no expansion and (1) serial port. 2Kbytes User Program and 512 words of data storage.	IC200NAL110 10 Point (6) 12 VDC In, (1) Analog In 0 - 10 VDC (8 bit), (4) Relay Out, 12 VDC Power Supply IC200NAL211 10 Point (6) 24 VDC In, (1) Analog In 0 - 10 VDC (8 bit), (4) Relay Out, 24 VDC Power Supply IC200NDD010 10 Point (6) 12 VDC In, (4) 12 VDC Out, 12 VDC Power Supply IC200NDD101 10 Point (6) 24 VDC In, (4) 24 VDC Out, 24 VDC Power Supply IC200NDR001 10 Point (6) 24 VDC In, (4) Relay Out, 24 VDC Power Supply IC200NDR010 10 Point (6) 12 VDC In, (4) Relay Out, 12 VDC Power Supply
<b>VersaMax Micro 14</b> CPU with 8 discrete inputs and 6 discrete outputs with Expansion support. (1) serial port and 9Kbytes User Program and 2Kwords of data storage.	IC200UAA003 14 Point (8) 120 VAC In, (6) 120 VAC Out, 120/240 VAC Power Supply IC200UAR014 14 Point (8) 120 VAC In, (2) Relay Out at 10 Amp, (4) Relay Out at 2 Amp, 120/240 VAC Power Supply IC200UDD104 14 Point (8) 24 VDC In, (6) 24 VDC Out 2 at 1.0 Amp and 4 at 0.5 Amp, 24 VDC Power Supply IC200UDD112 14 Point (8) 12 VDC In, (6) 12 VDC Out, 12 VDC Power Supply IC200UDR001 14 Point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Power Supply IC200UDR002 14 Point (8) 24 VDC In, (6) Relay Out, 24 VDC Power Supply IC200UDR003 14 Point (8) 12 VDC In, (6) Relay Out, 12 VDC Power Supply
<b>VersaMax Micro 23</b> CPU with 13 discrete inputs, 2 analog inputs and 10 discrete outputs, 1 analog output with Expansion support. (2) serial ports and 9Kbytes User Program and 2Kwords of data storage.†	IC200UAL004 23 Point (13) 12 VDC In, (10) Relay Out, (2) Analog In and (1) Analog Out, 12 VDC Power Supply IC200UAL005 23 Point (13) 24 VDC In, (1) 24 VDC Out, (9) Relay Out, (2) Analog In and (1) Analog Out, 24 VDC Power Supply IC200UAL006 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
<b>VersaMax Micro 28</b> CPU with 16 discrete inputs and 12 discrete outputs with Expansion support. (2) serial ports and 9Kbytes User Program and 2Kwords of data storage.†	IC200UAA007 28 Point (16) 120 VAC In, (12) 120 VAC Out, 120/240 VAC Power Supply IC200UAR028 28 Point (16) 120 VAC In, (2) Relay Out at 10 Amp, (10) Relay Out at 2 Amp, 120/240 VAC Power Supply IC200UDD110 28 Point (16) 24 VDC In, (12) 24 VDC Out, 6 at 1.0 Amp and, 6 at 0.5 Amp, 24 VDC Power Supply IC200UDD120 28 Point (16) 24 VDC In, (12) 24 VDC Out with ESCP, 24 VDC Power Supply IC200UDR005 28 Point (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 120/240 VAC Power Supply IC200UDR006 28 Point (16) 12 VDC In, (12) Relay Out, 12 VDC Power Supply IC200UDR228 28 point (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 12/24 VDC Power Supply IC200UDR010 28 Point (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 24 VDC Power Supply IC200UDD212 28 Point (16) 12 VDC In, (12) 12 VDC Out, 12 VDC Power Supply
<b>VersaMax Micro 20</b> (Est. 2nd Qtr 2007) CPU with 12 discrete inputs and 8 discrete outputs with Expansion support. (1) built-in serial port and second port optional. 24Kbytes User Program and 32Kwords of data storage. Portable FLASH Memory Module for program backup support.	IC200UDD020 Micro 20 (12) 24 VDC In, (8) 24 VDC Source Out 0.7 Amps with ESCP protection, 24 VDC Power Supply IC200UDD220 Micro 20 (12) 24 VDC In, (8) 24 VDC Sink Out, 24 VDC Power Supply IC200UDR120 Micro 20 (12) 24 VDC In, (8) Relay Out 2.0 Amps, 120/240 VAC Power Supply IC200UDR020 Micro 20 (12) 24 VDC In, (8) Relay Out 2.0 Amps, 24 VDC Power Supply
<b>VersaMax Micro 40</b> (Est. 2nd Qtr 2007) CPU with 24 discrete inputs and 16 discrete outputs with Expansion support. (1) built-in serial port and second port optional. 24Kbytes User Program and 32Kwords of data storage. Portable FLASH Memory Module for program backup support.	IC200UDD040 Micro 40 (24) 24 VDC In, (16) 24 VDC Source Out 0.7 Amps with ESCP protection, 24 VDC Power Supply IC200UDD140 Micro 40 (24) 24 VDC In, (16) 24 VDC Sink Out, 24 VDC Power Supply IC200UDR140 Micro 40 (24) 24 VDC In, (16) Relay Out 2.0 Amps, 120/240 VAC Power Supply IC200UDR040 Micro 40 (24) 24 VDC In, (16) Relay Out 2.0 Amps, 24 VDC Power Supply IC200UDR440 Micro 40 (24) 24 VDC In, (16) Relay Out 2.0 Amps, 12/24 VDC Power Supply IC200UDD064 64 Point PLC,(40) 24 VDC In, (24) 24 VDC Outputs with ESCP protection, 24 VDC Power Supply IC200UDD164 64 Point PLC,(40) 24 VDC In, (24) 24 VDC Sink Outputs, 24 VDC Power Supply IC200UDR064 64 Point PLC,(40) 24 VDC In, (24) Relay Out, 24 VDC Power Supply IC200UDR164 64 Point PLC,(40) 24 VDC In, (24) Relay Out, 120/240 VAC Power Supply
<b>VersaMax Micro 64</b> CPU with 40 discrete inputs and 24 discrete outputs with Expansion support. (1) built-in serial port and second port optional. 48Kbytes User Program and 32Kwords of data storage. Portable FLASH Memory Module for program backup support.	IC200UEC008 8 Point combination (4) 24 VDC In, (4) 24 VDC Output with ESCP, 24 VDC Power Supply IC200UEC108 8 Point combination (4) 24 VDC In, (4) Output (Sink Outputs), 24 VDC Power Supply IC200UEC208 8 Point combination Expansion (4) 24 VDC In, (4) Relay Out, 24 VDC Power Supply IC200UEI008 8 Point Input Expansion, 24 VDC In, 24 VDC Power Supply IC200UEI016 16 Point Input Expansion, 24 VDC In, 24 VDC Power Supply IC200UEO008 8 point (8) 24 VDC Output with ESCP Protection, 24 VDC Power Supply IC200UEO016 16 point (16) 24 VDC Output with ESCP Protection, 24 VDC Power Supply IC200UEO108 8 Output Expansion 24 VDC (Sink Outputs), 24 VDC Power Supply IC200UEO116 16 Output Expansion 24 VDC (Sink Outputs), 24 VDC Power Supply IC200UER008 8 Output Expansion Relay , 24 VDC Power Supply IC200UER016 16 Output Expansion Relay Output, 24 VDC Power Supply IC200UEX009 14 Point (8) 120 VAC In, (2) Relay Out at 10 Amp, (4) Relay Out at 2 Amp, 120/240 VAC Power Supply IC200UEX010 14 Point (8) 120 VAC In, (6) 120 VAC Out, 120/240 VAC Power Supply IC200UEX011 14 Point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Power Supply IC200UEX012 14 Point (8) 24 VDC In, (6) Relay Out, 24 VDC Power Supply IC200UEX013 14 Point (8) 12 VDC In, (6) Relay Out, 12 VDC Power Supply IC200UEX014 14 Point (8) 24 VDC In, (6) 24 VDC Out, 24 VDC Power Supply IC200UEX015 14 Point (8) 12 VDC In, (6) 12 VDC Out, 12 VDC Power Supply IC200UEX122 14 Point (8) 24 VDC In, (6) 24 VDC Out with ESCP, 24 VDC Power Supply IC200UEX209 28 Point (16) 120 VAC In, (4) Relay Out at 10 Amp, (8) Relay Out at 2 Amp, 120/240 VAC Power Supply IC200UEX210 28 Point (16) 120 VAC In, (12) 120 VAC Out, 120/240 VAC Power Supply IC200UEX211 28 Point (16) 24 VDC In, (12) Relay Out, 120/240 VAC Power Supply IC200UEX212 28 Point (16) 24 VDC In, (12) Relay Out, 24 VDC Power Supply IC200UEX213 28 Point (16) 12 VDC In, (12) Relay Out, 12 VDC Power Supply IC200UEX214 28 Point (16) 24 VDC In, (12) 24 VDC Out, 24 VDC Power Supply IC200UEX215 28 Point (16) 12 VDC In, (12) 12 VDC Out, 12 VDC Power Supply IC200UEX222 28 Point (16) 24 VDC In, (12) 24 VDC Out with ESCP, 24 VDC Power Supply
<b>VersaMax Micro Expansion Units</b>	
<b>VersaMax Micro Expansion Units Analog Expansion</b>	IC200UEX624 4 Channel Analog I/O, 4 Analog In, 24 VDC Power Supply IC200UEX616 6 Channel Analog Combination, 4 Analog In, 2 Analog Out, 12 VDC Power Supply IC200UEX626 6 Channel Analog Combination, 4 Analog In, 2 Analog Out, 24 VDC Power Supply IC200UEX636 6 Channel Analog Combination, 4 Analog In, 2 Analog Out, 120/240 VAC Power Supply IC200UEX724 4 Channel RTD -100 to +600°C (PT100 2 and 3 wire), 24 VDC Power Supply IC200UEX734 4 Channel RTD -100 to +600°C (PT100 2 and 3 wire), 120/240 VAC Power Supply IC200UEX726 4 Channel RTD -100 to +600°C (PT100 2 and 3 wire), 2 Analog Out, 24 VDC Power Supply IC200UEX736 4 Channel RTD -100 to +600°C (PT100 2 and 3 wire), 2 Analog Out, 120/240 VAC Power Supply
<b>VersaMax Micro Expansion Units Motion Expansion</b>	IC200UMM002 VersaMax Micro 2 Axis Motion Module, 24 VDC Power Supply (Est. 2nd Qtr 2007) IC200UMM102 VersaMax Micro 2 Axis Motion Module, 120/240 VAC Power Supply (Est. 2nd Qtr 2007)
<b>VersaMax Micro Expansion Units Communications</b>	IC200UEM001 Ethernet Module, 10/100Mbps port supporting RJ45 connection. Supports SRTP (server), Modbus TCP (server) or Tunneling. IC200USB001 Micro 64 RS-232 option board with (2) 0 - 10 VDC analog inputs. Connector to support Memory Board. IC200USB002 Micro 64 RS-485 option board with (2) 0 - 10 VDC analog inputs. Connector to support Memory Board. IC200UUB001 Micro 64 USB option board (no analog option). Connector to support Memory Board. IC200UMB001 Micro 64 Flash Memory Board for program download IC200SET001 Ethernet Interface, Bridge from RS-232 or RS-485 Serial to Ethernet 10/100 BaseT, 12/24 VDC Power Supply
<b>Accessories</b>	BC646MPH101 Logic Developer PDA software tool with cable adapter IC200ACC414 Extended Battery Backup (up to 2 years at 60°C)

† Battery (IC200ACC403) is required for long term data retention. Battery not included.



# Typical Micro 20, Micro 40 and Micro 64 Applications

## Material Handling, Packaging and Assembly Machines



### Micro 20, Micro 40, Micro 64 Advantages

Flexible motion control to improve machine throughput is built into controller

- Up to 4 axes of stepper or servo control (32bit, 65Khz Pulse Train)
- Up to 4 high speed counters at 100Khz (32bit)

Powerful Networking to improve data gathering

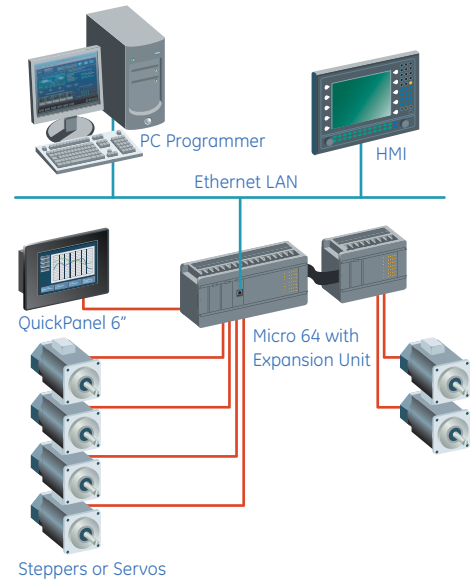
- Plug in 10/100Mbit Ethernet available
- Two built-in communication ports

Simple control for complex applications

- 48Kbytes of user program memory and 32Kwords of data storage
- Advanced programming instruction set. Ramping, Jog, Find Home, Go Home, Blended Move (up to 4 continuous moves)
- Portable program storage device

Micro Motion Expansion

- 2 axis of Servo or Stepper @ 500Khz pulses/second with encoder inputs
- Supports Home, Jog, Registration Input, S-Curve acceleration, Feedrate Override and more
- Interfaces with Micro 20, Micro 40, Micro 64 or standalone mode using Serial or Ethernet
- Stores up to 256 motion profiles on module



## SCADA



### Micro Advantages

Flexible Communications from Serial to Ethernet

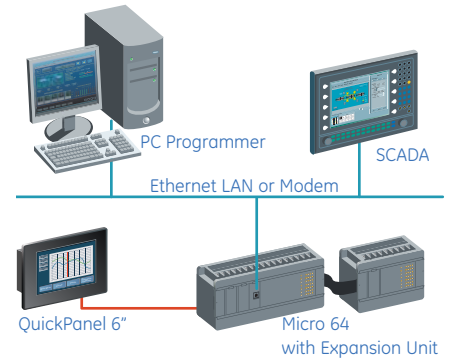
- Modbus Master, Modbus Slave and Report by exception
- Modem and Ethernet SRTP or Modbus TCP (Server) option

Abundance of data storage capability

- Up to 32Kwords of data storage

Powerful instruction set

- Floating point math and PID for process control
- Write and Read data to internal FLASH



## GE Fanuc Automation Information Centers

Americas:  
1 800 GE FANUC or 434 978 5100

Asia Pacific:  
86 21 3222 4555

Europe, Middle East and Africa:  
800 1 GE FANUC or 800 1 4332682  
or 1 780 401 7717

Europe, Middle East and Africa (CNC):  
352 727979 1

## Additional Resources

For more information, please visit the GE Fanuc web site at:

[www.gefanuc.com](http://www.gefanuc.com)

