



# VersaMax\* Nano and Micro Controllers

Don't let size fool you. Although they're easy on valuable panel space, GE Intelligent Platforms' VersaMax\* 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 support four 100Khz high-speed counters and four 65Khz PWM or pulse train outputs for high speed motion applications.

The new MicroMotion 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 MicroMotion 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's Proficy\* 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.



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## 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

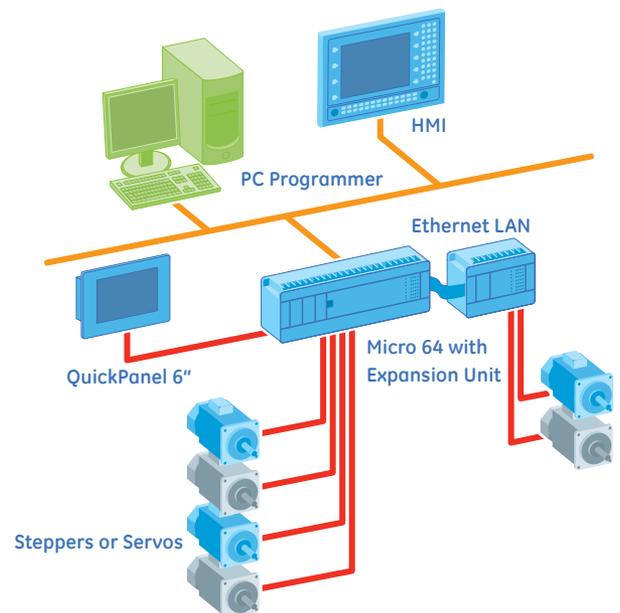
Simple control for complex applications

- 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

MicroMotion 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

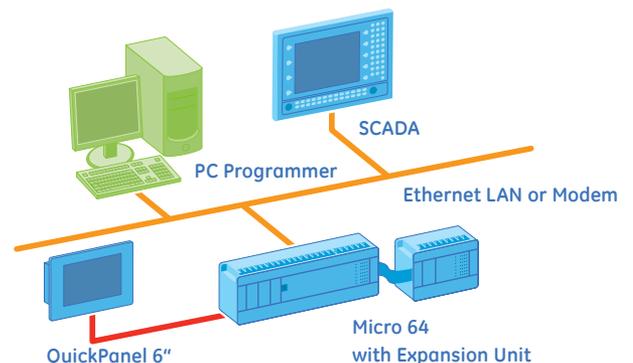
- Modbus Master, Modbus Slave and Report by exception
- Modem and Ethernet SRTP or Modbus TCP (Server) option

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



# VersaMax\* Nano and Micro 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			
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 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 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.



# VersaMax\* Nano and Micro Controllers

## Ordering Information

### VersaMax Nano 10

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

### VersaMax Micro 14

IC200UA003	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

### VersaMax Micro 23†

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

### VersaMax Micro 28†

IC200UA007	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

### VersaMax Micro 20

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

### VersaMax Micro 40

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

### VersaMax Micro 64

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

### VersaMax Micro Expansion Units

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

### VersaMax Micro Expansion Units (continued)

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

### VersaMax Micro Expansion Units Analog Expansion

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

### VersaMax Micro Expansion Units Motion Expansion

IC200UMM002	VersaMax Micro 2 Axis Motion Module, 24 VDC Power Supply
IC200UMM102	VersaMax Micro 2 Axis Motion Module, 120/240 VAC Power Supply

### Communications

IC200UEM001	Ethernet Module, 10/100Mbps port supporting RJ45 connection. Supports SRTP (server), Modbus TCP (server) or Tunneling.
IC200USB001	Micro RS-232 option board with (2) 0 -10 VDC analog inputs. Connector to support Memory Board.
IC200USB002	Micro RS-485 option board with (2) 0 -10 VDC analog inputs. Connector to support Memory Board.
IC200UUB001	Micro USB option board (no analog option). Connector to support Memory Board.
IC200UMB001	Micro 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

### Accessories

IC200ACC414	Extended Battery Backup (up to 2 years at 60°C)
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†Battery (IC200ACC403) is required for long term data retention. Battery not included.

## GE Intelligent Platforms Contact Information

Americas: **1 800 433 2682** or **1 434 978 5100**

Global regional phone numbers are listed by location on our web site at [www.ge-ip.com/contact](http://www.ge-ip.com/contact)

[www.ge-ip.com](http://www.ge-ip.com)

