



# VersaMax

## Micro and Nano Controllers



# Powerful Controllers That Are Easy, Reliable and Compact

Don't let size fool you. Although they are easy on  
valuable panel space, GE Intelligent Platforms'

VersaMax\* Micro and Nano PLCs are big on features.

## VersaMax Micro Controllers

When you need amazing functionality in a compact package, the Micro line of controllers is right for you. Its modular design offers the features and flexibility to match your application needs, with fast cycle times, a robust instruction set, and extensive memory that multiplies your programming options.

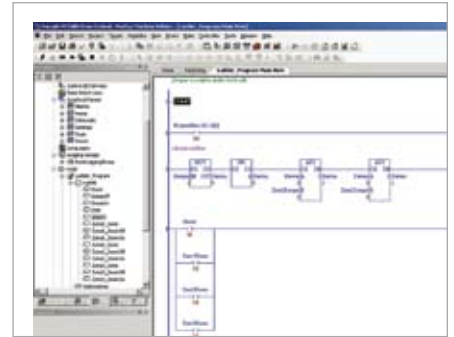
## VersaMax Micro Plus Controllers

When you need an even greater productivity boost, the Micro Plus controllers are designed with the same high quality as the Micro line of controllers, but have enhanced features such as more memory, high precision motion and an advanced instruction set. They support a user friendly Memory Module that can easily connect to the controller to download the latest program changes without the need of a PC. Online programming enables the user to easily modify logic without stopping the controller. Flexible communications is also the strength of the Micro Plus controllers with both serial and Ethernet options.

## VersaMax Nano Controllers

For tight spaces, the Nano line of controllers is the perfect solution. It is ideal in high-volume applications where cost and fast processor speeds are an issue. With its all-in-one construction, installation is easy, and it fits in the palm of your hand.





## A Host of Communications Options

Both the VersaMax Micro and Nano 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 RS-232, RS-485 or USB communications module. The VersaMax Micro and Nano can easily be networked to Ethernet utilizing the powerful VersaMax SE (Serial to Ethernet module). The Micro Plus 20, 40 and 64 controllers have a second communication port

option for RS-232, RS-485, USB or Ethernet communications module. The powerful Ethernet module enables the user to easily communicate to SRTIP, Modbus TCP Client/Server or point to point.

## Compatibility as a Strength

There are over 40 discrete, analog I/O and MicroMotion expansion options for the Micro and Micro Plus controllers. Up to two MicroMotion expansion modules can be connected for a total of four axes of high performance motion control on the Micro Plus controllers. GE has a full line of text (VersaMax DP) and graphical (QuickPanel™) operator interfaces that can be easily connected to the controllers. Tags created in Control can easily be shared with the program for View and vice versa.

## Increased Programming Productivity

Programming your VersaMax controller is simple and intuitive with Proficy™ Machine Edition software, which provides one tool for programming logic control, motion and HMI. The software gives you one universal engineering development environment for all programming, configuration and diagnostics, resulting in faster time to solution and reduced training time. The VersaMax Micro Plus supports OnLine programming for block change, modification of existing logic or inserting new logic.

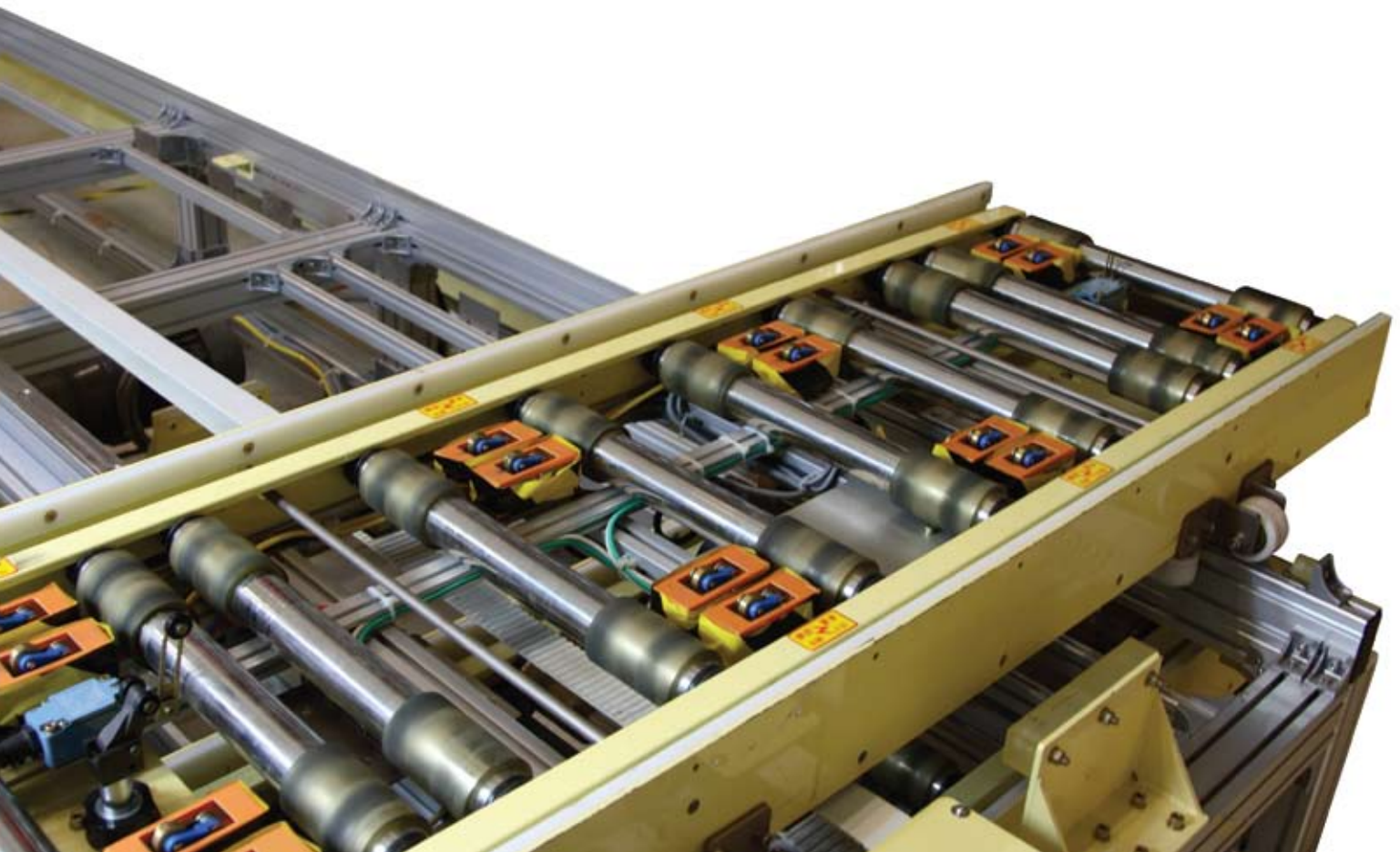
**GE Intelligent Platforms combines decades of technology expertise and in-depth domain experience to deliver innovative, high quality solutions. Our powerful VersaMax controllers offer the features and flexibility to meet your application needs without compromising on performance—helping you achieve your business goals and gain a sustainable advantage.**



# VersaMax Micro and Nano Selection

Features	Micro 14	Micro 23	Micro 28	Micro 20
Built-in Discrete I/O	8 in / 6 out	13 in / 10 out	16 in / 12 out	12 in / 8 out
Built-in Analog I/O	None	2 in / 1 out	None	None
Physical I/O Maximum	126	135	140	276
I/O Expansion Units	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units
Logic Memory (Words)	9K	9K	9K	24K
Data Storage (Words)	256	2K	2K	32K
Scan Time (msec/K)	1.3 msec	1.1 msec	1.1 msec	1.1 msec
Battery Backed RAM	Super Cap only	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap
Real Time Clock	None	Yes, Included	Yes, Included	Yes, Included
Ports Available	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
Ethernet Option	Yes, VersaMax SE	Yes, VersaMax SE	Yes, VersaMax SE	Yes on second port (Option)
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 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 65Khz (32 bit)
MicroMotion Expansion	No	No	No	Yes
Motion Commands	N/A	N/A	N/A	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)
Write Register Values to Internal Flash	Yes	Yes	Yes	Yes
Dimensions (W x H x D) mm	95 x 90 x 76	150 x 90 x 76	150 x 90 x 76	150 x 90 x 76

VersaMax Micro Controllers
  VersaMax Micro Plus Controllers
  VersaMax Nano Controllers



# n Guide

Micro 40	Micro 64	Nano 10
24 in / 16 out	40 in / 24 out	6 in / 4 out
None	None	1 on some models
296	320	10
Up to 4 units	Up to 4 units	None
24K	24K	2K
32K	32K	256
1.1 msec	1.1 msec	1.3 msec
Yes and Super Cap	Yes and Super Cap	Super Cap only
Yes, Included	Yes, Included	None
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
Yes on second port (Option)	Yes on second port (Option)	Yes, VersaMax SE
Up to 4 at 100Khz (32 bit)	Up to 4 at 100Khz (32 bit)	Up to 4 at 10Khz (16 bit)
Up to 4 at 65Khz (32 bit)	Up to 4 at 65Khz (32 bit)	Up to 4 at 5Khz (16 bit)
Yes	Yes	No
Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)	N/A
Yes	Yes	No
150 x 90 x 76	190 x 90 x 76	75 x 80 x 47



VersaMax controllers provide powerful, reliable operation and control. Designed to minimize costs, they are easy to use and support, and are available with a wide range of I/O expansion modules and a variety of communications options.

The newest additions to the Micro family – the Micro 20, Micro 40 and Micro 64 PLCs – feature expansion to 276,296 and 320 I/O points respectively, to fast cycle times, robust instruction sets, and generous memory to allow more flexible programming.

The Micro Plus features 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.



Learn more about how VersaMax Controllers can support your automation needs. Contact your GE Sales Representative today.

# Typical Micro and Nano Applications

## SCADA

### Micro Plus Advantages

Flexible Communications from Serial to Ethernet

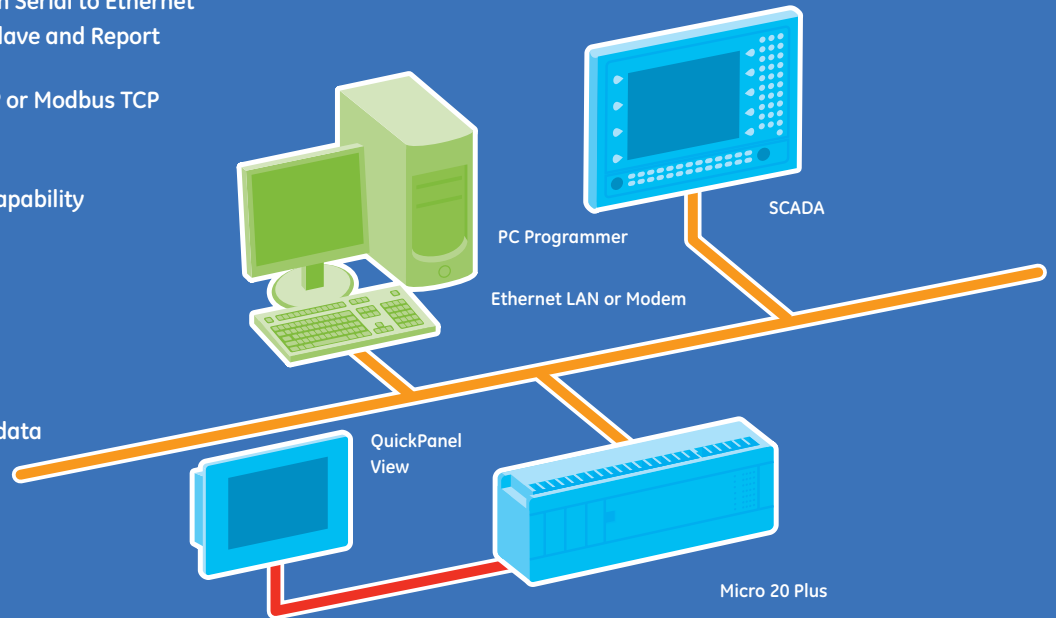
- Modbus Master, Modbus Slave and Report by exception
- Modem and Ethernet SRTP or Modbus TCP (Server) option

Abundance of data storage capability

- 32K words of data storage

Powerful instruction set

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



## Other Key Applications

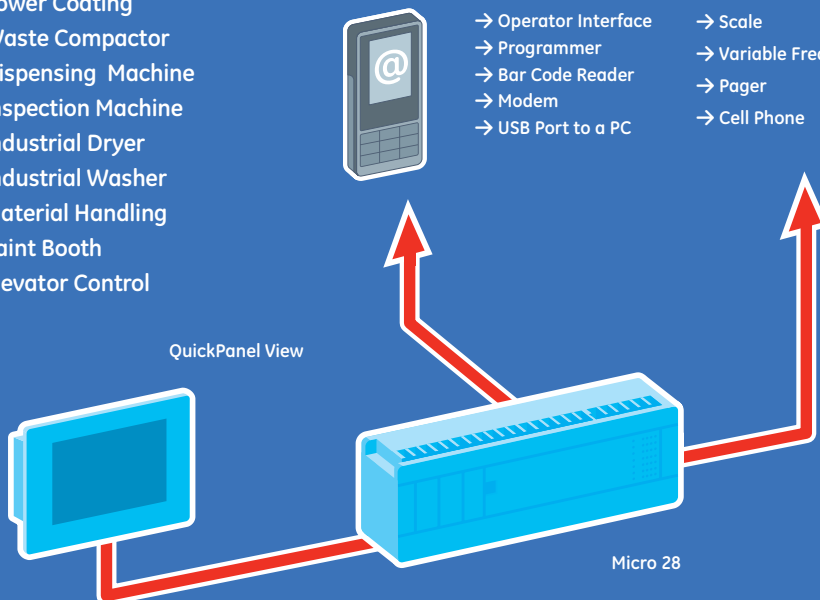
- Labeling Machine
- Trash Compactor
- Power Coating
- Waste Compactor
- Dispensing Machine
- Inspection Machine
- Industrial Dryer
- Industrial Washer
- Material Handling
- Paint Booth
- Elevator Control

### Flexible Communication Ports

- |                      |                            |
|----------------------|----------------------------|
| → Operator Interface | → Scale                    |
| → Programmer         | → Variable Frequency Drive |
| → Bar Code Reader    | → Pager                    |
| → Modem              | → Cell Phone               |
| → USB Port to a PC   |                            |

### Wide Range of Expansion I/O

- (Up to 4 Expansion Bases)
- DC I/O
  - Standard Relay Outputs
  - High Capacity Relay Outputs (10 Amp)
  - AC I/O
  - Analog I/O (Thermocouple, RTD)
  - Motion Control



# Material Handling, Packaging and Assembly Machines

Flexible motion control to improve machine throughput is built into controller

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

Micro Motion Expansion

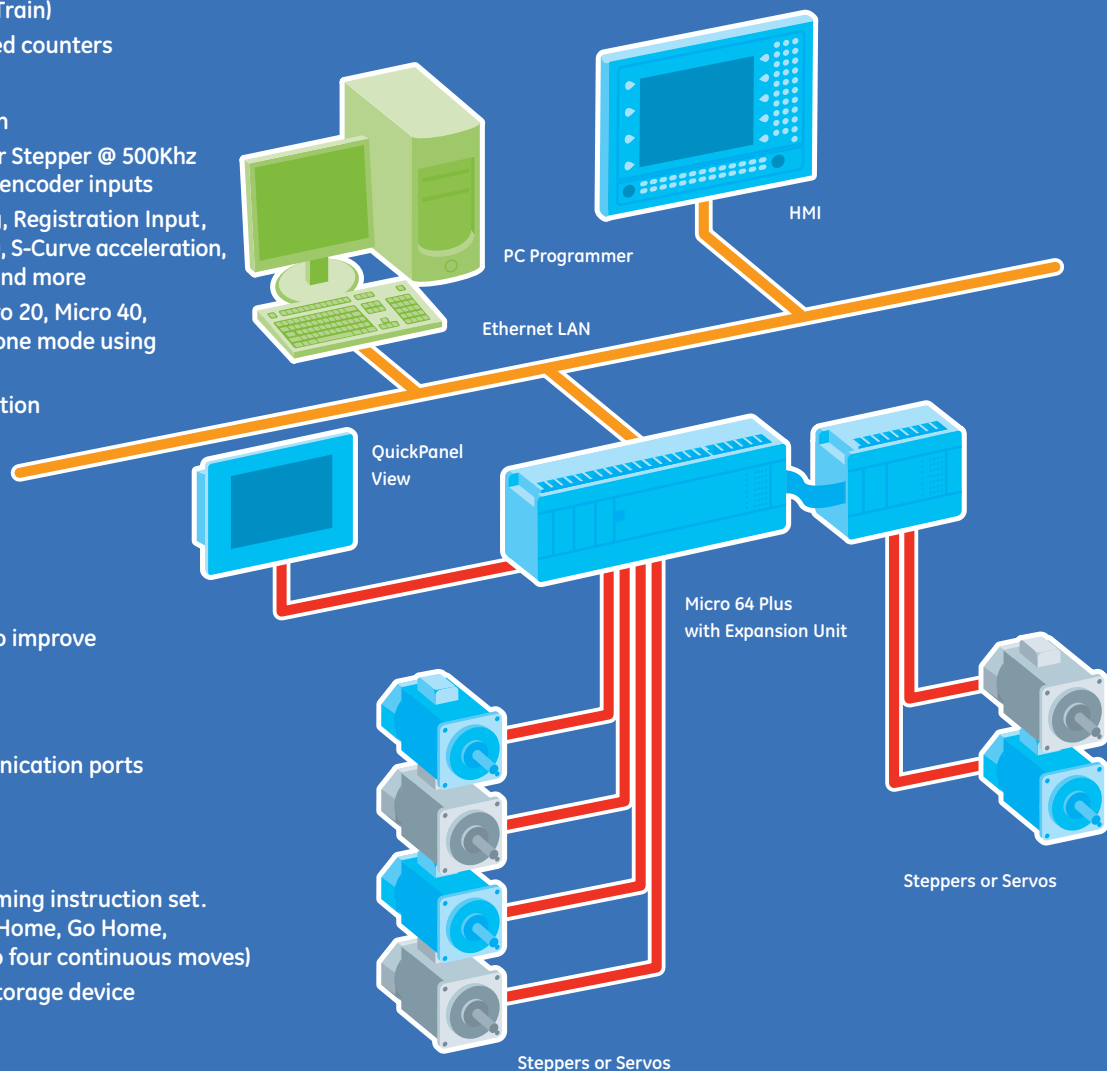
- Two axes of Servo or Stepper @ 500Khz pulses/second with encoder inputs
- Supports Home, Jog, Registration Input, (windowing support), S-Curve acceleration, Feedrate Override and more
- Interfaces with Micro 20, Micro 40, Micro 64 or standalone mode using Serial or Ethernet
- Stores up to 256 motion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

Powerful Networking to improve data gathering

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

Simple control for complex applications

- Advanced programming instruction set. Ramping, Jog, Find Home, Go Home, Blended Move (up to four continuous moves)
- Portable program storage device



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