

VersaMax Distributed I/O

By choosing GE, customers gain access to a complete line of highly versatile and robust I/O modules that offer seamless integration with the PACSystems control family, for reliable, high performance solutions.

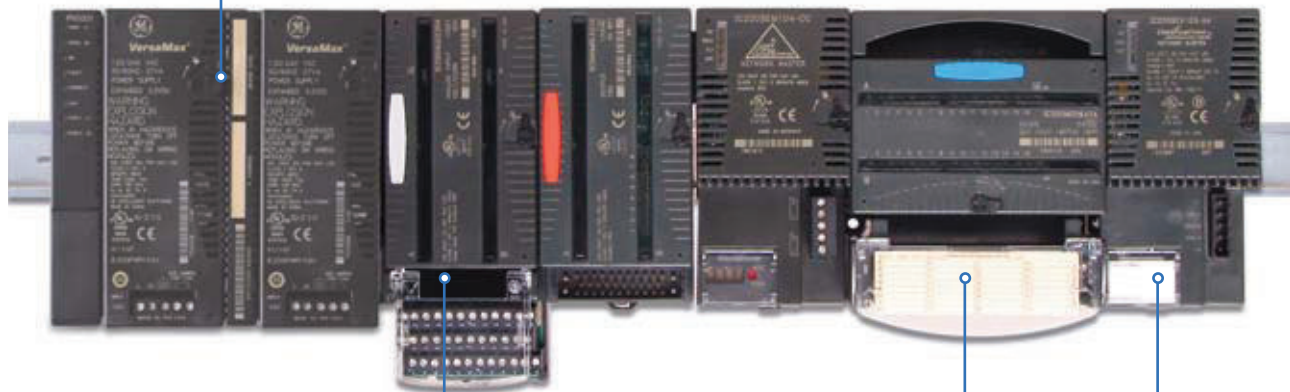
The modular design of VersaMax I/O addresses a wide range of discrete and process applications. Its innovative modular architecture combines power and versatility to help provide performance in a compact control solution.

The VersaMax PROFINET network interface provides integrated I/O to PACSystems controllers in both copper and fiber interface. Ideal for any remote I/O application, the PROFINET interface supports ring topology, which permits a node to go down or break without transmission interruption.

Equipment builders are continuously looking for ways to improve the performance of their equipment while augmenting usability and reducing size

and complexity. These requirements extend to the I/O that they use. GE's I/O solutions provide the high performance control solutions with best-in-class integration of distributed (networked) I/O to meet these demanding applications.

Power Supplies pages 4.89-4.90



Analog I/O Modules pages 4.104-4.108

Discrete I/O Modules pages 4.91-4.103

Network Interface Modules page 4.114

Carriers pages 4.84-4.86

I/O Interposing Bases pages 4.87-4.88

Expansion Modules page 4.111

RTD and Thermocouple Modules page 4.109

Specialty Modules page 4.110

Remote I/O Units pages 4.112-4.113

Serial Communications page 4.115

Accessories page 4.116

Configuration Guidelines pages 4.117-4.118

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



Power Supplies

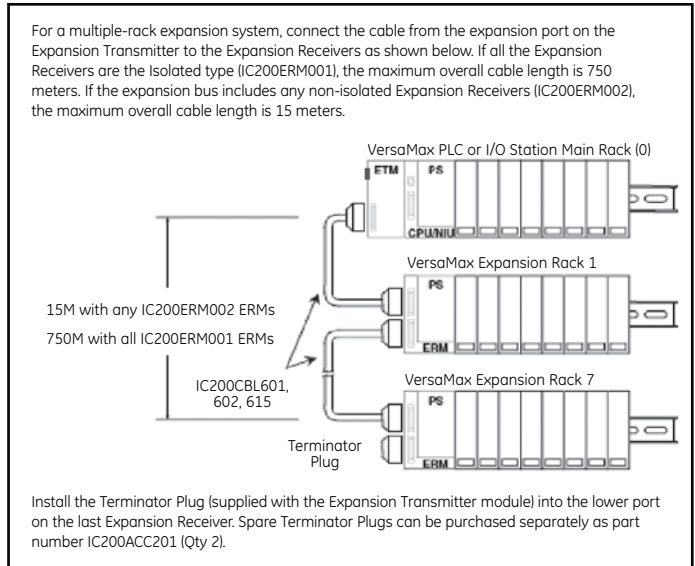
VersaMax Power Supply modules snap onto any VersaMax CPU or Network Interface Unit or onto a power supply booster carrier. Each power supply can be used as the main power source for modules in the I/O station, or as a source of supplemental power for larger I/O applications.

	IC200PWR001	IC200PWR002	IC200PWR011	IC200PWR012	IC200PWR101
Product Name	24 VDC Power Supply	24 VDC Power Supply with Expanded 3.3 V	24VDC Isolated Power Supply	24VDC Isolated Power Supply with Expanded 3.3 V	120/240 VAC Power Supply
Lifecycle Status	Active	Active	Active	Active	Active
Input Voltage	24 VDC	24 VDC	24 VDC	24 VDC	120/240 VAC
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
Extended Power	No	Yes	No	Yes	No
Input Power	11 W	11 W	11 W	11 W	27 VA
Isolated Power	No	No	Yes	Yes	N/A
Holdup Time	10 ms	10 ms	10 ms	10 ms	20 ms
Inrush Current	20 A @ 24 VDC; 25 A @ 30 VDC	20 A @ 24 VDC; 25 A @ 30 VDC	20 A @ 24 VDC; 25 A @ 30 VDC	20 A @ 24 VDC; 25 A @ 30 VDC	N/A
Protection	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	Short circuit, overload
Total Output Current	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
5V Output Current	1.5 A minus the 3.3 V current used, maximum	1.5 A minus the 3.3 V current used, maximum	1.5 A minus the 3.3 V current used, maximum	1.5 A minus the 3.3 V current used, maximum	1.5 A minus the 3.3 V current used, maximum
Dimensions (W x H x D)	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN-rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN-rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN-rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN-rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN-rail

Configuration Guidelines

When configuring a VersaMax Modular the following guidelines should be considered:

1. All I/O modules require an I/O Carrier (IC200CHS001, 002, 003, 005, 022 or 025).
2. When an I/O Connector Carrier (IC200CHS003) is selected, a cable (IC200CBL6xx) and interposing remote base (IC200CHS011, 012, 014 or 015) are required.
3. When configuring a system, the power consumptions should be tracked to determine what power supply and how many power supplies may be required.
4. DIN-rail clips should be used to secure the VersaMax modules (IC200ACC313).
5. A maximum of 8 carriers, any combination of I/O or communications, can be connected directly to either an NIU or CPU. (Power Supply Booster base is not counted as a carrier). CPUs and NIUs can be expanded beyond the 8 carriers using the Bus Transmitter Expansion (IC200ETM001) and up to 7 Expansion Receiver Modules (IC200ERM00x) for a total of 64 carrier modules.



Examples of Typical Application

Configuration for Controller (Example application requiring (30) 24 VDC inputs and (10) Relay outputs AC power supply)

Power Supply Current Required (mA)	Qty	Part Number	Description
40 @ 5 V and 100 @ 3 V	1	IC200CPU001	VersaMax PLC CPU 32K Configurable Memory, 2 Ports RS-232 and RS-485
	1	IC200PWR101	VersaMax 120/240 VAC Power Supply (1.5 amps 5 V and 0.25 amps 3.3 V)
50 @ 5 V	1	IC200MDL650	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
490 @ 5 V	1	IC200MDL940	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
	2	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
	1	IC200ACC313	DIN-rail clips (Qty 2) to secure modules on DIN-rail
	1	IC646MPS101	Logic Developer - PLC Standard - w/Programming Cable
Total:			580 @ 5 V and 100 @ 3 V (820 mA remaining). 1500 mA available for 5 V and 3.3 V.

Options to consider

	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
100 @ 5 V	1	IC200ACC003	EZ Program Store, CPU RS485 Port Update Device

Configuration for Controller (Application requiring 20K of Registers, (60) 24 VDC inputs, (15) AC Inputs, (12) AC Outputs and (20) Relay outputs also (16) Analog Inputs, (12) Isolated Analog Outputs and 24 VDC power supply. Also requires PROFIBUS Slave connection)

Power Supply Current Required	Qty	Part Number	Description
80 @ 5 V and 650 @ 3 V	1	IC200CPU005	VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485
	3	IC200PWR002	24 VDC Power Supply with Expanded 3.3 V (Logic side supply of 1.5 amps maximum. Up to 1.0 amp can be allocated for 3.3 V usage.)
100 @ 5 V	2	IC200MDL650	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
110 @ 5 V	1	IC200MDL240	VersaMax Discrete Input Module, 120 VAC Positive Logic, 16 points
170 @ 5 V	2	IC200MDL331	VersaMax Discrete Output Module, 120 VAC 2.0 A per point Isolated, 8 points
980 @ 5 V	2	IC200MDL940	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
400 @ 5 V	2	IC200ALG262	VersaMax Analog Input Module, 15 Bit Differential Current, 8 Channel
10 @ 5 V and 115 @ 3 V	2	IC200ALG331	VersaMax Analog Output Module, 14 Bit Voltage/Current 1500 VAC Isolation, 8 Channel
	11	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
460 @ 5 V and 5 @ 3 V	1	IC200BEM002	PLC Network Communications PROFIBUS-DP (Slave)
	1	IC200PWB001	VersaMax Power Supply Booster Carrier. Supplies power to all modules to the right of booster. Requires power supply.
		IC200CHS006	VersaMax I/O, Local Communications Carrier
44 @ 5 V	1	IC200ETM001	Bus Transmitter Expansion Module
70 @ 5 V and 20 @ 3 V	1	IC200ERM002	Expansion Receiver Module, Non-Isolated
	1	IC200CBL600	Cable Expansion Shielded Single Ended 1M
	1	IC200ACC313	DIN-rail clips (Qty 2) to secure modules on DIN-rail
	1	IC646MPS101	Logic Developer - PLC Standard - w/Programming Cable
Total:			2424 @ 5 V and 790 @ 3 V Required. 4500 mA available for 5 V and 3.3 V. Power Supply to meet power requirements.

(continued on next page)

Options to consider

	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch DC
100 @ 5 V	1	IC200ACC003	EZ Program Store, CPU RS485 Port Update Device

Configuration for Controller Ethernet connectivity, (60) 24 VDC inputs, (20) Relay outputs, (16) Analog Inputs, (12) Thermocouples on a remote Ethernet drop, (12) Isolated Analog Outputs and 24 VDC power supply. Also requires Color TFT Operator Interface with Touch Screen.

Power Supply Current Required	Qty	Part Number	Description
160 @ 5 V and 650 @ 3 V	1	IC200CPUE05	VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485, 10 MBIT Ethernet Port. Supports SRTP and EGD.
	2	IC200PWR002	24 VDC Power Supply with Expanded 3.3 V (Logic side supply of 1.5 amps maximum. Up to 1.0 amp can be allocated for 3.3 V usage.)
	1	IC200PWB001	VersaMax Power Supply Booster Carrier. Supplies power to all modules to the right of booster. Requires power supply.
100 @ 5 V	2	IC200MDL650	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
980 @ 5 V	2	IC200MDL940	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
400 @ 5 V	2	IC200ALG262	VersaMax Analog Input Module, 15 Bit Differential Current, 8 Channel
10 @ 5 V and 115 @ 3 V	2	IC200ALG331	VersaMax Analog Output Module, 14 Bit Voltage/Current 1500 VAC Isolation, 8 Channel
	8	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
	2	IC200ACC313	DIN-rail clips (Qty 2) to secure modules on DIN-rail
	1	IC646MBT001	Logic Developer PLC Standard Edition and View for QuickPanel with 15 mos. of Proficy GlobalCare which is renewable on an annual basis.
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch DC
Total:	1650 @ 5 V and 765 @ 3 V. 3000 mA available for 5 V and 3.3 V.		

Ethernet Remote Drop

175 @ 5 V and 425 @ 3 V	1	IC200ETM001	Bus Transmitter Expansion Module
	1	IC200PWR002	24 VDC Power Supply with Expanded 3.3 V (Logic side supply of 1.5 amps maximum. Up to 1.0 amp can be allocated for 3.3 V usage.)
250 @ 5 V and 250 @ 3 V	2	IC200ALG630	VersaMax Analog Input Module, 16 Bit Thermocouple, 7 Channel
	1	IC690ACC905	Encapsulated Thermistor Kit Qty 2
	2	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
	1	IC200ACC313	DIN-rail clips (Qty 2) to secure modules on DIN-rail
Total:	2424 @ 5 V and 790 @ 3 V Required. 4500 mA available for 5 V and 3.3 V. Power Supply Booster required with extra Power Supply to meet power requirements.		

Options to consider

	1	IC690PWR124	24 VDC, 10 Amp Output Power and 120/230 VAC Input Power Power Supply
100 @ 5 V	1	IC200ACC003	EZ Program Store, CPU RS485 Port Update Device