

VersaMax Modular I/O and Control

Maximum versatility is the guiding principle behind VersaMax from Emerson. This compact, extremely affordable, control solution can be used as a compact PLC, distributed I/O, or distributed control. With its modular and scalable architecture, intuitive features and ease of use, this innovative control family can save machine builders and end users considerable time and money.

Offering Big PLC Power in a Small Package

VersaMax Modular CPUs supply a number of features usually found only in PLCs with larger footprints, including up to 128kB of memory for application programs, floating point math, real-time clock, subroutines, PID control, flash memory, and bumpless program store. The serial ports support serial read/write and Modbus master/slave communications.

An Abundance of Useful I/O Options

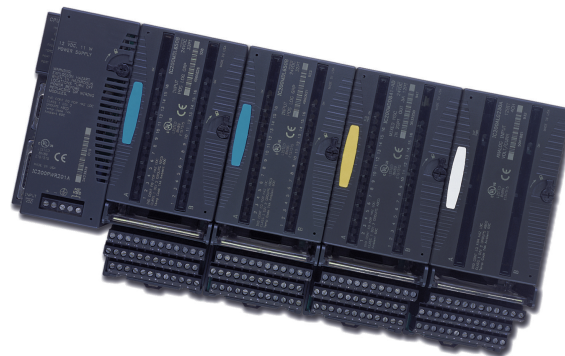
Emerson offers a broad range of discrete, analog, mixed, and specialty I/O modules. These modules can be freely combined to create stand-alone I/O stations with up to 256 I/O points and expanded I/O systems with up to 2048 I/O points.

The Perfect Match for Today's Open Systems

VersaMax gives you the freedom to connect to a wide variety of host controllers, including PLC, DCS and PC-based control systems by way of PROFINET (remote I/O only), Modbus/TCP, and other Ethernet networks as well as Genius, DeviceNet, Profibus-DP. VersaMax also fully supports the power and open architecture of Emerson's PC Control solutions.

The Ultimate in Cost-effective Control and I/O

With intuitive diagnostics, hot insertion of modules and quick connect wiring, VersaMax extends uptime, reduces engineering and training needs, and dramatically reduces project lifecycle costs.

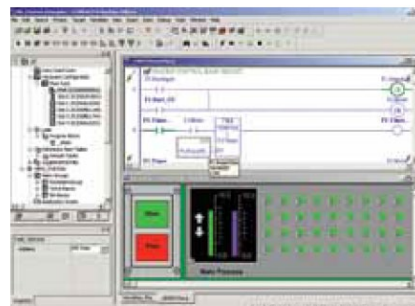


A Design that Maximizes Ease of Use

Every aspect of VersaMax has been carefully refined to accommodate the user. Snaptogether I/O carriers mean that no tools are required for module installation or extraction. A convenient rotary switch can be used for setting bus addresses, reducing programming time. With VersaMax, you can even address I/O automatically.

Easy Troubleshooting and Machine Setup

Using integrated PAC Machine Edition (PME) software, you can easily configure VersaMax I/O. PME is the same software as all PACSystems CPUs so you only need a single tool from small to large applications. This approach utilizes the same hardware configuration, network configuration, and programming editors. HMI development is also streamlined with a single tag database for QuickPanel+ HMIs.



Specifications

Mounting Format

- DIN Rail

Network Interfaces

- PROFINET
- PROFIBUS DP
- Modbus/TCP
- Ethernet Global Data (EGD)
- DeviceNet
- GENIUS

Gateways/Bridges

- Modbus/RTU
- PROFIBUS Master

Network Redundancy

- MRP

System Redundancy

- PNSR, EGD or GENIUS

I/O Redundancy

- via Application Code

Media Support

- Copper and MM Fiber

Media Connector

- 2x RJ45 or 2x ST

Galvanic Isolation

- Yes

Hot Swap

- Yes

Environmentals

- IP20
- 0 °C to 60 °C (-40 °C to 60 °C available)
- Conformal Coat options available

Agency Approvals

- UL
- UL HazLoc C1D2
- CE
- ATEX Zone 2

Marine

- ABS*
 - BV*
 - DNV GL*
- *(only select models)

Channel Density

- 4-32 points

Max Wire Gauge

- 14

Max I/O per Drop

- 1024

I/O Module Size (W x H x D)

- 66.8 x 163.5 x 70 mm

I/O Family Comparison



Product	PACSystems RSTi	PACSystems RSTi-EP	VersaPoint /VersaSafe	VersaMax Modular	VersaMax/IP	PACSystems RX3i	PAC8000
Type	Distributed Slice	Distributed Slice	Distributed Slice	Chassis Based	On-machine Distributed	Chassis Based	Intrinsically Safe
Network Interfaces	PROFINET PROFIBUS DP Modbus/TCP Modbus/RTU DeviceNet	PROFINET PROFIBUS DP Modbus/TCP EtherCAT Ethernet/IP	PROFINET PROFIBUS DP Modbus/TCP DeviceNet	PROFINET PROFIBUS DP Modbus/TCP EGD DeviceNet GENIUS	PROFINET PROFIBUS DP	PROFINET PROFIBUS DP Modbus/TCP EGD CMX	PROFINET Modbus/TCP
System Redundancy	-	PNSR	-	PNSR, EGD or GENIUS		PNSR or EGD	PNSR or Modbus/TCP
Hot Swap	No	Yes	No	Yes	No	Yes	Yes
Environmentals	IP20 0 °C to 55 °C (UL) 0 °C to 60 °C (non-UL)	IP20 -20 °C to 60 °C	IP20 -20 °C to 55 °C	IP20 0 °C to 60 °C -40 °C to 60 °C (opt.) Conformal Coat (opt.)	IP67 -20 °C to 60 °C	IP20 0 °C to 60 °C -40 °C to 60 °C (opt.) Conformal Coat (opt.)	IP20 -40 °C to 70 °C Conformal Coat
Agency Approvals	UL UL HazLoc C1D2CE ATEX Zone 2	UL UL HazLoc C1D2 CE ATEX Zone 2	UL UL HazLoc C1D2 CE ATEX Zone 2 TUV SIL3	UL UL HazLoc C1D2 CE ATEX Zone 2	UL UL HazLoc C1D2 CE	UL UL HazLoc C1D2 CE ATEX Zone 2	UL UL HazLoc C1D1 CE ATEX Zone 1 Intrinsically Safe
Marine	-	DNV GL	-	ABS, BV, DNV GL, LR (only select models)	-	ABS, BV, DNV GL (only select models)	LR
I/O Module Size (W x H x D)	12 x 99 x 70 mm	11.5 x 120 x 76mm	12 x 120 x 70 mm	66.8 x 163.5 x 70 mm	70 x 178 x 49.3 mm	34 x 145 x 140 mm	42 x 110 x 106 mm
Typical Applications	Basic Machine	Machine Control Light Process Control General Automation	Functional Safety	Machine and Light Process Control General Automation	On-machine Cabinetless I/O	Complex Machine Process Control Motion Control General Automation	Harsh Environment Process Control
Level of Diagnostics	Good	Better	Best	Better	Good	Best	Best

Ordering Information

Description	Catalog Number		Catalog Number	
Discrete Input Modules ⁽¹⁾	IC200MDL140	Input 120 VAC (1 Group of 8) 8 Points	IC200MDL631	Input 125 VDC Pos/Neg Logic Isolated 8 Points
	IC200MDL141	Input 240 VAC (1 Group of 8) 8 Points	IC200MDL632	Input 125 VDC Pos/Neg Logic Isolated 16 Points
	IC200MDL143	Input 120 VAC Isolated 8 Points	IC200MDL635	Input 48 VDC Pos/Neg Logic (2 Groups of 8) 16 Points
	IC200MDL144	Input 240 VAC Isolated 4 Points	IC200MDL636	Input 48 VDC Pos/Neg Logic (4 Groups of 8) 32 Points
	IC200MDL240	Input 120 VAC (2 Groups of 8) 16 Points	IC200MDL640	Input 24 VDC Pos/Neg Logic (2 Groups of 8) 16 Points
	IC200MDL241	Input 240 VAC (2 Groups of 8) 16 Points	IC200MDL643	Input 5/12 VDC Pos/Neg Logic (2 Groups of 8) 16 Points
	IC200MDL243	Input 120 VAC Isolated 16 Points	IC200MDL644	Input 5/12 VDC Pos/Neg Logic (4 Groups of 8) 32 Points
	IC200MDL244	Input 240 VAC Isolated 8 Points	IC200MDL650	Input 24 VDC Pos/Neg Logic (4 Groups of 8) 32 Points
Discrete Output Modules ⁽¹⁾	IC200MDL329	Output 120 VAC 0.5 Amp per Point Isolated 8 Points	IC200MDL741	Output 24 VDC Pos Logic 0.5 Amp per Point with ESCP 16 Points
	IC200MDL330	Output 120 VAC 0.5 Amp per Point Isolated 16 Points	IC200MDL742	Output 24 VDC Pos Logic 0.5 Amp per Point with ESCP 32 Points
	IC200MDL331	Output 120 VAC 2.0 Amp per Point Isolated 8 Points	IC200MDL743	Output 5/12/24 VDC Neg Logic 0.5 Amp per Point 16 Points
	IC200MDL730	Output 24 VDC Pos Logic 2.0 Amp per Point with ESCP 8 Points	IC200MDL744	Output 5/12/24 VDC Neg Logic 0.5 Amp per Point 32 Points
	IC200MDL740	Output 12/24 VDC Pos Logic 0.5 Amp per Point 16 Points	IC200MDL750	Output 12/24 VDC Pos Logic 0.5 Amp per Point 32 Points
Relay Output Modules ⁽¹⁾	IC200MDL930	Output Relay 2.0 Amp per Point Isolated Form A 8 Points	IC200MDL940	Output Relay 2.0 Amp per Point Isolated Form A 16 Points
Mixed Discrete Modules ⁽¹⁾	IC200MDD840	Mixed 24 VDC Pos Logic Input Grouped 20 Points / Output Relay 2.0 Amp per Point Grouped 12 Points	IC200MDD846	Mixed Output Relay 2.0 Amp per Point Isolated 8 Points / Input 120 VAC Grouped 8 Points
	IC200MDD841	Mixed 24 VDC Pos Logic Input Grouped 20 Points / Output Grouped 12 Points/HSC/PWM/PT	IC200MDD847	Mixed Output Relay 2.0 Amp per Point Isolated 8 Points / Input 240 VAC Grouped 8 Points
	IC200MDD842	Mixed 24 VDC Pos Logic Output 0.5 Amp Grouped with ESCP 16 Points / Input Grouped 16 Points	IC200MDD848	Mixed Output 120 VAC 0.5 Amp per Point Isolated 8 Points / Input 120 VAC Grouped 8 Points
	IC200MDD843	Mixed 24 VDC Pos Logic Input Grouped 10 Points / Output Relay 2.0 Amp per Point Grouped 6 Points	IC200MDD849	Mixed Output Relay 2.0 Amp per Point Isolated 8 Points / Input 120 VAC Isolated 8 Points
	IC200MDD844	Mixed 24 VDC Pos Logic Output 0.5 Amp Grouped 16 Points / Input Grouped 16 Points	IC200MDD850	Mixed Output Relay 2.0 Amp per Point Isolated 8 Points / Input 240 VAC Isolated 4 Points
	IC200MDD845	Mixed Output Relay 2.0 Amp per Point Isolated 8 Points / Input 24 VDC Pos Logic Grouped 16 Points	IC200MDD851	Mixed 12/24 VDC Pos Logic Output 0.5 Amp per Point Grouped 16 Points/ Input 5/12 VDC Pos/Neg Logic Grouped 16 PT

Ordering Information

Description	Catalog Number		Catalog Number	
Analog Input Modules ⁽¹⁾	IC200ALG230	Analog Input 12 Bit Voltage/Current 4 Channels	IC200ALG263 ⁽⁶⁾	Analog Input 15 Bit Voltage 15 Channels
	IC200ALG240	Analog Input 16 Bit Voltage/Current Isolated 8 Channels	IC200ALG264 ⁽⁶⁾	Analog Input 15 Bit Current 15 Channels
	IC200ALG260	Analog Input 12 Bit Voltage/Current 8 Channels	IC200ALG620	Analog Input 16 Bit RTD 4 Channels
	IC200ALG261 ⁽⁶⁾	Analog Input 15 Bit Differential Voltage 8 Channels	IC200ALG630	Analog Input 16 Bit Thermocouple 7 Channels
	IC200ALG262 ⁽⁶⁾	Analog Input 15 Bit Differential Current 8 Channels		
Analog Output Modules ⁽¹⁾	IC200ALG320	Analog Input 12 Bit Voltage/Current 4 Channels	IC200ALG326 ⁽⁶⁾	Analog Output 13 Bit Current 8 Channels
	IC200ALG321	Analog Output 12 Bit Voltage 0-10 V 4 Channels	IC200ALG327 ⁽⁶⁾	Analog Output 13 Bit Voltage 12 Channels
	IC200ALG322	Analog Output 12 Bit Voltage ± 10 V 4 Channels	IC200ALG331	Analog Output 16 Bit Voltage/Current Isolated 4 Channels
	IC200ALG325 ⁽⁶⁾	Analog Output 13 Bit Voltage 8 Channels		
Mixed Analog Modules ⁽¹⁾	IC200ALG430	Analog Mixed 12 Bit Current 4 Input / 2 Output Channels	IC200ALG432	Analog Mixed 12 Bit Voltage ± 10 V 4 Input / 2 Output Channels
	IC200ALG431	Analog Mixed 12 Bit Voltage 0-10 V 4 Input / 2 Output Channels		
I/O Carriers	IC200CHS001	Barrier Horizontal Style	IC200CHS025	Spring Clamp Vertical Style
	IC200CHS002	Box Horizontal Style	IC200CHS011	Non-integrated Barrier Style
	IC200CHS003 ⁽⁴⁾	Connector Vertical Style	IC200CHS012	Non-integrated Box Style
	IC200CHS005	Spring Clamp Horizontal Style	IC200CHS014	Integrated Box-Thermocouple Compensation
	IC200CHS022	Box Vertical Style		
I/O Interposing Bases	IC200CHS101	Non-integrated Box Style	IC200CHS112	Non-integrated Box Style
	IC200CHS102	Non-integrated Box Style	IC200CHS211	Non-integrated Box Style
	IC200CHS111	Non-integrated Box Style	IC200CHS212	Non-integrated Box Style
Remote I/O Units	IC200DBI001 ⁽²⁾	Remote I/O DeviceNet Network Interface Unit	IC200GBI001	Remote I/O Genius Network Interface Unit
	IC200EBI001 ⁽⁵⁾	Remote I/O Ethernet Network Interface Unit	IC200PBI001	Remote I/O Profibus-DP Network Interface Unit
PROFINET NIUS	IC200PNS001	2xRJ45 Copper Ethernet Connectors	IC200PNS002	2xST Fiber Ethernet Connectors
Network Interface Modules ⁽³⁾	IC200BEM002	PLC Network Communication Profibus-DP Slave	IC200CHS006	Local Communications Carrier
	IC200BEM103	PLC Network Communication DeviceNet (Master/Slave)	IC200CMM020	Genius Network Interface works for GBI or either PNS module Modbus Master Serial Module (one RS-485 Port)
Controllers	IC200CPU001	CPU 42 kB Configurable Memory, Two Serial Ports(RS-232 and RS-485)	IC200CPUE05	Configurable User Memory, One 10MBps Ethernet (RJ45) and Two Serial Ports (RS-232 and RS-485)

Ordering Information

Description	Catalog Number		Catalog Number	
Power Supplies	IC200PWR001	VersaMax Power Supply 24VDC Input module	IC200PWR002	VersaMax Power Supply with expanded 3.3VDC 24VDC Input module
	IC200PWR011	VersaMax Isolated 24 VDC Power Supply	IC200PWR012	VersaMax Isolated 24 VDC Expanded 3.3V Power Supply
	IC200PWR102	VersaMax Power Supply with expanded 3.3VDC 120/240VAC Input module	IC200PWR202	VersaMax Power Supply with expanded 3.3VDC 12VDC Input module
Accessories	IC200ACC003	EZ Program Store Flash Device for CPUs	IC200ERM001 ⁽⁶⁾	I/O Expansion Receiver Isolated (Up to 750 meters)
	IC200CBL001	CPU Programming Cable (RS-232)	IC200ERM002 ⁽⁶⁾	I/O Expansion Receiver Non-Isolated (Up to 15 meters)
	IC200ETM001 ⁽⁶⁾	I/O Expansion Transmitter for CPU and Network Interface Units		

(1) Requires an I/O carrier for wiring termination.

(2) The DeviceNet network interface unit only supports autoconfiguration of I/O.

(3) These modules are for use in CPU systems.

(4) Refer to VersaMax Modules, Power Supplies, and Carriers Manual GFK-1504 for cables and Interposing Terminal Blocks.

(5) Includes support for EGD and Modbus Ethernet.

(6) Supported by PROFINET PNS only.

(7) Supported by CPUs, Genius, Profibus and Ethernet NIUs only.

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