

VersaMax IP

VersaMax IP is designed to offer the ruggedness and reliability of a standard I/O system installed in a NEMA 4 cabinet, without the cost and effort to build the cabinet. VersaMax IP is IP67 rated so it can be bolted right to the equipment it controls without the need for an enclosure. I/O, communications, and power connections are made to the blocks with off-the-shelf cordsets – reducing design and installation time and possible wiring errors.

Once installed, VersaMax IP's diagnostics make troubleshooting a snap. In the event of a failure, the connector-style wiring interface comes into play once again, greatly reducing replace-

ment time and the possibility of wiring errors.

The VersaMax IP includes PROFINET/PROFIBUS I/O blocks, network cordsets, and power cordsets. The I/O blocks provide the following:

- Connection to PROFINET/PROFIBUS-DP using M12 connectors
- Baud rates up to 12 MB – autoselect
- Connections to digital sensors using M12 connectors (Input Blocks)
- Connection to digital actuators using M12 connectors, each with load capacity up to 2A (Output Blocks)
- Flexible voltage supply

- Diagnostics and Status indicators
- Short Circuit and Overload protection of Sensor Supply and/or outputs
- IP65 and IP67 Protection
- Operating Temperature: -25°C to 60°C

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.



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Publication Reference Chart

GFK-2307 VersaMax IP Installation Manual



Stand Alone Input and Output Modules

VersaMax IP modules are designed for distributed automation tasks in harsh environmental conditions. Modules meet the requirements for both IP65/IP67 protection. They enable the direct connection of sensors and actuators in an environment close to the station. Every VersaMax IP device is connected directly to the bus system.

	IC676PBI008	IC676PBI016	IC676PBM442	IC676PBO082
Product Name	8 Point Input Module, PROFIBUS	16 Point Input Module, PROFIBUS	4 Point Input and 4 Point (2 Amp) Output Module, PROFIBUS	8 Point (2 Amp) Output Module, PROFIBUS
Lifecycle Status	Active	Active	Active	Active
Protocol	PROFIBUS DP	PROFIBUS DP	PROFIBUS DP	PROFIBUS DP
Module Power	24 VDC	24 VDC	24 VDC	24 VDC
Module Power Range	18 VDC to 30 VDC	18 VDC to 30 VDC	18 VDC to 30 VDC	18 VDC to 30 VDC
Module Current Consumption UL at 24 VDC	35 mA typical, 100 mA maximum	35 mA typical, 100 mA maximum	40 mA typical, 100 mA maximum	40 mA typical, 100 mA maximum
Module Current Consumption US at 24 VDC	4.5 mA typical plus sensor current 700 mA maximum	8 mA typical plus sensor current 1.2 A maximum	4.5 mA typical plus sensor current 700 mA maximum	3 mA typical plus sensor current 700 mA maximum
Module Current Consumption UAXX at 24 VDC	N/A	N/A	6 mA typical plus actuator current, 4 A maximum	12 mA typical plus actuator current, 4 A maximum
Connection Style (M12)	2-, 3-, and 4-wire	2-, 3-, and 4-wire (Y connector to support two sensors per connector)	2- or 3-wire	2- or 3-wire
Operating Temperature	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)
Degree of Protection	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods
Class of Protection	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529
Housing Dimensions (W x H x D)	60 mm x 160 mm x 44.5 mm	60 mm x 160 mm x 44.5 mm	60 mm x 178 mm x 49.3 mm	60 mm x 178 mm x 49.3 mm



VersaMax IP Modular

VersaMax IP Modular modules are designed for distributed automation tasks in harsh environmental conditions. Modules meet the requirements for both IP65/IP67 protection. They enable the direct connection of sensors and actuators in an environment close to the station. Every VersaMax IP device is connected directly to the bus system. Up to 16 expansion modules can be connected to one PROFIBUS VersaMax IP Modular local bus master, supporting up to 136 digital or 64 analog signals or a combination of the two.

	IC677PNS001	IC677PBI001	IC677DBI008	IC677DBO085
Product Name	VersaMax IP PROFINET Scanner with (8) 24 VDC inputs	PROFIBUS VersaMax IP Modular local bus master with (8) 24 VDC inputs	Expansion VersaMax IP Modular slave with (8) 24 VDC inputs	Expansion VersaMax IP Modular slave with (8) 24 VDC outputs
Lifecycle Status	Active	Active	Active	Active
Protocol	PROFINET	PROFIBUS DP	Local Bus	Local Bus
Number of Points	8	8	8	8
Module Power	24 VDC	24 VDC	24 VDC	24 VDC
Module Power Range	18 VDC to 30 VDC	18 VDC to 30 VDC	18 VDC to 30 VDC	18 VDC to 30 VDC
Module Current Consumption UL at 24 VDC	118 mA typical	75 mA typical, 100 mA maximum	35 mA typical (50 mA maximum) @ 500Kbaud; 40 mA typical (50 mA maximum) @ 2Mbaud	40 mA typical (50 mA maximum) @ 500Kbaud; 45 mA typical (50 mA maximum) @ 2Mbaud
Module Current Consumption US at 24 VDC	5 mA typical plus sensor current 600 mA maximum	15 mA typical plus sensor current 600 mA maximum	5 mA typical plus sensor current 600 mA maximum	5 mA typical plus actuator current 600 mA maximum
Module Current Consumption UAXX at 24 VDC	N/A	12 mA typical plus actuator current, 4 A maximum	N/A	N/A
Connection Style (M12)	2-, 3-, and 4-wire (Y connector to support two sensors per connector)	2-, 3-, and 4-wire (Y connector to support two sensors per connector)	2-, 3-, and 4-wire	2-, 3-, and 4-wire
Operating Temperature	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)
Degree of Protection	95% slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods
Class of Protection	IP65/IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529
Housing Dimensions (W x H x D)	70 mm x 178 mm x 49.3 mm	70 mm x 178 mm x 49.3 mm	70 mm x 178 mm x 49.3 mm	70 mm x 178 mm x 49.3 mm



VersaMax IP Modular

VersaMax IP Modular modules are designed for distributed automation tasks in harsh environmental conditions. Modules meet the requirements for both IP65/IP67 protection. They enable the direct connection of sensors and actuators in an environment close to the station. Every VersaMax IP device is connected directly to the bus system. Up to 16 expansion modules can be connected to one PROFIBUS VersaMax IP Modular local bus master, supporting up to 136 digital or 64 analog signals or a combination of the two.

	IC677DBM442	IC677ABI004	IC677ABO004
Product Name	Expansion VersaMax IP Modular slave with (4) 24 VDC inputs and 4 outputs (2 amp)	Expansion VersaMax IP Modular slave with (4) analog inputs	Expansion VersaMax IP Modular slave with (4) analog outputs
Lifecycle Status	Active	Active	Active
Protocol	Local Bus	Local Bus	Local Bus
Number of Points	4 In/ 4 Out	4	4
Module Power	24 VDC	24 VDC	24 VDC
Module Power Range	18 VDC to 30 VDC	18 VDC to 30 VDC	18 VDC to 30 VDC
Module Current Consumption UL at 24 VDC	40 mA typical (50 mA maximum) @ 500Kbaud; 45 mA typical (50 mA maximum) @ 2Mbaud	70 mA, typical	70 mA, typical
Module Current Consumption US at 24 VDC	5 mA typical plus sensor current 600 mA maximum	500 mA typical plus sensor current 400 mA maximum	5 mA typical plus actuator current 400 mA maximum
Module Current Consumption UAXX at 24 VDC	3 mA typical plus actuator current, 4 A maximum	N/A	N/A
Connection Style (M12)	2-, 3-, and 4-wire for sensor; 2 or 3-wire actuator control	2 or 4 wire technology (shielded)	2 or 4 wire technology (shielded)
Operating Temperature	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)
Degree of Protection	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods
Class of Protection	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529
Housing Dimensions (W x H x D)	70 mm x 178 mm x 49.3 mm	70 mm x 178 mm x 49.3 mm	70 mm x 178 mm x 49.3 mm

Accessories and Cables

IC676ACC001	VersaMax IP Point Labels - Qty 50	Active
IC676ACC002	Protective Caps -Male (For unused I/O connectors and/or outgoing bus & power connectors) - Qty 5	Active
IC676ACC003	Protective Caps -Female (For unused incoming power connectors) - Qty 5	Active
IC676ACC004	PROFIBUS Network Termination Resistor	Active
IC676ACC005	PROFIBUS Network Tee	Active
IC676CBLPBB003	IP67 PROFIBUS Cordset - 0.3 Meters	Active
IC676CBLPBB005	IP67 PROFIBUS Cordset - 0.5 Meters	Active
IC676CBLPBB010	IP67 PROFIBUS Cordset -1 Meter	Active
IC676CBLPBB020	IP67 PROFIBUS Cordset - 2 Meters	Active
IC676CBLPBB050	IP67 PROFIBUS Cordset - 5 Meters	Active
IC676CBLPBB100	IP67 PROFIBUS Cordset - 10 Meters	Active
IC676CBLPBF020	IP67 PROFIBUS Cordset - 2 Meters - Female Connector w/Leads	Active
IC676CBLPBF050	IP67 PROFIBUS Cordset - 5 Meters - Female Connector w/Leads	Active
IC676CBLPBF100	IP67 PROFIBUS Cordset - 10 Meters -Female Connector w/Leads	Active
IC676CBLPBM020	IP67 PROFIBUS Cordset - 2 Meters, Male Connector w/Leads	Active
IC676CBLPBM050	IP67 PROFIBUS Cordset - 5 Meters, Male Connector w/Leads	Active
IC676CBLPBM100	IP67 PROFIBUS Cordset - 10 Meters -Male Connector w/Leads	Active
IC676CBLPWB003	IP67 Power Cordset - 0.3 Meters	Active
IC676CBLPWB005	IP67 Power Cordset - 0.5 Meters	Active
IC676CBLPWB010	IP67 Power Cordset -1 Meter	Active
IC676CBLPWB020	IP67 Power Cordset - 2 Meters	Active
IC676CBLPWB050	IP67 Power Cordset - 5 Meters	Active
IC676CBLPWB100	IP67 Power Cordset -10 Meters	Active
IC676CBLPWF020	IP67 Power Cordset - 2 Meters - Female Connector w/Leads	Active
IC676CBLPWF050	IP67 Power Cordset - 5 Meters - Female Connector w/Leads	Active
IC676CBLPWF100	IP67 Power Cordset -10 Meters -Female Connector w/Leads	Active
IC676CBLPWM020	IP67 Power Cordset - 2 Meters - Male Connector w/Leads	Active
IC676CBLPWM050	IP67 Power Cordset - 5 Meters - Male Connector w/Leads	Active
IC676CBLPWM100	IP67 Power Cordset -10 Meters - Male Connector w/Leads	Active

VersaMax IP Modular Inter-connection Cables

IC677CBLPW0013	IP67 Voltage supply cable for local bus; A-coded, 5 position, unshielded 13.5 cm.	Active
IC677CBLLB0013	IP67 Local communications cable for local bus; B-coded, 5 position, shielded 13.5 cm.	Active

Configuration Guidelines

When configuring a VersaMax IP the following guidelines should be considered

1. Remember to select the proper cord set and termination resistor
2. VersaMax IP Modular can support up to 16 Modular expansions with a total expansion length of 20 meters

Examples of Typical Application

Configuration for Controller (Example application requiring (120) 24VDC inputs and (80) Relay outputs AC power supply) for local control. System also has five remote drops that will be mounted external to the machine. Each remote drop requires (8) 24VDC Inputs, (4) 24VDC 0.5 Amp, Source Outputs and (2) current inputs and (2) current outputs (24VDC power source) over PROFIBUS DP.

Control Cabinet

Backplane Slots Required	Power Supply Current Required (mA)	Qty	Part Number	Description
2	1250 mA @ 3.3 VDC; 1000 mA @ 5 VDC	1	IC695CPU310	CPU with two built-in serial ports
2		1	IC695PSA040	120/240 VAC, 125 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum
	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	1	IC695CHS016	16 Slot Universal Base
4	1200 mA @ 5 V	4	IC694MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
5	35 mA @ 5 V; 110 mA @ 24 VDC Relay	5	IC694MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).
		4	IC694TBB032	Terminal Block, Box Style
1	420 mA @ 5 VDC	1	IC695PBM300	PROFIBUS DP Master Module
		1	BC646MPP001	Logic Developer -PLC Professional
14	Total current from power supply required: 2895 mA @ 5 V; 1850 @ 3.3 V; 110 mA @ 24 VDC Relay. Only one power supplied needed.			

Remote Cabinets (Qty 5)

5	IC677PBI001	PROFIBUS VersaMax IP Modular local bus master with (8) 24 VDC inputs
5	IC677DBO085	Expansion VersaMax IP Modular slave with (8) 24 VDC outputs
5	IC677ABI004	Expansion VersaMax IP Modular slave with (4) analog inputs
5	IC677ABO004	Expansion VersaMax IP Modular slave with (4) analog outputs
5	IC676CBLPBB100	IP67 PROFIBUS Cordset -10 Meters
5	IC676CBLPWB100	IP67 Power Cordset -10 Meters
15	IC677CBLPWB0013	IP67 Voltage supply cable for local bus; A-coded, 5 position, unshielded 13.5 cm.
15	IC677CBLLBB0013	IP67 Local communications cable for local bus; B-coded, 5 position, shielded 13.5 cm.

Options to Consider

840 mA @ 3.3 VDC; 614 mA @ 5 VDC	1	IC695ETM001	RX3i Ethernet module 10/100 Mbits 2 RJ45 connections one IP address occupies one slot on system base
	6	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC693ACC302	RX3i Long term battery for CPU
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface