GE
Intelligent Platforms

PACSystems VersaMax IP

PROFINET distributed I/O delivers high performance in harsh environments

GE Intelligent Platforms understands that equipment builders are continuously looking for ways to improve the performance and flexibility of their equipment while reducing size and complexity.

Distributing networked I/O on production lines or work cells can greatly reduce wiring costs and installation time, but can increase cost and space due to the need for local cabinets to protect the I/O.

VersaMax IP is designed to offer the ruggedness and reliability of a standard I/O system traditionally installed in a NEMA 4 cabinet, without the cost of the cabinet. VersaMax IP is IP67-rated, so it can be bolted right to the equipment it controls.

PROFINET connectivity ensures fast, easy-to-configure connectivity to GE's PACSystem controllers and extensive range of I/O options, enabling scalable machine automation and highly distributed modular machine designs. The end result is high-performance automation for a connected world.

Rugged and Reliable

All network, I/O, and power connections are made to the I/O blocks with off-the-shelf cordsets, reducing design and installation time and possible wiring errors. Rugged M12 connectors are individually keyed to prevent improper connection and reduce module replacement time in the event of a failure. Once installed, VersaMax IP's extensive diagnostics make troubleshooting a snap.

Greater Uptime

Media Redundancy Protocol (MRP) in a ring topology allows nodes to be removed for maintenance or survive a cut network cable without shutting down the application. By default, the VersaMax IP PROFINET scanner is set up for MRP with a guaranteed switch over time of 200 ms for bumpless operation.

Devices can be replaced without having to reconfigure them within the PROFINET network. The station name and address are assigned by the control system to the newly added PROFINET bus coupler using the neighborhood detection function.

PROFINET Advantage

PROFINET I/O solutions from GE provide productivity and performances advantages necessary for virtually any type of control application in a range of industries. The VersaMax IP family of I/O simplifies control solutions for harsh environments while offering all the advantages of this high-speed open communication standard. PROFINET supports large amounts of I/O without compromising system performance and is able to operate in high-noise environments.

Flexibility and Scalability

PROFINET provides flexible deployment that minimizes hardware and configuration issues, providing a platform that accommodates future expansion and flexible system architectures. VersaMax IP allows both direct and indirect network connection. Indirect connection allows devices to be added or removed while the bus is active. A range of discrete and analog I/O modules make it easy to configure solutions for small or large automation solutions.

FEATURE	BENEFIT
IP67 protection rating	• Eliminates need for protective cabinet for distributed I/O solutions • Reduces mounting space and cost
Distributed I/O system	• Reduces I/O wiring cost and installation time • Cable runs between cells/workstations reduced to just the network cable
Modular scalability	• Easy-to-expand I/O system for future options or line capacity expansion • Broad range of discrete and analog I/O modules for application flexibility
PROFINET communications interface	• Open, high-speed network connectivity to GE's PACSystems controllers • Support for Media Redundancy Protocol for robust operation • Replace devices without having to reconfigure them for improved uptime
Plug-on M12 connectors	• Fast, rugged and reliable connection of network, power and devices • Individually keyed to prevent improper connection

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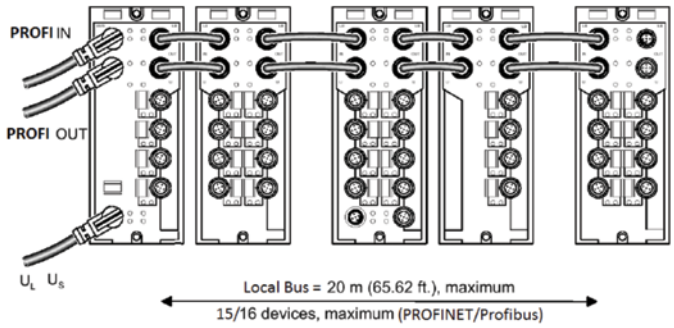
VersaMax IP for distributed automation tasks in harsh environmental conditions

A PROFINET/Profibus Network Interface Unit module provides the bus interface for up to 15/16 individual VersaMax IP Modular devices located on a bus stub. Discrete input, output, mixed and analog I/O modules can be installed on the bus stub and connected to field devices. The Network Interface Unit provides the power supply for the modules on the local bus. The maximum total length of the local bus is 20 m (65.62 ft.). The transmission speed can be switched from 500 kbaud to 2 Mbaud.

General Specifications

Module power range	18-30 VDC (24V Nominal)
Operating temperature	-25°C to +60°C (-13°F to +131°F)
Storage temperature	-25°C to +85°C (-13°F to +185°F)
Operating/storage humidity	95%. Slight condensation on outer housing for short periods is allowed.
Class of protection	Class 3 according to VDE 0106, IEC 60536
Degree of protection	IP65 and IP67 according to IEC 60529



Module Specificications

The VersaMax IP product group includes two types of devices. VersaMax IP Standalone modules (IC676 modules) connect directly to a Profibus system and support autobaud rates up to 12 Mbaud. VersaMax IP Modular devices (IC677 modules) consist of a PROFINET or Profibus Network Interface Unit (gateway), and I/O expansion modules that can be connected to it on a local bus.

PART NUMBER	MODULE TYPE	NETWORK CONNECTION	NUMBER OF I/O	I/O CONFIGURATION	SENSOR CONNECTION	DIMENSIONS (W X H X D MM)
IC677PNS001	Modular	PROFINET Interface Unit	8 Inputs	24V Digital	2/3/4 wire	70 x 178 x 49.3
IC677DBI008	Modular	Local Bus	8 Inputs	24V Digital	2/3/4 wire	70 x 178 x 49.3
IC677DBO085	Modular	Local Bus	8 Outputs	24V Digital	2/3/4 wire	70 x 178 x 49.3
IC677DBM442	Modular	Local Bus	4 Outputs (2 Amp) 4 Analog Inputs (Differential)	24V Digital	2 or 3 wire actuators	70 x 178 x 49.3
IC677ABI004	Modular	Local Bus	4 Analog Inputs (Differential)	Current: 0-20/4-20/±20 mA Voltage: 0-10/0-5/±10/±5 VDC	2 or 4 wire (shielded)	70 x 178 x 49.3
IC677ABO004	Modular	Local Bus	4 Analog Outputs	Current: 0-20/4-20 mA Voltage: 0-10/0-5/±10/±5 VDC	2 or 4 wire (shielded)	70 x 178 x 49.3
IC677PBI001	Modular	PROFIBUS Interface Unit	8 Inputs	24V Digital	2/3/4 wire	70 x 178 x 49.3
IC676PBI008	Standalone	PROFIBUS DP Slave	8 Inputs	24V Digital	2/3/4 wire	60 x 160 x 44.5
IC676PBI016	Standalone	PROFIBUS DP Slave	16 Inputs	24V Digital	2/3/4 wire	60 x 160 x 44.5
IC676PBM442	Standalone	PROFIBUS DP Slave	4 Inputs 4 Outputs (2 Amp)	24V Digital	2 or 3 wire	60 x 160 x 44.5
IC676PBO082	Standalone	PROFIBUS DP Slave	8 Outputs (2 Amp)	24V Digital	2 or 3 wire	60 x 160 x 44.5

About GE Intelligent Platforms

GE Intelligent Platforms is a division of GE that offers software, control systems, services, and expertise in automation and embedded computing. We offer a unique foundation of agile and reliable technology providing customers a sustainable competitive advantage in the industries they serve, including energy, water, consumer packaged goods, oil and gas, government and defense, and telecommunications. GE Intelligent Platforms is headquartered in Charlottesville, VA. For more information, visit www.ge-ip.com.

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