Overview

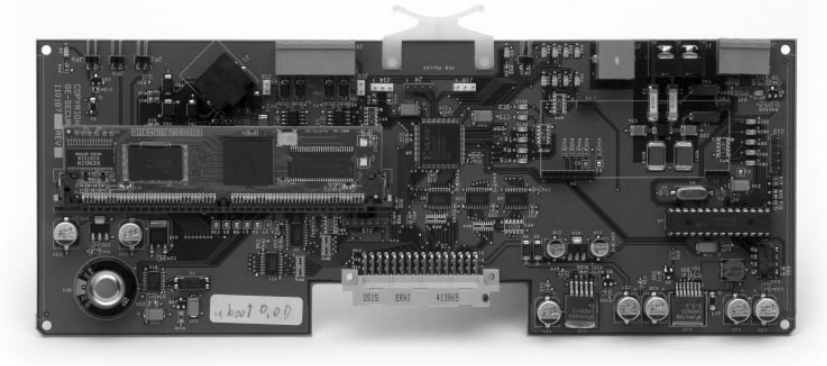
The PXNplus CPU from GE Security is a user-configurable microcontroller for access control and alarm systems that meets U.S. government security standards HSPD-12 and FIPS 201. It serves as the interface between GE's software and card readers, keypads, alarm inputs and outputs using Ethernet or serial communications. Distributed processing allows the PXNplus CPU to operate independently from the host system computer. That means the microcontroller can respond instantly to door control and alarm inputs. And it leaves the host computer free to perform functions like alarm response, database updates and report generation more quickly.

Standard Features

- Compatible with Facility Commander™ Wnx, Picture Perfect™ and Secure Perfect® systems
- HSPD-12 and FIPS 201 compliant
- Controls up to 16 card readers, 80 alarm points or 64 relay outputs; or M2000 interface board
- Controls up to seven downstream microcontrollers
- Flash memory allows easy, economical remote firmware updates
- 10/100 MB Ethernet or RS-232 serial communications from the host
- Supports static IP, dynamic DNS and DHCP-enabled networking
- RS-422 serial communications between microcontrollers
- Available backup modem communications
- Maintains system configuration in non-volatile memory
- Choice of M5, M2000 and M3000 enclosures

Network-supported access control microcontroller CPU

PXNplus CPU



Configuration Options

The PXNplus CPU can be installed in three types of enclosures. The M5 and M3000 enclosures feature five open slots for a flexible combination of microcontroller, reader processor and digital input/output boards. All option boards plug into the microcontroller backplane for easy, economical field configuration and maintenance. The M5 and M3000 enclosures can support up to 16 card readers, 80 alarm points or 64 relay outputs. The M5 enclosure requires an external 12 VDC power supply; battery backup is recommended. The M3000 includes an internal power supply with battery backup.

The M2000 enclosure supports a fixed configuration of four card readers, 10 alarm inputs and eight relay outputs. It includes an internal power supply with battery backup.

Communication Options

The PXNplus CPU supports both 10/100 MB Ethernet and RS-232/RS-422 serial communications. Ethernet communications reduce installation time and cost by using existing local area or wide area networks. An optional modem can automatically dial the host if the network or serial connection to the host is lost. If no communication to the host is available, the PXNplus CPU will continue to make access control decisions and buffer events until the connection is re-established.

An optional plug-in modem can be used for primary dial-up communications. It can also be used as a secondary communications channel when network communications is primary.

Flash Memory

The PXNplus CPU comes with 8 MB of Flash memory, allowing users to upload firmware updates remotely from the host. That saves the time and cost of making service calls to each PXNplus CPU location.

Advanced Features

The PXNplus CPU employs an embedded Linux operating system with a full TCP/IP stack. This allows the PXNplus to be configured for a DHCP/DNS or fixed IP network address. With a dynamic IP address, the PXNplus supports network deployments, reducing the time and cost of re-configuring networks. The dynamic DNS also allows users to set up a regional network with backup servers that automatically can take over for any region should a server fail.

Users configure the PXNplus via Web pages from its internal Web server. The CPU's Web server provides diagnostics and log files as Web pages, allowing for remote system maintenance using a standard Web browser. This capability can substantially reduce the time, effort and costs associated with the diagnosis of problems.

The PXNplus CPU supports smart card readers for FIPS 201 installations. It supports 64-bit BCD in Wiegand and Supervised F2F formats using 2RP/S2RP, 8RP or WIU-4 reader interface boards.

The PXNplus CPU also features persistent memory. It automatically downloads information about readers, alarms, outputs, schedules and badges when connected to the host. The PXNplus stores the information in non-volatile flash memory. If there is a power failure and a loss of communication to the host, the PXNplus returns to its previous configuration when power returns. When the PXNplus resumes communication with the host, it automatically uploads stored transactions and refreshes its database.

PXNplus Installation

Specifications

Enclosures Supported	M5, M2000, M3000
Interface Boards Supported	2RP, S2RP, 8RP, 20 DI, 16 DO, 16 DOR, PX-2000 interface board, CK8RP (no longer available)

Communications Interfaces	
Direct Serial (RS-232, RS-422)	Supported
Direct Serial Baud Rates	2400, 4800, 9600, 19200
Direct Serial Cabling	Belden 8723, 2-pair shielded, 22-AWG
Dial-up Serial	Requires internal on board modem or external modem Can be used for primary communications or backup for network communications
Network	10/100 MB Ethernet On-board Ethernet RJ-45 connection, TCP/IP
Network, Static IP	Supported
Network, DNS, DHCP	Supported
Operating System	uClinux
Processor	Xilinx
RAM	32 MB
Flash Memory	8 MB
System Compatability	Facility Commander Wnx Picture Perfect v2.0 or higher Secure Perfect v6.1.1 or higher

Application Capacities	
Facility Commander Wnx	
Badge Capacity	100,000
Offline Badge History Capacity	8,192*
Offline Alarm History Capacity	8,192*
Secure Perfect v6.x	
Badge Capacity	100,000
Offline Badge History Capacity	8,192*
Offline Alarm History Capacity	8,192*
Picture Perfect v2.x	
Badge Capacity	200,000
Offline Badge History Capacity	5,000*
Offline Alarm History Capacity	2,000*
Picture Perfect v4	
Badge Capacity	145,000
Offline Badge History Capacity	5,000*
Offline Alarm History Capacity	2,000*

* Default allocation; capacity can be re-allocated between badge and alarm history

Notes

GE Security recommends using network communications to all PXNplus CPUs.

For those installations which chose to use downstream serial controllers with the PXNplus CPU, GE Security reccomends limiting any single line of controllers to fewer than eight or fewer than 64 readers.

CPU communications: DES III encrypted.

Not a polled device: The PXNplus CPU is not a polled device, does not use terminal servers for network communications, does not consume network bandwidth and does not create needless network traffic.

Ordering Information

M5PBMPP	Picture Perfect PXNplus, CPU Board only
M5PBMSP	Facility Commander Wnx and Secure Perfect PXNplus, CPU Board only
M5PRMPP	Picture Perfect M5 PXNplus
M5PRMSP	Facility Commander Wnx and Secure Perfect M5 PXNplus
M2PMPP1	Picture Perfect M2000 PXNplus, 110 VAC, 10/100 MB Ethernet
M2PMSP1	Facility Commander Wnx and Secure Perfect M2000 PXNplus, 110 VAC, 10/100 MB Ethernet
M2PMPP2	Picture Perfect M2000 PXNplus, 230 VAC, 10/100 MB Ethernet
M2PMSP2	Facility Commander Wnx and Secure Perfect M2000 PXNplus, 230 VAC, 10/100 MB Ethernet
M3PPMPP	Picture Perfect M3000 PXNplus
M3PPMSP	Facility Commander Wnx and Secure Perfect M3000 PXNplus
521247001	Optional plug-in dial-up modem, field installed

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Specifications subject to change without notice.

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