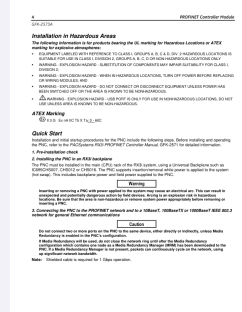


FIELD INSTALLATION QUICK GUIDE

Installation Instructions

IC695PNC001-AB

PROFINET IO Controller Module



PRODUCT	IC695PNC001-AB
FAMILY	PACSystems RX3i
FUNCTION	PROFINET IO Controller Module
SOURCE	GE Intelligent Platforms GFK-2573A, PROFINET Controller Module

01 OFFICIAL MOUNTING AND WIRING

- Use a compatible RX3i universal backplane in the main CPU rack. Observe the documented hazardous-area precautions before insertion or removal.
- Connect the selected Ethernet ports to the documented network. Do not close a redundant ring before enabling media redundancy in the configuration.
- Download the supported controller configuration and verify the documented module and network status indications.

AMIKON PRODUCT SUPPORT

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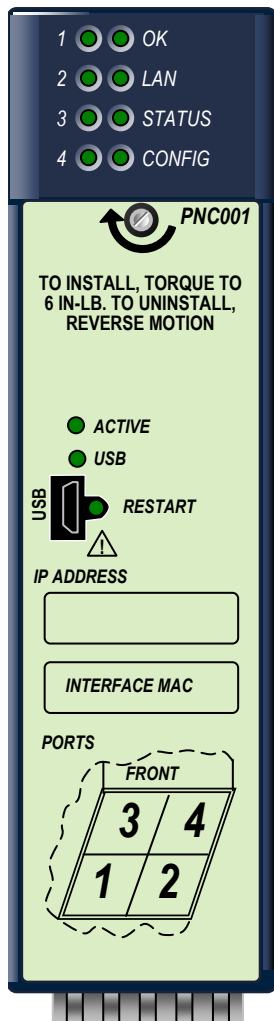
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PACSystems* RX3i

IC695PNC001

PROFINET Controller Module

GFK-2573A
December 2011



The PACSystems* RX3i PROFINET Controller (PNC) module, IC695PNC001, connects a PACSystems RX3i controller to a high-speed PROFINET local area network. It enables the RX3i controller to communicate with IO-Devices on the LAN. The PNC provides all the functions, services, and protocols required for certification as a PROFINET IO Version 2.2 IO Controller, running at both 100 Mbps and 1 Gbps.

The PNC supports 10/100/1000 Mbps Copper, 100/1000 Mbps Multi-mode Fiber, and 100/1000 Mbps Single-mode Fiber. The LAN can include media interfaces of more than one type. PROFINET communications on the LAN require 100 and 1000 Mbps link speed. 10 Mbps cannot be used for PROFINET communications. However, 10 Mbps can be used for other types of Ethernet traffic such as ping and telnet.

Features of the RX3i PNC include:

- Full programming and configuration services for the PROFINET Controller, VersaMax PROFINET Scanner and third-party IO-Devices using Proficy Machine Edition .
- Firmware upgrades using the WinLoader software utility.
- Built-in Command Line Interface function that provides direct monitoring and partial configuration via the micro USB port or using telnet.
Note: The USB port is for system setup and diagnostics only. It is not intended for permanent connection.
- Support for star, ring, and daisy-chain/line network topologies.
- Four switched Ethernet ports - two 8-conductor RJ-45 shielded twisted pair 10/100/1000 Mbps copper interfaces and two Small Form-factor Pluggable (SFP) cages for user-supplied SFP devices.
- Internal clock synchronized with the RX3i CPU for time-stamped diagnostics entries.
- Restart pushbutton to manually restart the PNC without power cycling the system.
- LEDs: OK, LAN, STATUS, CONFIG, ACTIVE, USB, and four Port LEDs.
- Compliant with EU RoHS Directive using the following exemptions identified in the Annex: 7c-I and 7c-III.

Ordering Information

IC695PNC001	PACSystems RX3i PROFINET Controller Module 10/100/1000, 4 Ports - 2 SFP connections, 2 Copper
IC200PNS001	VersaMax PROFINET Scanner, 10/100, 2 Ports, Copper
IC200PNS002	VersaMax PROFINET Scanner, 10/100, 2 Ports, Multimode Fiber
IC695SPC100**	RX3i 10/100/1000base-TX (CAT5 100m) SFP
IC695SPF002**	RX3i 100Base-FX (fiber 2 km) SFP

* Indicates a trademark of GE Intelligent Platforms, Inc. and/or its affiliates. All other trademarks are the property of their respective owners.

** Available at a later date.

Installation in Hazardous Areas

The following information is for products bearing the UL marking for Hazardous Locations or ATEX marking for explosive atmospheres:

- EQUIPMENT LABELED WITH REFERENCE TO CLASS I, GROUPS A, B, C & D, DIV. 2 HAZARDOUS LOCATIONS IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, D OR NON-HAZARDOUS LOCATIONS ONLY
- WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2;
- WARNING - EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES; AND
- WARNING - EXPLOSION HAZARD - DO NOT CONNECT OR DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS.
-  WARNING - EXPLOSION HAZARD - USB PORT IS ONLY FOR USE IN NONHAZARDOUS LOCATIONS, DO NOT USE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS.

ATEX Marking

 II 3 G Ex nA IIC T5 X Ta: 0 - 60C

Quick Start

Installation and initial startup procedures for the PNC include the following steps. Before installing and operating the PNC, refer to the *PACSystems RX3i PROFINET Controller Manual*, GFK-2571 for detailed information.

1. Pre-Installation check

2. Installing the PNC in an RX3i backplane

The PNC must be installed in the main (CPU) rack of the RX3i system, using a Universal Backplane such as IC695CHS007, CHS012 or CHS016. The PNC supports insertion/removal while power is applied to the system (hot swap). This includes backplane power and field power supplied to the PNC.

Warning

Inserting or removing a PNC with power applied to the system may cause an electrical arc. This can result in unexpected and potentially dangerous action by field devices. Arcing is an explosion risk in hazardous locations. Be sure that the area is non-hazardous or remove system power appropriately before removing or inserting a PNC.

3. Connecting the PNC to the PROFINET network and to a 10BaseT, 100BaseTX or 1000BaseT IEEE 802.3 network for general Ethernet communications

Caution

Do not connect two or more ports on the PNC to the same device, either directly or indirectly, unless Media Redundancy is enabled in the PNC's configuration.

If Media Redundancy will be used, do not close the network ring until after the Media Redundancy configuration which contains one node as a Media Redundancy Manager (MRM) has been downloaded to the PNC. If a Media Redundancy Manager is not present, packets can continuously cycle on the network, using up significant network bandwidth.

Note: Shielded cable is required for 1 Gbps operation.

4. Installing SFP devices

Warning

Optical SFPs use an invisible laser to generate a fiber-optic signal. Always keep the port covered if a cable is not installed. Do not look into the open port if a cable is not installed.

Warning

If the surrounding air operating temperature of the PNC is greater than 40 °C, SFP devices could have operating temperatures over 70 °C (158 °F). Under these conditions, for your safety, do *not* use bare hands to remove an SFP device from the SFP cage. Use protective gloves or a tool (needle-nose pliers) to avoid handling the hot SFP device directly when removing the SFP device.

5. Installing the USB port driver (optional)

The PNC provides a micro USB port for connection to a computer running Windows 2000, Windows XP, Windows Vista, or Windows 7 operating system. The computer can access the PNC's Command Line Interface function using a terminal application such as Hyperterm. The PNC is provided with a driver-install application that can be used to enable a computer to communicate with a PNC via its USB port. For details on using the Command Line Interface, refer to the *Command Line Interface Manual*, GFK-2572.

6. Configuring the PNC and its IO Devices on a PROFINET network

Proficy Machine Edition is the primary tool used to configure an RX3i PROFINET network. In addition, certain parameters can be set from a computer through the PNC's Command Line Interface. For details on system planning and configuration, refer to chapter 3 of the *PACSystems RX3i PROFINET Controller Manual*, GFK-2571.

Caution

If an RX3i PNC is extracted from a powered RX3i backplane, it loses power immediately which may result in data loss. Do not remove or insert the device while downloading hardware configuration to the system.

When the PNC is plugged back into a powered backplane, the PNC restores data from the internal non-volatile memory. If however, the RX3i CPU has configuration data for the PROFINET Controller, it re-delivers the data to the PNC, superseding parameters previously stored in non-volatile memory.