



# RSTi-Series STXPNS001

## Important Product Information

GFK-2771A

■ PROFINET Network Adapter

Aug 2012



### Before using the units

To use the units safely and effectively, please read this document and refer to GFK-2745 & GFK-2746 user manuals for further details.

### Warnings and Cautions

**Warning notices are used in this publication to emphasize that hazardous voltages, currents, temperatures, or other conditions that could cause personal injury exist in this equipment or may be associated with its use. In situations where inattention could cause either personal injury or damage to equipment, a Warning notice is used.**

**Warning!**

- Installing or removing modules or wiring with power applied to the system or field wiring can 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 power appropriately before installing or removing modules or wiring.
- Potentially dangerous voltages are present on a module's terminals, even when system power is turned off. Field power must be turned off when installing or removing a Terminal Block assembly.
- Personnel who install, operate and maintain automation systems that contain these products must be trained and qualified to perform those functions.
- Overloading power modules or Network adapter can result into electric arc & damage to modules.

**Caution notices are used where equipment might be damaged if care is not taken.**

**Caution!**

- Check the rated voltage and terminal array before wiring.
- Ensure that specified environmental conditions are not exceeded. Avoid placing the module in direct sunlight.
- Review module specifications carefully, and ensure that input and output connections are made in accordance with the specifications.
- Use specified cables for wiring.
- Field Power Isolators must be used according to the requirements of the 5VDC/24VDC/48VDC or AC Voltage modules used in the system.
- If system power consumption exceeds the power limits, use system power expansion modules.
- System power and field power must be supplied from separate sources.

### 1. STXPNS001 Specifications\*

ITEM	SPECIFICATION	ITEM	SPECIFICATION
Surrounding Air Temp./ Ambient Temp.	0°C to 55°C for UL / non UL applications. Storage -40°C to 85°C	Network Type	PROFINET I/O RT
Relative Humidity	5% ~ 90% without condensation	Cable	EtherNet Cable
Durable-vib. /impact	IEC 60068-2-6:1995	Cable Length(m)	Up to 100m from Ethernet Hub
Mount Position	First module of RSTi system	Comm. Speed	10**/100Mbps
Atmosphere	No excessive dust ; No corrosive gases	IO Modules	Max. 32 module
Field Supp.Volt.	Class II***, 24VDC 24VDC (11VDC ~ 28.8VDC)	Max. node	Limited by the IP address
Field Supply Current	Max. 10A	Max. Digital I/O	Input : 2016point / Output : 2016 point
I/O Bus 5Vdc current	Max. 1.5A@5Vdc	Max. Analog I/O	Input : 126Ch / Output : 126Ch
Isolation	System power to internal logic : Non-isolation System power to I/O driver : Isolation	Max. Byte size	Input : 252Bytes / Output : 252Bytes
Size	45mm × 99mm × 70mm	Topology	Line or Star topology
Weight	150g	Power Dissipation	115mA typical @24Vdc
Certification	cUL <sub>us</sub> / CE / PROFINET		

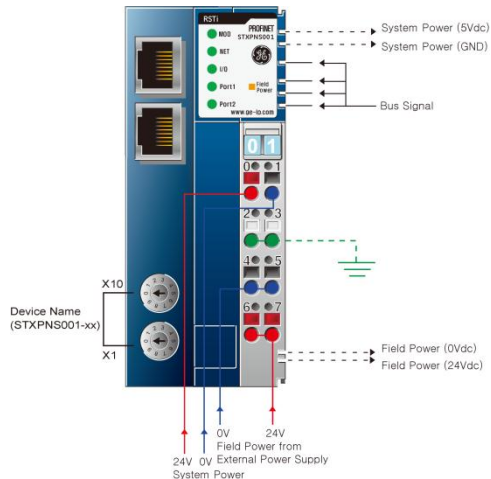
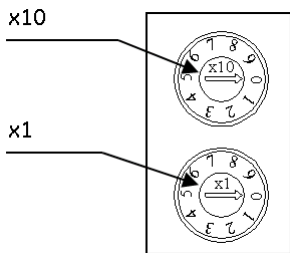
\* Specifications and designs may change without advance notice

\*\* 10Mbps for FTP connections

\*\*\*Class II, adjacent to voltage rating (30Vmax.)

## 2. Communication and Power Cable Wiring

### ▶ 2-1. Device Name. Setting\*

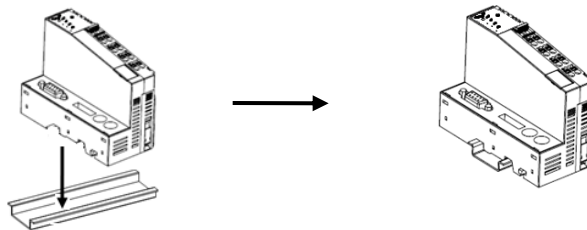


Value	Description	Factory settings
0	<ul style="list-style-type: none"> <li>- Device Name of station will be read from flash memory. (User can assign his own device name e.g. Device1)</li> <li>- IP address will be read from flash memory.</li> </ul>	<ul style="list-style-type: none"> <li>- Name of station : STXPNS001</li> <li>- IP address : 192.168.0.254</li> <li>- Subnet mask : 255.255.255.0</li> <li>- Gateway : 192.168.0.1</li> </ul>
01~99	<ul style="list-style-type: none"> <li>- Device Name of station will be STXPNS001-xx. (xx is the value of Rotary Switch)</li> <li>- IP address will be read from flash memory.</li> </ul>	

## 3. Module Mounting

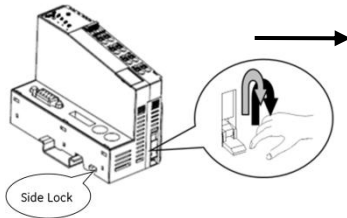
### ▶ 3-1. To mount on Din-Rail

① Press down the module lightly on the Din-Rail until it clicks & locks.

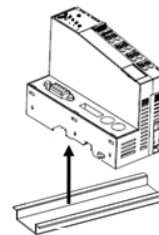


### ▶ 3-2. To dismount from Din-Rail

① Pull down the locking mechanisms by using small-bladed screw driver as the following pictures.



② Pull up the module to remove from the din rail.



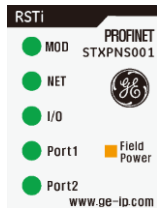
## 4. Documentation

Manuals:  
 PACSystems RSTi I/O User Manual, GFK-2745  
 PACSystems RSTi PROFIBUS & PROFINET Network Adapter User Manual, GFK-2746  
 The most recent user documents are available on the Support website: <http://www.ge-ip.com/support>

\* Duplicate device names will cause communication error.

## 5. LED Status Display

### Status LED Window Description



Item	LED is	State	To indicate :
MOD LED	Off	Power off H/W Fault	No power is supplied to the unit.
	Solid Red	Invalid boot image header (Flash), ROM Boot loader	The unit has occurred unrecoverable fault in self-testing. - Firmware fault
	Flashing Red (0.5S)	Invalid RAM Image	Invalid RAM Image
	Flashing Red (0.1S)	OS Fatal error is occurred	OS Fatal error is occurred
	Flashing Green (0.1S)	OS Handle Unexpected Exceptions	OS Handle Unexpected Exceptions
	Solid Green	Normal Operation	The unit is operating in normal condition.
NET LED	Off	Power off No Connection has Been established with IO-controller.	Device is not on-line or may not be powered
	Flashing Red (0.1s)	Invalid Configuration	Invalid Configuration
	Flashing Green (0.1s)	Wait parameters	PROFINET IO connection has been established. Wait parameters
	Solid Red		PROFINET IO connection is aborted after a data exchange has taken place.
	Flashing Red (0.5s)		PROFINET IO connection is aborted before a data exchange has taken place.
	Flashing Green (0.5s)		PROFINET IO Data Exchange stop
	Solid Green		PROFINET IO Data Exchange Run
IO LED	Off	Not Powered No IO Module	Device has no IO module or may not be powered
	Flashing Green	Bus On-line, Do not Exchanging I/O	Bus operation is normal but does not exchanging I/O data (Passed the IO module configuration).
	Solid Green	Bus Connection, Run Exchanging IO	Exchanging I/O data
	Solid Red	Bus connection fault during exchanging IO	One or more IO module occurred in fault state. - Changed IO module configuration. - Bus communication failure.
	Flashing Red	IO Configuration Failed	Failed to initialize IO module - Detected invalid IO module ID. - Overflowed Input / Output Size - Too many IO module - Initial protocol failure
Port1 Port2 LED	Solid Green		Link is up (Physical connection is established)
	Flashing Green		Active is present
	Off		Link is down
Field Power LED	Off	Not Supplied Field Power	Not supplied 24V dc field power
	Solid Green	Supplied Field Power	Supplied 24V dc field power

## 6. Important Product Information

### Release Information

Part Number	Hardware Version	Firmware Version	Date
STXPNS001-AA	20.00	20.000	Mar 2012
STXPNS001-AB	20.00	20.010	Apr 2012

### Upgrades

The STXPNS001 is field upgradable to firmware version 20.010 using the STXPNS001 firmware upgrade kit. Upgrade kit can be downloaded from [www.ge-ip.com/support](http://www.ge-ip.com/support)  
 File name: STXPNS001\_20.01\_Upgradekit.zip

### Compatibility

<b>Programming software</b>	Proficy Machine Edition 7.0 , SIM9 or later
<b>Configuration</b>	Configured using Proficy Machine Edition when used with a PACSystems RX3i PROFINET Controller (PNC) module, as part of an RX3i PROFINET network. GSDML-V2.0-GEIP-RSTi-STXPNS-20120412 file available for import into 3rd-Party tools.

### Problems Resolved in this Release

In f/w release 20.000, the RSTi PROFINET adapter received a bus error when used with ST-5xxx, ST-4xxx and ST-3xxx modules for update rates less than 32ms.

### New Features and Enhancements in this Release

NA

### Restrictions and Open Issues

Subject	Description
<b>Clearing the RX3i controller memory when a configuration mismatch fault for a Slice IO node exists causes Proficy Machine Edition (PME) software to disconnect and the RX3i PNC001 to auto reset.</b>	<p>This fault can occur when an RX3i PNC module is connected to a Slice IO node that has a STXPNS001 Profinet Network Adapter and IO modules. If there is a configuration mismatch of the Slice IO node, a loss of device fault is logged in the IO fault table. In this situation, if you try to clear the RX3i CPU user memory, PME disconnects from the RX3i controller. After the PME connection is lost, if you try to reconnect to the RX3i CPU, the RX3i PNC performs an auto reset.</p> <p>To recover from this fault, wait for the PNC to auto reset and the OK LED to glow solid green, then clear the RX3i CPU user memory or power cycle the RX3i controller without battery. Storing a valid configuration restores system operation without faults.</p>
<b>Slice IO node system power up sequence issue.</b>	<p>If the Network Adapter and ST-7xxx Power modules on the same Slice IO node are power cycled at different times, the Network Adapter may power up in fault mode.</p> <p>To recover from the fault, power cycle the node such that Network Adapter and Power modules are power cycled together or the node is powered up following the sequence such that the power module farthest from the Network Adapter is powered up first.</p> <p>For example in a node having modules as below:            STXPNS001+IO Modules ... +ST-7511+IO Modules ... +ST-7511+IO Modules</p> <p>In the above system power cycle the STXPNS001 and the two ST-7511 modules together or power OFF the entire node and then power ON the second ST-7511 and then the first ST-7511 and then the STXPNS001.</p>

### Operational Notes

Subject	Description
<b>Loss of device fault occurs when STXPNS001 Profinet Network Adaptor is used without IO module.</b>	When the Slice IO Profinet Network Adapter module does not have an IO module attached, it will not communicate with the RX3i PNC. The Network Adapter NET LED blinks RED, indicating invalid configuration and a Loss of device fault is logged in RX3i IO Fault table. At least one IO module has to be present for the Network Adapter to establish the communication with RX3i PNC.