GE RX3i PacSystem Series Service Manual

IC695NIU001

1. Description

The IC695NIU001 is a PACSystems RX3i Ethernet network interface unit. This is manufactured by Emerson Automation, formerly by GE Intelligent Platforms (GE IP). This module features Two (2) RS232 and Rs485 communication ports and supports Ethernet connectivity via the backplane installed Ethernet Interface Module with catalog number IC695ETM001. It comes with built-in 10 MB flash memory and upgradeable firmware. This module enables a PACSystem RX3i and Series 90-30 I/O module to communicate.

2. Specifications

Specification	Value
Brand	**GE Intelligent Platforms/GE Fanuc**
Series	**PACSystem RX3i**
Manufacturer	**Emerson Automation**
Part	**Number IC695NIU001**
Product	**Description Ethernet network interface unit**
Communication	**ports RS-232, RS-485**
Product	**Line RX3i**
Serial	**Protocols supported Modbus RTU Slave, SNP, Serial I/O, Modbus RTU Master by application "C" block**
Catalog	**IC695**
Integrated	**memory 10 MB**
Product	**Type Ethernet Network Interface UnitÂ (ENIU)**
Number	**of Slots 1 (single slot)**
Battery	**RX3i CPU Lithium Smart Battery, IC695ACC302 (recommended), Series 90-30 Lithium Battery Pack, IC693ACC302, or IC698ACC701 Smart Coin Cell Battery Pack**
Backplane	**Support Dual (RX3i PCI/90-30 Serial)**
Power	**requirements +3.3 VDC: 1.25 Amps nominal +5 VDC: 1.0 Amps nominal**
Protocol	**Support SNP, Modbus Slave, Serial I/O, Modbus Master**
Operating	**Temperature 0degrees C to 60degrees C (32degrees F to 140degrees F)**
Communication	**Ports RS-232/RS-485**
Floating	**point Yes**
Internal	**Power at 5 V DC 0.95 A**
Backplane	**Dual backplane bus support: RX3i PC**

3. Product Information

The IC695NIU001 is a PACSystems RX3i Ethernet network interface unit. This is manufactured by Emerson Automation, formerly by GE Intelligent Platforms (GE IP). This module features Two (2) RS232 and Rs485 communication ports and supports Ethernet connectivity via the backplane installed Ethernet Interface Module with catalog number IC695ETM001. It comes with built-in 10 MB flash memory and upgradeable firmware. This module enables a PACSystem RX3i and Series 90-30 I/O module to communicate.

Technical specifications for IC695NIU001

Brand GE Intelligent Platforms/GE Fanuc

Series PACSystem RX3i

Manufacturer Emerson Automation

Part Number IC695NIU001

Product Description Ethernet network interface unit

Communication ports RS-232, RS-485

Product Line RX3i

Serial Protocols supported Modbus RTU Slave, SNP, Serial I/O, Modbus RTU Master by application "C" block

Catalog IC695

Integrated memory 10 MB

Product Type Ethernet Network Interface UnitÂ (ENIU)

Number of Slots 1 (single slot)

Battery RX3i CPU Lithium Smart Battery, IC695ACC302 (recommended), Series 90-30 Lithium Battery Pack, IC693ACC302, or IC698ACC701 Smart Coin Cell Battery Pack

Backplane Support Dual (RX3i PCI/90-30 Serial)

Power requirements +3.3 VDC: 1.25 Amps nominal +5 VDC: 1.0 Amps nominal

Protocol Support SNP, Modbus Slave, Serial I/O, Modbus Master

Operating Temperature 0degrees C to 60degrees C (32degrees F to 140degrees F)

Communication Ports RS-232/RS-485

Floating point Yes

Internal Power at 5 V DC 0.95 A

Backplane Dual backplane bus support: RX3i PCI and 90-30-style serial

Internal Power at 3.3 V DC 0.52 A

PCI compatibility System designed to be electrically compliant with PCI 2.2 standard

Operating Temperature 0 to 60 degrees Celsius

Redundant controller configuration Supported

Floating Point Yes

The IC695NIU001 is a PACSystems RX3i Ethernet Network Interface Unit (NIU). This module is manufactured by Emerson Automation. It is a component module of an RX3i Ethernet NIU station assembly which consist of an RX3i universal backplane, an RX3i power supply module, minimum of a single RX3i Ethernet module and the IC695NIU001 module. This assembly which the IC695NIU001 is part of, enables RX3i systems, especially CPUs to communicate and perform data exchange between legacy Series 90-30 I/O modules. The IC695NIU001 is configured using the Machine Edition Logic Developer software, version 5.51 or later. It comes with COM1 and COM 2 communication interfaces, configurable for RS232 and RS485 communication, supporting serial protocols such as Modbus RTU Slave, SNP, Serial I/O, and Modbus RTU Master by application "C" block. The IC695NIU001 comes with 20Kbytes of optional local logic and 10 MB integrated Flash memory. It has a battery-backed clock which can be replaced with RX3i CPU Lithium Smart Battery with catalog number IC695ACC302 (recommended), Series 90-30 Lithium Battery Pack, IC693ACC302, or IC698ACC701 Smart Coin Cell Battery Pack. Additionally, the module’s pre-loaded firmware is upgradeable internally via the system. This module has a current draw of 1.25 Amps at +3.3 VDC: and 1.0 Amps at +5 VDC while the module’s operating temperature is 0degrees C to 60degrees C (32degrees F to 140degrees F). This module is compatible with PCI 2.2 standard. To simplify ordering, a NIU kit with catalog number IC695NTK001 or IC695NTK002 is made available to ensure that a complete system or assembly is properly configured.

The GE Fanuc IC695NIU001 module is an Ethernet NIU (Network Interface Unit) module. This unit is a product of the GE Intelligent Platforms/GE Fanuc and part of the RX3i product line. It is designed and intended for remote use with the Series 90-30 I/O and the RX3i PacSystems over the Ethernet network. After setting it up through the configuration process, the exchange of data becomes completely automatic. The unit comes with master devices that exchange Ethernet Global Data (EGD) to provide system control. This Ethernet Network Interface Unit provides controller status information in every exchange, and there is application program logic in the controller that is capable of monitoring the data status and issuing the right commands to the IC695NIU001 Ethernet NIU. This RX3i Ethernet NIU station comprises a power supply, a universal backplane Ethernet NIU, proprietary application software, and one or more Ethernet NIU. It also consists of optional expansion backplanes from Series 90-30 and Series 90-30 or RX3i PacSystems modules, depending on the application. The GE Fanuc IC695NIU001 Ethernet Network Interface Unit is a flexible module and it is compatible with a variety of module types, backplanes, and other devices including the RX3i PacSystems CPUs. Some of the notable features of the IC695NIU001 Ethernet NIU include a battery-backed real-time clock, in-system upgradeable firmware, and RS-232 and RS-485 serial communication ports. This unit features data exchange through the EGD function, it has comprehensive station diagnostics tools, IP/TCP communication services through SRTP, and it also supports communication through the backplane for the Ethernet interface module. Another feature is the optional local logic with a capacity of 20 KB, and the unit also supports all the programming languages apart from the C programming language. This unit also has a built-in flash memory of 10 megabytes for the storage of the user’s data.