GE RX3i PacSystem Series Service Manual

IC695CMM002

1. Description

The IC695CMM002 is a PACSystem RX3i Serial Communication module that is formerly manufactured by GE Intelligent Platforms (GE IP) now under Emerson Automation. This module comes with Two (2) independent RJ-45 serial ports that support RS-232 or RS-485/22 communication, configurable for 4-wire (full duplex) or 2-wire (half-duplex) operation. Up to Six (6) instances of this module is permitted in the CPU backplane. Each port of this module are configurable for MODBUS Master, MODBUS Slave, CCM Slav

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**PACSystem RX3i**
Manufacturer	**Emerson Automation**
Part	**Number IC695CMM002**
Product	**Description Serial Communications Module**
Product	**Type Communications module**
No	**of ports Two (2) RS232 / RS422 / RS485**
Serial	**Ports 2**
Supported	**Protocols MODBUS Master, MODBUS Slave, CCM Slave, DNP3 Master, DNP3 Slave, or Serial I/O protocol**
Interface	**RJ-45**
Selectable	**Baud rates 1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K, 115.2K**
Serial	**Protocols RS-232, RS-485/422**
Connectors	**RJ45**
Default	**Flow Control Full duplex**
No.	**of installations per rack Up to Six (6) modules**
Power	**Requirements 0.7 Amps at 3.3 Volts DC, 0.115 Amps at 5 Volts DC**
Status	**LED indicators Module OK, Port Fault, Port Status**
Maximum	**Overvoltage Rating +/-25 Volts DC**
Current	**rating 0.7 mA at 3.3 VDC, 0.115 mA at 5 VDC**
Operating	**Temperature 0 to 60 degrees Celsius**
Parity	**Even, odd, none**
Data	**bits 7, 8**
Stop	**bits 1, 2**
Isolation	**rating Port to Backplane and to frame ground: 250Vac continuous; 1500Vac for 1 minute, 2550Vdc for on**

3. Product Information

The IC695CMM002 is a PACSystem RX3i Serial Communication module that is formerly manufactured by GE Intelligent Platforms (GE IP) now under Emerson Automation. This module comes with Two (2) independent RJ-45 serial ports that support RS-232 or RS-485/22 communication, configurable for 4-wire (full duplex) or 2-wire (half-duplex) operation. Up to Six (6) instances of this module is permitted in the CPU backplane. Each port of this module are configurable for MODBUS Master, MODBUS Slave, CCM Slave, DNP3 Master, DNP3 Slave, or Serial I/O protocol and comes with 500 VDC, continuous and 710 VDC for 1 minute isolation rating.

Technical specifications for IC695CMM002

Brand GE Fanuc

Series PACSystem RX3i

Manufacturer Emerson Automation

Part Number IC695CMM002

Product Description Serial Communications Module

Product Type Communications module

No of ports Two (2) RS232 / RS422 / RS485

Serial Ports 2

Supported Protocols MODBUS Master, MODBUS Slave, CCM Slave, DNP3 Master, DNP3 Slave, or Serial I/O protocol

Interface RJ-45

Selectable Baud rates 1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K, 115.2K

Serial Protocols RS-232, RS-485/422

Connectors RJ45

Default Flow Control Full duplex

No. of installations per rack Up to Six (6) modules

Power Requirements 0.7 Amps at 3.3 Volts DC, 0.115 Amps at 5 Volts DC

Status LED indicators Module OK, Port Fault, Port Status

Maximum Overvoltage Rating +/-25 Volts DC

Current rating 0.7 mA at 3.3 VDC, 0.115 mA at 5 VDC

Operating Temperature 0 to 60 degrees Celsius

Parity Even, odd, none

Data bits 7, 8

Stop bits 1, 2

Isolation rating Port to Backplane and to frame ground: 250Vac continuous; 1500Vac for 1 minute, 2550Vdc for one second. Port to port: 500Vdc continuous, 710Vdc for one minute.

The IC695CMM002 is a PACsystem RX3i serial communication module. This is an option module that is used to enable serial connectivity of the host RX3i CPU via the Two (2) independent and isolated serial ports that are individually configurable for RS232, RS422 / RS485 communication, set via the programming software. The IC695CMM002 supports a variety of communication protocols such as MODBUS Master, MODBUS Slave, CCM Slave, DNP3 Master, DNP3 Slave, or Serial I/O protocol however, when DNP3 master or Slave is set to any of the ports, the remaining interface may only be assigned for DNP3 Master or Slave communication. Each port of this module has software configurable transmission rates such as 1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K, 115.2K and comes with module status reporting capability of Watchdog, RAM fail or Flash fail errors. The flash memory of this module is loaded with a firmware that can be upgraded. Modules running firmware version 1.32 of later, half-duplex flow control can be configured with the use of the software package, Machine Edition Release 5.90, SP1 SIM 6 or later. Connectors used for establishing communication with this module is an RJ45 connector. Other configurable Serial parameters to this module include parity selections of Even, Odd and None; Data bit 7 and 8 and Stop bits 1,2. Up to Six (6) IC695CMM002 modules can be hosted by a single RX3i CPU. This module has a maximum current draw of 0.7 Amps @ 3.3Vdc and 0.115 Amps @ 5.0Vdc. It has LED status indicators such as Module OK, Port Fault, Port 1 and Port 2 Status.

The IC695CMM00 communications module is a communications module with 2 serial ports. The serial ports are independent and isolated. A maximum of 6 serial communications modules can be installed in an RX3i PacSystems backplane. Each serial port on the IC695CMM002 communications module can be configured for Modbus master, Modbus slave, Serial I/O protocol, DNP3 slave, DNP3 master, and CCM slave operation. The default flow control is full-duplex. However, with firmware version 1.32 or later, the flow control can be configured to be half-duplex. The RTS/CTS hardware handshake is supported as well as the RFR/CTS handshake for RS-232 communication. The serial ports can be configured for RS-232 or RS-485/422 communication. The baud rates are selectable and they can be set to 1200 baud, 2400 baud, 4800 baud, 9600 baud, 19.2 kb, 38.4 kb, 57.6 kb, or 115.2 kb.

The IC695CMM002 communications module reports the following faults: the flash fail, RAM fail, and watchdog faults. The IC695CMM002 communications module complies with the requirements of the CE, ATEX, 1604, and UL/UCK 508 standards. The module includes flash memory which is used for storing the module firmware. The firmware can be upgraded to enable new and advanced features. The IC695CMM002 communications module is hot-swappable. The connector for the serial ports is an RJ-45 connector. The backplane power requirements for the IC695CMM002 communications module are 0.7 Amps current at 3.3 Volts DC and 0.115 Amps of current at 5 Volts DC. The module operating temperature range is 0 to 60 degrees Celsius. The input impedance rating is greater than 96 kiloohms for RS-485/422 communication. The maximum overvoltage rating is +/-25 Volts DC. The channel to channel crosstalk is -55 decibels at a minimum. The port to backplane and port to frame ground isolation rating is 250 Volts AC continuous.