GE RX3i PacSystem Series Service Manual

IC694BEM331

1. Description

The IC694BEM331 is an Genius Bus controller module that is part of the GE / Emerson PACSystems RX3i product family. This module is mainly used to interface PACSystems RX3i and Genius Serial I/O bus. It is a single slot module that is compatible with exchanging data via Genius blocks, PLCs using Genius Bus Controllers, Remote I/O drops, VersaMax and Field distributed I/O. It is capable of exchanging up to 128 bytes with each Genius I/O device and receive 128 bytes of global data. Up to Eight (8)

2. Specifications

Specification	Value
Brand	**GE / Emerson**
Series	**RX3i PacSystem**
Part	**Number IC694BEM331**
Isolation	**2000 volts Hi-Pot, 1500 volts transient common mode rejection.**
Product	**Type Genius Bus controller module**
Protocol	**Support Genius**
Entity	**Type Master**
Data	**Length 128 bytes per message**
Data	**Rates 153.5Kbaud standard/extended, 76.8Kbaud, or 38.4Kbaud**
Bus	**Type Daisy-chained bus cable; single twisted-pair plus shield or Twinax. Fiber optical cable and modems can also be used**
Bus	**Termination 75, 100, 120, or 150 Ohm resistor at both ends of electrical bus cable**
Communications	**Global Data and Datagrams**
Maximum	**Number of Devices 32 devices at all baud rates except 38.4Kbaud. 16 devices at 38.4Kbaud.**
Current	**Consumption 300mA at 5VDC, maximum**
Backplane	**Support No Backplane Restrictions**
Description	**Genius Bus Controller**
Exchange	**rate 128 bytes**
Baud	**rate (standard/extended) 153.5 K**
Bus	**termination 75/100/120/150 ohm resistor**
Transient	**1500 Volts**
Current	**300 mA**
Voltage	**5 Volts DC**
The	**IC694BEM331 is a GE Fanuc / Emerson PACSy**

3. Product Information

The IC694BEM331 is an Genius Bus controller module that is part of the GE / Emerson PACSystems RX3i product family. This module is mainly used to interface PACSystems RX3i and Genius Serial I/O bus. It is a single slot module that is compatible with exchanging data via Genius blocks, PLCs using Genius Bus Controllers, Remote I/O drops, VersaMax and Field distributed I/O. It is capable of exchanging up to 128 bytes with each Genius I/O device and receive 128 bytes of global data. Up to Eight (8) IC694BEM331 modules may be installed in an RX3i system.

Technical specifications for IC694BEM331

Brand GE / Emerson

Series RX3i PacSystem

Part Number IC694BEM331

Isolation 2000 volts Hi-Pot, 1500 volts transient common mode rejection.

Product Type Genius Bus controller module

Protocol Support Genius

Entity Type Master

Data Length 128 bytes per message

Data Rates 153.5Kbaud standard/extended, 76.8Kbaud, or 38.4Kbaud

Bus Type Daisy-chained bus cable; single twisted-pair plus shield or Twinax. Fiber optical cable and modems can also be used

Bus Termination 75, 100, 120, or 150 Ohm resistor at both ends of electrical bus cable

Communications Global Data and Datagrams

Maximum Number of Devices 32 devices at all baud rates except 38.4Kbaud. 16 devices at 38.4Kbaud.

Current Consumption 300mA at 5VDC, maximum

Backplane Support No Backplane Restrictions

Description Genius Bus Controller

Exchange rate 128 bytes

Baud rate (standard/extended) 153.5 K

Bus termination 75/100/120/150 ohm resistor

Transient 1500 Volts

Current 300 mA

Voltage 5 Volts DC

The IC694BEM331 is a GE Fanuc / Emerson PACSystem RX3i Genius Bus Controller module. This module is primarily used to allow an RX3i rack communicate with other controller platforms utilizing the Genius Bus. Such controller platform may include VersaMax, Genius Block, Genius Hand-Held monitor (HHM), Field I/O control stations, Remote or distributed I/O racks and multiple hosts that supports Genius bus.

The IC694BEM331 supports exchanging of up to 128 bytes of data with each Genius capable device. It can also send up to 128 bytes of global data for each bus scan. It can also receive up to 128 bytes of global data for each completion of bus scan. A single RX3i system may support up to Eight (8) Genius bus controllers.

The IC694BEM331 has Two (2) LED status indicators. These LED indicators are used to indicate the operational and communication status of the module. The OK LED is naturally activated during normal operation. During diagnostics and power-up, this LED is turned OFF. The COM LED depicts the status of the communication exchange between the Genius Bus. When operating properly, the COM LED is activated. For intermittent bus errors, the COM LED blinks and completely turned OFF is the Genius Bus has failed. Additionally, when the CPU has received no qualified information from the IC694BEM331 Bus controller, the COM LED is not activated.

The IC694BEM331 supports transmission rate of 153.5Kbaud standard/extended, 76.8Kbaud, or 38.4Kbaud which is software configurable. Required Bus termination are 75, 100, 120, or 150 Ohm resistor at both ends of electrical bus cable.

The GE controller has an isolation rating of 2000 Volts and an isolation rating of 1500 Volts transient common-mode rejection. The GE Fanuc EX3i PacSystems IC694BEM331 bus controller is configured using the Proficy Machine Edition software. It has a current rating of 300 milliamps. The voltage rating of the bus controller is 5 Volts DC. The bus controller has advanced diagnostics capabilities and it can pinpoint different faults and errors during the operation of the PLC system. For communication, the controller uses both global data and datagrams. The IC694BEM331 bus controller has a compact size that can easily fit into the complete PLC system. The IC694BEM331 bus controller uses a daisy chain cable or a twisted pair cable. The controller is compatible with the GE Series 90-30 and Series 6 PLC systems.