GE RX3i PacSystem Series Service Manual

IC694DSM324

1. Description

The IC694DSM324 is a Motion Controller Module that is part of the PACSystem RX3i, formerly by GE Intelligent Platforms, now under Emerson Automation. This module is a Four (4) axis motion controller which can be integrated into the host controller for motion and position control with reference to the downloader user logic. This module is configurable for Standard and Follower mode and supports ?i, ?HVi, ?i, and ?HVi Series digital servo systems.

2. Specifications

Specification	Value
Manufacturer	**Emerson Automation**
Series	**PACSystem RX3i**
Product	**Description Motion Controller Module**
Manufacturer	**GE Intelligent Platform (GE IP); Emerson Automation (Current)**
Part	**Number IC694DSM324**
Communication	**interface FSBB; COMM; I/O connectors**
Series	**PACSystem RX3i**
Product	**Type Motion Controller Module**
LED	**indicators Status; OK; Config; FSSB; Axis (4)**
Slot	**width Single slot**
Multi-Axis	**Control Supported**
Operating	**modes Standard Mode; Follower mode**
No.	**of motion axes Four (4)**
Number	**of Supported Axes 1 to 4**
Current	**draw: 806 mA @ 5VDC; Additional 500 mA for external encoder (if used)**
Mounting	**location Main Rack, expansion / remote baseplate**
CPUs	**Supported RX3i CPUs Version 2.8 or Later**
Mounting	**location: All RX3i and Series 90-30 backplane**
Compatible	**Power supply PWR 040 / 321 / 330 / 331**
Hot	**Swapping Supported**
Analog	**output resolution 13 bit**
Backplane	**Current draw 860 mA at 5VDC**
High-speed	**Digital output available via local logic control**
No	**of modules permitted Five (5): Main rack**

3. Product Information

The IC694DSM324 is a Motion Controller Module that is part of the PACSystem RX3i, formerly by GE Intelligent Platforms, now under Emerson Automation. This module is a Four (4) axis motion controller which can be integrated into the host controller for motion and position control with reference to the downloader user logic. This module is configurable for Standard and Follower mode and supports ?i, ?HVi, ?i, and ?HVi Series digital servo systems.

Technical specifications for IC694DSM324

Manufacturer Emerson Automation

Series PACSystem RX3i

Product Description Motion Controller Module

Manufacturer GE Intelligent Platform (GE IP); Emerson Automation (Current)

Part Number IC694DSM324

Communication interface FSBB; COMM; I/O connectors

Series PACSystem RX3i

Product Type Motion Controller Module

LED indicators Status; OK; Config; FSSB; Axis (4)

Slot width Single slot

Multi-Axis Control Supported

Operating modes Standard Mode; Follower mode

No. of motion axes Four (4)

Number of Supported Axes 1 to 4

Current draw: 806 mA @ 5VDC; Additional 500 mA for external encoder (if used)

Mounting location Main Rack, expansion / remote baseplate

CPUs Supported RX3i CPUs Version 2.8 or Later

Mounting location: All RX3i and Series 90-30 backplane

Compatible Power supply PWR 040 / 321 / 330 / 331

Hot Swapping Supported

Analog output resolution 13 bit

Backplane Current draw 860 mA at 5VDC

High-speed Digital output available via local logic control

No of modules permitted Five (5): Main rack with PWR040; Two (2): Expansion or remote backplane with PWR32; Six (6): Remote backplane with PWR330 / PWR331 Six (6): Expansion backplane using PWR330 / PWR331

Block Processing Time Less than 5 Milliseconds

Electronic CAM Supported

LED indicators STATUS; OK; CONFIG; FSSB; 1, 2,3 and 4 axis indicators

Memory capacity 10 programs and 40 Subroutines

Communication ports 24 VDC I/O: 36 Pin D-shell port 5VDC I/O: 36 Pin D-shell port COM Port: RJ45 FSSB port

Memory type Non-volatile

Operating mode Standard mode; follower mode

Product Lifecycle Status Active

Product Lifecycle Active

The IC694DSM324 is a motion controller module from the PACSystem RX3i Programmable Automation Controller Platform (PAC). This module features Four (4) motion control axes and supports Two (2) control modes such as Standard mode with follower loop disabled and Follower mode with follower control loop enabled. This module also features 5 ms Block Processing capability, velocity feeds forward and position error integrator, integrated non-volatile storage for 10 motion programs and 40 subroutines. This module also comes with upgradeable firmware which can be modified to maximize module updates and revisions. The IC694DSM324 is installed directly to a PACSystem RX3i backplane. It can be installed on a CPU rack or main backplane or to an expansion or remote rack. Specifically, up to 5 installations of IC694DSM324 is permitted to the main rack if installed with PWR040; up to Two (2) instances if installed to an expansion or remote backplane with PWR32 Power supply; Six (6) modules to a remote backplane with power supply modules PWR330 or PWR331 or Six (6) IC694DSM324 installations to an expansion backplane using PWR330 / PWR331. The IC694DSM324 comes with built-in Electronic CAM capability, Home and Overtravel switch inputs for every axis, 5V and 24 VDC analog I/O for integration to a PLC, individual incremental encoder interface on each axis, 13-bit analog output that is PLC controllable or fine-tunes using a digital servo and High-Speed digital output. This module has a variety of status LED indicators such as STATUS, OK, CONFIG, FSSB, 1/2/3/4 LED indicators.

The IC694DSM324 motion controller module is designed and manufactured by GE Fanuc in the RX3i PACSystems series. It can be installed in any RX3i PLC that has a CPU that is version 2.8 or later. Unlike many GE RX3i components, the IC694DSM324 motion controller supports hot swapping, which means that it can be installed or removed safely while power is still applied to the PLC. This motion controller supports loads of 860 milliamps or 4.3 Watts at 5 Volts DC by itself. If the controller is connected to an external encoder, it can handle an additional 500 milliamps or 2.5 Watts of load. The IC694DSM324 motion controller module is a multi-axis motion controller module. It has enough non-volatile storage space for up to 10 programs and 40 subroutines. The GE Fanuc IC694DSM324 motion controller module supports 2 different loop control configurations which are the standard control mode where the follower control loop is disabled and the follower mode where the follower control loop is enabled. It can be installed in any I/O slot that is available in a Series 90-30 or an RX3i backplane. Other features of the IC694DSM324 motion controller module include 1 to 4-axis motion programs, a block processing time of less than 5 milliseconds, firmware that is stored in the flash memory, and a motion program instruction set that is simple but powerful. It also has home switch inputs over-travel switch inputs for each servo axis. In the encoder or analog mode, this module supports Incremental Quadrature Encoder Input for each axis.