

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE PACSYSTEMS RX3i

IC694DSM324-BE

FOUR-AXIS MOTION CONTROLLER

Used with the applicable PACSystems RX3i motion control configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE official manufacturer documentation

16.9 Motion Controller Module: IC694DSM324

The Motion Controller Module, IC694DSM324, is a multi-axis motion control module. It supports two control loop configurations:

- Standard Mode (Follower Control Loop Disabled)
- Follower Mode (Follower Control Loop Enabled)

The DSM324 Module can be used with GE β i Series digital servo amplifiers and motors. Module features include:

- Block Processing time under 5ms
- Velocity Feed forward and Position Error Integrator
- High resolution of programming units
- Simple and powerful motion program instruction set
- Simple 1 to 4-axis motion programs
- Non-volatile storage for 10 programs and 40 subroutines
- Single-point-of-connect for programming and configuration.
- Firmware is stored in flash memory and is updated via COMM port.
- Recipe programming using command parameters.
- Electronic CAM capability
- Home and over-travel switch inputs for each Servo Axis
- Two Position Capture Strobe Inputs for each axis
- 5Vdc, 24Vdc and analog I/O for use by PLC
- Incremental Quadrature Encoder input on each axis for Encoder/Analog mode
- 13-bit Analog Output can be controlled by PLC or used as Digital Servo Tuning monitor
- High-Speed digital output (four each 24Vdc and four each 5Vdc) via on-board Local Logic control

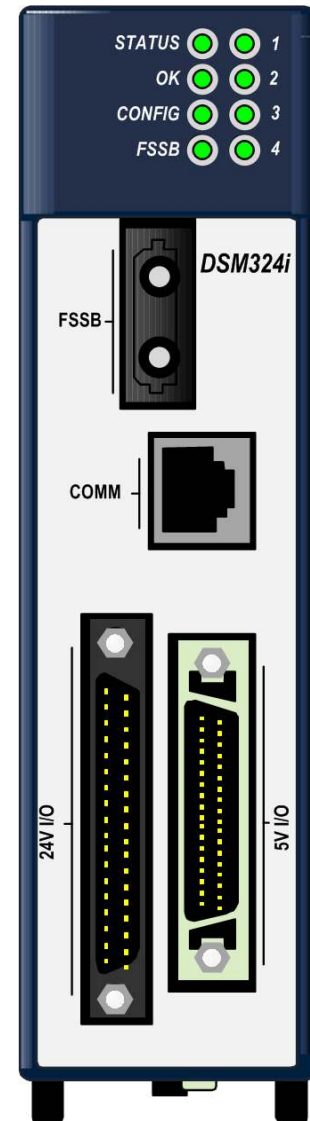


Figure 389: IC694DSM324

This module can be installed in any available I/O slot in any RX3i or Series 90-30 backplane. Module supports insertion into and removal from an RX3i Universal Backplane which is under power. Refer to *Hot Insertion and Removal*, Section 2.6.4.1.

Refer to the *DSM324i Motion Controller for PACSystems RX3i and Series 90-30*, GFK-2347, for more information about the DSM324 module.

16.9.1 Overview: DSM324

The DSM324 integrates high-performance motion control with the logic-solving functions of the RX3i controller.

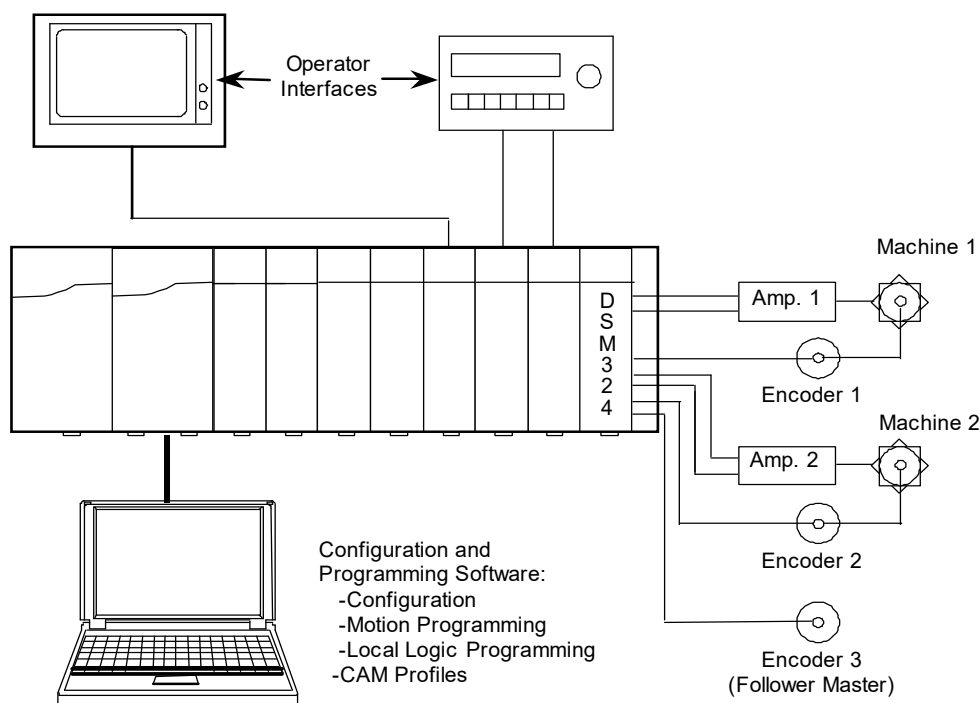


Figure 390: System Overview: DSM324

For more information about configuring and installing the DSM324 module, refer to the *DSM324i Motion Controller for PACSystems RX3i and Series 90-30*, GFK-2347. For details about interfacing the DSM324 to the GE SL Servo products, refer to the manual, *AC Servo Motor β is Descriptions Manual*, GFZ-65302EN.

16.9.2 Features: DSM324

16.9.2.1 LEDs

There are eight LED status indicators on the DSM324 module:

The **STATUS** LED is normally On. When the LED is OFF, the DSM324 is not functioning as the result of a status error. Flashing signals an error condition.

The **OK** LED indicates the current status of the DSM324 module. When the LED is steady On, the module is functioning properly. When the LED is Off, the module is not functioning.

The **CONFIG** LED is On when a module configuration has been received.

The **FSSB** LED is On when FSSB communications are active. It blinks during FSSB setup. This LED is Off if FSSB communications are inactive or if FSSB setup has failed.

The Axis Enable LEDs, 1 through 4, are On if the Axis 1 through Axis 4 Drives are enabled.

16.9.2.2 FSSB Connector

The FSSB connector provides optical fiber connection to Servo Amplifiers for the exchange of command, feedback, and diagnostics data. This connector has a removable protective cap.

16.9.2.3 COMM Connector

The COMM port is an RJ-11 connector, used to download firmware updates to the module.

16.9.2.4 I/O Connectors

The DSM324 provides two connectors for 5Vdc and 24Vdc I/O. Pre-manufactured cables are available in 1-meter and 3-meter lengths for both I/O connectors.

16.9.2.5 Shield Ground Connection

The DSM324 must be connected to frame ground via the ground terminal on the bottom of the module. The grounding resistance of the system ground should be 100Ω or less (class 3 grounding).

16.9.3 Specifications: DSM324

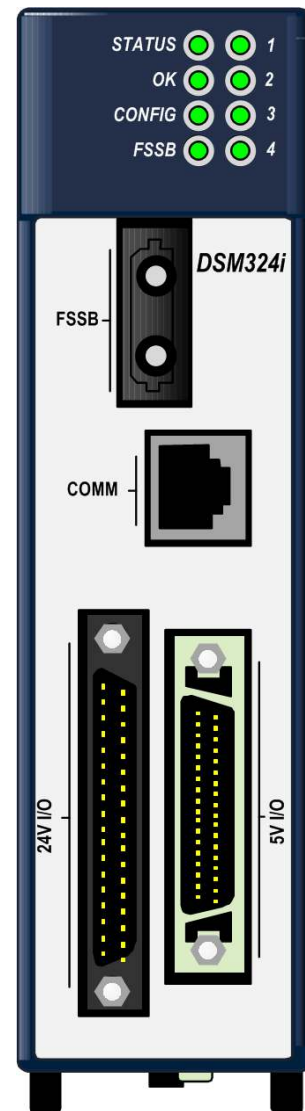


Figure 391: DSM324 Features

Power Supply Voltage	5Vdc from backplane
Power Supply Current Draw by DSM	860 mA plus encoder supply current (refer to next item).
Available +5V Current/Module to supply external encoder, if used	500 mA (if used, must be added to module +5v current draw)
Number of DSM324i Modules in PACSystems RX3i Main Backplane	Up to 5 DSM324i modules in RX3i Main Backplane with Power Supply PWR040
Number of DSM324i Modules in Expansion/Remote Backplane	2 DSM324i modules in expansion/remote backplane with PWR321 6 DSM324i modules in remote backplane with PWR330/331 6 DSM324i modules in expansion backplane with PWR330/331

16.10 PACMotion Multi-Axis Motion Controller: IC695PMM335

The PACMotion Multi-Axis Motion Controller, IC695PMM335, is designed with the performance to deliver improved machine productivity required for today's high-speed machines and lean manufacturing environments.

Each module can control up to four servo axes. Up to 40 axes can be controlled from a single RX3i backplane.