GE RX3i PacSystem Series Service Manual

IC695ALG412

1. Description

The GE Fanuc IC695ALG412 is a PACSystem RX3i module. This module is a strain gauge input module that features Twelve (12) isolated differential thermocouple input channels, individually configurable for Thermocouple types J, K, T, E, R, S, B, N, or C and millivolt signals such as ±150mV or ±50mV. This module has a resolution of 32-bit IEEE floating point or 16 bit integer (in 32 bit field) input data

2. Specifications

Specification	Value
Brand	**GE Fanuc / Emerson Automation**
Series	**RX3i PacSystem**
Part	**Number IC695ALG412**
Description	**Strain gauge input module**
Compatible	**Thermocouple Type J, K, T, E, R, S, B, N, or C.**
Input	**voltage range ±150mV or ±50mV**
Backplane	**Support Universal Backplane Only. Uses PCI Bus.**
Diagnostics	**Open wire, Short Circuit, Positive/Negative rate of Change, High, High-High, Low, and Low-Low.**
Channel-to-Channel	**Isolation 250VAC Continuous; 1500VAC 1 minute; 2550VDC 1 second.**
Resolution:	**32-bit IEEE floating point or 16 bit integer (in 32 bit field) input data format**
Accuracy	**± 0.1% of voltage sp+GC+GB59GD1+GC59163an at 25 °C. ± 0.25% of span over temperature range**
A/D	**Conversion Type Sigma Delta**
A/D	**Conversion Time 15 msec @ 28 Hz to 120 msec @ 2.3 Hz**
Strain	**Gages Supported Yes**
Connector	**Type IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.**
Module	**Type Isolated Thermocouple Input**
Channels	**12 Individually isolated channels**
Resolution	**11.5â□16 bits**
Thermocouples	**Types B, C, E, J, K, N, R, S, o**

3. Product Information

The GE Fanuc IC695ALG412 is a PACSystem RX3i module. This module is a strain gauge input module that features Twelve (12) isolated differential thermocouple input channels, individually configurable for Thermocouple types J, K, T, E, R, S, B, N, or C and millivolt signals such as ±150mV or ±50mV. This module has a resolution of 32-bit IEEE floating point or 16 bit integer (in 32 bit field) input data

Technical specifications for IC695ALG412

Brand GE Fanuc / Emerson Automation

Series RX3i PacSystem

Part Number IC695ALG412

Description Strain gauge input module

Compatible Thermocouple Type J, K, T, E, R, S, B, N, or C.

Input voltage range ±150mV or ±50mV

Backplane Support Universal Backplane Only. Uses PCI Bus.

Diagnostics Open wire, Short Circuit, Positive/Negative rate of Change, High, High-High, Low, and Low-Low.

Channel-to-Channel Isolation 250VAC Continuous; 1500VAC 1 minute; 2550VDC 1 second.

Resolution: 32-bit IEEE floating point or 16 bit integer (in 32 bit field) input data format

Accuracy ± 0.1% of voltage sp+GC+GB59GD1+GC59163an at 25 °C. ± 0.25% of span over temperature range

A/D Conversion Type Sigma Delta

A/D Conversion Time 15 msec @ 28 Hz to 120 msec @ 2.3 Hz

Strain Gages Supported Yes

Connector Type IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.

Module Type Isolated Thermocouple Input

Channels 12 Individually isolated channels

Resolution 11.5â□□16 bits

Thermocouples Types B, C, E, J, K, N, R, S, or T

Input Voltage between -50 millivolts to +50 millivolts

Internal Power 3.3V: 400mA; 5V: 425 mA

Update Rate 15 msec to 120 msec (configurable)

Operating Temperature 32 to 140 degrees Fahrenheit

Storage Temperature -40 to 185 degrees Fahrenheit

Humidity 5 to 95%, non-condensing

Shock 15G, 11ms

Vibration 10 to 57 Hertz, 0.0524 millimeters (0.006 in) displacement peak-peak at a frequency of 57 to 500 Hertz, 1.0 g acceleration

The IC695ALG412 is a strain gauge input module that is part of the PACSystem RX3i analog input module. This module features Twelve (12) isolated differential input channels that, compatible for millivolt signals such as ±150mV or ±50mV and Thermocouple instruments such as Type J, K, T, E, R, S, B, N, or C. This module can be used to directly interface with strain gauges and used in Temperature applications, eliminating the need for transmitters, signal conditioners and other devices.

This module occupies a single slot of the backplane and directly attaches to RX3i Universal Backplane Only and directly attaches to the PCI Bus. This module also comes with internal diagnostics such as Open wire, Short Circuit, Positive/Negative rate of Change, High, High-High, Low, and Low-Low channel diagnostics. Additionally, this module has built-in channel to channel isolation rated 250VAC Continuous; 1500VAC 1 minute; 2550VDC 1 second with input impedance of >=500k ohm. This module exhibits 10 dB improvement in noise rejection.

This module has a Sigma-Delta analog to digital converter type circuitry with resolution of 32-bit IEEE floating point or 16 bit integer (in 32 bit field) and conversion time of 15 msec @ 28 Hz to 120 msec @ 2.3 Hz with input data format and accuracy of ± 0.1% of voltage sp+GC+GB59GD1+GC59163 an at 25 °C. ± 0.25% of span over temperature range.

This module requires use of Removable Terminal Blocks (RTB) such as IC694TBBx32, IC694TBSx32 or IC694TBC032. It has a current draw of 425 mA @ 5V; 400 mA @ 3.3V.

The GE Fanuc IC695ALG412 thermocouple input module has an internal power of 3.3 Volts and 400 milliamps or 5 Volts and 425 milliamps and an update rate from 15 milliseconds to 120 milliseconds that is configurable. This module can be used with terminal blocks such as the spring-style IC694TBS032 block, the box-style IC694TBB032 block, the extended spring-style IC694TBS132 block, or the extended box style IC694TBB132 block. The IC695ALG412 thermocouple input module has an operating temperature range between 32 and 140 degrees Fahrenheit (0 and 60 degrees Celsius) and a storage temperature range between -40 and 185 degrees Fahrenheit (-40 and 85 degrees Celsius). It has a non-condensing humidity range of 5 to 95%, a shock resistance of 15 G for 11 milliseconds, and a vibration rating of 10 to 57 Hertz, and 0.0524 millimeters (0.006 in) of displacement peak to peak at a frequency of 57 to 500 Hertz and 1.0 G of acceleration.