GE RX3i PacSystem Series Service Manual

IC695ALG112

1. Description

The GE Fanuc IC695ALG112 is a PACSystem RX3i module. This module is an analog input module featuring Twelve (12) Single-ended isolated input channels. This module receives 0 to +10 volts (unipolar) / -10 to +10 VDC, -5 to +5 VDC, 0 to 5 VDC and 1 to 5 VDC (bipolar) voltage inputs and 0 to 20 mA, 4 to 20 mA, +/-20mA input signals.

2. Specifications

Specification	Value
Brand	**GE Fanuc / Emerson Automation**
Series	**RX3i PacSystem**
Part	**Number IC695ALG112**
Resolution	**16-bit ADC converted to Floating Point or Integer**
Open	**Circuit Detection Time 1 second maximum**
Number	**of Input Channels Eight (8)**
Input	**Current Range 4-20 mA; 0-20 mA**
Input	**Voltage Range 0 - 10 VDC (unipolar), -10 to +10 VDC (bipolar), +/- 5VDC, 0 to 5VDC, 1-5VDC**
Digital	**Filtering 8Hz, 12Hz, 16Hz, 40Hz, 250Hz, 1000Hz**
Calibration	**Interval 12 months typical to meet accuracy specifications over time. Offset can be applied as a periodic calibration adjustment.**
Calibrated	**Accuracy 0.1% of range at 25°C 0.2% of range over entire temperature span In the presence of severe RF interference (IC 801-3, 10V/M), accuracy may be degraded by 2.0% of range.**
Input	**Data Format Configurable as floating-point IEEE 32 bit or 16-bit integer in a 32-bit field**
Power	**Consumption 4.89 watts maximum with 20mA inputs on all 12 channels**
Thermal	**Derating No derating**
Overvoltage	**+/-35 VDC continuous, maximum**
Overcurrent	**+/-3**

3. Product Information

The GE Fanuc IC695ALG112 is a PACSystem RX3i module. This module is an analog input module featuring Twelve (12) Single-ended isolated input channels. This module receives 0 to +10 volts (unipolar) / -10 to +10 VDC, -5 to +5 VDC, 0 to 5 VDC and 1 to 5 VDC (bipolar) voltage inputs and 0 to 20 mA, 4 to 20 mA, +/-20mA input signals.

Technical specifications for IC695ALG112

Brand GE Fanuc / Emerson Automation

Series RX3i PacSystem

Part Number IC695ALG112

Resolution 16-bit ADC converted to Floating Point or Integer

Open Circuit Detection Time 1 second maximum

Number of Input Channels Eight (8)

Input Current Range 4-20 mA; 0-20 mA

Input Voltage Range 0 - 10 VDC (unipolar), -10 to +10 VDC (bipolar), +/- 5VDC, 0 to 5VDC, 1-5VDC

Digital Filtering 8Hz, 12Hz, 16Hz, 40Hz, 250Hz, 1000Hz

Calibration Interval 12 months typical to meet accuracy specifications over time. Offset can be applied as a periodic calibration adjustment.

Calibrated Accuracy 0.1% of range at 25°C 0.2% of range over entire temperature span In the presence of severe RF interference (IC 801-3, 10V/M), accuracy may be degraded by 2.0% of range.

Input Data Format Configurable as floating-point IEEE 32 bit or 16-bit integer in a 32-bit field

Power Consumption 4.89 watts maximum with 20mA inputs on all 12 channels

Thermal Derating No derating

Overvoltage +/-35 VDC continuous, maximum

Overcurrent +/-35mA continuous, maximum

Description Analog input module

Voltage 3.3 V, 5 V

Current 600/800 mA

Inputs 12

Filter Option 8/12/16/40/250/100 Hertz

Input Impedance >500 k Ohm

The IC695ALG112 is a PACSystem RX3i Programmable Automation Controller (PAC) module that functions as Analog input module featuring Eight (8) single-ended input channels, configurable to receive a variety of voltage and current signals such as 0 - 10 VDC (unipolar), -10 to +10 VDC (bipolar), +/- 5VDC, 0 to 5VDC, 1-5VDC and 0-20 mA, and 4- 20 mA. It has a built-in analog to digital converter (ADC) that converts data to floating point or integer format in 16-bit resolution. This module is typically used to interface instruments that generate the mentioned signals for further processing such as scaling and manipulation, to be able to provide a proper readout in Human Machine Interface (HMI), Supervisory Control and Data Acquisition (SCADA), Distributed Control Systems (DCS) and used by control algorithms such as Proportional + Integral + Derivative (PID) controller for implementing automatic control.

The IC695ALG112 features no Thermal derating and provided with software configurable filter options such as 8Hz, 12Hz, 16Hz, 40Hz, 250Hz, and 1000 Hz. These filter options are utilized to provide a more stable reading and helps eliminate fluctuations. Conditioned data may be save specifically in IEEE 32-bit or 16-Bit integer in 32-bit field. The module’s analog input settles to 0.1% of the final value within 1.7 ms for a step change. This step change response is affected by the configured input filter of the module. Specifically, 127 ms for 8 Hz filter, 67 ms for 12 Hz filter, 56 ms for 16 Hz filter, 21 ms for 40 Hz filter, 3.1 ms for 250 Hz filter and 0 ms for 1000 Hz filter.

The IC695ALG112 input module provides a filter option of 8, 12, 16, 40, 100, or 250 Hertz. The input impedance of the input module is less than 500 kiloohms for the input voltage. The open circuit detection time of the module is 1 second maximum. The IC695ALG112 input module comes with several features in a compact package. The software is fully configurable and requires no external jumper. A predictive diagnostics feature is present in the module that does the error checking during the startup and the operation time. It supports flash memory for upgrades.