GE RX3i PacSystem Series Service Manual

IC695ALG704

1. Description

The IC695ALG704 is an analog output module that is part of the PACSystem RX3i platform, currently under Emerson Automation, formerly produced by GE Intelligent Platforms (GE IP). This module has Four (4) non-isolated output channels configurable as voltage and current. It generates +/-10 VDC, 0-10 VDC and 0-20 mA and 4-20 mA output signals with resolution of 14.9 bits for 0 to 10V;

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**PACSystem RX3i**
Manufacturer	**Emerson Automation**
Manufacturer	**GE Intelligent Platforms (Former); Emerson Automation (Current)**
Part	**Number IC695ALG704**
Product	**Description Non-isolated analog output module**
Series	**PACSystem RX7i**
Module	**Type Analog Output**
No	**of Channels Four (4) non-isolated**
Part	**Number IC695ALG704**
Number	**of Channels 4**
Output	**signals, Current 0-20 mA; 4-20 mA**
Product	**Description Analog output module**
Voltage	**Range +/-10 V DC, 0 to 10 V DC**
Output	**signals, Voltage +/-10VDC; 0-10 VDC;**
Output	**signals: +/-10 VDC, 0-10 VDC; 0-20 mA, 4-20 mA**
Current	**Range 0-20 mA, 4-20 mA**
Module	**resolution +/-10V: 15.9 bits, 0 to 10V: 14.9 bits, 0 to 20mA: 15.9 bits; 4 to 20mA : 15.6 bits**
Resolution:	**14.9 bits for 0 to 10V; 15.9 bits for +/- 10 VDC; 15.9 bits at 0-20 mA 15.6 bits at 4-20 mA**
Power	**Consumption 375 mA at +3.3V DC, 160 mA at +24V DC Isolated**
Data	**Format Floating point IEEE 32 bit; 16-bit integer in a 32-bit field**
Output	**Data Format Configurable as floating point IE**

3. Product Information

The IC695ALG704 is an analog output module that is part of the PACSystem RX3i platform, currently under Emerson Automation, formerly produced by GE Intelligent Platforms (GE IP). This module has Four (4) non-isolated output channels configurable as voltage and current. It generates +/-10 VDC, 0-10 VDC and 0-20 mA and 4-20 mA output signals with resolution of 14.9 bits for 0 to 10V;

Technical specifications for IC695ALG704

Brand GE Fanuc

Series PACSystem RX3i

Manufacturer Emerson Automation

Manufacturer GE Intelligent Platforms (Former); Emerson Automation (Current)

Part Number IC695ALG704

Product Description Non-isolated analog output module

Series PACSystem RX7i

Module Type Analog Output

No of Channels Four (4) non-isolated

Part Number IC695ALG704

Number of Channels 4

Output signals, Current 0-20 mA; 4-20 mA

Product Description Analog output module

Voltage Range +/-10 V DC, 0 to 10 V DC

Output signals, Voltage +/-10VDC; 0-10 VDC;

Output signals: +/-10 VDC, 0-10 VDC; 0-20 mA, 4-20 mA

Current Range 0-20 mA, 4-20 mA

Module resolution +/-10V: 15.9 bits, 0 to 10V: 14.9 bits, 0 to 20mA: 15.9 bits; 4 to 20mA : 15.6 bits

Resolution: 14.9 bits for 0 to 10V; 15.9 bits for +/- 10 VDC; 15.9 bits at 0-20 mA 15.6 bits at 4-20 mA

Power Consumption 375 mA at +3.3V DC, 160 mA at +24V DC Isolated

Data Format Floating point IEEE 32 bit; 16-bit integer in a 32-bit field

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

Output Load 850 Ohms max

HART Protocol Not Supported

Analog update rate 8ms

Update Rate 8 msec

Analog Update Rate 8 milliseconds (approximate, all eight channels)

Output voltage protection -30V for 60 seconds, +30V for one hour

External Power Supply: 19.2V to 30V (24V nominal)

Calibrated accuracy 0.15% of full scale at 25°C; 0.30% of full scale at 60°C

External Current input: 120 mA

External Power Supply Voltage Range: +19.2V to +30VDC Maximum current required 375mA at 3.3 VDC

Current draw 320mA maximum at 3.3V

Output Load Reactance Current Current: 10µH maximum; Voltage: 1µF maximum

Power Dissipation 4.8 Watts maximum (Vuser=24V)

Output Settling Time 2ms, 0 to 95%.

Calibrated Accuracy Accurate to within 0.15% of full scale at 25degrees C Accurate to within 0. 25% of full scale at 60degrees C

Compatible CPU version RX3i CPU version 3.0 or later

The IC695ALG704 is a rack mounted analog output module that is part of the PACSystem Rx3i series. This module generates voltage and current output signals, primarily used to modulate and control a variety of field devices such as control valves, positioners, dampers and louvers. It may also be used for reconditioning of signals for termination to signal slitters, isolators, data loggers, panel meters and single loop controllers. The IC695ALG704 comes with Four (4) non-isolated output channels configurable as +/-10 VDC, 0-10 VDC and 0-20 mA and 4-20 mA output signals with specific resolutions of 14.9 bits for 0 to 10V; 15.9 bits for +/- 10 VDC; and 15.9 bits at 0-20 mA and 15.6 bits at 4-20 mA. For termination of signal wires to this module, compatible terminal blocks include Box-style with catalog number IC694TBB032, Extended Box-style with catalog number IC694TBB132, Spring-style with part number IC694TBS032 or Extended Spring-style terminal block with part number IC694TBS132. Extended terminal block provide additional depth and space for termination of shield wire to the module. The IC695ALG704 has channel output data format Configurable as floating-point IEEE 32 bit or 16-bit integer in a 32-bit field. Each output cannel has an update rate of 8 milliseconds and comes with individual overvoltage protection of -30V for 60 seconds and +30V for one hour. This module operates with a RX3i CPU version 3.0 or later and programmed using the Machine Edition 5.0 SP3 Logic Developer- PLC. It is a single slot module that mounts to a universal RX3i backplane.

The GE Fanuc IC695ALG704 non-isolated analog current or voltage output module needs an RX3i central processing unit with firmware version 3.0 or newer to operate, and it is made to be installed in the universal backplane of the RX3i PacSystem PLC. The module comes with 4 current or voltage output channels. The GE Fanuc IC695ALG704 analog output module has a voltage range of +/-10 Volts DC or 0 to 10 Volts DC and a current range between 0 and 20 milliamps or 4 and 20 milliamps. The module also has an output load of 850 Ohms maximum, an update rate of 8 milliseconds, and current consumption rating of 375 milliamps at +3.3 Volts DC, and one of 160 milliamps at +24 Volts DC isolated voltage. The isolated 24 Volts DC power is received from an external source that is directly linked to the module’s terminal blocks. The power supply cannot be connected through the TB1 connector on the universal backplane of the RX3i PACSystem. The GE Fanuc IC695ALG704 non-isolated analog current or voltage output module features complete auto-calibration, onboard error monitoring, alarms latching, full software configuration support without jumpers, configurable output bios, configurable offsets and scaling on every channel, rapid channel acquisition, reporting for the module faults, high-high alarms, high alarms, low alarms, and low-low alarms. The GE Fanuc IC695ALG704 analog output module allows for

firmware upgrades by the use of the WinLoader software utility, but only if the host central processing unit (CPU) has a serial port. However, if the CPU has no serial port, it can use a web-based tool (the guidelines for using it are attached to the firmware upgrade kit).