GE RX3i PacSystem Series Service Manual

IC694ALG392

1. Description

The GE Fanuc IC694ALG392 is a PACSystem RX3i module. This module is an analog output module featuring Eight (8) Single-ended output channels providing 0 to +10 volts (unipolar) / -10 to +10 volts (bipolar) voltage outputs and 0 to 20 milliamps / 4 to 20 milliamps output signals. Each channel is configurable for 15 or 16-bit resolution, depending on the output range selected.

2. Specifications

Specification	Value
Number	**of Output Channels 1 to 8 selectable, single-ended outputs**
Part	**Number IC694ALG392**
Series	**RX3i PacSystem**
Brand	**GE Fanuc / Emerson Automation**
Output	**Current Range 4 to 20 mA and 0 to 20 mA**
Output	**Voltage Range 0 to 10V and -10 V to +10V**
Update	**Rate 8 Milliseconds**
Calibration	**Factory calibrated to .625 µA for 0 to 20 mA; 0.5 µA for 4 to 20 mA; and .3125 mV for voltage (per count)**
Resolution:	**4 to 20mA: 0.5 µA (1 LSB = 0.5 µA) 0 to 20mA: 0.625 µA (1 LSB = 0.625 µA) 0 to 10V: 0.3125 mV (1 LSB = 0.3125 mV) -10 to +10V: 0.3125 mV (1 LSB = 0.3125 mV)**
Absolute	**Accuracy, Voltage mode +/-0.25% of full scale @ 25°C (77°F), typical +/-0.5% of full scale @ 25°C (77°F), maximum +/-1.0% of full scale over operating temperature range (maximum)**
Power	**Consumption 110 mA from +5 VDC PLC backplane supply 315 mA from +24 VDC user supply**
External	**Supply Voltage Range 20 VDC to 30 VDC**
External	**Power Supply Voltage Ripple 10% (maximum)**
Compatible	**Actuators Valves, motors, pistons, and agitators**
Series	

3. Product Information

The GE Fanuc IC694ALG392 is a PACSystem RX3i module. This module is an analog output module featuring Eight (8) Single-ended output channels providing 0 to +10 volts (unipolar) / -10 to +10 volts (bipolar) voltage outputs and 0 to 20 milliamps / 4 to 20 milliamps output signals. Each channel is configurable for 15 or 16-bit resolution, depending on the output range selected.

Technical specifications for IC694ALG392

Number of Output Channels 1 to 8 selectable, single-ended outputs

Part Number IC694ALG392

Series RX3i PacSystem

Brand GE Fanuc / Emerson Automation

Output Current Range 4 to 20 mA and 0 to 20 mA

Output Voltage Range 0 to 10V and -10 V to +10V

Update Rate 8 Milliseconds

Calibration Factory calibrated to .625 µA for 0 to 20 mA; 0.5 µA for 4 to 20 mA; and .3125 mV for voltage (per count)

Resolution: 4 to 20mA: 0.5 µA (1 LSB = 0.5 µA) 0 to 20mA: 0.625 µA (1 LSB = 0.625 µA) 0 to 10V: 0.3125 mV (1 LSB = 0.3125 mV) -10 to +10V: 0.3125 mV (1 LSB = 0.3125 mV)

Absolute Accuracy, Voltage mode +/-0.25% of full scale @ 25°C (77°F), typical +/-0.5% of full scale @ 25°C (77°F), maximum +/-1.0% of full scale over operating temperature range (maximum)

Power Consumption 110 mA from +5 VDC PLC backplane supply 315 mA from +24 VDC user supply

External Supply Voltage Range 20 VDC to 30 VDC

External Power Supply Voltage Ripple 10% (maximum)

Compatible Actuators Valves, motors, pistons, and agitators

Series 90-30 PLCs Supported

Series 90-70 PLCs Supported

The IC694ALG392 is a PACSystem RX3i Programmable Automation Controller (PAC) module. This module is an analog output module which feature Eight (8) single-ended output channels. This module is able to deliver a variety of output signal ranges such as 0 to +10 volts (unipolar), 10 to +10 volts (bipolar), 0 to 20 milliamps, and 4 to 20 milliamps. Depending on the configured output type, the module resolution ranges from 15 to 16-bit. Each of the channels are individually updated, within 8 ms interval.

When operating in Current mode, the module is provided with internal fault detection such as open wire fault. This helps user and maintenance to monitor which channel is experiencing loose wiring or a completely open or removed wire. This fault is seen on the CPU diagnostics. This module supports holding of the last known value interruption of system power. This safety feature prevents unwanted behavior of the system in most industries. Similarly, the values may also reset to zero, depending on the configuration.

This output module is typically used in analog control loops where modulating control is needed aside from ON/OFF control. This analog output module may be linked internally to the controller’s PID controller for automatic control and manual loaders whether hardwired or software based for manual mode of control. Additionally, it is also possible to use this module to re-transmit signals and interface with process data loggers, measuring instruments, totalizers, converters, isolators and other instruments and devices that are compatible with the output signals of this module. This module may be installed to any available slot of an existing RX3i PACSystem.

The power supply for this module should be externally supplied and it should range between 20 and 30 Volts DC (ideally 24 Volts DC). The GE Fanuc IC694ALG392 Analog Current/Voltage Output Module is a versatile device, and it is easy to deploy on the plant floor to control different types of actuators such as valves, motors, pistons, and agitators. The update rate of the GE Fanuc IC694ALG392 Analog Module is 8 milliseconds for the 8 output channels that are involved, making the IC694ALG392 Module an excellent option for controlling quickly-changing applications in the field. When connected to a GE Fanuc Series 90-30 or 90-70 PLC, the module can work by using the 5 Volts DC power supply from PLC&’s backplane. The power consumption of the module automatically adapts its value according to the power supply that is being used, and it can be 315 milliamps when it is supplied from an external 24 Volts DC power source or 110 milliamps when it is connected to a PLC backplane. The environmental protection for the modules must be provided by the users since the low IP rating of the system makes it very sensitive to moisture or extreme temperature variations.