

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE PACSYSTEMS RX3i

IC694ALG390C

2-CHANNEL VOLTAGE OUTPUT MODULE

Used with the applicable PACSystems RX3i analog I/O configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE official manufacturer documentation

10.1 Analog Output Module Voltage 2-Channel: IC694ALG390

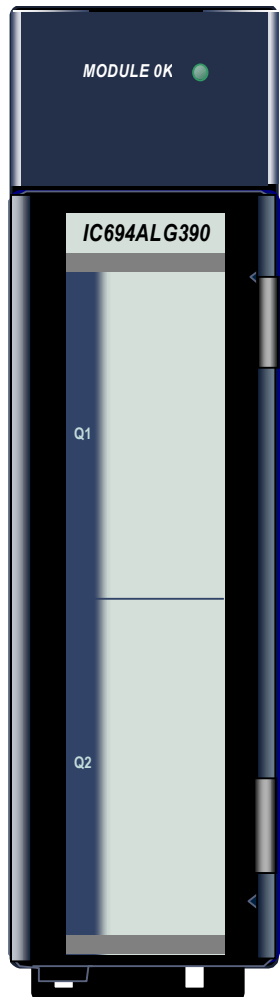


Figure 290: IC694ALG390

The **2-Channel Analog Voltage Output** module, IC694ALG390, has two output channels, each capable of converting 13 bits of binary (digital) data to an analog output signal for field devices. The Analog Voltage Output module provides outputs in the range of -10 volts to +10 volts. Both channels are updated on every scan.

The outputs on this module can be set up to either *Default to 0 volts* or *Hold-Last-State* if the CPU goes to the Stop mode or Reset. Selection of the output default state is made by a jumper on the module. If the jumper is not installed, the outputs *Hold Last State*.

This module can be installed in any I/O slot in an RX3i system.

Module does not support insertion into or removal from an RX3i Universal Backplane which is under power (see *Hot Insertion and Removal Not Supported*, Section 2.6.4.2).

10.1.1 Isolated +24Vdc Power

If the module is located in an RX3i Universal Backplane, an external source of Isolated +24Vdc is required to provide power for the module. The external source can be connected via the TB1 connector on the left side of the backplane or directly on the terminal block of this module.

If this module is located in an Expansion or Remote backplane, its primary power source can be either the Isolated +24Vdc from the backplane power supply or an external Isolated +24Vdc power supply connected to the terminal block of this module. If the external source is set between 27.5-30 Vdc, it takes over the load from the Isolated 24Vdc system supply. Note that an external source should be used if it is desired to maintain hold last state operation during a loss of backplane power.

10.1.2 LED

The **Module OK** LED is ON when the module power supply is operating.

10.1.3 Specifications: ALG390

Voltage Range	-10 to +10 volts
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Calibration	Factory calibrated to 2.5 mV per count
Supply Voltage (nominal)	+24Vdc, from isolated +24Vdc on backplane or user-supplied voltage source, and +5Vdc from backplane
External Supply Voltage Range	18Vdc to 30 Vdc
External Supply Voltage Ripple	10%
Update Rate	Approximately 5ms (both channels) Update rate is application dependent.
Resolution	2.5 mV (1 LSB = 2.5 mV)
Absolute Accuracy ⁶⁰	±5 mV at 25°C (77°F)
Offset	1 mV maximum, 0°C to 60°C (32°F to 140°F)
Output Loading (maximum)	5 mA (2kΩ minimum resistance)
Output Load Capacitance	2000 pF, maximum
Isolation, Field to Backplane (optical) and to frame ground	250 Vac continuous; 1500 Vdc for 1 minute
Internal Power Consumption	32 mA from +5Vdc supply 120 mA from +24Vdc supply (isolated backplane or user supply)

For product standards and general specifications, refer to *Appendix A*.

10.1.4 Module Data: ALG390

Module data is stored by the PLC CPU in 16-bit 2's complement format:

MSB												LSB			
+/-	10	9	8	7	6	5	4	3	2	1	0	X	X	X	X

Resolution of the converted signal is 12-bit binary plus sign, which is effectively 13 bits (1 part in 8192). The module scales the digital data to create an output voltage for the output:

10.1.4.1 D/A Bits versus Output Voltage

⁶⁰ In the presence of severe RF interference (IEC 801-3, 10V/m), accuracy may be degraded to ±50 mV.

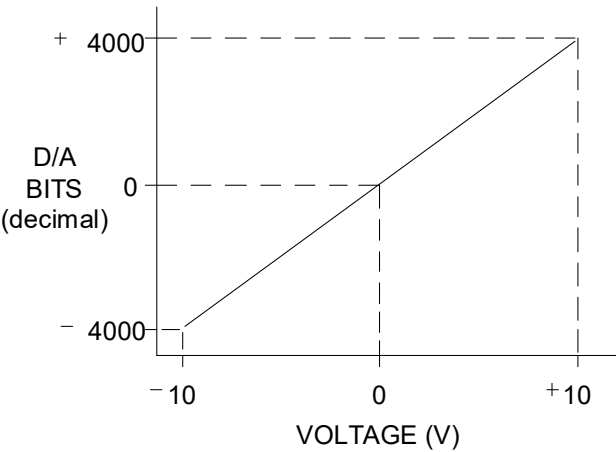


Figure 291: D/A Bits versus Output Voltage

10.1.4.2 **Scaling: ALG390**

Scaling of the output is displayed in the following figure.

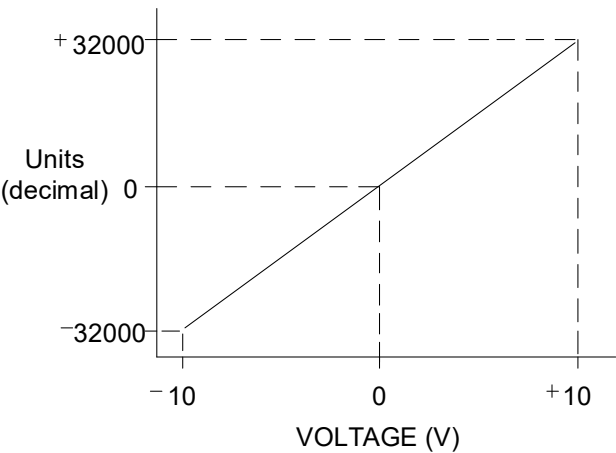


Figure 292: Scaling Units versus Output Voltage

10.1.5 **Field Wiring: ALG390**

Terminal	Connection
1	No connection
2	No connection
3	Output 1