# GE Rx7i PACsystem Series Service Manual

IC670ALG320

## 1. Description

The IC670ALG320 is an 4-Point Analog Current / Voltage Source Output Module from the Field control series of GE Fanuc. This module has Four (4) single-ended output channels configurable for 0-20 mA / 4-20 mA and 0-10 VDC output channels with resolution of 12 bits and 1 LSB linearity and all ranges and outputs. It requires an external power supply ranging 20-29 VDC, 24 VDC typical.

## 2. Specifications

| Specification | Value |
|---|---|
| Brand | **GE Fanuc** |
| Series | **Field Control** |
| Manufacturer | **GE Fanuc** |
| Manufacturer | **GE Fanuc** |
| Part | **Number IC670ALG330** |
| Series | **Field I/O control** |
| Wiring | **configuration Single-ended** |
| Description | **Analog output module** |
| Product | **Description 4-Point Analog Current / Voltage Source Output Module** |
| Output | **signal, nominal 0-20 mA / 4-20 mA; 0-10 VDC** |
| Current | **4-20 mA** |
| No | **of Channels Four (4) Current / Voltage Source outputs** |
| Analog | **resolution 4.0 µA @ 4-20 mA; 50 µA @ 0-20 mA; 0-10 VDC @ 2.5 mV** |
| Voltage | **0-10 Volts** |
| Output | **signals 0-20 mA; 4-20 mA; 0-10 VDC; 0-12.5 VDC** |
| ADC | **Conversion resolution 12 bits** |
| Output | **Data 4 words** |
| Isolation | **1500 VAC for 1 minute, 250 VAC continuous** |
| External | **Power supply 20-29 VDC, 5 % maximum ripple** |
| Isolation | **to Ground and Logic 1500 Volts AC** |
| Conversion | **time @ 1MHz clock 60 Microseconds per channel, typical** |
| Nominal | **Supply voltage 24 VDC** |
| Digital | **Resolution 12 bits, typical** |
| Analog | **resolution 4.0 µA @ 4-20 mA; 5.0 µA @ 0-20 mA; 2.5 mV @ -10 VDC; 0-12.5 VDC @ 3.125 mV** |
| Current | **input Stand-by: 80 mA, typ** |

## 3. Product Information

The IC670ALG320 is an 4-Point Analog Current / Voltage Source Output Module from the Field control series of GE Fanuc. This module has Four (4) single-ended output channels configurable for 0-20 mA / 4-20 mA and 0-10 VDC output channels with resolution of 12 bits and 1 LSB linearity and all ranges and outputs. It requires an external power supply ranging 20-29 VDC, 24 VDC typical.

Technical specifications for IC670ALG320

Brand GE Fanuc

Series Field Control

Manufacturer GE Fanuc

Manufacturer GE Fanuc

Part Number IC670ALG330

Series Field I/O control

Wiring configuration Single-ended

Description Analog output module

Product Description 4-Point Analog Current / Voltage Source Output Module

Output signal, nominal 0-20 mA / 4-20 mA; 0-10 VDC

Current 4-20 mA

No of Channels Four (4) Current / Voltage Source outputs

Analog resolution 4.0 µA @ 4-20 mA; 50 µA @ 0-20 mA; 0-10 VDC @ 2.5 mV

Voltage 0-10 Volts

Output signals 0-20 mA; 4-20 mA; 0-10 VDC; 0-12.5 VDC

ADC Conversion resolution 12 bits

Output Data 4 words

Isolation 1500 VAC for 1 minute, 250 VAC continuous

External Power supply 20-29 VDC, 5 % maximum ripple

Isolation to Ground and Logic 1500 Volts AC

Conversion time @ 1MHz clock 60 Microseconds per channel, typical

Nominal Supply voltage 24 VDC

Digital Resolution 12 bits, typical

Analog resolution 4.0 µA @ 4-20 mA; 5.0 µA @ 0-20 mA; 2.5 mV @ -10 VDC; 0-12.5 VDC @ 3.125 mV

Current input Stand-by: 80 mA, typical: Operating: 180 mA, maximum

Linearity 1 LSB resolution value

Current Drawn from BIU power supply 51 mA, maximum

Input Types Isolated and Differential

Temperature coefficient +/-.002% of value per degree C, typical, +/-.005% of value per degree C, maximum

Module Power Dissipation 1.4 Watts, minimum; 4.3 Watts, maximum

Input Current: Standby: 80 mA Operating: 180 mA (including loop current),

Ground to Logic Isolation 1500 VAC for 1 minute; 250 VAC, continuous

Product Lifecycle Status Discontinued/Obsolete

Output grouping Single group

Output wiring Single-ended

The IC670ALG320 is an analog output module that is part of GE Fanuc’s Field Control I/O series. This module is typically used for actuating control devices such as modulating control valves, dampers, louvers, positioners and similar devices. It may also be used for signal retransmission for connection to panel meters, signal isolators, signal splitters, external single and multi-loop controllers and data loggers. The IC670ALG320 is specifically a current and voltage sourcing output module. It has a built-in EMI filter Analog to Digital Converter (ADC) circuit to every channel of the module. This ADC has conversion resolution of 12-bits, typical and linearity of 1 LSB resolution on all ranges and output signals. At 0-20 mA, the module’s typical analog resolution is 5.0 micro Amperes and 4.0 micro Amperes at 4-20 mA range while at 0-10 VDC, the analog resolution is 2.5 mV. This module features a single group of outputs with isolation to ground and logic rated 1500 VAC for 1 minute and 250 VAC, continuous. This module requires an external power supply voltage of 20-29 VDC with 5% maximum ripple. It has a stand-by input current of 80 mA and operating current requirement of 180 mA. The module’s power dissipation is minimum of 1.5 Watts and maximum of 4.3 Watt while the module’s current draw from the Bus Interface Unit (BU) power supply is maximum of 51 mA. For noise immunity, this module is recommended to be used with instrumentation grade shielded twisted or 3-pair twisted wire. The shield wire should be connected at the enclosure’s grounding bar, nearest to the module.

The IC670ALG320 output module is an GE Fanuc analog output module. It comes with a group of 4 current/voltage outputs. It supports a current range between 4 and 20 milliamps and a voltage range between 0 and 10 Volts. The current and voltage range can also be changed by using an additional jumper on the terminal block of the I/O. The module can be easily scaled to match different application demands by making changes in the configuration settings. The power supply of the module can also be used to power the bus interface unit. It can also be used for isolated transducers and analog inputs (isolated and differential). The IC670ALG320 output module has an LED on the front that shows the field and backplane power status for the module. The IC670ALG320 output module uses 4 words for analog output data. The output modules help to process the analog values from the host or processor into the current output. The module provides options for keying. For scaling, the module uses the INT unit on the HHM configuration that responds to the actual desired output. The isolation to ground and logic for the module is 1500 Volts AC for a time period of 1 minute and it is 250 Volts AC for a continuous time period. The digital resolution of the output module is 12 bits. The IC670ALG320 output module is designed with open architecture and it should be protected from water splashes. It should be installed in a clean place that contains no dust, dirt, or harmful emissions.