GE Versamax Series Service Manual

IC200ALG331

1. Description

The IC200ALG331 is a 4-Point Analog Voltage / Current input module from VersaMax I/O series formerly produced by GE Intelligent Platforms, now under Emerson Automation. This module has Four (4) individually isolated output channels that delivers 1-20 mA and +/- 10 VDC output signals with resolution of 16-bits and maximum update rate of 7.0 ms.

2. Specifications

Specification	Value
Brand	GE Fanuc
Series	VersaMax
Manufacturer	GE Intelligent Platforms (Former); Emerson Automation (Current)
Part	Number IC200ALG331
Part	Number IC200ALG331
Series	VersaMAx
Output	signal, nominal 4-20 mA; +/- 10 VDC
Description	Analog output module
Product	Description 4-Point Analog current / voltage output module
Output	signal, range Current mode:+1 to 20mA; Voltage mode: +/-10VDC
Channel	4
No	of Channels Four (4) individually isolated channels
Digital	resolution 16 bits
Voltage	-10-10 Volts DC
Compatible	signals 4-20 mA; - / +10VDC
Analog	resolution Current mode: 381 nA nominal; Voltage mode: 381 µV nominal
Current	4-20 milliamperes
Accuracy	+/- 0.1% maximum of full scale at 25 Degrees Celsius
Accuracy	at 25 degrees C +/- 0.1% maximum of full scale
Update	Time 7 milliseconds
External	Supply Voltage Range +18 to +30VDC including ripple
Update	rate 7ms, maximum
Isolation	Input to Logic 250 Volts AC
Current	consumption 100mA maximum plus load currents
Module	diagnostics Diagnostics High/

3. Product Information

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Technical specifications for IC200ALG331

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Voltage -10-10 Volts DC

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Current 4-20 milliamperes

Accuracy +/- 0.1% maximum of full scale at 25 Degrees Celsius

Accuracy at 25 degrees C +/- 0.1% maximum of full scale

Update Time 7 milliseconds

External Supply Voltage Range +18 to +30VDC including ripple

Update rate 7ms, maximum

Isolation Input to Logic 250 Volts AC

Current consumption 100mA maximum plus load currents

Module diagnostics Diagnostics High/Low Limit, Over/Underrange, Open Wire, Loss of Field Power Supply, Non-volatile memory fault

Isolation Input to Ground 1500 Volts AC for 60 seconds

Backplane current 10 mA @ 5VDC; 115 mA @ 3.3 V

Configurable output default Hold Last State; 0 (configurable)

Resolution 16 bit

Update Rate 7ms

External Power supply 18-30 VDC

Actual resolution: Current mode: 381 nA nominal Voltage mode: 381 µV nominal

18-30 VDC 5V output: 10mA maximum 3.3V output: 115mA maximum

Module width Single slot

LED indicators FLD PWR LED; OK LED

Optical Isolation rating 250VAC continuous; 1500VAC for 1 minute

Channel to channel isolation 250VAC continuous; 1500VAC for 1 minute

The IC200ALG331 is an analog output module from the VersaMax I/O platform of compact, versatile and scalable distributed I/O modules. This part number represents a 16-bit, voltage and current configurable module with Four (4) individually isolated output channels. This module is used to actuate and modulate Final Control Elements (FCE) such as Control Valves for flow control, Variable Frequency Drives (VFD) for motor speed and torque control, Dampers and Louvers in facilities and HVAC application other devices equipped with positioners. This module may also be used to relay an analog signal that could be a result of continuous calculation within the Programmable Logic Controller (PLC) logic to be displayed by Panel meters and recorded by Data loggers. It can also be used to interface with signal isolators or signal splitters or to cascade reference signals to another single loop controller or PLC to implement a more complex controller architecture such as Cascade control. The IC200ALG331 has output channels that are software configurable to generate +/- 10 VDC or 4-20 mA output signals. Each channel has a maximum update rate of 7 ms with accuracy of +/- 0.1% maximum of full scale. Each channel is also capable of being configured and detecting High/Low Limit, Over/Underrange, Open Wire, Loss of Field Power Supply, Non-volatile memory fault as well as individually assign output behavior in reaction to PLC stop or module error such as hold last state or downscale to Zero (0) which may also be modified. Termina jumpers are not required to be installed to this module in order to set operating mode as the IC200ALG331 is fully software configurable.

The GE IC200ALG331 module is a 16-bit analog output module. It is equipped with 4 isolated channels. It is part of the Versamax module series by GE Fanuc. The main function of the module is to control multiple analog devices at a time. The module can be configured easily just by using software. No jumpers or switches are present in this output module variant. The voltage range of operation for this module ranges between -10 and 10 Volts DC. The current rating of the module is 4 to 20 milliamps. The analog output module updates itself within a time period of 7 milliseconds. It consumes a total of 15 milliamps of current from the 5 Volts bus. The IC200ALG331 output module is equipped with LED indicators on the front. It has the FLD PWR and the OK LED indicators. It comes with a 16-bit converter resolution and it has high-accuracy factory calibration. The IC200ALG331 output module is an intelligent module. It comes with diagnosis features and supports per-channel scaling. The module is able to receive up to 4 words of analog output data from the system at a time. The isolation for user input to logic is 250 Volts AC continuous and 1500 Volts AC for input to ground for 1 minute. No thermal derating occurs in this output module variant. The IC200ALG331 output module is able to point out open wire situations, the loss of the field power supply, memory faults, and other different events during the starting and the running of the module. The module comes with configurable alarms that can be set for different events.