GE Series 90-30 Series Service Manual

IC693ALG442

1. Description

The GE Fanuc IC693ALG442 is a Series 90-30 module. This module is an analog voltage / current combination module. It features Four (4) input channels compatible with 0 to +10 volts (unipolar), –10 to +10 volts (bipolar), 0 to 20 mA, 4 to 20 mA, and 4 to 20 mA Enhanced input signals. It also ha Two (2) analog outputs providing 0 to +10 volts (unipolar), –10 to +10 volts (bipolar),

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Series 90-30**
Part	**Number IC693ALG442**
Accuracy	**0.25% at 25 degree Celsius**
Product	**Lifecycle Status* Discontinued/Obsolete**
Product	**Description Analog Current/Voltage Combination Module**
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No	**of Output Channels 2, single-ended**
Update	**Rate 8 milliseconds**
Output	**Current Range 0-20 mA, 4-20 mA**
Resolution	**at 4-20 mA 0.5 microamps**
Resolution	**at 0-20 mA 0.625 microamps**
No	**of Input Channels 4 differential**
Input	**Range -0-10 Volts, -10 to 10 Volts**
Resolution	**at 0-10 V 2.5 mV**
Resolution	**at -10 to 10 V 5 mV**
Input	**Impedance 800 K Ohms**
External	**Supply Voltage Range 20 to 30 VDC (24 VDC typically)**
The	**IC693ALG442 is a combination module from GE Fanuc's Series 90-30 Programmable Logic Control (PLC) platform. Being a combination module, this module is designed with Four (4) input channels compatible with 0 to +10 volts (unipolar), –10 to +10 volts (bipolar), 0 to 20 mA, 4 to 20 mA, and 4 to 20 mA Enhanced input signals and T**

3. Product Information

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Technical specifications for IC693ALG442

Brand GE Fanuc

Series Series 90-30

Part Number IC693ALG442

Accuracy 0.25% at 25 degree Celsius

Product Lifecycle Status* Discontinued/Obsolete

Product Description Analog Current/Voltage Combination Module

Product Description Analog Current/Voltage Combination Module

No of Output Channels 2, single-ended

Update Rate 8 milliseconds

Output Current Range 0-20 mA, 4-20 mA

Resolution at 4-20 mA 0.5 microamps

Resolution at 0-20 mA 0.625 microamps

No of Input Channels 4 differential

Input Range -0-10 Volts, -10 to 10 Volts

Resolution at 0-10 V 2.5 mV

Resolution at -10 to 10 V 5 mV

Input Impedance 800 K Ohms

External Supply Voltage Range 20 to 30 VDC (24 VDC typically)

The IC693ALG442 is a combination module from GE Fanuc’s Series 90-30 Programmable Logic Control (PLC) platform. Being a combination module, this module is designed with Four (4) input channels compatible with 0 to +10 volts (unipolar), –10 to +10 volts (bipolar), 0 to 20 mA, 4 to 20 mA, and 4 to 20 mA Enhanced input signals and Two (2) analog outputs providing 0 to +10 volts (unipolar), –10 to +10 volts (bipolar), 0 to 20 mA, 4 to 20 mA output signals.

The input channels supports differential inputs with each channel exhibiting an update rate of 8 ms. Individual input type resolution includes 5 µA (1 LSB = 5 µA) for 0-20 mA; 5 µA (1 LSB = 5 µA) for 4-20 mA and 5 µA (1 LSB = 5 µA) for 4-20 mA, enhanced with absolute accuracy of ± 0.25% of full scale @25°C (77°F) and ± 0.5% of full scale over specified operating temperature range.

The output channels are single-ended outputs with update rate of 4 ms and individual resolution of 0.625 µA (1 LSB = 0.625 µA) and 0.5 µA (1 LSB = 0.5 µA) for 4-20 mA and absolute accuracy of ± 0.1% of full scale @25°C (77°F), typical; ± 0.25% of full scale @25°C (77°F), (maximum); and ± 0.5% of full scale over operating temperature range (maximum).

This module requires an external supply voltage of 20 to 30 VDC with 24 VDC nominal value and allowable voltage ripple of 10%. This module has a power consumption of 95 mA From Internal +5V Supply and 129 mA from external power supply.

The IC693ALG442 Analog Current/Voltage Combination Module offers 2 current ranges of 4 to 20 milliamps or 0 to 20 milliamps. It provides open-loop fault detection facilities in the current mode. The unipolar mode can scale the user data and that mode is the default mode of this module. It also sends status information and updates to the PLCs such as the performance data of the module, overload open-wire detection, alarm status updates, and status updates about the power of the system which is supplied by the users. The IC693ALG442 Combination Module consumes 95 milliamps of current from an internal +5 Volts power supply and it consumers 129 milliamps of current from an external user supply. The 20-terminal connector block that can be found on the front face of the module makes the field wiring easy. If it receives a value that is outside of its range, it converts that value into the nearest valid value to send it to the ADC. Both outputs are set to the standard operating mode by default.