GE Series 90-30 Series Service Manual

IC693ALG220

1. Description

The IC693ALG220 is an analog input module that is part of the Series 90-30 platform, currently under Emerson Automation, formerly produced by GE Fanuc. This module has Four (4) voltage input channels, accepting +/-10 VDC, input signal. This module has built-in ADC converter that translates data to digital equivalent with resolution of 5 mV/20 µA, (1 LSB = 5 mV) with update rate of 4 ms

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Series 90-30**
Manufacturer	**GE Fanuc**
Manufacturer	**GE Fanuc (Former); Emerson Automation (Current)**
Part	**Number IC693ALG220**
Series	**Series 90-30**
Part	**Number IC693ALG220**
Module	**Type Input Module**
Product	**Description Analog input module**
Input	**signals: +/-10 VDC**
Number	**of Inputs 4**
No	**of Channels Four (4)**
Converter	**Resolution: 12-bit**
Product	**Type channel analog voltage module**
Input	**signals -10 to +10 VDC**
Digital	**resolution 5 mV/20 µA, (1 LSB = 5 mV)**
Compatible	**Components PLCs**
Digital	**Resolution 12 bits, typical**
Absolute	**Accuracy Typical: +/-10 mV/40 µA Maximum is +/-30 mV/160 µA**
Voltage	**Range â□□10 to +10 Volts**
Analog	**resolution 5 mV/20 µA, (1 LSB = 5 mV)**
Power	**consumption 27 mA from +5 volt bus on the backplane; 98 mA from the isolated +24 volt backplane bus**
Isolation	**1500 VAC**
Linearity	**< 1 Least Significant Bit**
Mounting	**Location I/O slot of Series 90-30 Baseplate**
Cross-Channel	**Rejection > 80 db**
Update	**Rate 4 ms**
Input	**Filter Response 17 Hz**
Calibration	**Factory Calibrated**
Ab	

3. Product Information

The IC693ALG220 is an analog input module that is part of the Series 90-30 platform, currently under Emerson Automation, formerly produced by GE Fanuc. This module has Four (4) voltage input channels, accepting +/-10 VDC, input signal. This module has built-in ADC converter that translates data to digital equivalent with resolution of 5 mV/20 µA, (1 LSB = 5 mV) with update rate of 4 ms

Technical specifications for IC693ALG220

Brand GE Fanuc

Series Series 90-30

Manufacturer GE Fanuc

Manufacturer GE Fanuc (Former); Emerson Automation (Current)

Part Number IC693ALG220

Series Series 90-30

Part Number IC693ALG220

Module Type Input Module

Product Description Analog input module

Input signals: +/-10 VDC

Number of Inputs 4

No of Channels Four (4)

Converter Resolution: 12-bit

Product Type channel analog voltage module

Input signals -10 to +10 VDC

Digital resolution 5 mV/20 µA, (1 LSB = 5 mV)

Compatible Components PLCs

Digital Resolution 12 bits, typical

Absolute Accuracy Typical: +/-10 mV/40 µA Maximum is +/-30 mV/160 µA

Voltage Range â□□10 to +10 Volts

Analog resolution 5 mV/20 µA, (1 LSB = 5 mV)

Power consumption 27 mA from +5 volt bus on the backplane; 98 mA from the isolated +24 volt backplane bus

Isolation 1500 VAC

Linearity < 1 Least Significant Bit

Mounting Location I/O slot of Series 90-30 Baseplate

Cross-Channel Rejection > 80 db

Update Rate 4 ms

Input Filter Response 17 Hz

Calibration Factory Calibrated

Absolute Accuracy Typical: ±10 mV/40 µA over operating temperature; Maximum: ±30 mV/160 µA over operating temperature.

Input Filter Response 17 Hz

Bus Current draw 27 mA from +5 volt bus on the backplane; 98 mA from the isolated +24 volt backplane bus

Product Lifecycle Status Discontinued/Obsolete

The IC693ALG220 is a Series 90-30 module that is formerly manufactured by GE Fanuc, currently under Emerson Automation. This module mainly functions as analog input module, compatible with input signal range of - 10 VDC to + 10 VDC. This module is optionally compatible with 0-20 mA signals which can be enabled by installing a 250 Ohm to the module's user terminal connector. The IC693ALG220 is installed with Analog to Digital Converter (ADC) with conversion resolution of 12 bits for voltage input; 10 bits for current input which can be increased to 11 bit with the use of a precision resistor. Each channel of the module has individual update rate of 4 ms while the module is powered by the 24VDC provided by the PLC power supply. It has a backplane current consumption of 27 mA from +5 volt bus on the backplane and 98 mA from the isolated +24 volt backplane bus. It is mounted to any available I/O slot of the 5 or 10 slot Series 90-30 baseplate and occupies a single slot of the rack. The IC693ALG220 has typical absolute accuracy of +/-10 mV/40 µA while the maximum is +/-30 mV/160 µA over operating temperature. It has linearity of # 1 Least Significant Bit (LSB), input filter response of 17 Hz, module isolation of 1500 volts between field side and logic side, cross channel rejection of > 80 db and input impedance of > 9 Megohms in voltage mode and 250 ohms when operating at current mode.

The IC693ALG220 module is an analog input module by GE Fanuc, which is part of the Series 90-30. This input module, which is a component of programmable logic controller (PLC), comes with 4 input channels. Each channel can easily convert an analog signal to a digital signal, according to the user application requirements. Additionally, the GE Fanuc IC693ALG220 CAV input module allows the users to convert input signals ranging from -10 to +10 Volts. The conversion speed for every channel is around 1 millisecond. Thus, the IC693ALG220 input module provides an update rate for around 4 milliseconds for any channel at a time. The converted signal has resolution of 12 bits binary. The GE Fanuc IC693ALG220 input module comes equipped with a limited current input mode, as well as a jumper on each channel's user terminal connector. Users can use the jumper to connect an internal 250 ohm shunt resistor to the circuit. This shunt resister allows for an input range of -40 to +40 milliamps. However, it is essential for the users to monitor the input current constantly to prevent the input resistor from self-heating, because this could affect the current accuracy negatively. The main power supply of the GE Fanuc IC693ALG220 CAV input module is an isolated +24 Volts DC power supply, which is supplied through a PLC power supply. The voltage is sent through a regulator/inverter to produce the required voltage for the IC693ALG220 module to operate. The IC693ALG220 input module comes with an LED which shows the users its operation status.