GE Series 90-30 Series Service Manual

IC693ALG221

1. Description

The GE Fanuc IC693ALG221 is a Series 90-30 module. This module is an analog current input module featuring Four (4) Single-ended input channels, receiving 0-20 mA and 4-20 mA input signals. This module has a resolution of 12-bit, and absolute accuracy of 0.1% full scale + 0.1% reading.

2. Specifications

Specification	Value
Accuracy	**0.1 % full scale**
Isolation	**1500 Volts RMS field to the logic side**
Part	**Number IC693ALG221**
Series	**Series 90-30**
Brand	**GE Fanuc**
Product	**Lifecycle Status* Discontinued/Obsolete**
Product	**Description Analog Current Input**
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No	**of Channels 4**
Range	**4-20 mA, 0-20 mA**
Update	**Rate 2 ms all channels**
Resolution	**at 4-20 mA 4 microamps**
Resolution	**at 0-20 mA 5 microamps**
Input	**Impedance 250 ohms**
Input	**Filter Response 325 Hertz**
Internal	**Power Consumption 25 mA at 5 VDC, 100 mA at 24 VDC Isolated**
The	**IC693ALG221 is an analog input module that is part of the Series 90-30 Programmable Logic Control (PLC) system. This module is a component module that functions as an analog input module. This module features Four (4) input channels, receiving 0-20 mA and 4-20 mA input signals from field devices and instruments. This module is equipped with an internal Analog to Digital converter (ADC) which enable the PLC to process and further condition the signal for use in the**

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Technical specifications for IC693ALG221

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The IC693ALG221 has input resolution of 12-bit with each input range having a resolution of 4 µA (1 LSB = 4 µA) for 4-20 mA input signal and 5 µA (1 LSB = 5 µA) for 0-20 mA input signal. It has an absolute accuracy of 0.1% full scale + 0.1% reading with common mode voltage of 200V. Additionally, this module has linearity of < 1 Least Significant Bit and input filter response of 325 Hz.

The IC693ALG221 default channel setting is 4-20 mA. When a 4-20 mA signal is received, the module internally converts the signal range to 0-32000, a unitless measurement representing the value of the input register. 0 corresponds to 4 mA while 32000 corresponds to 20 mA. Values in between is also represented within the register, with measurement point dictated by module’s resolution. This internal conversion also applies to 0-20 mA input range. Input signal type selected is hardware configured via shorting specific terminals in the module’s removable terminal block. To range jumpers are provided, one for channels one and two, and the other for channels three and four.

The IC693ALG221 4-Channel Analog Current Input Module is suitable to install in almost any I/O rack in a PLC system. In order to supply the operating voltage to the module, the voltage from the power supply is sent through regulator/inverter. Make sure to wire all the field connections by using graded, twisted cables for minimizing the noise and the capacitive loading. The isolated +24 Volts DC power which is supplied by the PLC is the main power source of the module. The IC693ALG221 4-Channel Analog Current Input Module offers electrical isolation as well as optical isolation between the field wiring and the backplane for eliminating externally generated noises. It is recommended to consider the total load requirements of the module as well as the load capacity of the power supply before configuring the module for the application.