GE Field Control Series Service Manual

IC670ALG630

1. Description

Thermocouple, 8 Channel Module ALG630 GE Fanuc Field Control PLC IC670A IC670AL IC670ALG

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Field Control**
Part	**Number IC670ALG630**
Number	**of Channels 8**
Thermocouple	**Types J, K, T, E, S R, B, N, G, C, D, Platinel II**
Spans	**(+/â□□) 19.5mV, 39mV, 78.125mV, 156.25mV, 312.5mV, 625mV**
Converter	**Resolution 15 bits + sign**
Temperature	**Sensitivity (0 to 60 degrees Celsius) +/â□□0.004% of reading, +/â□□1.5mV per Celsius referred to input**
Maximum	**Voltage Between Channels 250 VAC**
Current	**Drawn from BIU Power Supply 195 mA maximum**
Fault	**Detection Open Thermocouple, over/under range, and high/low alarm**
Description	
The	**GE Fanuc IC670ALG630 Field Control Module is specialized to receive voltage signals in the order of millivolts coming from thermocouple sensors. The IC670ALG630 Analog Input Module for thermocouples can receive up to 8 independent input signals using 8 customizable channels to handle temperature changes in the order of one tenth of a degree (Fahrenheit or Celsius). Up to 8 GE Fanuc IC670ALG630 Thermocouple Input Modules can be linked to a GE Fanuc BIU (Bus I**

3. Product Information

Thermocouple, 8 Channel Module ALG630 GE Fanuc Field Control PLC IC670A IC670AL IC670ALG

The IC670ALG630 Thermocouple Input Module is an 8-input, self-calibrated analog input module designed by GE Fanuc in the Versamax series. It is a microprocessor-based thermocouple input module that receives the thermocouple signal from the 8 isolated inputs to convert it into a digital form. The complete I/O data exchange process is handled by the bus interface module. At each power up, the module performs A/D calibration on itself. The data type which is used by the thermocouple input module is the word data type. It has 8 words of analog input data and 8 words of analog output data. The IC670ALG630 Thermocouple Input Module draws 195 milliamps of maximum current from the BIU power supply. The IC670ALG630 Thermocouple Input Module supports a variety of thermocouple types including the J, K, T, E, S, R, B, N, G, C, D, and type Platinel II thermocouples. It has an optically-coupled multiplexer circuitry which has the responsibility of extracting analog signal readings in order to send them to the analog to digital converter. The analog voltage value is converted into a binary value. The thermocouple inputs of the IC670ALG630 Module can be configured individually to report sensor readings as temperature or millivolt readings. Some of the features of the module include 2 data acquisition rates, configurable high/low alarm levels, millivolt ranges, and a single indicator LED. It can be wired directly to the I/O terminal block where it is installed. It can also perform a variety of diagnostics to provide diagnostic data to the bus interface unit for quick error detection. It can also detect faults such as an open thermocouple, over/under range, and high/low alarm faults. The GE Fanuc IC670ALG630 Thermocouple Input Module allows for the connection of 8 temperature signals for the intelligent processing of those signals by a Genius PLC. Because up to 8 of these modules can be connected to a single BIU, this gives it the capability to process 64 independent thermocouple signals automatically according to the final user’s control algorithm.Technical specifications for IC670ALG630

Brand GE Fanuc

Series Field Control

Part Number IC670ALG630

Number of Channels 8

Thermocouple Types J, K, T, E, S R, B, N, G, C, D, Platinel II

Spans (+/â□□) 19.5mV, 39mV, 78.125mV, 156.25mV, 312.5mV, 625mV

Converter Resolution 15 bits + sign

Temperature Sensitivity (0 to 60 degrees Celsius) +/â□□0.004% of reading, +/â□□1.5mV per Celsius referred to input

Maximum Voltage Between Channels 250 VAC

Current Drawn from BIU Power Supply 195 mA maximum

Fault Detection Open Thermocouple, over/under range, and high/low alarm

Description

The GE Fanuc IC670ALG630 Field Control Module is specialized to receive voltage signals in the order of millivolts coming from thermocouple sensors. The IC670ALG630 Analog Input Module for thermocouples can receive up to 8 independent input signals using 8 customizable channels to handle temperature changes in the order of one tenth of a degree (Fahrenheit or Celsius). Up to 8 GE Fanuc IC670ALG630 Thermocouple Input Modules can be linked to a GE Fanuc BIU (Bus Interface Unit), making it able to receive and process up to 64 independent temperature measurements in a single, small, and powerful control system. The configuration of the reference parameters of each Field Control module is stored in the BIU and the configuration can be customized by using a proprietary handheld programmer.

Given the open construction of the GE Fanuc Field Control IC670ALG630 Thermocouple Input Module, it is recommended to install it inside a protective enclosure that comes from the factory with an IP 20 protection rating. The operating temperature of the module ranges between 0 degrees Celsius (32 degrees Fahrenheit) and 55 degrees Celsius (131 degrees Fahrenheit), so it is important to keep the devices at a tolerable distance from the sources of heat (or excessive cold) that they are receiving temperature signals from. The GE Fanuc IC670ALG630 Thermocouple Input Module does not require external power to operate, because its power is supplied from the bus interface unit. The module has 1 LED light on the front side that indicates its status. If the LED is on, the module is operating properly, if the LED is off, there is no power to the module, and if the LED blinks, there a system fault.