GE Versamax Series Service Manual

IC200ALG630

1. Description

The IC200ALG630 is a 4-channel Thermocouple / milivolt input module from VersaMax I/O series formerly produced by GE Intelligent Platforms, now under Emerson Automation. This module has Seven (7) input channels that are compatible with Thermocouple sensor type J, K, T, S, and R and millivolt signal ranges of +/-19.5mV, +/-39mV, +/-78.125mV, +/-156.25mV, +/-312.5mV, and +/-625mV.

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**VersaMax**
Manufacturer	**GE Intelligent Platforms (Former); Emerson Automation (Current)**
Part	**Number IC200ALG630**
Part	**Number IC200ALG630**
Description	**Analog input module**
Product	**Description 4-point Thermocouple / milivolt input module**
Channels	**7**
Compatible	**Thermocouple sensors J, K, T, S, and R**
Resolution	**16 bits**
Compatible	**millivolt signals +/-19.5mV, +/-39mV, +/-78.125mV, +/-156.25mV, +/- 312.5mV, and +/-625mV**
Thermocouple	**J, K, T, S, R**
Digital	**Resolution 15 bits plus sign**
Power	**Consumption 125 milliamperes**
Accuracy,	**at 25° C +/-0.2 % on voltage measurement; +/-0.15% on Thermocouple (temperature) measurement**
Update	**Rate 60-70 milliseconds**
Temperature	**sensitivity (0° to 60°C) +/-0.004% of reading; +/-1.5µV per °C referred to input**
Frequency	**50/60 Hertz**
Channel	**update rate approximately 60 ms per channel @ 60 Hz; approximately 70 ms per channel @ 50 Hz**
Temperature	**0-60 degrees Celsius**
Backplane	**current consumption 5V output: 125mA maximum; 3.3V output: 125mA**
Channel	**d**

3. Product Information

The IC200ALG630 is a 4-channel Thermocouple / milivolt input module from VersaMax I/O series formerly produced by GE Intelligent Platforms, now under Emerson Automation. This module has Seven (7) input channels that are compatible with Thermocouple sensor type J, K, T, S, and R and millivolt signal ranges of +/-19.5mV, +/-39mV, +/-78.125mV, +/-156.25mV, +/-312.5mV, and +/-625mV.

Technical specifications for IC200ALG630

Brand GE Fanuc

Series VersaMax

Manufacturer GE Intelligent Platforms (Former); Emerson Automation (Current)

Part Number IC200ALG630

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Description Analog input module

Product Description 4-point Thermocouple / milivolt input module

Channels 7

Compatible Thermocouple sensors J, K, T, S, and R

Resolution 16 bits

Compatible millivolt signals +/-19.5mV, +/-39mV, +/-78.125mV, +/-156.25mV, +/- 312.5mV, and +/-625mV

Thermocouple J, K, T, S, R

Digital Resolution 15 bits plus sign

Power Consumption 125 milliamperes

Accuracy, at 25° C +/–0.2 % on voltage measurement; +/-0.15% on Thermocouple (temperature) measurement

Update Rate 60-70 milliseconds

Temperature sensitivity (0° to 60°C) +/–0.004% of reading; +/–1.5µV per °C referred to input

Frequency 50/60 Hertz

Channel update rate approximately 60 ms per channel @ 60 Hz; approximately 70 ms per channel @ 50 Hz

Temperature 0-60 degrees Celsius

Backplane current consumption 5V output: 125mA maximum; 3.3V output: 125mA

Channel diagnostics Open Thermocouple, over/under range, and high/low alarm, thermistor error

Operating temperature range 0 to 60 Degrees C, ambient

Status LED indicators OK LED

User input to logic (optical) and to frame ground Isolation rating 250VAC continuous; 1500VAC for 1 minute

The IC200ALG630 is a component module of the VersaMax I/O platform that is formerly manufactured by GE Intelligent Platforms (GE IP), now produced by Emerson Automation. This module is specifically used for Temperature measuring requirements or in the integration of non-standard millivolt signals provided by transducers. This module has Seven (7) analog input channels that support direct wiring of a number of Thermocouple sensor types such as J, K, T, S, and R as well as a variety of millivolt signals including +/-19.5mV, +/-39mV, +/-78.125mV, +/-156.25mV, +/-312.5mV, and +/-625mV. The IC200ALG630 comes with signal conversion resolution of 16 bits, provided by the individual Analog to Digital converter (ADC) present at each input channel. In addition, each input channel has scan time of 60 milliseconds per point at 60 Hz and 70 milliseconds per point at 50 Hz; Accuracy of +/- 0.2 % on voltage measurement and +/- 0.15% on Temperature measurement and conformity error of +/–0.3 degree Celsius, or +/–0.5 degree Fahrenheit. Furthermore, each input point of the IC200ALG630 is capable of implementing diagnostics which includes Open Thermocouple, over/under range, and high/low alarm, and thermistor error. | The IC200ALG630 has backplane current consumption of 125 mA on both 5 VDC and 3.3 VDC output of the backplane. It also has optical isolation and frame to ground isolation rating of 250 VAC for continuous and 1500 VAC for 1 minute voltage duration. LED status indicator is also provided with this module specifically an OK LED which indicates active backplane power when lit Green and Amber when module is faulted.

The IC200ALG630 module is a 16-bit analog input module by GE. It is an industrial module made for handling a variety of application demands. It comes with a 16-bit thermocouple with 7 channels. This thermocouple analog input module takes in power from the backplane power supply. It provides 4 choices for cold junction compensation which are no cold junction, remote cold junction, fixed cold junction, and local cold junction compensation. It has a voltage rating of 5 Volts DC. It supports different thermocouples that are Type J, K, T, S, and R. The IC200ALG630 module is able to consume a total of 125 milliamps of current from the 5 Volts bus. The update rate of the analog module is 60 milliseconds for a frequency of 60 Hertz, and it is 70 milliseconds for 50 Hertz. The front of the module has a OK LED indicator to show if the backplane power is present or not. The IC200ALG630 module has a compact design and this design saves panel space. It has dimensions of 4.3 inches in width, 2.63 inches in height, and 1.95 inches in depth. The temperature range should be set between 0 and 60 degrees Celsius. This thermocouple module comes with advanced diagnostics features. It can give out alarm reports for a specific channel. It can also detect over range and under range situations in an input. Faults caused by the thermistor can be easily detected by the module as internal faults. The module does not experience thermal derating. The IC200ALG630 module uses shielded twisted pair cables for connections.