GE Genius I-O Series Service Manual

IC660EBA024

1. Description

GENIUS Electronic Assembly for BBA024 24/48VDCRTD Anal (EBA Only) IC660 IC660E IC660EBA The IC660EBA024 is a component of the Genius Block I/O module from GE Fanuc Automation now under Emerson Automation. This component is an electronic assembly that is used to form a Genius I/O module, particularly paired with IC660TBA024terminal base to form the IC660BBA024, 24 / 48 VDC combination analog input, and output Block. Technical specifications for IC660EBA024

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Genius I-O**
Manufacturer	**GE Fanuc / Emerson Automation**
Part	**Number IC660EBA024**
Series	**Block I/O**
Description	**Genius I/O Block Electronic Assembly**
Part	**Number IC660EBA024**
Application	**Genius I/O Block System**
Product	**Description Electronics Assembly**
Operating	**Voltage 18 to 56 Volts DC**
Compatible	**Module IC660BBA024 Four (4) input and Two (2) output combination analog I/O module**
Power	**Rating 12.0 Watts**
Compatible	**Terminal base IC660TBA024**
Input	**Type 4 Isolated Source-Type Inputs**
Nominal	**Operating voltage 24 / 48 VDC**
Output	**Type 2 Analog Outputs**
Supply	**voltage range 18-56 VDC**
Input	**Signal Range 4 to 24 Milliamps**
Block	**to Block isolation 1500 V for 1 minute**
Channel	**to Channel Isolation 1500 Volts RMS**
Group	**to group isolation 300V rms**
LED	**2 LEDs**
Operating	**Temperature 0 Degree to 60 Degree Celsius**
Storage	**temperature of -40 Degree Celsius to 100 Degree Celsius**
5-95%	**non-condensing Operating vibration**
5-10	**Hz, 2” or 5.088 displacement Product lifecycle Description**
The	**IC660EB**

3. Product Information

GENIUS Electronic Assembly for BBA024 24/48VDCRTD Anal (EBA Only) IC660 IC660E IC660EBA The IC660EBA024 is a component of the Genius Block I/O module from GE Fanuc Automation now under Emerson Automation. This component is an electronic assembly that is used to form a Genius I/O module, particularly paired with IC660TBA024terminal base to form the IC660BBA024, 24 / 48 VDC combination analog input, and output Block. Technical specifications for IC660EBA024

Brand GE Fanuc

Series Genius I-O

Manufacturer GE Fanuc / Emerson Automation

Part Number IC660EBA024

Series Block I/O

Description Genius I/O Block Electronic Assembly

Part Number IC660EBA024

Application Genius I/O Block System

Product Description Electronics Assembly

Operating Voltage 18 to 56 Volts DC

Compatible Module IC660BBA024 Four (4) input and Two (2) output combination analog I/O module

Power Rating 12.0 Watts

Compatible Terminal base IC660TBA024

Input Type 4 Isolated Source-Type Inputs

Nominal Operating voltage 24 / 48 VDC

Output Type 2 Analog Outputs

Supply voltage range 18-56 VDC

Input Signal Range 4 to 24 Milliamps

Block to Block isolation 1500 V for 1 minute

Channel to Channel Isolation 1500 Volts RMS

Group to group isolation 300V rms

LED 2 LEDs

Operating Temperature 0 Degree to 60 Degree Celsius

Storage temperature of -40 Degree Celsius to 100 Degree Celsius

5-95% non-condensing Operating vibration

5-10 Hz, 2” or 5.088 displacement Product lifecycle Description

The IC660EBA024 is an Electronics assembly that is a component part of the Four (4) channel, Two (2) output combination analog I/O modules formerly by GE Fanuc Automation, now by Emerson Automation. This component belongs to the Genius I/O block series and requires the use of other components to form the functional analog module specifically, the IC660TBA024 terminal base and IC660BBA024, 24 / 48 VDC combination analog input, and output Block. The IC660EBA024 hosts a variety of electronic circuits such as the Analog to Digital Converter (ADC) with a 16-bit resolution that is used by the analog input channels; 12-bit Digital to Analog Converter (DAC) utilized by the analog output channels; Internal current controller, current sensor, input filter, isolation circuits, and internal signal amplifiers. These circuitries provide module functionality and signal conditioning. Additional pair of ADC circuits are included that are intended to check the output channels after the programmable filter. The circuit will sense fault conditions and alert the module if the feedback from the channel pair does not match the commanded 250 µA value. The IC660EBA024 is also responsible for the module’s connection to the backplane. The IC660EBA024 is intended for offline installation as module assembly is not permitted when the unit is actively supplied with power. Additionally, with the module’s modular assembly, maintenance and troubleshooting including component replacement are made much easier as wire connections do not need to be removed and components easily snap and fasten to each other. With this, downtime is lessened and troubleshooting time is effectively lowered.

The GE Fanuc IC660EBA024 Genius I/O Block is an electronics assembly for the Genius I/O current source analog I/O blocks. The current source analog I/O block provides an interface between a controller and field devices that send or accept 4 milliAmps to 20 milliAmps rated analog signals. The IC660EBA024 Electronics Assembly has 4 isolated 4 to 20 milliAmps rated current sourcing inputs that each have a 24 Volts rated current loop power supply, and 2 outputs that control 2 of the 4 to 24 milliAmps rated current loops. The IC660EBA024 Electronics Assembly has an operating voltage range of 18 Volts DC to 56 Volts DC, with 600 milliAmps of operating current and a maximum power rating of 12.0 Watts. The IC660EBA024 Electronics Assembly inputs have up to 1500 Volts of group to group isolation, and the output channels and the Bus Switching Module (BSM) common are isolated from the inputs. The IC660EBA024 Electronics Assembly has an input resolution of 1microamp and an accuracy of 0.1% of the full-scale reading at 25 degrees Celsius. Each input channel has a signal range of 4 to 24 milliamps and an over-range value of 0 to 25 milliamps. It has a user-selectable input conversion time (16.6 to 400 milliseconds) and an input impedance of 100 Ohms. The IC660EBA024 Electronics Assembly has 2 output channels with 6.0 microamps of resolution and 0.15% of the full-scale reading output accuracy at 25 degrees Celsius. Each output channel has a signal range of 4 to 24 milliamps and an adjustable update time of 6 to 8 milliseconds. The IC660EBA024 Electronics Assembly is software configurable and it offers advanced diagnostics features including open wire detection, low and high input alarm detection, under range/over-range detection, feedback error detection, and internal fault reporting diagnostics.