GE Genius I-O Series Service Manual

IC660EBD020

1. Description

GENIUS Electronic Assembly for BBD020 (EBD Only) 24/48Vdc Source IC660E IC660EB IC660EBD The IC660EBD020 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 IC660TSD020 terminal base and IC660BBD020, 24 / 48 VDC 16-channel combination discrete input and output Block. Technical specifications for IC660EBD020

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Genius I-O**
Manufacturer	**GE Fanuc / Emerson Automation**
Part	**Number IC660EBD020**
Series	**Block I/O**
Type	**Electronic Assembly**
Part	**Number IC660EBD020**
Main	**Equipment Analog output block**
Product	**Description Electronics Assembly**
Power	**Supply Voltage 18-56V DC**
Compatible	**Module IC660BBA024 Four (4) input and Two (2) output combination analog I/O module**
Ripple	**10% max.**
Compatible	**Terminal base IC660TSD020**
Required	**DC Power 150 mA and 300 mA maximum**
Nominal	**input voltage 24 VDC**
Heat	**Dissipation 68.8 Watts**
Input	**voltage range 18-56 VDC**
Block	**to Block Isolation 1500 V**
No.	**of discrete inputs Sixteen (16)**
Thermal	**Drift 70 PPM per degrees Celsius**
No.	**of Discrete outputs Sixteen (16)**
Diagnostics	**Yes**
Operating	**Temperature 0 Degree to 60 Degree Celsius**
Operating	**Temperature 0-60 degrees 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	**IC660EBD020 is the**

3. Product Information

GENIUS Electronic Assembly for BBD020 (EBD Only) 24/48Vdc Source IC660E IC660EB IC660EBD The IC660EBD020 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 IC660TSD020 terminal base and IC660BBD020, 24 / 48 VDC 16-channel combination discrete input and output Block. Technical specifications for IC660EBD020

Brand GE Fanuc

Series Genius I-O

Manufacturer GE Fanuc / Emerson Automation

Part Number IC660EBD020

Series Block I/O

Type Electronic Assembly

Part Number IC660EBD020

Main Equipment Analog output block

Product Description Electronics Assembly

Power Supply Voltage 18-56V DC

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

Ripple 10% max.

Compatible Terminal base IC660TSD020

Required DC Power 150 mA and 300 mA maximum

Nominal input voltage 24 VDC

Heat Dissipation 68.8 Watts

Input voltage range 18-56 VDC

Block to Block Isolation 1500 V

No. of discrete inputs Sixteen (16)

Thermal Drift 70 PPM per degrees Celsius

No. of Discrete outputs Sixteen (16)

Diagnostics Yes

Operating Temperature 0 Degree to 60 Degree Celsius

Operating Temperature 0-60 degrees 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 IC660EBD020 is the electronics assembly that is used with the IC660TSD020 terminal base to form the Genius I/O 16-channel, 24/48 VDC Discrete Input, and Output I/O block. These components were formerly manufactured by GE Fanuc Automation now under Emerson Automation. The IC660EBD020 contains the electronic circuitry that is used to process the field voltage signals forwarded to the module’s channels. This electronics assembly contains the RC snubber circuits, smart switch, and Light Emitting Diode (LED) for indication of channel state. It also provided connectivity to the backplane where power is drawn and data exchange to the partner controller is implemented. The IC660EBD020 provides Sixteen (16) discrete input channels that are designed to enter ON state at input voltage signal range of 16-24 VDC at processing speed of 1.7 ms plus the configured signal delay. Conversely, the output channels are capable of generating 2 Amperes per circuit with a maximum inrush current of 10 Amperes at 10 ms duration. The total output current that the I/O block generates is 15 Amperes at 35 Degree Celsius while the maximum switching frequency is once per second. Input diagnostics available include Open wire, Overtemperature, and Failed switch detection while output diagnostics include Short circuit, Overload, No Load, failed switch, and Overtemperature. The electronics assembly has an operating temperature requirement of 0 to 60 Degree Celsius, the Storage temperature of -40 Degree Celsius to 100 Degree Celsius with relative Humidity of 5-95%, non-condensing. The IC660EBD020 operating vibration is5-10 Hz, with an acceptable displacement of up to 2” or 5.088.

The IC660EBD020 is the electronics assembly for the IC660BBD022 circuit source I/O block. Both of these parts have been designed by GE Fanuc Automation and included in the Genius series of GE I/O blocks. This specific model includes 16 discrete inputs and outputs. This block can be used with 2 different kinds of sensors such as 3-wire solid-state sensors and electromechanical sensors. This block can provide and receive currents from these specific output devices. The GE Fanuc Automation IC660EBD020 electronics assembly includes all the circuitry and electronic components of the block. The circuits existent in the block can be configured as inputs, tristate inputs, or outputs, depending on the requirements of the applications at hand. The GE Fanuc Automation IC660EBD020 electronics assembly comes with configurable features that help improve I/O block operations. For example, it provides an output pulse test capability and a selectable input filter time. Other features are a CPU redundancy and a hold last state feature for the outputs. The input processing time for this block is 5600 Ohms. The GE Fanuc Automation IC660EBD020 electronics assembly is compatible with a Genius bus controller, PCIM and QBIM modules, and with Genius handheld monitor. It operates with a voltage range of 18 to 56 Volts DC and has a maximum ripple of 10 percent. The block has a required DC power of 150 milliamps typical and 300 milliamps maximum. It can be used in an environment with a maximum temperature of 60 degrees Celsius. The block has a heat dissipation rating of 68.8 Watts and a block to block isolation of 1500 Volts.