GE Genius I-O Series Service Manual

IC660EBD110

1. Description

The GE Fanuc IC660EBD110 Genius I/O Electronic Assembly Block is a 16-circuit discrete I/O block that has been designed for the GE Genius I/O control system. The IC660EBD110 Electronic Assembly, like all Genius I/O devices, offers a microprocessor-configured interface to 115 Volts AC-rated discrete input sensors. The IC660EBD110 Electronic Assembly provides sixteen 115 Volt AC input circuits that are arranged in 2 banks of 8 inputs each, and each input terminal comes with a contact closure type

2. Specifications

Specification	Value
Brand	**GE Intelligent Platforms/GE Fanuc**
Series	**Genius I-O**
Manufacturer	**GE Fanuc / Emerson Automation**
Part	**Number IC660EBD110**
Series	**Block I/O**
Part	**Number IC660EBD110**
Product	**Line Genius I/O**
Product	**Description Electronics Assembly**
Product	**Type Electronic Assembly**
Compatible	**Module IC660BBD110 Sixteen (16) input channels**
Size	**8.83 x 3.50 x 3.94 Inches**
Compatible	**Terminal base IC660TBD110**
Weight	**4 lbs**
Nominal	**input voltage 115 VAC**
Input	**to Ground Isolation 1500 V**
Input	**voltage range 93-132 VAC**
Input	**Current 5 A**
No.	**of discrete inputs Sixteen (16)**
Heat	**Dissipation 28 W max. with 16 inputs ON at full current**
Frequency	**47-63 Hz**
Operating	**Voltage 93 to 132 V AC**
Storage	**temperature of -40 Degree Celsius to 100 Degree Celsius**
Frequency	**47 - 63 Hertz**
5-95%	**non-condensing Operating vibration**
Required	**Power 8 mA block current/200 mA circuit current**
5-10	**Hz, 2” or 5.088 displacement Product lifecycle**
Operating	**Temperature 0 Degree to 60 Degree Celsius**
discontinued	
Storage	**Temperature -40 to 100 de**

3. Product Information

The GE Fanuc IC660EBD110 Genius I/O Electronic Assembly Block is a 16-circuit discrete I/O block that has been designed for the GE Genius I/O control system. The IC660EBD110 Electronic Assembly, like all Genius I/O devices, offers a microprocessor-configured interface to 115 Volts AC-rated discrete input sensors. The IC660EBD110 Electronic Assembly provides sixteen 115 Volt AC input circuits that are arranged in 2 banks of 8 inputs each, and each input terminal comes with a contact closure type that supports wiring to switches, pushbuttons, or limit switches. The IC660EBD110 Electronic Assembly is designed to support both 2-wire and 3-wire proximity switch inputs, and its control power is supplied by the same line power that supplies every input, thereby eliminating the need for an additional power supply.

The IC660EBD110 Electronic Assembly offers built-in configurable fault detection features that are capable of detecting open-wire and shorted wire faults within the block's circuitry and it also offers programmable thresholds that can extend these built-in diagnostic features (open-wire and shorted wire faults) to circuits with a wide range of sensors and input devices. Each of the IC660EBD110 Electronic Assembly's input groups has a separate ON/OFF threshold that can be programmed anywhere between 25% and 85% of the incoming line voltage, thus extending its use with a wide range of input sensors. Additionally, every input can be programmed to detect short circuit faults at 10% to 90% of the incoming line voltage. The IC660EBD110 Electronic Assembly is supplied as an assembly consisting of a 16-point input block (the IC66-BBD110) and a terminal (the IC66-TBD110), which provides a simplified wiring base for all of the block's wiring. The IC660EBD110 Electronic Assembly has an operating voltage range of 93 to 132 Volts AC (at 47 to 63 Hertz) and a maximum block current of 80 milliamps. The IC660EBD110 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 IC660TBD110 terminal base to form the IC660BBD110, 93-132 VAC 16-channel discrete input Block. Technical specifications for IC660EBD110

Brand GE Intelligent Platforms/GE Fanuc

Series Genius I-O

Manufacturer GE Fanuc / Emerson Automation

Part Number IC660EBD110

Series Block I/O

Part Number IC660EBD110

Product Line Genius I/O

Product Description Electronics Assembly

Product Type Electronic Assembly

Compatible Module IC660BBD110 Sixteen (16) input channels

Size 8.83 x 3.50 x 3.94 Inches

Compatible Terminal base IC660TBD110

Weight 4 lbs

Nominal input voltage 115 VAC

Input to Ground Isolation 1500 V

Input voltage range 93-132 VAC

Input Current 5 A

No. of discrete inputs Sixteen (16)

Heat Dissipation 28 W max. with 16 inputs ON at full current

Frequency 47-63 Hz

Operating Voltage 93 to 132 V AC

Storage temperature of -40 Degree Celsius to 100 Degree Celsius

Frequency 47 - 63 Hertz

5-95% non-condensing Operating vibration

Required Power 8 mA block current/200 mA circuit current

5-10 Hz, 2" or 5.088 displacement Product lifecycle

Operating Temperature 0 Degree to 60 Degree Celsius

discontinued

Storage Temperature -40 to 100 degrees Celsius

Non-Condensing Humidity 5 to 95 percent Description

The IC660EBD110 is an electronics assembly that is a component of the IC660BBD110 Sixteen (16) point, 93-132 VAC discrete input module. This electronics assembly is formerly manufactured by GE Fanuc Automation however, recently acquired by Emerson Automation. Being an electronics assembly, this component hosts the necessary circuitry to enable discrete input capabilities. The IC660EBD110 specifically hosts the voltage sensing circuits, Resistor / Capacitor network, and isolation circuits for both inputs and outputs. It is paired with the terminal base that provides input signal termination points. The compatible terminal base for use with this electronics assembly is IC660TBD110. The IC660EBD110 features Sixteen (16) discrete input channels that accept input signal voltage ranges of 93-132 VAC, 47-63 Hz. The module's input to the ground or serial bus isolation is rated at 1500 V. This electronic assembly is capable of detecting input open and shorted wire which is reported to the CPU and indicated locally via the Unit OK LED. Additionally, this electronic assembly has I/O Enabled LED and 16 individual LEDs that represent each input channel. The input channels have a typical processing time of 1 ms with an added delay caused by the configured filter times such as 10 to 100 ms which can be configured in 10 ms increments. The IC660EBD110 has an operating temperature of 0 to 60 Degree Celsius; Storage temperature of -40 to 100 Degree Celsius; Relative humidity of 5-95% non-condensing and operating vibration of 5-10 Hz, 2" or 5.088 displacements. The electronics assembly must be installed when power is not present in the device as this assembly does not support Removal and Insertion Under Power (RIUP).

The IC660EBD110 electronics assembly is an electronics assembly with 16 circuits that are inputs only, and GE Fanuc manufactures it as part of the Genius I/O device series. It has an operating voltage range of 93 to 132 volts AC, a heat dissipation rating of 28 Watts maximum with all 16 inputs powered on and with the full current applied. The electronics assembly has a frequency range of 47 to 63 Hertz and the required power for the electronics assembly only is 80 milliamps of maximum device current and it is another 200 milliamps of maximum input circuit current. Other notable specifications include an input to ground isolation rating of 1500 Volts, a terminal board rating of 5 Amps, and an LED on each circuit to show the state of the input of the logic side. The GE Fanuc IC660EBD110 electronics assembly weighs approximately 1.8 kilograms and measures 8.83 x 3.50 x 3.94 inches. It also

features an operating temperature range of 0 to 60 degrees Celsius and a storage temperature range of -40 to 100 degrees Celsius and a non-condensing tolerable humidity range of 5 to 95 percent. The IC660EBD110 electronics assembly has a resistive input circuitry, and the resistive load is adequate to activate 2-wire proximity switch devices. The block has an input resistance of 11.6 kiloohms that offer a preload current of 9.9 milliamps at a voltage rating of 115 Volts. Each circuit of the IC660EBD110 electronics assembly has its LED indicator, which shows the presence of on and off threshold voltage. This electronics assembly uses 16 input references with the value 1 in the bit, indicating that the input is at or above the configured threshold voltage.