GE Genius I-O Series Service Manual

IC660BBD101

1. Description

IC660BBD101 is a GE Fanuc Low Leakage Input/Output Block that comes with eight discrete points/circuits and delivers 115 Volts AC. The input, as well the as operating voltage range, is between 93-132 Volts AC with a load current of 2 Amps. Each of its eight circuits can be configured for either input or output. The I/O block links multiple discrete sensors/actuators and a communication bus. The block can accommodate high input impedance. A fuse shuts down output current in the circuit if it goes

2. Specifications

Specification	Value
Manufacturer	**Emerson Automation / GE Fanuc (formerly)**
Series	**Genius I/O**
Part	**Number IC660BBD101**
Part	**Number IC660BBD101**
Product	**Description Source Block I/O**
Product	**Type Discrete I/O Block**
No.	**of I/O 8**
Number	**of Circuits 8**
Points	**per common One group of 8**
Fuse	**Protection Supported**
Nominal	**voltage 115 VAC**
Voltage	**Type AC**
Communication	**protocol Genius Protocol**
Operating	**Voltage 93-132 VAC**
Input	**Response time 2msec plus configurable filter;**
Frequency	**47 to 63 Hertz**
Output	**response time Zero crossing**
Dimensions	**8.8 x 3.3 x 3.9 inches**
Filter	**time 10 to 100mS**
Block	**to Block Isolation 1500V for one minute**
LEDs	**(I/O Block) Unit OK, I/O Enabled**
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3. Product Information

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The I/O block comes with features such as input filters with selectable filter times ranging from 10ms -100ms, module control for bus switching, output feedback for voltage monitoring, pulse testing for output points, and defaults for output power-up. The IC660BBD101 block comes equipped with salient diagnostics such as voltage overload detection, power-off, and no-load detection.

LED indicators on the I/O block blink to alert the user to errors or faults such as faulty cabling, incorrect baud rate, and improper grounding among others. There is a dedicated LED for each circuit. For an output circuit, an LED, which in ON indicates that a specific circuit has complied with the command issued by the CPU. For an input circuit, however, an ON LED shows that a specific terminal has reached the threshold voltage. Error messages are generated on the handheld monitor, which helps the user attend to the fault promptly and efficiently.

The IC660BBD101 I/O block weighs 4lbs and works with model IC660HHM501 of the handheld monitor and IC693BEM331 bus controller model. During block mounting, the I/O block should be installed in a protective enclosure, which is clean and devoid of any contaminants. Furthermore, there should be adequate cooling space for the block. Mounting can be done right-side up or upside down. The IC660BBD101 is a Genius Block I/O. Previously manufactured by GE Fanuc, this module is now under Emerson Automation. It is an 8-circuit Discrete I/O block with channels configurable as tristate input, non-tristate input and output. It has an operating voltage range of 93-132 VAC with nominal level of 115 VAC. It supports Genius communication protocol, allowing the module to function as a Technical specifications for IC660BBD101

Manufacturer Emerson Automation / GE Fanuc (formerly)

Series Genius I/O

Part Number IC660BBD101

Part Number IC660BBD101

Product Description Source Block I/O

Product Type Discrete I/O Block

No. of I/O 8

Number of Circuits 8

Points per common One group of 8

Fuse Protection Supported

Nominal voltage 115 VAC

Voltage Type AC

Communication protocol Genius Protocol

Operating Voltage 93-132 VAC

Input Response time 2msec plus configurable filter;

Frequency 47 to 63 Hertz

Output response time Zero crossing

Dimensions 8.8 x 3.3 x 3.9 inches

Filter time 10 to 100mS

Block to Block Isolation 1500V for one minute

LEDs (I/O Block) Unit OK, I/O Enabled

Size (HxWxD) 8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)Technical specifications for IC660BBD101

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Size (HxWxD) 8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm) Description

The IC660BBD101 is an Emerson Automation I/O block that is part of the Genius I/O block series. This series of modules are stand-alone, panel mounted devices that are used to interface field devices and actuating elements or electrical loads. It has a compact and rackless design, with each I/O channels configurable for as input and output channels independently. The IC660BBD101 is designed with Eight (8) I/O channels or circuits, that may be operated as input or output. It operates at voltage range of 93-132 VAC, 47-63 Hz with nominal level of 115 VAC. It is provided with Unit OK and I/O enabled LED indicators that serves as module status indicator, providing users operational status. It also has a dedicated LED for each of the circuit for determining the state of the circuit or channel. It has maximum heat dissipation of of 43. 5 Watts and power supply dropout time of 1 cycle or 16.7 ms @ 60 Hz or 20 ms @ 50 Hz. Common parameters of the input channels include selectable filter times of 10 to 100 ms with 10 ms increments and typical input processing time of 2 ms plus channel configured filter. Input channels are capable of self-diagnostics, able to detect Open Wire, Overtemperature or Failed Switch. Module output parameters include steady-state output current of 2 A, maximum inrush current of 25 A peak up to 2 cycles and maximum block output current of 15 A @ 35o and 7.5 A @ 60o. It is included with an electronic short circuit trip and output diagnostics of Short Circuit, Overload, No Load, Failed Switch, and Overtemperature.

The GE Fanuc IC660BBD101 I/O block is a discrete I/O block for the Genius I-O product line from GE Fanuc. It runs on I/O voltage rating of 115 Volts AC. The IC660BBD101 discrete I/O block is a configurable and intelligent device that can act as an interface between a communications bus and discrete devices like discrete actuators or sensors. This I/O block contains 8 circuits that are all identical, all configurable as either inputs or outputs, and all rated at 115 Volts AC voltage. The IC660BBD101 discrete I/O block has several useful features that include an input filter time that is selectable at rates between 10 and 100 milliseconds, output feedback that can be used for monitoring, pulse testing for all the outputs, and bus switching. The GE Fanuc Genius I-O IC660BBD101 discrete I/O block does not need a separate block power supply because its control power comes from the I/O device voltages that are wired to the terminals. Its operating voltage range is from 94 to 132 Volts AC at 47 to 63 Hertz frequency. The IC660BBD101 discrete I/O block weighs 4 pounds and its dimensions are 8.8 x 3.3 x 3.9 inches. All 8 of the circuits on this I/O block are protected by electronic fuses that will shut circuits down within 5 milliseconds either if the output current exceeds 30 Amps when the output is turned on or if the output current exceeds 20 Amps after 2 cycles. The circuits that are shut down can be restored by a command from a CPU or a handheld monitor.