GE Genius I-O Series Service Manual

IC660BBS103

1. Description

The IC660BBS103 is an eight circuit I/O isolated block by GE Fanuc. The block has a rated voltage of 115 VAC or 125 VDC with an input voltage range of between 93 VAC and 132 VAC. Output voltage range varies from 105 to 132 VDC with a load current of two Amps for every output point.

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Genius Block I/O**
Part	**number IC660BBS103**
Module	**type Discrete I/O Block**
No.	**of Circuits Eight (8) circuits**
Input	**Voltage Range, AC 93-132 VAC**
Input	**Voltage Range, DC 105-132VDC**
Nominal	**Input voltage, AC 115VAC**
Nominal	**Input Voltage, DC 125VDC**
Input	**filter 10 to 100ms in 10ms increments**
Turn-On	**delay AC: 0.5 Hz + 1ms, DC: 1ms**
Input	**diagnostics Open Wire, Overtemperature, Loss of I/O Power**
Output	**Diagnostics Short Circuit, Overload, No Load, Overtemperature, Loss of I/O Power**
Output	**Current AC: 2 A RMS, DC: 2A resistive (1A inductive)**
Fusing	**Internal electronic short circuit trip. 100ms (AC), 10ms (DC) long time trip**
Product	**type I/O block**
Circuits	**8**
Failed	**switch diagnostic No**
Circuit	**type Outputs**
Voltage	**rating 115 Volts AC, 125 Volts DC**
Peak	**block output 15 Amps**
Relative	**humidity 5 to 95%**
Operating	**temperature 0 to 60 degrees Celsius Description**
The	**GE Fanuc IC660BBS103 is a Genius I/O block module. This hardware is an intelligent module that features Eight (8) c**

3. Product Information

The IC660BBS103 is an eight circuit I/O isolated block by GE Fanuc. The block has a rated voltage of 115 VAC or 125 VDC with an input voltage range of between 93 VAC and 132 VAC. Output voltage range varies from 105 to 132 VDC with a load current of two Amps for every output point.

The IC660BBS103 block's isolation can withstand a voltage of 250 VAC or VDC between two groups or between a group and a ground. It has a transient rating of 2000V for every 10 seconds. The block can be powered differently from the circuits with power being either AC or DC. The block's control power can be tapped from the voltages of input/output devices which are wired to the terminals. There is electronic fusing for every circuit used for output. The circuit shuts down immediately after five microseconds in the event of a short circuit. The circuit can thereafter be restarted using a handheld monitor or a CPU. Some of the diagnostic checks include detection of sudden shutdowns, voltage overload, overheating, and detection of power loss to the circuits.

During block mounting, it is advisable to mount the block in a protective enclosure, clean and free from contaminants. It can be mounted facing up or down. It is important to leave two inches of space between blocks for ample ventilation. During field wiring, all terminals will accept 1 AWG #12 wire or 2 AWG #14 wires. The minimum wire size recommended is AWG #22. Ring terminals of up to 0.27 inches can be accommodated by the block. The recommended torque for the terminal screws is 0.678 N/M. Operating temperature for IC660BBS103 ranges from 0-60o C with storage temperature being -40o C to 80o C. The GE Fanuc IC660BBS103 is a Genius 8-point discrete I/O block. This I/O block operates at nominal voltages of 115VAC / 125VDC, having Four (4) isolated groups of Two (2) I/O circuits. This module supports Genius Bus protocol, allowing multiple Genius I/O block connection in daisy-chain topology. Technical specifications for IC660BBS103

Brand GE Fanuc

Series Genius Block I/O

Part number IC660BBS103

Module type Discrete I/O Block

No. of Circuits Eight (8) circuits

Input Voltage Range, AC 93-132 VAC

Input Voltage Range, DC 105-132VDC

Nominal Input voltage, AC 115VAC

Nominal Input Voltage, DC 125VDC

Input filter 10 to 100ms in 10ms increments

Turn-On delay AC: 0.5 Hz + 1ms, DC: 1ms

Input diagnostics Open Wire, Overtemperature, Loss of I/O Power

Output Diagnostics Short Circuit, Overload, No Load, Overtemperature, Loss of I/O Power

Output Current AC: 2 A RMS, DC: 2A resistive (1A inductive)

Fusing Internal electronic short circuit trip. 100ms (AC), 10ms (DC) long time trip

Product type I/O block

Circuits 8

Failed switch diagnostic No

Circuit type Outputs

Voltage rating 115 Volts AC, 125 Volts DC

Peak block output 15 Amps

Relative humidity 5 to 95%

Operating temperature 0 to 60 degrees Celsius Description

The GE Fanuc IC660BBS103 is a Genius I/O block module. This hardware is an intelligent module that features Eight (8) circuits that may be operated as input and output channels. It may be operated with AC or DC voltages such as 115 VAC and 125VDC.

The IC660BBS103 features a physical measurement of 8.83" (22.44cm) x 3.34" (8.48cm) x 3.91" (9.93cm) (HxWxD) and weighs 4 lbs. (1.8 kg). It comes with Status LED indicators such as Unit OK and I/O enabled as well as individual LED for each of the module's circuitry. It has a block to block isolation rating of 1500V with Heat dissipation of 16.8W max. with all inputs on and 45.6W max. with all outputs energized at 2 Amperes per circuit. It has an operating voltage of 93-132VAC with frequency of 47-63 Hz and 105-132VDC. It has a power supply dropout time of 1 cycle for when operated at AC voltage and 10 ms when operated at DC voltage.

For input operation, the processing time of is 2ms for AC operation and 0.8 ms for DC operation. Both the processing time are directly affected by the configured filter time of 10 to 100ms in 10ms increments. The input circuitry is capable of detecting Open Wire, Overtemperature, and Loss of I/O power.

For output operation, the output circuitry delivers 2A for AC operation and 2A, resistive and 1A inductive when operated with DC voltage. The turn-On delay of the module is 0.5 Hz + 1ms for AC operation and 1ms for DC operation. The output circuitry is equipped with internal electronic short circuit trip of 100 ms for AC operation and 10 ms for DC operation. Additionally, the output circuitry has internal diagnostics of Short Circuit, Overload, No Load, Overtemperature, and Loss of I/O Power.

The IC660BBS103 output block is a Genius I/O output block with 8 output circuits. The block supports AC and DC voltages. The GE IC660BBS103 output block replaces the older GE IC660BBS101 I/O block. Neither the IC660BBS103 output block nor the IC660BBS101 output block support failed switch diagnostics. The input specifications for the IC660BBS103 output block include 2 milliseconds and 0.8 milliseconds input processing time for AC and DC voltage, respectively, 10 to 100 milliseconds rated input filter times in 10-millisecond increments and input diagnostics including open wire, overtemperature, and I/O loss diagnostics. The input load network is 13 kilohms for resistor to N. The input load network is 0.1 microfarad for capacitor to H. The output specifications of the IC660BBS103 output block include 2 Amps of RMS current for AC voltage and 2 Amps of resistive current for DC voltage, a turn-on delay of 0.5 Hertz plus 1 millisecond for AC voltage and DC voltage, a maximum block output current of 15 Amps and 7.5 Amps at 35 and 60 degrees Celsius, respectively, and internal electronic fusing to protect against short circuits. The vibration rating for the IC660BBS103 output block is 5 to 10 Hertz with 0.2 inches of displacement. The relative humidity level in the environment where the I/O block is installed should be between 5 and 95%, non-condensing. The maximum temperature of the air surrounding the IC660BBS103 should not exceed 60 degrees Celsius. There are 8 output circuits on the IC660BBS103 output block. The outputs are split into 4 isolated groups. The IC660BBS103 output block is rated for 115 Volts AC and 125 Volts DC voltage. Additional diagnostic checks performed by the IC660BBS103 output block include no-load detection, overload shutdown and detection, and overtemperature open wire detection for tristate inputs.