# GE Genius I-O Series Service Manual

IC660BSM021

## 1. Description

The IC660BSM021 is a Genius I/O Bus Switching Module (BSM) used to connect input/output devices to two serial buses simultaneously. IC660BSM021 exists in two versions, the 115 VAC/125 VDC BSM catalogued as IC660BSM120 and the 24/48 VDC BSM catalogued as IC660BSM021. Version IC660BSM021 BSM is capable of connecting a maximum of eight discrete and analog blocks to a dual bus. Version IC660BSM021 is also capable of permitting up to 30 I/O blocks to interface to the same dual bus if additional BSMs

## 2. Specifications

| Specification | Value |
|---|---|
| Brand | **GE Fanuc** |
| Series | **Genius I-O** |
| Part | **Number IC660BSM021** |
| Description | **Genius I/O Bus Switching Module (BSM)** |
| Application | **Genius I/O Serial Bus** |
| Operating | **Voltage 18 to 56 Volts DC** |
| I/O | **Capacity 8 Discrete Analog I/O Blocks** |
| Maximum | **Current Draw 60 Milliamps at 48 Volts DC** |
| Dimension | **3.50 x 2.25 x 2.5 Inches** |
| Switching | **Time Less than 20 Milliseconds** |
| Configuration | **Handheld Monitor or CPU** |
| Minimum | **Reliablity Rating 500,000 Operations  Description** |
| The | **GE Fanuc IC660BSM021 Bus Switching Module (BSM) is a dual bus switching module designed to connect the Genius I/O block devices to dual serial busses simultaneously. This module belongs to the GE Fanuc Genius I/O family, and it offers a reliable serial bus connection and it can provide a backup communication path if there is a bus failure. The IC660BSM021 Bus Switching Module can support connection to a maximum of 8 discrete and analog I/O blocks on a single serial bus, and if the application requires more blocks to be connected, additional BSM modul** |

## 3. Product Information

The IC660BSM021 is a Genius I/O Bus Switching Module (BSM) used to connect input/output devices to two serial buses simultaneously. IC660BSM021 exists in two versions, the 115 VAC/125 VDC BSM catalogued as IC660BSM120 and the 24/48 VDC BSM catalogued as IC660BSM021. Version IC660BSM021 BSM is capable of connecting a maximum of eight discrete and analog blocks to a dual bus. Version IC660BSM021 is also capable of permitting up to 30 I/O blocks to interface to the same dual bus if additional BSMs are used. This type of dual bus configuration provides a backup communications path that can be used in case of bus failure. Each bus from the dual bus pair is coupled with a bus controller or PCIM. The system may also support CPU redundancy if each bus interface module is residing in a different CPU.

The phase B discrete block in the cluster controls all operations of IC660BSM021. The first circuit an output dedicated to the IC660BSM021 BSM. This particular output makes it possible to switch buses every time communication is lost on the current bus. If an operational bus cannot be found with one switch of the IC660BSM021, the BSM must then wait for communication to be restored on the connected bus, or until power can be cycled to the BSM controller block. This prevents unnecessary switching. De-energized, the IC660BSM021 connects the blocks to bus A. IC660BSM021 BSM becomes energized only when selection of bus B is required. The LED on the IC660BSM021 is lit when bus B is active. IC660BSM021 BSM can also be commanded to switch buses using the CPU or handheld monitor. IC660BSM021 and IC660BSM120 are identical except for power source.  IC660BSM021 is powered by 24/48VDC, while IC660BSM120 is powered by 115 VAC/I25 VDC.  The GE Fanuc IC660BSM021 Genius I/O Bus Switching Module (BSM) is for the Genius I/O Bus System. This module has 2 serial connectors and 24/48 Volts DC operating voltage, and it can accommodate up to 8 I/O blocks on the same dual serial bus.  Technical specifications for IC660BSM021

Brand GE Fanuc

Series Genius I-O

Part Number IC660BSM021

Description Genius I/O Bus Switching Module (BSM)

Application Genius I/O Serial Bus

Operating Voltage 18 to 56 Volts DC

I/O Capacity 8 Discrete Analog I/O Blocks

Maximum Current Draw 60 Milliamps at 48 Volts DC

Dimension 3.50 x 2.25 x 2.5 Inches

Switching Time Less than 20 Milliseconds

Configuration Handheld Monitor or CPU

Minimum Reliablity Rating 500,000 Operations  Description

The GE Fanuc IC660BSM021 Bus Switching Module (BSM) is a dual bus switching module designed to connect the Genius I/O block devices to dual serial busses simultaneously. This module belongs to the GE Fanuc Genius I/O family, and it offers a reliable serial bus connection and it can provide a backup communication path if there is a bus failure. The IC660BSM021 Bus Switching Module can support connection to a maximum of 8 discrete and analog I/O blocks on a single serial bus, and if the application requires more blocks to be connected, additional BSM modules can the installed to expand the maximum number of blocks to 30 Genius I/O blocks. The IC660BSM021 Bus Switching Module's functions are controlled by a Genius I/O block in the cluster configuration, and it is configured with a handheld monitor or CPU programming.

The GE Fanuc IC660BSM021 Bus Switching Module can be configured to switch between the 2 busses (Bus A or B) by using the handheld monitor or the CPU. When Bus A is activated, the IC660BSM021 Bus Switching Module operates with a voltage rating that is less than 4 Volts DC and a maximum current draw of 10.0 milliamps at 24.0 Volts DC and 30.0 milliamps at 48 Volts DC. It operates at 18 Volts DC to 50 Volts DC when the Bus B is activated. The IC660BSM021 Bus Switching Module has a minimum reliability rating of 500,000 operations and a switch activation time of fewer than 20 milliseconds. The IC660BSM120 Bus Switching Module is supplied as a factory assembly comprising a 24/48 Volts DC bus switching module, three 15-inch prefabricated cables, and a Genius I/O system user manual.