GE Genius I-O Series Service Manual

IC660BBD120

1. Description

The IC660BBD120 is a high-speed GE Fanuc Input and Output block that comes with 12 inputs and four outputs. It is designed to be used with a handheld monitor and comes with an oscillator output used for displaying output signals. The I/O block has a rated voltage of 93 to 132 VAC or an equivalent of 10-30 Volts DC with an input voltage range of 5V to 30 volts DC and a load current of 200mA. Output voltage range varies from 4.75V to 5.25 Volts DC. The block can be powered by a 115 VAC source or a

2. Specifications

Specification	Value
Manufacturer	**Emerson Automation / GE Fanuc (formerly)**
Series	**Genius I-O**
Series	**Series 90-70**
Manufacturer	**GE Fanuc (Former); Emerson Automation (Current)**
Part	**Number IC660BBD120**
Part	**Number IC660BBD120**
Product	**Description High Speed Counter Block I/O module**
Product	**Type High-Speed Counter Block**
Product	**Description High-speed counter module**
Compatible	**Electronic base IC660EBD120**
Number	**of Supported Counters 1, 2, or 4**
No.	**of Inputs 12**
Compatible	**Terminal base IC660TBD120**
Input	**voltage range 5VDC-30 VDC**
No.	**of discrete inputs Twelve (12)**
Number	**of Inputs 12**
Input	**response time 0.5ms (plus selectable filter delays)**
Input	**signal voltage 5V DC to 30V DC**
Number	**of Outputs 4**
Filter	**delays High Frequency: 2.5µs Low frequency: 12.5ms**
No.	**of discrete outputs Four (4)**
Number	**of Oscillator Outputs 1**
Input	**pulse width: High-frequency filter selected: 2.5µs minimum Low-frequency filter selected: 12.5ms minimum**
Input	**frequency 200 kHz**
Number	**of DC Outputs 1 5 Volts DC Rated Output**
Count	**rate High-freq**

3. Product Information

The IC660BBD120 is a high-speed GE Fanuc Input and Output block that comes with 12 inputs and four outputs. It is designed to be used with a handheld monitor and comes with an oscillator output used for displaying output signals. The I/O block has a rated voltage of 93 to 132 VAC or an equivalent of 10-30 Volts DC with an input voltage range of 5V to 30 volts DC and a load current of 200mA. Output voltage range varies from 4.75V to 5.25 Volts DC. The block can be powered by a 115 VAC source or a 10-30 VDC source. The block can also be powered simultaneously using both the DC and the AC source. Should the 115VAC fail, the I/O block will continue to run on DC powe

The configurable and self-contained module delivers a frequency of 200k Hz that is used for industrial purposes such as motion control, material handling, turbine flow meter, and velocity measurement among others. The user can easily configure the I/O block to count up or down, count both up and down, or count the difference between fluctuating values. At the top of the I/O block is an array of LEDs with the top two LEDs displaying unit status and communication status with the CPU. The bottom four LEDs display the ON/OFF status for every output. The block will accept 12 input signals and show four output signals.

The IC660BBD120 block does not need to communicate with a CPU before or during normal processes due to its direct processing engineering mode. It can automatically detect count and input as well as send output on its own. Output can be programmed to turn itself ON or OFF when an accumulated count reaches preset threshold values. Operating temperature ranges from 0-60o C, and the recommended storage temperature is -40 to 60o C. The IC660BBD120 is a Genius module that is formerly produced by GE Fanuc Automation now under Emerson Automation. This module is a High-Speed counter that is specially designed for use in Turbine Flowmeter, meter proving, velocity measurement, material handling, and motion control applications. This module features Twelve (12) 5V DC to 30V DC inputs, accepting frequency of up Technical specifications for IC660BBD120

Manufacturer Emerson Automation / GE Fanuc (formerly)

Series Genius I-O

Series Series 90-70

Manufacturer GE Fanuc (Former); Emerson Automation (Current)

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Product Description High Speed Counter Block I/O module

Product Type High-Speed Counter Block

Product Description High-speed counter module

Compatible Electronic base IC660EBD120

Number of Supported Counters 1, 2, or 4

No. of Inputs 12

Compatible Terminal base IC660TBD120

Input voltage range 5VDC-30 VDC

No. of discrete inputs Twelve (12)

Number of Inputs 12

Input response time 0.5ms (plus selectable filter delays)

Input signal voltage 5V DC to 30V DC

Number of Outputs 4

Filter delays High Frequency: 2.5µs Low frequency: 12.5ms

No. of discrete outputs Four (4)

Number of Oscillator Outputs 1

Input pulse width: High-frequency filter selected: 2.5µs minimum Low-frequency filter selected: 12.5ms minimum

Input frequency 200 kHz

Number of DC Outputs 1 5 Volts DC Rated Output

Count rate High-frequency filter selected: 200 KHz maximum Low-frequency filter selected: 40 Hz maximum

Output voltage 4.75V DC to 5.25V DC

No. of output: 4 outputs; 1 oscillator output; 1 5VDC output

Operating Temperature 0 Degree to 60 Degree Celsius

Output voltage 4.75 VDC - 5.25 VDC

Storage temperature of -40 Degree Celsius to 100 Degree Celsius

Output current 0.5 A

Humidity 5-95% non-condensing

Oscillator output 3.8 V @ 4.0 mA

Operating vibration 5-10 Hz, 2” or 5.088 displacement

Communication protocol Genius Protocol

Product lifecycle discontinued

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) Description

The IC660BBD120 is a High-speed counter module that is part of the Genius Block IO that can be used as a component of a distributed I/O architecture. This module is formerly part of the GE Fanuc Automation product catalog, currently under Emerson Automation. The functionality and features of this module remained the same despite the brand change. Features module features Twelve (12) 5V DC to 30V DC inputs, accepting frequency of up to 200 kHz and Four (4) 4.75V DC to 5.25V DC at 200mA output and specially designed for use in Turbine Flowmeter, meter proving, velocity measurement, material handling, and motion control applications. This module has an open-type enclosure. It must be mounted within an enclosure that provides adequate protection against industrial contaminants. In addition, it has a compact and rackless design, being composed of Two (2) components which are a Terminal Base Assembly with part number IC660TBD120 and an electronics assembly with catalog number IC660EBD120. These modularity features allow the module to be serviced without the need of dismantling the exciting wire connections. The rackless design of this module eliminates the need for a baseplate to operate and communicate with partner

devices. It can be mounted to an enclosure subpanel fastened through the provided mounting holes. It can be directly connected to an existing Genius I/O network as this module is provided with terminals for connection to the mentioned protocol. It is also equipped with a Hand-Held Monitor (HHM) port for connection to an HHM device.

The IC660BBD120 block has been designed and manufactured in the Genius I-O product line from GE Fanuc. This block is a high-speed counter block. It directly processes rapid pulse signals that are rated at up to 200 kilohertz. This makes the IC660BBD120 high-speed counter block suitable for industrial applications such as motion control, material handling, meter proving, turbine flowmeter, and velocity measurement applications. Some of this counter block's most distinctive features include battery backup support, protection against power surges on the outputs, software configuration, 12 inputs, 4 outputs, an oscillator output, and a 5 Volts DC rated output. The IC660BBD120 high-speed counter block can be configured to count in different ways. It can be configured to count up only, to count down only, to count both up and down, or to count the difference between 2 values that are changing. The GE Fanuc Genius I-O IC660BBD120 high-speed counter block supports direct processing, and this means that this high-speed counter block does not need to communicate with a CPU in order to sense inputs, perform its counting function, and respond with the appropriate outputs. This high-speed counter block can handle an inrush current of up to 3 Amps per output for up to 10 milliseconds. It can operate at temperatures of 32 to 140 degrees Fahrenheit and be stored at temperatures of -40 to 212 degrees Fahrenheit. The non-condensing humidity levels that it can tolerate in operation and storage are between 5 and 95%. The IC660BBD120 high-speed counter block can handle applications with 1, 2, or 4 different counters with different levels of complexity.