# GE Series 90-70 Series Service Manual

IC697HSC700

## 1. Description

The IC697HSC700 is a Series 90-70, High-Speed counter module. This module is formerly produced by GE Fanuc, now acquired by Emerson Automation. It is an optional module that features Twelve (12) single-ended or differential logic inputs operating at 5VDC or 10-30 VDC and Four (4) Positive Logic outputs providing 20 mA at 10-30 VDC output ratings.

## 2. Specifications

| Specification | Value |
|---|---|
| Brand | **GE Intelligent Platforms/GE Fanuc** |
| Series | **Series 90-70** |
| Manufacturer | **GE Fanuc (Former); Emerson Automation (Current)** |
| Part | **Number IC697HSC700** |
| Series | **Series 90-70** |
| Product | **Description High-Speed Counter (HSC) module** |
| Twelve | **(12) Single-ended / differential inputs Twelve (12) positive logic inputs** |
| Product | **Type High-Speed Counter** |
| Input | **frequency 200 kHz in Type A, D and Type E in Up/Down Quad mode; 800 kHz at Type E in Quad B mode** |
| Processing | **speed 200 KHz** |
| No. | **of output channels Four (4) Positive Logic outputs** |
| Input | **Voltage 5 VDC; 10-30 VDC** |
| Output | **ratings 10 to 30 VDC @ 20 mA maximum;** |
| Input | **Voltage Range 10-30 V DC** |
| Output | **protection Short circuit protection** |
| Output | **Voltage 30 V DC** |
| Maximum | **count rate up to 200 kHz** |
| Input/Output | **Type Positive Logic** |
| Module | **operating voltage 5 VDC sourced from the backplane** |
| Power | **Consumption 500 milliamps at 5 V DC** |
| Current | **draw 250 mA at 5VDC** |
| Number | **of Inputs 12 single-ended** |
| LED | **indicators Module OK; 01-04 Output circuits** |
| Status | **LED Yes** |
| Output | **Points Powered by** |

## 3. Product Information

The IC697HSC700 is a Series 90-70, High-Speed counter module. This module is formerly produced by GE Fanuc, now acquired by Emerson Automation. It is an optional module that features Twelve (12) single-ended or differential logic inputs operating at 5VDC or 10-30 VDC and Four (4) Positive Logic outputs providing 20 mA at 10-30 VDC output ratings.

Technical specifications for IC697HSC700

Brand GE Intelligent Platforms/GE Fanuc

Series Series 90-70

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

Part Number IC697HSC700

Series Series 90-70

Product Description High-Speed Counter (HSC) module

Twelve (12) Single-ended / differential inputs Twelve (12) positive logic inputs

Product Type High-Speed Counter

Input frequency 200 kHz in Type A, D and Type E in Up/Down Quad mode; 800 kHz at Type E in Quad B mode

Processing speed 200 KHz

No. of output channels Four (4) Positive Logic outputs

Input Voltage 5 VDC; 10-30 VDC

Output ratings 10 to 30 VDC @ 20 mA maximum;

Input Voltage Range 10-30 V DC

Output protection Short circuit protection

Output Voltage 30 V DC

Maximum count rate up to 200 kHz

Input/Output Type Positive Logic

Module operating voltage 5 VDC sourced from the backplane

Power Consumption 500 milliamps at 5 V DC

Current draw 250 mA at 5VDC

Number of Inputs 12 single-ended

LED indicators Module OK; 01-04 Output circuits

Status LED Yes

Output Points Powered by user supplied 5V, or 10 to 30 VDC

Applications supported

The IC697HSC700 is a High-Speed Counter (HSC) module that is formerly manufactured by GE Fanuc Automation, currently under Emerson Automation. This module is mainly used to interface high-speed switching signals with a frequency of 200 kHz when operating at Type A, D, and Type E in Up/Down Quad mode and 800 kHz at Type E in Quad B mode. This module is a single-slot module that mounts to an available I/O slot within the CPU baseplate, expansion, or remote baseplate. It has Twelve (12) single-ended or differential logic inputs operating at 5VDC or 10-30 VDC voltages and Four (4) Positive Logic outputs providing 20 mA current output at 10-30 VDC voltage rating. The IC697HSC700 is ideally used in Turbine flowmeter applications, Meter Proving, Velocity Measurement, Material Handling, Motion Control, and Position Control. This module must be operated with a Series 90-70 IC697CPU having a firmware version of 5.0 or later. Applicable configuration and programming software are the Logicmaster 90-70 with software version of 5.0x or later or the Windows-based programming software packages including VersaPro Professional Edition and the Proficy Machine Edition Logic Developer PLC Professional Edition. This module is provided with LED status indicators such as MODULE OK and 01-04 output circuit status. The input and output isolation of this module is rated 1500 Volts for 1 second and 30 VAC / VDC SteadyStatus. This module has a backplane current draw of 1 Ampere plus 10 mA for every energized output. The output points are powered by the user supplied 5 VDC or 10-30 VDC supply voltage.

GE Fanuc manufactures the IC697HSC700 High-Speed Counter (HSC) Module as part of the GE Series 90-70 product line. This module comes with a wide range of features that make it unique. Some of these features include 12 differential and single-ended inputs, one slot, a magnetic pickup input, 5 selectable counters, 4 positive logic outputs, a TTL, and LED status indicators. The IC697HSC700 module features an external oscillator as well as an integral +5 Volts DC output. When using this module, the configuration process is completed through the Windows or MS-DOS operating system via the SNP port or the Ethernet TCP/IP port. This module comes with a preinstalled configuration function on the device that is used for programming and can also be used with a personal computer. The GE Fanuc IC697HSC700 Module can directly process rapid pulse signals of about 200 to 800 kilohertz for the E Type A Quad B mode. Other functions of this module include being able to control the outputs, detect the inputs, and process the input count data without the need for communicating to the PLC CPU. The IC697HSC700 High-Speed Counter Module features a simple and easy-to-use PLC interface that is designed and intended for industrial applications such as meter proving, turbine flow-meter control, motion/process control, velocity measurement, and material handling applications. The IC697HSC700 High-Speed Counter Module has high-speed counters, including counter types A through E. All the counters have 4 outputs (preset), 12 inputs, and an optional PLC ladder interrupt ability. The types A through D counters have count rates of 200 kilohertz maximum with a high-frequency filter and rates of 30 Hertz with a low-frequency filter.