GE Series 90-30 Series Service Manual

IC693APU300

1. Description

The IC693APU300 is a Series 90-30, 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) Positive logic inputs operating at 5VDC or 10-30 VDC and Four (4) Positive Logic outputs providing 500 mA at 10-30 VDC or 20 mA at 4.75 to 6 VDC output ratings.

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Series 90-30**
Manufacturer	**GE Fanuc**
Manufacturer	**GE Fanuc (Former); Emerson Automation (Current)**
Part	**Number IC693APU300**
Series	**Series 90-30**
Product	**Description High-Speed Counter (HSC) module**
Product	**Description High Sped counter module**
No	**of input channels Twelve (12) source inputs**
No	**of input channels Twelve (12) positive logic inputs**
Maximum	**Count Rate 80 kiloHertz**
Input	**signal voltage 5 VDC; 10VDC - 30 VDC**
Input	**voltage 5 VDC; 10-30 VDC**
Minimum	**Count Rate 20 kiloHertz**
Input	**count frequency 80 kHz**
Input	**frequency 8 kHz**
Input/Output	**Type Positive Logic**
No.	**of output channels Four (4) Positive Logic outputs**
Output	**ratings 10 to 30 VDC @ 500 mA maximum; 4.75 to 6 VDC @ 20 mA maximum**
No.	**of Logic Inputs 12**
Output	**voltage range 4.75 VDC - 6 VDC; 10-30 VDC**
Maximum	**count rate up to 200 kHz**
Input	**Voltage Range 5 Volts DC, 10-30 Volts DC**
Output	**protection Short circuit protection**
Module	**operating voltage 5 VDC sourced from the backplane**
No.	**Logic Outputs 4**
CMOS	**Load Dri**

3. Product Information

The IC693APU300 is a Series 90-30, 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) Positive logic inputs operating at 5VDC or 10-30 VDC and Four (4) Positive Logic outputs providing 500 mA at 10-30 VDC or 20 mA at 4.75 to 6 VDC output ratings.

Technical specifications for IC693APU300

Brand GE Fanuc

Series Series 90-30

Manufacturer GE Fanuc

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

Part Number IC693APU300

Series Series 90-30

Product Description High-Speed Counter (HSC) module

Product Description High Sped counter module

No of input channels Twelve (12) source inputs

No of input channels Twelve (12) positive logic inputs

Maximum Count Rate 80 kiloHertz

Input signal voltage 5 VDC; 10VDC - 30 VDC

Input voltage 5 VDC; 10-30 VDC

Minimum Count Rate 20 kiloHertz

Input count frequency 80 kHz

Input frequency 8 kHz

Input/Output Type Positive Logic

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

Output ratings 10 to 30 VDC @ 500 mA maximum; 4.75 to 6 VDC @ 20 mA maximum

No. of Logic Inputs 12

Output voltage range 4.75 VDC - 6 VDC; 10-30 VDC

Maximum count rate up to 200 kHz

Input Voltage Range 5 Volts DC, 10-30 Volts DC

Output protection Short circuit protection

Module operating voltage 5 VDC sourced from the backplane

No. Logic Outputs 4

CMOS Load Drive Capability Yes

Current draw 250 mA at 5VDC

Output Voltage Range 4.7 to 40 Volts DC

Counter modes Up; Down; bi-directional; Differential

LED indicators BOARD OK and CONFIG OK

Output Protection 3 Amps Fuse for all points

Compatible applications metering, flowmeter and flow totalizing, velocity measurement, material handling, motion and process control applications.

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

Isolation 250 Volts AC

LED indicators BOARD OK; CONFIG OK

Applications supported Turbine flowmeter, Meter proving, Velocity measurement, Material handling, Motion control, and Process control.

Power Consumption 250 mA at 5 Volts DC

Product Lifecycle Status Discontinued/Obsolete

Product Lifecycle Status* Discontinued/Obsolete

The IC693APU300 is a High-Speed Counter (HSC) module that belongs to the Series 90-30 PLC Platform that is formerly produced by GE Fanuc Automation, however, recently acquired by Emerson Automation. This HSC module is specially designed for use in a variety of processes but not limited to Turbine flowmeter, Meter proving, Velocity measurement, Material handling, Motion Control, and Process Control. For metering applications, this HSC module can be used to generate the totalized supplied or received material which can be a reference of billing and payment or simply for monitoring consumption and operation efficiency. For motion control, this module can be used to pair with encoders, accepting high-speed, low-level voltage signals that represent the position or the amount of motion that the load has traveled which can be a reference of control. In Material handling applications, this module can be used for rapid counting of products to implement accurate sorting of materials and goods produced. With process control, the module can be used to measure high-speed Process Variables such as magnetic speed pickups. The IC693APU300 features Twelve (12) Positive logic inputs, operating at 5VDC or 10-30 VDC signal voltages. It also has Four (4) Positive Logic outputs that generate 500 mA at 10-30 VDC or 20 mA at 4.75 to 6 VDC rated output voltages. This high-speed counter module has a maximum count rate of 200 kHz and accepts a signal switching frequency of up to 8 kHz. This module is categorized as an option module therefore, it can be installed to any available I/O slots of Series 90-30 baseplates.

The GE IC693APU300 High-Speed Counter Module is a single-slot counter module from GE Fanuc. It is suitable to use in applications such as Turbine flowmeter, Meter proving, Velocity measurement, Material handling, Motion control, and Process control. The main benefit of this counter module is that it is capable of processing rapid signal pulses that are rated at up to 80 kiloHertz of frequency. This high-speed counter module can sense inputs and outputs as well as count input and output responses without communicating with the CPU. The IC693APU300 High-Speed Counter Module can count both up and down and it can count the difference between 2 changing values. In order to indicate the operating status and configuration parameter’s status, the module has 2 green LEDs on its top face. The IC693APU300 High-Speed Counter Module can be arranged to have 4 identical independent simple

counters, 1 complex counter, and 2 identical independent complex counters. Some of the features of this high-speed counter module include counts per time-based register for each counter, a removable terminal board for field wiring, and internal module diagnostics. The power for the module is drawn from the 5 Volts DC rated Bus of the PLC backplane. The IC693APU300 High-Speed Counter Module can be installed in any Series 90-30 baseplate. Never install this module in an enclosure that is only accessible with the use of tools. This module cannot be removed or replaced without shutting down the PLC properly. It can be configured by using the Logicmaster 90-30/20, Hand-Held Programmer, Logic Developer-PLC, or VersaPro software. This module can be used in industrial applications which have pulse input rates that exceed the input capability of the PLC such as meter proving, material handling, velocity measurement, motion control, and turbine flow meter applications.