GE Series 90-30 Series Service Manual

IC693MDL742

1. Description

The IC693MDL742 is a Series 90-30, 12/24 VDC Positive logic output module with embedded Electronic Short Circuit Protection (ESCP). This module is formerly produced by GE Fanuc, now acquired by Emerson Automation. It features Sixteen (16) discrete output channels in Two (2) groups of Eight (8) channels. Each channel delivers an output voltage range of 12-24 VDC with an output

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Series 90-30**
Manufacturer	**GE Fanuc**
Manufacturer	**GE Fanuc; Emerson Automation (Current)**
Part	**Number IC693MDL742**
Product	**Description Discrete output module**
Series	**Series 90-30**
Product	**type Digital I/O**
No	**of Channels Sixteen (16)**
Part	**Number IC693MDL742**
Compatibility	**GE Fanuc 90-30**
No.	**of groups Two (2)**
Product	**Description Discrete output module with integrated Electronic Short Circuit Protection (ESCP)**
Rated	**voltage 12/ 24 Volts DC**
No.	**of channels per group Eight (8)**
No.	**of output groups Two (2)**
Peak	**module current draw 130 milliamps**
Isolation:	**1500 volts between field side and logic side; 500 Volts between groups**
Channels	**per group Eight (8)**
Maximum	**off response time 2 milliseconds**
Output	**signal range 12 to 24 volts DC (+20%, -15%)**
Output	**voltage range 12-24 VDC with (+ 20%, -15%)**
Maximum	**on response time 2 milliseconds**
Nominal	**Input voltage 12 / 24 VDC**
Nominal	**output voltage 12 / 24 VDC**
Peak	**output voltage drop 1.2 Volts**
Output	**current 1.0 Amperes per point; 4.0 A**

3. Product Information

The IC693MDL742 is a Series 90-30, 12/24 VDC Positive logic output module with embedded Electronic Short Circuit Protection (ESCP). This module is formerly produced by GE Fanuc, now acquired by Emerson Automation. It features Sixteen (16) discrete output channels in Two (2) groups of Eight (8) channels. Each channel delivers an output voltage range of 12-24 VDC with an output

Technical specifications for IC693MDL742

Brand GE Fanuc

Series Series 90-30

Manufacturer GE Fanuc

Manufacturer GE Fanuc; Emerson Automation (Current)

Part Number IC693MDL742

Product Description Discrete output module

Series Series 90-30

Product type Digital I/O

No of Channels Sixteen (16)

Part Number IC693MDL742

Compatibility GE Fanuc 90-30

No. of groups Two (2)

Product Description Discrete output module with integrated Electronic Short Circuit Protection (ESCP)

Rated voltage 12/ 24 Volts DC

No. of channels per group Eight (8)

No. of output groups Two (2)

Peak module current draw 130 milliamps

Isolation: 1500 volts between field side and logic side; 500 Volts between groups

Channels per group Eight (8)

Maximum off response time 2 milliseconds

Output signal range 12 to 24 volts DC (+20%, –15%)

Output voltage range 12-24 VDC with (+ 20%, -15%)

Maximum on response time 2 milliseconds

Nominal Input voltage 12 / 24 VDC

Nominal output voltage 12 / 24 VDC

Peak output voltage drop 1.2 Volts

Output current 1.0 Amperes per point; 4.0 Amperes per group at 50 Degrees Celsius; 3.0 Amperes per group at 60 Degrees Celsius

Off response time, maximum 2 ms

Relative humidity 5 to 95%

Current draw 130 mA (all outputs active)

Output Voltage Drop 1.2 volts, maximum

Product Lifecycle Status* Discontinued/Obsolete

On response time, maximum 2 ms

Off-state Leakage 1 mA maximum

Off response time, maximums 2 ms

Product Lifecycle Status Discontinued/Obsolete

The IC693MDL742 is a Series 90-30 component module. This module is specifically a discrete output module with integral Electronic Short Circuit Protection (ESCP). This module supports Positive logic wiring configuration and delivers an output voltage range of 12-24 VDC, +20%, -15%. Similarly, it has output current ratings of 1 Ampere per point, maximum; Maximum of 4 Amperes per group when operated at 50 Degree Celsius, and 3 Amperes per group at 60 Degree Celsius. The IC693MDL742 is installed to a Series 90-30 Baseplate. It occupies a single slot and may be installed to any vacant slot except the Power Supply, CPU, and specialty module designated mounting location. There is no specific limit to the number of allowed module instances. The actual limit depends on the supported I/O capacity of the host processor, memory size, and the available baseplate slot. It can be used to energize loads such as motor starters, solenoid-actuated devices, indicating lamps, relays, and similar devices. It comes with individual channel indicators that depict the energization state of the output channel. The embedded Electronic Short Circuit Protection (ESCP) of this module is designed to monitor the common signal of each group. If a short circuit is detected, the “F” LED energizes signifying short-circuit condition. Aside from status indication, the ESCP protects the circuit board from damage. This module has a backplane power consumption of 130 mA when all outputs are energized. The output channels have a typical response time of 2 ms, maximum. This module generates an inrush current of 5.2 Amperes with a duration of 10 ms while the off-state leakage current is a maximum of 1 mA.

The GE Fanuc IC693MDL742 module is a 12 to 24 Volts DC positive logic Electronic Short Circuit Protection (ESCP) output module. The IC693MDL742 module provides 16 output points arranged in 2 groups of 8. Each group has a common power output terminal. The common signal for each group is monitored electronically. When a short circuit occurs, a red LED on the IC693MDL742 module switches on and the outputs in that group are switched off. This red LED is placed between the rows of green LEDs which provide status updates for all of the individual output points. The short circuit protection feature on the IC693MDL742 module does not protect the individual output points from exceeding their current rating, however, it will protect the module board when a short circuit occurs. The 12 to 24 Volts DC module power supply needs to be removed to reset the electronic short circuit protection in the IC693MDL742 module after it has been triggered. There are 2 short circuit protection circuits on the module, one for each group of output points. The C693MDL742 module is designed for positive logic characteristics. The output current ratings are 1 Amp per point, 4 Amps per group at 50 degrees Celsius, and 3 Amps per group at 60 degrees Celsius. The maximum current consumption of the IC693MDL742 module is 130 milliamps. The inrush current for the module is 5.2 Amps for 10 milliseconds duration. The maximum output voltage drop is 1.2 Volts. The maximum value for both the off response and on response times is 2 milliseconds. The relative humidity (non-condensing) around the module should be

maintained between 5 and 95%.