



This Datasheet is for the

## [IC693MDL731](#)

12/24 Volt DC Negative Logic Output - 2 Amp, 8 Point

<http://www.qualitrol.com/shop/p-14664-ic693mdl731.aspx>

Provides the wiring diagrams and installation guidelines for this GE Series 90-30 module.

For further information, please contact Qualitrol Technical Support at

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## 12/24 Volt DC Negative Logic Output - 2 Amp, 8 Point IC693MDL731

The *12/24 volt DC Negative Logic 2 Amp Output* module for the Series 90-30 Programmable Logic Controller provides 8 output points in one group with a common power output terminal. This output module is designed to have negative logic characteristics in that it sinks current from the loads to the user common or negative power bus. The output device is connected between the positive power bus and the module output. The output characteristics are compatible with a wide range of user-supplied load devices, such as: motor starters, solenoids, and indicators. Power to operate the field devices must be supplied by the user.

LED indicators which provide the ON/OFF status of each point are located at the top of the module. This LED block has two horizontal rows with eight green LEDs in each row. This module uses only the top row labeled A1 through 8 (points 1 through 8). A red LED (labeled "F") on the right and centered between the two rows of green LEDs functions as a blown fuse indicator; it turns ON when any fuse is blown. The module has two 5 amp fuses with each fuse protecting four outputs; the first fuse protects A1 - A4, the second fuse protects A5 - A8. The fuses are electrically connected to the same common. An insert goes between the inside and outside surface of the hinged door. The surface towards the inside of the module (when the hinged door is closed) has circuit wiring information, and circuit identification information can be recorded on the outside surface. The outside left edge of the insert is color-coded blue to indicate a low-voltage module. This module can be installed in any I/O slot of a 5 or 10-slot baseplate in a Series 90-30 PLC system.

**Table 7-8. Specifications for IC693MDL731**

<b>Rated Voltage</b>	12/24 volts DC
<b>Output Voltage Range</b>	12 to 24 volts DC (+20%, -15%)
<b>Outputs per Module</b>	8 (one group of eight outputs)
<b>Isolation</b>	1500 volts between field side and logic side
<b>Output Current †</b>	2 amps maximum per point 4 amps maximum per fuse at 50° C (122° F) 2 amps maximum per fuse at 60° C (140° F)
<b>Output Characteristics</b>	
<b>Output Voltage Drop</b>	0.75 volts maximum
<b>Off-state Leakage</b>	1 mA maximum
<b>On Response Time</b>	2 ms maximum
<b>Off Response Time</b>	2 ms maximum
<b>Power Consumption</b>	55 mA (all outputs on) from 5 volt bus on backplane

† Maximum load current is dependent upon ambient temperature as shown in figure 2-27.

**Refer to Appendix B for product standards and general specifications.**

## IC693MDL731 Output Module Field Wiring Information

The following figure provides wiring information for connecting user supplied load devices and power source to the 12/24 volt DC negative logic 2 amp output module.

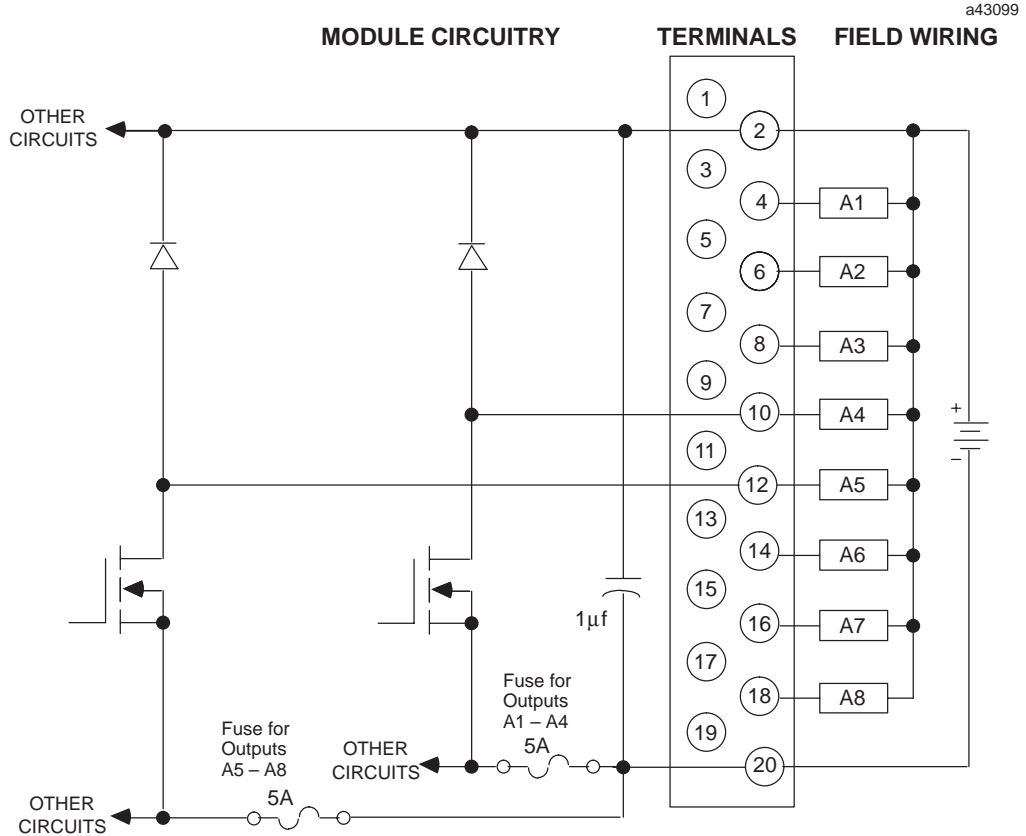


Figure 7-13. IC693MDL731 Output Module Field Wiring

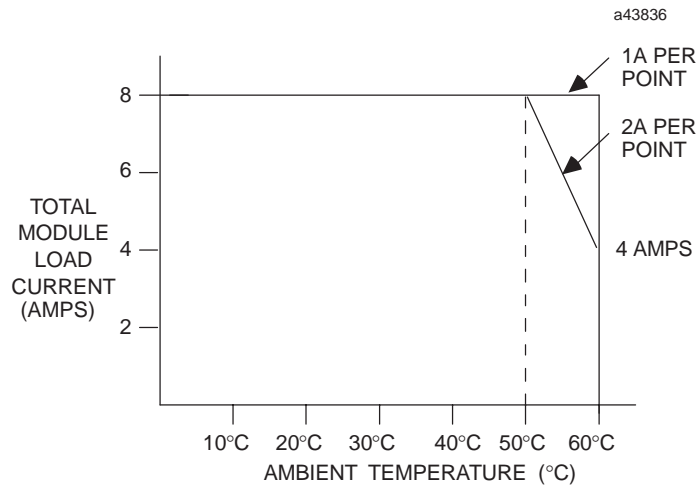
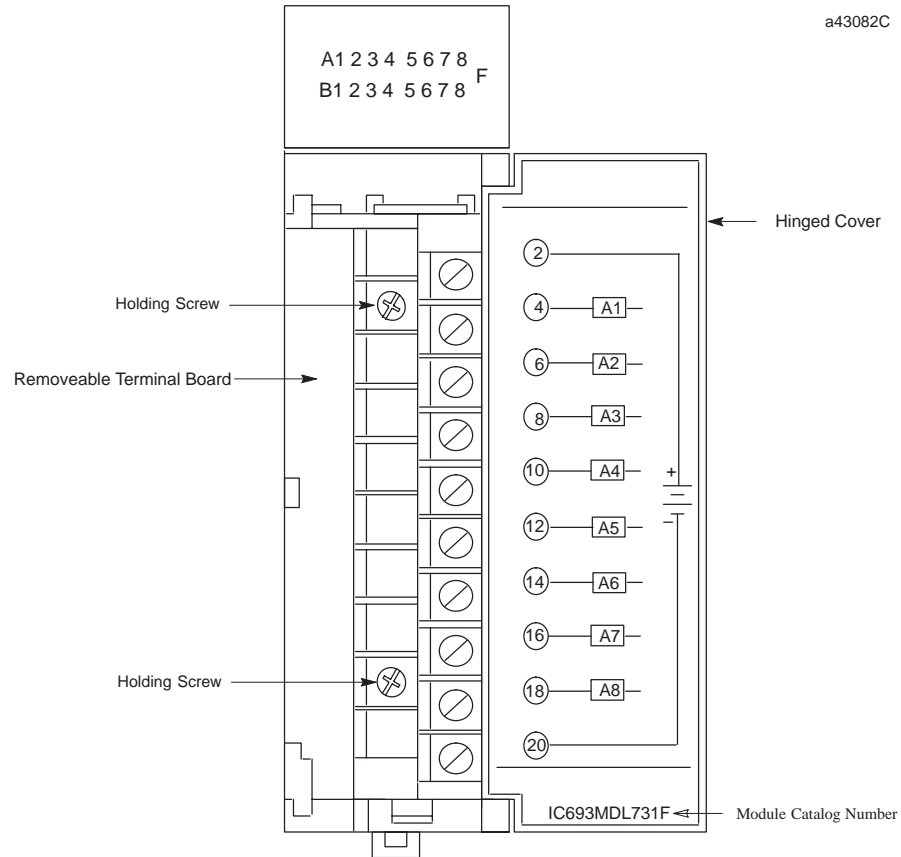


Figure 7-14. Load Current vs. Temperature for IC693MDL731

## Installing and Removing IC693MDL731 Terminal Boards with Holding Screws

Discrete output modules IC693MDL730F (and later) and IC693MDL731F (and later) have a special terminal board that is equipped with holding screws, as shown in the figure below. These screws prevent the terminal board-to-module connections from deteriorating in applications where the PLC is subjected to severe vibration .



**Figure 7-15. Terminal Board with Holding Screws**

- Removing:** To Remove these terminal boards, first loosen the two holding screws on the front of the terminal board, then follow the standard removal instructions in Chapter 2. The holding screws are held captive in the terminal board and do not have to be completely removed.
- Installing:** To install these terminal boards, follow the standard installation instructions in Chapter 2, then tighten the two holding screws to 8 to 10 inch pounds (1 Newton-meter) of torque.