

Model 2491 16-Channel DC Output Module

LIMITED PRODUCT WARRANTY

CTI warrants that this CTI Industrial Product shall be free from defects in material and workmanship for a period of one (1) year after purchase from CTI or from an authorized CTI Industrial Distributor. This CTI Industrial Product will be newly manufactured from new and/or serviceable used parts which are equal to new in the Product.

Should this CTI Industrial Product fail to be free from defects in material and workmanship at any time during this one (1) year warranty period, CTI will repair or replace (at its option) parts or Products found to be defective and shipped prepaid by the customer to a designated CTI service location along with proof of purchase date and associated serial number. Repair parts and replacement Product furnished under this warranty will be on an exchange basis and will be either reconditioned or new. All exchanged parts or Products become the property of CTI. Should any Product or part returned to CTI hereunder be found by CTI to be without defect, CTI will return such Product or part to the customer.

This warranty does not include repair of damage to a part or the Product resulting from: failure to provide a suitable environment as specified in applicable Product specifications, or damage caused by an accident, disaster, acts of God, neglect, abuse, misuse, transportation, alterations, attachments, accessories, supplies, non-CTI parts, non-CTI repairs or activities, or to any damage whose proximate cause was utilities or utility like services, or faulty installation or maintenance done by someone other than CTI. Control Technology Inc. reserves the right to make changes to the Product in order to improve reliability, function, or design in the pursuit of providing the best possible Product. CTI assumes no responsibility for indirect or consequential damages resulting from the use or application of this equipment.

THE WARRANTY SET FORTH ABOVE IN THIS ARTICLE IS THE ONLY WARRANTY CTI GRANTS AND IT IS IN LIEU OF ANY OTHER IMPLIED OR EXPRESSED WARRANTY OR WARRANTY ON CTI PRODUCTS, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE AND IS IN LIEU OF ALL OBLIGATIONS OR LIABILITY OF CTI FOR DAMAGES IN CONNECTION WITH LOSS, DELIVERY, USE OR PERFORMANCE OF CTI PRODUCTS OR INTERRUPTION OF BUSINESS, LOSS OF USE, REVENUE OR PROFIT, IN NO EVENT WILL CTI BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR CONSUMER PRODUCTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

REPAIR POLICY

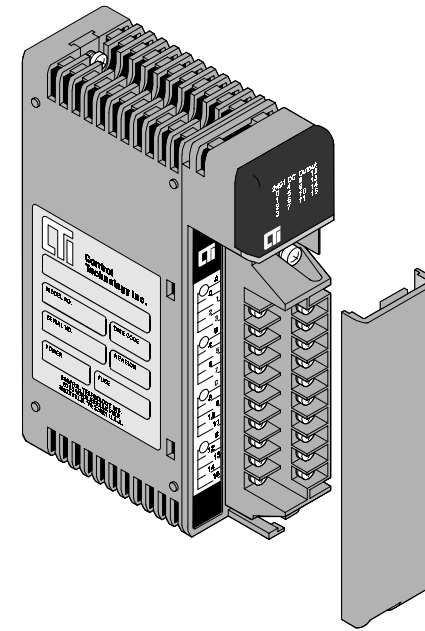
In the event that the Product should fail during or after the warranty period, a Return Material Authorization (RMA) number can be requested verbally or in writing from CTI main offices. Whether this equipment is in or out of warranty, a Purchase Order number provided to CTI when requesting the RMA number will aid in expediting the repair process. The RMA number that is issued and your Purchase Order number should be referenced on the returning equipment's shipping documentation. Additionally, if under warranty, proof of purchase date and serial number must accompany the returned equipment. The current repair and/or exchange rates can be obtained by contacting CTI's main office at 1-800-537-8398.

When returning any module to CTI, follow proper static control precautions. Keep this module away from polyethylene products, polystyrene products and all other static producing materials. Packing the module in its original conductive bag is the preferred way to control static problems during shipment. **Failure to observe static control precautions may void the warranty.** For additional information on static control precautions, contact CTI's main office at 1-800-537-8398.



PRODUCT BULLETIN

Model 2491 16-Channel DC Output Module



Specifications

Number of Output Points: 16

Output Voltage: 2 to 146 VDC

Output Current: 1.5 A per output @ 125 VDC

Leakage Current: 125 μ A @ 125 VDC (@ 25°C)
In-rush Current: 3 Amps max. overload for 15 Sec.

Turn ON Time: 0.5 mSec
Turn OFF Time: 1.5 mSec

Fuses:
Quantity: 16
Rating: 3 Amps
Type: Subminiature (not field serviceable)

Isolation: 1500 VDC channel-to-backplane
1500 VDC channels in groups of four to channel

Environment:
Backplane Loading: 1 Watt @ 25°C
Removable Connector: Accepts 14 to 22 AWG

Operating Temperature: 0° to 60°C (32° to 140°F)
Storage Temperature: -40° to 85°C (-40° to 185°F)
Humidity, Relative: 5% to 95% (non-condensing)

Agency Approvals:
UL, UL Canada
FM (Class I, Div 2)

Shipping weight: 1 lb. (0.45 Kg)

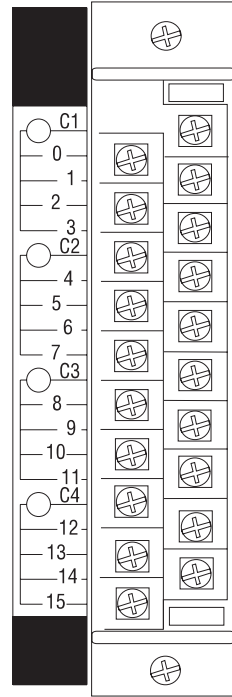
Description

The Model 2491 is a 16-channel solid state output module designed to be compatible with the 405 Series PLC I/O base. This module is used to switch DC voltages up to 146 VDC at loads up to 1.5 Amps. The Model 2491 is designed with sourcing outputs.

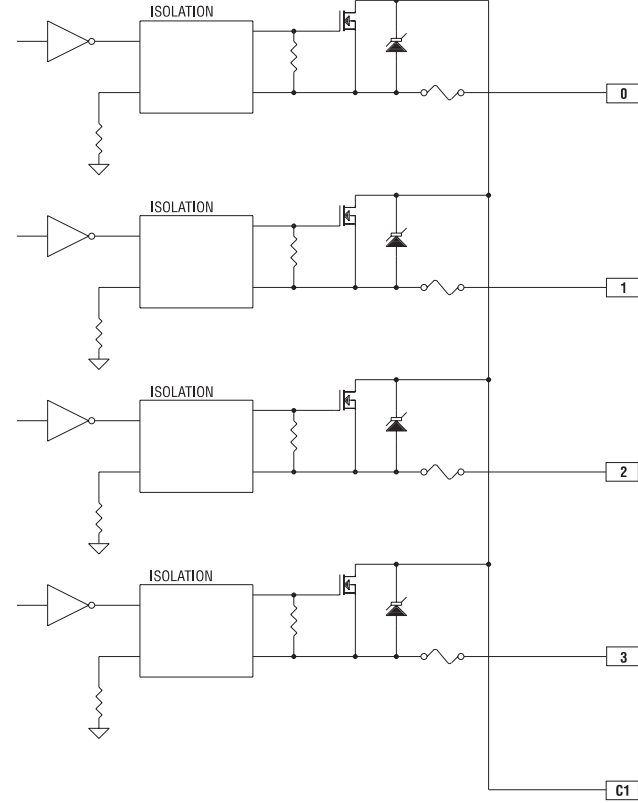
Features

- 16 points isolated in groups of four
- Plugs directly into 405 Series I/O base
- Responds to standard 405 output instructions
- Each output is individually fused
- 16 individual status LED indicators
- 1.5 Amps per output over full temperature range (all 16 outputs ON with no derating)

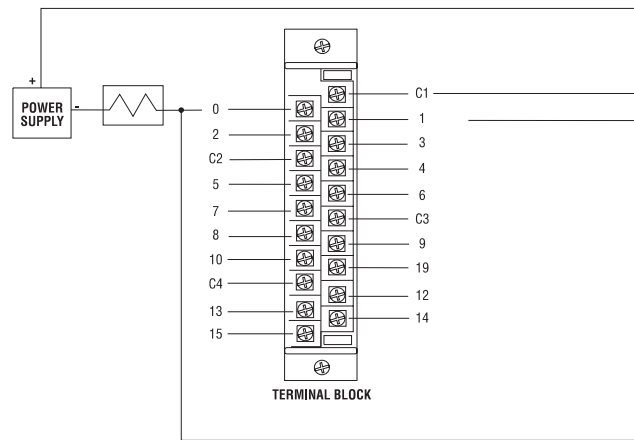
Model 2491 16-Channel DC Output Module



2491 Connector Diagram



Typical Circuit Group



Typical Wiring Applications

Model 2491 16-Channel DC Output Module

I/O MODULE DEFINITION FOR BASE 0

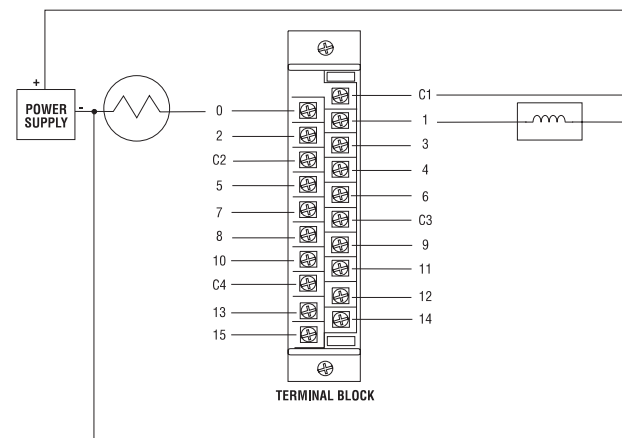
SLOT	ADDRESS		POINTS		ID	MODULE NAME
	IN	OUT	IN	OUT		
0	. . . . 0000 A	. . . . 0000 A	. . . . 00	. . . . 16	. . . . 28	(435) : 16 PT OUTPUT MOD
1	. . . . 0000 A	. . . . 0000 A	. . . . 00	. . . . 00	. . . . FF	(435) : EMPTY I/O SLOT
2	. . . . 0000 A	. . . . 0000 A	. . . . 00	. . . . 00	. . . . FF	(435) : EMPTY I/O SLOT
. . . .						
6	. . . . 0000 A	. . . . 0000 A	. . . . 00	. . . . 00	. . . . FF	(435) : EMPTY I/O SLOT
7	. . . . 0000 A	. . . . 0000 A	. . . . 00	. . . . 00	. . . . FF	(435) : EMPTY I/O SLOT

Word Map

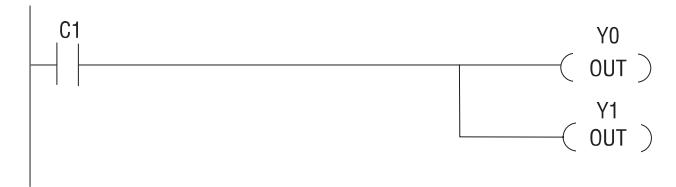
3 Amp Application

Two outputs can be used in parallel to drive loads up to 3 Amps. The following diagram shows the electrical hookup driving loads from 1.5 to 3 Amps.

Care must be taken to ensure that neither output is turned on by itself. Damage to the output transistor will occur. The following diagram shows a ladder logic rung that turns on Y0 and Y1 by using C1.



3 Amp Application



Recommended Ladder Diagram