

## 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 (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 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 GUARANTY 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.

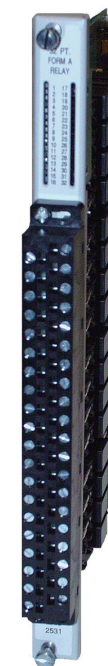
THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

## 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 orally 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 the product is 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 the 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 office at 1-800-537-8398.

# 2531 32-Point Form-A Relay Output Module



## Specifications

**Outputs per module:** 16 or 32

**Isolation:** 2100 VDC channel-to-backplane  
3000 VDC group-to-group

**Output voltage:** 15 - 240 VAC  
15 - 30 VDC

**Indicators:** 32 individual LEDs

**Maximum output current:**

4A per point (resistive)

8A per group (resistive)

**Switching rate:** 5 ops/sec (no load),  
0.5 ops/sec (rated load)

**Type of contact:** Form A

**Type of outputs:** Individually fused

**Minimum contact load:** 10mA @ 5 VDC

**Contact life:**

@ full rated current, 4A = 400,000 cycles

@ 2A = 1,000,000 cycles

**Backplane Power:** 1.7 Watts

**User Power Supply:** 24VDC  $\pm$ 10%  
600 mA (all outputs ON)

**Fuses:** field replaceable, channel and unit

32, 5 amp, 250V, Littelfuse #215.005	1, 1 amp, 250V, Littelfuse #217.001
Schurter #0001.2511	Schurter #034.1516

**Connector:** Removable

**Wire Gauge:** 14 - 22 AWG

**Module Size:** Single-wide

**Operating Temperature:** 0° to 60°C  
(32° to 140°F)

**Storage Temperature:** -40° to 85°C  
(-40° to 185°F)

**Relative Humidity:** 5% to 95%  
(non-condensing)

**Agency Approvals:**

UL, UL-Canada

**Agency Approvals Pending:**

Class 1 - Div.2, CE

**Shipping Weight:** 1.5 lb. (0.68 Kg)

## Description

The 2531 32-Point Form A Relay Output Module provides sixteen or thirty-two Form A outputs isolated in groups of four or eight for the SIMATIC® 505 I/O base. The module utilizes relay output circuits to switch on or off external devices such as pilot lamps, motor starters, or solenoids. The 2531 is designed to switch externally supplied 15 to 240 VAC and 15 to 30 VDC. The internal logic signals are isolated from the external outputs to 2100 VDC.

## Features

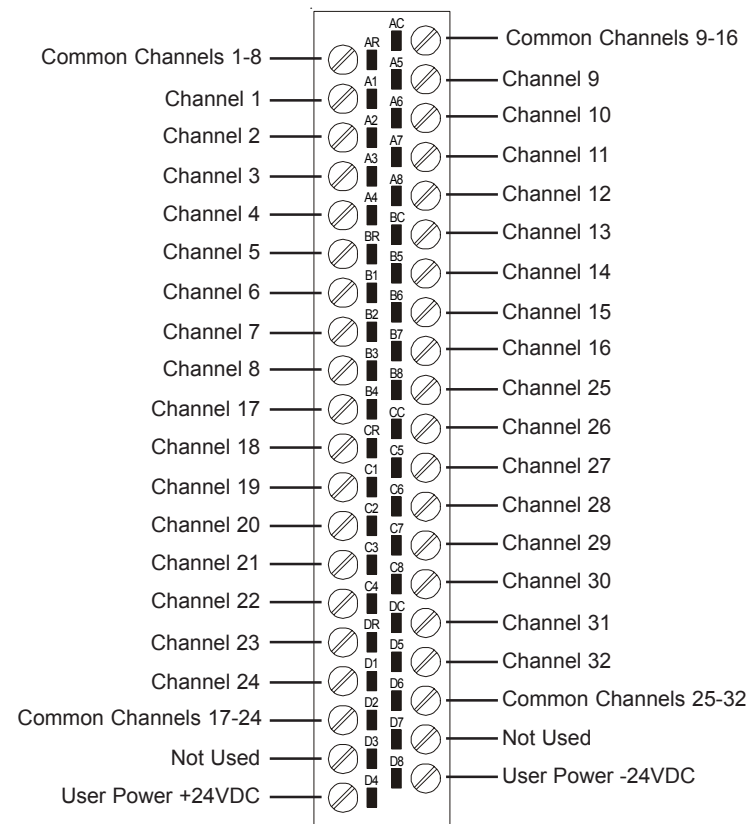
- SIMATIC® 505 base format
- 16 or 32 Form A relay outputs
- Replaces Siemens® 505-4916 or 505-4932 with no rewiring
- Isolated 3000 VDC group-to-group
- Isolation in groups of 4 (16 pt.) or 8 (32 pt.)
- Wide 15-240 VAC and 15-30 VDC output range
- 4.0 Amps per output
- Individually fused outputs
- Single-wide module



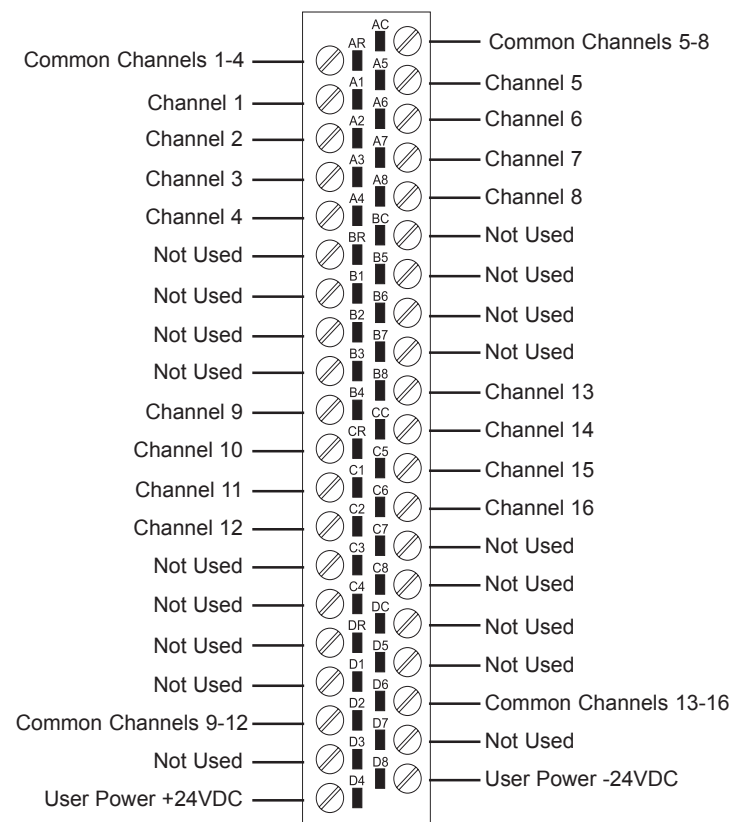
**Control Technology Inc.**

5734 Middlebrook Pike, Knoxville, TN 37921

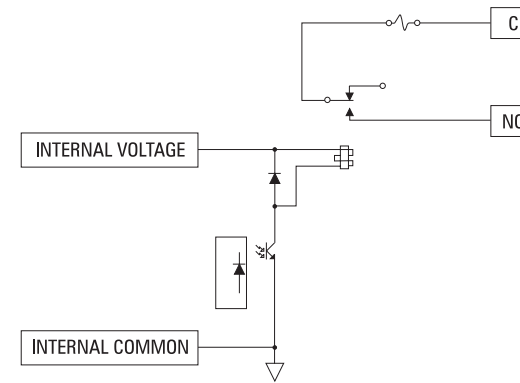
Phone: 865/584-0440 Fax: 865/584-5720 [www.controltechnology.com](http://www.controltechnology.com)



### 2531 32-Point Mode 8 Outputs Per Common Wiring Connector



### 2531 16-Point Mode 4 Inputs Per Common Wiring Connector



Typical Internal Circuit

**WARNING:**  
This module must not be inserted into the I/O rack while power is applied.

**WARNING:**  
Remove field wiring connector before changing jumper setting.

### 32/16 Point Login Configuration Explanation

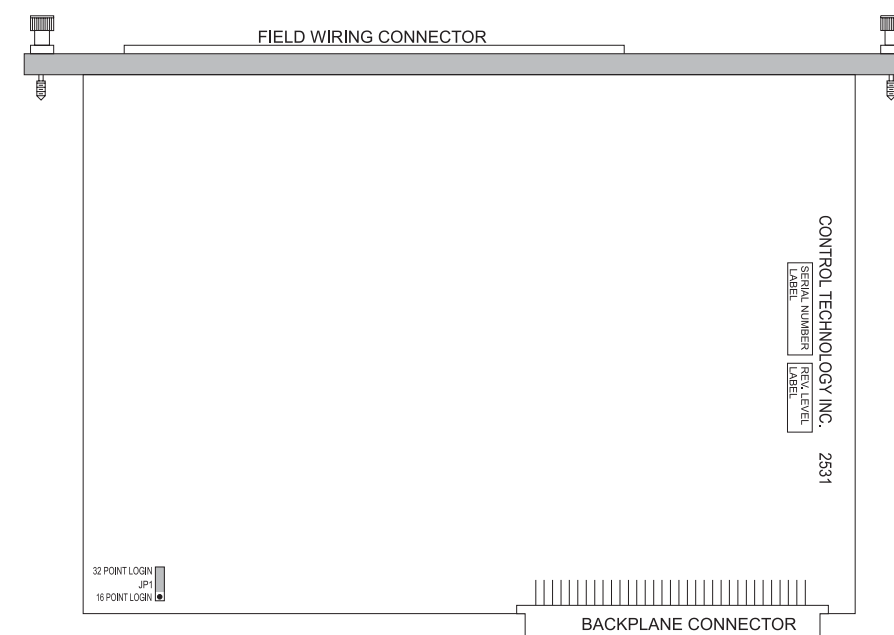
As shipped the 2531 is in the 32-point login mode so that all 32 points are operational. However, the option exists to enable the module to login as a Siemens® 505-4916 16-point form A relay output module. To do so requires the movement of a single jumper, JP1, from the shipped 32-point login to 16-point login. Once enabled, front connector channel label printing and front panel LED channel designations change. (You may find it helpful to manually relabel the connector in the space provided for the 16-point login option.) The new correlation is shown as follows:

### LED and Front Connector Channel Label Printing

CH:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
CH:	1	2	3	4	-	-	-	-	5	6	7	8	-	-	-	-	9	10	11	12	-	-	-	-	13	14	15	16	-	-	-	-

### 16-Point Login Configuration Channel

For example, in 16 Point Login Configuration, the LED for channel 10 (CH 10) would be the output channel 6. Likewise, the lit LED for CH28 would correlate to output channel 16.



### Jumper Configuration Location