In the example in Figure 6 is an I/O Configuration Chart showing a 2590-A plugged in the first slot with Blown Fuse Reporting Enabled. X1-X16 are the Blown Fuse Reporting inputs and Y17-Y32 are the outputs under PLC ladder logic control.

```
I/O MODULE DEFINITION FOR CHANNEL . . . 1  BASE . . . . . 00

            NUMBER OF BIT AND WORD I/O
            I/O                                    SPECIAL
SLOT   ADDRESS           X      Y      WX     WY    FUNCTION
01 ......... 0001 ............... 16 ...... 16 ....... 00 ...... 00 .............. NO
02 ......... 0000 ............... 00 ...... 00 ....... 00 ...... 00 .............. NO

15 ......... 0000 ............... 00 ...... 00 ....... 00 ...... 00 .............. NO
16 ......... 0000 ............... 00 ...... 00 ....... 00 ...... 00 .............. NO
```

Figure 6. I/O Configuration Chart with Blown Fuse Reporting

> **NOTE:**
> *Only one starting address is needed to log in the module. The PLC will automatically assign the first 16 locations as inputs (X) and the next 16 locations as outputs (Y).*

> **NOTE:**
> *If the line is blank or erroneous, re-check the module to ensure that it is firmly seated in the slots. Generate the PLC I/O configuration chart again. If the line is still incorrect, contact your local distributor or CTI for assistance.*

See CTI website www.controltechnology.com for warranty statement.

2500 Series PLC System
Product Bulletin

2590-A 16-Point
Isolated Discrete Output Module

Description

The 2590-A 16-point Isolated Discrete Output Module provides sixteen discrete isolated outputs from the CTI 2500 Series™ or Simatic® 505 I/O base. The module uses solid-state output circuits to switch on or off external devices such as pilot lamps, motor starters, or solenoids. The 2590-A is designed to switch externally supplied 20 to 132 VAC. The internal logic signals are isolated from the external outputs to 1500 VDC.

Features

- CTI 2500 Series™ or Simatic® 505 I/O base format
- 2.0 Amps per output (no derating)
- Isolated 1500 VDC channel-to-channel
- Blown fuse reporting (per channel) to the PLC
- Blown fuse indicator
- Logs in as a 16Y or 16X/16Y (jumper selectable)
- Individual fuse for each output channel
- Single-wide module

Specifications

Outputs: 16
Isolation:
1500 VDC channel-to-channel
1500 VDC channel-to-backplane
Blown fuse reporting per channel:
Reported to the PLC as an X input (jumper selectable)
Output voltage: 20 to 132 VAC
Output source current per circuit: 2.0 A max
"OFF" state leakage: 1mA max @ 25°C
Turn ON or OFF time: 1/2 AC cycle
Non-repetitive surge current: 80 Amps for 1 cycle
Total module output current: 32 Amps
Connector: Removable
Wire gauge: 14 to 22 AWG
Backplane power: 2.5 watts max
Module size: Single wide
Fuses: 16, 3 Amp, 250V
Type Littlefuse #2173.15
Bussman GMA #GMA-3A
CTI Part #80-65 (field replaceable)
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 for Canada
FM (Class 1, Div 2)
Shipping Weight: 1.5 lb (0.68 Kg)

Control Technology Inc.
5734 Middlebrook Pike, Knoxville, TN 37921-5962
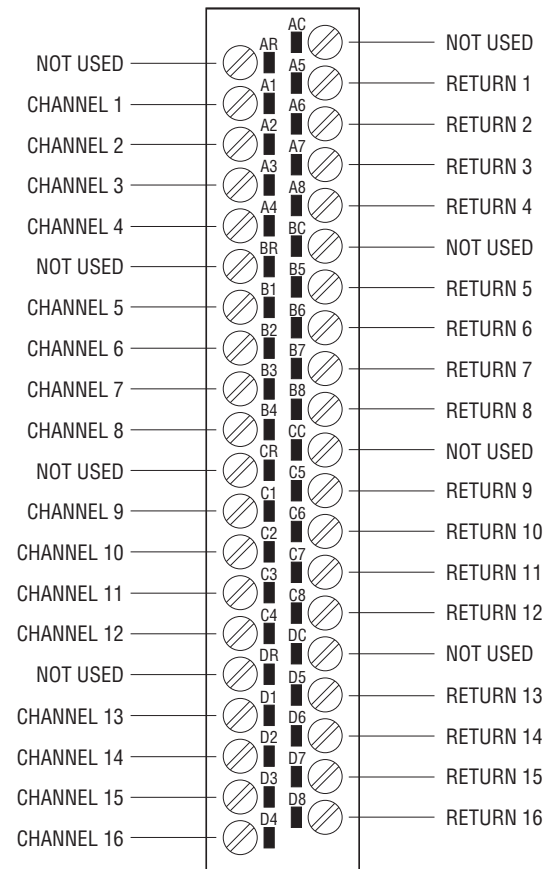Phone: 865/584-0440   Fax: 865/584-5720   www.controltechnology.com

Figure 1. 2590-A Output Connector
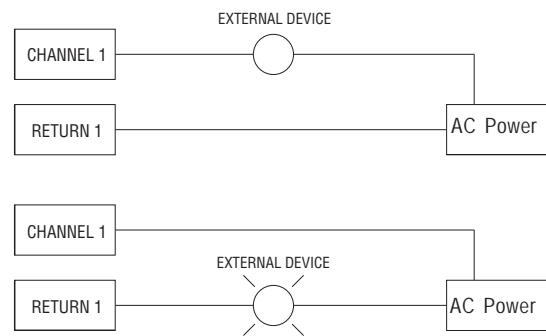

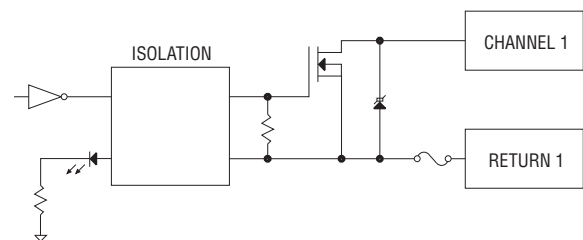**Figure 2. 2590-A Typical External Wiring Application**

Figure 3. 2590-A Typical Internal Circuit

Checking Module Operation

You must check to see that the module is configured in the memory of the PLC. This is important because the module will appear to be functioning regardless of whether it is communicating with the PLC. To view the PLC I/O configuration chart listing all slots on the base and the inputs or outputs associated with each slot, refer to your Programming Manual. An example chart is shown in the following figure.

2590-A Operation Without Blown Fuse Reporting

The 2590-A standard shipping configuration logs in as 16Y locations to the PLC.

I/O Module Definition for Channel . . . . 1 Base 00						
Slot	I/O Address	Number of bit and word I/O				Special Function
		X	Y	WX	WY	
01	0001	00	**16**	00	00	NO
02	0000	00	00	00	00	NO
15	0000	00	00	00	00	NO
16	0000	00	00	00	00	NO

Figure 4. I/O Configuration Chart

In Figure 4 above, the 2590-A module is inserted in slot 1 in the I/O base 0. Data appears as 16 "Y" locations starting at "Y1". For your particular module, look in the chart for the number corresponding to the slot occupied by the module. If bit locations appear on this line, then the module is registered in the PLC memory and the module is ready for operation.

2590-A Operation With Blown Fuse Reporting

The 2590-A will alert the PLC CPU when an output channel has a blown fuse. The feature is enabled by moving jumper JP9, as shown in Figure 5 below, to the "Reports 16X Inputs". When JP9 is in this position the module will log on to the base as a 16X and 16Y module. The 16X inputs are used for Blown Fuse Reporting and the 16Y outputs are used just as any other discrete output would be used.
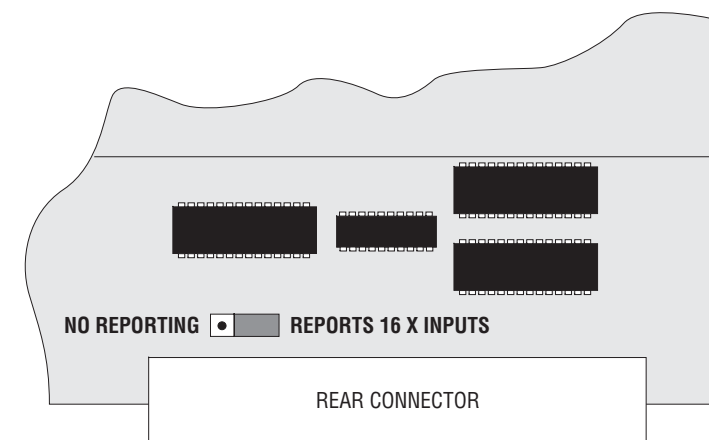

Figure 5. 2590-A Blown Fuse Reporting Selection