



0–24V Contact Output Module

Cat. No. 1771–OYL

Installation Data

To The Installer

This document provides information on:

- important pre–installation considerations
- power supply requirements
- installing the module
- connecting the wiring
- using the indicators on the module for troubleshooting
- module specifications

Pre–installation Considerations

This module does not contain surge limiting circuitry. Use this module for switching resistive loads only. It is not recommended for inductive or capacitive loads.

The 1771–OYL module has 4 Form A and 4 Form B relays. The outputs are arranged in 4 groups of 2, each group with its own common. Each output is electrically isolated from module logic circuitry. The module can simultaneously switch all 8 outputs to separate loads, each conducting a maximum load of 100mA continuously, at rated power. Ac loads switched by the modules should have a power factor (PF) of 1.0.

Maximum interconnect cable length for these modules is 1000 ft. (304.8 meters).

Power Supply Requirements

The controller or I/O chassis power supply, connected through the backplane of the I/O chassis, powers the logic circuitry of the contact output modules. This supply also provides the necessary power to energize the coils of the module relays. Each energized relay draws 37mA from this supply. The maximum current drawn from this supply when all coils are energized is 420mA.

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Installing the Module

In this section we tell you how to initially handle the module, key your I/O chassis, install your module and make your wiring connections.

Initial Handling Procedures



ATTENTION: Remove power from the 1771 I/O chassis backplane and wiring arm before removing or installing an I/O module.

- Failure to remove power from the backplane or wiring arm could cause module damage, degradation of performance, or injury.
 - Failure to remove power from the backplane could cause injury or equipment damage due to possible unexpected operation.
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The contact output module contains components which can be damaged by electrostatic discharge. Each module is shipped in an electrostatic shielded bag for protection. Follow the handling procedures outlined below to guard against damage to your module.

- Touch a grounded object to discharge yourself before handling the module.
- Do not touch the backplane connector or connector pins.
- If you configure or replace internal components, do not touch other circuit components inside the module. If available, use a static–safe work station.
- When not in use, keep the module in its static–free shield bag.

Keying the I/O Chassis

Use the plastic keying bands, shipped with each I/O chassis, to key your I/O slots to accept only this type of module. Place the keying bands on the chassis backplane between:

- 6 and 8
- 16 and 18

Slots on the rear edge of the circuit board are matched to these slots to allow insertion of this type of module. You can key any connector in an I/O chassis to receive this module except for the leftmost connector reserved for adapter or processor modules.

Inserting the Module Into the Chassis

1. Position the module so that the circuit board at the rear of the module lines up with the top and bottom card guides in the chassis.
2. Slide the module into the chassis.
3. Press firmly to seat the module in the chassis backplane connector.
4. Swing the module locking latch down into place over the front edge of the module.

Connecting Wiring to the Module

You make connections to the module through the field wiring arm cat. no. 1771–WD. The arm pivots on the I/O chassis to connect with terminals on the front of the module and acts as a terminal strip. The wiring arm allows the module to be removed from the chassis without disconnecting wiring.

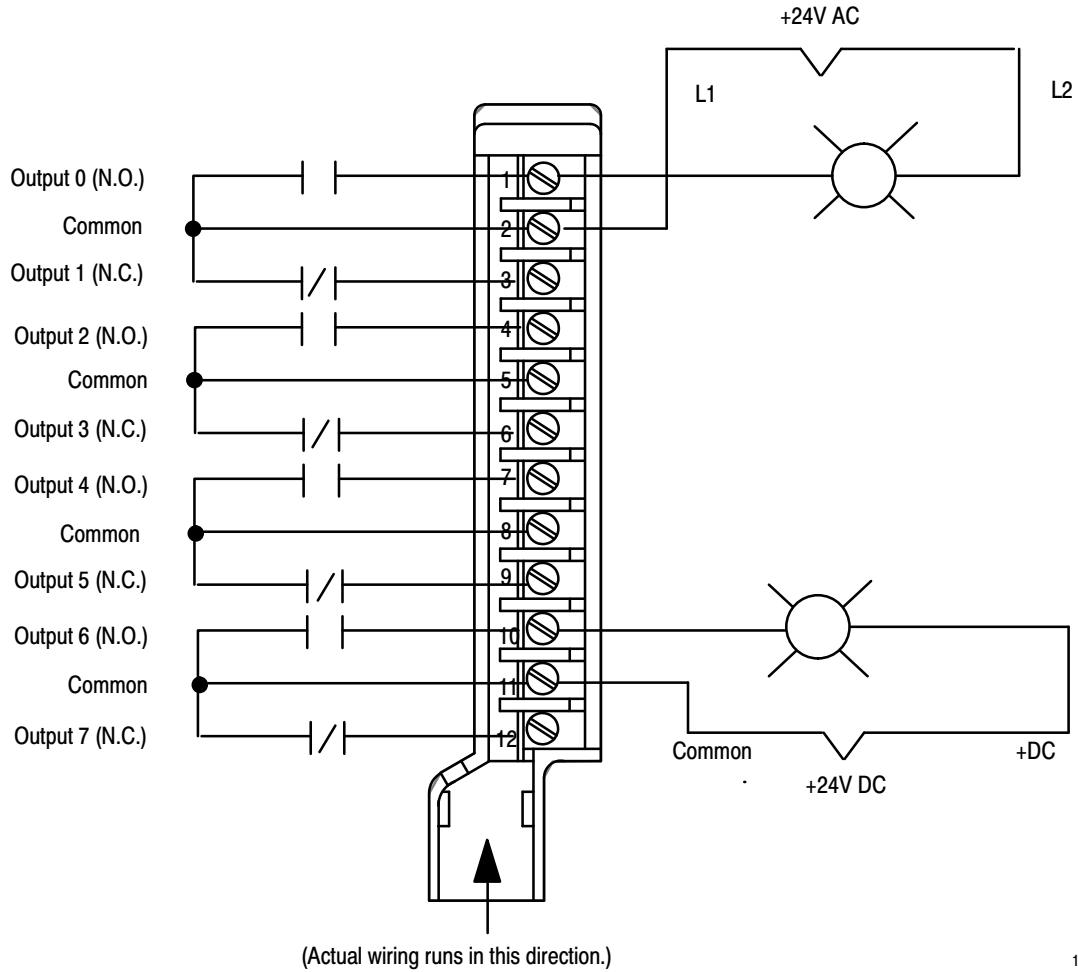
1. Make certain all power is removed from the module before making wiring connections.
2. Swing the wiring arm up into position on the front of the module. The locking tab on the module will secure it into place.
3. Make your connections to the field wiring arm as shown in .
(Use the label on the front of the wiring arm to identify your wiring.)



ATTENTION: The field wiring arm terminal identification number is not the same as the number of the bit which controls that output.

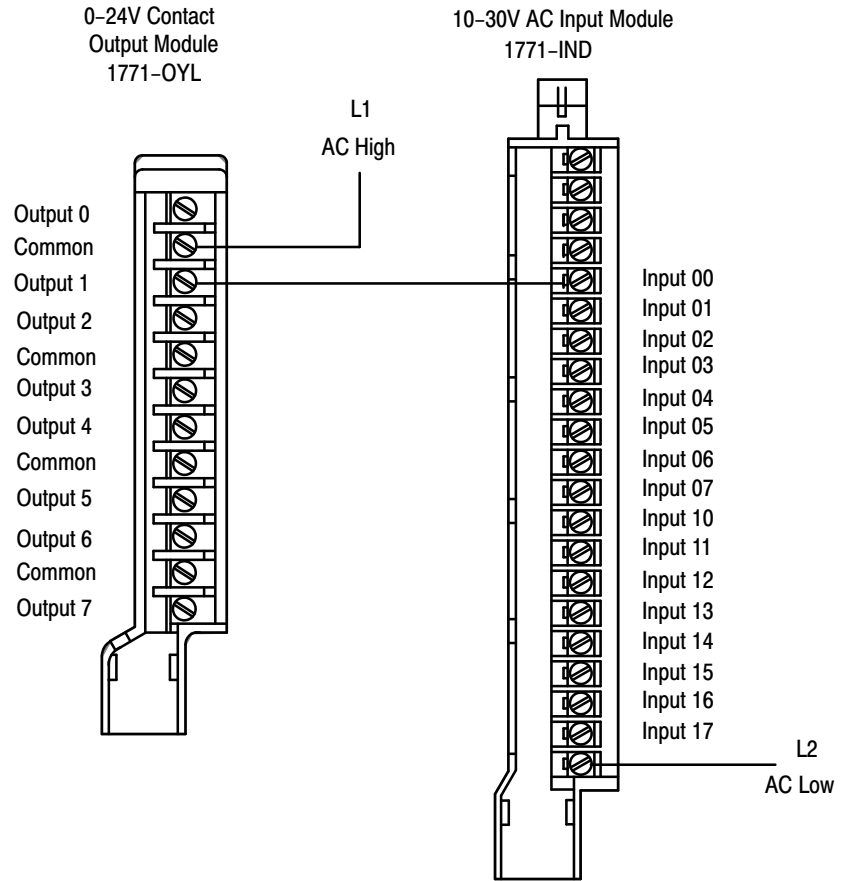
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Figure 1
Connection Diagram for the 0-24V Contact Output Module (Cat. No. 1771-OYL)



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Figure 2
Connection Diagram for the 1771-OYL Contact Output Module Driving an AC Input Module



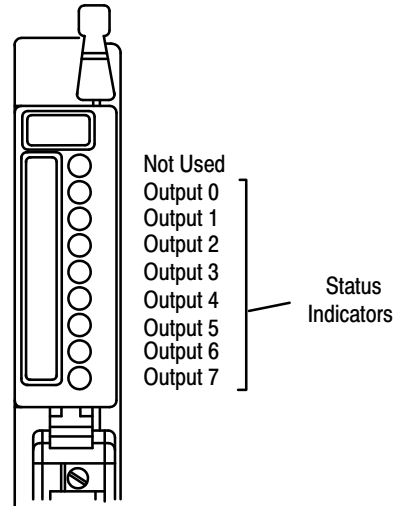
ATTENTION: Do not attempt to increase load current or wattage capability beyond the rating by connecting two or more outputs in parallel. The slightest variation in output relay switching time may cause one set of contacts to switch the total load current.

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Interpreting the Status Indicators

The module has 8 status indicators on the module front plate. These indicators represent the control status of the output relays. Each indicator is lit when its corresponding relay is energized.

Figure 3
Status Indicators



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Specifications

Outputs per Module	8 (4 groups of 2)
Module Location	1771 Series A or B I/O chassis
Contact Configuration	4 Form A (N.O.), 4 Form B (N.C.)
Voltage Rating	0–24V ac RMS; 0–24V dc
Current Rating ²	100mA per output (maximum) ¹
Surge Current	100mA maximum per output (at rated power)
Power Rating	dc: 2.4W per output (resistive) ac (suppressed) ¹ : 2.4W per output (resistive)
Minimum Contact Load	dc: 10mA @ 24V – ac: 10mA @ 24V
Operate/Release Time	1msec maximum
Bounce Time	1msec maximum
Switching Frequency	10Hz maximum
Signal Delay	1.0ms on or off
Isolation Voltage	1000V open contacts; 1500V coil to contacts
Power Dissipation	2.2 Watts (max.), 2 Watts (min.)
Thermal Dissipation	7.6 BTU/hr (max.), 6.9 BTU/hr (min.)
Backplane Current	420mA maximum
Conductors Wire Size	14 gage stranded maximum 3/64 inch insulation maximum
Category	1 ³
Environmental Conditions	Operating Temperature Storage Temperature Relative Humidity
	0 to 60°C (32 to 140°F) –40 to 85°C (–40 to 185°F) 5 to 95% (without condensation)
Keying	Between 6 and 8 Between 16 and 18
Field Wiring Arm	1771–WD

¹ Surge limiting circuitry is not provided in the module. For reliable operation, the user must ensure that surges do not exceed either the voltage or current rating of the module.

² Spikes, peaks and surges must be within the power rating. Resistive loads only. AC or DC power = 2.4W max.

³ Refer to publication 1770–4.1, Programmable Controller Wiring and Grounding Guidelines.



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