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Selectable Contact Output Module
Cat. No. 1771–OW

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

These modules do not contain surge limiting circuitry. Use these modules for switching resistive loads only. They are not recommended for inductive or capacitive loads.

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 1.0A 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. The maximum current drawn from this supply when all coils are energized is 700mA.

Installing Your Module

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

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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.

The contact output module contains components which can be damaged by electrostatic discharge. The 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.

Setting the Relay Output Jumpers

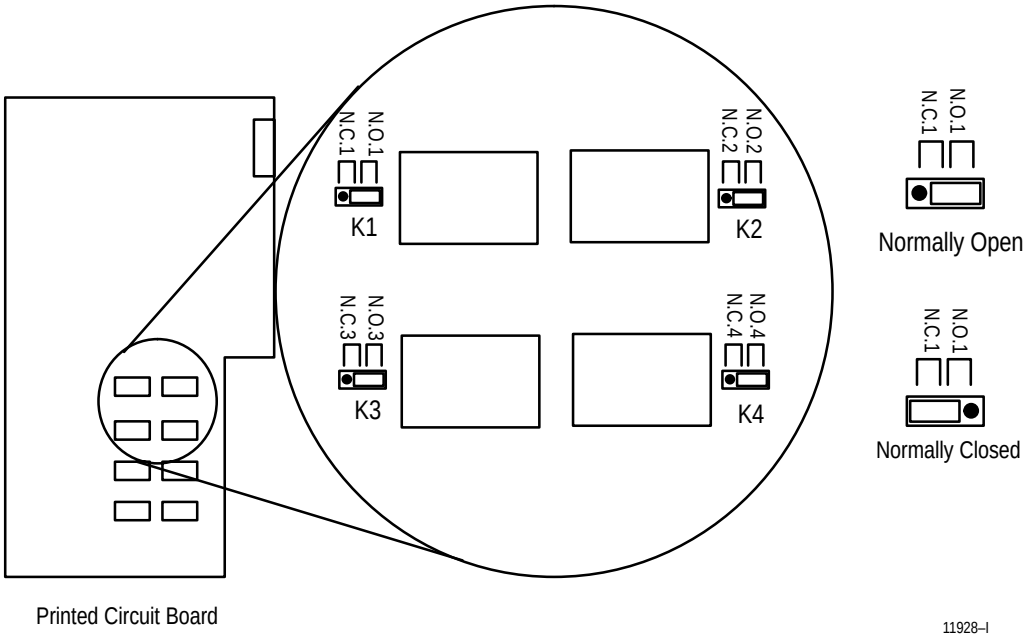
When the output image table bit at the address corresponding to any output is energized (set to 1), the corresponding relay contact is closed or opened, respective to the jumper setting.

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All outputs are individually selectable for either normally–open or normally–closed operation. They are pre–set for normally–open operation at the factory. To reset any jumper, proceed as follows:

1. Remove the 4 screws from the side cover and separate the circuit board from the 2 covers.
2. Move the jumper to the desired position (see below). Jumpers are identified by jumper number and use (N.O. or N.C.).
3. Reinstall the circuit board in the module and replace the cover.

Figure 1
Relay Output Jumper Setting



Inserting the Module Into the Chassis

1. Position the module so that the circuit board on 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.

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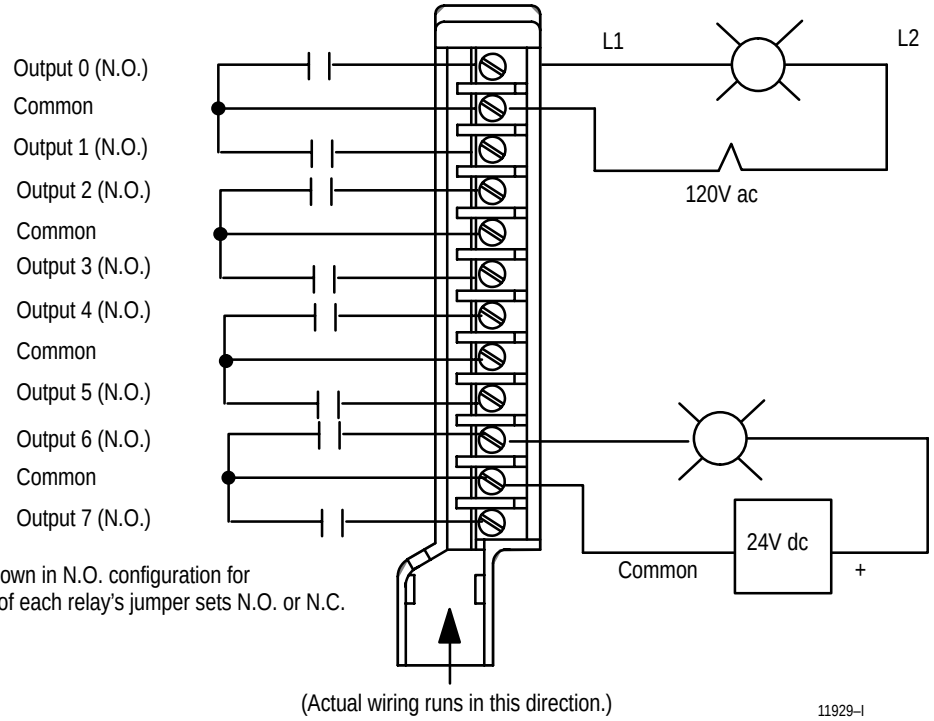
Connecting Wiring to the Module

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 below. (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.

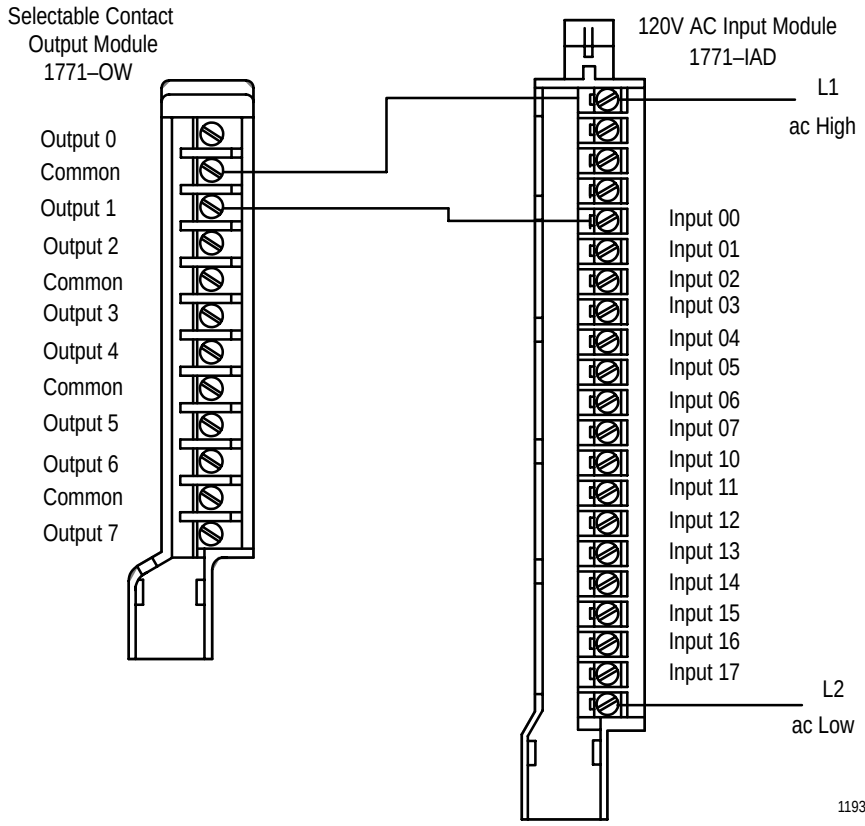
Connection Diagram for the Selectable Contact Output Module (Cat. No. 1771–OW)



Note: Contacts are shown in N.O. configuration for simplicity. Placement of each relay's jumper sets N.O. or N.C. operation.

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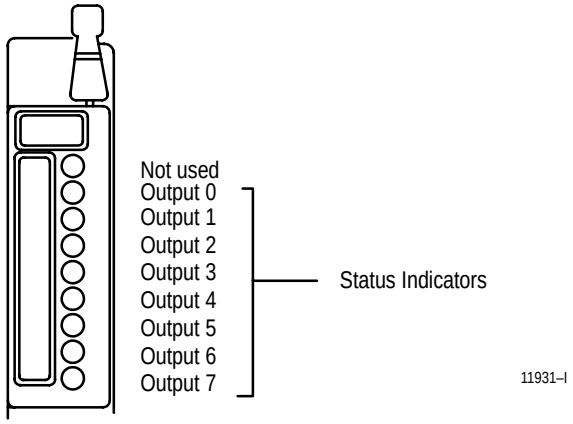
Connection Diagram for the 1771–OW Selectable Contact Output Module Driving a 120V ac Input Module



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.

Interpreting the Status Indicators

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



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Specifications

Outputs per Module		8 (4 groups of 2)
Module Location		1771 I/O chassis
Voltage Rating		24 – 138V ac RMS 24 – 125V dc
Current Rating[1]		1A per output (maximum)[2]
Surge Current		1A maximum per output (at rated power)
Power Rating		dc: 30W per output (resistive) ac (suppressed)[1]: 30W per output (resistive)
Minimum Contact Load		dc: 10mA @ 24V ac: 10mA @ 24V
Operate/Release Time		5ms maximum
Bounce Time		1ms maximum
Switching Frequency		10Hz maximum
Power Dissipation		3.7 Watts (max.); 3.3 Watts (min.)
Thermal Dissipation		12.6 BTU/hr (max.); 11.3 BTU/hr (min.)
Backplane Current		700mA maximum
Conductors	Wire Size	14 gauge stranded maximum 3/64 inch insulation maximum
	Category	1[3]
Environmental Conditions		
	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% (without condensation)
Keying		Between 6 and 8 Between 16 and 18
Field Wiring Arm		1771–WD
Wiring Arm Screw Torque		7-9 inch-pounds

1 Spikes, peaks and surges must be within the power rating. Resistive loads only. AC or DC power = 30W max.
2 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.
3 Refer to publication 1770–4.1, Programmable Controller Wiring and Grounding Guidelines.

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