



Installation Instructions

Selectable Contact Output Module Cat. No. 1771-OWN

To The Installer

This document provides information on:

- important pre-installation considerations
- power supply requirements
- initial handling procedures
- installing the module
- using the indicators on the module for troubleshooting
- module specifications

Pre-installation Considerations

This module must be used in a 1771-A1B through -A4B or later I/O chassis. 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 outputs are arranged in 4 groups of 8, each group with its own common. The module can simultaneously switch all 32 outputs to separate loads, with a maximum of 12A per module. Each output can conduct a maximum load of 1.0A continuously at 30W maximum. Ac loads switched by the modules should have a power factor (PF) of 1.0.

Maximum interconnect cable length for this module is 1000 ft. (304.8 meters).

European Union Directive Compliance

If this product is installed within the European Union or EEA regions and has the CE mark, the following regulations apply.

EMC Directive

This apparatus is tested to meet Council Directive 89/336/EEC Electromagnetic Compatibility (EMC) using a technical construction file and the following standards, in whole or in part:

- EN 50081-2 EMC – Generic Emission Standard, Part 2 – Industrial Environment
- EN 50082-2 EMC – Generic Immunity Standard, Part 2 – Industrial Environment

The product described in this manual is intended for use in an industrial environment.

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Low Voltage Directive

This apparatus is also designed to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131-2 Programmable Controllers, Part 2 – Equipment Requirements and Tests.

For specific information that the above norm requires, see the appropriate sections in this manual, as well as the following Allen-Bradley publications:

- Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1
- Guidelines for Handling Lithium Batteries, publication AG-5.4
- Automation Systems Catalog, publication B111

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 2.5A. Nominal backplane current is 1.8A.

Initial Handling Procedure

When handling the module, observe the following warning:



ATTENTION: Remove power from the 1771 I/O chassis backplane and field 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.

Installing Your Module

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

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

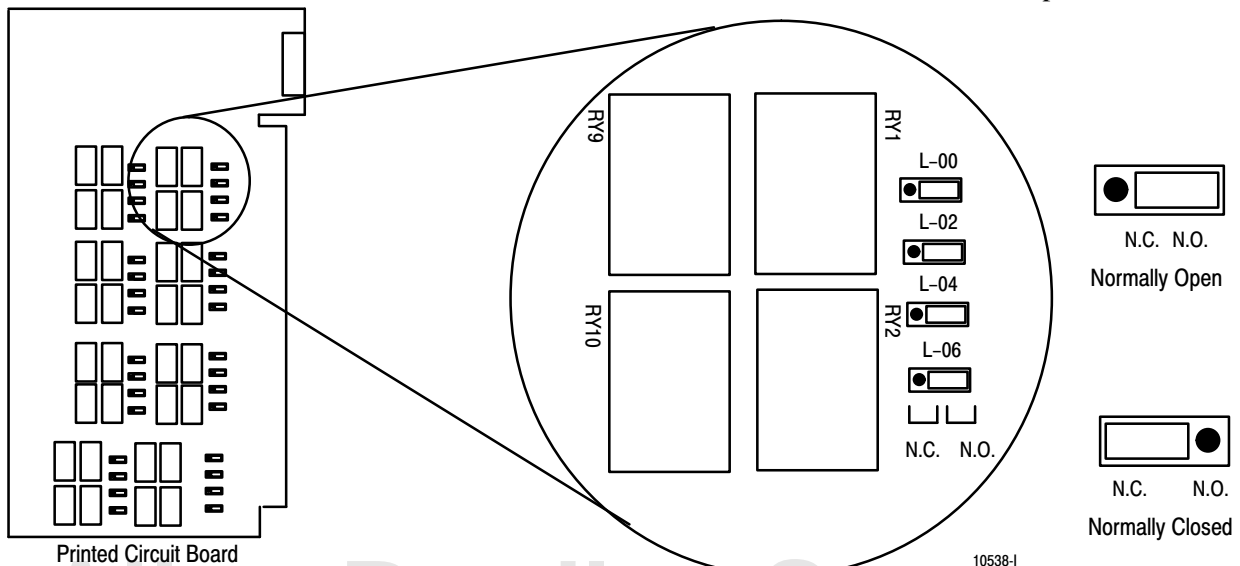
Slots on the rear edge of the circuit board are matched to these slots to allow insertion of this type of module. You can key any connector in an I/O chassis to receive this module except for the leftmost connector reserved for adapter or processor modules.

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.

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. Jumpers are identified by jumper number and use (N.O. or N.C.). Refer to Table 1.A for jumper and terminal identifications.
3. Reinstall the circuit board in the module and replace the cover.



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Table 1.A Jumper Identification for Individual Outputs

Terminal Number	Function	Jumper Number	Terminal Number	Function	Jumper Number
1	Common 0		21	Common 2	
2	Output 00	L-00	22	Output 00	H-00
3	Output 01	L-01	23	Output 01	H-01
4	Output 02	L-02	24	Output 02	H-02
5	Output 03	L-03	25	Output 03	H-03
6	Output 04	L-04	26	Output 04	H-04
7	Output 05	L-05	27	Output 05	H-05
8	Output 06	L-06	28	Output 06	H-06
9	Output 07	L-07	29	Output 07	H-07
10	Not used		30	Not used	
11	Common 1		31	Common 3	
12	Output 10	L-10	32	Output 10	H-10
13	Output 11	L-11	33	Output 11	H-11
14	Output 12	L-12	34	Output 12	H-12
15	Output 13	L-13	35	Output 13	H-13
16	Output 14	L-14	36	Output 14	H-14
17	Output 15	L-15	37	Output 15	H-15
18	Output 16	L-16	38	Output 16	H-16
19	Output 17	L-17	39	Output 17	H-17
20	Not used		40	Not used	

Inserting the Module Into the Chassis

1. Turn off power to the I/O chassis.
2. 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.
3. Slide the module into the chassis.
4. Press firmly to seat the module in the chassis backplane connector.
5. Swing the module locking latch down into place over the front edge of the module.

Connecting Wiring to the Module

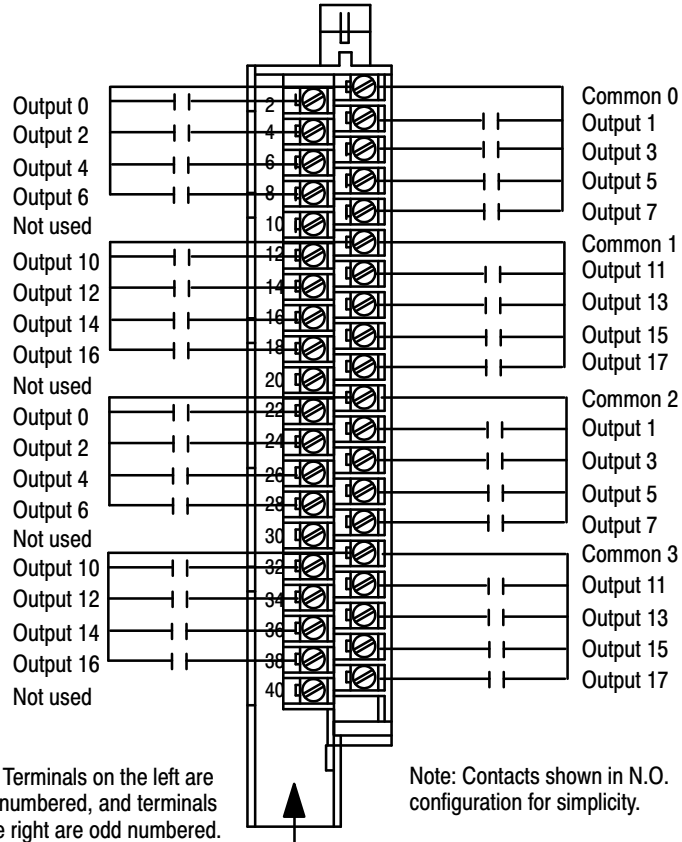
You make connections to the module through the field wiring arm cat. no. 1771-WN. The arm pivots on the I/O chassis to connect with terminals on the front of the module and acts as a terminal strip. The wiring arm allows the module to be removed from the chassis without disconnecting wiring.

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 the connection diagram. (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 1771-OWN Module



Note: Terminals on the left are even numbered, and terminals on the right are odd numbered.

Note: Contacts shown in N.O. configuration for simplicity.

(Actual wiring runs in this direction.)

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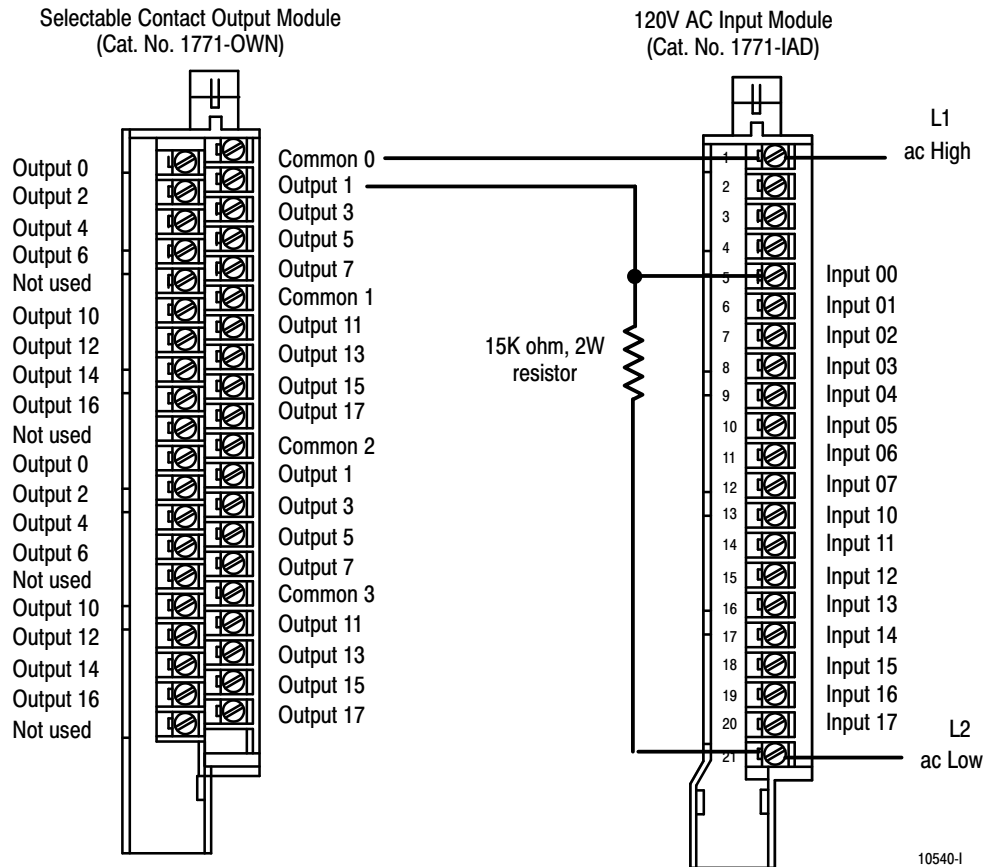
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ATTENTION: Do not attempt to increase load current or wattage capability beyond the rating by connecting two or more outputs in parallel. The slightest variation in output relay switching time may cause one set of contacts to switch the total load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

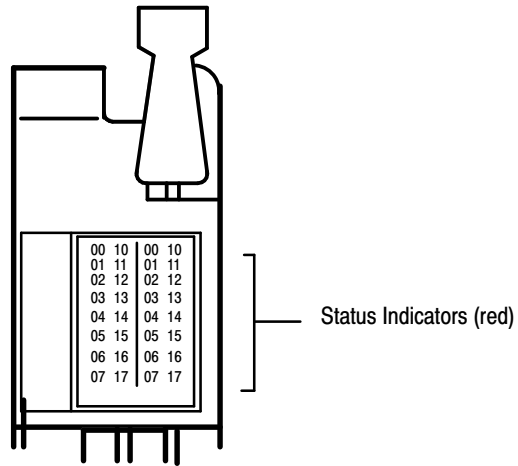
You can use the 1771-OWN output module to drive an input of a 120V ac input module (1771-IA, -IA2, -IAD) to indicate status of turning on a motor starter as shown below, for example, but you must connect a 15K, 2W resistor between the output and L2 (common). Inputs configured with the output module are not isolated from each other.

Driving an Input Module with a 1771-OWN Output Module



Interpreting the Status Indicators

The module has 32 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	32 (4 groups of 8)
Module Location	1771-A1B thru -A4B or later, 1771-AM, -AM1 I/O Chassis
Voltage Rating	24 - 138V ac rms; 24 - 125V dc
Current Rating ¹	1A continuous (derate linearly 0.033A/°C above 45°C) 12A (derate linearly 0.4A/°C above 45°C) 4A (derate linearly 0.133A/°C above 45°C)
	Max. per channel Max. per module Max. per group
Surge Current	1A (max) per output (at rated power) ²
Power Rating	dc: 30W per output (resistive) maximum ac: 30W per output (resistive) maximum
Minimum Contact Load	10mA
Operate/Release Time	5ms (+1ms) typical
Bounce Time	1ms (max)
Switching Frequency	10Hz (max)
Power Dissipation	All relays off: 15mW; All relays on: 12.5W (max.)
Thermal Dissipation	All relays off: 0.05 BTU/hr; All relays on: 42.75 BTU/hr (max.)
Backplane Current	2.5A maximum; 1.8A nominal
Isolation Voltage	Isolation meets or exceeds UL Standard 508, and CSA Standard C22.2 No. 142.
Interconnect Cable Length	1000 ft. (304.8 meters)
Conductors	14 gauge (2mm ²) stranded (max) 3/64 inch (1.2mm) insulation (max)
Wire Size	
Category	1 ³
Environmental Conditions	
Operational 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 and Between 16 and 18
Field Wiring Arm	1771-WN
Wiring Arm Screw Torque	7-9 inch-pounds
Agency Certification (when product or packaging is marked)	<ul style="list-style-type: none"> • CSA certified • CSA Class I, Division 2, Groups A, B, C, D certified • UL listed • CE marked for all applicable directives

¹ Spikes, peaks and surges must be within the power rating. Resistive loads only. ac and 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 You use this conductor category information for planning conductor routing as described in the system-level installation manual.



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