



# Contact Output Module

## Cat. No. 1771-OWNA

### Installation Instructions

#### 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. **This module 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).

#### 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 Procedures

When handling the module, observe the following warning:



**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.

## Installing Your Module

In this section we tell you how to key your I/O chassis, 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.

### 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.



**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.

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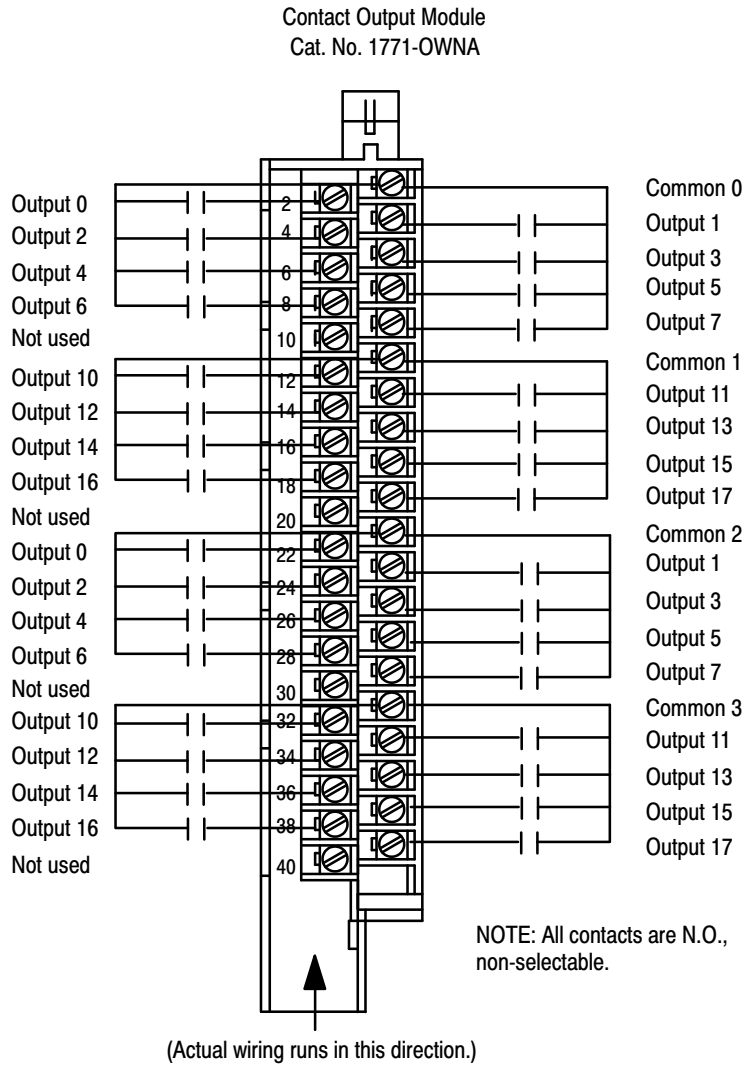
2. Swing the wiring arm up into position on the front of the module. The locking tab on the module will secure it into place.
3. Make your connections to the field wiring arm as shown in Figure 1. (Use the label on the front of the wiring arm to identify your wiring.)



**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 1771-OWNA Contact Output Module**



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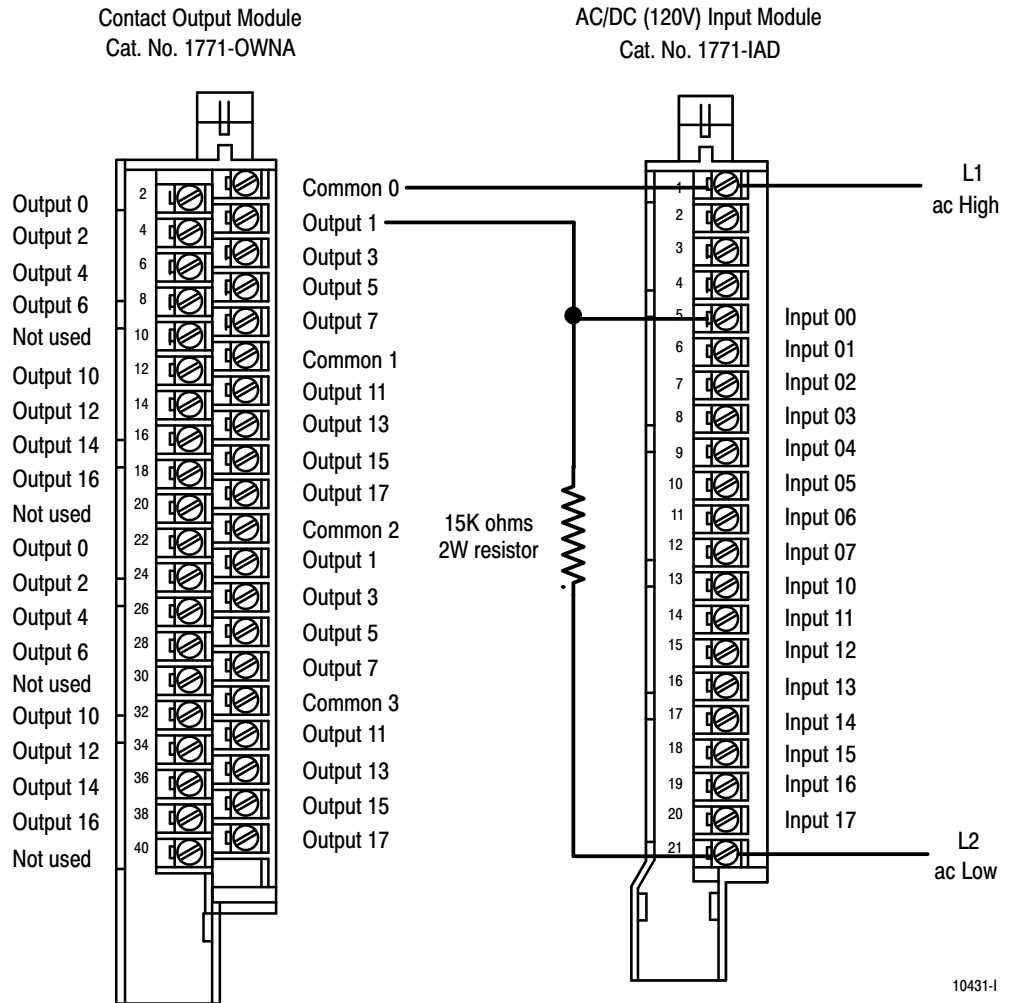


**ATTENTION:** Do not attempt to increase load current or wattage capability beyond the rating by connecting two or more outputs in parallel. The slightest variation in output relay switching time may cause one set of contacts to switch the total load current.

**Installation Instructions**  
**Contact Output Module**  
 (Cat. No. 1771-OWNA)

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

**Figure 2**  
**Contact Output Module Driving an Input Module**

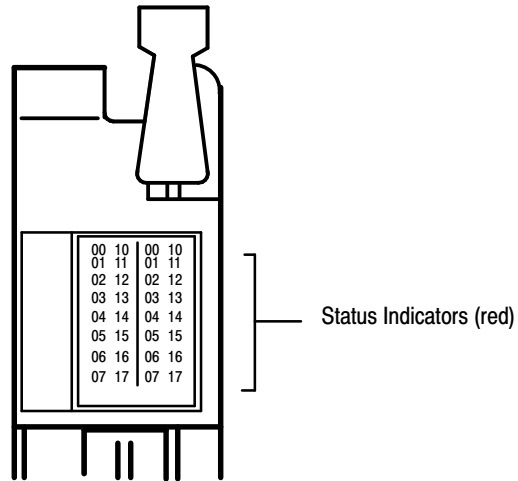


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## Interpreting the Status Indicators

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.

**Figure 3**  
**Status Indicators**



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## Specifications

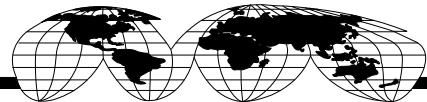
Outputs per module	32 (4 groups of 8)	
Module Location	1771-A1B thru -A4B or later, 1771-AM1 or -AM2 chassis	
Voltage Rating	24 - 138V ac rms 24 - 125V dc	
Current Rating	Max. per channel Max. per module Max. per group	10mA - 1A continuous (derate linearly 0.033A/°C above 45°C) 12A (derate linearly 0.4A/°C above 45°C) 4A (derate linearly 0.133A/°C above 45°C)
Surge Current	1A (max) per output (at rated power)	
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	1000V between open contacts 1500V coil to contact	
Interconnect Cable Length	1000 ft. (304.8 meters)	
Conductors	Wire Size  Category	14 gauge stranded (max) 3/64 inch insulation (max) Category 1 <sup>1</sup>
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	Cat. No. 1771-WN	
Wiring Arm Screw Torque	7-9 inch pounds	

<sup>1</sup> Refer to publication 1770-4.1, Programmable Controller Wiring and Grounding Guidelines



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World Headquarters, Allen-Bradley, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414 382-2000 Fax: (1) 414 382-4444