



AC (24V) Output Module Cat. No. 1771-ON

Installation Data

To The Installer

This document provides information on:

- power supply requirements
- initial handling procedures
- installing the module
- using the indicators for troubleshooting
- replacing the fuses
- module specifications

Power Requirements

Your module receives its power through the 1771 I/O chassis backplane from the chassis power supply. The module requires 225mA from the output of this supply. Add this to the requirements of all other modules in the I/O chassis to prevent overloading the chassis backplane and/or backplane power supply.

Initial Handling

The AC output module is shipped in a static-shielded bag to guard against electrostatic discharge damage. Observe the following precautions when handling the module.

Electrostatic Discharge Damage



ATTENTION: Under some conditions, electrostatic discharge can degrade performance or damage the module. Observe the following precautions to guard against electrostatic damage.

- Wear an approved wrist strap grounding device, or 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-free work station.
- When not in use, keep the module in a static-shielded 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 Your I/O Chassis

Use the plastic keying bands, shipped with each I/O chassis, to key the I/O slots to accept only this type of module.

The module circuit board is slotted in two places on the rear edge. The position of the keying bands on the backplane connector must correspond to these slots to allow insertion of the module. You can key any connector in an I/O chassis to receive this module except for the left-most connector reserved for adapter or processor modules. Place keying bands between the following numbers labeled on the backplane connector:

- Between 4 and 6
- Between 12 and 14

You can change the position of these keys if system redesign and rewiring makes insertion of a different module necessary.

Installing the Output Module

To install the ac output module in your 1771 I/O chassis, follow the steps listed below.



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.

1. Turn off power to the I/O chassis.
2. Place the module in the plastic tracks on the top and bottom of the slot that guides the module into position.
3. Do not force the module into its backplane connector. Apply firm, even pressure on the module to seat it properly.
4. Snap the chassis latch over the top of the module to secure its position.
5. Connect the wiring arm to the module.
6. Make wiring connections to the field wiring arm as indicated in

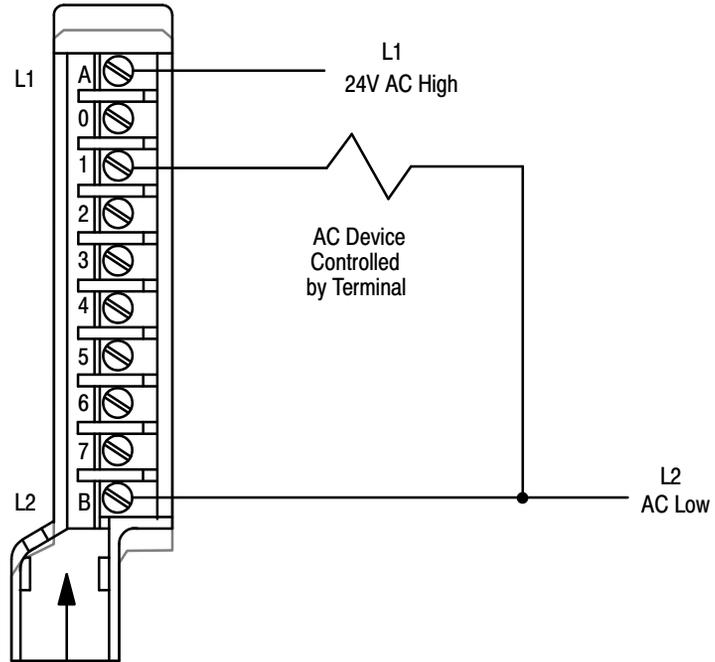
Connecting the Wiring

Connections to the input module are made to the 10 terminal field wiring arm (cat. no. 1771-WA) shipped with the module. Attach the wiring arm to the pivot bar on the bottom of the I/O chassis. The wiring arm pivots upward and connects with the module so you can install or remove the module without disconnecting the wires.

You must supply ac (L1) at terminal A on the wiring arm, and ac (L2) at terminal B. Make connections to the output devices at terminals 0 through 7.

Figure 1

Figure 1
Connection Diagram



(Actual wiring runs in this direction.)

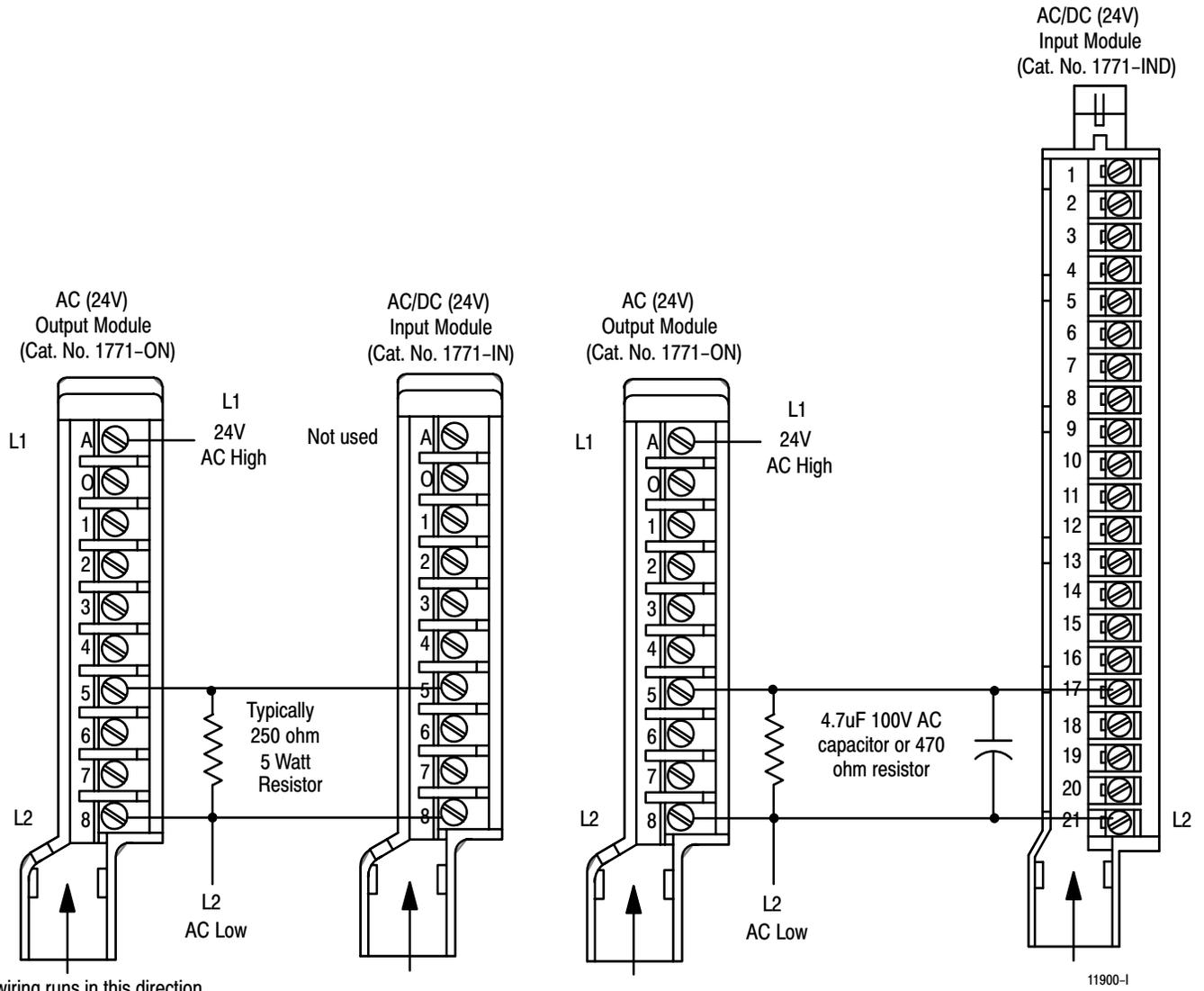
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Important: You can use an AC (24V) output module (cat. no. 1771-ON) to drive an AC (24V) input module (cat. no. 1771-IN) but you must connect a 250 ohm, 5W resistor between the output terminal and L2 (common) as shown in . When using a 1771-ON to drive an AC (24V) input module (cat. no. 1771-IND), connect a 470 ohm, 3 Watt resistor or a 4.7uF, 100V capacitor between the output terminal and L2 (common) as shown in . **Use the same ac power source to power both modules to ensure proper phasing and prevent module damage.**

Figure 2

Figure 2

Figure 2
Driving an Input with an Output

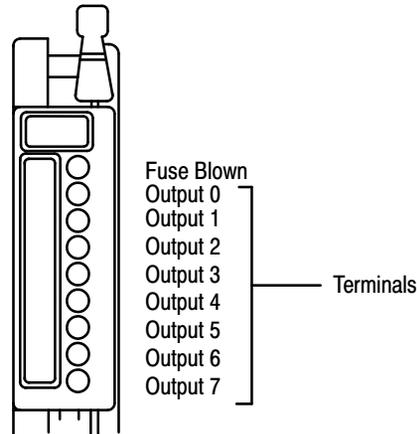


Actual wiring runs in this direction.

Interpreting the Status Indicators

The front panel of your module contains 9 red status LED indicators (Figure 3). The top LED is the blown fuse indicator. The 8 remaining red status indicators illuminate when the corresponding output energizes.

Figure 3
Status Indicators



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Replacing the Fuse

The module's output circuitry is protected from overload or shorts by a fuse. You can replace the fuse as outlined below.

1. Turn off all power to the I/O chassis and all output device power to the field wiring arm.



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

- Failure to remove power from the backplane or field 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.

2. Pivot the wiring arm away from the module and remove the module from the chassis.
3. Remove the protective cover from the side of the module by removing the 2 slotted screws.
4. Replace the blown fuse with a 2A, 8AG normal blow fuse.

5. Reinstall the protective cover and install the module back into the I/O chassis.
6. Position the field wiring arm back in place.
7. Restart system power.

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AC (24V) Output Module
Cat. No. 1771-ON

Specifications

Outputs per Module	8
Module Location	1771 I/O chassis
Output Voltage Range	20 to 30V ac @ 47 - 63Hz
Nominal Output Voltage	24V ac, 50/60Hz
Output Current Rating	1.5A per output - not to exceed 6A per module
Surge Current (maximum)	4A per output for 10msec
Minimum Load Current	100mA per output @ 24V ac, 60Hz
On State Voltage Drop (max.)	2V at 100mA
Off State Leakage Current (max.)	4mA per output @ 30V ac
Signal Delay	On: 1.0ms; Off: 8.3ms
Power Dissipation	13.2 Watts (max.), 1.2 Watts (min.)
Thermal Dissipation	45.1 BTU/hr (max.), 4.1 BTU/hr (min.)
Backplane Current	225mA @ 5V dc \pm 5%
Opto-electrical Isolation	1500V ac rms
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)
Conductors	Wire Size
	14 gage stranded maximum
	3/64 inch insulation maximum
	Category
	1 ¹
Keying	Between 4 and 6 Between 12 and 14
Fuse	2A 8AG Normal Blow
Field Wiring Arm	Catalog Number 1771-WA

¹ Refer to publication 1770-4.1, Programmable Controller Wiring and Grounding Guidelines.



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