



AC(220V) Isolated Output Module

Cat. No. 1771-OR

Installation Data

To The Installer

This document provides information on:

- important pre-installation considerations
- power supply requirements
- installing the module
- using the indicators for troubleshooting
- replacing the fuses
- module specifications

Pre-installation Considerations

This module may be used with either 1771 Series A or B I/O chassis.

Power Requirements

Your module receives its power through the 1771 I/O chassis backplane from the chassis power supply. The module requires 255mA 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.

Surge suppression is provided for the output of the triacs of this module. An MOV (metal oxide varistor), between each set of module terminals, suppresses high voltage transients from the ac line. An RC network limits the effect of voltage transients from devices with hard contacts or inductive loads.



CAUTION: Loads with large inductive characteristics can generate substantial voltage transients, which could exceed the internal surge suppression protection of the module. Additional surge suppression devices may be needed to provide protection for the output circuitry.

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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



WARNING: 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 three 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 30 and 32
- Between 34 and 36

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

Installing Your Output Module

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



WARNING: 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.

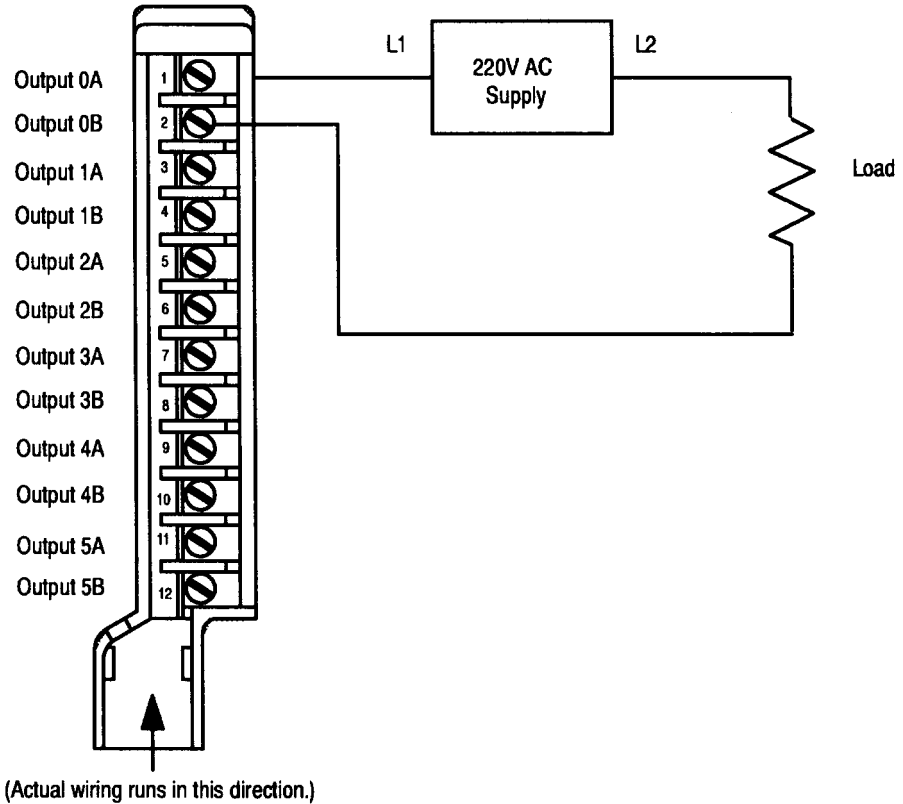
1. Turn off power to the I/O chassis.
2. Place the module in the plastic tracks on the top and bottom of the slot that guides the module into position.
3. Do not force the module into its backplane connector. Apply firm, even pressure on the module to seat it properly.
4. Snap the chassis latch over 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 Figure 1.

Connecting Wiring to the Output Module

Connections to the output module are made to the 12 terminal field wiring arm (cat. no. 1771-WD) 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.

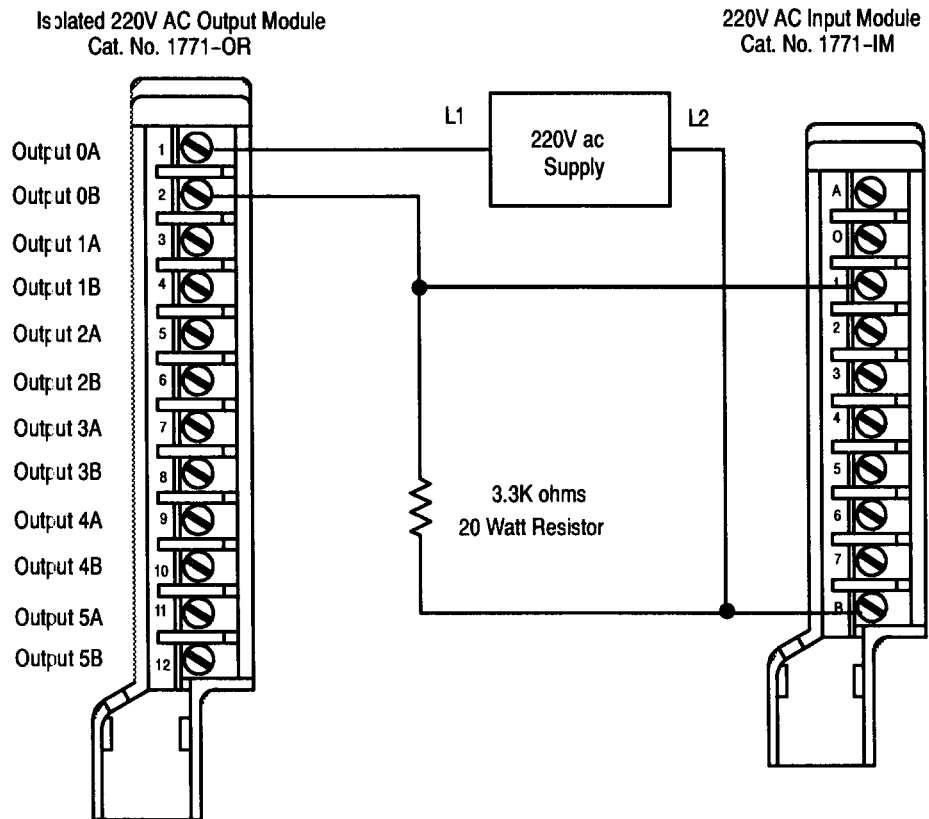
You must supply ac (L1) at the A terminal of each pair on the wiring arm. Connect your equipment to the B terminal of the pair. The front module label identifies these connections and provides space for you to identify them.

Figure 1
Connection Diagram



Important: You can use an Isolated AC (220V) Output Module (cat. no. 1771-OR) to directly drive terminals on an AC (220V) Input Module (cat. no. 1771-IM or-IMD) (Figure 2). However, you must connect a resistor across the terminals of the output to allow for proper operation of the status indicator. Typically, a 3300 ohm, 20 Watt resistor is used.

Figure 2
 Driving an Input with an Output



11389

Installation Data

AC (220V) Isolated Output Module

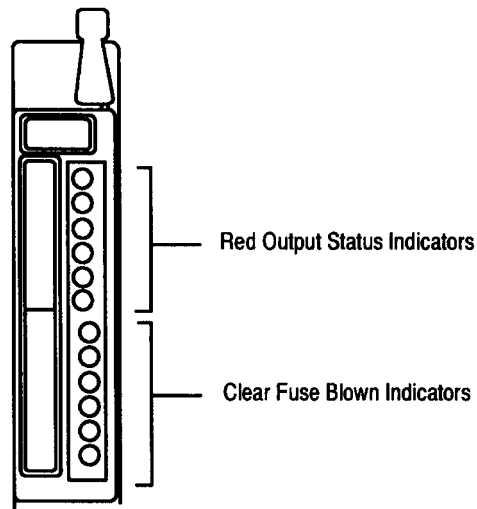
Cat. No. 1771-OR

Interpreting the Status Indicators

The front panel of your module contains 12 indicators (Figure 3). The top six indicators show the state of each output. If an indicator is on, the corresponding output is energized. The output status indicators are driven by the logic circuitry on the controller side of the module.

The bottom six indicators indicate a blown fuse condition at the respective output. The indicators are driven by the customer power supply.

Figure 3
Status Indicators



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Replacing the Fuse

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

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



WARNING: 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.

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2. Pivot the wiring arm away from the module and remove the module from the chassis.
 3. Remove the cover (nearest the front of the module) from the side of the module by removing the two screws on the component side.
 4. Replace the blown fuse with a 5A, 250V, type 3AG normal blow fuse.
 5. Reinstall the protective cover and install the module in the I/O chassis.
 6. Reposition the field wiring arm and restart system.

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Specifications

Outputs per Module	6
Module Location	1771 I/O chassis
Nominal Output Voltage	220V ac, 50/60Hz
Output Voltage Range	184 to 276V ac @ 47 – 63Hz
Output Current Rating	2A per output – not to exceed 6A per module
Surge Current (maximum)	15A per output for 100ms repeatable every 2 seconds
Minimum Load Current	60mA per output @ 220V ac, 60Hz
On-state Voltage Drop (max.)	2V at 100mA
On-state Leakage Current (max.)	10mA per output @ 276V ac
Power Dissipation	13.2 Watts (max.), 1.2 Watts (min.)
Thermal Dissipation	45.1 BTU/hr (max.), 4.1 BTU/hr (min.)
Backplane Current	255mA @ 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 30 and 32 Between 34 and 36
Fuse	5A, 250V 3AG Normal Blow (1 per output)
Field Wiring Arm	Catalog Number 1771-WD
Wiring Arm Screw Torque	7-9 inch-pounds

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



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