



AC (120/240V) Output Module Cat. No. 1771-OAN

Installation Instructions

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
- replacing the fuses
- module specifications

Pre-installation Considerations

The 1771-OAN ac output module is a source output and requires a sink input. A sink input provides a path to ground and a source output provides a positive voltage path.

This module is not compatible with 2-slot addressing. You must use 1-slot addressing with restrictions, or 1/2-slot addressing with no restrictions.

You must use this module in a 1771-A1B thru -A4B or later 1771 I/O chassis. Refer to Table 1 below for processor compatibility.

**Table 1
Processor Compatibility Chart**

System Type	Use with Processors:
Local	Mini-PLC-2/02 (cat. no. 1772-LZ, -LZP) Mini-PLC-2/16 (cat. no. 1772-LX, -LXP) Mini-PLC-2/17 (cat. no. 1772-LW, -LWP) PLC-5/15, Series B and later (cat. no. 1785-LT)
Remote (with a 1771-ASB remote I/O adapter)	PLC-2/20 (cat. no. 1772-LP2) PLC-2/30 (cat. no. 1772-LP3) PLC-3 (cat. no. 1775-L1, -L2, -L3, -L4) PLC-3/10 (cat. no. 1775-LP4, -LP8) PLC-5/15, Series B and later (cat. no. 1785-LT)

Do not place this module in the same I/O chassis as the 1771-IX thermocouple module. You can use this module in the same chassis as the 1771-IXE thermocouple module.

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 output modules. The maximum current drawn from this supply is 800mA.

Installing Your Module

In this section we tell you how to initially handle your module, key your I/O chassis, and install your module.

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 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:

- 16 and 18
- 22 and 24

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. 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.

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 [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.

I/O Module Groups

Each module condenses two full module groups (32 outputs) into each I/O chassis slot. For example:

- Module group 1 = outputs 00 through 17
- Module group 2 = outputs 00 through 17 (module group 2 represents the second set of outputs).

In Figure 1, terminals 1 through 20 represent module group 1. Terminals 21 through 40 represent module group 2. Terminals 1, 11, 21 and 31 are ac high (L1).

Figure 1
Connection Diagram for the 1771-OAN AC Output Module

Note: Terminals on the left are even numbered (2 thru 40), and terminals on the right are odd numbered (1 thru 39).

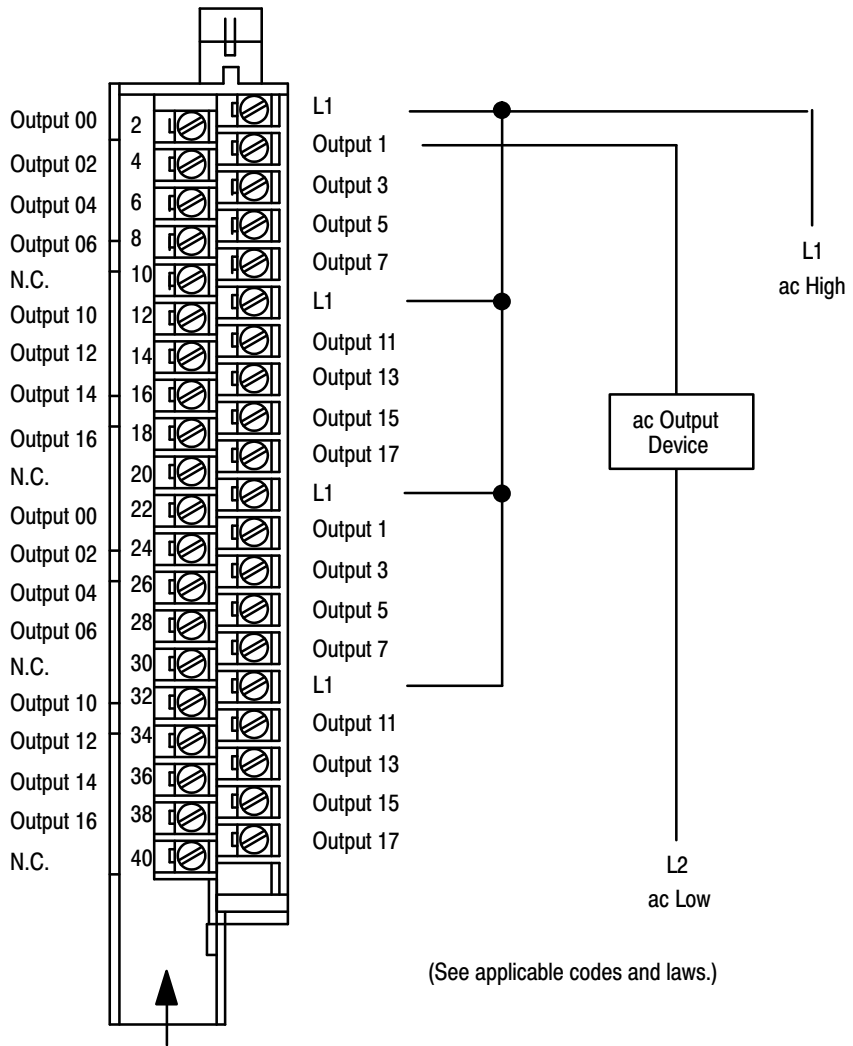


Table 2
Module Output Terminal Assignments

Terminal Number	Output Assignment	I/O program address	Terminal Number	Output Assignment	I/O program address
01	¹ 120V ac	-	21	¹ 120V ac	-
02	Output 00	0RG00	22	Output 00	0R(G+1)00
03	Output 01	0RG01	23	Output 01	0R(G+1)01
04	Output 02	0RG02	24	Output 02	0R(G+1)02
05	Output 03	0RG03	25	Output 03	0R(G+1)03
06	Output 04	0RG04	26	Output 04	0R(G+1)04
07	Output 05	0RG05	27	Output 05	0R(G+1)05
08	Output 06	0RG06	28	Output 06	0R(G+1)06
09	Output 07	0RG07	29	Output 07	0R(G+1)07
10	N.C.	-	30	N.C.	-
11	¹ 120V ac	-	31	¹ 120V ac	-
12	Output 10	0RG10	32	Output 10	0R(G+1)10
13	Output 11	0RG11	33	Output 11	0R(G+1)11
14	Output 12	0RG12	34	Output 12	0R(G+1)12
15	Output 13	0RG13	35	Output 13	0R(G+1)13
16	Output 14	0RG14	36	Output 14	0R(G+1)14
17	Output 15	0RG15	37	Output 15	0R(G+1)15
18	Output 16	0RG16	38	Output 16	0R(G+1)16
19	Output 17	0RG17	39	Output 17	0R(G+1)17
20	N.C.	-	40	N.C.	-

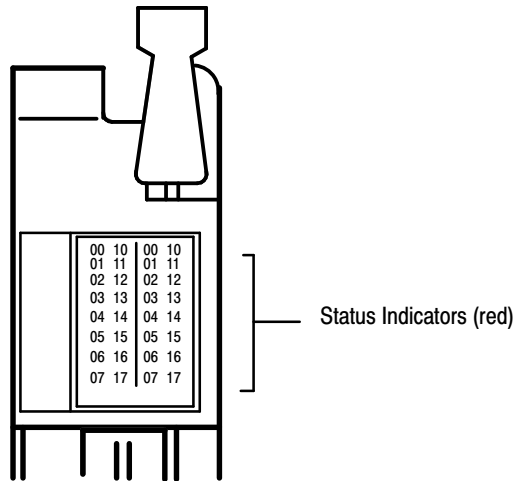
Where: R = rack number (1, 2, 3, etc.)
G = I/O group (0 - 7)
G+1 = I/O group plus 1

¹ You can connect a different power supply to each 120V ac input terminal. They are not connected internally.

Interpreting the Status Indicators

The module has 32 status indicators on the module front plate (Figure 2). These represent the control status of the outputs. Each indicator is lit when its corresponding output is energized.

Figure 2
Status Indicators



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Replacing the Fuses

Each group of eight outputs share a common fuse. To replace a blown fuse, proceed as follows:



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

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 - Failure to remove power from the backplane could cause injury or equipment damage due to possible unexpected operation.
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1. Turn off power to the chassis.
2. Remove the module from the I/O chassis.
3. Remove the blown fuse from the fuse holder (accessible through the side cover), and replace it with a 4A, 250V normal blow fuse.
4. Reinsert the module into the I/O chassis.
5. Turn on power to the chassis.

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AC (120/240V) Output Module
(Cat. No. 1771-OAN)

Specifications

Outputs per module		32 (4 groups of 8)
Module Location		1771-A1B thru -A4B or later 1771 I/O Chassis
Voltage Range		80 to 265V ac, 47-63Hz
Nominal Voltage		120V ac
Maximum Output Current	Per Point Per Group Per Module	1.0A at 30°C; Derate linearly to 0.3A at 60°C 2.0A at 30°C; Derate linearly to 0.6A at 60°C 8.0A at 30°C; Derate linearly to 2.4A at 60°C
Maximum Surge Current		10A for 25ms at 1Hz and 30°C 10A for 25ms at 0.5Hz and 60°C
Minimum Load Current		10mA per output
Maximum On-state Voltage Drop		1.5V ac (rms) @ 1A
Maximum Off-state Leakage Current		2.3mA per output @ 230V ac, 60Hz 1.2mA per output @ 120V ac, 60Hz
Maximum Output Signal Delay	Off to On On to Off	1.0ms maximum 9.3ms @ 60Hz; 11.0ms @ 50Hz
Power Dissipation		16.2W (max); 1.0W (min)
Thermal Dissipation		55.4 BTU/hr (max); 3.4 BTU/hr (min)
Isolation Voltage		Backplane-to-customer side – 1800V ac for 1s
Backplane Current		800mA maximum @ 5V DC
Conductors	Wire Size	14 gauge stranded (max) ² 3/64 inch insulation (max)
	Category	¹
Environmental Conditions	Operational 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)
Field Wiring Arm		1771-WN
Keying		Between 16 and 18 Between 22 and 24
Fuses		Four 4.0A, 250V normal blow fuses (1 per group)

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

² 14 gauge wire connected to all terminals may not allow the cover on the field wiring arm to close. A smaller gauge wire may be required.



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