



AC/DC (220/240V) Input Module

Cat. No. 1771-IM

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
- module specifications

Pre-installation Considerations

This module contains input filtering to limit the effects of voltage transients caused by contact bounce and/or radiated electrical noise. The delay due to filtering is nominally 20 ± 6 ms for turning AC inputs on or off.

This module is designed to operate with AC limit switches, selector switches, float switches and pushbutton switches.

Power Requirements

Your module receives its power through the 1771 I/O chassis backplane from the chassis power supply. The module requires 75mA 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.

Installing Your Module

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

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.

Keying Your Module

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 2 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 6 and 8
- Between 30 and 32

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

Installing the Input Module

To install the AC/DC input module in your 1771 I/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.

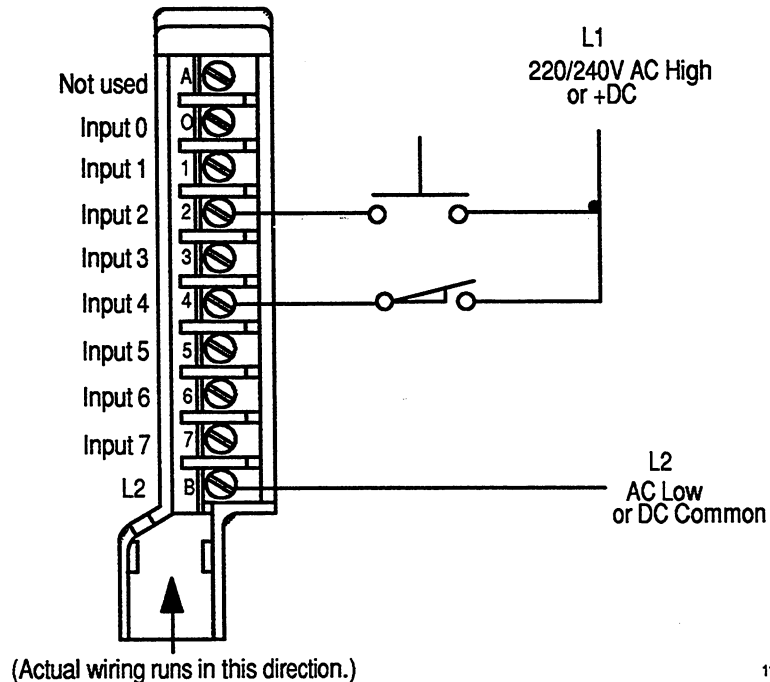
Connecting Wiring to the Input Module

Connections to the input module are made to the 10 terminal field wiring arm (cat. no. 1771-WA) shipped with the module (Figure 1). 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.

Installation Data

AC/DC (220/240V) Input Module
Cat. No. 1771-IM

Figure 1
Connection Diagram



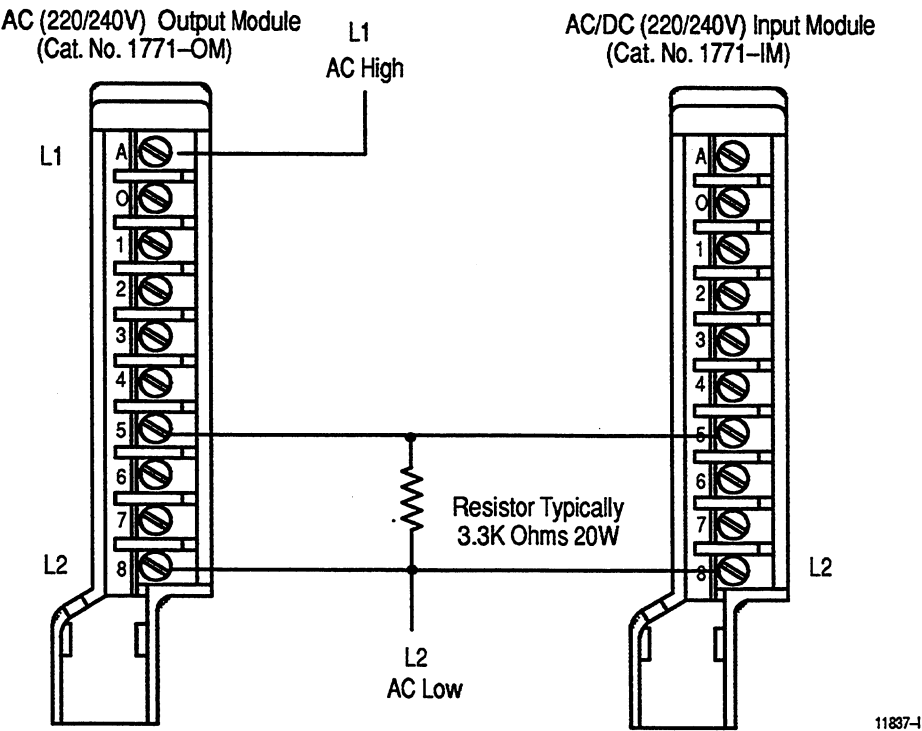
11836-1

Connect one terminal of your 2-wire input device to terminals 0 thru 7 (Figure 1).

Connect terminal B to the L2 (low) AC return or DC common. Terminal A is not used. Connect L1 (high) AC line or +DC line to the other terminal of your input devices. Use stranded 14 or 16 gauge wire to minimize the voltage drop over long cable distances.

Important: You can use an AC (220/240V) Output Module (cat. no. 1771-OM) to directly drive terminals on an AC/DC (220/240V) Input Module (cat. no. 1771-IM) (Figure 2), but you must connect a 3.3K ohm, 20W resistor between the output terminal and L2 (common) as shown in Figure 2. (As an alternate, you can use a 100 ohm 3W resistor and a 1uF capacitor). Use the same AC power source to power both modules to ensure proper phasing and prevent module damage.

Figure 2
 Driving an Input with an Output

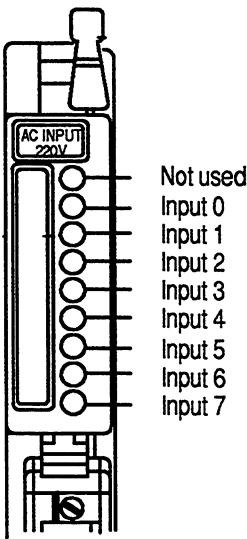


11837-I

Interpreting the Status
 Indicators

The front panel of your module contains 8 neon status indicators (Figure 3). The status indicators are on when the associated input is on.

Figure 3
 Status Indicators



11838-I

Specifications

Inputs per Module	8
Module Location	1771 I/O chassis
Nominal Input Voltage	220/240V AC @ 47 – 63Hz 240V DC
Nominal Input Current	3.5mA RMS @ 220V AC 3.5mA @ 240V DC
Input Voltage Range	184V AC to 276V AC on-state 184V DC to 276V DC on-state 0V AC to 92V AC off-state 0V DC to 114V DC off-state
Input Signal Delay	20±6ms, on or off for AC 10±4ms for turning on DC 20±9ms for turning off DC
Power Dissipation	2.4 Watts (max.); 0.4 Watts (min.)
Thermal Dissipation	10.9 BTU/hr (max.); 3.2 BTU/hr (min.)
Backplane Current	75mA
Opto-electrical Isolation	1500V AC (RMS)
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)
Conductors Wire Size Category	14 gage stranded maximum 3/64 inch insulation maximum 1 ¹
Keying	Between 6 and 8 Between 30 and 32
Wiring Arm	Catalog Number 1771-WA



As a subsidiary of Rockwell International, one of the world's largest technology companies — Allen-Bradley meets today's challenges of industrial automation with over 85 years of practical plant-floor experience. More than 13,000 employees throughout the world design, manufacture and apply a wide range of control and automation products and supporting services to help our customers continuously improve quality, productivity and time to market. These products and services not only control individual machines but integrate the manufacturing process, while providing access to vital plant floor data that — can be used to support decision-making throughout the enterprise.

With offices in major cities worldwide

WORLD HEADQUARTERS
Allen-Bradley
1201 South Second Street
Milwaukee, WI 53204 USA
Tel: (414) 382-2000
Telex: 43 11 016
FAX: (414) 382-4444

EUROPE/MIDDLE EAST/AFRICA HEADQUARTERS
Allen-Bradley Europa B.V.
Amsterdamseweg 15
1422 AC Uithoorn
The Netherlands
Tel: (31) 2975/60611
Telex: (844) 18042
FAX: (31) 2975/60222

ASIA/PACIFIC HEADQUARTERS
Allen-Bradley (Hong Kong) Limited
Room 1006, Block B, Sea View Estate
28 Watson Road
Hong Kong
Tel: (852) 887-4788
Telex: (780) 64347
FAX: (852) 510-9436

CANADA HEADQUARTERS
Allen-Bradley Canada Limited
135 Dundas Street
Cambridge, Ontario N1R 5X1
Canada
Tel: (519) 623-1810
FAX: (519) 623-8930

LATIN AMERICA HEADQUARTERS
Allen-Bradley
1201 South Second Street
Milwaukee, WI 53204 USA
Tel: (414) 382-2000
Telex: 43 11 016
FAX: (414) 382-2400