ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Rockwell / Allen-Bradley 1771-IA* at our website: ***Click HERE***

ALLEN-BRADLEY

AC/DC (120V) Input Module Cat. No. 1771–IA, –IA2

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

These modules contain 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 24±10ms for turning ac inputs on or off; and 10±4ms for turning dc inputs on, 20±9ms for turning dc inputs off.

These modules are designed to operate with ac proximity switches such as Allen–Bradley Bulletin 871P and other input devices with an off–state leakage current less than 2.8mA.

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.

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

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 10 and 12

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.



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. 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 of the module.

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Connecting Wiring to the Module

You make connections to the module through the 1771–WA field wiring arm shipped with the module. The arm pivots on the chassis to connect with the terminals on the front of the module. The wiring arm allows the module to be removed from the chassis without disconnecting wiring.

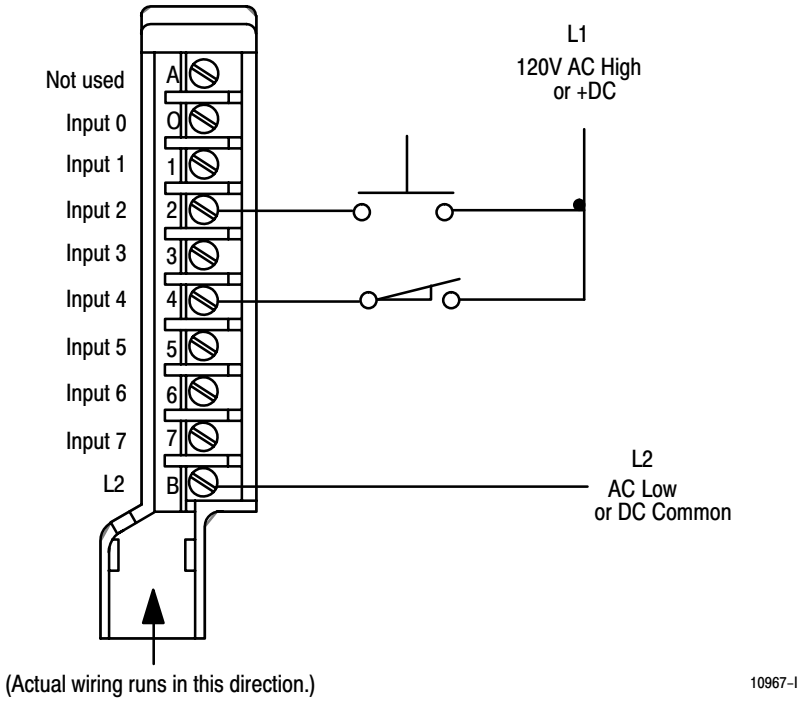
1. Make certain all power is removed from the module before making wiring connections.

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.

Figure 1
Connection Diagram



Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

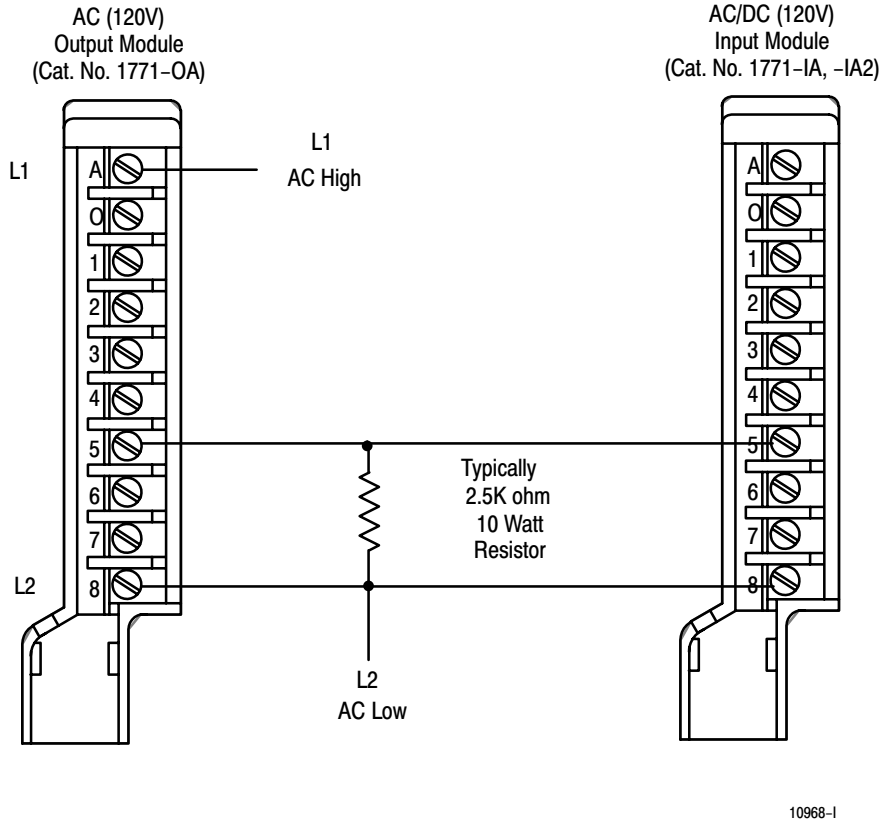
4. Connect one terminal of your 2–wire input device to terminals 0 thru 7 (Figure 1).

5. Connect terminal B to the L2 (low) ac return or dc common. Terminal A is not used.

6. 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 (120V) Output Module (cat. no. 1771–OA) to directly drive terminals on an AC/DC (120V) Input Module (cat. no. 1771–IA, –IA2) (Figure 2), but you must connect a 2.5K ohm, 10W resistor between the output terminal and L2 (common) as shown in Figure 2. **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

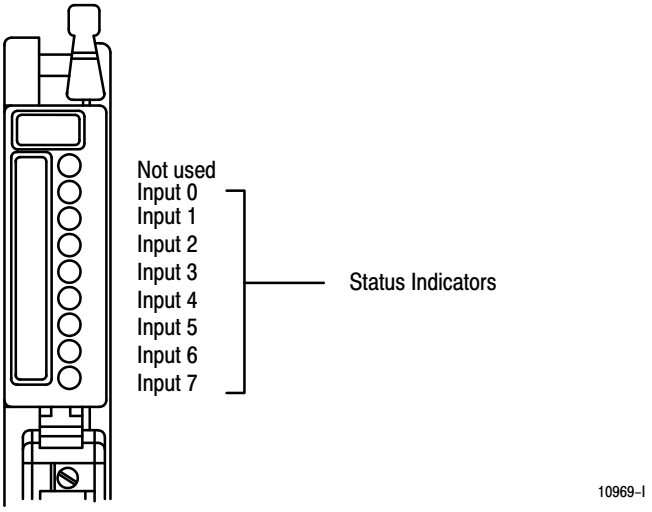


Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Interpreting the Status Indicators

The front panel of your module contains 8 orange neon status indicators (Figure 3). The orange status indicators are provided for system logic side indication of individual inputs. When an orange neon indicator lights, voltage is present on the terminal. The module transfers this information to the backplane for the processor to read.

Figure 3
Status Indicators



Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Installation Data
AC/DC (120V) Input Module
Cat. No. 1771–IA, –IA2

Specifications

Inputs per Module		8
Module Location		1771 I/O chassis
Nominal Input Voltage		120V ac @ 47 – 63Hz 125V dc
Nominal Input Current		4.5mA @ 87V ac 5.0mA @ 92V ac 12.0mA @ 138V ac 7.4mA @ 125V dc
On–state Voltage Range		87V AC to 138V ac 97V DC to 138V dc
Maximum Off–state Voltage		46V ac peak 57V dc
Maximum Off–state Current		2.8mA ac peak or dc
Input Signal Delay		24±10ms, on or off for ac 10±4ms for turning on dc 20±9ms for turning off dc
Power Dissipation		10.7 Watts (max.), 0.4 Watts (min.)
Thermal Dissipation		36.5 BTU/hr (max.), 1.4 BTU/hr (min.)
Backplane Current		75mA
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 10 and 12
Wiring Arm		Catalog Number 1771–WA

[1] Refer to Publication 1770–4.1, Programmable Controller Wiring and Grounding Guidelines.

ALLEN-BRADLEY
A ROCKWELL INTERNATIONAL COMPANY

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 11,000 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: (1) 414 382-2000
Telex: 43 11 016
FAX: (1) 414 382-4444

EUROPE/MIDDLE EAST/AFRICA HEADQUARTERS
Allen-Bradley Europe B.V.
Amsterdamseweg 15
1422 AC Uithoorn
The Netherlands
Tel: (31) 2975/43500
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: (1) 519 623-1810
FAX: (1) 519 623-8930

LATIN AMERICA HEADQUARTERS
Allen-Bradley
1201 South Second Street
Milwaukee, WI 53204 USA
Tel: (1) 414 382-2000
Telex: 43 11 016
FAX: (1) 414 382-2400

Publication 1771–2.1 – May 1990
Supersedes 1771–2.1 – April 1987

P/N 955107–16
Printed in USA

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP