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-P2* at our website: *Click HERE*

ALLEN-BRADLEY

# Auxiliary Power Supply

(Cat. No. 1771-P2)

Installation Data

## To the Installer

This document provides information on:

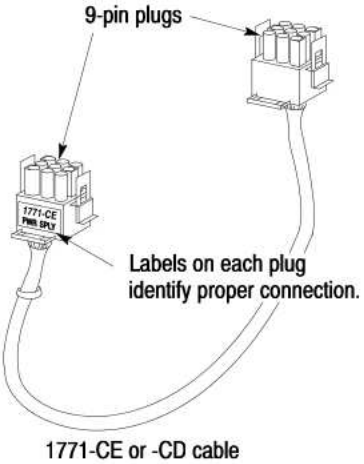
- preparing to install the power supply
- installing the power supply
- connecting ac power to the power supply
- power supply output
- troubleshooting
- specifications

## Prepare for Installation

The auxiliary power supply can power one bulletin 1771 I/O chassis when used with an adapter module, a 1772 Mini-PLC-2□ processor, or a 1772 Mini-PLC-2/15□ processor.

The auxiliary power supply does not provide battery backup. For battery backup, use a system power supply (cat. no. 1771-P1).

## Install the Power Supply and Connect Backplane Power



19568

| If You Are Mounting the Power Supply: | Use this Power Cable (Cat. No.): |
|---|---|
| on the left side of the chassis | 1771-CE |
| within 5 cable-feet of the I/O chassis | 1771-CD |

If you mount the power supply on the left side-plate of the I/O chassis, mount the I/O chassis first (if you have not already done so). See the *Universal I/O Chassis Installation Data* (publication 1771-2.210) for information on mounting the I/O chassis.

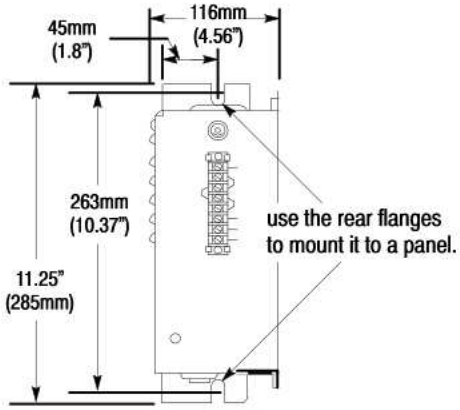
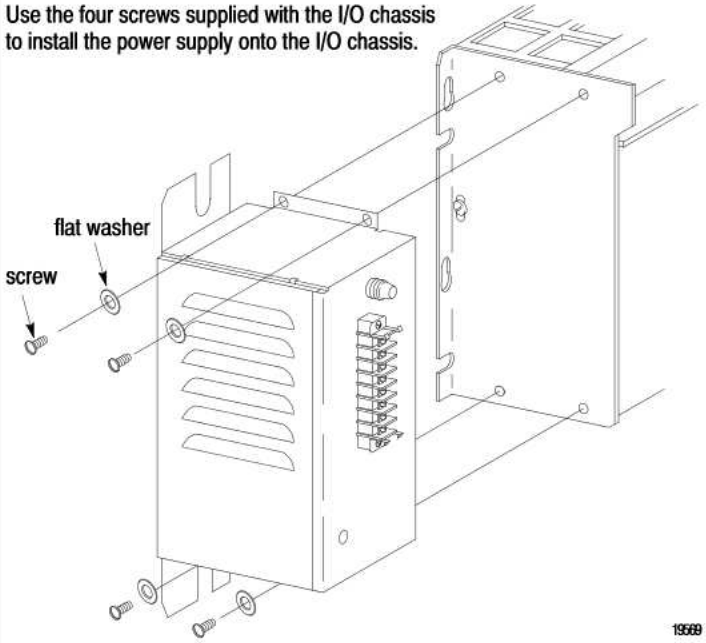
When mounted separately, the power supply can be mounted above or next to the I/O chassis. It can **not** be mounted below since it is necessary to allow convection cooling of both the power supply and the I/O chassis. A minimum vertical distance of six inches should be maintained.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

## Mount the Power Supply

**ATTENTION:** If you do not remove system power, you could damage the module circuitry and/or cause undesired operation with possible injury to personnel.

1. Remove system power.
2. Mount the power supply.

| If Mounting Separately: | If Mounting on Left Side of Chassis: |
|---|---|
| Mount the power supply up to 5 cable-feet from the I/O chassis. | Use the four screws supplied with the I/O chassis to install the power supply onto the I/O chassis. |
|  Depth is 182mm (7.16") 12593-I |  19569 |
| **Important:** Do not mount the power supply below the I/O chassis. | **Important:** Place the flat washers provided between each mounting screw and the power supply. If you do not use the flat washers, the mounting screw intrudes into the I/O chassis and interferes with module insertion. |

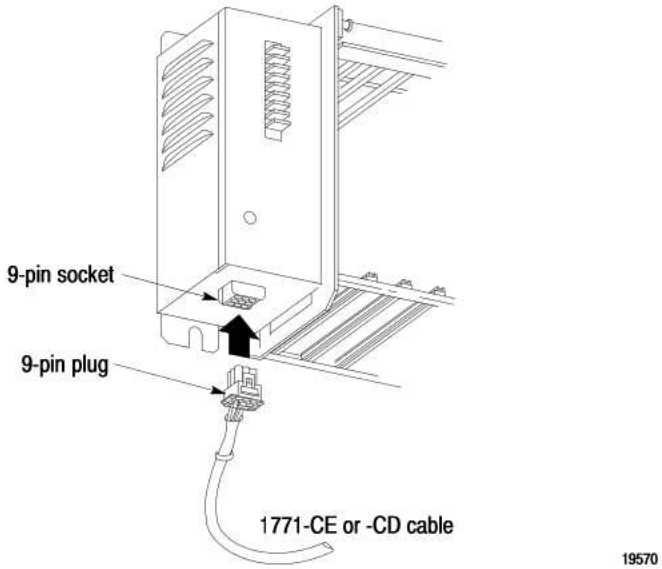


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

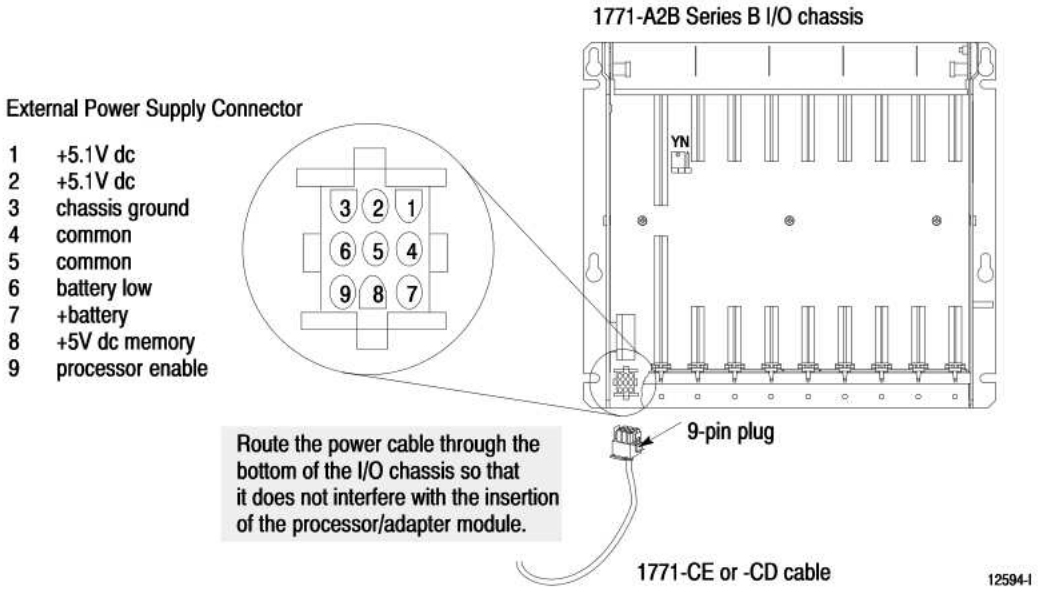
## Connect Backplane Power

To connect backplane power:

1. Connect one 9-pin plug of the power cable to the 9-pin connector located on the bottom of the power supply.



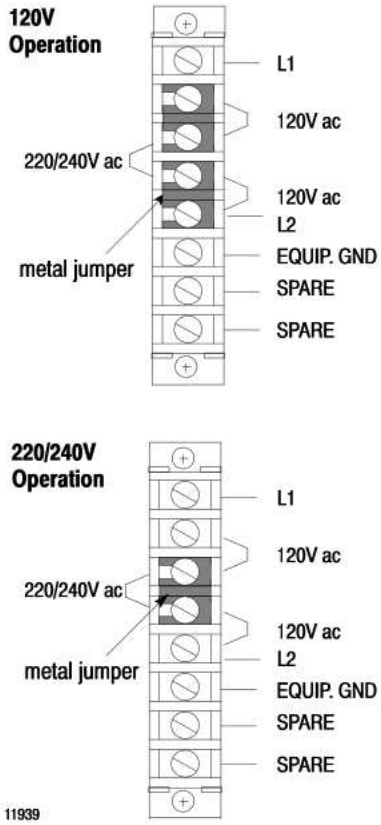

2. Connect the other 9-pin plug to the external power supply connector on the I/O chassis. To make this connection, remove the processor/adapter module and left-most I/O module from the I/O chassis.






Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

## Connect AC Power




Before connecting ac power to the power supply, you must:

- check the input voltage
- check the fuse protection

### Check the Input Voltage

The power supply is factory-shipped for 120V ac operation. You can use:

- 120V ac

  or
- 220/240V ac

Two metal jumpers are installed on the front terminal strip at the positions indicating 120V ac.

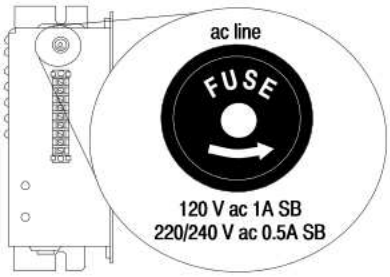
---

**ATTENTION:** Be sure the power supply is correctly jumpered for **either** 120V ac **or** 220/240V ac. Incorrect jumpering on the terminal strip may cause improper operation or damage to the power supply.

---

If you are using the power supply for 220/240V ac operation, remove **both** metal jumpers on the terminal strip from their original 120V positions. Install **one** of these jumpers at the terminal labeled 220/240V ac.

### Check the Fuse Protection




The power supply is protected from overcurrent at its inputs by a slow-blow fuse. The power supply comes with one 1A slow-blow fuse installed for 120V operation. If you are using the power supply for 220/240V operation, remove the 1A fuse and replace it with the 0.5A slow-blow fuse that is provided. Replacement fuses are shown below:

| Input Voltage | Fuse | Manufacturer's No. |
|---|---|---|
| 120V ac | 3AG<br>1A | Bussman: MDL 1A<br>Littelfuse: 313001 |
| 220/240V ac | 3AG<br>0.5A | Bussman: MDL 0.5A<br>Littelfuse: 313.500 |

A replacement fuse kit (cat. no. 1771-FP) containing both 1A and 0.5A fuses is available. Contact your local Allen-Bradley representative for further information.



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

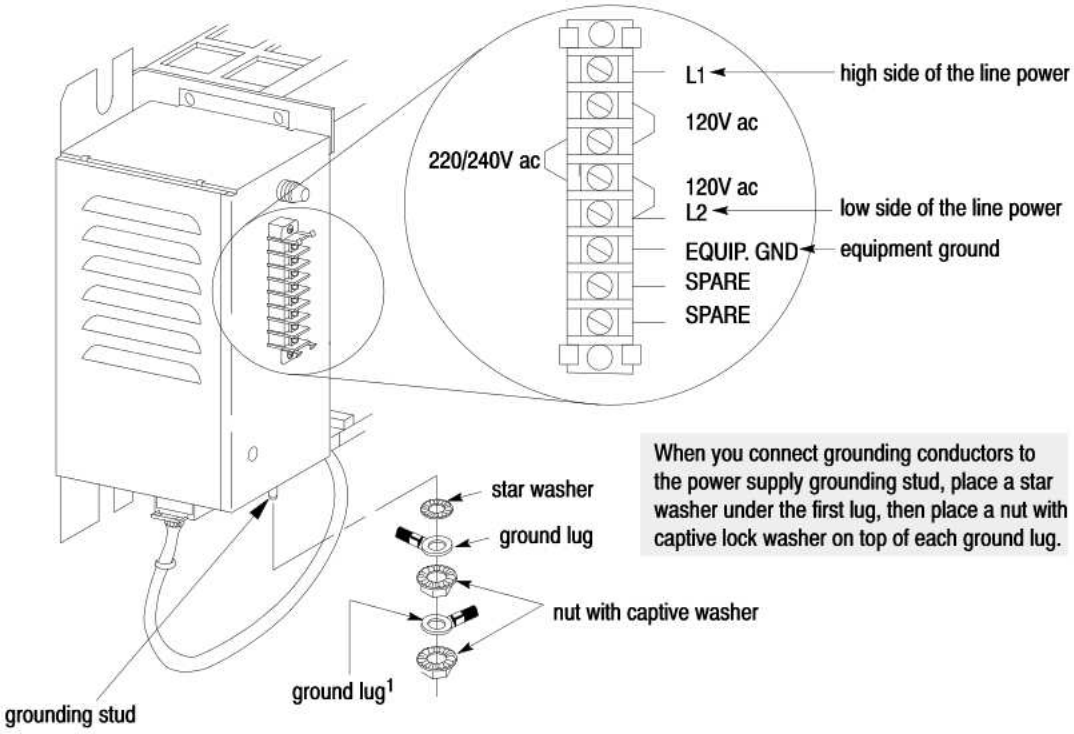
## Connect AC Power Line

The power supply monitors input voltage for proper operating levels.

| If Using the Power Supply for: | Normal Input Range[1]: | Minimum Voltage: |
|---|---|---|
| 120V ac operation | 98 to 132V ac | 92V |
| 220/240V ac operation | 196 to 250V ac | 184V |

[1] If input power is interrupted, the power supply signals the processor to restart automatically when the input line is restored to the normal ac input range (98V for 120V use, or 196V for 220/240V use).

AC input line connections for either 120V ac or 220/240V ac are made to the terminals marked L1 and L2. Use the grounding stud located on the bottom of the power supply to connect the power supply to the system ground bus. If you cannot do this, connect an equipment grounding conductor to EQUIP. GND.




When you connect grounding conductors to the power supply grounding stud, place a star washer under the first lug, then place a nut with captive lock washer on top of each ground lug.

[1]Use the cup washer if crimp-on lugs are not used.

19573

In applications where the ac line is especially unstable and subject to unusual variation, a constant voltage transformer can be used to stabilize the input voltage to the power supply as well as the input voltage to user devices. If a constant voltage transformer is used, it must have filtering to remove high harmonic content and provide a sinusoidal output.
The minimum size required for any type of external transformer feeding the power supply is 160VA at full loading of the power supply.



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

For information concerning the handling of fault conditions due to temporary loss of input line voltage to the power supply, consult the documentation supplied with the device (remote I/O adapter, Mini PLC-2/15 processor, etc.) that is controlling the I/O chassis.

## Power Supply Output

The auxiliary power supply provides 5.1V dc with a maximum output current of 6.5A. See your I/O module data sheets for specific current requirements.

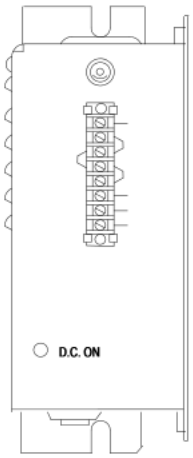
Power supply outputs have built-in monitoring circuitry to protect logic circuitry in the I/O modules and the processors. During power-up and normal operation, outputs are checked for these conditions:

- overvoltage
- undervoltage
- overcurrent

The power supply shuts down if any of these conditions are detected. If this occurs, cycle ac power to the supply. To do this, disconnect and then reconnect user-line power, preferably from the user-supplied main disconnect switch mounted near the power supply.

## Troubleshooting

The power supply has a D.C. ON LED indicator that provides status indication during power supply operation.




12596-I

| | Normal Operation | If indicator is: | Then: |
|---|---|---|---|
| ○ D.C. ON | on | off | it may be due to:<br>• input voltage level not within specified range<br>• blown fuse<br>• overcurrent |

For additional assistance, contact your local Allen-Bradley representative.



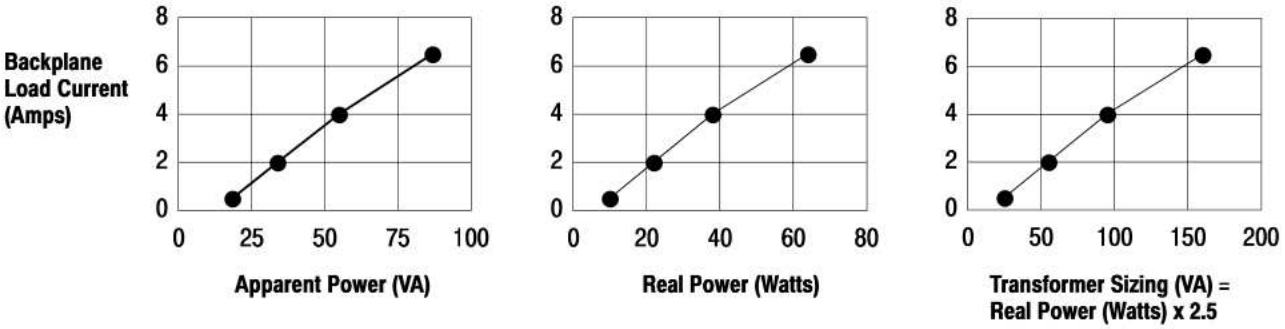
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

## Specifications

| | | |
|---|---|---|
| Nominal Input Voltage/Current | | 120V ac @ .75A<br>220/240V ac @ .38A |
| Input Voltage Range | for 120V operation<br>for 220/240V operation | 98-132V ac<br>196-250V ac |
| Input Power | real<br>apparent | 65W @ full load<br>90VA @ full load |
| External Transformer (if used) | | 160VA @ full load |
| Frequency Range | | 60/50Hz |
| Isolation Voltage | | 2500V dc for 1s<br>1800V rms for 1s } input power to equipment/chassis ground |
| Output Voltage | logic circuitry<br>memory | 5.1V dc ± 5%<br>5.1V dc ± 5% |
| Output Current | | 6.5A maximum @ 5V dc |
| Power Loss Time Delay — Input Power Loss to Processor Disable | | 13.5ms ± 2.5ms |
| Replacement Fuses | for 120V operation<br>for 220/240V operation | 1A, 3AG (slow blow); Bussmann MDL 1 — Littelfuse 313001<br>0.5A, 3AG (slow blow); Bussmann MDL 0.5 — Littelfuse 313.500 |
| Weight | | 5.89 kg (13 lbs) |
| Dimensions (W x H x D) | | 11.6cm x 28.6cm x 18.2cm<br>(4.56" x 11.25" x 7.16") |
| Environmental Conditions: | Operating Temperature<br>Storage Temperature<br>Relative Humidity | 0 to 60°C (32 to 140°F)<br>-40 to 85°C (-40 to 185°F)<br>5 to 95%, non-condensing |
| Location | | left side of 1771 I/O chassis or 5 cable-feet from I/O chassis |
| Cables | 1771-CD<br>1771-CE | 1.52m (5 ft) - connects I/O chassis to panel mounted 1771-P2<br>.30m (1 ft) – connects I/O chassis to chassis mounted 1771-P2 |

Use these graphs to determine your:

- cooling requirements
- power cost
- transformer size (unless the transformer manufacturer has a recommended multiplier for sizing a transformer for an ac-to-dc power supply)




PLC-2 and PLC-2/15 are registered trademarks of Allen-Bradley Company, Inc.



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

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 1771-2.7 — December 1992
Supersedes 1 / /1-2. / — July 1984

PN 955113-24


Copyright 1992 Allen-Bradley Company, Inc. Printed in USA



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.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