



## **Power Supply Chassis**

Cat. No. 1771-PSC

### Installation Data

#### **To The Installer**

This document contains information on:

- pre-installation considerations
- compatibility
- current limitations
- mounting considerations
- installation
- specifications

#### **Pre-installation Considerations**

The 1771-PSC Power Supply chassis provides 4 slots for mounting modular power supplies to provide up to 24 amps to a 1771 Universal I/O chassis. It can also be used to mount communication modules that need only +5V DC power and a processor enable signal. The 1771-PSC may be mounted either directly to a 1771-A1B, A2B, A3B1, or A4B (series B) Universal I/O chassis, or mounted separately.

#### **Compatibility**

##### **Power Supply Compatibility**

The 1771-PSC Power Supply chassis accommodates a variety of Allen-Bradley power supplies and communication modules. The number and type of power supplies used determines the number of slots available for communication modules. [Table 1](#) lists, by maximum current, the compatible power supplies and how many slots are available for the acceptable communications modules.

**Table 1**  
**1771-PSC Configurations**

Current Available	Quantity	Configuration	Open Slots	Comments
3A	1	1771-P3 <sup>1</sup>	3	
6A	2	1771-P3 <sup>1</sup>	2	In parallel <sup>2</sup>
8A	1	1771-P4 <sup>1</sup>	2	
8A	1	1771-P4S, -P6S, -P4S1, -P6S1	3	
8A	2	1771-P4R, -P6R	2	Redundant
8A	1	1771-P5	2	
11A	1 each	1771-P3 <sup>1</sup> and 1771-P4 <sup>1</sup>	1	In parallel <sup>2</sup>
11A	1 each	1771-P3 <sup>1</sup> and 1771-P4S	2	In parallel <sup>2</sup>
14A	3	1771-P4R, -P6R	1	Redundant
16A	2	1771-P4 <sup>1</sup>	0	In parallel <sup>2</sup>
16A	2	1771-P4S, -P6S, -P4S1, -P6S1	2	In parallel <sup>2</sup>
16A	1 each	1771-P4 <sup>1</sup> and 1771-P4S	1	In parallel <sup>2</sup>
16A	2	1771-P5	0	In parallel <sup>2</sup>
20A	4	1771-P4R, -P6R	0	Redundant <sup>3</sup>

<sup>1</sup> Superseded by 1771-P4S, -P6S, -P4S1, -P6S1

<sup>2</sup> Power supplies operated in parallel require a 1771-CT interconnect cable.

<sup>3</sup> Up to 24 amps at 55°C.

## Module Compatibility

Several communication modules require only +5V DC power and a processor enable signal. The 1771-PSC can provide a mounting location for these modules. Table 2 lists the modules that can be used in the Power Supply chassis.

**Table 2**  
**Module Compatibility**

Module Cat. No.	Description
1770-RG	PLC-2 Report Generation
1771-AF	Fiber Optic Converter
1771-DB	Basic Module (in non-block transfer operations)
1771-KA2	Communication Adapter
1771-KE	Communication Controller
1771-KG	PLC-2 Family/RS-232-C Communication Interface
1771-KH	Modem Interface
1775-RM	Peripheral Interface Adapter
1785-KA	PLC-5 Communication Adapter

## Current Limitations



**ATTENTION:** If the power supplies in your 1771-PSC are used to supply additional current to a 1771 series B I/O chassis, this current, when added to the current capabilities of the power supplies in the 1771 I/O chassis, must not exceed the 24 amp limit of the 1771 I/O chassis backplane. Failure to limit total power supply capacity to 24 amps or less may result in permanent damage to the 1771 I/O chassis backplane.

## Mounting Considerations

The following items must be considered when locating and installing the 1771 PSC:

- Allow room for power, I/O and communications cables.
- Allow room for air circulation. The power supplies and modules installed in this chassis are cooled by convection air flow. A minimum distance of 6 inches immediately above and below the chassis must be clear.
- Ensure that the mounting panel can support the weight of the power supplies (approx. 2 lbs., ea.) and the weight of the Power Supply chassis (approx. 4 lbs.).

**Important:** Do not use the 1771-PSC with a 1771 Universal I/O chassis if it contains a 1772-LSP (Mini-PLC-2/05), a 1771-LWP (Mini-PLC-2/17) or a 1771-LXP (Mini-PLC-2/16) processor module. These processors already contain a power supply.

**Important:** Do not use the 1771-PSC and a remote power supply (1771-P1, -P2, -P7, or -PS7) to power a 1771 I/O chassis. Power supply conflicts will result. (A 1771-PS7 can be used with a 1771-PSC if the 1771-PS7 provides **user power only**.)



**ATTENTION:** Do not attempt to power a remote 1771 Universal I/O chassis by putting an interconnect cable between the 1771-PSC and the I/O chassis unless the appropriate power supplies (1771-P4S, -P6S, -P4S1, -P6S1, -P4R, or -P6R) are used. Connecting the inappropriate power supplies may exceed the I/O chassis current limits.

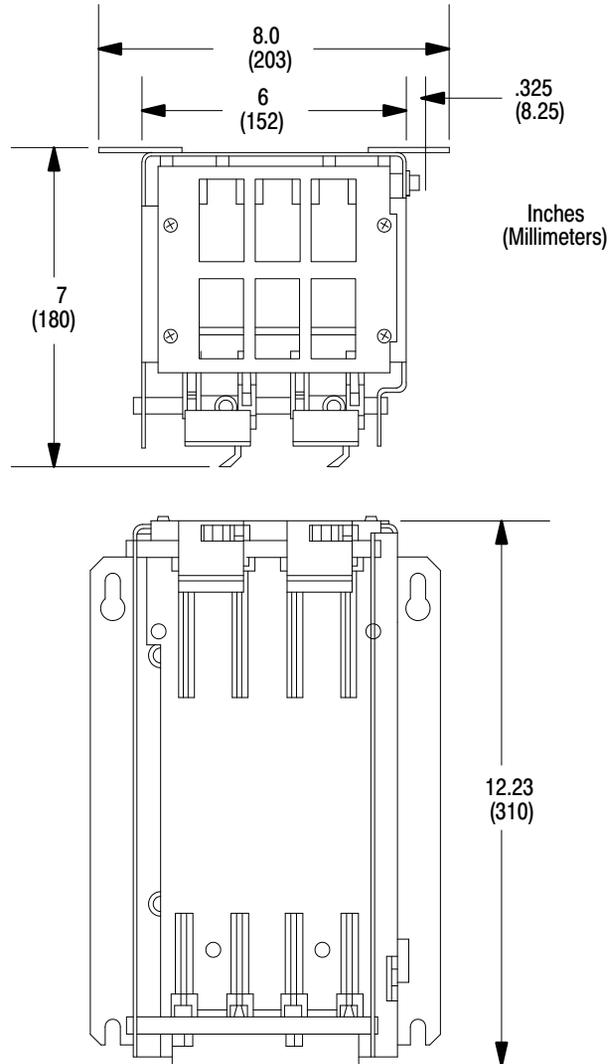
The 1771-PSC chassis can be mounted four ways:

Mounting Method	Description
Add-on	The 1771-PSC bolts onto the left side of an existing Universal I/O chassis. No additional cabinet holes are required and the supplied flanges are not used.
Chassis Expansion	The 1771-PSC bolts onto the left side of a Universal I/O chassis. However, the two connected chassis are mounted to the cabinet through the series B rack mounting flange on the right side and the 1771-PSC mounting flange on the left side. A hardware kit containing the necessary screws and flat washers is included with the PSC chassis; use these parts when mounting the Power Supply chassis onto the side of any 1771 I/O chassis. <b>Note:</b> The 1771-PSC cannot be mounted to a 1771-A3B Universal I/O chassis because the connectors will not mate.
Remote Power Chassis	A stand alone chassis mounted directly to the cabinet using the 1771-PSC mounting flanges. This chassis can be used remotely <b>only</b> when using the 1771-P4S, -P6S, -P4S1, -P4R, or -P6R power supplies, by using a 1771-CA3B (<1 ft. @ 24 A/55°C) or 1771-PSCC (<5.5 ft. @ 24 A/55°C) cable.
Stand-alone	The 1771-PSC can be mounted directly to the cabinet using the 1771-PSC mounting flanges. No mechanical or electrical power connection to an I/O chassis.

**Note:** The 1771-PSC can be used for chassis-to-chassis mounting when using any of the power supplies listed in [Table 1](#), by using the power connector on the side.

The 1771-PSC's dimensions are shown in [Figure 1](#). The mounting hole dimensions for the flanges are given in the Specifications at the end of this data sheet. Keyhole slots in the upper two holes make installation easier.

**Figure 1**  
**Power Supply Chassis Dimensions**



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## Installation

The 1771-PSC may be attached to a 1771 Universal I/O chassis or mounted as a stand-alone with its flanges. Use the set of instructions below which applies to your situation. These are general instructions. Not all items will apply to your particular situation. You should review the installation site, wiring changes and room needed for the chassis before beginning any work

<b>For this procedure:</b>	<b>See page:</b>
Attaching to a 1771 Universal I/O Chassis	6
Mounting a stand-alone 1771-PSC	10
Keying the chassis	10

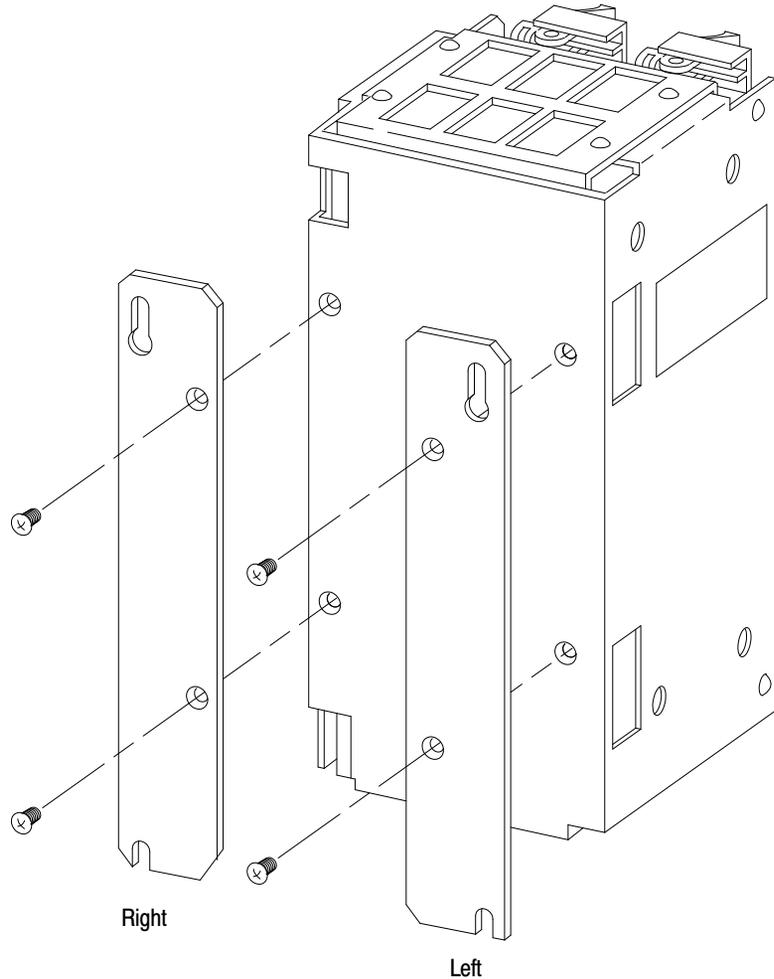
### **Attaching to a 1771 Universal I/O Chassis**

Use the following steps to mount a Power Supply chassis to a 1771 Universal I/O chassis.

1. After ensuring that a power shut-down of the selected I/O chassis will not result in any mechanical damage or personnel injury, remove power from the selected I/O chassis.
2. Remove the left-most module from the I/O chassis.
3. Remove the flanges from the rear of the 1771-PSC (see [Figure 2](#)):

**Important:** If you are attaching the Power Supply chassis to an already mounted 1771 I/O chassis, remove both flanges. If you are attaching the Power Supply chassis to an unmounted I/O chassis and then mounting the two as one unit, remove only the right flange from the 1771-PSC (the flange marked with an 'R').

Figure 2  
1771-PSC Mounting Flanges Removal/Installation



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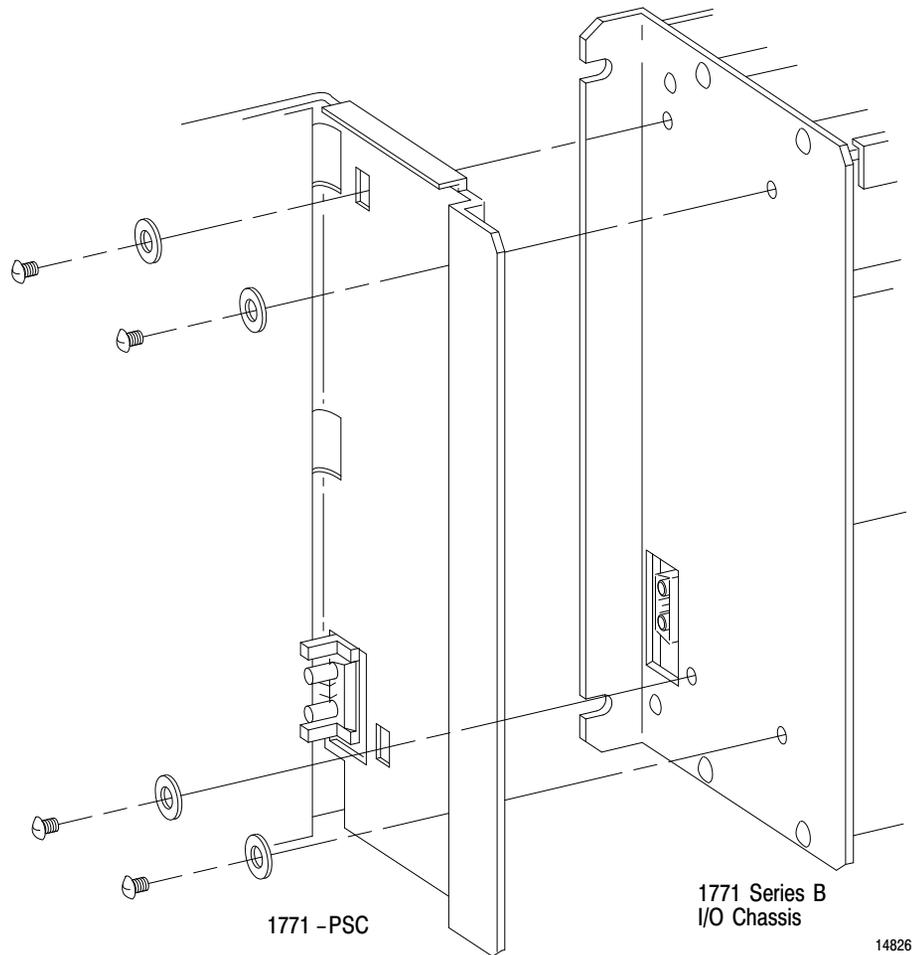
4. Bolt the two chassis together using the pan head screws and flat washers from the mounting kit. Mounting holes on the right side of the 1771-PSC match with threaded mounting holes on the left side of the series B chassis.

**Important:** Use of the washers is mandatory; the holes in the 1771-PSC are oversized to allow for adjusting the alignment of the two chassis (Figure 3).

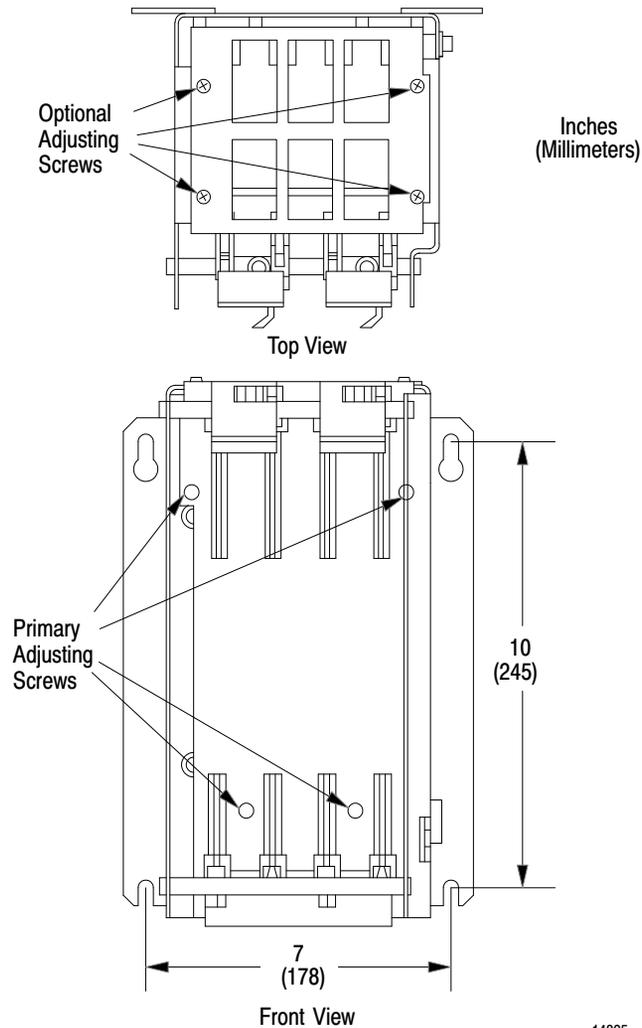
### Adjustments

Proper installation requires that the power connector be properly aligned with and fully inserted into the Series B chassis' power connector. [Figure 4](#) shows the four backplane and four top plate mounting bolts that can be loosened for adjustment of the backplane and connector. Steps 5 through 8 detail the procedure.

**Figure 3**  
**Connector Adjustment Locations**



**Figure 4**  
**Mounting the 1771-PSC to a 1771 Universal I/O Chassis**



5. Loosen the four backplane mounting screws approximately two turns.
6. Adjust the connector plug, making sure it is inserted fully into the series B chassis' connector.
7. Should the above procedure not provide adequate motion, loosen the four screws on top of the 1771-PSC, adjust the connector plug.
8. Tighten all mounting screws.
9. Before installing any slot power supply or communications module, verify its keying setup and install the appropriate keys.

10. If you are moving power supplies from the 1771 Universal I/O chassis to the 1771-PSC chassis, move the power supply configuration plug to the right (NO) position. The plug is located on the 1771 Universal I/O chassis backplane.
11. Install the selected modules and run ac input power and data cables as required.
12. Re-install the left-most module in the I/O chassis.
13. Apply power to the system and run tests as required.

### **Stand-Alone Mounting**

Use the following procedure to mount the 1771-PSC stand-alone.

1. Using the dimensions shown in [Figure 1](#) and [Figure 4](#), determine the space needed for the chassis.
2. Mount the chassis in the desired location.
3. Before installing any slot power supply or communications module, verify its backplane keying setup and install the appropriate plastic keying bands.
4. Install the selected modules and run ac input power and data cables as required.
5. Apply power to the system and run tests as required.

### **Keying the Chassis**

Plastic keying bands, shipped with each I/O chassis, provide an easy method for keying I/O slots to accept only one type of module. We strongly recommend that you use them.

Modules are slotted in two places on the rear edge of the circuit board. 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 the 1771-PSC chassis to receive a power supply or communication module. See the appropriate module data sheet for the correct location of the keying bands.

## Specifications

Dimensions (W x H x D) Inches (Millimeters)	8 <sup>1</sup> x 12.24 x 7.1 (203 <sup>1</sup> x 311.2 x 180.3)
Mounting Holes: Horizontal Vertical	7.0 (178) 10.0 (254)
Weight: Without Flanges With Flanges	2.9 lbs. (1.3 kg.) 4.06 lbs. (1.85 kg.)
Maximum Backplane Current <sup>2</sup>	20 amps @ 60°C 24 amps @ 55°C
Environmental Conditions: Operating Temperature Storage Temperature Relative Humidity	32 to 140°F (0 to 60°C) -40 to 185°F (-40 to 85°C) 5 to 95%, non-condensing

<sup>1</sup> Includes flanges, main part of chassis is 6.0 in. (15.24 cm.)

<sup>2</sup> Using multiple power supplies

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**Installation Data**  
**Power Supply Chassis**  
**Cat. No. 1771-PSC**



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