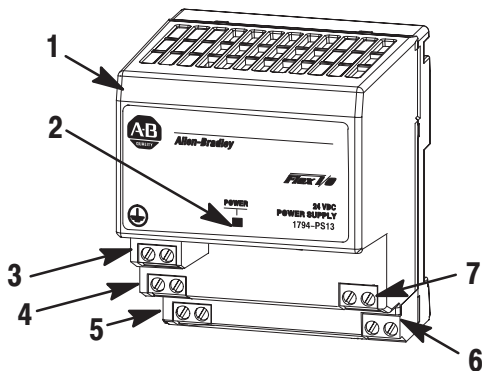




# Installation Instructions

## FLEX I/O Power Supply

(Cat. No. 1794-PS13)



### Component Identification

1	Power Supply module 1794-PS13
2	Indicator
3	120/230V ac ground
4	120/230V ac common L2/N connections
5	120/230V ac power L1 connections
6	+24V dc connections
7	24V common connections



**ATTENTION:** The 1794-PS13 power supply provides sufficient 24V dc power to operate 4 adapter modules. Do not attempt to operate an entire FLEX I/O system with this power supply.

## European Union Directive Compliance

If this product has the CE mark it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

### EMC Directive

This product is tested to meet Council Directive 89/336/EEC Electromagnetic Compatibility (EMC) and the following standards, in whole or in part, documented in a technical construction file:

- EN 50081-2EMC – Generic Emission Standard, Part 2 – Industrial Environment
- EN 50082-2EMC – Generic Immunity Standard, Part 2 – Industrial Environment

This product is intended for use in an industrial environment.

### Low Voltage Directive

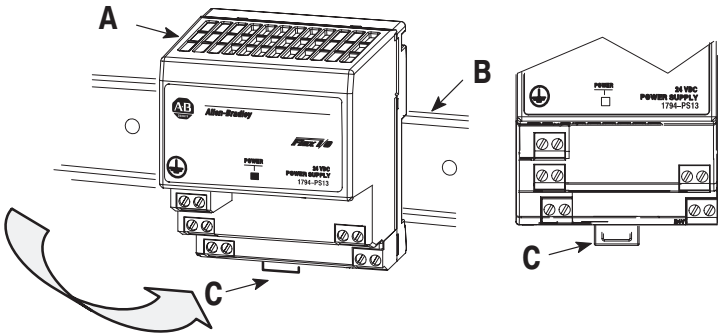
This product is tested to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131-2 Programmable Controllers, Part 2 – Equipment Requirements and Tests.

For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as the following Allen-Bradley publications:

- Industrial Automation Wiring and Grounding Guidelines For Noise Immunity, publication 1770-4.1
- Guidelines for Handling Lithium Batteries, publication AG-5.4

This equipment is classified as open equipment and must be mounted in an enclosure during operation to provide safety protection.

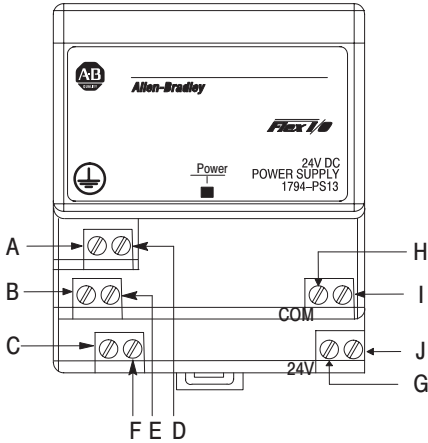
## Installing the Power Supply



1. Position the power supply module **A** on a 35 x 7.5mm DIN rail **B** (A-B pt. no. 199-DR1) at 30° angle.
2. Rotate the power supply module onto the DIN rail with the top of the rail hooked under the lip on the rear of the adapter module.
3. Press the power supply module down onto the DIN rail until flush. Locking tab (**C**) will snap into position and lock the adapter module to the DIN rail.
4. If the power supply module does not lock in place, use a screwdriver or similar device to move the locking tab down while pressing the adapter module flush onto the DIN rail and release the locking tab to lock the adapter module in place. If necessary, push up on the locking tab to lock.
5. Connect the power supply wiring as shown under “Wiring.”

**NOTE:** For Panel/Wall mounting, refer to publication 1794-5.13, “Panel Mounting Kit, Cat. No. 1794-NM1.”

## Wiring



**ATTENTION:** The 1794-PS13 power supply provides sufficient 24V dc power to operate 4 adapter modules. Do not attempt to operate an entire Flex I/O system with this power supply.

Terminals A, B and C are 120/230V supply terminals. Terminals D, E and F are available to daisychain this 120/230V power to other 1794-PS13 power supplies. If supplying 120V ac to the power supply, you can also power the ac modules in the adjacent system.

Torque screw terminals to 5–7 lb-in (0.5-0.6Nm) when making connections.

1. Connect the 120/230V ac power to the left side terminals on the connectors on the left side of the module as follows:

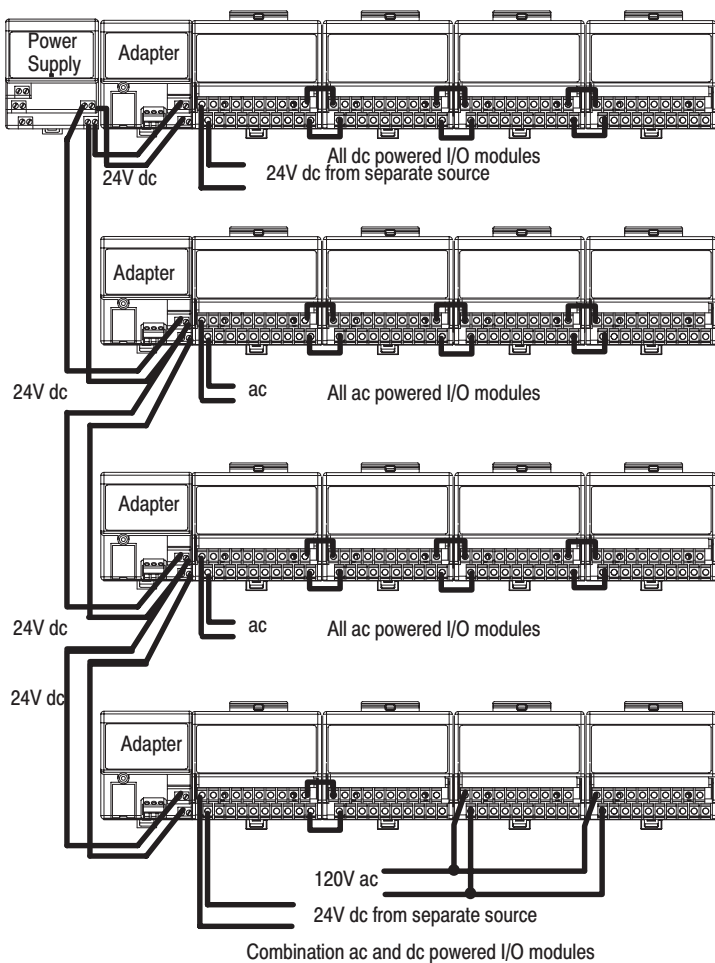
Connect		To
ac Ground	GND	A
120/230V ac common	L2/N	B
120/230V ac power	L1	C

2. Connect terminal **G** (+24V dc) to the +24V dc terminal on the first adapter.
3. Connect terminal **H** (+24V dc common) to the +24V dc common terminal on the first adapter.

4. Repeat steps 3 and 4 using terminals **I** and **J** for the second adapter.
5. Connections **D**, **E** and **F** are used to pass 120/230V ac power to adjacent 1794-PS13 power supplies.

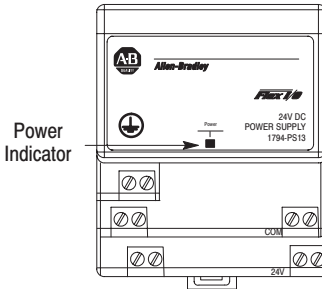
**Important:** Input and output wiring must be in accordance with Class I, Division 2 wiring methods and in accordance with the authority having jurisdiction.

### Example of Using a 1794-PS13 Power Supply to Power 4 Adapter Modules



## Diagnostic Indicator

The power supply has 1 indicator.



The power indicator is on (green) when voltage at the output is between 20.4V dc and 35V dc.

Indicator	Description
ON (green)	Output voltage is greater than 20.4V dc, but less than 35V dc
OFF	No power applied to power supply.
	Output voltage exceeded 35V dc, and overvoltage protection shut down unit.
	Output current is above 1.3A.

## Safety Approvals

UL<sup>®</sup> certifies products for general use as well as for use in hazardous locations. UL certification can be done to United States (US) safety standards and/or Canadian (C) safety standards. **Actual CUL certification is indicated by the product label** as shown below, and not by statements in any user documentation.

Example of the CUL certification product label for a product evaluated to both US and C safety standards

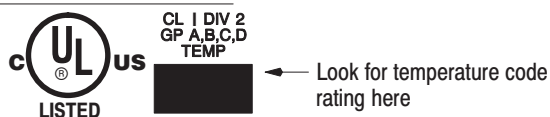


To comply with UL certification for use in hazardous locations, the following information becomes a part of the product literature for UL-certified Allen-Bradley industrial control products.

- This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D, or non-hazardous locations only.
- The products having the appropriate UL markings (that is, Class I, Division 2, Groups A, B, C, D), are certified for use in other equipment where the suitability of combination (that is, application or use) is determined by the UL, CSA or the local inspection office having jurisdiction.
- Peripheral equipment must be suitable for the location in which it is used.

**Important:** Due to the modular nature of a PLC<sup>®</sup> control system, the product with the highest temperature rating determines the overall temperature code rating of a PLC control system in a Class I, Division 2 location. The temperature code rating is marked on the product label as shown.

### Temperature code rating



The following warnings apply to products having CUL certification for use in hazardous locations.

## Safety Approvals



### WARNING: Explosion hazard —

- Substitution of components may impair suitability for Class I, Division 2.
- Do not replace components unless power has been switched off or the area is known to be non-hazardous.
- Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- Do not disconnect connectors unless power has been switched off or the area is known to be non-hazardous. Secure any user-supplied connectors that mate to external circuits on an Allen-Bradley product using screws, sliding latches, threaded connectors, or other means such that any connection can withstand a 15 Newton (3.4 lb.) separating force applied for a minimum of one minute.

## Approbation de sécurité

La UL<sup>®</sup> certifie les produits d'utilisation générale aussi bien que ceux qui s'utilisent dans des emplacements dangereux. Les certifications UL peuvent être rédigées selon les normes de sécurité des États-Unis (US) et/ou les normes de sécurité du Canada (C). **La certification CUL en vigueur est indiquée par l'étiquette du produit** et non par des affirmations dans la documentation à l'usage des utilisateurs.

Exemple d'étiquette de certification UL d'un produit évalué selon les normes de sécurité des États-Unis et du Canada.



Pour satisfaire à la certification de la UL dans des endroits dangereux, les informations suivantes font partie intégrante de la documentation des produits industriels de contrôle Allen-Bradley certifiés par la UL.

- Cet équipement convient à l'utilisation dans des emplacements de Classe I, Division 2, Groupes A, B, C, D, ou ne convient qu'à l'utilisation dans des endroits non dangereux.
- Les produits portant le marquage approprié de la UL (c'est à dire, Classe I, Division 2, Groupes A, B, C, D) sont certifiés à l'utilisation pour d'autres équipements où la convenance de combinaison (application ou utilisation) est déterminée par la UL, CSA ou le bureau local d'inspection qualifié.
- L'équipement périphérique doit convenir à l'emplacement d'utilisation.

**Important:** Par suite de la nature modulaire du système de contrôle PLC<sup>®</sup>, le produit ayant le taux le plus élevé de température détermine le taux d'ensemble du code de température du système de contrôle d'un PLC dans un emplacement de Classe I, Division 2. Le taux du code de température est indiqué sur l'étiquette du produit.



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**Safety Approvals**

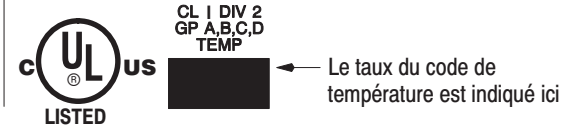

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**Approbation de sécurité**


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 Taux du code de température
 

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Les avertissements suivants s'appliquent aux produits ayant la certification CUL pour leur utilisation dans des emplacements dangereux.

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**AVERTISSEMENT: Risque d'explosion —**

- La substitution de composants peut rendre ce matériel inacceptable pour les emplacements de Classe I, Division 2.
  - Couper le courant ou s'assurer que l'emplacement est désigné non dangereux avant de remplacer les composants.
  - Avant de déconnecter l'équipement, couper le courant ou s'assurer que l'emplacement est désigné non dangereux.
  - Avant de débrancher les connecteurs, couper le courant ou s'assurer que l'emplacement est reconnu non dangereux. Attacher tous connecteurs fournis par l'utilisateur et reliés aux circuits externes d'un appareil Allen-Bradley à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens permettant aux connexions de résister à une force de séparation de 15 newtons (3,4 lb. - 1,5 kg) appliquée pendant au moins une minute.
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Le sigle CUL est la marque déposée de Underwriters Laboratories.

PLC est une marque déposée de Allen-Bradley Company, Inc.

CUL logo is a registered trademark of the Underwriters Laboratories

PLC is a registered trademark of Allen-Bradley Company, Inc.

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**Specifications – Power Supply Module Cat. No. 1794-PS13****Note:** This power supply complies with the CE Low Voltage Directive.**Input Specifications**

Nominal Supply Voltage	120V ac, 47–63Hz; 0.6A maximum 230V ac, 47–63Hz; 0.42A maximum
Voltage Range	85-265V ac
Inrush Current	40A typical, 1 ac cycle @ $V_{in}$ 265V ac, 55°C
Interruption	Output voltage will stay within specification when input drops out for 1/2 cycle @ 47Hz, 85V ac with maximum load

**Output Specifications**

Nominal Output Voltage	+24V dc
Voltage Range	20.4–27.6V dc (includes noise and 5% ac ripple)
Output Current	1.3A maximum
Minimum Load	0mA
Output Surge	Sufficient to drive 4 adapters ( surge of 23A for 2ms each)
Overvoltage Protection	Output internally limited to 35V dc. Cycle power to reenergize.
Isolation Voltage	2500V dc for 1 second

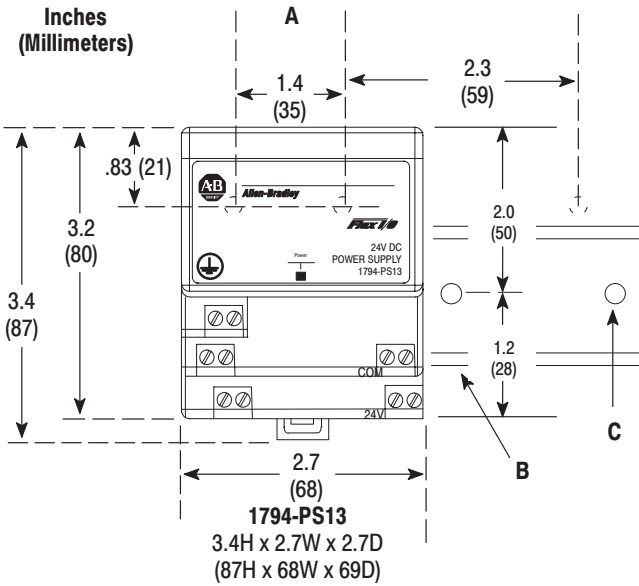
**Specifications continued on next page.**

**Specifications – Power Supply Module Cat. No. 1794-PS13**
**General Specifications**

Mounting	Horizontal or vertical on a DIN rail, wall or panel	
Terminal Screw Torque	5–7 lb-in (0.5-0.6Nm)	
Dimensions	Inches Millimeters	3.4H x 2.7W x 2.7D 87H x 68W x 69D
Environmental Conditions		
Operational Temperature	0 to 55°C (32 to 131°F)	
Storage Temperature	–40 to 85°C (–40 to 185°F)	
Relative Humidity	5 to 95% noncondensing	
Shock	Operating	30 g peak acceleration, 11(±1)ms pulse width
	Non-operating	50 g peak acceleration, 11(±1)ms pulse width
	Vibration	Tested 5 g @ 10–500Hz per IEC 68-2-6
Conductors	Wire Size	12 gauge (4mm <sup>2</sup> ) stranded maximum 3/64 inch (1.2mm) insulation maximum
	Category	1 <sup>1</sup>
Agency Certification (when product is marked)	<ul style="list-style-type: none"> <li>• CUL listed: Class I. Division 2, Groups A, B, C, D certified to Canadian safety standards</li> <li>• UL listed: Class I. Division 2, Groups A, B, C, D</li> <li>• CE marked for all applicable directives</li> </ul>	

<sup>1</sup> You use this category information for planning conductor routing as described in publication 1770-4.1, "Industrial Automation Wiring and Grounding Guidelines."

**Mounting Dimensions**



- A** = Mounting hole dimensions for optional mounting kit
- B** = DIN rail
- C** = Secure DIN rail approximately every 200mm



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