

# NP POWER SYSTEM INSTALLATION GUIDE

*NP Power Products*  
*NP Power System*  
*NP Shelf*

**Notice:**

Every effort was made to ensure that the information in this document was complete and accurate at the time of printing. However, information is subject to change.

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## 1. SAFETY SYMBOLS AND GUIDELINES

### READ AND UNDERSTAND ALL INSTRUCTIONS BEFORE ATTEMPTING ANY INSTALLATION OF THIS PRODUCT

When installing, operating, or maintaining the NP Power System<sup>‡</sup> and NP Shelf, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons. Such precautions include the following:

#### 1.1 Product Labeling

Follow all warnings and instructions marked on the product. Some of the safety symbols used with the NP System may include the following. They may also be accompanied by instructions:

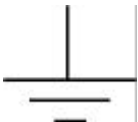


This symbol identifies the need to refer to the equipment instructions for important information.



This symbol is used to identify the presence of hazardous ac or DC voltages. It may also be used to warn of hazardous energy levels. It may be represented by just the lightning bolt in a box with instructions, and the instruction symbol (shown above) with a signal word such as “DANGER” or “WARNING”.

- The DC output cables (red and black cables exiting both ends of the shelf) contain electrical energy capable of causing heating and arcing if shorted by metal objects. Make connections with the power to the shelf disconnected.
- **DO NOT ENTER ENCLOSURE OF THE POWER SHELF OR POWER SUPPLY MODULES:**  
Hazardous AC Voltage and DC electrical energy is contained within the enclosure of the power shelf. There are no user or field serviceable parts inside.



This symbol is used to identify other bonding points within the equipment, which are also important to assure safety earth ground is provided to all parts of the equipment.

<sup>‡</sup> The NP Power System contains an NP Shelf and may contain NP0800, NP1200, NP1500, or NP2500 Power Modules (Rectifiers). The NP Shelf may be sold separately.

## 1.2 Safety Guidelines

The following guidelines are to be considered before using this product in end use equipment.

### Mounting and Installation

- This product shall be installed in compliance with mounting requirements for the ultimate application.
- This product must be installed, serviced, and operated only by skilled and qualified personnel who have the necessary knowledge and practical experience with electrical equipment and who understand the hazards that can arise when working on this type of equipment.
- This equipment is to be used in controlled environments (an area where the humidity is maintained at levels that cannot cause condensation on the equipment, the contaminating dust is controlled, and the steady-state ambient temperature is within the range specified).
- This equipment has been evaluated for use in a continuous ambient temperature of up to 55°C and the application environment should not exceed 55°C.
- The CE mark on the product is applied to show conformance to the requirements outlined in the European Union's Low Voltage Directive {72/73/EEC} and EMC Directive {89/336/EEC}, as amended by the CE Mark Directive {93/68/EEC}.
- The NP shelf, when used with the NP rectifiers, has been evaluated for hot swapping.

### Output Connections

- All field wiring should comply with the U.S. National Electric Code (NEC) and/or applicable local codes/standards.
- Routing of the DC output cables should guarantee that cables are not in contact with sources of heat and surfaces that may damage the cable insulation.
- The DC output is not provided with a fuse or circuit breaker suitable for branch circuit protection. Therefore, the power shelf should be mounted in the same rack or cabinet as the equipment being powered. Use interconnecting power cables suitable for the application and sized to carry the rated output current. The interconnecting cables should be capable of carrying the overload current and short circuit current without damage or risk of fire.
- The output for the system is SELV and has available power greater than 240VA.
- Insulation on output field-wired conductors should be rated no less than 90°C. Wiring internal to enclosed equipment cabinets should be rated at 105°C (minimum). The provided DC output cords (red and black wires) are rated for 105°C.

### **AC Input Connections**

- AC branch circuits to this equipment must be protected with fuses or circuit breakers sized as required by the U.S. National Electric Code (NEC) and/or local codes. Three AC mains power cords are required to power the shelf (one for each rectifier). Each power cord should be connected to a separate AC mains branch circuit with an overcurrent protector rated at no more than 30A.
- The power supply mains inlet may be used as the means to provide AC protective earthing.
- The NP Power System and the NP Shelf uses power cords with custom molded latching AC connectors that are secured by the shelf parts. If the power supply cords are not provided, refer to Tables 1-A and 1-B in the Orderable Parts section for the appropriate orderable part.
- An accessible AC disconnect/protection device to remove AC power from the equipment in the event of an emergency must be provided. An accessible socket-outlet/receptacle installed near the equipment is also acceptable as a disconnect.
- The equipment is powered by multiple AC inputs (one per rectifier). Disconnect all AC sources power before servicing.
- This equipment has been evaluated for connection to an IT system with phase to phase voltage less than 240 VAC (AC supply system with the neutral isolated from earth).

### **General Safety Procedures**

- Use **only** properly insulated tools.
- Remove all metallic objects (key chains, glasses, rings, watches, or other jewelry).
- Wear safety glasses.
- Test circuits before touching.
- Lock out and tag circuit breakers/fuses when possible to prevent accidental turn on.
- Be aware of potential hazards before servicing equipment.
- Identify exposed hazardous electrical potentials on connectors, wiring, etc. (note the condition of these circuits, especially wiring).
- Use care when removing or replacing covers; avoid contacting circuits.

## 2. INSTALLATION PROCEDURE

Note: 2U (3.5 in./89mm) of vertical space is required when the NP Shelf is used with the NP0800, NP1200, or NP1500 rectifiers. When used with the NP2500, 3U (5.25 in./134mm) of vertical space is required. The initial field installation sequence of the entire shelf is as follows:

The NP Shelf is provided with a pair of 6 AWG load cables connected to both output terminals of the shelf. Access to the rear of the shelf is not required; however, if required to gain access to these connections, the rear safety cover must be removed.

The NP Shelf LC is not provided with load cables and the safety cover is not attached to the shelf. This cover must be attached to the shelf after all load connections to the shelf have been made.

Load connections to the NP Shelf LC are to be via cables terminated with M5 or 1/4-in single-hole lugs. Securing hardware is provided with the shelf.

The following cables and connection to terminals are the minimum gauges recommended when connecting the NP Shelf to the load equipment; however, ensure compatibility of cabling with load equipment requirements. All current values in the shelf assume 3 rectifiers, each loaded to full output current. The terminal location indicates which of the two rear load terminations are to be used.

**Table 1: Cable Gauges and Terminals**

| Rectifiers | Maximum Current | Minimum Cable Gauge <sup>†</sup> | Terminals | Minimum Cable Gauge <sup>†</sup> | Terminals         |
|------------|-----------------|----------------------------------|-----------|----------------------------------|-------------------|
| NP0800     | 50A             | 2 pair of 12 AWG                 | Both      | 1 pair of 8 AWG                  | Either            |
| NP1200     | 75A             | 2 pair of 10 AWG                 | Both      | 1 pair of 6 AWG                  | Either            |
| NP1500     | 93.75A          | 2 pair of 8 AWG                  | Both      | 1 pair of 4 AWG                  | Left <sup>‡</sup> |
| NP2500     | 157.5A          | 2 pair of 6 AWG                  | Both      | NA                               | NA                |

**WARNING:** If using a single NP shelf to provide power to user equipment with “A” and “B” redundant feeds, size the cables on both load terminals per the single terminal loading criteria in Table 1.

<sup>†</sup> Cables sized per NEC Table 310-17, 90°C temperature rating of conductor and derated for maximum 55°C ambient.

<sup>‡</sup> As viewed from the rear of the shelf.

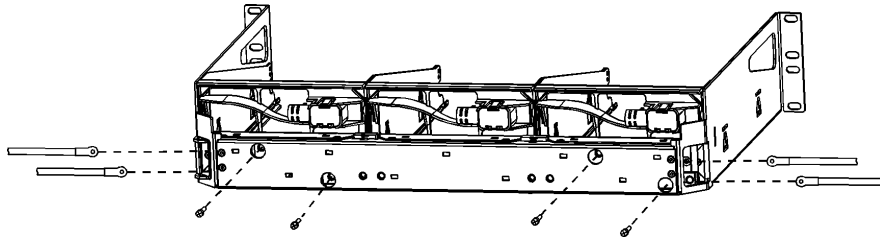
The following steps will show how one may remove the safety cover and to reattach it.

### Removing Safety Cover

1. Note the black screw towards the middle of the rear of the shelf, this secures the cover to the shelf; remove this screw. The cover is now held in place via tabs.
2. Using a thin flathead screwdriver, shim the head of the screwdriver in between the chassis and the cover at one corner and gently tap until it partially comes out.
3. Slide the screwdriver across until it traverses the entire length of the shelf.
4. Turn the shelf over and gently tap out the cover using the screwdriver.

### Making Load Connections

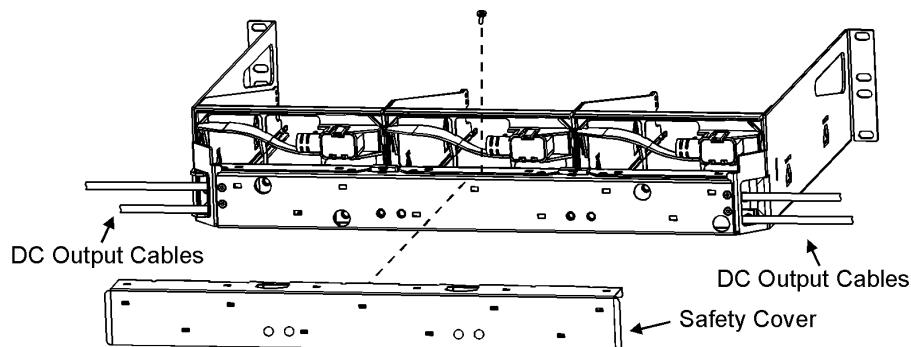
When making load connections, first remove the nuts from the shelf terminals. Then route the DC output cables through the openings at the ends of the shelf and attach the cables to the terminals. Refer to Table 1 for minimum dc load cable gauges and load terminals to use. Use an 8mm or 5/16-inch hexagonal nut driver and secure the cable with the nuts. Torque connections to 35 in-lbs (4 Nm).



Note that the load cables provided with the NP Shelf may be terminated onto a terminal block from Phoenix, part number MKDSP 10/2-10,16 order number 17 06 78 5. To realize the full capability of the power shelf, both pairs of 6 AWG wire must be terminated at the user equipment. Size the load cables to the length needed for the application and terminate with appropriate lugs suitable for the cable gauge needed. Each Phoenix terminal should be torqued to 1.2 to 1.5 Nm (10.6 to 13.2 inch-lbs).

### Attaching the Safety Cover

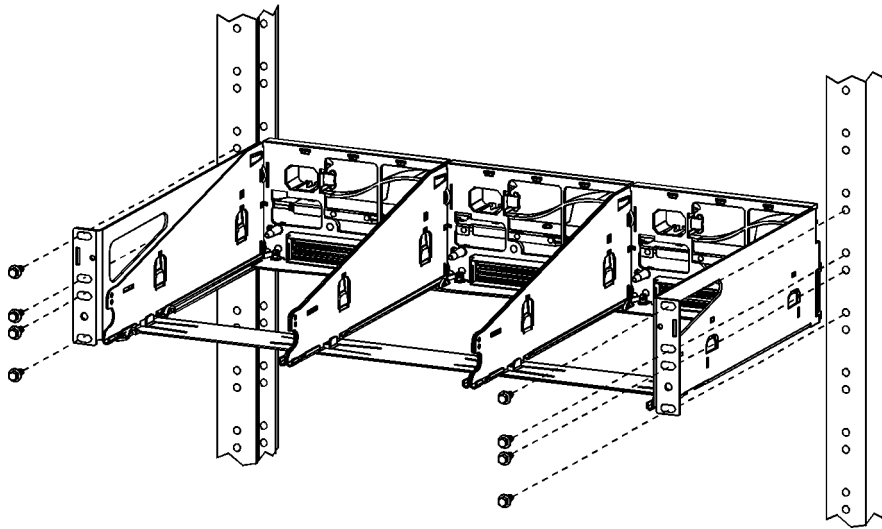
Install the safety cover by removing the black screw from the top of the shelf (NP Shelf LC only). Insert the cover through the back of the shelf and slide down until it snaps into place. Replace the black screw and hand tighten. Re-attach the spacer bar if removed earlier.



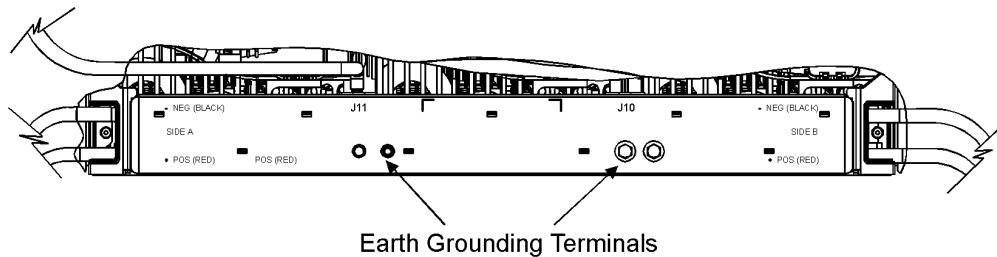
### Mounting Shelf to Rack/Frame

1. Install the NP Shelf into rack/frame with packaging spacer bar (aluminum bar across the front) installed to maintain rectifier spacing.

If mounting the NP Shelf into ETSI or 23-inch rail widths or if mid-mounting of the shelf is required, adapter brackets must be used. Adapter bracket kits are available that allow the NP Shelf to be affixed to non-EIA 19-inch applications. If any of these adapter brackets have been ordered, they must be attached to the rails prior to mounting the shelf; the shelf is to be mounted to the adapter brackets. Follow instructions in Section 2, Other Mounting Procedures to mount the brackets and then follow the instructions below.



2. Remove the packaging spacer bar after the shelf is secured to the rack/frame (i.e., after two screws per side have been tightened). Then insert the remaining screws.
3. Connect a ground cable between either of the shelf's grounding terminals and auxiliary earth ground point if required by the using equipment. (*This step is optional*) Note: Grounding terminals accept M5 or 1/4-inch double-hole lugs. The lugs may be secured using #10 screws. Torque connections to 35 in-lbs (4 Nm). Kit 848569125 provides a 3-foot 6 AWG cable for ground connections. The cable is terminated at both ends.

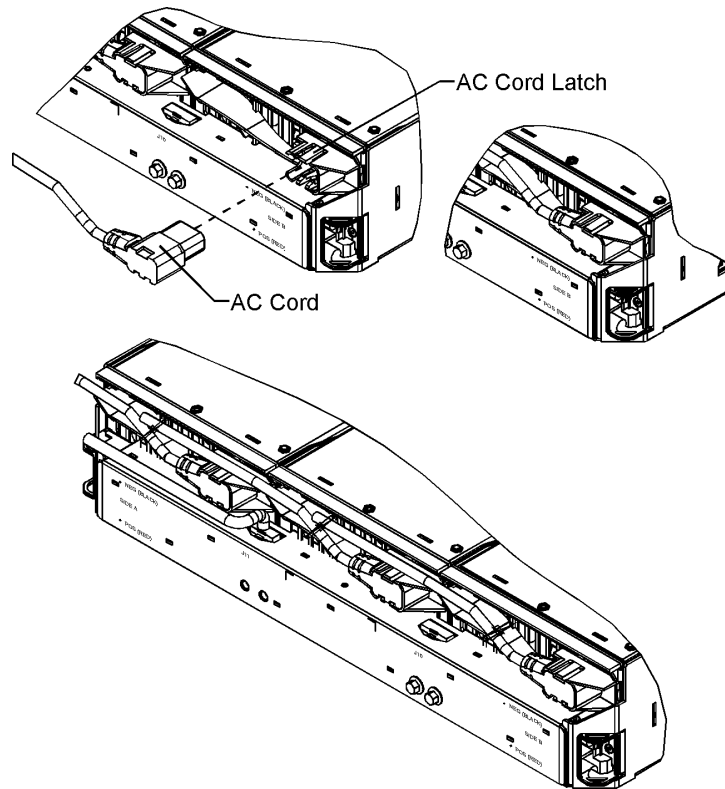




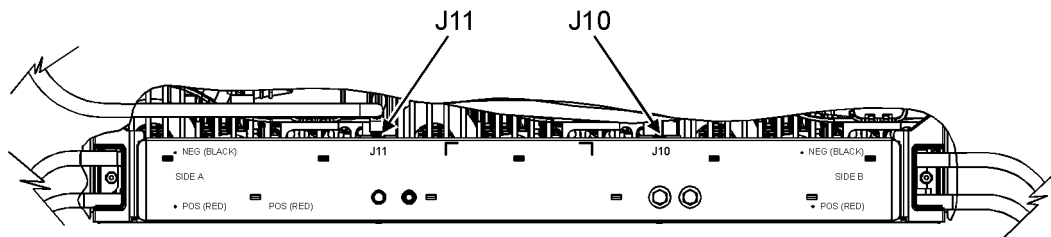
**WARNING: If one side of the DC output is connected to ground, the shelf chassis must also be connected to the same ground. Failure to do so may cause damage to the AC safety earth ground in the case of a DC fault.**

**Attaching AC Cords and Alarm Cables**

1. Install (snap and secure) the AC power supply cords into the shelf. To ensure the AC cords are secured, ensure that the latches on the shelf liner engage both the top and bottom of each AC plug.

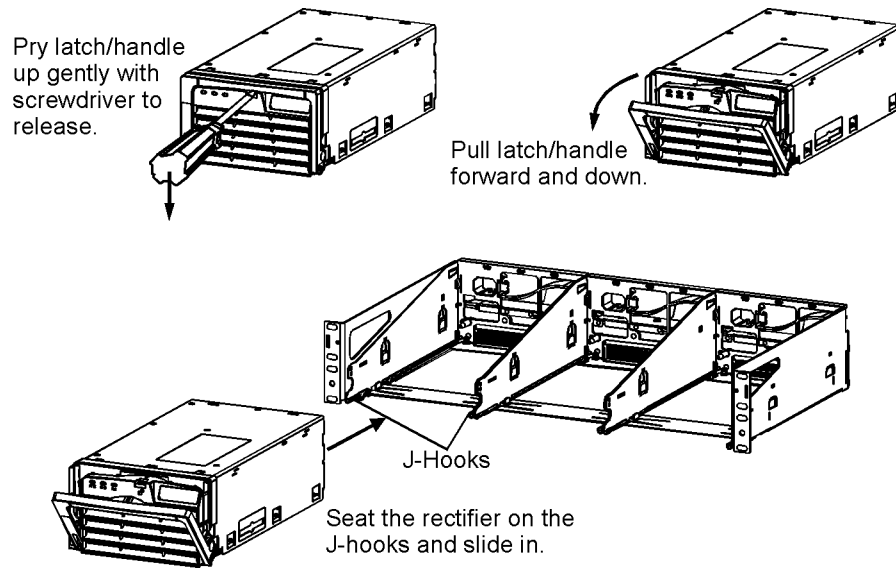


2. If applicable, connect and strain relief the office alarm cable(s) into J10 and/or J11. See NP Rectifier and NP Shelf Application Note for more details.

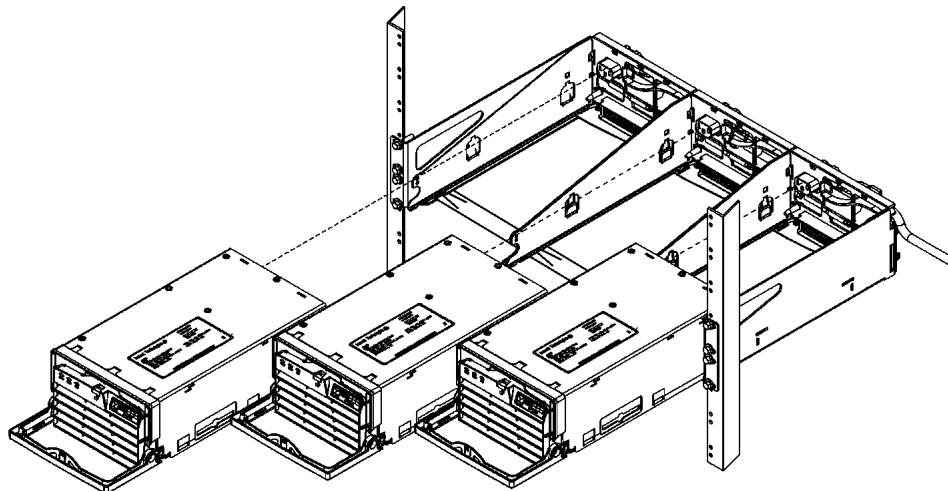


## Installing Rectifiers

1. Prior to installing a rectifier, the handle must be in the open position. Insert a small flat-head screwdriver, a key, or a paper clip into the cavity near the universal “unlock” symbol and gently pry downward until the handle snaps partially open. An audible click will be heard as the handle opens. Rotate the handle down 90° from its locked position.



Note the J-hooks toward the bottom of the flanges on the rectifier shelf. The rectifiers are seated on these hooks. With the handle in the open position, seat the rectifier onto the J-hooks on one of the three rectifier slots and gently slide back until the rectifier's rear connector makes contact with the shelf, and the handle starts to go up. Push the rectifier until the handle is almost in the closed position. Push against the handle until it snaps shut. Repeat for all remaining rectifier slots.



2. Connect the AC power supply cords to appropriately rated outlets (*see Safety Guideline: AC Input Connections section for further information*).
3. For North America high line operation, qualified service personnel must replace the wall plug with an appropriate UL Listed/CSA plug, as required in compliance with local electrical codes and standards. The following information provides guidance on typical color codes used for the conductors:

| Location   | Conductor Color | Connection  |
|--|-----------------|---|
| North America<br><br>(Connections to 120 volt or 240 volt nominal systems – 2 pole with a 3rd wire for safety grounding) | Black           | Phase   |
|  | White           | Neutral (may also be used as a phase to obtain 240 volts in North America)  |
|  | Green           | Safety Ground/Earth   |
| North America/Europe   | Brown           | Phase   |
|  | Blue            | Neutral (may also be used as a phase to obtain 240 volts in North America). |
|  | Green/Yellow    | Safety Ground/Earth   |

**WARNING:** The AC safety earth ground is provided through each cord. Make sure the equipment is plugged into an AC receptacle with a safety earth ground.

**Rectifier Removal**

Prior to removing a rectifier, the handle must be in the open position. Insert a small flat-head screwdriver, a key, or a paper clip into the cavity near the universal "unlock" symbol and gently pry downward until the handle snaps partially open. An audible click will be heard as the handle opens. Rotate the handle down 90° from its locked position. Hold the handle and pull until the rectifier is about half-way out. Using a free hand, support the rectifier at the bottom and pull out all the way.

## 1. RECTIFIER RATING INFORMATION

NP0800 Rectifier Ratings

| INPUT, AC    |                |          | OUTPUT, DC  |                                  |
|--------------|----------------|----------|-------------|----------------------------------|
| $V_{IN}$     | $I_{IN}$ (max) | FREQ.    | $V_{OUT}$   | $P_{OUT}$ (max)<br>per rectifier |
| 100, 120 Vac | 10.8 A         | 50/60 Hz | 48-56 Vdc** | 800 W*                           |
| 200-240 Vac  | 4.9 A          |          |             |                                  |

NP1200 Rectifier Ratings

| INPUT, AC    |                |          | OUTPUT, DC  |                                  |
|--------------|----------------|----------|-------------|----------------------------------|
| $V_{IN}$     | $I_{IN}$ (max) | FREQ.    | $V_{OUT}$   | $P_{OUT}$ (max)<br>per rectifier |
| 100, 120 Vac | 15, 12 A       | 50/60 Hz | 48-56 Vdc** | 1200 W*                          |
| 200-240 Vac  | 7.4 A          |          |             |                                  |

NP1500 Rectifier Ratings

| INPUT, AC    |                |          | OUTPUT, DC  |                                  |
|--------------|----------------|----------|-------------|----------------------------------|
| $V_{IN}$     | $I_{IN}$ (max) | FREQ.    | $V_{OUT}$   | $P_{OUT}$ (max)<br>per rectifier |
| 100, 120 Vac | 15, 12 A       | 50/60 Hz | 48-56 Vdc** | 1200 W*                          |
| 200-240 Vac  | 8.5 A          |          |             | 1500 W*                          |

NP2500 Rectifier Ratings

| INPUT, AC   |                |          | OUTPUT, DC  |                                  |
|-------------|----------------|----------|-------------|----------------------------------|
| $V_{IN}$    | $I_{IN}$ (max) | FREQ.    | $V_{OUT}$   | $P_{OUT}$ (max)<br>per rectifier |
| 200-240 Vac | 15 A           | 50/60 Hz | 48-56 Vdc** | 2600 W*                          |

\*Actual system output based on sum of rectifier capacities

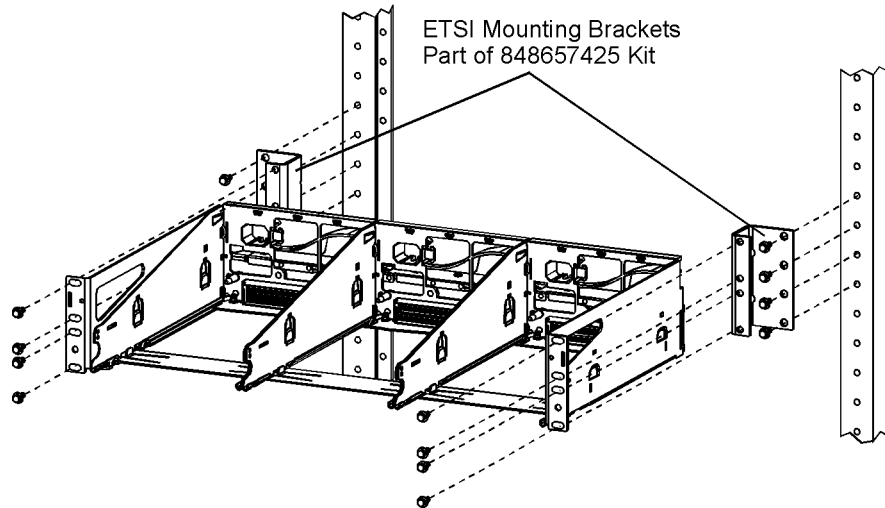
\*\* For the specific DC output voltage, refer to the white label on the side of the NP rectifiers.

**Other Mounting Procedures**

ETSI, 23-inch, or mid-mounting of the NP Shelf require the use of adapters between the shelf and the frame rails. The adapters must be affixed to the mounting rails prior to mounting the shelf to the adapters.

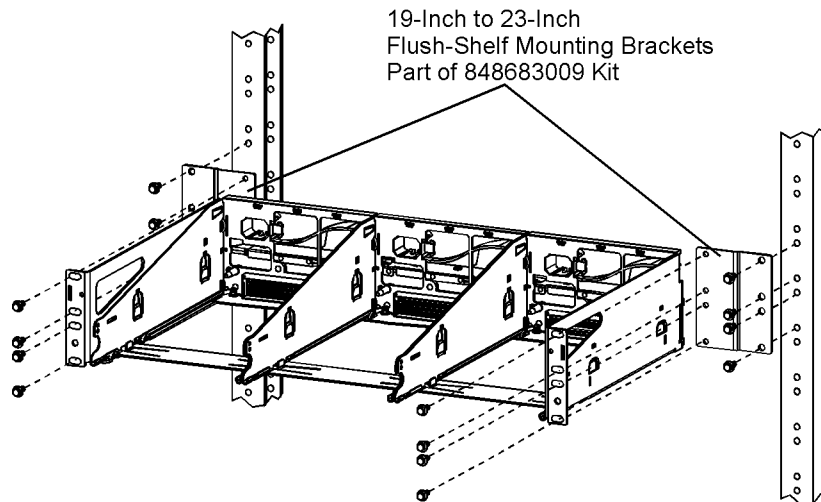
**ETSI Mounting**

The 848657425 ETSI mounting kit contains brackets and screws that allow the shelf to be affixed to ETSI rail widths. The smaller of the two brackets is to be mounted to the left rail with the flange bends facing outwards. Mount the larger bracket such that the wider flange is mounted to the rails with the smaller flange bend facing outwards. See the figure below for more details. Torque all connections to 35 in-lbs (4Nm).



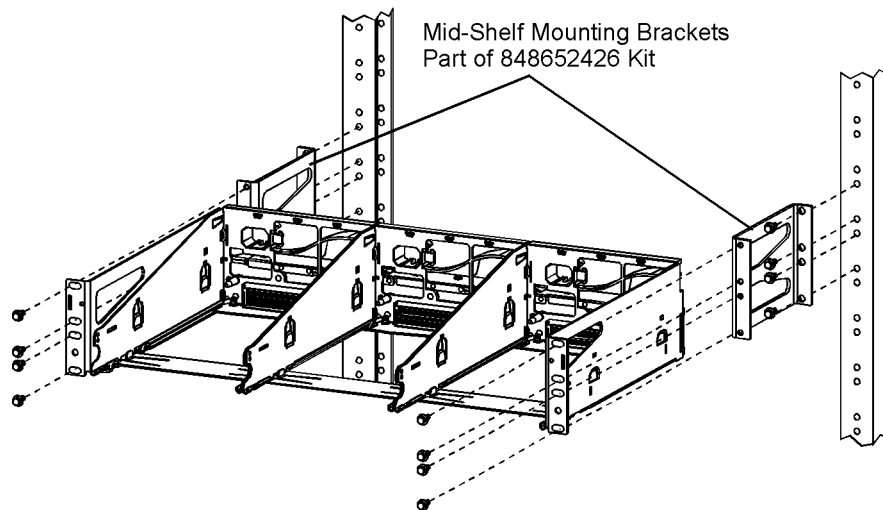
**19-inch to 23-inch Flush Mounting**

The 848683009 mounting kit contains two identical brackets and screws that allow the shelf to be flush mounted to 23-inch rail widths. Mount brackets to the rails with the flange bends facing outwards. See the figure below for more details. Secure the adapters to the mounting rails using the screws provided and torque to 35 in-lbs (4Nm).



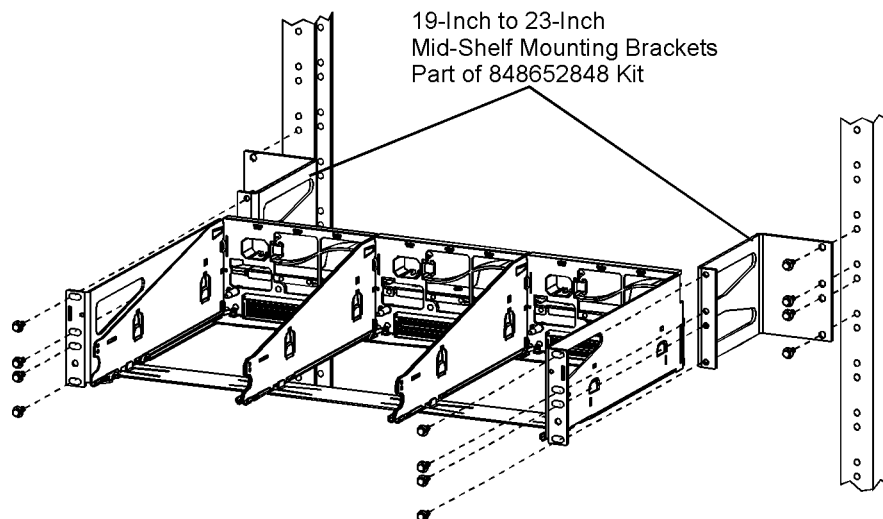
### Mid-Shelf Mounting

The 848652426 mid-shelf mounting kit contains brackets and screws that allow the shelf to be mid-mounted to EIA 19-inch rail widths. Mount the brackets with the wider screw openings to the rails and the shelf bracket-bend facing outwards. See the figure below for more details. Torque all connections to 35 in-lbs (4Nm).



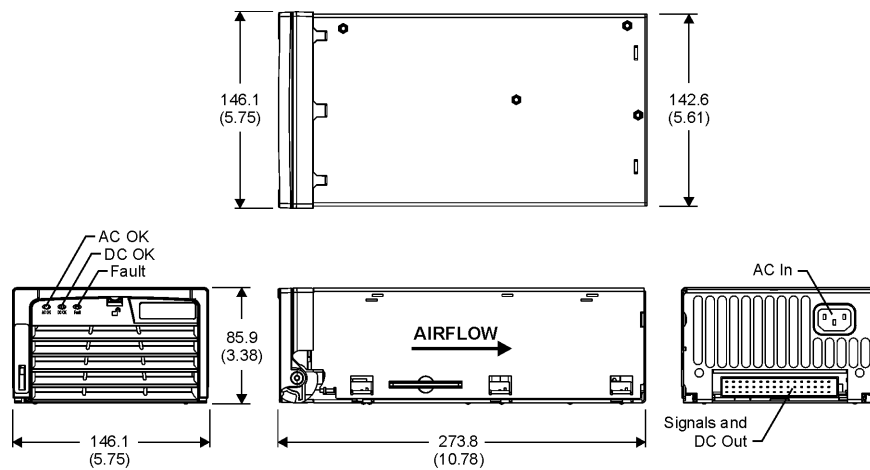
### 19-inch to 23-inch Mid-Shelf Mounting

The 848652848 19-inch to 23-inch mid-mounting kit contain brackets and screws that allow the shelf to be mid-mounted to 23-inch rail widths. The smaller of the two brackets is to be mounted to the left rail with the flange bends facing outwards. Mount the larger bracket such that the wider flange is mounted to the rails with the smaller flange bend facing outwards. See the figure below for more details. Torque all connections to 35 in-lbs (4Nm).

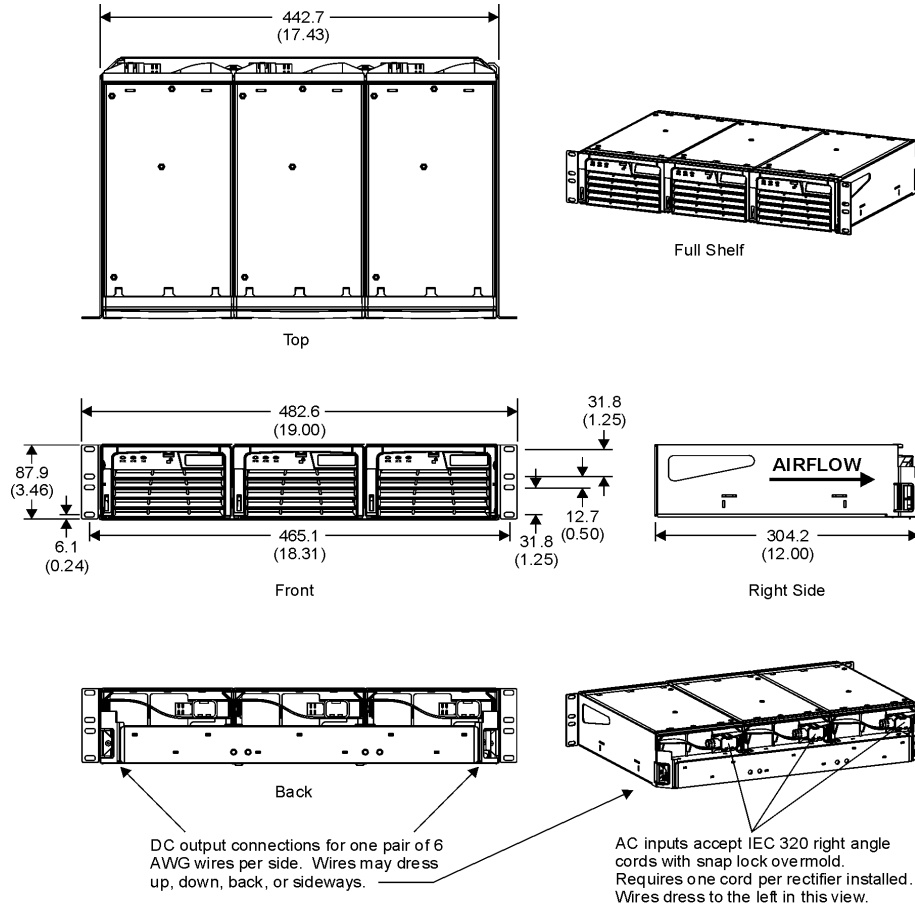


### 3. PRODUCT OUTLINE AND PHYSICAL SPECIFICATIONS

- Dimensions are in millimeters and (inches).
- NP0800, NP1200, and NP1500 rectifier weight is 7 lbs.
- NP Power System weight is 28 lbs. when supplied with NP0800, NP1200, or NP1500.

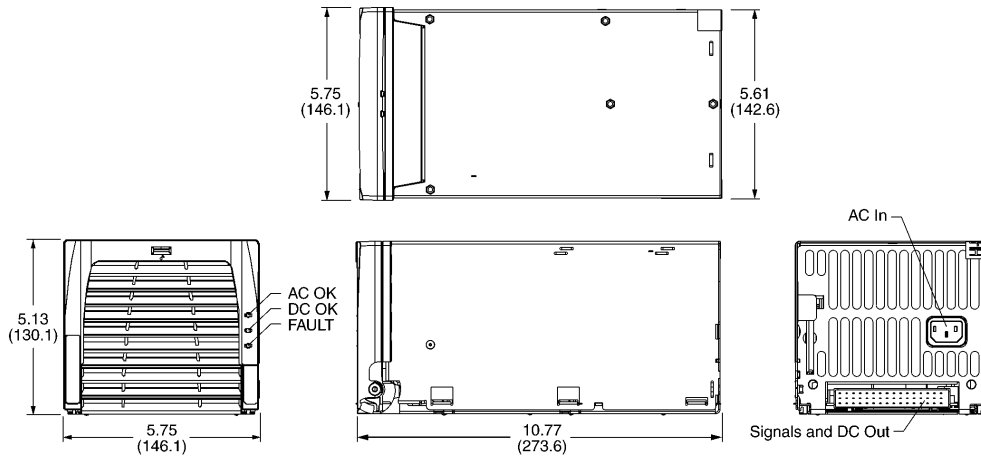


**NP0800, NP1200, NP1500 Rectifier**



**NP0800, NP1200, NP1500 System**

- NP2500 rectifier weight is 4.3 kg (9.41 lbs.)
- NP2500 Power System weight is 16 kg (35.1 lbs.)



**NP2500 Rectifier**



## 4. FCC COMPLIANCE STATEMENT

TITLE 47--TELECOMMUNICATION

CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION

PART 15--RADIO FREQUENCY DEVICES

Subpart B--Unintentional Radiators

Sec. 15.105 Information to the user

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## 5. CE DECLARATION OF CONFORMITY

We,

*Tyco Electronics Power Systems*  
 3 Brants Bridge  
 Bracknell, Berkshire, RG12 9BG  
 United Kingdom

declare under our sole responsibility that the products:

Power Distribution Shelves: Models NP Shelf, NPS3600 and NP Shelf LC to which this declaration relates, is in conformity with the following standards or other normative documents:

EN60950  
 EN55022 CISPR 22 Class B  
 EN61000-3-2 Harmonics (Performed on the NP1200 rectifier)  
 EN61000-4-2 ESD, levels 3 and 4  
 EN61000-4-3 Radiated Immunity, level 3, 1- V/m  
 EN61000-4-4 EFT, levels 3 and 4  
 EN61000-4-5 Lightning Surge, levels 3 and 4  
 EN61000-4-6 Conducted Immunity 10 V rms  
 EN61000-4-11 Voltage dips and variations

Note: Testing per EN61000-3-3 (Flicker) can only be performed with a resistive load for a power supply. Since this is only a static simulation, no significant voltage fluctuation will occur. The power supply will not cause any significant voltage fluctuations and is exempt from EN61000-3-3. As stated in Sections 5 and 6 of the document.

These units also follow the provisions of Council Directive 73/23/EEC, as amended by Directive 93/68/EEC, on the harmonization of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits; and Council Directive 89/336/EEC, as amended by Directive 93/68/EEC, on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Bracknell, UK, Date: 13/7/01

*Kirit Wadhia*   
 Director Sales & Marketing EMEA  
 Tyco Electronics Power Systems

### Supplementary Information

|                 |  |                  |             |
|-----------------|--|------------------|-------------|
| Manufacturer:   | <i>Tyco Electronics Power Systems</i><br>3000 Skyline Drive<br>Mesquite, Texas, 75149, USA | VDE License No.: | 130772 ÜG   |
| Competent Body: | VDE<br>Marianstrasse 28<br>D-63069 Offenbach, Germany                                      | EMC Report       | DJ110700APF |

**tyco**

*Electronics*

**Power  
Systems**

## 6. GERMAN INSTALLATION GUIDELINES

For installation in Germany, the following guidelines must be followed for installation of the product in the end use equipment.

### Installationsanleitung/Installation Instructions NP Shelf

Nennspannung (Rated Voltage): **Dependent on rectifier. See Section 2, Rectifier Rating Information.**

Nennaufnahme (Rated Input): **Dependent on rectifier. See Section 2, Rectifier Rating Information.**

Ausgangsspannung (Sec. Voltage) and Ausgangsstrom (Sec. Current) or  
Ausgangsleistung (Sec. Power) **DC 48 – 56V; 2600 W Max. per rectifier slot**

Abmessungen (Overall dimensions) mm: 483 x 305 x 86

### Besondere Hinweise (Special Instructions):

#### Anmerkungen (Notes)

1. Die maximale Umgebungstemperatur betraegt 55°C.  
(Maximum operating temperature 55°C.)

2. Die maximale Ausgangsleistung sollte 800W (NP0800), 1200W (NP1200), 1200W (NP1500: 100-120Vac), 1200W (NP1500: 200-240Vac), 2500W (NP2500) nicht ueberschreiten.  
(Maximum continuous output power not to exceed 800W (NP0800), 1200W (NP1200), 1200W (NP1500: 100-120Vac), 1200W (NP1500: 200-240Vac), 2500W (NP2500).)

3. Das Netzgeraet ist nur zum Einbau fuer EN 60950 Geraete.  
(Rectifier Shelf is an EN60950 equipment. End use customer to meet all EN60950 requirements when installing power supply into end use product.)

Reperaturen duerfen nur von Service Personal durchgefuehrt werden.  
(Repair should be made only by trained service Personnel.)

## 7. ARGENTINA CERTIFICATE OF CONFORMITY

**UL de Argentina S.R. L.**

Reconquista 865 Piso 5° A (C1003ABQ), Capital Federal  
Buenos Aires, Argentina

**CERTIFICADO de UL DE ARGENTINA S.R.L. de CONFORMIDAD de TIPO  
UL DE ARGENTINA S.R.L. CERTIFICATE of TYPE CONFORMITY**

Nº de Certificado/ Certificate No.

**02AR33N01**

Página/Page: 1

Producto  
Product

Power Supply

Nombre y dirección del Solicitante  
Name and address of the Applicant

Tyco Electronics Power Systems, Inc.  
3000 Skyline Drive, Mesquite  
Texas 75149, EEUU.

Nombre y dirección del Fabricante  
Name and address of the Manufacturer

Tyco Electronics Power Systems, Inc.  
3000 Skyline Dr., Mesquite, TX 75149, EEUU

Nombre y dirección de la Fábrica(s)  
Name and address of the Factory(ies)

Tyco Electronics Power Systems de Mexico, S.A. de C.V.  
Norte 7 y Ave. Iauro Villar #4  
H. Matamoros, Tamaulipas  
MEXICO

Valores nominales y características principales  
Rating and principal characteristics

100-120/200-240 V ac, 50/60 Hz, 15-12/7.4 A

Marca  
Trade Mark

Tyco Electronics

Modelo / Referencia de tipo  
Model / Type Ref.

NP Shelf, NP Shelf LC

Información adicional:  
Additional Information

Se considera que la muestra del producto ensayada cumple con la(s) norma(s)  
The tested sample of the product is considered to be in conformity with the standard(s)

IEC 60950 2da Edición (1991) + Am1:92 + Am2:93 + Am3:95 + Am4:96

según el Informe de Ensayo numero  
according to the Test Report Number

E137750 V9 S8

1. Este Certificado de Conformidad de Tipo cubre solamente la muestra ensayada según el informe aquí mencionado, y no abre juicio alguno sobre la producción normal del fabricante.

1. This Certificate of Type Conformity covers only the sample tested according to the test report here mentioned, and does not imply any judgement about the normal production of the manufacturer.

2. Este Certificado de Conformidad de Tipo no permite colocar ninguna de las Marcas de UL de Argentina S.R.L. sobre el producto o su embalaje, ni tampoco en publicidades o papelería del fabricante, importador o distribuidor.

2. This Certificate of Type Conformity does not allow to place any of the UL de Argentina S.R.L. Marks on the product or its package, or either an advertisement or stationary of the manufacturer, importer or distributor.

Fecha de emisión / Date of issue: 13/11/2002

Firmas: Ingeniero de proyecto  
Signatures: Project engineer

Julio Vila



Miembro del Comité  
Committee member

Roberto Stazzoni



## 8. SPANISH INSTALLATION GUIDELINES

### Notas especiales para instalaciones en países de habla hispana

#### Instrucciones de instalación (Installation Instructions)

- Voltaje (Voltage):  
AC100; AC120V 1200 – 240V; 50/60 Hz
- Corriente (Current):  
15A; 12A / 8.5A
- Frecuencia (Frequency):  
50/60Hz
- Las dimensiones son únicamente para referencia:  
(Dimensions are for Reference only)  
483mm x 305mm x 86mm
- Temperatura máxima de operación: (Max. operation temperature)  
55°C
- Advertencia: Para una protección continua contra incendios, reemplace con el mismo tipo y clasificación de fusible.  
(Warning: For continued protection against fire replace with same type and rating of fuse.)
- La fuente de alimentación es un equipo clase I (Power Supply is a Class I Equipment)
- Voltaje y potencia de salida: (Output Voltage and Power)  
DC48 – 50; 1500W Máximo por rectificador
- Reparaciones deberán ser hechas por personal de servicio autorizado.
- Evaluado en IEC60950 (Evaluated to IEC60950)

## 9. ORDERABLE PRODUCT INFORMATION

**Table 1A: AC Input Cords for NP0800, NP1200 and NP1500 Rectifiers\***

| Region             | AC Cord Specification                     | Wall Plug  | Tyco Electronics Part Number |
|--------------------|---|--|------------------------------|
| North America      | 15A / 125Vac<br>10A / 250Vac <sup>§</sup> | NEMA 5-15P   | 848545166                    |
| Continental Europe | 10A / 250Vac                              | IEC 884 / CEE 7/7<br>Exception to CEE 7/7:<br>Switzerland SEV 1011 | 848545208                    |
| United Kingdom     | 13A / 250Vac                              | BS1363, w/ 13A fuse  | 848545224                    |
| Australia          | 10A / 250Vac                              | AS3112   | 848545232                    |
| Argentina          | 10A / 250Vac                              | IRAM 2073:1982   | 848545240                    |
| China              | 10A / 250Vac                              | GB2099.1-1996  | 848545190                    |
| Japan              | 15A / 125Vac                              | JIS 8303   | 848545182                    |

**Table 1B: AC Input Cords for NP2500 Rectifiers\***

| Region                                   | AC Cord Specification  | Wall Plug  | Tyco Electronics Part Number |
|--|--|--|------------------------------|
| International Harmonized Cord, Blunt-Cut | 10A / 250Vac per VDE for general use,<br>16A / 250Vac per VDE for use specifically with NP2500 | N/A  | 848672804                    |
| Argentina                                | 15A 250Vac   | IRSM 2073:1982   | 848679726                    |
| Australia / New Zealand                  | 15A / 250Vac   | AS3112   | 848672812                    |
| China                                    | 15A / 250Vac   | GB2099.1-1996  | 848679734                    |
| Europe                                   | 16A / 250Vac   | IEC 884 / CEE 7/7<br>Exception to CEE 7/7:<br>Switzerland SEV 1011 | 848672796                    |
| Italy                                    | 16A / 250Vac   | MP231 CEI 23-16 / VII  | 848672788                    |
| Japan                                    | 15A / 250Vac   | JIS 8303   | 848679742                    |
| North America                            | 15A / 250Vac   | NEMA L6-20   | 848667622                    |
| North America                            | 15A / 250Vac   | NEMA 6-20P   | 848667614                    |
| United Kingdom                           | 15A / 250Vac   | BS546 / A  | 848672770                    |

\*IEC60320 C-13 right angle connector used on all AC cable sets to mate with NP shelf.  
All cords are 3m / 10 feet in length.

<sup>§</sup> For high line operation, qualified service personnel must replace the wall plug with an appropriate UL Listed/CSA plug, as required in compliance with local electrical codes and standards.

The following are products available for replacement or expansion of your NP Power System. Contact your Tyco Electronics-Power Systems Account Manager for additional information.

**Table 2: NP System Product Part Numbers**

| <b>Product (Apparatus Code)</b>                | <b>Includes:</b>  | <b>Tyco Electronics Power Systems Part Number</b> |
|--|---|---|
| NP1200   | One (1) NP1200 Rectifier, 52V   | 108547886   |
| NP1200 System                                  | Three (3) NP1200s, 52V<br>One (1) NP Shelf w/dc cables  | 108842865   |
| NP0800   | One (1) NP0800 Rectifier, 52V   | 108957929   |
| NP1500   | One (1) NP1500 Rectifier, 52V   | 108959503   |
| NP2500   | One (1) NP2500 Rectifier, 52V   | 108959511   |
| NP Shelf                                       | One (1) NP Shelf w/dc cables  | 108645573   |
| NP 1200 System LC                              | Three (3) NP1200s, 52V<br>One (1) NP Shelf w/o DC cables  | 108962341   |
| NP Shelf LC                                    | One (1) NP Shelf w/o DC cables  | 108961806   |
| NP Shelf Grounding Kit                         | One (1) 3-foot length of 6 AWG cable terminated with 1/4-inch double-hole lugs and two #10 screws | 848569125   |
| ETSI Mounting Brackets                         | Brackets and securing hardware  | 848657425   |
| 19-Inch to 23-Inch Flush Mounting Brackets     | Brackets and securing hardware  | 848683009   |
| Mid-Shelf Mounting Brackets                    | Brackets and securing hardware  | 848652426   |
| 19-Inch to 23-Inch Mid-Shelf Mounting Brackets | Brackets and securing hardware  | 848652848   |