– 48 Volt dc power

IBM

Installation Instructions

– 48 Volt dc power

IBM

Installation Instructions

Safety

Before installing this product, read the Safety Information.

مج، يجب قراءة   دات السلامة

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information
（安全信息）。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας
(safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się
z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по
технике безопасности.

Pred inštaláciou tohto zariadenia si pečítaje Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto, lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

Chapter 1. Introduction

Use this documentation in conjunction with the IBM® @server xSeries documentation that comes with your server. The information contained in this document replaces the instructions for connecting, turning off your server, and disconnecting the power cable from the rear of your server in your xSeries documentation.

Only a trained service person may connect or disconnect the server from its power source and install or remove the power connection on the rear of the server.

This publication provides the information needed to make the power connections necessary to operate your server. These instructions must be kept with your other server documentation and given to a trained service person to ensure the proper installation of your server.

Read this publication completely before making the power connections.

Chapter 2. – 48 V dc power connection installation instructions

Use this documentation in conjunction with the xSeries documentation that comes with your server. The information contained in this document replaces the instructions for connecting and disconnecting the power cable from the rear of your server in your xSeries documentation.

Before you begin

- Read this publication completely before making the power connections.
- Review the safety statements

Statement 18

CAUTION:
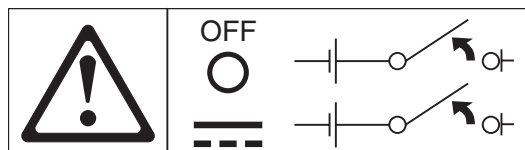**To reduce the risk of electric shock or energy hazards:**

- **This equipment must be installed by trained service personnel in a restricted-access location, as defined by the NEC and IEC 60950, Third Edition, The Standard for Safety of Information Technology Equipment.**

- **Connect the equipment to a reliably grounded safety extra low voltage (SELV) source. An SELV source is a secondary circuit that is designed so that normal and single fault conditions do not cause the voltages to exceed a safe level (60 V direct current).**

- **The branch circuit overcurrent protection must be rated at a minimum of 5 A to a maximum of 15 A.**

- **Use 14 American Wire Gauge (AWG) or 2.5 mm^2 copper conductor only, not exceeding 3 meters in length.**

- **Torque the wiring-terminal screws to 12 inch-pounds (1.4 newton-meters).**

- **Incorporate a readily available approved and rated disconnect device in the field wiring.**

Statement 19

CAUTION:
The power-control button on the device does not turn off the electrical current supplied to the device. The device might also have more than one connection to dc power. To remove all electrical current from the device, ensure that all connections to dc power are disconnected at the dc power input terminals.
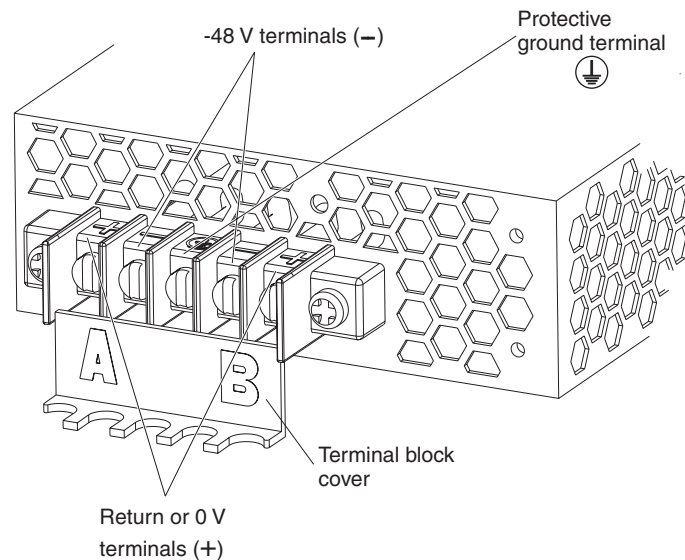
Wiring the – 48 V dc power connection to the power supply

The information in this section replaces the instructions for connecting the power cable to the rear of the server in your xSeries documentation.

Notes:

1. There are two sets of terminals for connecting dc power connections to the rear of the server. As shown in the following illustration, they are labeled A and B on the terminal block cover. Each set consists of a return or 0 V (+) terminal and a – 48 V (–) terminal.

2. For instructions on how to connect dual inputs to the terminal block, refer to "Dual input instructions" on page 6.
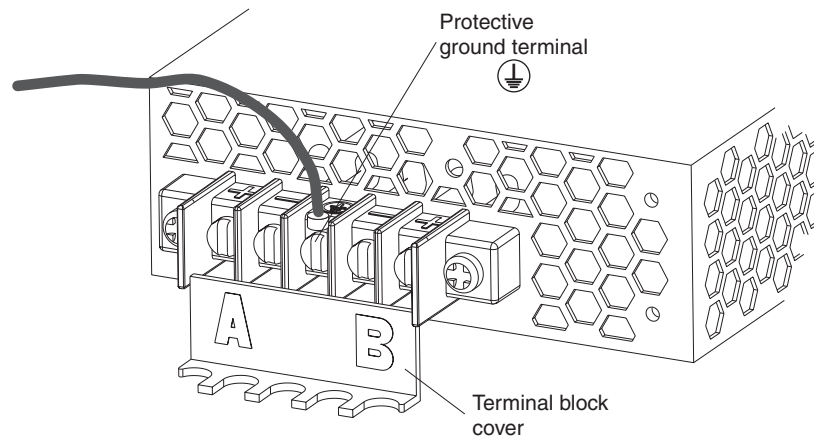

Single input instructions

Complete the following steps to connect a single – 48 V dc input to the power supply terminals.

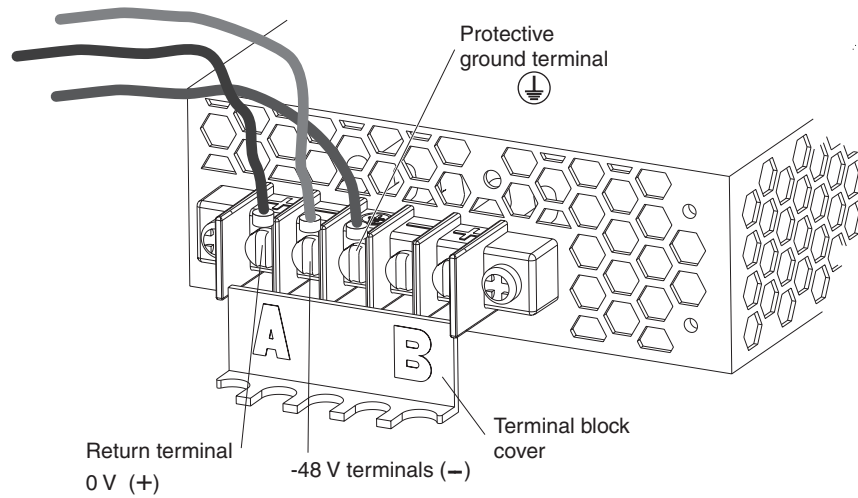**Note:** Make all connections on the A set of terminals located on the left side of the terminal block .

1. Pull down on the terminal cover to open it.

2. Connect the wires to the power supply in the following order:

a. Connect the protective ground wire to the protective ground terminal located in the center of the terminal block.

> **Note:** The wires must be connected in the order described to ensure proper safety and operation of the – 48 V power supply.

b. Connect the return or 0 V wire to the return (+) terminal on the terminal block.

c. Connect the – 48 V (–) wire to the (–) terminal on the terminal block.

> **Note:** Torque the wiring-terminal screws to 12 inch-pounds (1.4 newton-meters).
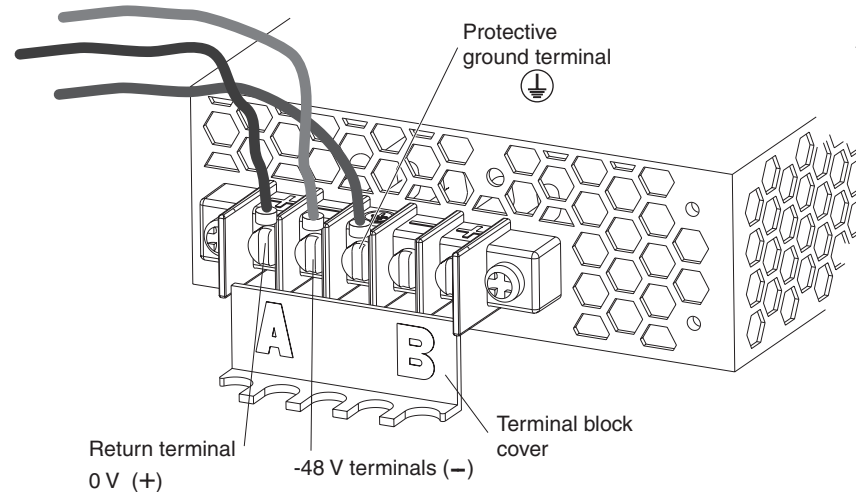
3. Close the terminal block cover.

Dual input instructions

Complete the following steps to connect dual – 48 V dc power inputs to the power supply terminals.

Note: For instructions on how to connect a single input to the terminal block, refer to "Single input instructions" on page 4.

1. Pull down on the terminal cover to open it.

2. Connect the protective ground wire to the protective ground terminal located in the center of the terminal block.

   Note: The wires must be connected in the order described to ensure the proper operation of the – 48 V.

Protective ground terminal

Terminal block cover

Return terminal
0 V (+)

-48 V terminals (−)

3. Connect the first set of inputs to the A set of terminals as follows:

   a. Connect the return or 0 V wire to the A return (+) terminal on the terminal block.

   b. Connect the – 48 V (−) wire to the A (−) terminal on the terminal block.

4. Connect the first set of inputs to the B set of terminals as follows:

   a. Connect the return or 0 V wire to the B return (+) terminal on the terminal block.

   b. Connect the – 48 V (−) wire to the B (−) terminal on the terminal block.

      Note: Torque the wiring-terminal screws to 12 inch-pounds (1.4 newton-meters).

5. Close the terminal block cover.

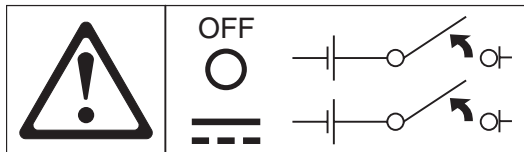# Chapter 3. Disconnecting the dc power connection

The information in this section replaces the instructions for turning off the server and disconnecting the power cable from the rear of the server in your xSeries documentation.

Statement 19

CAUTION:
The power-control button on the device does not turn off the electrical current supplied to the device. The device might also have more than one connection to dc power. To remove all electrical current from the device, ensure that all connections to dc power are disconnected at the dc power input terminals.

OFF

Note: Turning off the server refers to the act of disconnecting the server from the power source.

Complete the following steps to turn off your server and to disconnect the dc power connection from the power supply.

1. Refer to your operating system documentation for the proper procedure to shut down the operating system.

   Note: Each operating system is different. Some will allow an immediate shut down, while others require an orderly shut-down procedure.

2. Press the power control button on the front of the server. This will put the server in stand-by mode.

3. Trip the circuit breaker.

4. Pull down on the terminal block cover to open it.

5. Disconnect all – 48 V wires from the (–) terminals.

6. Disconnect all 0 V wires from the return (+) terminals.

7. Disconnect the protective ground wire from the protective ground terminal located in the center or the terminal block.

8. Close the terminal block cover.

Appendix A. Product notices

This chapter contains trademarks and general-information notices.

Notices

This publication was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this publication to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product, and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Edition notice

Processing date data

This IBM hardware product and IBM software products that might be packaged with it have been designed, when used in accordance with their associated documentation, to process date data correctly within and between the 20th and 21st centuries, provided all other products (for example, software, hardware, and firmware) used with these products properly exchange accurate date data with them.

IBM cannot take responsibility for the date data processing capabilities of non-IBM products, even if those products are preinstalled or otherwise distributed by IBM. You should contact the vendors responsible for those products directly to determine the capabilities of their products and update them if needed. This IBM hardware product cannot prevent errors that might occur if software, upgrades, or peripheral devices you use or exchange data with do not process date data correctly.

The foregoing is a Year 2000 Readiness Disclosure.

Trademarks

The following terms are trademarks of the IBM Corporation in the United States, other countries, or both:

e-business logo	ServerProven
IBM	xSeries

Other company, product, and service names may be trademarks or service marks of others.

IBM

Part Number: 32P0302

32P0302