RELAY INTERFACE ADAPTER (RIA)

User's Guide

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CHAPTER 1
INTRODUCTION

The Relay Interface Adapter (RIA) is compatible with the Powerware® 9 Prestige series of uninterruptible power systems (UPSs). The RIA:

- Has true dry contacts (Form C contacts)
- Allows simple and accurate monitoring of the UPS status
- Provides remote monitoring via contacts or via the RS-232 port using the Powerware ConnectUPS® Adapter
- Can be used with LanSafe III/FailSafe III or OnliNet® software to monitor and control UPS devices
- Has four relays that indicate the status of the UPS: UPS available, UPS battery on, UPS bypass on, and UPS battery low

There are two communication ports on the RIA (see Figure 1):

- DB-25 port for connection to dry contacts with a standard Powerware AS/400® cable or the add-on terminal strip
- DE-9 port for RS-232 communication

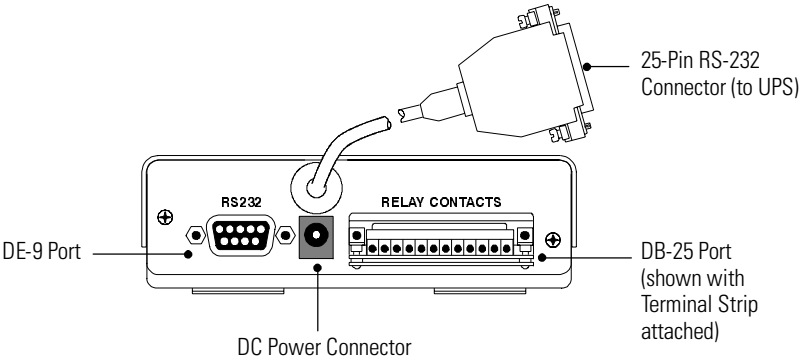

Figure 1. The RIA

CHAPTER 2

COMMUNICATION MODES

The Relay Interface Adapter can be used to provide:

- Simultaneous RS-232 and relay contacts with Novell® mode
- Relay contacts only with AS/400 mode

Novell Mode (RS-232 and Relay Contacts)

The RIA and UPS factory default is Novell mode, providing simultaneous RS-232 and relay contacts. With this configuration, RS-232 communication is enabled from the DE-9 port and three contacts are available from the DB-25 port: Relay 1 - UPS available, Relay 2 - Battery On, and Relay 4 - Low Battery.

For example, you can connect an AS/400 cable and a ConnectUPS Adapter to the RIA (via the DB-25 and DE-9 ports, respectively). By using this configuration, the ConnectUPS Adapter can provide network communication to power management software such as OnliNet or PowerVision®.

Novell mode can also support a combination of relay contacts for a PLC system, in addition to network communication for Microsoft® Windows NT®, Novell NetWare®, or UNIX® servers.

AS/400 Mode (Relay Contacts Only)

The UPS and RIA can be configured for AS/400 mode, enabling only the relay contacts. Four contacts are available: Relay 1 - UPS available, Relay 2 - Battery On, Relay 3 - UPS on Bypass, and Relay 4 - Low Battery. Refer to the "UPS Communication" chapter in the UPS operator's manual for more information on configuring the AS/400 mode.

Use the AS/400 mode for configurations where Relay 3 - UPS on Bypass is required. To enable the AS/400 configuration, you must set the J5 jumper to AS/400 (see Figure 2).

NOTE In AS/400 mode, RS-232 communication is not available.

To set the RIA for AS/400 mode:

1. Remove the four screws on the sides of the adapter. Retain the screws.
2. Remove the cover and set the J5 jumper to the AS/400 position (see Figure 2).
3. Replace the cover. Replace the four screws removed in Step 1.
4. Continue to “Installing the Relay Interface Adapter” on page 5.

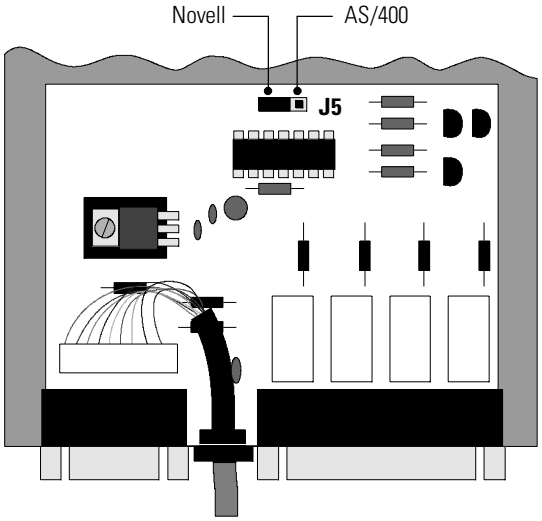

Figure 2. The RIA J5 Jumper

CHAPTER 3

INSTALLATION

Inspecting the Equipment

If any equipment has been damaged during shipment, keep the shipping cartons and packing materials for the carrier or place of purchase and file a claim for shipping damage. If you discover damage after acceptance, file a claim for concealed damage.

To file a claim for shipping damage or concealed damage: 1) File with the carrier within 15 days of receipt of the equipment; 2) Send a copy of the damage claim within 15 days to your service representative.

Installing the Relay Interface Adapter

The following instructions describe the RIA installation only. To install the UPS, follow the instructions in the UPS operator's manual.

NOTE The RIA and UPS should be in the correct communication mode for your configuration. See "Communication Modes" on page 3 for more information.

1. If the UPS is already installed and operating, prepare your equipment for shutdown.

   Press and hold the Off ⏻ button until the long beep ceases (approximately three seconds). Unplug the UPS.

2. Attach the RIA to the UPS using the supplied Velcro strips.
3. Plug the 25-pin RS-232 connector of the RIA into the serial port of the UPS.
4. Connect the RIA to the network, computer, or interface device:

   Connecting RS-232 devices: Plug the 9-pin end of the cable supplied with the RIA into the RS-232 port of the RIA.

   Plug the other end of the cable into the ConnectUPS Adapter or a serial device cable on your PC. You may need a 25- to 9-pin adapter (not supplied) if your serial port requires a 9-pin connection.

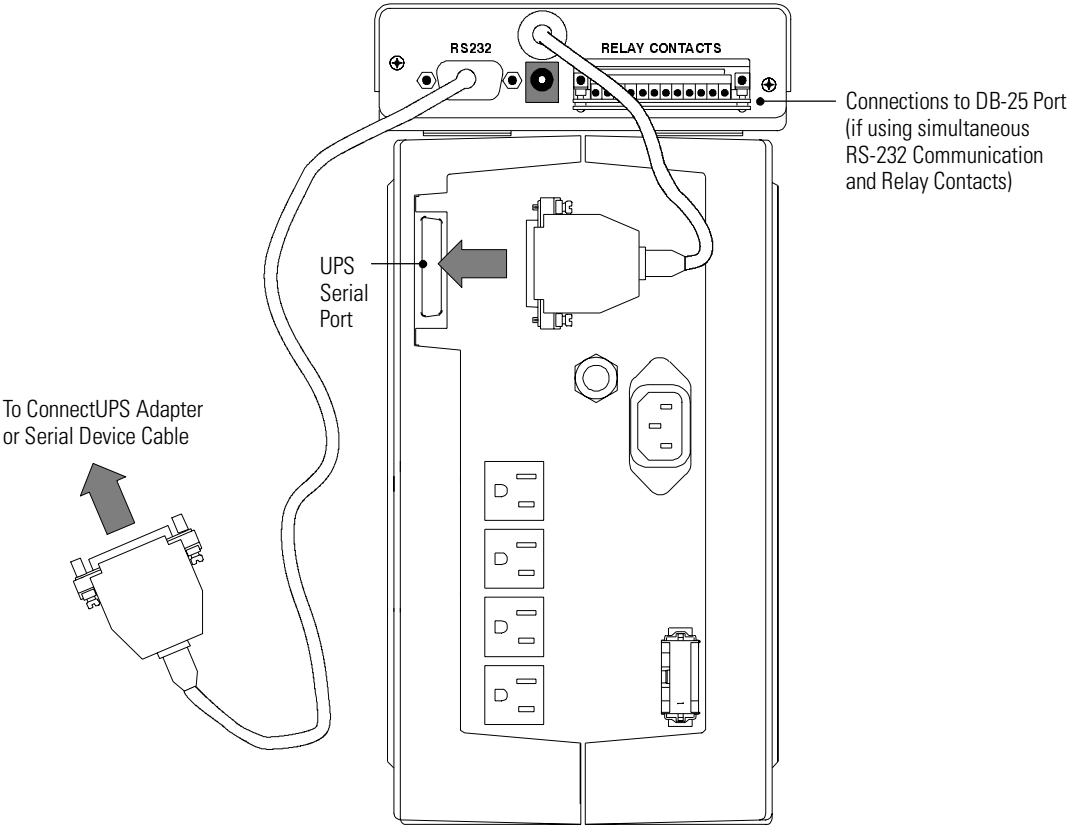

Figure 3. Connecting RS-232 Devices

Connecting I/O devices (relay contacts): Connect the I/O device to the terminals of the relay contacts, which are located on the add-on terminal strip. Install the terminal strip with the provided screws to the DB-25 port.

Connecting with an AS/400 cable (relay contacts): Remove the add-on terminal strip from the DB-25 port of the RIA. Connect the AS/400 cable from your network to the DB-25 port on the RIA.

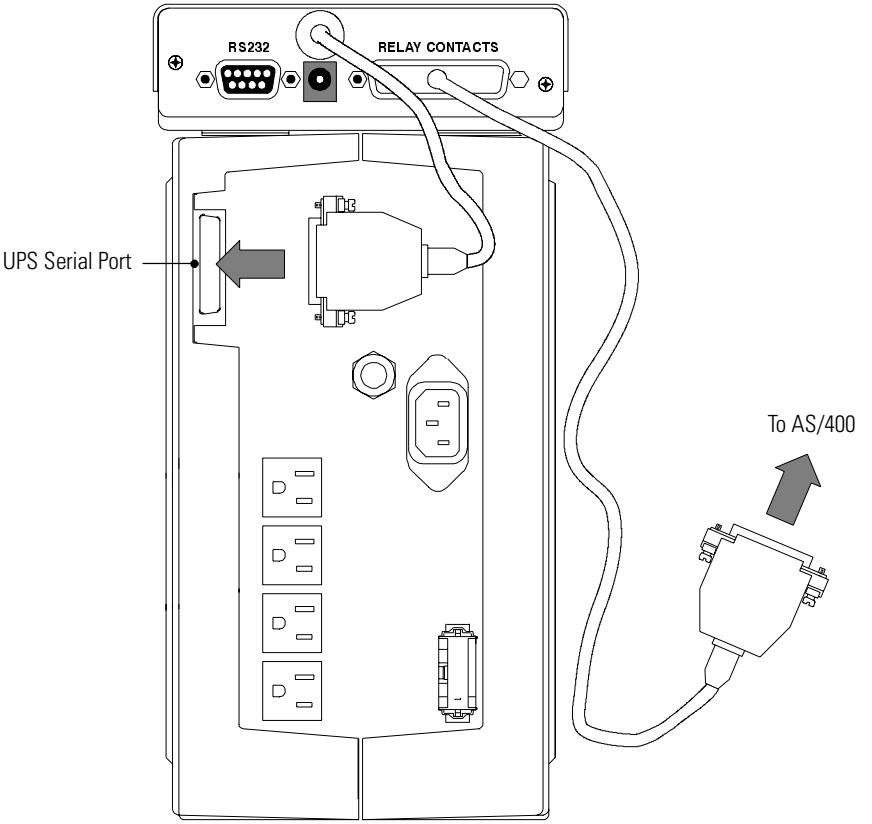

Figure 4. Using an AS/400 Cable

5. For Prestige SE models, installation is complete. Refer to the rating label on the UPS rear panel to identify your UPS model.

   For non-SE models and Prestige 4500-6000 VA models, an external power supply adapter is required (11-13 Vdc, 6W, part number 163901050-001). Connect the power supply to the DC PWR connector on the RIA.

6. Plug in the UPS. Press and hold the On | button until you hear the UPS beep (approximately one second).

Service and Support

If you have any questions or problems with the RIA, call your **Local Distributor** or the **Help Desk** at one of the following telephone numbers and ask for a UPS technical representative.

In the United States	**1-800-365-4892**
In Canada	**1-800-461-9166**
All other countries	**1-919-870-3149**

Please have the following information ready when you call the Help Desk:

- Model number
- Serial number
- Version number (if available)
- Date of failure or problem
- Symptoms of failure or problem
- Customer return address and contact information

If repair is required, you will be given a Returned Material Authorization (RMA) Number. This number must appear on the outside of the package and on the Bill Of Lading (if applicable). Use the original packaging or request packaging from the Help Desk or distributor. Units damaged in shipment as a result of improper packaging are not covered under warranty. A replacement or repair unit will be shipped, freight prepaid for all warrantied units.

NOTE For critical applications, immediate replacement may be available. Call the **Help Desk** for the dealer or distributor nearest you.

CHAPTER 4
PINOUTS

There are two communication ports on the Relay Interface Adapter:

- DE-9 port for RS-232 communication
- DB-25 port for relay contacts or AS/400 communication

The pinouts of the ports are listed below.

Table 1. DE-9 Pinout

Adapter Pin	Direction (as seen from UPS)	Function	UPS Pin
1			
2	Output	Rx	3
3	Input	Tx	2
4	Input	DTR	20
5		Common	7
6			
7			
8			
9	Output	8-24 Vdc Power	8

Table 2. DB-25 Pinout

Pin	Function	Condition
1	Chassis Ground	
11	Relay 1 UPS Available	Open
12		Common
13		Closed
14	Relay 2 Battery On	Open
15		Common
16		Closed
17	Relay 3 Bypass	Open/Closed
18		Common
19		Open
21		Closed
23	Relay 4 Low Battery	Closed
24		Open
25		Common

NOTE Form C contact ratings: 2A @ 30 Vdc, 0.5A @ 125 Vac.

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