Server Technology

Solutions for the Data Center Equipment Cabinet

Sentry

Serial Power Tower

- PTSS

Installation and Operations Manual

Instructions
This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Dangerous Voltage
This symbol is intended to alert the user to the presence of un-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Protective Grounding Terminal
This symbol indicates a terminal that must be connected to earth ground prior to making any other connections to the equipment.

Life-Support Policy

As a general policy, Server Technology does not recommend the use of any of its products in the following situations:

- life-support applications where failure or malfunction of the Server Technology product can be reasonably expected to cause failure of the life-support device or to significantly affect its safety or effectiveness.
- direct patient care.

Server Technology will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to Server Technology that:

- the risks of injury or damage have been minimized,
- the customer assumes all such risks, and
- the liability of Server Technology is adequately protected under the circumstances.

The term life-support device includes but is not limited to neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief or other purposes), auto-transfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators (for adults or infants), anesthesia ventilators, infusion pumps, and any other devices designated as "critical" by the U.S. FDA.

Please Recycle
Shipping materials are recyclable. Please save them for later use, or dispose of them appropriately.

Table of Contents

Chapter 1: Introduction

Quick Start Guide

The following instructions will help you quickly install and configure your Serial Power Tower for use in your data center equipment cabinet. For detailed information on each step, go to the page number listed to the right.

NOTE: For your network security, Server Technology strongly recommends the changing of all predefined passwords for Control Screen and Network Access Device access prior to attachment to your network.

Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8:30 AM to 5:00 PM, Monday-Friday, Pacific Time.

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Equipment Overview

A letter/number combination is printed above each Serial Power Tower port. The ports are labeled A1 through A4, B1 through B4, C1 through C4 and D1through D4. These names may be used in commands that require a port name.
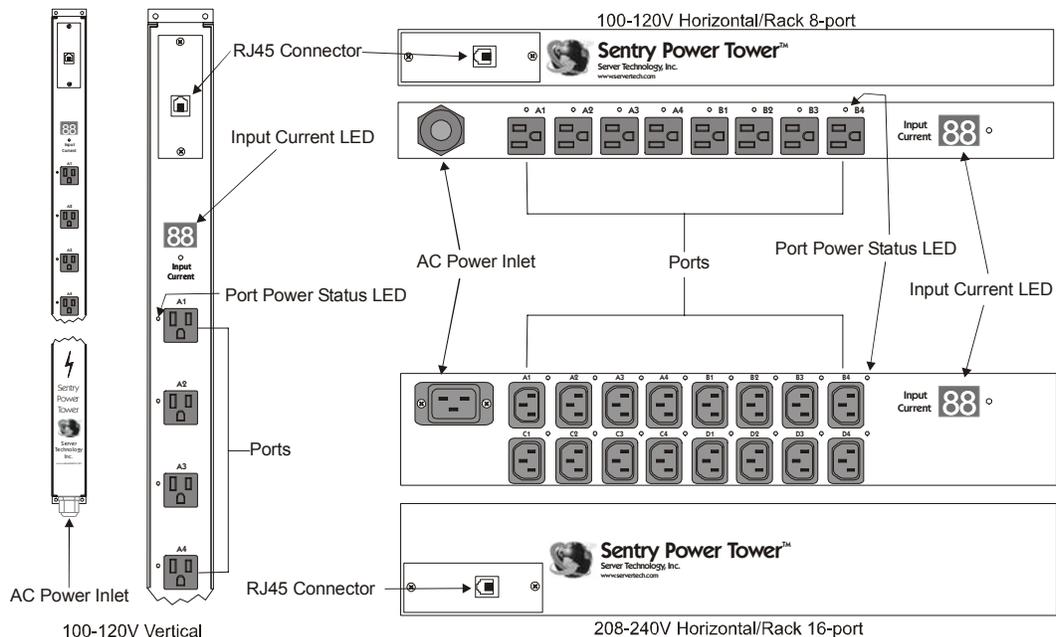

Figure 1.1 Serial Power Tower Views

Chapter 2: Installation

Before installing your Serial Power Tower, refer to the following lists to ensure that you have all the items shipped with the unit as well as all other items required for proper installation.

Standard Accessories

- Mounting bracket hardware:
  Vertical models - two removable flanges with four M4 screws and two mounting L-brackets with nut plates, four sets of screws and washers and optional button mounts.
  Horizontal models – two removable flanges with M4 screws.RJ45 to RJ45 crossover cable
- RJ45 to DB9F serial port adapter (for connection to standard DB9M DTE serial port)
- Outlet retention clips (208-240V models)

Additional Item for PTSS-xxxx-02 models:

- Separate power input cord
- Power input retention bracket hardware.
  Two removable T-brackets with two 40mm screws.

Additional Required Items

- Phillip screwdriver
- Screws, washers and nuts to attach the Power Tower to your rack

Safety Precautions

This section contains important safety and regulatory information that should be reviewed before installing and using the Sentry Serial Power Tower. For input and output current ratings, see *Power Ratings in Technical Specifications.*

	English	French	German
	Only for installation and use in a Service Access Location in accordance with the following installation and use instructions.	*Destiné à l'installation et l'utilisation dans le cadre de Service Access Location selon les instructions d'installation et d'utilisation.*	Nur für Installation und Gebrauch an Anschlusszugriffspunkten gemäß der folgenden Installations- und Gebrauchsanweisungen.
	This equipment is designed to be installed on a dedicated circuit.	*Cet équipement est conçu à être installé sur un circuit spécialisé.*	Diese Ausrüstung ist zur Installation in einem festen Stromkreis vorgesehen.
⚡	Dedicated circuit must have circuit breaker or fuse protection. Power Towers have been designed without a master circuit breaker or fuse to avoid becoming a single point of failure. It is the customer's responsibility to provide adequate protection for the dedicated power circuit. Protection of capacity equal to the current rating of the Power Tower must be provided and must meet all applicable codes and regulations. In North American, protection must have a 10,000A interrupt capacity.	*Le circuit spécialisé doit avoir un disjoncteur ou une protection de fusible. Power Towers ont été conçus sans disjoncteur général ni fusible pour éviter que cela devient un seul endroit de panne. C'est la responsabilité du client de fournir une protection adéquate pour le circuit-alimentation spécialisé. Protection de capacité équivalant à la puissance de l'équipement, et respectant tous les codes et normes applicables. Les disjoncteurs ou fusibles destinés à l'installation en Amérique du Nord doivent avoir une capacité d'interruption de 10.000 A.*	Der feste Stromkreis muss mit einem Schutzschalter oder einem Sicherungsschutz versehen sein. Power Towers verfügt über keinen Hauptschutzschalter bzw. über keine Sicherung, damit kein einzelner Fehlerpunkt entstehen kann. Der Kunde ist dafür verantwortlich, den Stromkreis sachgemäß zu schützen. Der Kapazitätsschutz entspricht der aktuellen Stromstärke der Geräte und muss alle relevanten Codes und Bestimmungen erfüllen. Für Installation in Nordamerika müssen Ausschalter bzw. Sicherung über 10.000 A Unterbrechungskapazität verfügen.
	The plug on the power supply cord shall be installed near the equipment and shall be easily accessible.	*La prise sur le cordon d'alimentation sera installée près de l'équipement et sera facilement disponible.*	Der Stecker des Netzkabels muss in der Nähe der Ausrüstung installiert werden und leicht zugänglich sein.
	Installation Orientation: PTxx-V0-xx-x units are design to be installed in vertical orientation.	*Installation Orientation : Les unités PTxx-V0-xx-x sont conçues pour être installées dans une orientation verticale.*	Installationsausrichtung: PTxx-V0-xx-x-Einheiten sind zur vertikalen Installation vorgesehen.
⚡	Always disconnect the power supply cord before opening to avoid electrical shock.	*Toujours déconnecter le cordon d'alimentation avant d'ouvrir pour éviter un choque électrique.*	Ziehen Sie vor dem Öffnen immer das Netzkabel heraus, um die Gefahr eines elektrischen Schlags zu vermeiden.
⚡	WARNING! High leakage current! Earth connection is essential before connecting supply!	*ATTENTION ! Haut fuite très possible ! Une connection de masse est essentielle avant de connecter l'alimentation !*	ACHTUNG! Hoher Verluststrom! Ein Erdungsanschluss ist vor dem Einschalten der Stromzufuhr erforderlich!

Installing the Power Input Retention Bracket

For units with a total maximum output <30A, it may be necessary to install the power input retention bracket prior to mounting the unit within the rack.

To install the power input retention bracket:

1. Remove the two screws attaching the IEC 60320 C19 inlet to the enclosure.
2. Assemble and attach the retention bracket to the enclosure as shown.
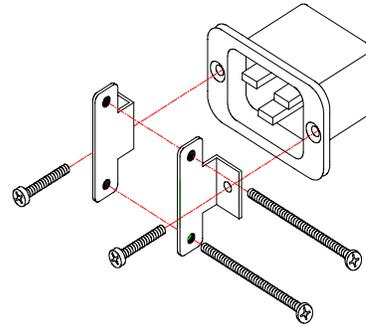
Figure 2.1 Retention Bracket assembly

Mounting
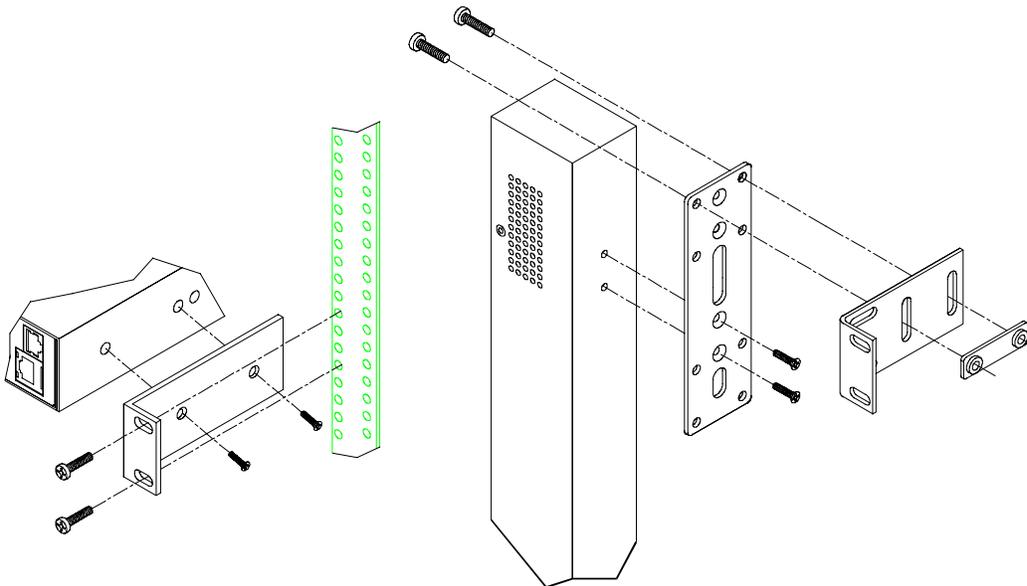
Figure 2.2 Mounting

Horizontal/Rack

1. Select the appropriate bracket mounting points for proper mounting depth within the rack.
2. Attach the brackets to these mounting points with two screws for each bracket.
3. Install the enclosure into your rack, using the slots in each bracket. The slots allow about ¼ inch of horizontal adaptability to align with the mounting holes of your rack.

NOTE: A mounting bracket kit for 23" wide racks or cabinets is available. Contact your Server Technology Sales Representative for more information.

Vertical

1. Attach the removable flanges to the mount points on the rear of the enclosure using M4 screws.
2. Attach the mounting L-brackets to the flanges with the supplied screws, washers and nut plates. The slots allow about 1½ inches of vertical adaptability.
3. Attach the top and bottom brackets to your rack.

NOTE: Contact your Server Technology Sales Representative for information regarding custom bracket design and fabrication services if you are unable to find a suitable manner for utilizing the included mounting brackets.

Connecting to the Power Source

On 30A units, the input power cord is attached to the base of the unit. On units with a total maximum output <30A, you must first attach the power cord to the unit before connecting the unit to the power source.

To attach a power cord to the unit:

1. Plug the female end of the power cord firmly into its connector at the base.
2. Use a screwdriver to tighten the two screws on the retention bracket.

To connect to the power source:

Plug the male end of the power cord into the AC power source.

Connecting Devices

To avoid the possibility of noise due to arcing:

1. Keep the device's on/off switch in the off position until after it is plugged into the outlet.
2. Connect devices to the Power Tower outlets.

NOTE: Server Technology recommends even distribution of attached devices across all available outlets to avoid exceeding the outlet, branch or phase limitations. See *Power Ratings* on page 25 for more information.

Always disconnect both power supply cords before opening to avoid electrical shock.
Afin d'éviter les chocs électriques, débranchez les cables électrique avant d'ouvrir.
Immer beiden Netzleitungen auskuppeln vor den Aufmachen um elektrischen Schlag zu vermeiden.

Connecting to the Unit

The Serial Power Tower is equipped with a single RJ45 RS-232 serial port for attachment to a PC or networked terminal server using the supplied RJ45 to RJ45 crossover cable and RJ45 to DB9F serial port adapter as required. See Chapter 4: Appendices for more information on the RS-232 serial port.

Chapter 3: Operations

Interfaces

The Serial Power Tower has two interfaces: command line and control screen. When a valid user logs in, the command line prompt (Sentry:)appears. From this prompt, commands may be issued according to the user's privileges. The control screen is accessed from the command line with the Show command. You may return to the command line from the control screen by typing **c**.

You may end a Sentry session either from the command line or the control screen.

Port Naming and Grouping

When a command calls for a Sentry port name, you may specify it in one of two ways: a predefined absolute name or a descriptive name assigned by the administrator.

An absolute name is specified by a period (.) followed by a group letter and port number. Beginning at the top of the PTSS, the first four ports from group A, the next four ports form group B, for third set of four ports forms group C and the final set of four ports forms group D. Ports within each group are numbered 1 through 4. A letter/number value is printed above each port. To specify an absolute port name, enter a period followed by the group letter and the labeled port numerical value.

Alternatively, descriptive port names may be created on the control screen and used in commands that require a port name. See *Using the Control Screen* in this chapter for more information about descriptive port names.

Additionally, Sentry ports may be assigned group names on the control screen, enabling you to issue a command that affects all ports in the group. Specify the group name with the command, such as on, off or reboot. See *Using the Control Screen* for more information about group names.

Usernames and Passwords

The Sentry has three predefined usernames, shown in the following table.

Predefined Usernames

Name	Password	Privileges
Admn	admn	Fully-privileged
Gen1	gen1	Semi-privileged
Gen2	gen2	Semi-privileged

NOTE: For security, Server Technology recommends changing the passwords for the predefined usernames. See *Changing a password* for more information about changing passwords.

An additional 57 users may be added.

By default, only the Admn user may perform administrative operations such as adding/deleting usernames and command privileges, changing passwords and displaying port and user information. The Admn user may also view the status of all Sentry ports, access the control screen and control power to all ports.

NOTE: By default, the Gen1 and Gen2 users may view the status of all Sentry ports, access the control screen and control power to all ports. The administrator may change these privileges.

The administrator creates additional usernames with the Add User command, and then uses the Add Port command to grant these users the right to view the status of and control power to specific Sentry ports. The administrator uses the Set Show command to grant control screen access to additional users.

The administrator may grant administrative privileges to another user with the Admnp command. This command may also be used to remove administrative privileges previously granted. This feature allows the Sentry to have more than one administrator-level user.

Additional usernames must contain from 1-16 characters; spaces are not allowed. A username is not case sensitive. Passwords may contain up to 16 characters, and are case sensitive. The administrator may change a password with the Set Password command. See Administration Commands in this chapter for more information about commands that create and manage usernames.

NOTE: For security, when a password is typed, either blanks or asterisks appear on the screen instead of the typed password characters.

Logging In

Logging into the Serial Power Tower requires the use of a terminal or terminal emulation software. The terminal or emulation software must be configured to support ANSI or VT100, a supported data rate (300, 1200, 2400, 4800, 9600, 19200, or 38400 BPS)- 8 data bits-no parity-one stop bit and Device Ready output signal (DTR or DSR).

To log in to the Sentry:

1. Press **Enter** twice. The following appears, where **x.x** is the firmware version:
   ```
   Sentry Version x.x
   Username:
   ```

2. At the Username: prompt, enter a valid username and press **Enter**.

   If you do not enter a valid username within 60 seconds, the session ends with the message:
   ```
   Your time is up. Try again later
   Session ended.
   ```

3. At the Password: prompt, enter a valid password and press **Enter**.

   If you do not enter a valid password within 60 seconds, the session ends with the message:
   ```
   Your time is up. Try again later
   Session ended.
   ```

   If you enter an invalid password, the following message appears:
   ```
   Username/Password entered is NOT valid
   Username:
   ```

   You are given three attempts to enter a valid username and password combination. If all three fail, the session ends with the message:
   ```
   Username/Password entered is NOT valid
   Check your Username/Password and try again later
   Session ended.
   ```

When you enter a valid username and password, the Sentry command prompt (Sentry:) appears. If a location identifier was defined, it will be displayed before the Sentry: prompt. See *Creating a location description and login banner* in this chapter for more information.

Command Line Interface

You may enter commands in uppercase, lowercase or using a combination. You must enter all command characters correctly; there are no command abbreviations. The Admn user may issue any command. Other usernames may be granted access to some or all commands.

An administrator may lock one or more ports on the control screen. When a port is locked, its on/off state cannot be changed (by general or added users) from the command line or the control screen until the administrator unlocks the port. See *Using the Control Screen* for more information about locking and unlocking ports.

The command line supports two types of commands: operations and administration. In most cases, a user must have administrative privileges to use the administration commands. The following tables list and briefly describes each command.

Operations Command Summary

Command	Description
ILoad	Displays the total cumulative input load
Login	Brings up the Username: prompt
Off	Turns one or more ports off
On	Turns one or more ports on
Quit	Ends a session
Reboot	Reboots one or more ports
Report	Displays available port information for current user
Show	Displays the control screen
Status	Displays the on/off status of one or more ports
Vers	Displays the Sentry firmware version

Administrative Command Summary

Command	Description
Add Port	Grants a username access to one or all ports
Add User	Adds a username
Admnp	Grants or removes administrative privileges for a username
Del Port	Removes access to one or all ports for a username
Del User	Deletes a username
List Port(s)	Displays information about one or all ports
List User(s)	Displays information about one or all users
Set Banner	Enables or disables the Sentry banner displayed at the Username: prompt
Set Location	Specifies a descriptive field for the control screen and login banner
Set Password	Changes the password for a username
Set Screen	Enables or disables confirmation for control screen operations that change port states
Set Show	Enables or disables Show command access for a username

To display the names of commands that you may execute:

At the command prompt, press **Enter**. A list of valid commands for your username appears.

<u>**Operations Commands**</u>

Operations commands manage Sentry port states, provide information about the Sentry environment and control session operations.

For most operations commands that affect port states, you may specify multiple port names on one command line, separated by a space or a comma, to a maximum of 50 characters.

NOTE: Users must be granted access to affect any change in port state.

Turning ports on

The On command turns on one or more ports. When the command completes, a display indicates the number of ports that were turned on and the number of ports that are locked in their current state.

To turn ports on:

At the Sentry: prompt, type **on**, followed by one or more port names separated by spaces or commas, and press **Enter**, or

Type **on**, followed by a group name, and press **Enter**, or

Type **on all** and press **Enter**.

Examples

The following command turns the second port on, using the port 's absolute name:

```
Sentry: on.a2<Enter>
```

The following command turns on all the ports in the group named ops_srv:

```
Sentry: on ops_srv<Enter>
```

The group name was previously defined on the control screen.

The following command turns on ports A1 and C3, using the ports' absolute names:

```
Sentry: on .a1 .c3<Enter>
```

Turning ports off

The Off command turns off one or more ports. When the command completes, a display indicates the number of ports that were turned off and the ports that are locked in their current state.

To turn ports off:

At the Sentry: prompt, type **off**, followed by one or more port names separated by spaces or commas, and press **Enter**, or

Type **off**, followed by a group name, and press **Enter**, or

Type **off all** and press **Enter**.

Examples

The following command turns the sixth and eighth ports off, using the ports' absolute names:

```
Sentry: off.b2 .b4<Enter>
```

The following command turns off the port named ops_2:

```
Sentry: off ops_2<Enter>
```

The port name was previously defined on the control screen.

The following command turns off all ports:

```
Sentry: off all<Enter>
```

Rebooting ports

The Reboot command reboots one or more ports. This operation turns the port(s)off, delays for a period of time and then turns the port(s)on. The delay interval is 15 seconds by default, or the minimum-off time specified on the control screen, whichever is greater.

When the command completes, a display indicates the number of ports that were rebooted and the ports that are locked in their current state.

If you plan to reboot a large number of ports simultaneously by specifying all ports or a group name that is assigned to many ports, it may be beneficial to set staggered minimum-off time values among the ports. This enables you to avoid an excessive in-rush of current and possible circuit overload. See *Using the Control Screen* for information about the minimum-off time.

To reboot one or more ports:

At the Sentry: prompt, type **reboot**, followed by one or more port names separated by spaces or commas, and press **Enter**, or

Type **reboot**, followed by a group name, and press **Enter**, or

Type **reboot all** and press **Enter**.

Examples

The following command reboots the ports named ops_2 and shp_2:

```
Sentry: reboot ops_2 shp_2<Enter>
```

These port names were previously defined on the control screen.

The following command reboots all the ports in the group named ops_srv:

```
Sentry: reboot ops_serv<Enter>
```

The group name was previously defined on the control screen.

The following command reboots all ports:

```
Sentry: reboot all<Enter>
```

Displaying port status

The Status command displays the on/off status of one or more ports. For the three predefined usernames Admn, Gen1 and Gen2, this command may be used to display the status of all ports, including ports for which power control access is not allowed. For additional usernames, the command displays the status of only those ports for which the username has power control access.

The display indicates the number of ports that are on as well as those that are off. If you do not specify any parameter with this command, the status of all ports is displayed.

To display on/off status of one or more ports:

At the Sentry: prompt, type **status**, followed by one or more port names separated by spaces or commas, and press **Enter**, or

Type **status**, followed by a group name, and press **Enter**, or

Type **status all** and press **Enter**, or

Type **status** and press **Enter**.

Examples

The following command displays the on/off status of the port named shp_2:

```
Sentry: status shp_2<Enter>
```

The port name was previously defined on the control screen.

The following command displays the on/off status of all ports:

```
Sentry: status<Enter>
```

Accessing the control screen

The Show command displays the control screen, which contains 2 to 4 pages of information, depending on type of Serial Power Tower. You may specify a page by its absolute name: .A for page 1, .B for page 2, .C for page 3 and .D for page 4. You may also use a page name defined on the control screen. If you do not specify a page name, page 1 is displayed. See Using the Control Screen for more information about control screen pages.

The Show command is always available to the predefined usernames Admn, Gen1 and Gen2. By default, added usernames are not allowed to use the Show command. The administrator may use the Set Show command to enable and disable Show command access for other usernames.

To access the control screen:

At the Sentry: prompt, type **show**, optionally followed by a page name, and press **Enter**. If you omit a page name, the first page is displayed.

To return to the command line from the control screen, press **c**.

Displaying the cumulative input load

The Iload command displays the current cumulative input load for the PTSS, in quarter-ampere granularity. This value is also displayed on the control screen. Additionally, the digital LED above the ports on the Sentry indicates the total input load in half-ampere granularity to 10 amperes and whole-ampere granularity above 10 amperes.

To display the cumulative input load:

At the Sentry: prompt, type **iload** and press **Enter**.

Displaying the Sentry firmware version

The Vers command displays the Sentry firmware version.

To display the firmware version:

At the Sentry: prompt, type **vers** and press **Enter**.

Displaying the available port information and status

The Report command is used to display port information and status for all assigned ports for the current user.

To display available port information and status:

At the Sentry: prompt, type **report** and press **Enter**.

Example

```
Sentry: report<Enter>
Port   Port       Group      Control   Module
 ID    Name       Name       Status    Status

 .A1   Port_A1    Group_A    Lckd On   Normal
 .A2   Port_A2    Group_A    Off       Normal
 .C1                         On        Normal
```

Starting a new session

The Login command activates the Username: prompt. The current session ends, allowing a user to log in and start a new session under a different username.

To start a new session:

At the Sentry: prompt, type **login** and press **Enter**. The Username: prompt appears.

Ending a session

The Quit command ends a session. You may also end the current session and immediately start a new one with the Login command. Additionally, you may end a session from the control screen by pressing **q**. A session ends automatically when no activity is detected for five minutes, or upon loss of connection to the Serial Power Tower.

To end a session:

At the Sentry: prompt, type quit and press Enter.

Administration Commands

Administration commands include the Add, Del, List and Set commands, plus the Admnp command. Some of these commands manage usernames and their privileges. Other administration commands affect the control screen.

Administration commands may only be issued by a user with administrative privileges, such as the predefined Admn user or another user who has been granted administrative privileges with the Admnp command.

To display a list of available Add commands:

At the Sentry: prompt, type **add** and press **Enter**.

The following display appears:

```
ADD commands are:
USER PORT
```

To display a list of available Del commands:

At the Sentry: prompt, type **del** and press **Enter**.

The following display appears:

```
DEL commands are:
USER PORT
```

To display a list of available List commands:

At the Sentry: prompt, type **list** and press **Enter**.

The following display appears:

```
LIST commands are:
USER USERS PORT PORTS
```

To display a list of available Set commands:

At the Sentry: prompt, type **set** and press **Enter**.

The following display appears:

```
SET commands are:
CONNECT LOCATION PASSWORD SHOW SCREEN
```

Adding a username

The Add User command adds a username and password. See *Usernames and Passwords* in this chapter for more information.

To add a username:

At the Sentry: prompt, type **add user**, optionally followed by a 1-16 character username. Spaces and colon characters are not allowed, and usernames are not case sensitive. Press **Enter**.

At the Password: prompt, type a password of up to 16 alphanumeric and other typeable characters (ASCI I 32 to 126 decimal). Passwords are case sensitive. Press **Enter**. To specify no password, press **Enter** at the prompt.

At the Verify Password: prompt, retype the password. Press **Enter**. To verify no password, press **Enter** at the prompt.

Examples

The following command adds username JaneDoe:

```
Sentry: add user JaneDoe<Enter>
Password: *****<Enter>
Verify New Password: *****<Enter>
```

For security, password characters are displayed as asterisks.

The following command adds username Sydney with no password:

```
Sentry:add user Sydney<Enter>
Password: <Enter>
Verify Password: <Enter>
```

Granting port access to a username

The Add Port command grants a username access to one or all ports.

To grant access for more than one port, but not all ports, you must use multiple Add Port commands. When the command completes successfully, the following message appears, where x indicates the number of ports:

```
x port(s)added Command Completed Successfully
```

To grant port access to a username:

At the Sentry: prompt, type **add port**, optionally followed by a username and a port name. Press **Enter**, or

Type **add port**, followed by a username, then **all**. Press **Enter**.

If you omit a username, you are prompted for it (Username:). If you omit a port name, you are prompted for it (Port Name:).

If you enter an invalid username or port name, the command aborts with the message:

```
0 port(s)added. Command Completed Successfully
```

Examples

The following commands use absolute port names to grant the username JaneDoe access to ports A1, A2 and C2:

```
Sentry:add port janedoe .a1<Enter>
Sentry:add port janedoe .a2<Enter>
Sentry:add port janedoe .c2<Enter>
```

The following commands grant access to the same ports, but they use the ports' descriptive names that were previously defined on the control screen (ops_1, ops_2 and shp_2):

```
Sentry:add port janedoe ops_1<Enter>
Sentry:add port janedoe ops_2<Enter>
Sentry:add port janedoe shp_2<Enter>
```

The following command grants access to all ports for the username JohnDoe:

```
Sentry: add port<Enter>
Username: johndoe<Enter>
Port Name: all<Enter>
```

Deleting port access for a username

The Del Port command removes a username 's access to one or all ports. You cannot remove access to any port for the Admn user. When the command completes successfully, the following message appears, where x indicates the number of ports:

```
x port(s)deleted Command Completed Successfully
```

To delete port access for a username:

At the Sentry: prompt, type **del port**, optionally followed by a username and a port name. Press **Enter**, or

Type **del port all**. Press **Enter**.

If you omit a username, you are prompted for it (Username:). If you omit a port name, you are prompted for it (Port Name:).

If you enter an invalid username or port name, the command aborts with the message:

```
0 port(s)deleted.  Command Completed Successfully
```

Deleting a username

The Del User command removes a username. You cannot delete the predefined usernames Admn, Gen1 or Gen2. When the command completes successfully, the following message appears:

```
0 port(s)deleted Command Completed Successfully
```

To delete a username:

At the Sentry: prompt, type **del user**, optionally followed by a username. Press **Enter**.

If you omit a username, you are prompted for it (Username:). If you enter an invalid username, the command aborts with the message:

```
Name entered is NOT valid.
```

Displaying port information

The List Port and List Ports commands display information about one or all ports, respectively. This information includes:

• Descriptive port name, if applicable
• Group name assigned to the port, if any
• Usernames who may access the port

When requesting information about all ports, the display begins with port A1 's information, followed by a prompt to either continue with the next port 's information or quit the display. If you choose to continue, port A2 's information is displayed, followed by a prompt to continue or quit. You may choose to quit at any time. After the information for all ports has been displayed, or after quitting, you are returned to the command prompt.

To display information about one port:

At the Sentry: prompt, type **list port**, optionally followed by a port name. Press **Enter**.

If you omit a port name, you are prompted for it (Port Name:).

To display information about all ports:

At the Sentry: prompt, type **list ports** and press **Enter**.

Examples

The following command requests information about port B1 by specifying its absolute port name:

```
Sentry: list port .b1<Enter>

.B1 hr_1 hr_srv
Usernames:
ADMN GEN1 GEN2
JOHNDOE
Username List for .B1 Complete
```

The display indicates that port B1 has the descriptive name hr_1 and is in the port group named hr_srv. The usernames who may access this port are Admn, Gen1, Gen2 and JohnDoe.

The following command requests information about all ports:

```
Sentry: list ports<Enter>

.A1 ops_1 ops_serv
Usernames:
ADMN GEN1 GEN2
JANEDOE
Username List for .A1 Complete
Press:N)ext,Q)uit:
```

The first screen of the resulting display indicates that port A1 has a descriptive port name of ops_1 and is in the port group named ops_srv. The usernames who may access port A1 are Admn, Gen1, Gen2 and JaneDoe. The page ends with a prompt to continue with the display for the next port, A2, or quit and return to the Sentry: prompt.

Displaying user information

The List User and List Users commands display information about one or all users, respectively. When requesting information about one user, the display includes a list of all ports the user may access, and whether the Show command is enabled or disabled for the user. When requesting information about all users, the display indicates whether the Show command is enabled or disabled for each user and whether each user has been given administrative privileges.

To request information about one user:

At the Sentry: prompt, type **list user**, optionally followed by a username. Press **Enter**.

If you omit a username, you are prompted for it (Username:).

To request information about all users:

At the Sentry: prompt, type **list users** and press **Enter**.

Examples

The following command displays information about the username JaneDoe:

```
Sentry: list user janedoe<Enter>
Active Port List for Username JANEDOE Show command disabled
A1 ops_1 ops_srv
A2 ops_2 ops_srv
C2 shp_2
List Complete
```

The display indicates that JaneDoe may not use the Show command to access the control screen. JaneDoe may access the following ports: A1 which has a descriptive name of ops_1 and is in the port group named ops_srv, A2 which has a descriptive name of ops_2 and is in the port group named ops_srv and C2 which has a descriptive name of shp_2.

The following command requests information about all users:

```
Sentry: list users<Enter>
ADMN Show command enabled Administrative user
GEN1 Show command enabled
GEN2 Show command enabled
JANEDOE Show command disabled
JOHNDOE Show command enabled
List Complete
```

Creating a location description and login banner

The Set Location command specifies text that appears in the control screen's Location field. The text is also appended to a Welcome to banner that appears when a user successfully logs in.

If you do not issue this command, or if you issue this command without specifying any text, the control screen 's Location field will be blank and no Welcome to banner will be displayed.

When this command completes successfully, the following message appears:

```
All pages changed locations
```

To create a location description and login banner:

At the Sentry: prompt, type **set location**, optionally followed by up to 16 characters. Spaces are allowed. Press **Enter**.

Omitting any characters after typing 'set location' deletes any previously specified text.

Examples

The following command specifies Florida HQ as the descriptive location for the control screen and the login banner:

```
Sentry: set location Florida HQ<Enter>
```

The following command deletes any previously-specified location description:

```
Sentry: set location<Enter>
```

In this case, the control screen 's Location field will be blank, and no welcome banner will be displayed after a successful login.

Enabling and disabling the Sentry banner

The Set Banner command is used to enable or disable the Sentry banner displayed at the Username: prompt.

To enable or disable the Sentry banner:

At the Sentry: prompt type **set banner**, followed by **on** or **off** and press **Enter**.

Enabling and disabling user access to the control screen

The Set Show command enables or disables a username 's access to the Show command. This determines whether the username may access the control screen.

When the command completes successfully, one of the following messages is displayed, where USERNAME is the username specified in the command:

```
Show command enabled for USERNAME
Show command disabled for USERNAME
```

To enable or disable control screen access:

At the Sentry: prompt, type **set show**, optionally followed by a username and on or off. Press **Enter** .

If you do not specify a username, you are prompted for it (Username:). If you do not specify on or off, you are prompted for it (Specify ON or OFF:).

If you specify an invalid username, the command aborts with the message:

```
Name entered is NOT valid.
```

Examples

The following command enables Show command access for the user JohnDoe:

```
Sentry: set show johndoe on<Enter>
```

The following command disables Show command access for the user JaneDoe:

```
Sentry: set show<Enter>
Username: janedoe<Enter>
Specify ON or OFF: off<Enter>
```

Changing a password

The Set Password command changes a username's password. To change the password for any user other than Admn, you do not need to know the current password. To change the password for the Admn user, you must know the current password.

For security, when you type a password, the characters appear as asterisks (*) on the screen. When the command completes successfully, a confirmation message is displayed. See Usernames and Passwords for more information.

To change a password:

At the Sentry: prompt, type **set password**, optionally followed by a username and press **Enter**.

If you are changing the password for the Admn user, the Enter Current Password: prompt appears. Type the current password and press **Enter**.

At the Enter New Password: prompt, type the new password and press **Enter**. Passwords may contain up to 16 characters, and spaces are not allowed. To specify no password, press **Enter** at the prompt.

At the Verify New Password: prompt, retype the new password and press Enter. To verify no password, press **Enter** at the prompt.

Examples

The following command changes the password for the user named JohnDoe:

```
Sentry: set password johndoe<Enter>
Enter New Password: ******<Enter>
Verify New Password: ******<Enter>
```

For security, password characters display as asterisks.

The following command blanks the password for the user named JaneDoe:

```
Sentry: set password<Enter>
Username: janedoe<Enter>
Enter New Password: <Enter>
Verify New Password: <Enter>
```

Enabling or disabling confirmation for control screen operations

The Set Screen command enables or disables a confirmation query when requesting port power changes on the control screen. When the Confirm option is set, the user is prompted with Are you sure?(Y/N)when an on, off or reboot operation is initiated on the control screen. When the Noconfirm option is set, the requested operation is completed immediately. The default value is Noconfirm. The Set Screen setting applies to all usernames.

To enable or disable confirmation for control screen operations:

At the Sentry: prompt, enter **set screen**, followed by **confirm** or **noconfirm** and press **Enter**.

If you omit the confirm/noconfirm parameter or spell it incorrectly, the command aborts with the message:

```
SET SCREEN options are
NOCONFIRM CONFIRM
```

Example

The following command enables control screen confirmation queries:

```
Sentry: set screen confirm<Enter>
```

Granting and removing administrative privileges

The Admnp command grants or removes administrative privileges for usernames other than the predefined Admn user. This command allows a Sentry to have more than one administrative-level user. You cannot remove administrative privileges from the Admn user.

To grant or remove administrative privileges for a username:

At the Sentry: prompt, type **admnp**, followed by **on** or **off**, optionally followed by a username and press **Enter**.

If you do not specify a username, you are prompted for it (Username:).

Examples

The following command grants administrative privileges to the username JohnDoe:

```
Sentry: admnp on johndoe<Enter>
```

The following command removes administrative privileges from the username JohnDoe:

```
Sentry: admnp off<Enter>
Username: johndoe<Enter>
```

Using the Control Screen

The control screen contains Sentry configuration and status information. Figure 3.1 shows an example of the first page of a control screen.

```
                Power Control System (c) Server Technology, Inc.        1 of 4
Location:                                               Input Load:1.00A
Port Name:              [        ]    [        ]    [        ]    [        ]
Control Status:         (x)On         (x)On         (x)On         (x)On
                        ( )Off        ( )Off        ( )Off        ( )Off
Module Status:          Normal        Normal        Normal        Normal
Minimum-On Time:        00:00:00      00:00:00      00:00:00      00:00:00
Minimum-Off Time:       00:00:00      00:00:00      00:00:00      00:00:00
Wake-Up State:          On            On            On            On
Group:                  [        ]    [        ]    [        ]    [        ]
Access:                 All           All           All           All
Page: [        ]                                        Temperature: 26.0
Press: C)mnd, E)dit,N)ext, Q)uit, Space-Bar to Select
```

Figure 3.1 Example Control Screen

Each page contains information about four ports. Page 1 contains information about absolute ports names A1 through A4 and page 2 contains information about ports B1 through B4, page 3 contains information about ports C1 through C4 and page 4 contains information about ports D1 through D.

The Show command accesses the control screen from the command line. Use the Arrow keys on your keyboard to move the cursor from field to field. The help line at the bottom of the screen displays key commands that, when typed on your keyboard, perform specific operations. The following chart describes these keys.

Control Screen Help Line

Key	Action
C)mnd	Pressing C activates the Sentry command line.
E)dit	Pressing E moves the cursor to the end of the current entry in an editable field. Each press of the Backspace key erases one character. When you finish editing the field, press Enter or Tab.
N)ext	Pressing N displays the next control screen page.
P)revious	Pressing P displays the previous control screen page.
Q)uit	Pressing Q ends the session. This is equivalent to the Quit command in the command line.
Space-Bar to Select	Pressing the Spacebar toggles among preset values. You may also use the Spacebar in the Control Status rows to change a port 's state to the state of the current cursor location: On or Off. Alternatively, you may use the Plus (+) and Minus (-) keys on the numeric keypad to switch among preset values.

Some fields on the control screen are display-only and cannot be changed. Other fields may be changed by toggling among preset values or by entering text. The following sections describe each control screen field.

Location field

The display-only Location field may contain text that was specified with the Set Location command. The text in this field is also appended to a `Welcome to` banner that appears when a user successfully logs in.

Input Load field

The display-only Input Load field indicates the current cumulative input load in amperes of all devices attached to the Sentry. You may also obtain this value from the command line with the Iload command, or by viewing the Input Current LED on the front of the Sentry.

Port Name field

The editable Port Name field may contain a descriptive name for the device connected to the port. You may use this name in commands that require a port name, as an alternative to using the port 's absolute name. See *Port Naming and Grouping* for more information about port names.

To specify a port name:

Position the cursor in the relevant Port Name field.

Type **e**. If you are changing an existing name, press the **Backspace** key to erase characters. Type a 1-8 character name. Press **Enter** or **Tab**.

Control Status field

The editable Control Status field indicates the port 's current state with a character in the On or Off field. An **x** indicates the port is accessible. An asterisk (*****) indicates that the administrator has locked the port, or that the current username does not have access rights to the port.

To turn a port on or off:

Position the cursor in the port 's desired state (On or Off) and press the **Spacebar** or the **Plus** (+) key. The x will move to the new state.

To reboot a port:

Position the cursor in the port's On or Off field and press **r** .If the port is already off, it will turn on immediately. If the port is on, it will turn off, delay and then turn back on. The delay interval is either 15 seconds or the minimum-off time, whichever is greater. During the reboot delay, the Off field contains an **r**, indicating that the port is going to reboot.

To lock or unlock a port:

Position the cursor in the port 's On or Off field and press **l** to lock or **u** to unlock. A locked port has an asterisk (*****) in the On or Off field and cannot be controlled by other usernames; only an administrator may lock or unlock a port.

Module Status field

The display-only Module Status field indicates the port 's current status.

Module Status Field Values

Display	Description	Control Status field
Normal	The port is working correctly.	'x'
No Rspns	The interface cannot communicate with the port.	'o'
OnS Fail	The port was instructed to be on, but it is off.	'o' in On field
Off Fail	The port was instructed to be off, but it is on.	'o' in Off field

Minimum-On Time field

The editable Minimum-On Time field indicates the minimum amount of time that a port will stay on before it can be turned off by a command. The default value is Ø. Manual commands in the control screen's On and Off fields are always immediate and ignore this value.

Minimum-Off Time field

The editable Minimum-Off Time field indicates the minimum amount of time that a port will stay off before it can be turned on by a command. The default is Ø. Manual commands in the control screen's On or Off fields are always immediate, ignoring this value except during a reboot. During a reboot, whether initiated from the command line or the control screen, the value in this field determines the time that a port remains in the off state during the reboot cycle, if it is longer than 15 seconds.

You may use this value to stagger the startup of ports when a command is issued to reboot multiple ports at the same time. For example, setting different minimum-off time values may be useful when you issue a Reboot All command or a Reboot command for a large group.

NOTE: The wake-up power sequencing feature applies only when the entire Sentry unit receives power, not when the power state is changed from the command line or the control screen.

It may be important in your configuration to set the minimum-off time values differently to avoid a circuit overload caused by an excessive in-rush of current that may occur when too many devices power up simultaneously.

The following example shows one way to configure the minimum-off time values for the four ports on each control screen page:

```
Minimum-Off Time:        00:00:15      00:00:30      00:00:45      00:01:00
```

To change a port 's minimum-off time value:

Position the cursor in the port 's Minimum-Off Time field and press the **Spacebar** or the **Plus** (+) or **Minus** (-) key. Each press moves through preset values to a one hour maximum.

The preset values are: 15 seconds, 30 seconds, 45 seconds, 1 minute,1 minute 15 seconds, 1 minute 30 seconds, 1 minute 45 seconds, 2 minutes, 3 minutes, 4 minutes, 5 minutes, 10 minutes, 15 minutes, 30 minutes and one hour.

Wake-up State field

The editable Wake-up State field indicates the state that the port will go to, in sequence, when the Sentry is powered up, either during normal operation or when power is restored after an outage. The options are On and Off. The default is On. When power is first supplied to the Sentry, the ports are off. Shortly after the Sentry wakes up, the ports are sequenced on in two-second increments.

Only ports that are set with a wake-up state of Off will remain off.

To change a port's wake-up state:

Position the cursor in the field and press the **Spacebar**, the **Plus** (+) key or the **Minus** (-) key. Each press toggles between On and Off .

Group field

The editable Group field may contain a descriptive name. All ports with the same group name may be acted upon simultaneously with the On, Off and Reboot commands from the command line. Individual on, off and reboot commands initiated on the control screen do not affect other ports that have been assigned the same group name. Only command line actions that contain the group name parameter will cause all ports within the same group to power up, down or reboot as a group.

If you assign the same group name to a significant number of ports, consider staggering the minimum-off time values of the affected ports to help prevent an excessive in-rush load from occurring when a command is issued to reboot the group.

To specify a group name:

Position the cursor in the port's Group field.

Press **e** .If you are changing an existing name, press the **Backspace** key to erase characters. Type a 1-8 character name. Press **Enter** or **Tab**.

Access field

The editable Access field allows the administrator to easily change port access for the usernames Admn, Gen1 and Gen2. Port access for additional usernames must be enabled with the Add Port command from the command line.

To change port access for the Admn, Gen1 or Gen2 usernames:

1. Position the cursor in the port 's Access field.

2. Use the **Spacebar**, the **Plus** (+) key or the **Minus** (-) key to switch among the preset options:
   All -grants port access to Admn, Gen1 and Gen2; this is the default
   Admn -grants port access to Admn
   Gen1 -grants port access to Admn and Gen1
   Gen2 -grants port access to Admn and Gen2

Page field

The editable Page field may contain a name for the current control screen page. When you want to display a specific page of the control screen, you may use this page name as a parameter in the Show command, or you may specify a page with its absolute name: .A for page 1,.B for page 2,.C for page 3, .D for page 4 etc.

To specify a page name:

1. Position the cursor in the Page field.

2. Press **e**. If you are changing an existing name, use the **Spacebar** to erase characters. Type a 1-8 character string. Press **Enter** or **Tab**.

Temperature field

Environmental temperature monitoring is not currently available on the Serial Power Tower.

Ending a Session

You may end a session from the command line or the control screen.

If you made configuration changes during the session, they are automatically stored in non-volatile memory. After you end the session, wait for the following message before taking any action that will power down the Sentry:

```
Updating configuration memory ...
Update complete
Session ended
```

A session ends automatically after five minutes of inactivity.

To end a session:

From the Sentry: prompt, type **quit** and press **Enter,** or

From the control screen, press **q**.

Chapter 4: Appendices

Appendix A: Resetting to Factory Defaults

You may reset the non-volatile RAM that stores all configurable Serial Power Tower options. This clears all administrator-editable fields on the control screen and resets all command line configurable options to their default values, including usernames and passwords.

You may reset the Serial Power Tower to factory defaults by issuing a command or by pressing the reset button. You must have administrator-level privileges to issue the command. Using the reset button may be necessary when a forgotten password prevents administrator login. Either method updates the current working configuration to the factory defaults.

To reset to factory defaults from the command line

At the Sentry: prompt, type **set cnfg all factory** and press **Enter**.

When the command completes successfully, the following message appears, where **n** is the total number of ports divided by 4:

```
Config changed on n board(s), 0 ignore(s).
```

To reset to factory defaults using the reset button

On the front of the Power Tower, locate the recessed reset button directly below the *Input Current* LED. You will need a non-conductive, non-metallic tool that fits inside the recess.

Insert the tool in the recess, then depress and hold the reset button for at least five seconds. When you first press the reset button, the *Input Current* Led changes to two side-by-side horizontal lines in the middle of the display. Continuing to press the reset button for five seconds begins the reset, which is indicated by three side-by-side pairs of horizontal lines in the top, middle and bottom of the display. At this point, you may release the reset button. When the reset completes, the LED returns to displaying the cumulative input load.

Appendix B: Technical Specifications

Domestic Models

Model	Rated Voltage	Input Cordset and Plug (10')	Outlets
PTSS-H008-1-02	100-120V 50/60Hz	IEC 60320 C20[1]	8 NEMA 5-20R
PTSS-H008-1-05	100-120V 50/60Hz	NEMA L5-30P, 30A/120V locking	8 NEMA 5-20R
PTSS-H008-2-02	208-240V 60Hz	IEC 60320 C20[1]	8 IEC 60320 C13
PTSS-H008-2-06	208-240V 60Hz	NEMA L6-30P, 30A/208V locking	8 IEC 60320 C13
PTSS-H016-1-02	100-120V 50/60Hz	IEC 60320 C20[1]	16 NEMA 5-20R
PTSS-H016-1-05	100-120V 50/60Hz	NEMA L5-30P, 30A/120V locking	16 NEMA 5-20R
PTSS-H016-2-02	208-240V 60Hz	IEC 60320 C20[1]	16 IEC 60320 C13
PTSS-H016-2-06	208-240V 60Hz	NEMA L6-30P, 30A/208V locking	16 IEC 60320 C13
PTSS-V008-1-02	100-120V 50/60Hz	IEC 60320 C20[1]	8 NEMA 5-20R
PTSS-V008-1-05	100-120V 50/60Hz	NEMA L5-30P, 30A/120V locking	8 NEMA 5-20R
PTSS-V008-2-02	208-240V 60Hz	IEC 60320 C20[1]	8 IEC 60320 C13
PTSS-V008-2-06	208-240V 60Hz	NEMA L6-30P, 30A/208V locking	8 IEC 60320 C13
PTSS-V016-1-02	100-120V 50/60Hz	IEC 60320 C20[1]	16 NEMA 5-20R
PTSS-V016-1-05	100-120V 50/60Hz	NEMA L5-30P, 30A/120V locking	16 NEMA 5-20R
PTSS-V016-2-02	208-240V 60Hz	IEC 60320 C20[1]	16 IEC 60320 C13
PTSS-V016-2-06	208-240V 60Hz	NEMA L6-30P, 30A/208V locking	16 IEC 60320 C13

International Models

Model	Rated Voltage	Input Cordset and Plug (10')	Outlets
PTSS-H008-2-02	230 50/60Hz	IEC 60320 C20[1]	8 IEC 60320 C13
PTSS-H016-2-02	230 50/60Hz	IEC 60320 C20[1]	16 IEC 60320 C13
PTSS-V008-2-02	230 50/60Hz	IEC 60320 C20[1]	8 IEC 60320 C13
PTSS-V016-2-02	230 50/60Hz	IEC 60320 C20[1]	16 IEC 60320 C13

[1] Input cordset selected at time of purchase

Power Ratings

Domestic Models

Model	Input Current Ratings[1] *L'indice du courant d'entrée* Eingangsstromstärke		Output Current Ratings *L'indice du courant de sortie* Ausgangsstromstärke				Total
Model *Modele* Modell	**Voltage** *Tension* Spannung	**Current** *Courrant* Strom	**Voltage** *Tension* Spannung	**Outlet** *Prise* Anschlussstelle	**Branch Circuit** *Circuit de la Branche* Zweigstromkreis		**Total** *Total* Insgesamt
100-120V 50/60Hz							
PTxx-x008-1-02	100-120V 50/60Hz	16	100-120V 50/60Hz	16	16		16
PTxx-x008-1-05	100-120V 50/60Hz	24	100-120V 50/60Hz	16	16		24
PTxx-x016-1-02	100-120V 50/60Hz	16	100-120V 50/60Hz	16	16		16
PTxx-x016-1-05	100-120V 50/60Hz	24	100-120V 50/60Hz	16	16		24
208-240V 60Hz							
PTxx-x008-2-02	208-240V 60Hz	16	208-240V 60Hz	12	16		16
PTxx-x008-2-06	208-240V 60Hz	24	208-240V 60Hz	12	16		24
PTxx-x016-2-02	208-240V 60Hz	16	208-240V 60Hz	12	16		16
PTxx-x016-2-06	208-240V 60Hz	24	208-240V 60Hz	12	16		24

International Models

Model	Input Current Ratings[1] *L'indice du courant d'entrée* Eingangsstromstärke		Output Current Ratings *L'indice du courant de sortie* Ausgangsstromstärke				Total
Model *Modele* Modell	**Voltage** *Tension* Spannung	**Current** *Courrant* Strom	**Voltage** *Tension* Spannung	**Outlet** *Prise* Anschlussstelle	**Branch Circuit** *Circuit de la Branche* Zweigstromkreis		**Total** *Total* Insgesamt
230V 50/60Hz							
PTxx-x008-2-02	230V 50/60Hz	16	230V 50/60Hz	10	16		16
PTxx-x016-2-02	230V 50/60Hz	16	230V 50/60Hz	10	16		16

Physical Specifications

|	**Operating**	**Storage**
Temperature	32° to 122° F (0° to 50° C)	-40° to 185° F (-40° to 85° C)
Elevation (above MSL)	0 to 10,000 ft (0 to 3000m)	0 to 50,000 ft (0 to 15000m)
Relative Humidity	10 to 90%, non-condensing	10 to 90%, non-condensing

	Dimensions (H x W x D)		**Weight**	
PTSS-V008	43.0 x 1.75 x 2.25 in.	(1092 x 45 x 57 mm)	8.2 lbs	(3.7 kg)
PTSS-V016	65.0 x 1.75 x 2.25 in.	(1651 x 45 x 57 mm)	13.2 lbs	(6.0 kg)
PTSS-H008	1.75 x 17.0 x 7.0 in.	(45 x 432 x 178 mm)	8.2 lbs	(3.7 kg)
PTSS-H016	3.5 x 17.0 x 7.0 in.	(89 x 432 x 178 mm)	11.8 lbs	(5.4 kg)

Data Connection

RS-232 Serial port

Serial Power Towers are equipped standard with an RJ45 RS-232c serial port. This connector may be used for direct local access or from other serial devices such as a terminal server. An RJ45 crossover cable is provided for connection to an RJ45 DTE serial port.

Pin	DTE Signal Name		Input/Output
1	Request to Send	RTS	Output
2	Data Terminal Ready	DTR	Output
3	Transmit Data	TD	Output
4	Signal Ground		
5	Signal Ground		
6	Receive Data	RD	Input
7	Data Set Ready	DSR	Input
8	Clear to Send	CTS	Input

87654321
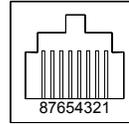
RJ45 to DB9F serial port adapter

Additionally, an RJ45 to DB9F serial port adapter is provided for use in conjunction with the RJ45 crossover cable to connect to a PC DB9M DTE serial port. The adapter pinouts below reflect use of the adapter with the provided RJ45 crossover cable.

Pin	DCE Signal Name		Input/Output
1			
2	Receive Data	RD	Output
3	Transmit Data	TD	Input
4	Data Terminal Ready	DTR	Input
5	Signal Ground		
6	Data Set Ready	DSR	Output
7	Request to Send	RTS	Input
8	Clear to Send	CTS	Output

5 4 3 2 1
9 8 7 6
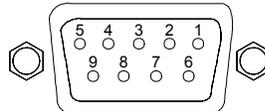
LED Indicators

Serial Power Tower is equipped with a status LED for each power receptacle.   A lit/on LED indicates that power is being supplied at the port and a darkened/off LED indicates that there is no power at the port.

<u>Regulatory Compliance</u>

Product Safety

Units have been safety tested and certified to the following standards:

- USA/Canada   UL 60950:2003 and CAN/CSA 22.2 No. 60950-1-03
- European Union   EN60950-1:2001

This product is also designed for Norwegian IT power system with phase-to phase voltage 230V.

USA Notification

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Modifications not expressly approved by the manufacturer could void the user's authority to operated the equipment under FCC rules.

Canadian Notification

This Class A digital apparatus complies meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigencies du Règlement sur le matériel brouilleur du Canada.

European Union Notification

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN55022   Electromagnetic Interference
- EN55024   Electromagnetic Immunity
- EN60950-1   Product Safety
- EN61000-3   Harmonics and Flicker

Japanese Notification

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

<u>Recycling</u>

Server Technology Inc. encourages the recycling of its products. Disposal facilities, environmental conditions and regulations vary across local, state and country jurisdictions, so Server Technology encourages consultation with qualified professional and applicable regulations and authorities within your region to ensure proper disposal.

Waste Electrical and Electronic Equipment (WEEE)

In the European Union, this label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

For information on how to recycle this product responsibly in your country, please visit: www.servertech.com/support/recycling.

Appendix C: Warranty, Product Registration and Support

Warranty and Limitation of Liability

Server Technology, Inc. agrees to repair or replace Products that fail due to a defect within twelve (12) months after the shipment date of each Product unit to Buyer ("Warranty Period"). For purposes of this Agreement the term "defect" shall mean the Product fails to operate or fails to conform to its applicable specifications. Any claim made pursuant to this Agreement shall be asserted or made in writing only by Buyer. Buyer shall comply with Server Technology's Standard Return Merchandise Authorization ("RMA") procedure for all warranty claims as set forth in Server Technology's operation manual. **Buyer must return Products in original packaging and in good condition.** This limited warranty does not include labor, transportation, or other expenses to repair or reinstall warranted Products on site or at Buyer's premises.

Server Technology reserves the right to investigate any warranty claims to promptly resolve the problem or to determine whether such claims are proper. In the event that after repeated efforts Server Technology is unable to repair or replace a defective Product, then Buyer's exclusive remedy and Server Technology's entire liability in contract, tort, or otherwise shall be the payment by Server Technology of Buyer's actual damages after mitigation, but shall not exceed the purchase price actually paid by Buyer for the defective Product.

Server Technology shall have no responsibility or liability for any Product, or part thereof, that (a) has had the Serial Number, Model Number, or other identification markings altered, removed or rendered illegible; (b) has been damaged by or subject to improper installation or operation, misuse, accident, neglect and/or has been used in any way other than in strict compliance with Server Technology's operation and installation manual; (c) has become defective or inoperative due to its integration or assembly with any equipment or products not supplied by Server Technology; (d) has been repaired, modified or otherwise altered by anyone other than Server Technology and/or has been subject to the opening of any sealed cabinet boxes without Server Technology's prior written consent. If any warranty claim by Buyer falls within any of the foregoing exceptions, Buyer shall pay Server Technology its then current rates and charges for such services.

THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. SERVER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, OR EXEMPLARY DAMAGES; EVEN OF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

For warranty issues, contact the Product Support Department at the number listed above. All repair and return shipments must be approved by Server and must be accompanied by a RMA (Return Merchandise Authorization) number and dated proof of purchase.

Product Registration

Registration is your key to special offers and services reserved for Registered Users.

- Excellent Technical Support Services
- Special Update and Upgrade Programs
- Warranty Protection
- Extended Warranty Service
- New Product Information

Register your products online today!

www.servertech.com

Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8:30 AM to 5:00 PM, Monday-Friday, Pacific Time.

Server Technology, Inc.
1040 Sandhill Drive   Tel: 775.284.2000   Web: www.servertech.com
Reno, Nevada 89521 USA   Fax: 775.284.2065   Email: support@servertech.com

Return Merchandise Authorization

If you have a unit that is not functioning properly and is in need of technical assistance or repair:

Submit a request for support by phone at the above number, or via the web at
www.servertech.com/support

Be ready to provide: Company Name
Contact Name, Phone Number, and Email address
Model or Part Number (from the label on the equipment)
Server Technology Serial Number
Version of code (type 'vers' at the Sentry: prompt)
Description of problem

1. Technical Support will work to diagnose/resolve the problem remotely, if possible. If the problem cannot be resolved, Technical Support will then issue an RMA# for the return/repair of the equipment in question. RMA#'s are valid for 30 days only from the issue date.

2. Shipping charges for the return of the equipment to Server Technology shall be the responsibility of the customer. For warranty repairs, Server Technology shall assume return shipping charges but for non-warranty repairs, the shipping charges shall be billed.

3. The RMA# shall be placed conspicuously on all shipping documentation, associated correspondence, and the shipping container.

4. Equipment must be returned in proper/original packaging to protect the equipment in transit. The customer shall be financially responsible for any damage/destruction of the equipment due to improper packaging.

5. Equipment shall typically be turned around within 48-72 hours of receipt at Server Technology. Equipment under warranty shall be repaired at no cost. Equipment NOT under warranty shall be repaired at the standard labor rate plus parts. Upon diagnosis of the equipment, the customer shall be notified of estimated charges prior to repair.

6. For non-warranty repairs, return of the equipment will be expedited with the inclusion of a Purchase Order or credit card number for incurred charges.

Server Technology

Solutions for the Data Center Equipment Cabinet

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