Server Technology

Sentry : Solutions for the Data Center Equipment Cabinet

Commander

Installation Manual

• PT46

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.

Notices

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Table of Contents

Chapter 1: Introduction

Quick Start Guide

The following instructions will help you quickly install and configure your Fail-Safe Transfer Switch for use on your network. For detailed information on each step, go to the page number listed to the right.

Technical Support

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

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Equipment Overview

1. The power inlet connects the Commander to the electrical power source.
2. RJ12 Intelligent Power Module ports.
3. One RJ12 Link connector for connection to a Power Tower XL.

A number is printed next to the Intelligent Power Module ports. These numbers may be used in commands that require a name.

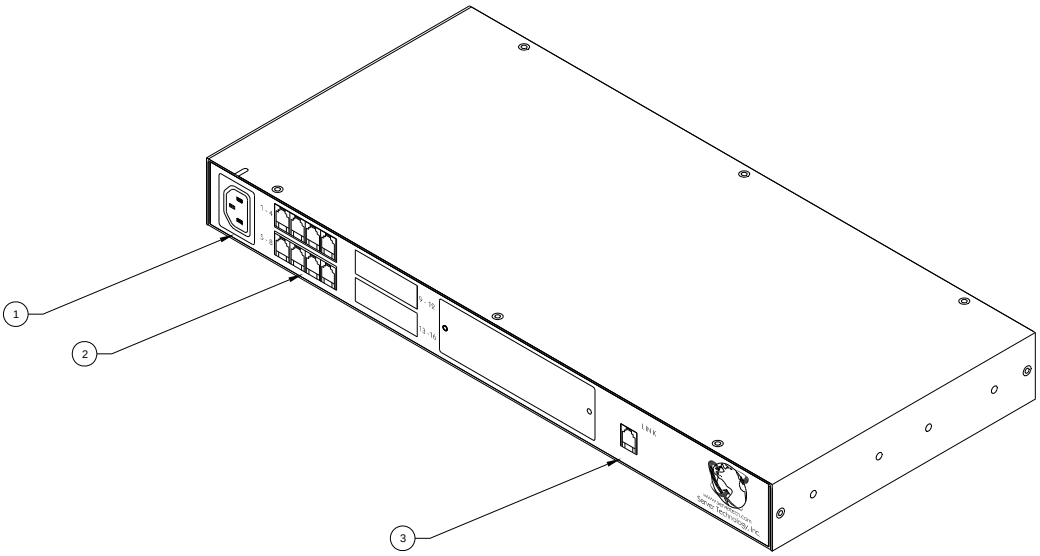

Figure 1. Sentry PT46 Commander Views

Chapter 2: Installation

Before installing your Commander, 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: two mounting brackets and four screws
- RJ12 to RJ12 crossover cable
- Input power cord retention clip
- Separate power input cord

Additional Required Items

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

Safety Precautions

This section contains important safety and regulatory information that should be reviewed before installing and using the Commander. For input and output current ratings, see *Power Ratings* on page 7.

	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.
	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.
	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!

Mounting

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.

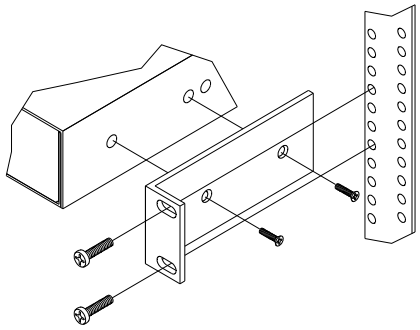

Figure 1. Mounting

Connecting 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 to the Power Tower XL

Connect the PT46 Commander to the Power Tower XL with the provided RJ12 crossover cable at the Link port on the PTXL.

NOTE: The overall length of the RJ12 crossover cable should not exceed 10 feet.

Connecting Devices

Keep the device's on/off switch in the off position until after it is plugged into the outlet, or log in to the Commander and turn the Intelligent Power Module ports off before connection is made. After connecting the Intelligent Power Module (IPM), turn them on using the Commander. See Intelligent Power Modules on page 9 for more information on available Intelligent Power Modules.

1. Connect the Intelligent Power Module(s) to the Commander using the RJ12 crossover cable(s) supplied with the IPM.
2. Connect IPMs to the outlets.
   For IPMs with retention clips
   IPMx-R-x: Insert the power cord and snap the clip over the cord.
   PM20-x-x: Insert the power cord and tighten the two screws on the retention bracket
3. Connect devices to the Intelligent Power Modules.
   For IPMs with retention clips
   IPMx-x-x: Insert the device's power cord and snap the clip over the cord.
   PM20-x-x: Insert the device's power cord and tighten the two screws on the retention bracket

Configuring and Operating the PT46 Commander

All configuration and operation of the PT46 Commander is performed and controlled through the standard Power Tower XL interface and command structure. See the *Power Tower XL Installation and Operations Manual* for specific configuration and operational requirements and commands.

Chapter 3: Appendices

Appendix A: Technical Specifications

Standard Models

Model	Voltage	Inlet*	IPM Ports
PT46-H008-0-07	100-120V or 208-240V, 50/60Hz	IEC 60320/C14	8
PT46-H016-0-07	100-120V or 208-240V, 50/60Hz	IEC 60320/C14	16

* Standard supplied power input cords (Contact your account representative for other options):
1. IEC 60320/C13 to NEMA L5-15P for 100-120V units.
2. IEC 60320/C13 to IEC60320/C14 for 208-240V units.

Power Ratings

	Input Current Ratings[1] *L'indice du courant d'entrée* Eingangsstromstärke		Output Current Ratings *L'indice du courant de sortie* Ausgangsstromstärke			
Model *Modele* Modell	**Voltage** *Tension* Spannung	**Current** *Courant* Strom	**Voltage** *Tension* Spannung	**Outlet** *Prise* Anschlussstelle		**Total** *Total* Insgesamt
PT46-H0xx-0-07	100-120V 50/60Hz	0.25	n/a	n/a		n/a
	208-240V 60Hz	0.12	n/a	n/a		n/a
	230V 50/60Hz	0.12	n/a	n/a		n/a

[1] All current ratings are in amperes. *Tous les indices de courant sont en ampères.* Alle Angaben der Stromstärke erfolgen in Ampere.

Physical Specifications

	Operating	Storage
Temperature	32° to 104° F (0° to 40° 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**
PT46-H0xx	1.75 x 17.0 x 7.0 in. (45 x 432 x 178 mm)	8.2 lbs (3.7 kg)

Regulatory Compliance

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

Products with the following mark comply with the RoHS Directive (2002/95/EC) issued by the Commission of the European Community.

Japanese Notification

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Recycling

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 B: Intelligent Power Modules

Sentry PT46 Commanders are able to perform the advanced power management functions by communicating to Intelligent Power Modules (IPMs). IPMs contain all hardware and logic required to control the power output connector on the IPM as well as monitor and report outlet operating states.

PT46 Commanders support up to 8 external IPMs. External IPMs are designed for in-line connection between the power source and the device to be powered and they are controlled by the Commander using a supplied RJ12 crossover cable. External IPMs also feature an LED for IPM power status.

Standard Models

Model	Voltage	Features	Inlet	Outlet
IPM3-0-3	100-120V AC 50/60 Hz	10 Amp	IEC 60320 C14	IEC 60320 C13
IPM3-R-3	100-120V AC 50/60 Hz	10 Amp w/ retainer clips	IEC 60320 C14	IEC 60320 C13
IPM5-0-2	208-240V AC 50/60 Hz	6 Amp	IEC 60320 C14	IEC 60320 C13
IPM5-R-2	208-240V AC 50/60 Hz	6 Amp, w/ retainer clips	IEC 60320 C14	IEC 60320 C13
PM20-0-1	100-120V AC 50/60 Hz	16 Amp, w/ retainer clips	IEC 60320 C14	IEC 60320 C20
PM20-0-2	208-240V AC 50/60 Hz	16 Amp, w/ retainer clips	IEC 60320 C20	IEC 60320 C19
PM48-0-1	-48V DC	20 Amp	Screw down terminal	Screw down terminal

NOTE:
1. IPM rack mounting kits are available. Contact your Server Technology Sales Representative for more information.
2. For more information regarding inlet/outlet specifications, please go to Panel Components at www.panelcomponents.com.

LED Indicators

Intelligent Power Modules are equipped with a status LED. 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.

Appendix C: Warranty, Product Registration and Support

Warranty

For Server Technology Warranty information, please see our website.

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!

Technical Support

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

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Return Merchandise Authorization

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

Please review Server Technology's Return Merchandise Authorization process on our website.

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