



Server Technology

Solutions for the Data Center Equipment Cabinet

Sentry

Equipment Cabinet Environmental Monitor

- EMCU-1-1

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.

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- the customer assumes all such risks, and
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Chapter 1: Introduction

Quick Start Guide

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

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2. Connect the sensors to the Equipment Cabinet Environmental Monitor5
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Supporting Devices

The Environmental Monitor is supported by the following products:

- PTXL-xxx-x-x
- PT40-xxxx-x-x
- PT45-xxxx-x-x

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

Each connector on the Environmental Monitor is clearly labeled for easy identification. Each Environmental Monitor is equipped with the following connectors:

- RJ12 connector for data and power for control by the supporting device
- RJ12 connector for pass-through of data to a Power Tower XM
- Two mini RJ11 connectors for Temperature/Humidity sensors (one sensor provided)
- Two terminals for the optional Water sensor
- Three terminals for a third-party analog sensor
- Three sets of three terminals for third-party Contact-Closure sensors

The Environmental Monitor is also equipped with LEDs to indicate the connection status to the supported devices as well as Contact-Closure sensor fault conditions.

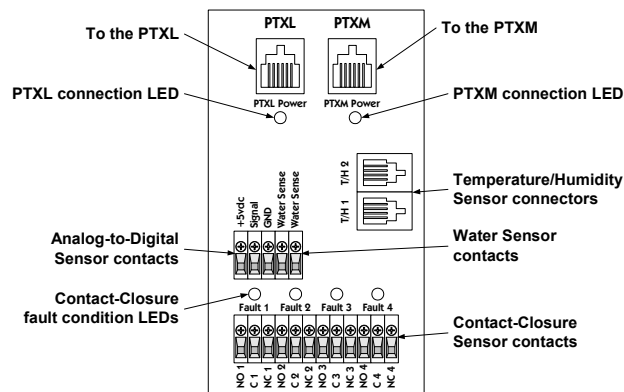


Figure 1.1 Equipment Cabinet Environmental Monitor

Chapter 2: Installation

Before installing your Equipment Cabinet Environmental Monitor, 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 hardware: two mounting flanges with four screws
- Two RJ12 to RJ12 crossover cables
- One Temperature/Humidity sensor

Optional Accessories

- Second Temperature/Humidity sensor
- Water Detection sensor
- 3rd party Contact Closure sensors
- 3rd party analog sensor

Additional Required Items

- Flathead and Phillip screwdrivers
- Screws, washers and nuts to attach the Environmental Monitor to your rack

Safety Precautions

The Equipment Cabinet Environmental Monitor (Environmental Monitor) is designed for use only with the Power Tower XL/Power Tower XM and other supporting Server Technology devices. Use of the Environmental Monitor other outside its intended purpose and instructions may lead to damage of the Environmental Monitor or 3rd party devices and will void all warranty coverage.

Mounting the Environmental Monitor

1. Attach the mounting flanges to the back of the Environmental Monitor using the provided hardware.
2. Install the Environmental Monitor into the cabinet using the available mounting holes on the flanges.

Connecting the Sensors

Temperature/Humidity sensors

The Environmental Monitor is equipped with two mini RJ11 T/H ports for attachment of the included Temperature/Humidity sensor. Attach the mini RJ11 plug of the sensor(s) to the appropriate T/H port.

Water Detection sensor

The Environmental Monitor is equipped with one set of terminal contacts for attachment of the Water Detection sensor. Insert and secure the two leads from the sensor into the terminals.

NOTE: The Water Detection sensor leads are not polarity sensitive.

Contact Closures sensors

The Environmental Monitor is equipped with four sets of terminals for attachment of 3rd party Contact Closures. The Environmental Monitor is equipped to accept signaling from 'normally closed' and 'normally open' contact closure circuits.

Insert the 'common' lead into the appropriate 'C' terminal and insert the 'normally closed' lead into the appropriate 'NC' terminal or insert the 'normally open' lead into the appropriate 'NO' terminal. Insure that all leads are secure.

NOTE: Use of 'normally closed' contact closures additionally requires a short between the 'NO' and 'C' terminals.

Analog sensor

The Environmental Monitor is equipped with a single set of terminals for attachment of a 3rd party analog sensor. The Environmental Monitor converts the sensor's 0V to +5V DC signal to an 8-bit value between 0 and 255.

Sensor limitations:

- Sensor inputs must be between 0V to +5V DC.
- Sensors powered by the Environmental Monitor must be powered by +5V DC.
- Sensors powered by the Environmental Monitor must draw a maximum current of 50mA.
- Sensors independently powered must have the ground reference tied to the Environmental Monitors ground reference.

Three terminals are present for attachment of a 3rd party analog device; +5 VDC, Signal and Ground. Insert and secure the 3rd party sensors leads into the Environmental Monitor terminals as prescribed by the sensor manufacturer's intended use and secure.

NOTE:

1. Proper polarity of the sensor Ground and +5V DC **MUST** be maintained or damage to the Environmental Monitor will occur!
 2. **DO NOT** short +5V DC to Ground; this will damage the Environmental Monitor, and/or the supporting device!
-

Connecting the Environmental Monitor

The Environmental Monitor is connected inline with a Power Tower XL and XM or other supporting device using the *supplied* RJ12 crossover cables. Connect one cable from the supporting device's Link port to the PTXL port and connect the other cable (if applicable) from the PTXM port to the Power Tower XM's Link port.

Only use the cables supplied with the Environmental Monitor!!

Use of other cables (including the link cable between an existing Power Tower XL and Power Tower XM) may cause a loss of communication to the Environmental Monitor or Power Tower XM.

Chapter 3: Operations

The Equipment Cabinet Environmental Monitor is configured and monitored directly through the command line or HTML interface of the supporting device. For information on accessing the interfaces and use of the command line, please refer to the Installation and Operations manual of your supporting device.

HTML Interface

The following section describes the Equipment Cabinet Environmental Monitor (Environmental Monitor) interface sections/pages and their use.

Environmental Monitoring

Sensors

The Sensors page displays:

- Temperature/humidity and Water sensor's absolute and descriptive names
- Temperature/humidity sensor readings in degrees Celsius and percent relative humidity
- Water sensor state

Contacts

The Contacts page displays the Contact Closure sensor's absolute and descriptive names, and states.

ADC

The ADC page displays the Analog-To-Digital converter's absolute and descriptive names, and digital count.

Configuration

System

The System page is used for assignment and/or editing of descriptive names for the Environmental Monitor and attached sensors. Descriptive names may be up to 24 alphanumeric and other typeable characters (ACSII 33 to 126 decimal – spaces are not allowed).

Creating a descriptive Environmental Monitor name:

Click on the **Environmental Monitor Names** link.

On the subsequent page, enter the environmental monitor name in the appropriate field and press **Apply**.

Creating descriptive sensor names:

Click on the **Sensor Names** link.

On the subsequent page, enter the sensor name in the appropriate field and press **Apply**.

Creating descriptive contact closure names:

Click on the **Contact Closure Names** link.

On the subsequent page, enter the contact closure name in the appropriate field and press **Apply**.

Creating a descriptive analog-to-digital convertor name:

Click on the **Analog-to-Digital Converter Names** link.

On the subsequent page, enter the analog-to-digital converter name in the appropriate field and press **Apply**.

SNMP

The SNMP page is used for enabling/disabling Environmental Monitor traps and sensor thresholds as well as other Power Tower traps. For more information on configuring SNMP and traps, please refer to the Installation and Operations manual of your supporting device.

Enabling or disabling Environmental Monitor traps:

Click on the **Environmental Monitor Traps** link.

On the subsequent page, select or deselect the desired traps and press **Apply**.

Configuring the Water and Temperature-Humidity sensor traps:

Click on the **Sensor Traps** link.

On the subsequent page, select or deselect the desired traps and press **Apply**.

For Temp traps, enter a minimum and maximum threshold value for the sensor in the appropriate field and press **Apply**.

The threshold value may be 0 to 127 (in degrees Celsius).

For Humid traps, enter a minimum and maximum threshold value for the sensor in the appropriate field and press **Apply**.

The threshold value may be 0 to 100 (in percent relative humidity).

Enabling or disabling Contact Closure traps:

Click on the **Contact Closure Traps** link.

On the subsequent page, select or deselect the desired traps and press **Apply**.

Configuring the Analog-to-Digital converter trap:

Click on the **Analog-to-Digital Converter Traps** link.

On the subsequent page, select or deselect the desired traps and press **Apply**.

For the sensor thresholds, enter a minimum and maximum threshold value for the sensor in the appropriate field and press **Apply**. The threshold value may be 0 to 255.

Command Line Interface

Operations Command Summary

Command	Description
Envmon	Displays the status of Environmental Monitor sensors

Administrative Command Summary

Set Envmon Name	Specifies a descriptive field for the Environmental Monitor
Set Envmon WS Name	Specifies a descriptive field for the water sensor
Set Envmon ADC Name	Specifies a descriptive field for the analog-to-digital converter input
Set Envmon THS Name	Specifies a descriptive field for a temperature-humidity sensor
Set Envmon CC Name	Specifies a descriptive field for a contact closure
Set User Envmon	Grants or removes user privileges to view input load and environmental monitoring status

Operations Commands

Displaying the status of the Environmental Monitor sensors

The Envmon command displays the status of all Environmental Monitor sensors.

By default, only administrative user accounts are allowed access to the Envmon command. An administrator may use the Set User Envmon command to enable and disable access for other user accounts.

To display the status of the Environmental Monitor sensors:

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

Example

The following command displays the status of the Environmental Monitor.

```
Sentry: envmon<Enter>
Environmental Monitor .A                               Name: Florida_HQ_1
                                                        Status: Normal

Water Sensor .A                                       Analog-to-Digital Converter .A
  Name: Water_Florida_HQ_1                             Name: Airflow_Florida_HQ_1
  Status: Normal                                       Count: 11

Temperature/Humidity Sensors
  ID   Name                                           Temperature   Humidity
  .A1  Temp_Humid_Sensor_A1                          Not Found    Not Found
  .A2  T/H2_Florida_HQ_1                             23.5 Deg. C  22 % RH

Contact Closures
  ID   Name                                           Status
  .A1  Contact_Closure_A1                          Normal
  .A2  Contact_Closure_A2                          Normal
  .A3  Contact_Closure_A3                          Normal
  .A4  RackFront_Florida_HQ_1                       Normal
```

Administration Commands

Creating a descriptive Environmental Monitor name

The Set Envmon Name command assigns a descriptive name to an Environmental Monitor. This descriptive name is displayed when the Envmon command is issued.

To create an Environmental Monitor name:

At the Sentry: prompt, type **set envmon name**, followed by the absolute Environmental Monitor name, then the descriptive name of up to 24 alphanumeric and other typeable characters (ASCII 33 to 126 decimal – spaces are not allowed). Press **Enter**.

Example

The following command adds the descriptive name Florida_HQ_1 to the Environmental Monitor:

```
Sentry: set envmon name .a Florida_HQ_1<Enter>
```

Creating a descriptive water sensor name

The Set Envmon WS Name command assigns a descriptive name to the water sensor. This descriptive name is displayed when the Evnmon command is issued.

To create an Environmental Monitor name:

At the Sentry: prompt, type **set envmon ws name**, followed by the absolute name of the water sensor, then the descriptive name of up to 24 alphanumeric and other typeable characters (ASCII 33 to 126 decimal – spaces are not allowed). Press **Enter**.

Example

The following command adds the descriptive name Water_Florida_HQ_1 to the water sensor:

```
Sentry: set envmon ws name .a Water_Florida_HQ_1<Enter>
```

Creating a descriptive temperature/humidity sensor name

The Set Envmon THS Name command assigns a descriptive name to a temperature/humidity sensor. This descriptive name is displayed when the Evnmon command is issued.

To create an Environmental Monitor name:

At the Sentry: prompt, type **set envmon ths name**, followed by the absolute name of the temperature/humidity sensor, then the descriptive name of up to 24 alphanumeric and other typeable characters (ASCII 33 to 126 decimal – spaces are not allowed). Press **Enter**.

Example

The following command adds the descriptive name T/H2_Florida_HQ_1 to the second temperature/humidity sensor:

```
Sentry: set envmon ths name .a2 T/H2_Florida_HQ_1<Enter>
```

Creating a descriptive contact closure name

The Set Envmon CC Name command assigns a descriptive name to a contact closure. This descriptive name is displayed when the Evnmon command is issued.

To create an Environmental Monitor name:

At the Sentry: prompt, type **set envmon cc name**, followed by the absolute name of the contact closure, then the descriptive name of up to 24 alphanumeric and other typeable characters (ASCII 33 to 126 decimal – spaces are not allowed). Press **Enter**.

Example

The following command adds the descriptive name RackFront_Florida_HQ_1 to the fourth contact closure sensor:

```
Sentry: set envmon cc name .a4 RackFront_Florida_HQ_1<Enter>
```

Creating a descriptive analog-to-digital converter name

The Set Envmon ADC Name command assigns a descriptive name to an analog-to-digital converter. This descriptive name is displayed when the Evnmon command is issued.

To create an Environmental Monitor name:

At the Sentry: prompt, type **set envmon adc name**, followed by the absolute name of the analog-to-digital converter, then the descriptive name of up to 24 alphanumeric and other typeable characters (ASCII 33 to 126 decimal – spaces are not allowed). Press **Enter**.

Example

The following command adds the descriptive name Airflow_Florida_HQ_1 to the analog-to-digital converter:

```
Sentry: set envmon adc name .a Airflow_Florida_HQ_1<Enter>
```

Granting and removing Environmental Monitor status viewing privileges

The Set User Envmon command grants or removes Environmental Monitor status viewing privileges to/from a general or view-only user.

NOTE: This command also grants or removes viewing privileges for the supporting device input loads by the command **Iload**. See the *Installation and Operations manual of your supporting device* for more information.

To grant or remove input load viewing privileges for a user:

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

Example

The following command grants environmental monitoring privileges to the user JohnDoe:

```
Sentry: set user envmon on johndoe<Enter>
```

Chapter 4: Advanced Operations

SNMP

For information on enabling and configuring SNMP, please refer to the Installation and Operations manual of your supporting device.

MIB, OID and Support

The Sentry SNMP MIB and OID are available on the Server Technology website:

<ftp://ftp.servertech.com/pub/SNMP/sentry3>

Technical support is available 8:30AM to 5:00 PM Pacific Time, Monday-Friday.

For SNMP Support, email: mibmaster@servertech.com

SNMP Traps

The Environmental Monitor supports three types of SNMP traps. Traps are enabled at the Environmental Monitor (E) or sensor (S) level.

Trap Summary

Name	Level(s)	Description
Status	E, S	Operational status change
Temp	S	Temperature is out of range
Humid	S	Relative Humidity is out of range

All traps include the Location of the supporting device as defined with the Set Location command.

Status trap

A Status trap is generated when an error condition occurs on the Environmental Monitor or individual sensor. Status traps include the reported Status, the Location of the supporting device and identifier and name of the affected Environmental Monitor and sensor.

Any error state generates a Status trap and triggers the trap timer. A new trap is generated at the end of every timer period until the Status returns to a non-error status. All status traps, with exception of the Analog-to-Digital Converter status trap, are enabled by default.

Environmental Monitor Status traps

Status	Error	Description
Normal		Environmental Monitor is working correctly
NoComm	x	Communication to the Environmental Monitor has been lost

Temperature/Humidity Sensor Status traps

Status	Error	Description
Found		The sensor has been detected
NotFound		No sensor has been detected
Lost	x	Sensor initially detected but communication to the sensor has been lost
NoComm	x	Communication to the sensor has been lost

Water Sensor Status traps

Status	Error	Description
Normal		The sensor is working correctly
Alarm	x	Water has been detected by the sensor
NoComm	x	Communication to the sensor has been lost

Contact Closure Sensor Status traps

Status	Error	Description
Normal		The sensor is working correctly
Alarm	x	The contact closure is opposite of its normal state
NoComm	x	Communication to the sensor has been lost

Analog-to-Digital Converter Status traps

Status	Error	Description
Normal		The converter is working correctly
Reading		ADC status currently being read
CountLow	x	ADC count below preset threshold
CountHigh	x	ADC count exceeds preset threshold
ReadError	x	Unable to read ADC status
NoComm	x	Communication to the converter has been lost

NOTE: Traps are generated according to a hierarchical architecture; ie if an Environmental Monitor Status enters a trap condition, only the Environmental Monitor Status trap will be generated. Sensor Status, Temp and Humid traps will be suppressed until the Environmental Monitor Status returns to Normal.

Temp Trap

The Temp trap is generated whenever the temperature on a temperature/humidity sensor is beyond preset thresholds. Temp traps include the reported temperature, temp status, Location of the supporting device, and identifier and name of the affected sensor.

Any error state generates a Temp trap and triggers the trap timer. A new trap is generated at the end of every timer period until the Temp returns to a non-error status.

Temp traps

Status	Error	Description
Normal		The sensor is working correctly and the temperature is within preset thresholds
NotFound		No sensor has been detected
Reading		Temp status currently being read
TempLow	x	Temperature at the sensor below preset low threshold
TempHigh	x	Temperature at the sensor exceeds preset high threshold
ReadError	x	Unable to read Temp status
Lost	x	Sensor initially detected but communication to the sensor has been lost
NoComm	x	Communication to the sensor has been lost

Humidity Trap

The Humidity trap is generated whenever the umidity on a temperature/humidity sensor is beyond preset thresholds. Humidity traps include the reported relative humidity, humidity status, Location of the supporting device, and identifier and name of the affected sensor.

Any error state generates a Humidity trap and triggers the trap timer. A new trap is generated at the end of every timer period until the Humidity returns to a non-error status.

Humidity traps

Status	Error	Description
Normal		The sensor is working correctly and the relative humidity is within preset thresholds
NotFound		No sensor has been detected
Reading		Humidity status currently being read
HumidLow	x	Relative humidity at the sensor below preset low threshold
HumidHigh	x	Relative humidity at the sensor exceeds preset high threshold
ReadError	x	Unable to read Humidity status
Lost	x	Sensor initially detected but communication to the sensor has been lost
NoComm	x	Communication to the sensor has been lost

Configuring Traps

SNMP Trap Command Summary

Command	Description
Set Trap EM Status	Enables or disables the Environmental Monitor Status trap
Set Trap THS Status	Enables or disables a temperature/humidity sensor Status trap
Set Trap THS Temp	Enables or disables a temperature/humidity sensor Temp trap
Set Trap THS Temphigh	Sets a temperature/humidity sensor Temp trap high limit
Set Trap THS Templow	Sets a temperature/humidity sensor Temp trap low limit
Set Trap THS Humid	Enables or disables a temperature/humidity sensor Humid trap
Set Trap THS Humidhigh	Sets a temperature/humidity sensor Humid trap high limit
Set Trap THS Humidlow	Sets a temperature/humidity sensor Humid trap low limit
Set Trap WS Status	Enables or disables the water sensor Status trap
Set Trap CC Status	Enables or disables a contact-closure sensor Status trap
Set Trap ADC Status	Enables or disables the analog-to-digital converter Status trap
Set Trap ADC ADChigh	Sets the Analog-to-Digital Status trap high limit
Set Trap ADC ADClow	Sets the Analog-to-Digital Status trap low limit
Show Traps	Display trap configurations

Enabling or Disabling the Environmental Monitor Status trap

The Set Trap EM Status command is used to enable or disable the Environmental Monitor status trap.

To Enable or Disable the Environmental Monitor Status trap:

At the Sentry: prompt, type **set trap em status**, followed by the Environmental Monitor name and **on** or **off**. Press **Enter**.

Example

The following command enables the Environmental Monitor Status trap:

```
Sentry: set trap em status .a on<Enter>
```

Enabling or Disabling a sensor's Status trap

The Set Trap Status command is used to enable or disable the status trap for the Temperature/Humidity sensor, Water sensor, Contact-Closure or Analog-to-Digital converter.

To Enable or Disable the sensor's Status trap:

At the Sentry: prompt, type **set trap (ths, ws, cc, adc) status**, followed by the name and **on** or **off**. Press **Enter**.

Example

The following command enables the first Temperature/Humidity sensor Status trap:

```
Sentry: set trap ths status .a1 on<Enter>
```

Setting the Analog-to-Digital converter threshold limits

The Set Trap ADC ADClow and Set Trap ADC ADChigh commands are used to set the lower and upper threshold limits for the Analog-to-Digital converter.

To set the Analog-to-Digital sensor limits:

At the Sentry: prompt, type **set trap adc, adclow** or **adchigh**, followed by the converter name and a value from 0 to 255. Press **Enter**.

Example

The following command sets the analog-to-digital sensor low threshold limit to 25:

```
Sentry: set trap adc adclow .a 25<Enter>
```

Enabling or Disabling the Temp trap

The Set Trap THS Temp command is used to enable or disable the Temp trap.

To Enable or Disable the Temp trap:

At the Sentry: prompt, type **set trap ths temp**, followed by the sensor name and **on** or **off**. Press **Enter**.

Example

The following command enables the Temp trap for the first temperature-humidity sensor:

```
Sentry: set trap ths temp .a1 on<Enter>
```

Setting the Temperature sensor threshold limits

The Set Trap THS Temp low and Set Trap THS Temp high commands are used to set the lower and upper threshold limits for the Temperature sensor.

To set the Temperature threshold limits:

At the Sentry: prompt, type **set trap ths, temp low** or **temp high**, followed by the sensor name and a value from 0 to 127 in degrees Celsius. Press **Enter**.

Example

The following command sets the second temperature high threshold limit to 95:

```
Sentry: set trap ths temp high .a2 95<Enter>
```

Enabling or Disabling the Humid trap

The Set Trap THS Humid command is used to enable or disable the Humid trap.

To Enable or Disable the Humid trap:

At the Sentry: prompt, type **set trap ths humid**, followed by the sensor name and **on** or **off**. Press **Enter**.

Example

The following command enables the Humid trap for the first temperature-humidity sensor:

```
Sentry: set traps ths humid .a1 on<Enter>
```

Setting the Humidity sensor threshold limits

The Set Trap THS Humid low and Set Trap THS Humid high commands are used to set the lower and upper threshold limits for the Humidity sensor.

To set the Humidity threshold limits:

At the Sentry: prompt, type **set trap ths, humid low** or **humid high**, followed by the sensor name and a value from 0 to 100 in percent relative humidity. Press **Enter**.

Example

The following command sets the first humidity sensor low threshold limit to 5:

```
Sentry: set trap ths humid low .a1 5<Enter>
```

Displaying trap configuration information

The Show Traps command displays information about all traps.

To display trap information:

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

Example

The following command requests trap configuration information:

```
Sentry: show traps <Enter>
Tower trap configuration:
  Tower      Tower      Status
  ID         Name         Trap
  .A         Florida_HQ_1  ON
More (Y/es N/o): y
Input feed trap configuration...
More (Y/es N/o): y
Outlet trap configuration...
More (Y/es N/o): y
Environmental Monitor .A trap configuration:
Name: Florida_HQ_1
Status Trap: ON
Water Sensor .A           Analog-to-Digital Converter .A
  Name: Water_Florida_HQ_1      Name: Airflow_Florida_HQ_1
  Status Trap: ON              Status Trap: OFF
                               Low: 25
                               High: 255
Temperature/Humidity Sensor .A1  Temperature/Humidity Sensor .A2
  Name: Temp_Humid_Sensor_A1    Name: T/H2_Florida_HQ_1
  Status Trap: ON               Status Trap: ON
  Temp Trap: ON                 Temp Trap: ON
  Low: 0   Deg.C                Low: 0   Deg.C
  High: 127 Deg.C               High: 95 Deg.C
  Humid Trap: ON                Humid Trap: ON
  Low: 5   % RH                 Low: 0   % RH
  High: 100 % RH                High: 100 % RH
More (Y/es N/o): y
Environmental Monitor .A trap configuration (continued):
Contact Closures
  Contact    Contact      Status
  ID         Name         Trap
  .A1        Contact_Closure_A1  ON
  .A2        Contact_Closure_A2  ON
  .A3        Contact_Closure_A3  ON
  .A4        RackFront_Florida_HQ_1  ON
```


Chapter 5: Appendices

Appendix A: Technical Specifications

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
EMCU-1-1	4.75 x 2.5 x 1.1 in. (120 x 63 x 28 mm)	0.6 lbs (0.3 kg)

Regulatory Compliance

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 exigences 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 (V C C I) 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。

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: 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

Reno, Nevada 89521 USA

Tel: 775.284.2000

Fax: 775.284.2065

Web: www.servertech.com

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 firmware

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.



Solutions for the Data Center Equipment Cabinet

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