USHA IX/EX 900
UPS SNMP HTTP AGENT

User's Manual

USHA IX900 series
mimi USHA IX900 series
mimi USHA EX900 series

Version 2.00
Dec., 2021

Electronic Emission Notice

Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B 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.

CE Notice

This device complies with the EMC directive of the European Community and meets or exceeds the following technical standard:

- EN55022:2010 Class B
- EN55024:2010
- IEC 61000-4-2:2008
- IEC 61000-4-3:2006+A1:2007+A2:2010
- IEC 61000-4-4:2012
- IEC 61000-4-5:2014
- IEC 61000-4-6:2013
- IEC 61000-4-8:2009

Safety Information

USHA IX/EX 900 series

- All the service of this equipment must be perform by qualified service personnel. Remove rings, watches and other jewelry before servicing the unit

Chapter 1 Introduction

USHA – acronym for **U**PS **S**NMP and **H**TTP **A**gent. It can get hold of the status from issue commands to the UPS. User can use SNMP managers or Web browsers to manage the UPS through an Ethernet. USHA also provides shutdown programs for different operating systems. It issues a shutdown command in the event such as mains failure, UPS battery low condition, UPS overload, UPS over temperature and scheduled shutdown. All shutdown events are configurable by user. The shutdown software will proceed to the automatic orderly shutdown to prevent the abnormal shut-off of the clients or servers.

Features

- Real-time UPS health monitoring
- Comprehensive UPS management and flexible configuration via Web Browser, NMS, SSH, and SNMP
- Automatic events notification via E-mail, short message (SMS), and SNMP Trap
- Graceful shutdown to protect up to 250 servers/workstations from data loss due to power outage
- Assigned IP automatically via DHCP or BOOTP
- Scheduling shutdown/startup/reboot of UPS via remote control
- Regularly records UPS parameters for statistical analysis and event diagnostics
- Standard UPS MIB and USHA-proprietary MIB supported
- Auto-sense to works in the 10/100Mbps fast Ethernet network environment
- Configuration utility simplifies the firmware upgrade process
- Support Radius and NTLM V1
- IPv4 and IPv6 dual-stake
- Support USB ports
- GPRS/GSM modem supports SMS and IP data
- Supports mini-MODBUS to connect industrial equipment according to definition protocol
- Digital output to support relay control device

USHA System Application

The following diagram shows how the USHA SNMP Web Card which can be used in a network application. It supports various kinds of protocol such as SNMP, HTTP… etc. Through the SNMP NMS and Web Browser, user can obtain the UPS status, issue commands of UPS and set up USHA configuration via the network.

USHA also provides shutdown software tool for sending the event notifications to the connected clients. The shutdown software can be installed on various operating systems. It can communicate with the USHA automatically via a proprietary protocol. USHA will issue the shutdown command to shutdown software in the event of AC failure, battery low and scheduled shutdown. Shutdown software will proceed to the shutdown process in order to prevent the abnormal shutoff of host or server.
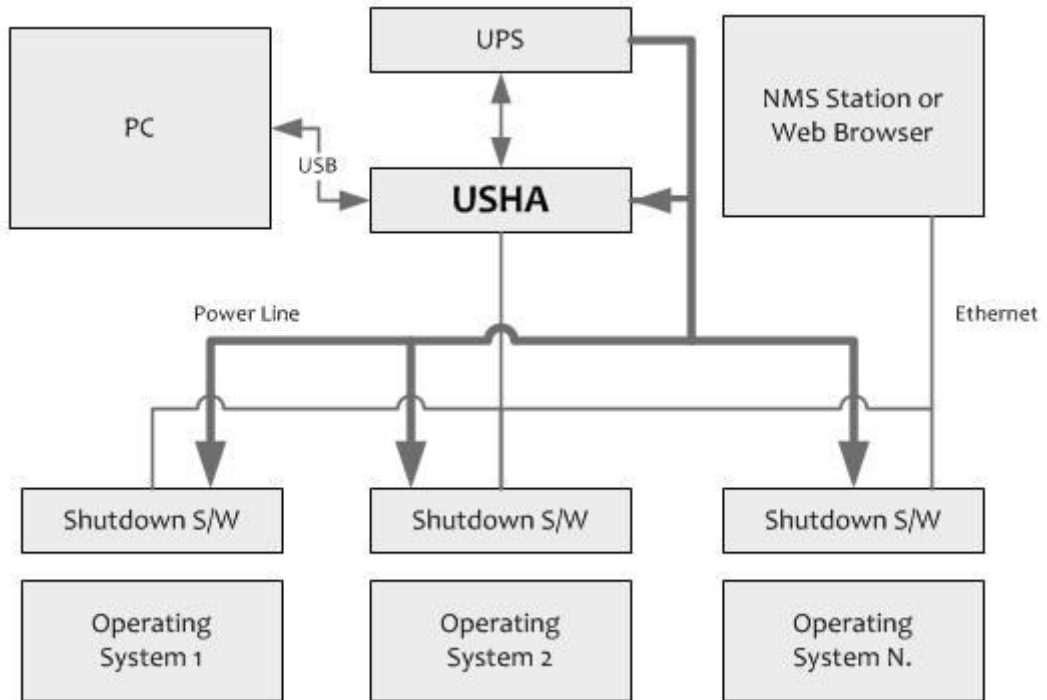
Package Contents

Please carefully check the USHA IX900 and the included accessories. If there is any missing or damaged, please contact your dealer. Should you return the related items and repacked using the original packing materials come with the unit.

No.	Item	Quantity
1	USHA IX900 Card / EX900 Box	1 Piece
2	Mounting bracket (Only for USHS IX900 series)	1 Piece
3	Utility CD (Includes Quick Installation Guide/User Manual/MIB File Shutdown Software)	1 Piece
4	Serial Cable for connecting UPS (Only for EX901/902/952)	1 Piece

Interface of USHA IX900 & mini USHA IX/EX900

The interface of USHA IX901 includes a Network port, EMD port, USB port, Setup port and a Restart button as shown below. The interface of USHA IX902 besides USHA IX901 port and will have MODUBS port. The interface of USHA IX903 besides USHA IX901 port and will have Digital Output port. The related function and indication of USHA IX900, please refer to the following table.

USHA IX900 Series (Card Type) Card Dimension：129.9(L) x 60.0(W) mm
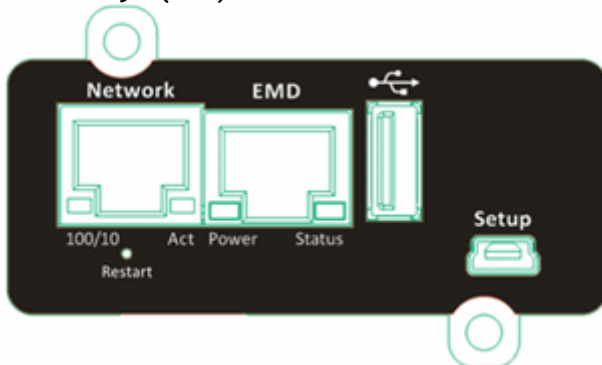
1. USHA IX901 (USB)	2. USHA IX902 (USB + mini-MODBUS)
Network EMD Power Status Setup 100/10 Act Restart	Network EMD G - + Power Status Setup 100/10 Act Restart
3. USHA IX903 (USB + Digital Output)	
Network EMD DO 24V/1A [1] [2] Power Status Setup 100/10 Act Restart	
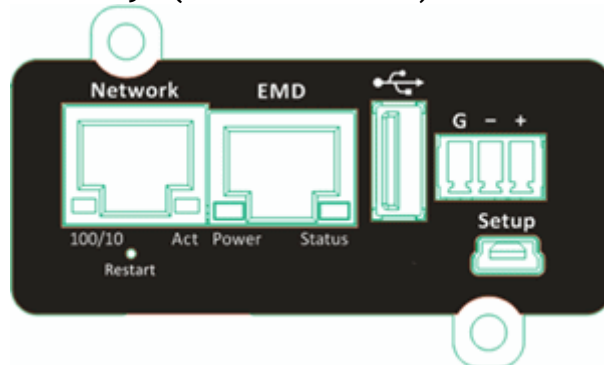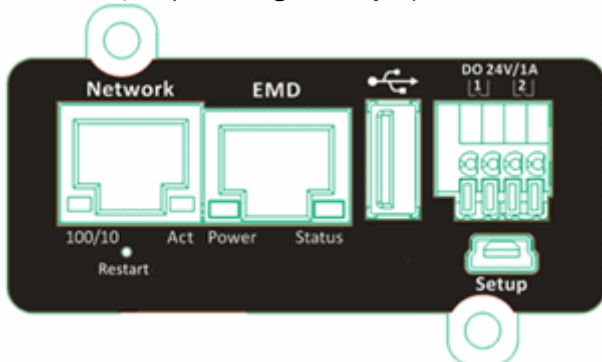
mini USHA IX900 Series (Card Type) Card Dimension：68.3(L) x 60.0(W) mm

1. mini USHA IX901 (USB)	2. mini USHA IX902 (USB + mini-MODBUS)
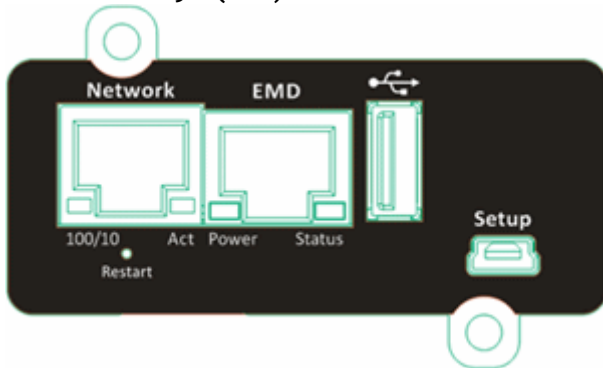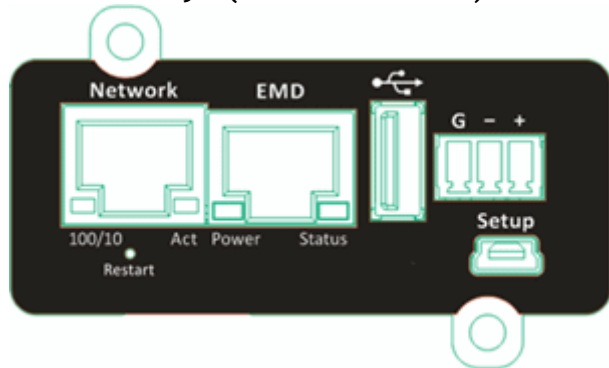
mini USHA EX900 Series (Box Type) Dimension：94(L) x 82(W) x 30.8(H) mm

1. mini USHA EX901 (USB)	2. mini USHA EX902 (USB + mini-MODBUS)
3. mini USHA EX951 (for USB UPS)	2. mini USHA EX952 (for COM UPS)
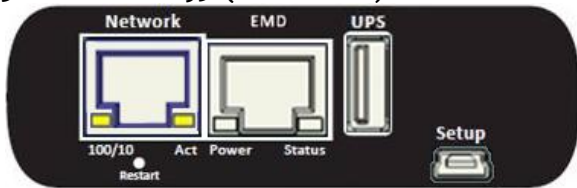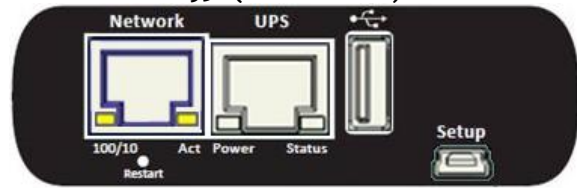
No.	Item	Description
1	Network port	Connects to network. LED indication: LAN 10/100 link, Activity.
2	EMD port	Connects to an environmental sensor (EMD). LED indication: System power, System status.
3	USB port	Connects t the GPRS/GSM modem, USB devices and wireless sensor.
4	Setup port	Connects to a workstation with the provided USB cable.
5	Restart button	Restart USHA IX900 only. This does not affect the operation of UPS.
6	MODBUS port	Connects to MODUBS/RS485 device.
7	Digital port	Digital output (24V/1A) to support relay control device.

Chapter 2 Installation

Install the USHA IX/EX 900 on UPS

Please follow the procedures below to install the USHA IX900 on UPS **(see Figure2-1)**

    Step1. Insert the USHA Card into the UPS slot.

    Step2. Lock the screws of the USHA card bracket.

    Step3. Procure a workstation (Microsoft Windows XP, Vista, 7 or above installed).

    Step4. Insert the Ethernet cable into LAN port of USHA card.
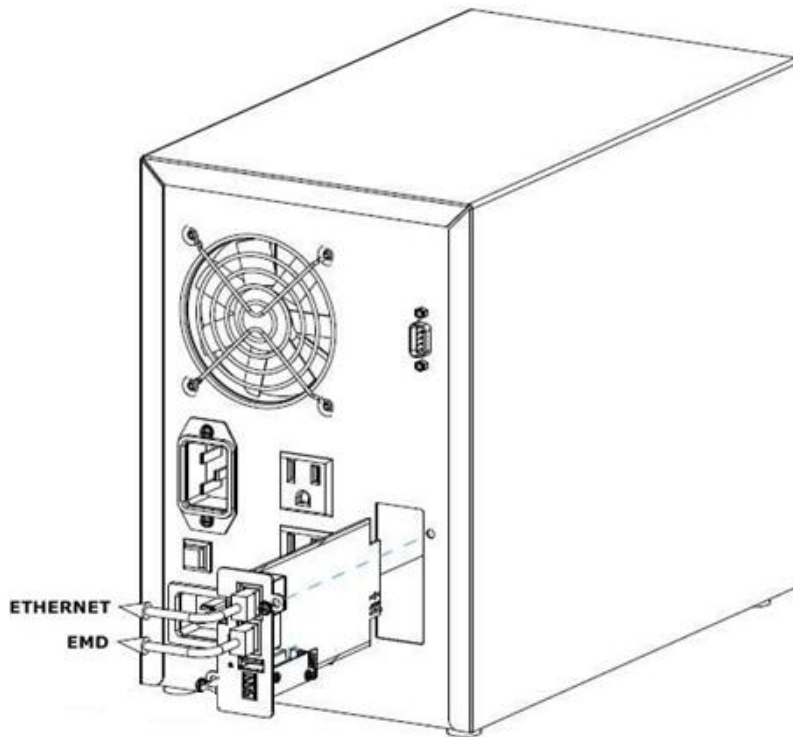
(Figure 2-1: Install the USHA IX900 on UPS)

Connecting your UPS to the USB or COM port
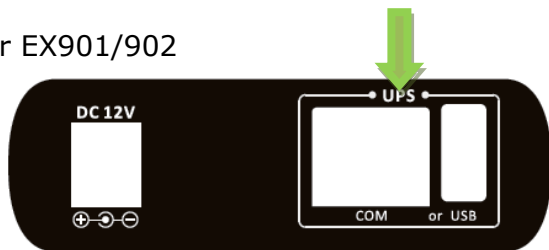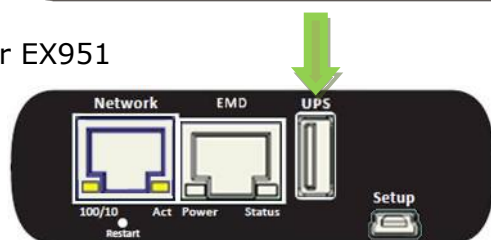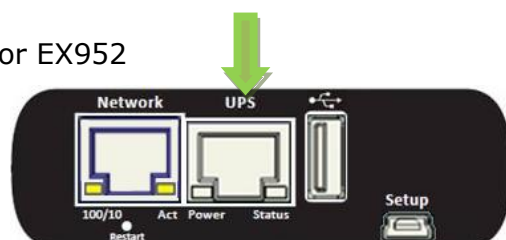
To find your USHA card by using Upgrade Tool

Step1. Install the Upgrade Tool on your PC

Please find the "USHA FITility v1.xx.exe" in CD contents and install the Upgrade Tool on your PC.

USHA FITILITY1.00.15.exe
USHA FITILITY Installer
Foxconn Interconnect Technology ...

Step2. Execute USHA FITility, USHA FITility will auto discover and list up the devices on your LAN.

	IP Address	MAC Address	Version	Card
☐	192.168.54.31	00-e0-d8-ff-c9-c9	v1.00 a02	IX900 Series
☐	192.168.54.145	de-3e-39-29-ab-62	v3.30.0	PDU
☐	192.168.206.80	00-e0-d8-ff-b5-07	v1.06 alpha 27	
☐	192.168.54.45	00-e0-d8-ff-c1-4e	v7.01 b2	
☐	192.168.53.42	00-e0-d8-ff-c0-78	v7.02 b2	
☐	192.168.53.53	00-e0-d8-ff-aa-93	v1.01 a2	
☐	192.168.91.185	88-c2-55-5a-72-6b	v0.90.0002.0011	
☐	192.168.55.1	68-9e-19-9d-6b-bb	v0.90.0002.0011	
☐	192.168.53.23	00-e0-d8-ff-8a-36	---	---
☐	192.168.54.44	00-e0-d8-ff-ad-0b	---	---
☐	192.168.200.180	00-e0-d8-0c-e2-93	---	---
☐	192.168.54.203	e4-1f-13-8c-e4-1f	---	---
☐	192.168.54.222	00-e0-ff-24-12-41	---	---

Set IP   Backup   Upgrade   About   Refresh   Browse

Step3. If necessary, please select the device, then click "Set IP" to change the IP to the same network segment as your LAN.

	IP Address	MAC Address	Version	Card
☑	192.168.54.31	00-e0-d8-ff-c9-c9	v1.00 a02	IX900 Series
☐	192.168.54.145	de-3e-39-29-ab-62	v3.30.0	PDU
☐	192.168.206.80	00-e0-d8-ff-b5-07	v1.06 alpha 27	
☐	192.168.54.45	00-e0-d8-ff-c1-4e	v7.01 b2	
☐	192.168.53.42	00-e0-d8-ff-c0-78	v7.02 b2	
☐	192.168.53.53	00-e0-d8-ff-aa-93	v1.01 a2	
☐	192.168.91.185	88-c2-55-5a-72-6b	v0.90.0002.0011	
☐	192.168.55.1	68-9e-19-9d-6b-bb	v0.90.0002.0011	
☐	192.168.53.23	00-e0-d8-ff-8a-36	---	---
☐	192.168.54.44	00-e0-d8-ff-ad-0b	---	---
☐	192.168.200.180	00-e0-d8-0c-e2-93	---	---
☐	192.168.54.203	e4-1f-13-8c-e4-1f	---	---
☐	192.168.54.222	00-e0-ff-24-12-41	---	---

Set IP   Backup   Upgrade   About   Refresh   Browse

Step4. Type in Account and Password

Step5 . Type in new settings and click "Next" to finish the IP setting.

Step6. Select your device and click "Browse" to open webpage.
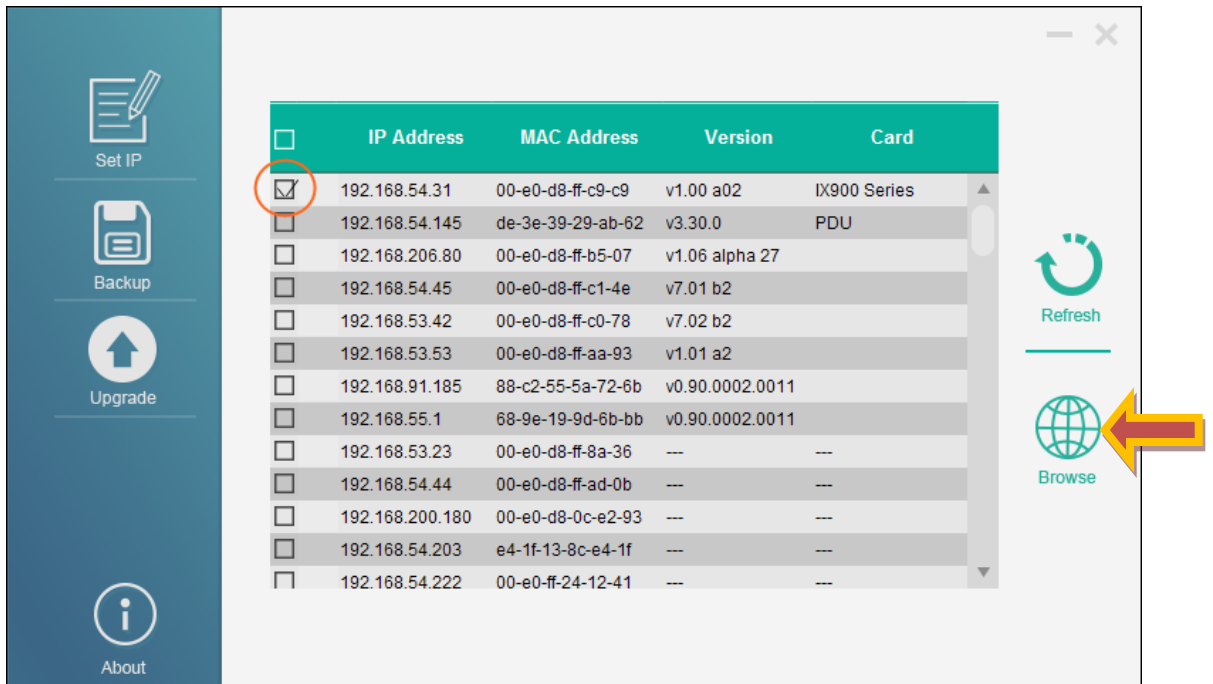
Step7. The webpage display the USHA Comprehensive View.
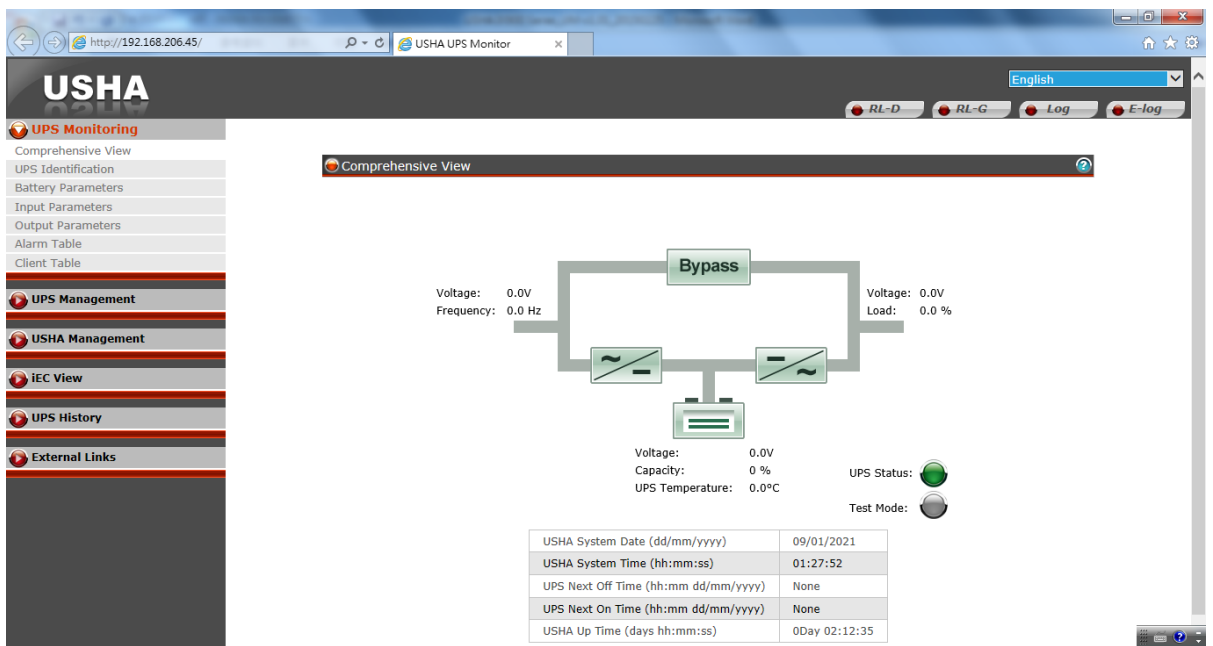
Chapter 3 Configuring with Web Browser

USHA Initial Configuration

1. Select USHA Configuration from the USHA Management of the main menu to setup the network configuration parameters.
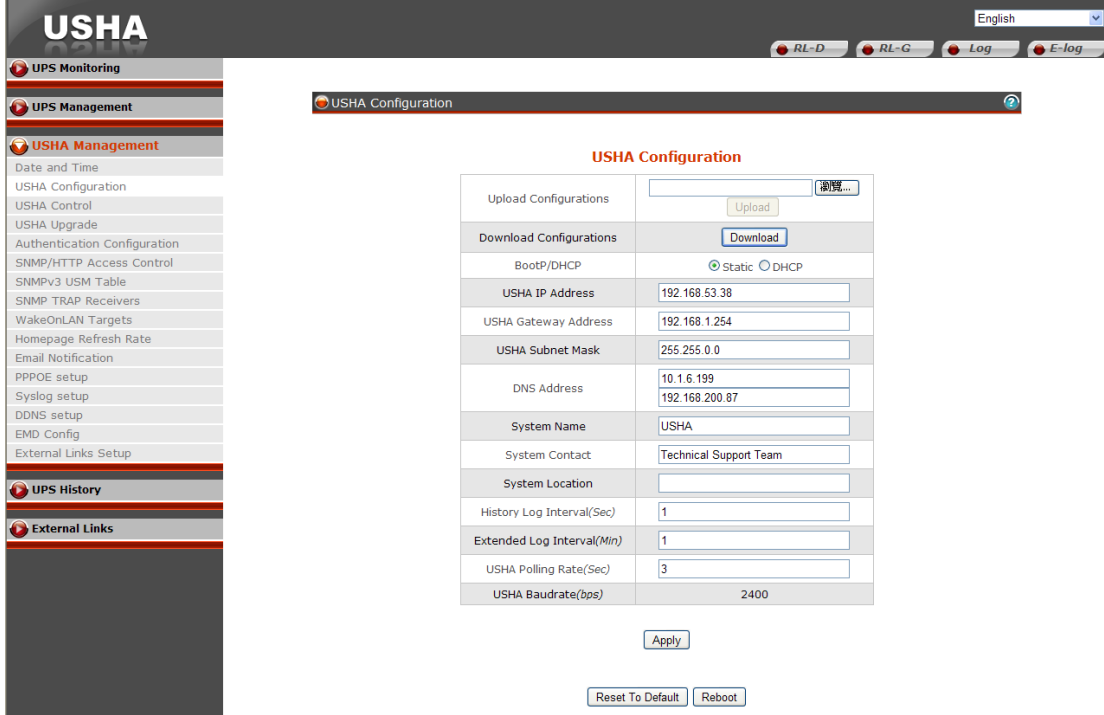
2. Become Administrator (default Username: SNMP; Password: admin)
3. Enter the USHA IP address.
4. Enter the USHA Gateway Address in the network.
5. Enter the USHA Subnet Mask of the network.
6. Enter the IP address of the Primary Time Server and Secondary Time Server in the network.
7. Click the Set Values to save the settings.
8. Select Date and Time from the USHA Management of the main menu and enter the appropriate date and time information in the specified format.
9. Select Set Values to save the date and time settings.
10. Select USHA Control to enable or disable the network protocols.
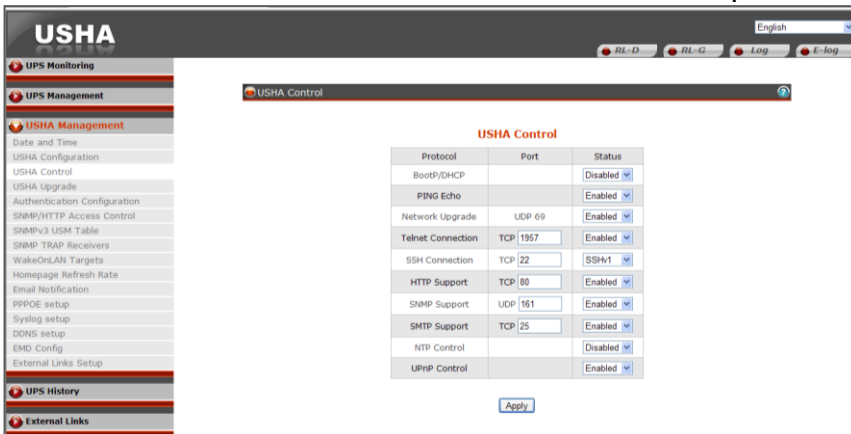
11. Select Apply to save the changes.

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UPS Monitoring

Comprehensive View

This page gives a snapshot of all the principal UPS parameters. This page will refresh automatically.

UPS Status

Current state of the UPS is displayed. UPS Status included "Other", "Stand-by", "On-Line", "On Bypass", "On Battery", "On Booster", "On Reducer", "UPS Testing", "On Mains" and "UPS Off".

Input Frequency

This shows the current input frequency in Hertz at the time of recording.

Output Load

This shows the current load on the UPS in terms of percentage.

Battery Capacity Remaining

The remaining battery capacity expressed in percent of full capacity.

Current Battery Voltage

The current battery voltage expressed in Volts.

UPS Temperature

This shows the current temperature of the UPS battery in ^{o}C.

USHA System Date

The date set on USHA in dd/mm/yyyy format (eg. 27/02/2000).

USHA System Time

The time set on USHA in hh:mm:ss 24-hour format. (eg. 8:30 p.m. equal 20:30:00).

EMD Temperature

This shows the current temperature measurement of the EMD.

EMD Humidity

This shows the current humidity measurement of the EMD.

EMD Alarm

This shows the current status (alarm or normal) detected from the sensor which attached to the EMD.

UPS Next Off Time (hh:mm dd/mm/yyyy)

The date and time that UPS will be turn off according to Weekly or Special Day Schedule.

UPS Next On Time (hh:mm dd/mm/yyyy)

The date and time UPS will be turn on according to Weekly or Special Day Schedule.

USHA Up Time

This shows the total of time since USHA has been powered up.

UPS Identification

This page lets you get all the UPS information.

UPS Model

The UPS model name (e.g. 'Intelligent 8000E 900VA').

UPS Name

This is the name of the UPS configured by Administrator.

UPS Firmware Revision

The firmware revision of the UPS.

USHA Firmware Revision

The firmware revision of USHA.

UPS Manufacturer

The UPS manufacture name.

UPS Type

Type of UPS. This can be either On-line, Off-line, Line-Interactive, 3 Phase or Other.

Battery Parameters

This page will refresh automatically.

Battery Status

The status of the UPS batteries. Battery Status Included: "Unknown", "Battery OK", "Low battery", "Battery depleted", "Battery discharging" and "Battery failure".

Time since on Battery Power

The elapsed time in seconds since the UPS has switched to battery power.

Battery Capacity Remaining

The remaining battery capacity expressed in percent of full capacity.

Current Battery Voltage

The current battery voltage expressed in Volts.

Current Battery Voltage Per Cell

The current battery voltage of each cell expressed in Volts.

UPS Temperature

The current internal UPS temperature expressed in oC.

Battery Last Replaced Date

The date when the UPS system's batteries were replaced in dd/mm/yyyy format. When the UPS batteries are replaced, this value should be reset by the Administrator.

Input Parameters

The page will refresh automatically.

Current Utility Line Voltage

This shows the current input voltage in Volts.

Max. Utility Line Voltage Last 1 minute

This shows last 1 minute of the max. utility line voltage in Volts.

Input Frequency

This shows the current input frequency in Hertz at the time of recording.

Input Current

This shows the current input current in Amp at the time of recording.

Input Power

This shows the current input power in Watt at the time of recording.

Output Parameters

The page will refresh automatically.

Output Source

This field shows the status of the output source. Status included "Other", "None", "Normal",

"Bypass", "Battery", "Booster" and "Reducer".

Output Frequency

This shows the current UPS output current in Hz.

Output Voltage

This shows the current UPS output voltage in Volts.

Output Power

This shows the current output Power in Watts.

Output Power

This shows the current output Power in VA.

Output Current

This shows the current output Current in Amps.

Output Load

This shows the current load on the UPS in terms of percentage.

Alarm Table

This menu will refresh automatically.

Number of Active Alarms

Number of current active UPS alarms.

Last Alarm

Display last UPS alarm.

Alarm ID

Sequential number, it indicates the sequence of activation of alarms. This number will be reset after USHA reboot.

Alarm Time

UPS alarm activation time on USHA.

(Note: The date / time depends on the clock in USHA.)

Alarm Description

Complete UPS alarm description.

Client Table

This table lists the clients that have the Shutdown Program running and have registered with USHA. This page will refresh automatically. Whenever the UPS is about to go down, these clients will be notified so that they can perform a graceful shutdown of the system.

Connected Client Number

Total of client system that has the Shutdown Program running and has registered with USHA.

Index

Serialized index number of the client registered.

IP Address

IP address of the client running the Shutdown Program and registered with USHA.

Client Name

Computer names of the client running the Shutdown Program and registered with USHA.

Shutdown Delay

This is the delay time for "Shutdown Program" in client computer to start system shutdown.

Connected Time

The time that the client running the Shutdown Program has registered with USHA.

UPS Management

UPS Configuration

UPS Protocol
This let user to choice the UPS protocol by Auto detect or Manual setting.
*Only for some models

USHA Baud Rate
This let user to choice the USHA Baud Rate by Auto detect or Manual setting.
*Only for some models

Input Rating Voltage
This shows the nominal input voltage in Volts.

Input Frequency
This shows the nominal input frequency in Hertz.

Output Rating Voltage
This shows the nominal output voltage in Volts.

Output Frequency
This shows the nominal output frequency in Hertz.

Output VA
The maximum number of Volts multiply by Amps that the UPS can deliver.

Output Power
This shows the nominal output power in Watt.

Low Voltage Transfer Point
The minimum input line voltage allowed before the UPS system transfers to battery backup.

High Voltage Transfer Point
The maximum line voltage allowed before the UPS system transfers to battery backup.

Over Temperature Set Point
Set the upper limit of UPS temperature. When UPS temperature exceed this limit , USHA will take action that is specified in the UPS Shutdown menu. (10~100)

Temperature Hysteresis

The temperature value may drift when it approaches the upper or lower limit as set by the user. Without hysteresis, when the temperature fluctuates around the set limit, it may trigger the generation of multiple alarm notifications. The hysteresis setting defines the number of degrees the measured value must change before the alarm clears. For example, if the temperature upper limit is set to 60 degrees and the hysteresis is set at 2 degrees, then the alarm will trigger at 60 degrees, but will not clear until the temperature drops below 58 degrees. The default hysteresis setting is 0 degrees Celsius.(0~20)

Over Load Set Point

Set the upper limit of UPS output load. When UPS output load exceed this limit , USHA will take action that is specified in the UPS Shutdown menu. (0~150)

UPS Control

For more detail on the shutdown process, refer to the user manual.

UPS Shutdown Delay

The delay in seconds the UPS remains on after being told to sleep. The UPS shutdown delay time will be count-down synchronize to the shutdown delay time set in the Shutdown Program in all connected clients. To avoid improper shutdown of the clients, the UPS shutdown delay time set in USHA should always be greater than the shutdown delay time set in the Shutdown Program.

UPS Sleep Time

The time in minutes for the UPS to go to sleep when instructed. When in Sleep mode, the UPS will not provide output power regardless of the input line state. Once the specified time has elapsed, output power will be restored.

Turn Off UPS

Setting Turn off UPS causes the UPS to turn off after a delay of UPS Shutdown Delay time. The output power can be restored by the Turn on UPS/Cancel UPS Shutdown option.

UPS Sleep

Setting UPS Sleep causes the UPS to go to sleep for the time specified by UPS Sleep Time after the delay time as configured in UPS Shutdown Delay. When in sleep mode, the UPS will not provide output power. Once the specified time has elapsed, UPS will provide output power.

Turn On UPS/Cancel UPS Shutdown

Setting Turn On UPS/Cancel UPS Shutdown causes the UPS to cancel any on-going shutdown process. If the UPS has already shutdown, then it cancels the sleep command and brings back the output power.

UPS Battery Test

This page enables you to control battery status and run the battery test, if the features are available on the UPS.

Last Test Start Time

This shows the start time of the last battery test.

Last Test Elapsed Time

This shows the elapsed time of the last battery test.

Last Test Result

This shows the test result of the last battery test.

Battery Test Setting Time

This shows the total time for the battery test when Timed Test has been selected in the Battery Test Command menu.

Battery Test Command

None - No action
Quick Battery Test - Perform battery test for a short time
Test Until Battery Low - Perform battery test until battery low.
Timed Test - Perform the battery test for the period set in the Battery Test Setting Time menu.
Cancel Test - Cancel the battery test.
Clear Test Information - Clear the last battery test information recorded by USHA.

UPS Battery Test Schedule

Index

List number of battery test schedule.

Test Day

The execution day of the battery test of UPS is specified on a day of the week.

Special Day

The execution day of the battery test of UPS is specified on a special day.

Test Time

The execution time of the battery test of UPS which is specified in 24-hour form.

Test Actions

Specifies whether the battery test shall be perform or not on the date and time set in advance.

Available options are:

None - No action

Quick Battery Test - Performs battery test for a short time

Test Until Battery Low - Test until battery low

Timed Test - Test for the time specify in the Test Time column

UPS Shutdown

This page lets you modify the parameters associated with the shutdown events.

Refer to User Manual for details of the shutdown progress.

Shutdown Event

This column defines set of events to cause UPS Shutdown.

Shutdown Actions

Enabling this column specifies that the row entries are valid and the UPS should take proper action if that event occurs / happens. Available actions are:

Disabled - action is disabled.

Warning - warning message will be broadcast to the connected clients.

Client Shutdown - warning message will be broadcast and shutdown command will be sent to the connected clients.

UPS Turn Off - warning message will be broadcast, shutdown command will be sent to the connected clients and UPS will be turned off.

Warning Period

This column specifies time delay in minutes. After the occurrence of any enabled event, warning messages will be send persistent within this period. Shutdown request will send to clients after this period expired.

1st Warning

This column specifies the 1st warning time delay in seconds. After the occurrence of any Enabled Event, 1st warning call will be given after this delay.

Warning Interval

This column specifies the repeated warnings time delay in seconds. After the 1st warning call, successive warning calls will be given after this delay time. This will continue until the completion of the total delay time (mentioned in 3rd column). Minim

Discontinue shutdown if AC restored.

After AC failed and USHA had broadcast shutdown request to clients, The UPS will not be turn off if AC restored and this option had selected. If this option isn't selected, the UPS will be turn off by USHA even AC restored.

Different Events

A/C Fail
Shutdown will occur when the AC input fails.

Battery Low
Shutdown will occur for the battery low condition.

UPS Overload
Shutdown occurs if the output of the UPS is overload. Please check the configuration in UPS Shutdown menu for UPS Overload.

UPS Over Temperature
Shutdown occurs if the internal temperature of the UPS is over the pre-set value. Please check the configuration in UPS Shutdown menu for UPS Over Temperature.

Weekly Schedule
This Shutdown occurs as per the timings given in the Weekly Schedule shutdown table.

Special Day
This Shutdown occurs as per the Day & Time mentioned in the Special Day shutdown table.

EMD Temperature over Threshold
Shutdown occurs when EMD temperature sensor detects over high temperature.

EMD Alarm-1
Shutdown occurs when alarm-1 sensor detects an active alarm.

EMD Alarm-2
Shutdown occurs when alarm-2 sensor detects an active alarm.

Weekly Schedule

This page lets you modify the parameters of the shutdown / restart events associated with the days of the week. Please make sure the Weekly Schedule option is enable in the UPS Shutdown menu.

Index

This column provides a reference number for the shutdown/restart event pair being configured.

Shutdown Day or Restart Day

These columns specify the day of the week when the UPS needs to be Shutdown or Restarted. They are usually configured in pairs.

Shutdown Time or Restart Time

The time in 24-hour format when the UPS should turn off (shutdown) output or turn on (restart) its output power.

Special Schedule

This page shows the special day schedule for the UPS. From this page, the UPS can be scheduled to shutdown and restart on a specific day and time.

Index

This column provides a reference number for the shutdown / restart event pair being configured.

Shutdown Date

The date on which the UPS should disable output power.

Shutdown Time

The time in 24-hour format on which the UPS should disable output power.

Restart Date

The date on which the UPS should enable output power.

Restart Time

The time in 24-hour format on which the UPS should enable output power again.

USHA Management

Date and Time

This page provides the appropriate options below to enable the USHA date/time to be changed.

USHA System Date/Time

Show the current Date and Time of the USHA. This can be changed to synchronize with a computer, an enquiry from a time server (NTP) or manually.

Synchronize with computer time

Select this option and click 'Set Value' to synchronize with the time from the computer clock.

Synchronize with NTP server

You must configure the NTP server IP and select the correct timezone to activate this option. After being configured to synchronize with NTP, the USHA will synchronize its time with the server periodically. If Daylight Saving Time enabled, the time will be one hour earlier than NTP server time.

Set Manually

User can set the date and time with the following format: dd-mm-yyyy and hh:mm:ss.

USHA Configuration

This page lets the Administrator set the local network configuration parameters in USHA.

Upload Configurations

Upload configurations file to USHA.

Upload CA file

Upload CA file to USHA.

Download Configurations

Download configurations file from USHA.

Download Root Certificate

Download Root certificate from USHA

BootP / DHCP

This is the parameter enabling or disabling the Boot Protocol (BootP) / Dynamic Host Configuration Protocol (DHCP) process. These protocols are used to obtain a dynamic IP address from a BootP / DHCP server.

USHA IP Address

The IP address of USHA in dotted format (eg. 192.9.60.229).

IPv6 Address

The IPv6 global address of USHA (eg. 2001:B181:2::2E0:D8FF:FEFF:8A59).

USHA Gateway Address

The IP address of the gateway in dotted format (eg. 192.9.60.10).

USHA Subnet Mask

The subnet mask of USHA (eg. 255.255.255.0).

DNS Address

As Administrator, you are required to enter the IPv4 or IPv6 address of your network DNS server if you entered a Hostname for the Mail Server.

System Name

The value set in "System name (System Name)" defined in MIB-II.

System Contact

The value set in "System manager (System Contact)" defined in MIB-II.

System Location

The value set in "System installation place (System Location)" defined in MIB-II.

History Log Interval

This value is the time in seconds to poll Input voltage, Output Voltage, Output Load, Battery Capacity, Input Frequency and UPS Temperature and save in the history log. Minimum value is 1 seconds.

Extended Log Interval

This field specifies the consolidation interval, in minutes, to create an extended history log. The UPS parameters will be consolidated and minimum, maximum and average values of the parameters will be recorded in extend history log.

USHA Polling Rate

The time interval that USHA update parameters from UPS.

Temperature Unit

User can choose temperature to show the unit as Fahrenheit or Celsius in this settlement, the default value is Celsius.

SNMP Read Community

The Read Only password when user access USHA via SNMP.

SNMP Write Community

The Write password when user access USHA via SNMP.

Web Timeout Interval

This field specifies the time interval, in seconds, to logout the user if the user has no action on the web page.

USHA IPv6 Configuration

To enable or disable IPv6 address auto-configuration of system. If enabled, system will first look for "Router Advertisement" message to do stateless autoconfiguration. If there's no "Router Advertisement" message on the same link or the same subnet, then system will do the stateful auto-configuration via DHCPv6.

USHA IPv6 Local Address

The IPv6 link-local address of system (eg. FE80::2E0:D8FF:FEFF:8A59). The prefix of link-local address is always "FE80::/64". 64 is the prefix length. The link-local address is always configured by stateless auto-configuration process, and is always used in the same link or subnet.

USHA IPv6 Global Address

The IPv6 global address of system (eg. 2001:B181:2::2E0:D8FF:FEFF:8A59).

USHA IPv6 Router

The IPv6 address of system default router.

USHA Control

This page lets the Administrator enable or disable the communication protocols available in the USHA, or alternatively configure the communication protocol with a different port number.

BootP / DHCP Status

This is the parameter enabling or disabling the Boot Protocol (BootP) / Dynamic Host Configuration Protocol (DHCP) process. These protocols are used to obtain a dynamic IP address from a BootP / DHCP server.

PING Echo

Enable/Disable the USHA to respond to Ping requests.

Network Upgrade

This is the parameter enabling or disabling the Trivial File Transfer Protocol (TFTP) upgrade control. You can use the provided upgrade utility on Windows via TFTP to upgrade the USHA firmware.

Force Security HTTP

This allow administrator to Enable or Disable force login by HTTPs.

HTTP Port

Enable/Disable the HTTP connection with the USHA. The user may configure HTTP protocol to use a port number other than standard HTTP port (80).

HTTP Security Control

If this setting was enabled, user has to enter user name and password when he/she access to USHA.

SSH Connection

Enable/Disable the SSH connection with the USHA. The user may configure SSH protocol to use a port number other than standard SSH port (22).

SNMP Support

Enable/Disable the SNMP connection with the USHA. The user may configure the SNMP protocol to use a port number other than the standard SNMP port (161).

SMTP Support

Enable/Disable the SMTP connection with the USHA. The user may configure the SMTP protocol to use a port number other than the standard SMTP port (25).

UPnP Support

Enable/Disable the Universal Plug and Play (UPnP) feature with the USHA.

Wireless Control

Enable/Disable the Wireless connection with the USHA.

USHA Upgrade

This page lets the Administrator enable uploading firmware.

Upload Status

This field shows the status of the upload process.

Authentication Configuration

This page description of Authentication Configuration setting

UDP Port

It shows the UDP port.

Primary Server

User can set the Primary Server's IP address.

Secondary Server

User can set the Secondary Server's IP address.

Share Secret of Primary Server

User can set the Share Secret of Primary Server.

Share Secret of Secondary Server

User can set the Share Secret of Secondary Server.

Packet Timeout Interval (sec)

User can set the Packet Timeout Interval.

Packet Retry Times

User can set the Packet Retry Times.

Multi-User Table

This page displays a list of the NMS stations enabled for read / write access to USHA.

Index

The index number of the entry in the table.

User Name

The user name of the associated IP address with the access type set by Administrator.

Password

The passwor of the associated IP address with the access type set by Administrator.

Access Type

Available options are: Not Access, Read, and Read / Write. Please refer to user manual for more detail.

SNMPv3 USM Table

This pages contains the related setting for configuring SNMPv3 protocol. .

Index

This field shows the index numbers of the table entries.

User Name

This field allows the administrator to set the specific user name for the user that allows to access the USHA via SNMPv3.

Auth-Protocol Password

This field allows the administrator to set the authentication password of the associated user.

Auth-Protocol

This field allows the administrator to set the authentication protocol, HMAC-MD5 or HMAC-SHA.

Priv-Protocol Password

This field allows the administrator to set the privacy password of the associated user.

Priv-Protocol

This field allows the administrator to set the privacy protocol, DES or AES.

Security Level

This field allows the administrator to set the access type for the user.
The available options are:

noAuthNoPriv - with no authentication and no privacy passwords
authNoPriv - with authentication password but no privacy password
authPriv - with no authentication password but with privacy password

SNMP Trap Receivers

This page lists the parameters for SNMP trap receivers (For SNMP Network Management).

Index

The index number of the entry in the table.

NMS IP Address

The IP Address in dotted format of the NMS station to which the trap should be sent.

Community String

The community string of the trap PDU to be sent. The maximum length of the string is 19 characters.

Trap Type

Types of the traps to be received. Set the type of the trap.

none : Traps are not be received.
RFC-1628 Trap : Traps are received base on RFC-1628.
USHA Trap: Traps are received base on USHA MIB.

Trap Version

This allow administrator to select the SNMP trap version.

Event Filter

This allow administrator to select the way to filter the trap by Severity or by Event.

Severity

This allow administrator to select the event level if the Event Filter is by Severity.

Set the level of the trap to be received.
Information: All traps are received
Warning: Trap that need to be noticed and are in dangerous is received.
Severe : The significant traps such as the UPS failure and low-battery which cause the immediate halt the output of the UPS are received.

If the Event Filter is by Event, administrator can select which trap should be sent by each receiver.

Description

Customer description string.

WakeOnLAN Targets

"WOL" function could start up client PC from network by MAC address. From this page, we can set 32 MAC Address of clients. When the clients shutdown cause of UPS shutdown events, after shutdown events returned to normal, WOL packet will send to client to start up PC.

Repeating Times

The repeat times of sending WOL packet to client. The range of repeating time is 1~99.

Interval Timer

The time interval is during two actions of sending WOL packet to client. The value is time in seconds. The range of time interval is 1~999.

Test

If this option is selected, the WOL packet will send to client to start up PC after press "Wake On LAN test" button.

Index

The index is the number of the entry in the table.

MAC Address

Display client MAC Address.

Control

Enable or Disable WOL function.

Description

User sets description. The maximum length of the string is 31 characters.

Wake On LAN test

Send the packet to turn on the client PC.

Unix/Linux Shutdown

This page allows user to set UNIX / Linux remote shutdown function, and user will be able to shutdown the computer without using the shutdown software. You can specify a maximum of 12 entries for UNIX / Linux remote shutdown.

Index

This field shows the index numbers of the table entries.

IP address

Please enter the IP address of the device you want to shutdown.

Packet Type

This field allows the administrator to set the authentication password of the associated user.

Login user name

Please enter the ID to log in to the computer.

Super user name

Please enter the ID to login to the computer.

When the "Login user name" is logged in the general user, please enter the administrator privileges to "Super user name".

Retry times

If the process execution has failed to target computer, user can specify the maximum number of times to retry.

Timeout (sec)

If there is no set time response, do the type-out process.

Waiting time before executing (sec)

It is a time to temporarily wait for script execution.

Script number

Please select the script number that you set in the script settings page.

Script content

This field allows the administrator to key in the script content.

Administrator can select Show or Hide the script content.

Test result

To display the result of Unix/Linux Shutdown Test.

Email Notification

This page description of UPS email notification setting

Mail Server

As Administrator, you may enter the IP Address or Hostname of a SMTP mail server that will be used to send email messages from the SNMP/WEB Adapter. If entering a Hostname, you are also required to enter the DNS Address. If entering an IP Address, the DNS Address field will automatically be populated with the IP Address you entered.

User Account

As Administrator, you may enter the User Account of the mail server that will be used by the SNMP/WEB Adaptor to login mail server to forward mails.

User Password

As Administrator, you may enter the User Password of User Account.

Sender's Email Address

This field specify the content of the 'From' field of the Email. If this field left blank, the sender's address will be account@ip_address.

Mail Subject Prefix

The string prefix in the mail subject to identify the device which send out the mail.

DNS Address

As Administrator, you are required to enter the IP address of your network DNS server if you entered a Hostname for the Mail Server. Otherwise, this field will contain 0.0.0.0.

Mail Daily Status Report At (hh:mm)

If you intend to have the SNMP/WEB Adapter send a Daily Status report to select email address (Mail Accounts), you need to enter the time of day in 24-hour format at which time you want the email sent.

Mail support TLS

Enabled/Disabled email support TLS.

Mail Account

As Administrator, you may enter the email address of the individual you wish to have the SNMP/WEB Adapter send mail to.

Description

As Administrator, you may enter a description for reference purposes for each of the Mail Account you configure.

Mail Type

As Administrator, you are allowed to select what type of email is sent to a specific Mail Account. The choices are None, Events, Daily Status, or Event/Status.

> The default of None allows you to disable the sending of email to a specific recipient.
> Selecting Events specifies that the recipient should only receive short event-related messages.
> Selecting Daily Status specifies that the recipient should only receive the Daily Status message that contains three file attachments containing information logged by the SNMP/WEB Adapter. One attachment contains the History Log contents (Logged UPS data) and the other two contains the Event Log contents, UPS Event & Agent Event (in .csv format suitable for viewing in Microsoft Excel).

Selecting Events/Status specifies that the recipient should receive an email message containing the event-related notification and the two file attachments (as described above), each time an event notification is sent.

Event Filter

This allow administrator to select the way to filter the email by Severity or by Event.

Event Level

This allow administrator to select the event level if the Event Filter is by Severity.

> **Event Level**
>
> As Administrator, you are allowed to select the severity level of notification you wish to send to each Mail Account configured to be sent Mail Type: Events or Events/Status. This filter is based on the SNMP-based traps (events) and allows selection of Informational, Warning or Severe. Refer to the MIB documentation included with the adapter for more information.

If the Event Filter is by Event, administrator can select which trap should be sent by each receiver.

PPPoE Setup

This page lets the Administrator to set PPPoE configuration in the USHA.

IP Address

This field allows to set the IP address of USHA when user dialing into USHA using a modem.

User Name

This field allows the administrator to set the specific user name for the user that allows to access the USHA via PPPoE.

Password

This field allows the administrator to set the authentication password of the associated user.

PPPoE Router Control

This field allows the administrator use router to authenticate the PPPoE connection.

Syslog Setup

This pages contains the related setting for configuring Syslog protocol.

Server Control

Enable/Disable Syslog server.

Server IP

Entry IP address of Syslog server.

Server Port

Define server port of Syslog server.

DDNS Setup

This page lets the Administrator to set DDNS configuration in the USHA.

DNS Status

This field displays the status of DDNS.

DNS Enabled

Enable or disable the DDNS function of USHA.

DNS ISP Setup

USHA can register any of the DDNS providers.

User Name

The account that has created with the selected DDNS provider.

Password

The password that collocate to your DDNS account

DDNS Domain Name

The Domain Name has created from the selected DDNS provider.

SMS Configuration

This page lets the Administrator to configure the settings of SMS (Short Message Service) function in the USHA .

SMS Status

This shows the status of SMS device.

Pin Code

USHA sends in an SMS message with a pin code.

SMS Phone Number Table

Enable/Disable the assigned phone number during sending a SMS message.

Firewall Configuration

This page allows the administrator to set Accessible IP list

Index

This field shows the index numbers of the table entries.

Address

This field allows the administrator to set the IPv4/IPv6 address and only accept "dotted decimal notation" format (i.e., 192.168.60.229) or "hexadecimal" format (i.e., 2001:1234:100:f101:2e0:d8ff:feff:b522).

Prefix Length

This field allows the administrator to set the Prefix Length and only accept an integer between 0-32 (IPv4) or 0-128 (IPv6).

Action

Accept, this IP or IP segment could be accessed USHA.
Reject, this IP or IP segment could not be accessed USHA.

Modbus TCP Configuration

This page lets the administrator to set Modbus configuration in the USHA.

Modbus TCP Configuration

This is the parameter enabling or disabling the Modbus TCP protocol.

Modbus Port

This field allows the administrator to set the specific port for the user that allows accessing the USHA via Modbus protocol.

Modbus RTU Configuration

This field let user enabling or disabling the Modbus RTU function.

Slave Address

Setting the Modbus slave address.

Slave ID

Setting the Modbus slave ID.

Baud Rate

Setting the communication baud rate.

BACNET Configuration

This page lets the administrator to set BACNET configuration in the USHA.

BACNET Control

This is the parameter enabling or disabling the BACNET protocol.

BACNET ID

This field allows the administrator to set the specific ID for the user that allows to access the USHA via BACNET protocol.

Neighbor Configuration

This page lets the administrator to set Neighbor Discovery Protocol (NDP) configuration in the USHA.

Master or Slave

To set the USHA to be master or slave device.

Slave Address

This field will display the IP address of the device.

Alarm Number

Number of current active UPS alarms.

Alarm Description

This field will display the complete UPS alarm description.

Remove

This field allows user to remove the device.

EMD Configuration

This page allows user to configure all necessary parameters of an EMD.

Sensor Name

Configure the name of a sensor (or device) with up to 15 characters.

Set Point

The threshold of a sensor (Temperature or Humidity) will trigger an alarm, whenever the measurement is over (high) or under (low) the set point. If the checkbox is not filled, the

threshold is disabled and the alarm will not be triggered. The valid range for the Temperature threshold setting is 5 to 65, and 5 to 95 for Humidity.

Calibration Offset

If the measurement value of a sensor doesn't, for whatever reason, comply with the actual environment, the 'Calibration Offset' setting can be configured to adjust the final value of the sensor. For example, if a sensor reports 43% humidity for a 45% humidity environment, the user can configure the humidity offset as 2% so the sensor can then adjust its final value to 45%.

Alarm Type

If an alarm sensor (water leak, security, etc) is connected to the USHA, the user can configure the alarm as 'Disabled', 'Normal Open', or 'Normal Close'. A 'Disabled' setting will mean the alarm is inactive.
'Normal Open' and 'Normal Close' are used for a two-wire detector that will emulate an open/close state. When the wires are closed to 'loopback' (the signal for the sensor), the sensor will detect the state as closed. The sensor will NOT activate the alarm for 'Normal Close' in this case, although the alarm will be activated if configured as 'Normal Open'.

EMD Status

The EMD can be configured as 'Disabled' or 'Auto'. The setup should be configured as 'Disabled' if an EMD is not attached to the port. The EMD type will be auto detected by the USHA if configured as 'Auto' and if the EMD is plugged into the port.

Wireless Configuration

Wireless Configuration display the wireless status and allow administrator to configure the basic settings for your wireless network.

Wireless Status

Wireless Control
This field display the wireless function was enabled or disabled.

Connection Status
This field display the wireless connection status.

BSSID
The MAC address of wireless device.

IP Address
The IP address which assigned by wireless device.

Subnet Mask

The Subnet Mask which assigned by wireless device.

Gateway Address

The Gateway Address which assigned by wireless device.

MAC Address

The MAC Address of your wireless dongle.

Wireless Table

This table allow administrator to link to the wireless device by manual setting.

SSID

The name of the wireless device.

Encryption

To select the wireless encryption.

Security

To select the wireless security.

Password

To enter wireless password.

Channel

The operating frequency to be used.

Signal Strength

The signal strength of wireless device.

External Links Setup

This page describes the setting of External Links. Up to four links can be setup by this page, each link can configure to an external web page that user can easily connect to related web pages. Such as another UPS with USHA Card, or Technical Support homepage.

Screen Text

This is the description of link name which will display on the menu tree for user's reference.

Link Address

This field defines the real name of web page to be connected, in URL format.

Status

This field controls the visibility of this link on menu tree. Setting "Disable" will make this link invisible from menu tree.

IoT Server Setup

This page lets the Administrator to set IoT Server Setup in the USHA.

Server Control

This field allows to Enabled or Disabled USHA connecting to IoT server.

Server IP

This field allows to set the IP address of USHA which administrator wants to connect to IoT server.

Server Port

This field allows to set the connected port of the associated IoT server.

GUID

This field allows the administrator to set the GUID of the associated IoT server.

Password

This field allows the administrator to set the authentication password of the associated IoT server.

UPS History

UPS History Log

This page gives a snap-shot of all the fundamental UPS parameters.
Consolidation interval can be changed by the Administrator by modifying the variable "History Log Interval" in "USHA Configuration" page.
The existing values are overwritten when the maximum number of entries (rows) has been reached. You can clear the log data in "Clear & Save Log Data" menu.

Log Date

This column show the date on which the recording was made.

Log Time

This gives the time in a 24-hour format when the values were recorded.

Input Voltage

This shows the input voltage in Volts at the time of recording.

Output Voltage

This shows the output voltage in Volts at the time of recording.

Output Current

This shows the output current in Amps at the time of recording.

Output Power

This shows the output power in KW at the time of recording.

Input Frequency

This shows the input frequency in Hertz at the time of recording.

Output Load

This show the load on the UPS in terms of percentage at the time of recording.

Battery Capacity

The remaining battery capacity expressed in percent of full capacity.

UPS Temperature

This shows the temperature of the UPS battery in ^{o}C at the time of recording.

EMD Temperature

This shows the current temperature measurement of the EMD.

EMD Humidity

This shows the current humidity measurement of the EMD.

UPS Extended Log

This page gives a consolidated view of the UPS parameters taken over a period of time.

For each of the UPS parameters, minimum, maximum and the average values is shown in each of the records.

Consolidation interval can be changed by the Administrator by modifying the variable "Extended Log Interval" in "USHA Configuration" page.

The existing values are overwritten when the maximum numbers of entries are reached. You can clear the log data in "Clear & Save Log Data" menu.

Start Date

This column shows the date when consolidation of the record started.

Start Time

This gives the time in a 24-hour format when the values were recorded.

End Date

This column shows the ending date of the consolidation interval for the record.

End Time

This column shows the ending time of the consolidation interval for the record.

Input Voltage

This column shows the minimum, maximum and the average values of the input voltage in the consolidated interval.

Input Frequency

This column shows the minimum, maximum and the average values of the input frequency (in Hertz), in the consolidated interval.

Output Voltage

This column shows the minimum, maximum and the average values of the output voltage in the consolidated interval.

Output Current

This column shows the minimum, maximum and the average values of the output current in the

consolidated interval.

Output Load

This column shows the minimum, maximum and the average values of the output load in the consolidated interval.

Output Power

This column shows the minimum, maximum and the average values of the output power in the consolidated interval.

Battery Capacity

This column shows the minimum, maximum and the average values of the battery capacity remaining (in percentage) in the consolidated interval.

UPS Temperature

This column shows the minimum, maximum and the average temperature of the UPS battery (in ^{o}C) in the consolidated interval.

EMD Temperature

This shows the current temperature measurement of the EMD.

EMD Humidity

This shows the current humidity measurement of the EMD.

UPS Events Log

This table lists all the events that have occurred since the table was cleared. The existing values are overwritten when the maximum number of entries (rows) has been reached. You can clear the log data in "Clear & Save Log Data" webpage.

Date

The date (in dd/mm/yyyy format) when the event occurred.

Time

The time in 24-hour format when the event occurred.

Event Description

The description of the event which occurred at the recorded time.

USHA Events Log

This table lists all the events that have occurred since the table was cleared. The existing values are overwritten when the maximum number of entries (rows) has been reached. You can clear the log data in "Clear & Save Log Data" webpage.

Event Time(dd/mm/yyyy hh:mm:ss)

Sorting by the date and time (in dd/mm/yyyy format) by the event.

Event Level

Sorting by event level.

Event Description

The description of the event which occurred at the recorded time.

Clear & Save Log Data

Save the corresponding log data as you click the hyper-link below

Administrator can save the various USHA log data to a file with the extension .csv that can be opened and read in MS Excel.

Save all logs to USB Flash

This function allow administrator to save all logs to USB flash.

USB Flash Status

This column display the USB flash is existent or not, and the rest space of USB flash.

Action

    Check USB Flash

    After insert USB flash, if the system didn't detect it, please click this button to detect USB flash.

    Detach USB Flash

    If you want to remove USB flash, please click this button first.

    Save to USB Flash

    If you want to save all logs to USB flash, please click this button.

Clear Log Data

Administrator can clear the specific log data by putting a check mark beside it and click the Clear button.

Chapter 4 Configuring the USHA via SSH

There are different ways to connect the USHA card by different models showed as below.

Configuring via SSH

1. SSH to the USHA from your workstation. When the below messages display on the screen, please enter the user name and password (the default username is **SNMP** and the password is *admin*). Then the USHA configuration utility main menu will show on the screen.

   Login as : SNMP

   usha@192.168.53.23's password: *********

2. Select "1" to enter the SNMP/WEB Card Settings page.

   ```
   ============================================================
                        USHA Configuration Utility
                        [USHA New USHA v0.90 b1]

   ============================================================
   ```

   1. SNMP/WEB Card Settings

   2. Reset Configuration to Default

   3. Restart SNMP/WEB Card

   0. Exit

   Please Enter Your Choice => 1

Setting the IP Address, Gateway Address, Network Mask and Date/Time

From the configuration menu, press "1" to select this function and set the IP address, Gateway address and other group parameters. The definitions of these parameters are listed as below.

1. Select "1" to enter the I**P, Time and System Group** page.

```
=============================================================
                    USHA Configuration Utility
                    UPS Model :    0va

=============================================================

1. IP, Time and System Group

2. Network Control Group

3. Account Control Group

4. Email Group

5. SNMP Group

0. Back to Main Menu


Please Enter Your Choice => 1
```

2. Select "1" to enter the **IPv4 Group** page or "2" to enter the **IPv6 Group** page depends on network condition.

```
=============================================================
                    USHA Configuration Utility
                    [IP, Time and System Group]

=============================================================

    SNMP/WEB Card Version :                 New USHA v0.90 b1

    Ethernet Address :                      00:E0:D8:FF:B4:41

1. IPv4 Group

2. IPv6 Group

3. Date and Time Group

4. System Contact :                         0

5. System Name    :                         USHA

6. System Location :

0. Return to previous menu


Please Enter Your Choice => 1
```

3. Enter the related IPv4 or IPv6 setting as shown below.

```
==========================================================
                  IP, Time and System Group
                        [IPv4 Group]

==========================================================
  1. IP Address    :                              10.1.6.118

  2. Gateway Address :                            10.1.1.254

  3. Network Subnet   :                           255.255.0.0

  0. Return to previous menu


Please Enter Your Choice => 0
```

or

```
==========================================================
                  IP, Time and System Group
                        [IPv6 Group]

==========================================================
  1. IP v6 Address :          2001:1234:100:f101:2e0:d8ff:feff:b406/64

  0. Return to previous menu


Please Enter Your Choice => 0
```

4. Select "3" to enter the **Date and Time Group** pages

```
==========================================================
                  IP, Time and System Group
                    [Date and Time Group]

==========================================================
  1. System Date (dd/mm/yyyy) :                   22/12/2012

  2. System Time (hh:mm:ss) :                      15:03:15

  3. NTP Control    :                              Disabled

  4. NTP Server    :

  5. NTP Time Zone     :                           62

  6. Daylight Saving Time Control : Disabled

  0. Return to previous menu


Please Enter Your Choice => 0
```

After completing these settings, press "0" to return to the configuration menu.

Network Control Group Setting

Go to the configuration menu, press "2" to enabled/disabled the network protocols.

```
============================================================
                    USHA Configuration Utility
                      UPS Model :   0va

============================================================
1. IP, Time and System Group

2. Network Control Group

3. Account Control Group

4. Email Group

5. SNMP Group

0. Back to Main Menu


Please Enter Your Choice => 2
```

1. Select "6~8" to enter the related network control pages.

```
============================================================
                    USHA Configuration Utility
                  [USHA Network Control Group]

============================================================
1. BOOTP/DHCP Control :                          Disabled

2. Upgrade Control :                             Enabled

3. Ping Echo Control :                           Enabled

4. UPnP Control    :                             Enabled

5. Http Security :                               Disabled

6. SNMP Control Group

7. SMTP Control Group

8. SSH Control Group


0. Return to previous menu


Please Enter Your Choice => 6
```

2. Enter the related SNMP setting as shown below.

```
============================================================
                    Network Control Group
                   [SNMP Control Group]

============================================================
1. SNMP Control :                              Enabled
2. SNMP Port :                                 161
0. Return to previous menu


Please Enter Your Choice => 0
```

3. Enter the related SMTP setting as shown below.

```
============================================================
                    Network Control Group
                   [SMTP Control Group]

============================================================
1. SMTP Control :                              Enabled
2. SMTP Port :                                 25
0. Return to previous menu


Please Enter Your Choice => 0
```

4. Enter the related SSH setting as shown below.

```
============================================================
                    Network Control Group
                    [SSH Control Group]

============================================================
1. SSH Control :                               Enabled
2. SSH Port :                                  22
0. Return to previous menu


Please Enter Your Choice => 0
```

After completing these settings, press "0" to return to the configuration menu.

Account Control Group Setting

Go to the configuration menu, and choose "3" to modify the related account control identification information.

```
============================================================
                    USHA Configuration Utility
                      UPS Model :    ova

============================================================
  1. IP, Time and System Group

  2. Network Control Group

  3. Account Control Group

  4. Email Group

  5. SNMP Group

  0. Back to Main Menu


Please Enter Your Choice => 3

```

1. Select "1~3" to enter the related account control pages.

```
============================================================
                    USHA Configuration Utility
                      [Account Control Group]

============================================================
  1. RADIUS Group

  2. Access Control Table

  3. Super User Group

  0. Return to previous menu


Please Enter Your Choice => 1

```

2. Enter the related RADIUS setting as shown below.

```
============================================================
                    Account Control Group
                      [RADIUS Group]

============================================================
  1. RADIUS Port :                                      1812
  2. RADIUS Server Settings
  3. Packet Timeout :                                    1
  4. Packet Retry :                                      3
  0. Return to previous menu


Please Enter Your Choice => 0
```

3. Enter the related access control setting as shown below.

```
============================================================
                    Account Control Group
                  [Access Control Table]
============================================================
          User Name                        User Level
  ----------------------------------------------------------
[1]                                         Disabled
[2]                                         Disabled
[3]                                         Disabled
[4]                                         Disabled
[5]                                         Disabled
[6]                                         Disabled
[7]                                         Disabled
[8]                                         Disabled


Command :
  1. Display one entry
  2. Modify one entry
  0. Return to previous menu


Please Enter Your Choice => 0
```

4. Enter the related super user setting as shown below.

```
============================================================
               Super User Name & Password Group
                      [Super User Group]

============================================================
1. User Name :                                        SNMP

2. User Password :                                       *

0. Return to previous menu


Please Enter Your Choice => 0
```

After completing these settings, press "0" to return to the configuration menu.

Email Group Setting

Go to the configuration menu, and press "4" to modify the Email configuration.

```
===========================================================
                     USHA Configuration Utility
                     UPS Model :   0va

===========================================================
  1. IP, Time and System Group

  2. Network Control Group

  3. Account Control Group

  4. Email Group

  5. SNMP Group

  0. Back to Main Menu


Please Enter Your Choice => 4
```

1.   Enter the related E-mail setting as shown below.

```
===========================================================
                     USHA Configuration Utility
                           [Email Group]

===========================================================
  1. Mail Server :

  2. User Account    :

  3. User Password :                                         *

  4. Sender Email Address :

  5. Mail Subject Prefix :

  6. Mail Daily Status Report At(hh:mm) :

  7. Mail Receiver Table

  0. Return to previous menu


Please Enter Your Choice => 7
```

2. Enter the related mail receiver setting as shown below.

```
============================================================
                        Email Group
                   [Mail Receiver Table]

============================================================
        Mail Account        Description    Mail Type     Event Level

        -----------------------------------------------------------------------

[1]                                         None          Information
[2]                                         None          Information
[3]                                         None          Information
[4]                                         None          Information
[5]                                         None          Information
[6]                                         None          Information
[7]                                         None          Information
[8]                                         None          Information


Command :

   1. Display one entry

   2. Modify one entry

   0. Return to previous menu


Please Enter Your Choice => 0
```

After completing these settings, press "0" to return to the configuration menu.

SNMP Group Setting

Go to the main configuration menu, and press "5" for the SNMP Group.

```
===========================================================
                    USHA Configuration Utility
                       UPS Model :    0va
===========================================================
   1. IP, Time and System Group

   2. Network Control Group

   3. Account Control Group

   4. Email Group

   5. SNMP Group

   0. Back to Main Menu


Please Enter Your Choice => 5
```

If you want to use a PC and perform the SNMP manager 'trap' function in order to manage UPS through USHA, the IP address of the PC must be added to the USHA list.

❋   **Note: The Set Trap Receivers configuration is used only for SNMP Network Manager.**

```
===========================================================
                    USHA Configuration Utility
                          [SNMP Group]
===========================================================
   1. Trap Receiver Table

   2. SNMPv3 USM Table

   0. Return to previous menu


Please Enter Your Choice => 1
```

1. Enter the related Trap receiver setting as shown below.

```
============================================================
                        SNMP Group
                   [Trap Receiver Table]

============================================================
IP Address      Community/Name       Trap Type      Severity        Description

------------------------------------------------------------------------------------------------
      [1]                            None        Information
      [2]                            None        Information
      [3]                            None        Information
      [4]                            None        Information
      [5]                            None        Information
      [6]                            None        Information
      [7]                            None        Information
      [8]                            None        Information


Command :

1. Display one entry

2. Modify one entry

0. Return to previous menu


    Please Enter Your Choice => 0
```

2. Enter the related SNMPv3 USM setting as shown below. If you want to use a workstation with SNMP Manager or set up more restrictive access, you can add the IP address of the clients on the access control table for the access permissions.

```
============================================================
                        SNMP Group
                   [SNMPv3 USM Table]

============================================================
 User Name      Auth Password      Auth.      Priv Password      Privacy        Security

------------------------------------------------------------------------------------------------
[1]                                 MD5                          DES        noAuthNoPriv
[2]                                 MD6                          DES        noAuthNoPriv
[3]                                 MD7                          DES        noAuthNoPriv
[4]                                 MD8                          DES        noAuthNoPriv
[5]                                 MD9                          DES        noAuthNoPriv
[6]                                 MD10                         DES        noAuthNoPriv
[7]                                 MD11                         DES        noAuthNoPriv
[8]                                 MD12                         DES        noAuthNoPriv
```

```
                                                    DES        noAuthNoPriv
Command :
    1. Display one entry
    2. Modify one entry
    0. Return to previous menu


Please Enter Your Choice => 0
```

After completing these settings, press "0" to return to the configuration menu.

Back to Main Menu

Press "0" to return to the main menu.

End of USHA Console Configuration

After completing the configuration, press "0" to end the console connection. Reboot USHA is not necessary, unless you press "3" to end the console connection and force USHA reboot again.

```
============================================================
                    USHA Configuration Utility
                    [USHA New USHA v0.90 b1]

============================================================
1. SNMP/WEB Card Settings
2. Reset Configuration to Default
3. Restart SNMP/WEB Card
0. Exit


Please Enter Your Choice => 1
```

As so far, USHA initialisation is completed.

❋   **Note: If you want USHA to load the factory configuration default, you may press "2" to Reset Configuration to Default.**

Chapter 5 Managing USHA/UPS via SNMP

Setting SNMP parameters in USHA

If you intend to manage your USHA/UPS via SNMP NMS (Network Management station), you may want to customize some of the SNMP settings (such as System Name, System Contact and System Location and so on).

Before using USHA in SNMP environment, the IP address and gateway must be properly configured. Please refer to Chapter 2 for the details.

SNMP Access Control Setting

Because of the USHA supports SNMP network protocol, you can use SNMP NMS to manage UPS through the network. The IP address of the workstation must be set up in the USHA write access table to prevent unauthorized users from configuring USHA via HTTP or SNMP protocols.

> ✳ **Note: If you do not enter the IP address of the workstation to the Access Control Table (via Serial Port or Telnet) or the SNMP/HTTP Access Control (via Web Browser) in USHA, the SNMP NMS can only view the UPS status; it will not be able to perform any configuration on USHA/UPS. (See Pg. 14 SNMP Control Table and Pg. 22 SNMPv3 USM Table for details.)**

SNMP Trap Receivers Setting

See Pg. 21 SNMP Trap Receivers for details.

Set up SNMP Manager Software

1. Add the MIB file of USHA from the USHA CD-ROM to the MIB database of the SNMP manager.
2. Search the USHA equipment in the network
3. To access the USHA SNMP agent, use 'public' for the GET community string and the Read/Write password (default is **admin**) for the SET community string.

   GET Community string: public
   SET Community string: admin

   For more information, see the MIB file on the USHA CD-ROM.

Chapter 6 UPS Power Management

One of the most significant features of the USHA is dealing with almost all the power crisis confront to a UPS and protect your valuable information reside in your server from being damage due to the abrupt shutdown of the server. In addition, USHA can help corporate to cut down the expensive energy bill by shutdown all the computer workstations in the office automatically during holiday or after office-hour by using the Weekly Shutdown schedule or Special Day schedule. These schedules can also assist MIS staff to prevent unauthorised access to the server after office-hour time.

Turn off UPS Manually

When there is a need to turn off the UPS manually, please go to the UPS Control in the UPS Management menu. Login the web user interface as an administrator identity. Select the radial button beside Turn off UPS and click the Send button.

UPS Shutdown Delay (Sec): 180 (default value)
Turn off the UPS manually at 22:20:00
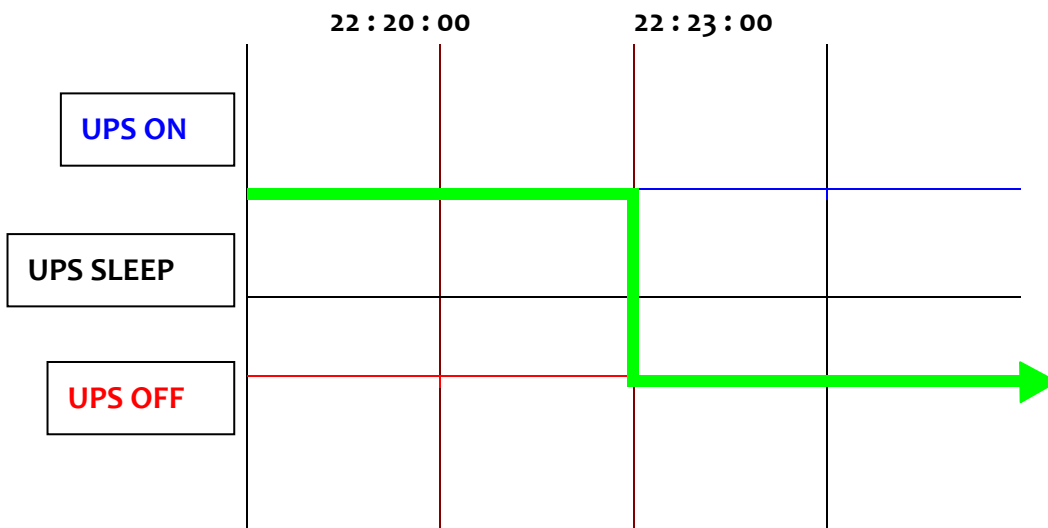
Set UPS into Sleep Mode Manually

When there is a need to set up the UPS into sleep mode manually, please go to the UPS Control in the UPS Management menu. Login the web user interface as an administrator identity. Select the radial button beside UPS Sleep and click the Send button.

UPS Shutdown Delay (Sec):   180   (default value)
UPS Sleep Time (Min):   60   (default value)
Set UPS to sleep manually at   22:20:00
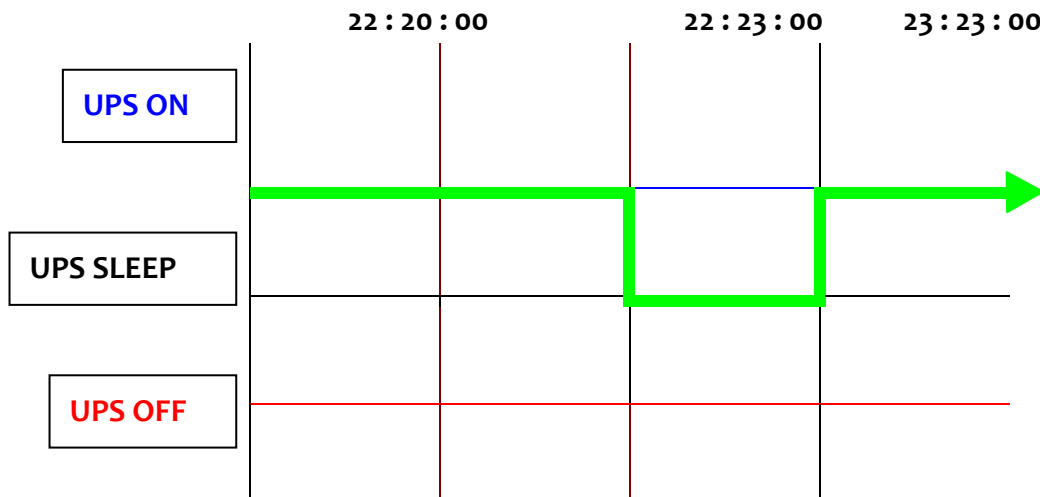
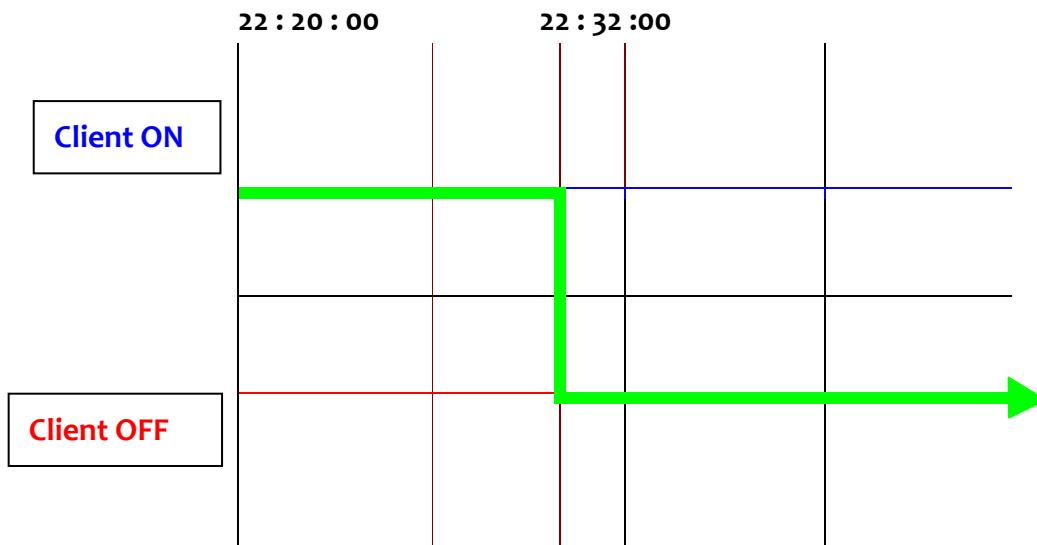# UPS Shutdown during Power Crisis

USHA responds to seven different kinds of UPS shutdown events and it will take appropriate action to protect your information in your server. Go to the UPS Shutdown in the UPS Management menu. Login the web user interface as an administrator identity. Configure the UPS Shutdown table to meet your need. Click the Set Value button when finished.

Status: UPS Turn Off (default value)
Delay (Min):   10   (default value)
1st Warning (Sec)   30   (default value)
Warning Interval (sec)   30   (default value)

UPS Shutdown Delay (Sec): 180   (default value)
AC failed at   22:20:00
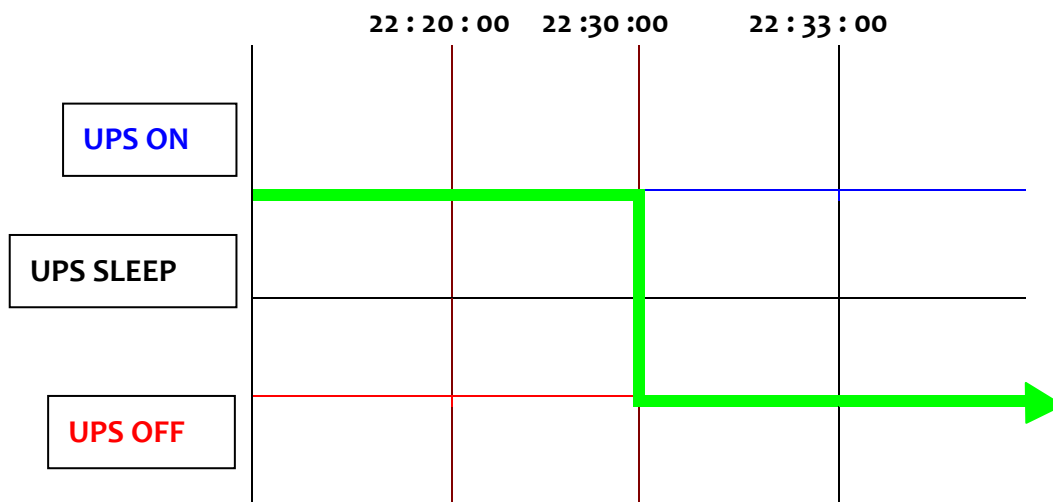
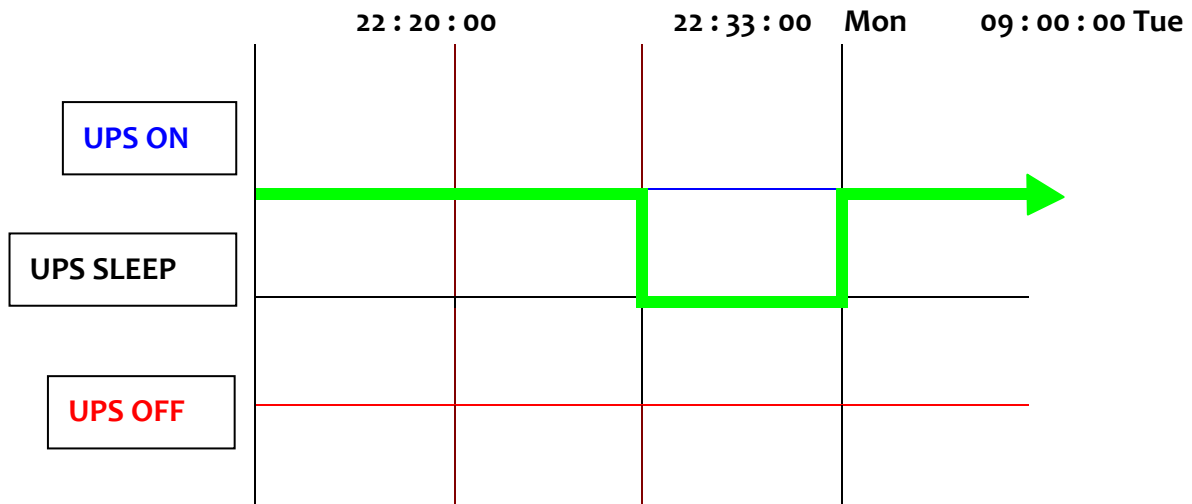Client's local shutdown delay (Sec):120   (default value)

Managing the UPS Shutdown Schedule

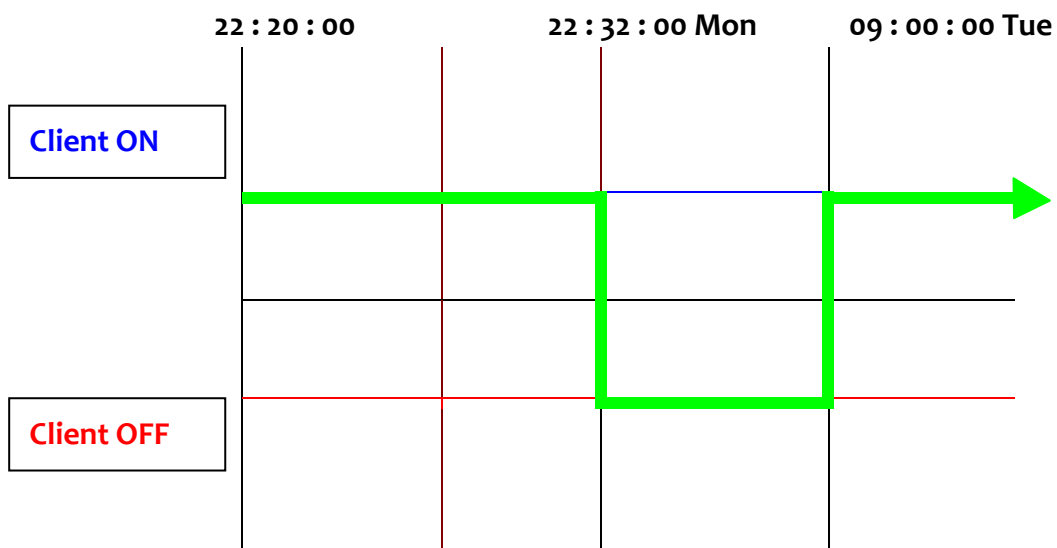USHA supports two kinds of shutdown schedules – (1) Weekly Schedule; (2) Special Day Schedule.

✳ **Note: Before managing the UPS Shutdown Schedule, please make sure that the Date and Time configured in USHA is correct.**

Scenario

Status: UPS Turn Off (default value)
Delay (Min):   10   (default value)
1st Warning (Sec):   0   (default value)
Warning Interval (sec):   60   (default value)
UPS Shutdown Delay (Sec): 180   (default value)
Shutdown day & time: Monday 22:20:00
Restart day & time: Tuesday 09:00:00

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Appendix A Technical Information

LED Definition

The function of the USHA IX900 is indicated by the Status/EMD and Network LEDs, as listed in the following tables.

No.	Port	Green LED	Yellow LED	Function
1	Network	ON	Flashing(1sec)	Ethernet 100 Traffic
2		OFF	Flashing(1sec)	Ethernet 10 Traffic
3		ON	ON	100 Base-TX Ready
4		OFF	ON	10 Base-T Ready
5		OFF	OFF	Ethernet Disconnection
6	Status/	ON	OFF	Power On(Normal Status)
7	EMD	ON	Flashing(1~3sec)	RS232 Port Activity (UPS site)
8		Two LED cross Flashing	Two LED cross Flashing	Auto Diagnostic Mode
9		ON	ON	Auto Diagnostic Failed
10		OFF	OFF	Hardware Error

Technical Specification

Function	Description
Power Input	IX900 series without USB (Host) function voltage: +5.3V ~ 40V
	IX900 series with USB (Host) function voltage: +7.5V ~ 40V
	EX900 series with 12 VDC power adapter
Power Consumption	3.0 Watts Maximum without USB (Host) function
	6.0 Watts Maximum with USB (Host) function
SMT Switch	SMT switch on the board for configuration
Dimension(L x W x H mm)	USHA IX900 series: 129.9(L) x 60.0(W) mm
	miniUSHA IX900 series: 68.3(L) x 60.0(W) mm
	miniUSHA EX900 series: 94(L) x 82(W) x 30.8(H) mm
Operating Temperature	USHA IX900 series: -20 ~ 70° C
	miniUSHA IX900 series: -20 ~ 60° C
	miniUSHA EX900 series: -20 ~ 40° C
Operating Humidity	10 ~ 80 % (Non-condensing)