



**Vanguard Three Phase 10-40KVA
UPS SNMP Manual V1.03**

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1. Introduction

SNMP card is a network adapter which allows UPS to be connected to the Internet, open up the possibility for users to monitor and control single unit UPS or parallel system UPSs from distances through web explorer or NMS application on SNMP card. Users can obtain all the information of the parallel system only by installing one SNMP card on one of the UPS in the system.

Apart from monitoring and controlling, SNMP card is equipped with complete schedule function, it can set the UPS schedule singly or periodically. Under critical circumstances, Email and SMS would be sent to notify the users and provide the information to shutdown up to 250 apparatus in order so as to prevent abnormal shutdown to preserve the completeness of data. The remote shutdown is provided by a client shutdown which is needed to be installed on all computers that require this automatic function.

1.1 Component List

The dry contact card package includes below items,

- SNMP card × 1
- CD
 - ✓ Quick Installation Guide (QIG)
 - ✓ User manual
 - ✓ MIB file
 - ✓ Upgrade Tool
 - ✓ Shutdown Software

1.2 Interface of the SNMP Card

The related function and indication of SNMP card please refer to the following Figure 1 and Table1.

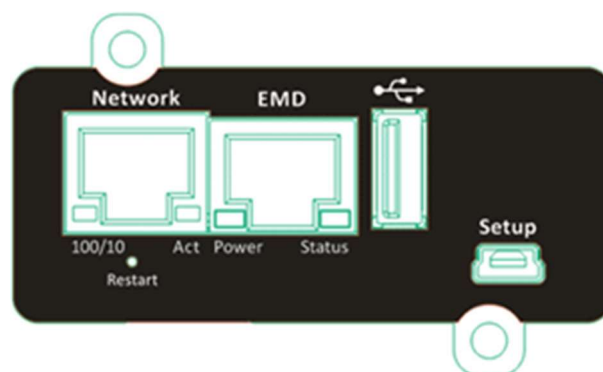


Figure 1

Table 1

Item	Description
Network port	Connects to network. LED indication: LAN 10/100 link, Activity.
EMD port	Connects to an environmental sensor (EMD). LED indication: System power, System status.
USB port	Connects the GPRS/GSM modem, USB devices and wireless dongle.
Setup port	Connects to a workstation with standard AM to BM USB cable.
Restart button	Restart SNMP card only. This does not affect the operation of UPS.

1.3 SNMP Card Functions

- Real-time UPS health monitoring.
- Comprehensive UPS management and flexible configuration via Web Browser, NMS, Java Applet, SNMP, or Hyper Terminal.
- Automatic events notification via E-mail, short message (SMS), 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 SNMP 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.
- GPRS/GSM modem supports SMS and IP data.

1.4 SNMP Card Authorization Table

The following Table 2 demonstrates the authorization levels on explorer, each authorization level can change its corresponding account and password after login. Detail configuration please refers to chapter 6 and 7.

Table 2

Authorization Level	Account(Default)	Password(Default)
Read only		
Network control	setSNMP	ssp
UPS control	setUPS	sus
Network & UPS control	setSNUPS	ssnup

1.5 General Specifications

● Ethernet Protocols Compliancy

- ✓ IPv4 / IPv6
- ✓ DHCP
- ✓ SNMP v1 / v3
- ✓ SSH – SSL
- ✓ WOL
- ✓ HTTP / HTTPS
- ✓ SMTP
- ✓ NTP – ICMP
- ✓ RADIUS
- ✓ SYSLOG
- ✓ UPnP

● Browser Compliancy

- ✓ Internet Explorer10
- ✓ SAFARI v4 – v5
- ✓ CHROME /chromium44.0
- ✓ FIREFOX 39.0.3

2. Installation Procedure

2.1 Safety Information

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

2.2 Hardware Installation Procedure

- Open the front door of UPS.
- Plug in the SNMP card to the 《Slot2》 and then screw in the screws after the card is firmly locked in.
- Lock on the front door to complete the installation procedure.
- Insert the Ethernet cable into LAN port of SNMP card.

2.3 Communication Setting Procedure

- Please configure the setting of this card via the LCD control panel of UPS.
- Go to [Home]→[Setting]→[Peripheral]→[Slot Card2]
- Please change the parameters as shown in Table 3 below.

Table 3

Item	Setting
ID	1
Stop Bit	1
Parity Check	None
Baud Rate	57600

- In parallel system, please select the machine ID which installs the SNMP card before you change the setting.

2.4 Find SNMP Card Procedure

- Procure a workstation (Microsoft Windows XP, Vista, 7 or above installed).
- Please find the “SNMP Upgrade Tool v1.00.exe” in CD contents and install the Upgrade Tool on your PC.
- Execute “SNMP Upgrade Tool”.
- Click **【Q】** to search device on your LAN, as following Figure 2.

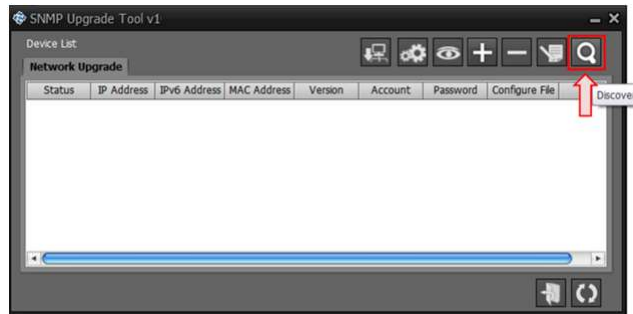


Figure 2

- Select your device and click **【E】** to open webpage, as following Figure 3.



Figure 3

- The webpage display the UPS Identification, as following Figure 4.

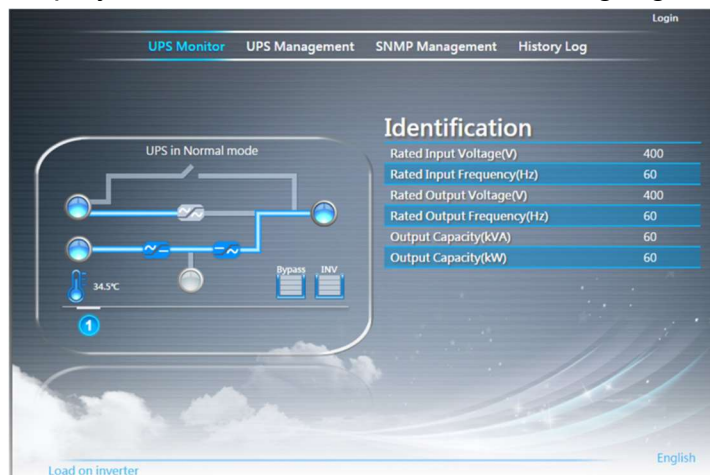


Figure 4

3. IP Address Configuration

If a DHCP server is available on the same Network as SNMP card, the SNMP card will request a valid IP address from the server. If the DHCP server is not available, SNMP card switches to this default IP address: 192.168.xxx.zzz (where xxx and zzz are the last two pairs of the MAC address decimal of the SNMP card).

- ※ IPv6 is not activated by default. The default IP address is set to IPv4 format.
- ※ It can be only set whether the SNMP card IP address is static or DHCP by Web Browser.

3.1. IP Settings Using Network




- Login account and password.
- Select **SNMP Configuration** from the **SNMP Management** of the main menu to setup the network configuration parameters, as following Figure 5.

The screenshot displays the 'SNMP Configuration' web page. At the top, there is a navigation menu with 'UPS Monitor', 'UPS Management', 'SNMP Management', and 'History Log'. The 'SNMP Configuration' section is highlighted. Below the navigation bar, there is a 'Download Root Certificate' button and a 'Download' button. The 'BootP/DHCP' section has radio buttons for 'Static' and 'DHCP'. The 'SNMP IP Address' field is set to '192.168.7.13'. The 'SNMP Gateway Address' field is set to '192.168.7.1'. The 'SNMP Subnet Mask' field is set to '255.255.255.0'. The 'DNS Address' field has two entries: '168.95.1.1' and '8.8.8.8'. The 'System Name' field is set to 'SNMP'. The 'System Contact' field is set to 'Technical Support Team'. The 'System Location' field is empty. At the bottom, there is a status bar that says 'No Alarms in any Unit' and a language selector set to 'English'.

Figure 5

- Enter the “SNMP IP address”.
- Enter the “SNMP Gateway Address” in the network.
- Enter the “SNMP Subnet Mask” of the network.
- Select **【Apply】** to save the changes.

3.2. IP Settings Using Upgrade Tool

- Execute “SNMP Upgrade Tool”, as following Figure 6.
- Click  to search device on your LAN.
- Click  to set account/password.
- Click  to set IP address.

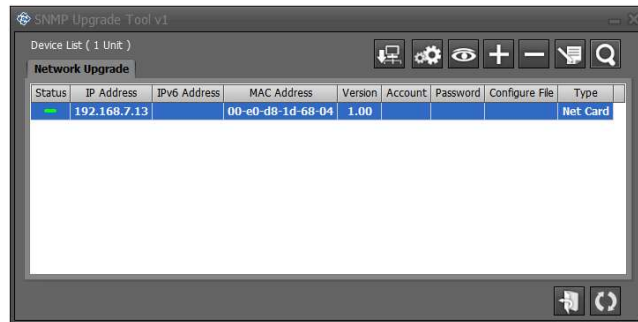


Figure 6

4. Web Page Layout

4.1 Screen Information

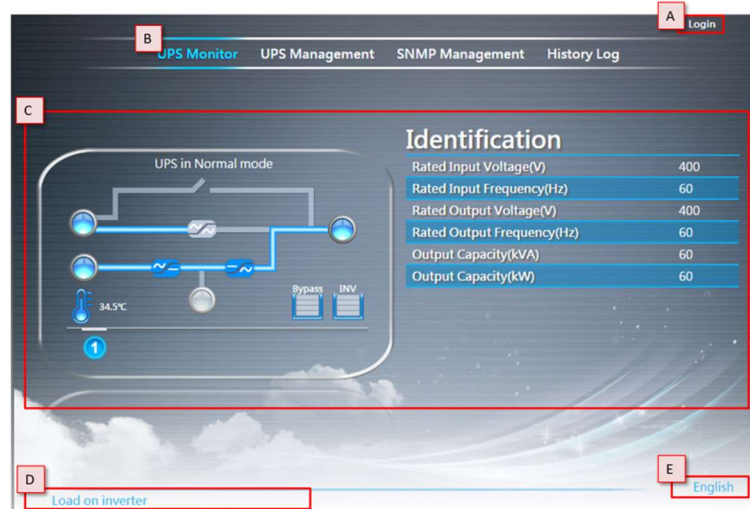


Figure 7

- 【A】 Login/Logout.
- 【B】 menu.
- 【C】 Display.
- 【D】 Display information of UPS and UPS is normal or abnormal conditions.
- 【E】 Language access.

4.2 Menu General Overview

Table 4 is the corresponding authorization level to the Main Menu in SNMP Card.

※ Default account and password please refers to chapter 1.4.

Table 4

Menu	Network Control	UPS Control	Network & UPS Control
UPS Monitor	Read-only function		
UPS Management	YES	YES	YES
SNMP Management		Read-only function	YES
History Log	Read-only function		

- UPS Monitor

Table 5

Sub-Menu	Functions
Identification	Display the UPS status, alarm, operation mode and measurements. Please refer to section 5-1 for more detail.
Input	
Output	
Bypass	
Battery	
Temperature	
Status Table	
Alarm Table	
Client Table	List all servers connected to SNMP card for shutdown procedure.

- UPS Management

Please refer to Chapter 6 for more detail.

- SNMP Management

- ✓ Protocol configuration.
- ✓ SNMP card control.

- History Log

- ✓ Measurements log file.
- ✓ UPS and SNMP card events log.

5. UPS Monitor

5.1 Real Time Information Display

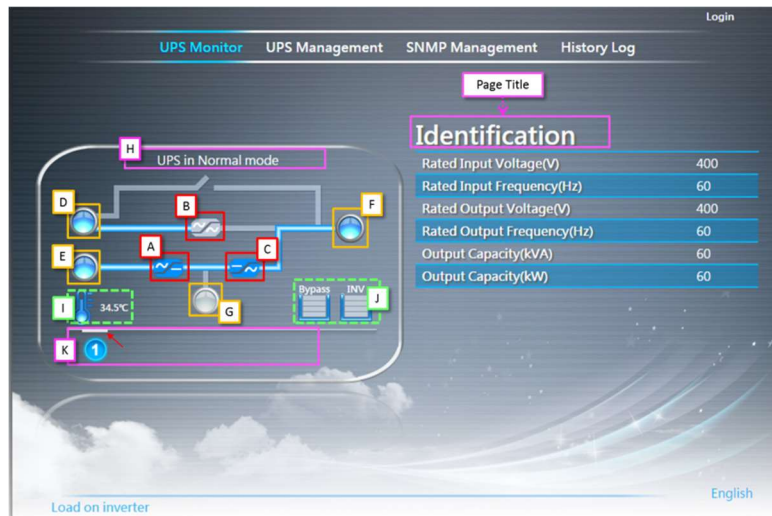





Figure 8

- **【A】** is Rectifier, **【B】** is Static Switch and **【C】** is Inverter.
 - ✓ The gray pattern indicates this part isn't activated.
 - ✓ The blue pattern indicates this part is activated.
 - ✓ The red pattern indicates this part is occurred abnormal condition.
- **【D】** is bypass input, **【E】** is mains input and **【F】** is output.
 - ✓ The measurement displaying in gray indicates the part being not activated.
 - ✓ The measurement displaying in blue indicates the part being under normal operation.
 - ✓ The measurement displaying in red indicates the part being under abnormal operation.
- **【G】** display the status of battery.
 - ✓ The gray pattern indicates the battery isn't connected.
 - ✓ The green pattern indicates the battery is charging.
 - ✓ The yellow pattern indicates the battery is discharging.
- Click **【D】****【E】****【F】****【G】** to enter to Bypass, Input, Output, Battery in Right Side.
 represents the item being selected.
- **【H】** Display operation mode of UPS.
- **【I】** Display UPS internal temperature and Click to enter to Temperature in Right Side.

- **【J】** Overload counter.
- **【K】** select the desire UPS unit that want to check the information.(Selected ID would be pointed by arrow)
 - ✓  The UPS isn't connected.
 - ✓  UPS is not occurred alarm will have blue background.
 - ✓  UPS occurred alarm will have red background.

5.2 Identification

This shows the following information of the UPS.

- Rated Input Voltage(V)
- Rated Input Frequency(Hz)
- Rated Output Voltage(V)
- Rated Output Frequency(Hz)
- Output Capacity(kVA)
- Output Capacity(kW)

5.3 Input

This shows the following input parameters of the UPS.

- Voltage
- Power
- Frequency
- Current
- Power Factor

5.4 Output

This shows the following output parameters of the UPS.

- Voltage
- Frequency
- Current
- Load Rate(%)
- Power
- Power Factor

5.5 Bypass

This shows the following bypass parameters of the UPS.

- Voltage
- Frequency
- Current

5.6 Battery

This shows the following battery parameters of the UPS.

- Voltage
- Charge Current
- Discharge Current

5.7 Temperature

This shows the internal temperature of the UPS.

5.8 Status Table

This shows the current status list of the UPS.

5.9 Alarm Table

This shows the current alarm list of the UPS.

5.10 Client Table

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.

- **Index**: Serialized index number of the client registered.
- **IP Address**: IP address of the client running the Shutdown Program and registered with SNMP card.
- **Client Name**: Computer names of the client running the Shutdown Program and registered with SNMP card.
- **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 SNMP card.

6. UPS Management

6.1 UPS Configuration

- **SNMP Baud Rate**
This let user to choice the SNMP Baud Rate by Auto detect or Manual Setting.
- **Polling Rate(Sec)**
- **Synchronize UPS with NTP server Enable/Disable**
The SNMP card will synchronize its time with the server periodically if this function is enabled.
- **NTP server**
Configure the NTP server IP address.
- **Time Zone**
Select the correct time zone.
- **Daylight Saving Time Enable/Disable**
If this function is enabled, the time will be one hour earlier than NTP server time.
- **Synchronize UPS Time Frequency (Day)**
- **Synchronize UPS Time**
- **Next Synchronization Time**
Display the next synchronization time.

6.2 UPS Command

- **Normal Mode**
- **ECO Mode**
- **Converter Mode**
- **Shutdown**
- **Load on Bypass**
- **Cold Start Precharge Ready**

6.3 UPS Schedule

This function let user to configure the UPS operation mode and battery test schedule.

The calendar shows the scheduled tasks.

Click “Setting” button to configure the schedule of each task.

- UPS Schedule

- Index

- This field shows the index numbers of the table entries.

- Control

- To Enabled/Disabled this task.

- Repetition

- Once: Execute this task only one time.

- Weekly: Execute this task every week.

- Date

- The first execution day

- Time

- The execution time

- Task

- Select the UPS operation mode that wants to execute.

- Shutdown Delay Time

- The delay in seconds the UPS remains on after being told to shutdown.

- *This parameter is only for the UPS Schedule Shutdown.

- Battery Test Schedule

- Control

- To Enabled/Disabled the battery test function.

- Date

- The first execution day

- Time

- The execution time

- Repetition

- Configure the repetition time in week.

6.4 UPS Events Shutdown

Shutdown Event	Shutdown Actions
AC Failed	<ul style="list-style-type: none"> ● Disabled ● Clients Warning ● Clients Shutdown ● UPS and Clients Shutdown
Battery Low	<ul style="list-style-type: none"> ● Disabled ● Clients Warning ● Clients Shutdown ● UPS and Clients Shutdown
Inverter Overload	<ul style="list-style-type: none"> ● Disabled ● Clients Warning ● Clients Shutdown ● UPS and Clients Shutdown
Bypass Overload	<ul style="list-style-type: none"> ● Disabled ● Clients Warning ● Clients Shutdown ● UPS and Clients Shutdown
UPS Over Temp.	<ul style="list-style-type: none"> ● Disabled ● Clients Warning ● Clients Shutdown ● UPS and Clients Shutdown
EMD Temp. Over Threshold	<ul style="list-style-type: none"> ● Disabled ● Clients Warning ● Clients Shutdown ● UPS and Clients Shutdown
EMD Alarm-1	<ul style="list-style-type: none"> ● Disabled ● Clients Warning ● Clients Shutdown ● UPS and Clients Shutdown
EMD Alarm-2	<ul style="list-style-type: none"> ● Disabled ● Clients Warning ● Clients Shutdown ● UPS and Clients Shutdown
UPS Scheduled Shutdown	<ul style="list-style-type: none"> ● UPS Shutdown Only ● Clients Warning and UPS Shutdown ● UPS and Clients Shutdown

- **Total Warning Time (Min)**
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 Delay (Sec)**
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 Period (Sec)**
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.
- **UPS Events Shutdown Delay (Sec)**
- **Discontinue shutdown if Event restored**
After the selected events occurred (except UPS Scheduled Shutdown) and SNMP had broadcast shutdown request to clients, the client and UPS will not be turned off if the selected event restored before UPS shutdown delay time finished and this option had selected. If this option isn't selected, the UPS and client will be turned off by SNMP even the selected event restored.

7. SNMP Management

7.1 SNMP Information

This page provides the read only information of the SNMP card.

- System Name
The value set in "System name (sysName)" defined in MIB-II. Default value is SNMP.
- Serial Number
- Firmware Version
The firmware version of the SNMP card.
- System Up Time (days hh:mm:ss)
- IPv4 Address
The IP address of SNMP Card in dotted format (eg. 192.9.60.229).
- IPv6 Address
The IPv6 global address of the SNMP card
(eg. 2001:B181:2::2E0:D8FF:FEFF:8A59).
- MAC Address
Display the MAC Address of the SNMP card.

7.2 SNMP Configuration

This page let the Administrator set the local network configuration parameters in SNMP card.

- **Download Root Certificate**
Download root certificate from the SNMP card.
- **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.
- **SNMP IP Address**
This parameter let the Administrator set the IP address of the SNMP card.
- **SNMP Gateway Address**
This parameter let the Administrator set the IP address of the gateway of the SNMP card.
- **SNMP Subnet Mask**
This parameter let the Administrator set the subnet mask of the SNMP card.
- **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 (sysName)" defined in MIB-II. Default value is SNMP.
- **System Contact**
The value set in "System manager (sysContact)" defined in MIB-II. Default value is Technical Support Team.
- **System Location**
The value set in "System installation place (sysLocation)" defined in MIB-II. Default value is blank.
- **Webpage Title**
This parameter let the Administrator set the webpage title.
- **History Log Interval(Sec)**
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(Min)**
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.
- **SNMP IPv6 Config**
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.
- **SNMP 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.
- **SNMP IPv6 Global Address**
The IPv6 global address of system (eg. 2001:B181:2::2E0:D8FF:FEFF:8A59).
- **SNMP IPv6 Router**
The IPv6 address of system default router.
- **Browser Buzzer**
To enable or disable the buzzer.

7.3 SNMP Control

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

- **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.
- **PING Echo**
Enable/Disable the SNMP card 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 SNMP card firmware.
- **HTTP Security**
If this setting was enabled, user has to enter user name and password when he/she access to SNMP card.
- **SSH Connection**
Enable/Disable the SSH connection with the SNMP card. 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 SNMP card. 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 SNMP card. The user may configure the SMTP protocol to use a port number other than the standard SMTP port (25).
- **UPnP Control**
Enable/Disable the Universal Plug and Play (UPnP) feature with the SNMP card.

7.4 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.

7.5 SNMPv3 USM Table

This page 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 SNMP card 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 authentication password but with privacy password

7.6 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.
- Receive IP Address
The IP Address in dotted format of the received 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.
SNMP Trap: Traps are received base on SNMP MIB.
- Trap Version
This allow administrator to select the SNMP trap version.
- Description
Customer description string.

7.7 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.
- 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.

7.8 Email Notification

This page contains the related setting for email notification.

- **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 several file attachments containing information logged by the SNMP/WEB Adapter. They are HistoryLogSYS, HistoryLogUnit1~6, ExtendedLogSYS, ExtendedLog1~6, EventLogAgent, EventLog1~6 (in .csv format suitable for viewing in Microsoft Excel) and EventLogAdvUserUnit1~6.txt.
Selecting Events/Status specifies that the recipient should receive an email message containing the event-related notification and the file attachments (as described above), each time an event notification is sent.
- **Event Select**
Following events can be selected.
 - Battery Discharger on
 - Load on Bypass
 - Over Temperature
 - General Alarm
 - Inverter Overload
 - Bypass Overload
 - System Occurred Unpredictable Interrupt Output
 - Battery Disconnected or Fuse Open
 - EMD Temperature over high Set point
 - EMD Temperature under low Set point
 - EMD Humidity over high Set point
 - EMD Humidity under low Set point
 - EMD Alarm-1 activated
 - EMD Alarm-2 activated

7.9 Syslog Setup

This page contains the related settings 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.

7.10 DDNS Setup

This page lets the Administrator set DDNS configuration in the SNMP card.

- **DNS Status**
This field displays the status of DDNS.
- **DNS Enabled**
Enable or disable the DDNS function of the SNMP card.
- **DNS ISP Setup**
SNMP card can register any of the DDNS providers.
- **User Name**
The account that has been created with the selected DDNS provider.
- **Password**
The password that collocates to your DDNS account.
- **Domain Name**
The Domain Name has been created from the selected DDNS provider.

7.11 SMS Configuration

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

- **SMS Status**
This shows the status of SMS device.
- **Pin Code**
The pin code of SIM card.

- SMS Phone Number Table
Enable/Disable the assigned phone number during sending a SMS message.
- Event Select
Following events can be selected.
 - Battery discharger on
 - Load on Bypass
 - Over Temperature
 - General alarm
 - Inverter overload
 - Bypass overload
 - System unpredictable interrupt output
 - Battery disconnected or Fuse open or MC open
 - EMD Temperature over high Set point
 - EMD Temperature under low Set point
 - EMD Humidity over high Set point
 - EMD Humidity under low Set point
 - EMD Alarm-1 activated
 - EMD Alarm-2 activated

7.12 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 SNMP card.
Reject, this IP or IP segment could not be accessed SNMP card.

7.13 Modbus Configuration

This page lets the administrator to set Modbus configuration in the SNMP card.

- 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 SNMP card via Modbus protocol.

7.14 EMD Configuration

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

- Current State and parameters

State : The state of EMD device.

Temperature : Current Temperature reading from EMD

Humidity : Current Humidity reading from EMD

Alarm-1 : The state of Alarm-1

Alarm-2 : The state of Alarm-2

- 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 SNMP card, 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 SNMP card if configured as 'Auto' and if the EMD is plugged into the port.

- EMD Unit

To configure the temperature unit as “°C” or “°F”.

8. History Log

8.1 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 "SNMP Configuration" page.

The existing values are overwritten when the maximum number of entries (rows) has been reached.

- Log Time
- Input Voltage
- Output Voltage
- Output kVA
- Allow Output kVA
- Output Total kVA

8.2 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 "SNMP Configuration" page.

The existing values are overwritten when the maximum numbers of entries are reached.

- Start Time
This column shows the date and time (in a 24-hour format) when the values were recorded.
- End Time
This column shows the ending date and 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.
- Output Voltage
This column shows the minimum, maximum and the average values of the

output voltage in the consolidated interval.

- Output Power

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

8.3 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.

- Time

The date (in dd/mm/yyyy format) and time in 24-hour format when the event occurred.

- Event

Indicate the type of the event.

Alarm

Status

Command

- Yes/NO

Indicate the status of the event.

- Description

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

8.4 SNMP 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.

- Time

The date (in dd/mm/yyyy format) and time in 24-hour format when the event occurred.

- Event Level

Indicate the level of the event.

Information

Warning

Critical

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

8.5 EMD History Log

This page gives a snap-shot of EMD parameters.

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

The existing values are overwritten when the maximum number of entries (rows) has been reached.

- Log Time
This gives the time in a 24-hour format when the values were recorded.
- Temperature
This shows the temperature measurement of the EMD at the time of recording.
- Humidity
This shows the temperature measurement of the EMD at the time of recording.

8.6 EMD Extended Log

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

For each of the EMD 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 "SNMP Configuration" page.

The existing values are overwritten when the maximum numbers of entries are reached.

- Start Time
This column shows the date and time (in a 24-hour format) when the values were recorded.
- End Time
This column shows the ending date and time of the consolidation interval for the record.
- Temperature

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

- Humidity

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

8.7 Download Log data

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

- SNMP Events Log
- UPS Events Log
- UPS History Log
- UPS Extended Log
- EMD History Log
- EMD Extended Log
- Schedule Report List
- Battery Test Schedule Report List

9. UPS Power Management

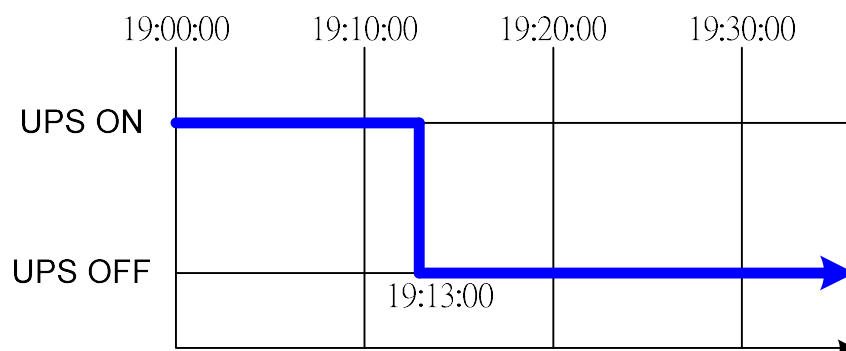
One of the most significant features of the SNMP card is dealing with almost all the power crisis confront to a UPS and protect your valuable information reside in your server from being damage due to the abrupt shutdown of the server. In addition, the SNMP card can help corporate to cut down the expensive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

9.1 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 19:10:00



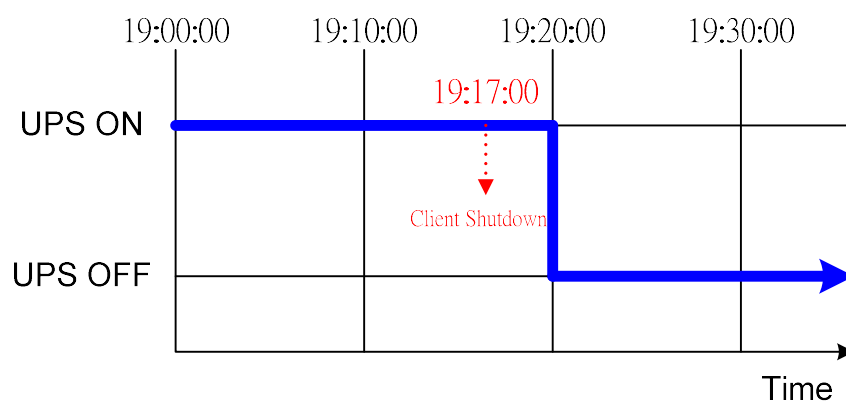
9.2 UPS Shutdown during Power Crisis

The SNMP card 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.

Shutdown Action: UPS Turn Off and Clients Shutdown

Total Warning Time (Min):	7	(default value is 1)
1st Warning (Sec):	30	(default value is 10)
Warning Interval (sec):	30	(default value is 10)

UPS Shutdown Delay (Sec):	180	(default value is 10)
AC failed at	19:10:00	



9.3 Managing the UPS Schedule

Before managing the UPS Schedule, please make sure that the Date and Time configured in the SNMP card is correct.

Shutdown Event: UPS Schedule

Shutdown Action: UPS Shutdown Only (default value)

Total Warning Time(Min): 10 (default value is 1)

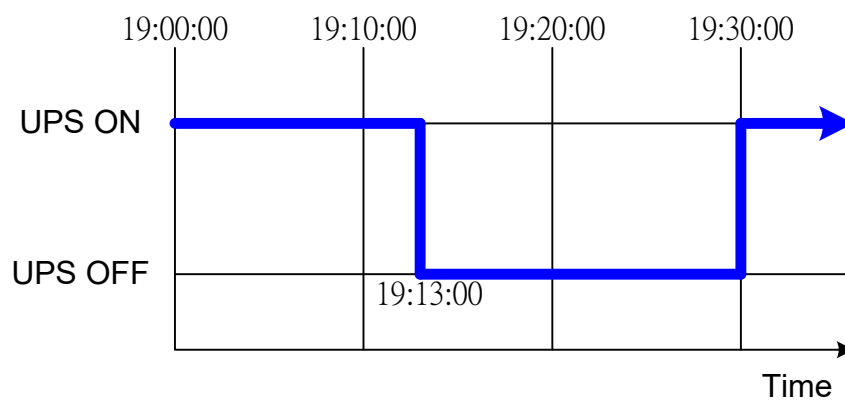
1st Warning (Sec): 60 (default value is 10)

Warning Interval (sec): 60 (default value is 10)

UPS Shutdown Delay (Sec): 180 (default value is 10)

Shutdown time: 19:00:00

Normal Mode time: 19:30:00



10. Technical Information

10.1 LED Definition

Port	Green LED	Yellow LED	Function
Network	ON	Flashing(1sec)	Ethernet 100 Traffic
	OFF	Flashing(1sec)	Ethernet 10 Traffic
	ON	ON	100 Base-TX Ready
	OFF	ON	10 Base-T Ready
	OFF	OFF	Ethernet Disconnection
Status/ EMD	ON	OFF	Power On(Normal Status)
	ON	Flashing(1~3sec)	RS232 Port Activity (UPS site)
	Two LED cross Flashing	Two LED cross Flashing	Auto Diagnostic Mode
	ON	ON	Auto Diagnostic Failed
	OFF	OFF	Hardware Error

10.2 Technical Specification

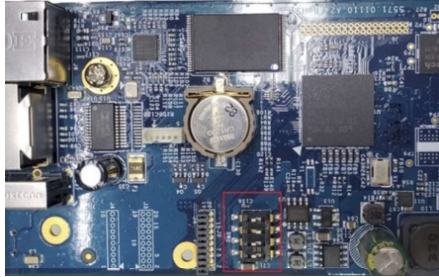
Function	Description
Power Input	IX900 series without USB (Host) function voltage: +5.3V ~ 40V IX900 series with USB (Host) function voltage: +7.5V ~ 40V
Power Consumption	3.0 Watts Maximum
SMT Switch	SMT switch on the board for configuration
Dimension(L x W x H mm)	129.9(L) x 60.0(W) mm
Operating Temperature	-20 ~ 70° C
Storage Temperature	-40 ~ 125° C
Operating Humidity	10 ~ 80 % (Non-condensing)

10.3 Gold Finger Connector Definition

Bottom Side		Component Side	
Pin1	GND	Pin2	Vcc
Pin3	TX -> UPS	Pin4	RX ← UPS
Pin5	NC	Pin6	NC
Pin7	NC	Pin8	Short to pin10
Pin9	GND	Pin10	Short to Pin8
Pin11~25	NC	Pin12~26	NC

10.4 How to reset the configuration to default value

- Take out SNMP card from UPS and set **PIN 2** of the SW2 to the “ON” position and PIN 2~4 to the "OFF" position. Insert SNMP card into the UPS communication slot to restart it.



- Waiting about 1 min.
- Take out SNMP card and set the PIN 1, PIN 2, PIN 3, and PIN 4 of the SW2 to the “OFF” position.
- Insert SNMP card into the UPS communication slot to restart it.