The power behind competitiveness

Delta InsightPower G3
Mini SNMP Card

User Manual

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Smarter. Greener. Together.

SAVE THIS MANUAL

This manual contains important instructions and warnings that you should follow during the installation, operation, storage and maintenance of this product. Failure to heed these instructions and warnings will void the warranty.

Table of Contents

Chapter 1 : Important Safety Instructions

1-1 Warnings

- The InsightPower G3 Mini SNMP Card, hereafter referred to as Mini SNMP, is designed to work with a UPS and needs to be installed inside the UPS's Mini slot. Before installation, ensure that all power sources and critical loads connected to the UPS are disconnected.

- Do not place or use this unit in the presence of flammable substances.

- Do not attempt to disassemble the unit.

- Do not attempt to perform any internal modifications on the unit.

- Do not attempt to fix/ replace internal components. When repair is needed, refer all servicing to the nearest Delta service center or authorized distributor.

- Do not allow any objects or liquids of any kind to penetrate the unit.

- Always follow this User Manual to install and operate this unit.

1-2 Standard Compliance

- **EN 55032: 2015 ISN, Class B**

- **EN 55032: 2015 Radiated Emission, Class B**

- **EN 55024: 2010 + A1: 2015**

  IEC 61000-4-2: 2008

  IEC 61000-4-3: 2010

  IEC 61000-4-4: 2012

  IEC 61000-4-6: 2013

- **UL 62368-1 & CAN/CSA C22.2 No. 62368-1-14**

- **EN 62368-1: 2014/ A11: 2017**

Chapter 2 : Introduction

2-1 Product Description

The InsightPower G3 Mini SNMP Card, hereafter referred to as Mini SNMP, is a device that provides an interface between a UPS and a network. It communicates with the UPS, acquires information and remotely manages the UPS via a network system. The Mini SNMP supports public protocols including SNMP, HTTP and MODBUS TCP. You can effortlessly configure this Mini SNMP using a network system and easily obtain your UPS's status and manage your UPS via the Mini SNMP.

2-2 Features

- **Network UPS management**

  Allows remote management of the UPS from any workstation through the Internet or Intranet.

- **Remote UPS monitoring via SNMP & HTTP**

  Allows remote monitoring of the UPS using SNMP NMS, Delta MIB (Management Information Base) and a Web Browser.

- **UPS and system functions configurable by clients (password protected)**

  Set the UPS and system parameters through a Web Browser.

- **Event logs & measurement data keeping**

  Provides historical data of the UPS's power events, power quality, status and battery conditions.

Other features and supported protocols:

● User notification via SNMP Trap and E-mail

● Network Time Protocol

● Telnet configuration

● BOOTP/ DHCP

● HTTPS, SSH, SFTP and SNMPv3 security protocols

● Remote event log management through syslog

● IPv4 protocol

● IPv6 protocol

2-3 Package Contents

Carefully check the package contents. If there is anything missing or damaged, please immediately contact your dealer. Should you return the product for any reason, please carefully repack it and all of the accessories with the original packing material.

No.	Item	Quantity
❶	InsightPower G3 Mini SNMP Card	1 PC
❷	RJ45 to DB9 cable	1 PC
❸	Screw	2 PCS

2-4 Interface

The interface includes a Network port, a COM port and LED indicators.

Top View

1 Network Port

2 LED Indicators

3 Console (COM) port

Front View

1 Network Port

2 LED Indicators

3 Console (COM) port

No.	Item	Description
❶	Network Port	Connected to the Ethernet Network.
❷	LED Indicators	When the Mini SNMP is initializing or upgrading the firmware, the two LED indicators flash simultaneously to show its status. ● **Rapid simultaneous flashing** (every 50ms): Initialization or firmware upgrade is in progress. ● **Slow simultaneous flashing** (every 500ms): Initialization failed. ⚠ **WARNING:** Do **NOT** remove the Mini SNMP or disconnect the UPS's input power during initialization or firmware upgrade! This could result in data loss or damage to the Mini SNMP. The green LED indicator shows the network connection status. ● **ON**: Network connection has been established and the IPv4 address is useable. ● **OFF**: Not connected to a network. ● **Flashing slowly** (every 500ms): Faulty IP address. The yellow LED indicator shows the connection status between the Mini SNMP and the UPS. ● **Flashing rapidly** (every 50ms): UPS connected. ● **Flashing slowly** (every 500ms): UPS not connected.
❸	Console (COM) Port	1. Connected to a workstation with the provided RJ45 to DB9 cable to configure the system. 2. Connected to an EnviroProbe (optional) to monitor the EnviroProbe's connected environment monitoring devices.

✎ **NOTE:**
For EnviroProbe information, please refer to the Installation Guide included in the package of the EnviroProbe.

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Chapter 3 : Installation

NOTE:

Before installation, please disconnect all the power sources and critical loads connected to the UPS. Otherwise, the Mini SNMP might have shorting issues which may lead to UPS shutdown or damage.

- Please follow the procedures below to install the Mini SNMP into your UPS's Mini slot.

  Step 1   Cut off the cover from the Mini slot. Use a proper tool to snip at the three points *(see Figure 3-a)*.
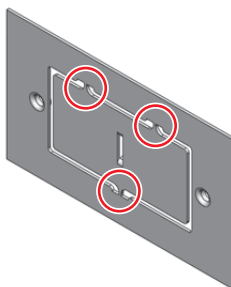
(Figure 3-a)

  Step 2   Pull out the flat wire and remove the plate. Use a proper tool to cut off the straps that are tied to the flat wire *(see Figure 3-b)*.
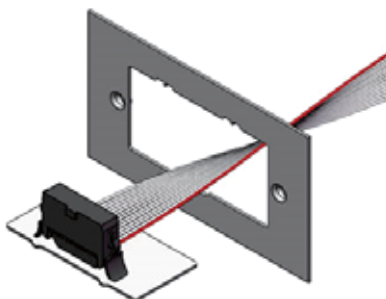
(Figure 3-b)

Step 3   Take out the Mini SNMP and plug in the flat wire *(see Figure 3-c)*.
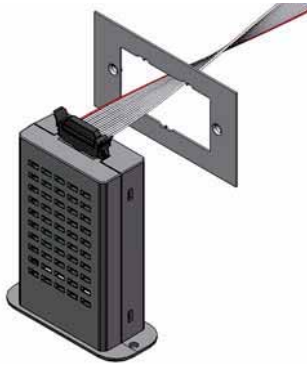
(Figure 3-c)

Step 4   Install the Mini SNMP into the UPS's Mini slot *(see Figure 3-d)*.

(Figure 3-d)

Step 5   Secure the Mini SNMP with two screws provided in the package *(see Figure 3-e)*.

(Figure 3-e)

The rear view of the Mini SNMP is shown as follows.

10-pin Connector

Pin	Definition	Pin	Definition
1	GND	2	+12V
3	RS232_TXD	4	RS232_RXD
5	Reserved	6	Reserved
7	Reserved	8	Reserved
9	n/c	10	n/c

Chapter 4 : System Configurations

There are different ways you can configure your Mini SNMP. If a network connection is available at your location, the following methods can be used.

- **Web-based interface**: The InsightPower G3 Mini SNMP for UPS Web supports comprehensive system management and monitoring. Please refer to *4-1 Configuring via InsightPower G3 Mini SNMP Web* and *Chapter 5: Insight-Power G3 Mini SNMP for UPS Web*.

- **EzSetting**: Use the provided program EzSetting to quickly set up your Mini SNMP. Please refer to *4-2 Configuring with EzSetting*.

- **Telnet mode**: Configure your Mini SNMP in text mode. Please refer to *4-3 Configuring via Telnet*.

Alternatively, you can also set up your Mini SNMP by direct COM port connection. Please refer to *4-4 Configuring through COM Port*.

NOTE :
  1. To ensure system security, it is highly recommended that you change your account and password after the first login.

  2. If you have multiple Mini SNMP units installed in your network, we highly suggest that you change the Mini SNMP's default Host Name to avoid conflicts. Also, it is recommended that you disable BOOTP/ DHCP and manually assign a valid static IP address to the Mini SNMP.

4-1 Configuring via InsightPower G3 Mini SNMP Web

To set up the Mini SNMP via your web browser, please follow the instructions below:

Step 1 Plug a CAT5 network cable into the Mini SNMP's network port to connect to the network. Then, launch your web browser. In the address bar, enter the Mini SNMP's default Host Name **InsightPower** or default IP Address **192.168.1.100**. If you are unable to connect, please see *Chapter 7: Troubleshooting Q6*.

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> **NOTE:**
> If you have previously changed the Mini SNMP's Host Name or IP Address, connect with the new settings.

Step 2 Log in as Administrator (default account/ password: admin/ password, case sensitive).

Step 3 Specify your preferred display language (default: English) from the drop-down menu on the top right of the page. The Mini SNMP will remember your language preference. In the following instructions, English is chosen as the display language.

Step 4 Click **System → User → Local**. Manage your login accounts and passwords under the "User" subhead. The access permission for the account types is shown as follows:

   1) **Administrator:** Allowed to modify all settings.

   2) **Device Manager:** Allowed to modify device-related settings.

   3) **Read Only User:** Only allowed to view settings without the permission to make changes.

You can manually specify whether users are allowed to log in from other LANs. If you wish to block login attempts from external connections, select **Only in This LAN**. Otherwise, select **Allow Any**.

Step 5 Click **System → Ethernet** to set Host Name, IP Address, Subnet Mask and Gateway IP for the Mini SNMP.

Step 6 Click **System → Service → Time** to manually set time and date for the system, or enable automatic time synchronization between the Mini SNMP and the time servers.

> **NOTE:**
> To completely set up your Mini SNMP, please refer to *Chapter 5: Insight-Power G3 Mini SNMP Web*.

4-2 Configuring with EzSetting

The EzSetting (compatible with Windows 2000/ 2003/ 2008/ XP/ Vista/ 7/ 10) allows you to easily configure your Mini SNMP and upgrade firmware on your SNMP devices. Follow the instructions below.

Step 1 Plug a CAT5 cable into the Mini SNMP's network port.

Step 2 Make sure the workstation and the Mini SNMP are on the same LAN.

Step 3 Launch EzSetting. You can download the EzSetting from https://datacenter-softwarecenter.deltaww.com.cn.

Step 4 Click **Discover** to search all available SNMP devices on the LAN. A list of devices will be shown.
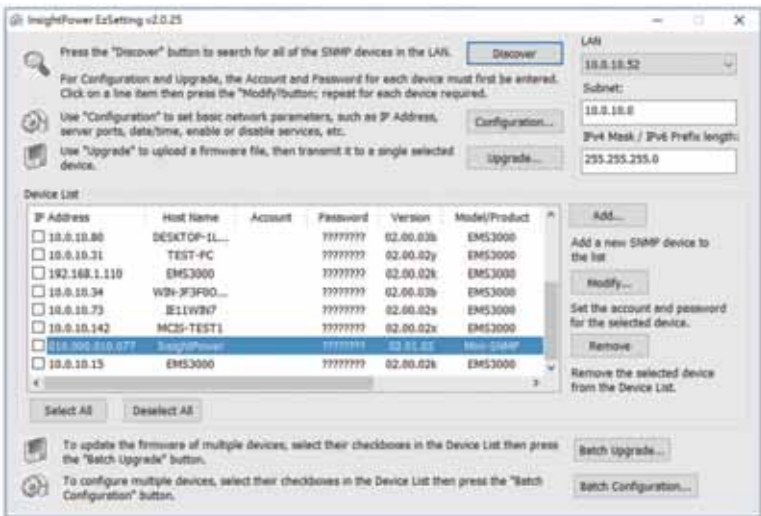
NOTE:

1. If you want to search the SNMP devices in a different domain, change the **Subnet** and **IPv4 Mask/ IPv6 Prefix Length** and click **Discover**.

2. If the Mini SNMP can not be found, check the UDP port 3456 on the workstation you are using. Make sure it is open.

Step 5 Select the Mini SNMP that you want to modify from the Device List. Click **Modify** and enter Administrator's account and password (default: admin/ password, case sensitive).

Step 6 Click **Configuration** to configure network settings.
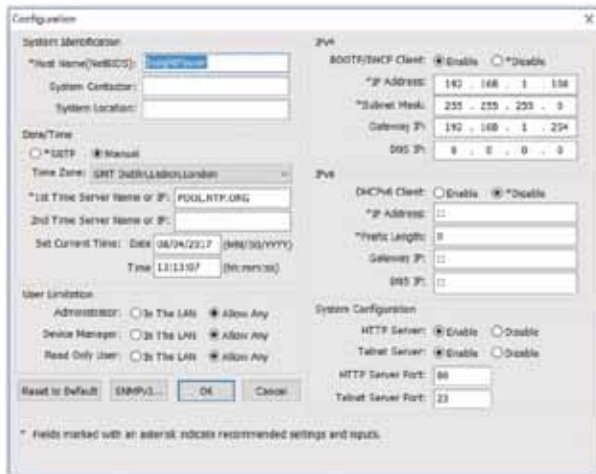
NOTE:
Refer to *Chapter 5: InsightPower G3 Mini SNMP Web* for the complete configuration procedures.

4-3 Configuring via Telnet

Step 1 Plug a CAT5 cable into the Mini SNMP's network port.

Step 2 Connect the workstation (Windows or Linux) to the LAN that the Mini SNMP is connected to.

Step 3 For Windows, launch DOS prompt mode (**Start** → **Run** → key in **cmd** and press **Enter**). For Linux, launch Shell.

Step 4 Enter the following command: **telnet Host Name** or **telnet IP address** to initiate telnet connection with the Mini SNMP.

Step 5 When connection is established, enter Administrator's account and password (default: admin/ password, case sensitive). The Main Menu will appear on the screen. Please refer to *4-5 Configuring via Text Mode* for more information.

NOTE:

1. The Mini SNMP terminates idle connections after 60 seconds.

2. Refer to *Chapter 5: InsightPower G3 Mini SNMP Web* for the complete configuration procedures.

4-4 Configuring through COM Port

If network connection is not available at your location, you can still set up the Mini SNMP via COM port. Please follow the instructions below.

NOTE:

If you are running a non-Windows system, refer to your system's user manual for Telnet clients.

Step 1 Use the provided RJ45 to DB9 cable to connect the Mini SNMP's COM port to the workstation's COM port.

Step 2 Download the free Telnet/ SSH client program named PuTTY from http://www.putty.org.

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Step 3   Lunch PuTTY as shown below.
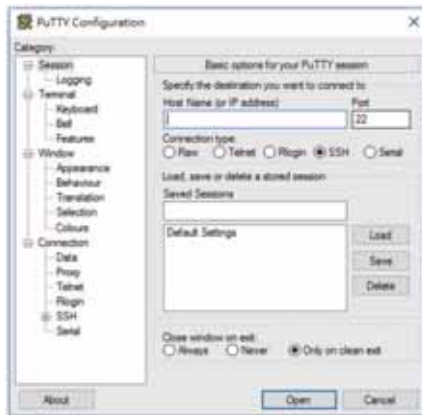
Step 4   Select **Category → Session** and **Connection type → Serial**.
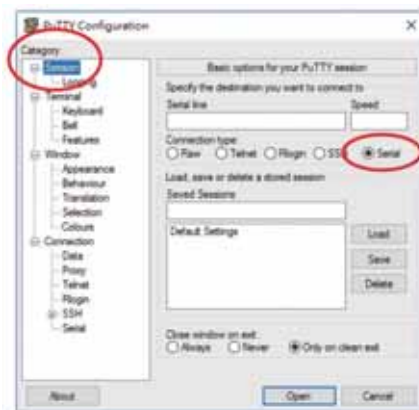
Step 5   In the **Serial line** bar, enter your workstation's COM port number, which is connected to the Mini SNMP's COM port. In the **Speed** bar, enter the baud rate 2400.

Step 6 Click **Open** to continue, and PuTTY will automatically connect to the Mini SNMP. When connection is established, log in with Administrator's account/ password (default: admin/ password, case sensitive). Once you are logged in, the Main Menu appears on the screen. Please refer to *4-5 Configuring via Text Mode* for more information.

4-5 Configuring via Text Mode

You can configure the Mini SNMP via text mode by using Telnet/ SSH clients such as HyperTerminal and PuTTY. Refer to the default settings and details below.

⊙ Main Menu

◎ User Manager

No.	Item	Description	Default
[1]	Administrator Account	The default account/ password for the Administrator (case sensitive).	admin
[2]	Administrator Password		password
[3]	Administrator Limitation	Limitation on Administrator login area.	LAN
[4]	Device Manager Account	The default account/ password (case sensitive) for the Device Manager. This account is only permitted to change device-related settings.	device
[5]	Device Manager Password		password
[6]	Device Manager Limitation	Limitation on Device Manager login area.	LAN
[7]	Read Only User Account	The default account/ password (case sensitive) for Read Only User. This account is only allowed to view settings without the permission to make changes.	user
[8]	Read Only User Password		password
[9]	Read Only User Limitation	Limitation on Read Only User login area.	Any

◎ TCP/IP Setting

No.	Item	Description	Default
[1]	IPv4 Address	The IPv4 address.	192.168.001.100
[2]	IPv4 Subnet Mask	The IPv4 subnet mask setting.	255.255.255.000
[3]	IPv4 Gateway IP	The IPv4 gateway's IP address.	192.168.001.254
[4]	IPv4 DNS1 IP	IPv4 Domain Name Server1 IP.	0.0.0.0
[5]	IPv4 DNS2 IP	IPv4 Domain Name Server2 IP.	0.0.0.0
[6]	DHCPv4 Client	Enable/ Disable DHCPv4 protocol.	Enable
[7]	IPv6 Address	The IPv6 address.	
[8]	IPv6 Prefix Length	The IPv6 prefix length.	
[9]	IPv6 Gateway IP	The IPv6 gateway's IP address.	
[a]	IPv6 DNS1 IP	IPv6 Domain Name Server1 IP.	
[b]	IPv6 DNS2 IP	IPv6 Domain Name Server2 IP.	
[c]	DHCPv6	Enable/ Disable DHCPv6 protocol.	Disable
[d]	Host Name (NetBIOS)	The Host Name for the Mini SNMP.	InsightPower
[e]	System Contact	The System Contact information.	

No.	Item	Description	Default
[f]	System Location	The System Location information.	
[g]	Ethernet PHY Mode	Switch to the speed (10/ 100 Mbps) and duplex or auto negotiation.	Auto Negotiation
[h]	Status Stable	Status change confirmation (number of times).	3
[i]	Telnet Idle Time	Telnet connection time-out setting.	60 Seconds

◉ **Network Parameter**

No.	Item	Description	Default
[1]	HTTP Server	Enable/ Disable HTTP protocol.	Enable
[2]	HTTPS Server	Enable/ Disable HTTPS protocol.	Enable
[3]	Telnet Server	Enable/ Disable Telnet protocol.	Disable
[4]	SSH/ SFTP Server	Enable/ Disable SSH/ SFTP protocol.	Enable
[5]	FTP Server	Enable/ Disable FTP protocol.	Disable
[6]	Syslog	Enable/ Disable remote Syslog.	Disable
[7]	HTTP Server Port	HTTP port.	80
[8]	HTTPS Server Port	HTTPS port.	443
[9]	Telnet Server Port	Telnet port.	23
[a]	SSH Server Port	SSH port.	22
[b]	FTP Server Port	FTP port.	21

No.	Item	Description	Default
[c]	Syslog Server 1	The Host Name of remote Syslog Server 1.	
[d]	Syslog Server 2	The Host Name of remote Syslog Server 2.	
[e]	Syslog Server 3	The Host Name of remote Syslog Server 3.	
[f]	Syslog Server 4	The Host Name of remote Syslog Server 4.	
[g]	SNMP Get, Set Port	The SNMP port.	161

◉ **Time Server**

You can manually adjust time and date for the Mini SNMP or set up automatic synchronization with the time server. The Mini SNMP and Windows support SNTP (Simple Network Time Protocol). If you need to start up a time server service on your workstation, please refer to *Chapter 7: Troubleshooting Q1*.

No.	Item	Description	Default
[1]	Time Selection	SNTP or Manual.	SNTP
[2]	Time Zone	Change to your time zone.	+0 hr
[3]	1st Time Server	The first time server for SNTP.	POOL.NTP. ORG
[4]	2nd Time Server	The second time server for SNTP.	
[5]	Period	Auto update interval of time server.	0:06:00
[6]	Manual Date	Set the date manually.	01/01/2000
[7]	Manual Time	Set the time manually.	00:00:00

◉ Soft Restart

Reset the Mini SNMP. This will not affect the operation of the UPS.

◉ Reset All to Default

Reset to manufacturer default.

◉ Exit Without Save

Exit without saving your setting changes.

◉ Save and Exit

Save your setting changes before you exit.

Chapter 5 : InsightPower G3 Mini SNMP Web

To configure the Mini SNMP via the InsightPower G3 Mini SNMP Web, please follow the steps below.

Step 1   Make sure that your Mini SNMP is connected to the LAN. Plug a CAT5 cable into the Mini SNMP's network port.

Step 2   Launch your web browser. In the address bar, enter the Mini SNMP's Host Name **http:/InsightPower/** or IP Address. For encrypted connection, enter **https://InsightPower/** or **https://192.168.1.100/**.

Step 3   When connection is established, the login page appears. Enter your account and password (default: admin/ password, case sensitive).

NOTE :

1. If you have previously changed the Mini SNMP's Host Name or IP Address, please connect with the new settings.

2. If the login page is accessible but you are unable to log in with the correct account and password, additional network configuration may be needed. The cause could be the difference between the IP subnet of the computer and that of the Mini SNMP. To solve this issue, please refer to *Chapter 7: Troubleshooting Q3*.

The **InsightPower G3 Mini SNMP Web** includes the information of **Monitor, Device** and **System**. Please refer to the following sections *5-1~5-3* for more information.

5-1 Monitor

Under the Monitor category, there are Information, History, Environment and About these four items.

5-1-1 Information

This includes the information of UPS Properties, Battery Parameters, In/ Out Parameters, Identification, Status Indication, and Power Module. Please note that the UPS you have may not display the same web page as below. Different UPSs provide different information.

◉ UPS Properties

Go to **Monitor → Information → UPS Properties** to see the status overview of the UPS's major parameters. The values will be updated automatically.

◉ **Battery Parameters**

Go to **Monitor** → **Information** → **Battery Parameters** to view the information of Battery Status, Battery Measurement and Battery Replacement Date.
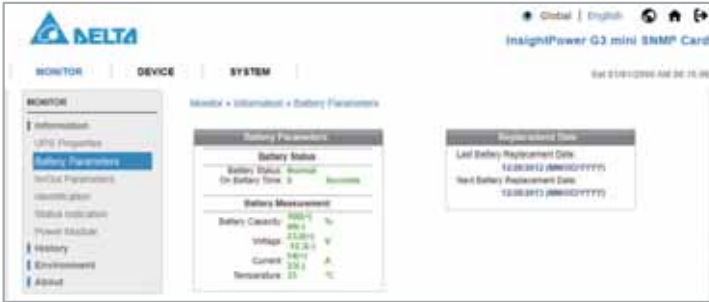
◉ **In/ Out Parameters**

Go to **Monitor** → **Information** → **In/ Out Parameters** to view the information of Input Measurement, Bypass Measurement, Output Measurement and Outlet Bank.

◉ **Identification**

Go to **Monitor → Information → Identification** to view the information of Identification and UPS Rating.
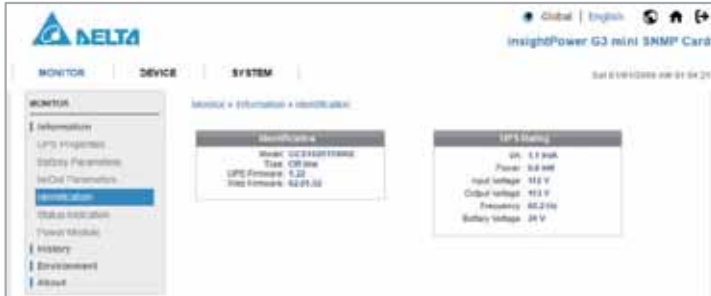
◉ **Status Indication**

Go to **Monitor → Information → Status Indication** to view the UPS's event list. When an event occurs, the indicator lights up.

◉ **Power Module**

Go to **Monitor → Information → Power Module** to view the information of every Power Module and the status of Power Module Bypass.

5-1-2 History

◉ Event Log

Go to **Monitor → History → Event Log →** Page 1/ 2/ 3/ 4... to see the events that occurred. The existing ones will be overwritten when the maximum number of the entries (10,000) is reached. You can view and download the data (EventLog-year-month-day.csv) of an assigned period of time on your computer.
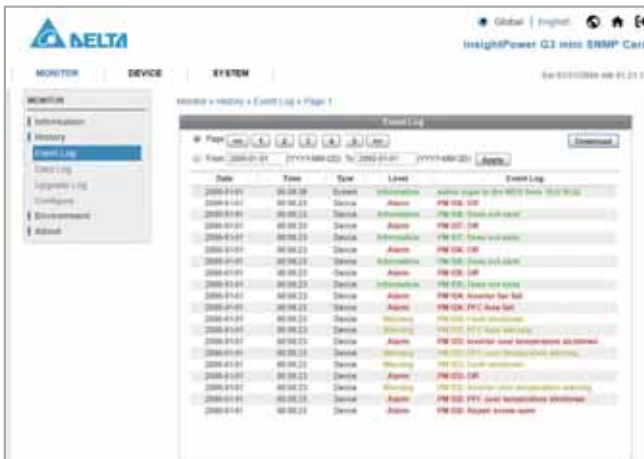
- **Date:** The date of the event that occurred.
- **Time:** The time of the event that occurred.
- **Level:** The level of the event that occurred.
- **Event Log:** The description of the event that occurred.
- **Download Event Log from UPS:**

  The Mini SNMP monitors the status of UPS automatically and displays the event logs according to their event levels. All of these event logs are saved in the Mini SNMP.

⊙ Data Log

Go to **Monitor → History → Data Log** to see all the device data saved. You can view and download the data (DataLog-year-month-day.csv) of an assigned period of time on your computer.

The Mini SNMP can store the data logs for one year circularly at one-minute intervals.
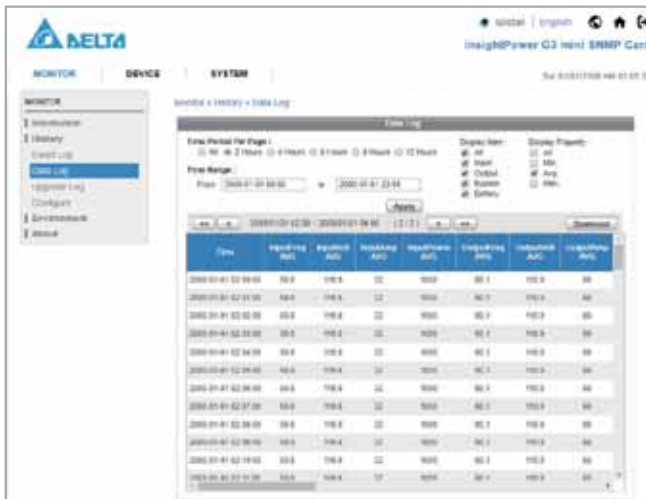
◎ **Upgrade Log**

Go to **Monitor → History → Upgrade Log** to see the installation time of the Mini SNMP's all firmware versions.

◎ **Configure**

Go to **Monitor → History → Configure** to clear the historical data and event logs.

● **Clear History Data:** Clear the historical data only.
● **Clear Event Log:** Clear the event logs only.

5-1-3 Environment

The Environment page will show up only when an EnviroProbe is connected.

The Environment page includes Information and Configuration these two items. You can monitor and set up your EnviroProbe via this Environment page. For EnviroProbe information, please refer to the Installation Guide included in the package of the EnviroProbe.

◉ Information

Go to **Monitor → Environment → Information** to see your EnviroProbe's Sensor Information, Input Contacts and Contact Setting.

◉ Configuration

Go to **Monitor → Environment → Configuration** to configure your EnviroPobe's Warning Threshold, Alarm Threshold, Title and Type.

5-1-4 About

Under the About category, there is only one item, Information.

◉ Information

Go to **Monitor → About → Information** to see the version of your InsightPower G3 Mini SNMP and other information about OpenSSL toolkit and licenses.

5-2 Device

5-2-1 Management

Since different UPSs have different functions, your UPS may not support the same configuration or control items stated below.

◉ **Configure**

Go to **Device → Management → Configure** to configure the UPS. The configuration values are saved in the UPS or in the Mini SNMP, and these values change UPS operation. The configuration items include the following. Please note that different UPSs may support different configuration options.

- **Auto Restart**

  After you click **Submit** to confirm your auto restart setup, the Mini SNMP will send the command to the UPS to enable auto restart.

- **UPS Buzzer**

  After you click **Submit** to confirm your buzzer setup, the Mini SNMP will send the command to the UPS to enable the buzzer.

- **Voltage Sensitivity**

  After you set up your voltage sensitivity (there are Normal, Reduced, and Low selections) and click **Submit**, the Mini SNMP will send the command to the UPS to enable the UPS's voltage sensitivity function.

- **Transfer Voltage**

  After you click **Submit** to confirm your transfer voltage setup, the Mini SNMP will send the command to the UPS to enable the relevant functions.

- **Low Battery**

  After you set as Enable, the Mini SNMP will save the setup value and compare with the values received from the UPS. If the received battery level is lower than the setup value, the Mini SNMP will issue a low-battery alarm.

- **Battery Replacement Date**

  After you set up battery replacement dates, the Mini SNMP will send the command to the UPS and save the information in the UPS.

- **Bypass Transfer Frequency**

  After you set a tolerance of bypass transfer frequency and confirm your setup, the Mini SNMP will send the command to the UPS. If the UPS transfers to bypass mode and the bypass frequency is out of the tolerance, output will be turned off and critical loads will be protected.

- **Periodic Auto Test**

  This configuration is to set up the battery test time. After you confirm your setup, the Mini SNMP will send the command to the UPS and save the setting in the UPS. When the test time is due, the UPS will automatically perform the battery test.

- **Customized Battery Test**

  The configuration is to set up the battery test parameters, which will be stored in the UPS EEPROM. To perform the customized battery test, go to **Control → Battery Test** and select **Customized Battery Test**.

- **Economic Mode**

  After you click **Submit** to confirm your economic mode setup, the Mini SNMP will send a command to the UPS to enable/ disable the relevant functions.

◎ **Control**

Go to **Device → Management → Control** to configure relevant control commands. After you click **Submit**, the Mini SNMP will send the commands to the UPS to enable relevant functions. The control items include the following.

● **Battery Test**

After you select the battery test type and click **Submit**, the Mini SNMP will send the command to the UPS to enable the battery test accordingly.

● **Shutdown & Restart UPS Only**

After you confirm your setup, the Mini SNMP will send the command to the UPS to shut down or/ and restart the UPS.

If you want to shut down the UPS, please check the UPS Shutdown Delay box and key in the delay time.

If you want to restart the UPS, please check the UPS Restart Delay box and key in the delay time.

If you want to shut down and restart the UPS, please check both of the boxes and key in the delay time for both.

● **Smart Shutdown**

Via the Smart Shutdown configuration, you can safely shut down all of the connected computers and the UPS. First of all, you should estimate the longest OS Shutdown Delay time of your operating systems, which have the shutdown software installed and are connected to the Mini SNMP. The Mini SNMP will wait for all the operating systems to shut down according to the OS Shutdown Delay time, and then it will send the UPS Shutdown Delay time to the UPS for a safe shutdown.

- **Outlet Control**

  Press the **Switch Bank** button to control the UPS output relay (on or off).

- **Power Fail/ Restore Simulation**

  Click **Power Fail Test** or **Power Restore Test** button to let the Mini SNMP simulate UPS power failure or power restore event. This function allows you to test all of the connected software and verify whether they work properly or not. Please note that the simulation won't influence UPS operation. The UPS will remain in its original operation mode.

◎ Schedule

Go to **Device → Management → Schedule** to arrange a weekly schedule or a specific schedule for the UPS.

- **Weekly**

  You can select **Stop Action/ Shutdown/ Restart/ 10 seconds test/ Deep battery test** and set up the day and time you want the action to be executed every week.

- **Specific**

  You can select **Stop Action/ Shutdown/ Restart/ 10 seconds test/ Deep battery test** and set up a specific date (**YYYY-MM-DD**) and time (**hh:mm**) to execute this action. Once the specific schedule has been set, the weekly schedule will be ignored.

◉ Event Level

Go to **Device → Management → Event Level** to set up an event level for the UPS or Environment Sensor. If you want to receive an event notification, please refer to *5-3-3 Notification - SNMP Trap and 5-3-3 Notification - Mail Server*.

- **UPS**

    You can select an event level (**None, Information, Warning and Alarm**), and once a UPS event occurs, the event will be sent according to this level setting.

- **Environment Sensor**

    You can select an event level (**None, Information, Warning and Alarm**), and once an Environment Sensor event occurs, the event will be sent according to this level setting.

5-3 System

Only Administrator can see the System page. Under the System category, there are Ethernet, Service, Notification, User and FW Update these five items. You can use them to change or look up the system's relevant settings or records.

5-3-1 Ethernet

The Ethernet page includes Host, IPv4 and IPv6 these three selections.

◉ **Host**

- **Host Name:** The Mini SNMP Host Name on the network.
- **System Contact**: System contact information.
- **System Location**: System Location information.
- **Speed & Duplex**: Select the speed and duplex mode of Mini SNMP.

◉ **IPv4**

This allows Administrator to configure the IPv4 parameters for the Mini SNMP.

- **DHCP Client**

  Enable/ Disable DHCP. If enabled, DHCP server will automatically assign an IP address to the Mini SNMP.

- **IP Address**

  The IP address for your Mini SNMP.

- **Subnet Mask**

  The subnet mask for your network.

- **Gateway IP**

  The IP address for network gateway.

- **DNS 1**

  The IP address for Domain Name Server 1.

- **DNS 2**

  The IP address for Domain Name Server 2.

- **Search Domain**

  If the Host Name you provided cannot be found, the system will append the search domain to your Host Name.

◉ **IPv6**

This allows Administrator to configure the IPv6 parameters for the Mini SNMP.

- **DHCPv6**

  Enable/ Disable DHCPv6 client. If enabled, DHCPv6 server will automatically assign an IPv6 address to the Mini SNMP.

- **IP Address**

  The IPv6 address for your Mini SNMP.

- **Prefix**

  The prefix length for the IPv6 address.

- **Gateway IP**

  The IPv6 address for network gateway.

- **DNS 1**

  The IPv6 address for Domain Name Server 1.

- **DNS 2**

  The IPv6 address for Domain Name Server 2.

- **Search Domain**

  If the Host Name you provided cannot be found, the system will append the search domain to your Host Name.

5-3-2 Service

The Service page includes Web, Console, FTP, Time, SNMP, SNMPv3 USM and MODBUS TCP these seven selections.

◉ **Web**

This allows Administrator to enable/ disable HTTP and HTTPS communication protocols.

- **WEB**

    1) **HTTP**

        Enable/ Disable HTTP connection.

    2) **HTTPS**

        Enable/ Disable HTTPS connection.

    3) **HTTP Port**

        Assign a HTTP port number (default: 80).

    4) **HTTPS Port**

        Assign a HTTPS port number (default: 443).

    5) **Web Refresh Period**

        Web refresh interval.

- **SSL Certificate**

    1) To ensure a secure connection between the Mini SNMP and the connected workstation, SSL certificate can be used to encrypt data and secure data integrity during transmission.

2) **Certificate File:** This allows you to replace your own SSL certificate file. The Mini SNMP supports PEM format which is generated by OpenSSL. Click Choose File to upload a certificate file.

> **NOTE:**
> For more information about generating a private SSL certificate file, visit http://www.openssl.org/.

Console

This item allows the Administrator to enable/ disable Telnet and SSH communication protocols.

- **Telnet**

  Enable/ Disable Telnet connection.

- **Telnet Port**

  Assign a Telnet port number (default: 23).

- **Telnet Timeout**

  The timeout of Telnet connection.

- **SSH**

  Enable/ Disable SSH connection.

- **SSH Port**

  Assign a SSH port number (default: 22).

FTP

This allows Administrator to enable/ disable FTP communication protocol.

- **FTP**

  Enable/ Disable FTP connection.

- **FTP Port**

  Assign a FTP port number (default: 21).

- **SFTP**

  Enable/ Disable SFTP connection.

- **SSH Port**

  Assign a SSH port number (default: 22).

◎ Time

You can manually set the time and date or allow automatic time synchronization with the SNTP server. Please note that if the SNTP server is not responsive, the event and data logs will not be registered even when SNTP is enabled.

- **Simple Network Time Server**

    1) **Time Zone:** From the dropdown menu, select the time zone according to the location of the Mini SNMP.

    2) **Primary/ Secondary Time Server:** Two time servers can be added. Every Period Time, the Mini SNMP synchronizes with the first responding server.

    3) **Synchronization Period:** The time interval that the Mini SNMP synchronizes with the SNTP server.

    4) **Update time to UPS:** Determine whether to synchronize the time with the UPS.

    5) **Enable Daylight Saving:** Check to enable daylight saving time. During this period, the time of Mini SNMP advances by one hour.

- **Manual**

    If a time server is not accessible, you can still manually set the time and date. Please note that every time you restart the Mini SNMP's network module, the time and date will be reinstated to the time you've set.

◎ SNMP

The Mini SNMP supports SNMP protocol, which is commonly used to monitor network devices and send notifications when there is any abnormality. To prevent unauthorized access, you can specify the allowed NMS IP addresses and set up their community strings and access levels. The maximum number of the IP entries is 16.

NOTE:
If the IP address * is enlisted, the NMS IP access restriction will be ignored. The Mini SNMP checks the community string to identify the access level and permission according to your setting.

◎ **SNMPv3 USM**

SNMPv3 offers features such as the encryption of packets and authentication to improve security. The SNMPv3 USM (User Session Management) allows you to assign eight User Names, whose access is granted via SNMPv3 proto-col. You can also define their respective Security Levels, Auth Passwords, Priv Passwords and Access Levels.

◉ MODBUS TCP

The Mini SNMP provides MODBUS TCP service for UPS monitoring. Users can enable or disable the MODBUS TCP service. Please set the slave ID and port according to the monitoring requirements. For cyber security, users can create a white/ block list in the Remote List column.

- **Enable Service (8 sessions max.):** You can enable the MODBUS TCP service. The maximum number of the sessions is eight.
- **Slave ID:** MODBUS Slave ID, the range is 1 to 254.
- **Port:** MODBUS TCP Port, the default value is 502.
- **MODBUS TCP Address Table:** A table of the defined parameters and alarms which UPS supports. Users can download the table for UPS monitoring.
- **Remote List:** Users can set to allow remote IP addresses with different permission levels to create a white/ block list for cyber security. The options in Access Level include Disable, Read Only and Read/ Write.

5-3-3   Notification

The Notification page includes SNMP Trap, Mail Server and Syslog these three selections.

◎ SNMP Trap

The Mini SNMP provides SNMP Trap and INFORM functions. INFORM allows the Mini SNMP to send an inform request to the SNMP managers when an event is triggered. Users can set SNMP Trap to receive alert notifications when abnormalities occur. To enable SNMP Trap, add Target IP addresses to the SNMP Trap Target List, specify Community String, Trap Type, MIB, SNMPv3 User Name, Port, Event Level and then click Add. If you wish to update or delete a Target IP address, select the Target IP address in the list and click Update or Delete. The maximum number of the Target IP addresses is 32.

NOTE :

The Mini SNMP supports SNMPv1, SNMPv2c, SNMPv3 and INFORM traps to meet the needs of most users. If you select SNMPv3 trap, please specify an SNMPv3 USM User Name. You can choose an Event Level to determine what notification should be sent to which Target IP address. Go to **Device → Management → Event Level** for event level settings. Four event levels are as follows:

- **None:** No event notifications are sent to the Target IP address.
- **Information:** All event notifications are sent to the Target IP address.
- **Warning:** Both Warning and Alarm event notifications are sent to the Target IP address.
- **Alarm:** Only Alarm event notifications are sent to the Target IP address.
- **ShutdownAgent 2012:** performs graceful, unattended operating system shutdown. For details, please refer to the official website.

◎ **Mail Server**

You can set up an SMTP Server and specify a list of E-mail recipients who will receive notifications when events occur. The maximum number of recipients is 8.

> ✎ **NOTE:**
> If a DNS server is not available on the network, you need to manually assign an SMTP server address to enable the E-mail notification system.
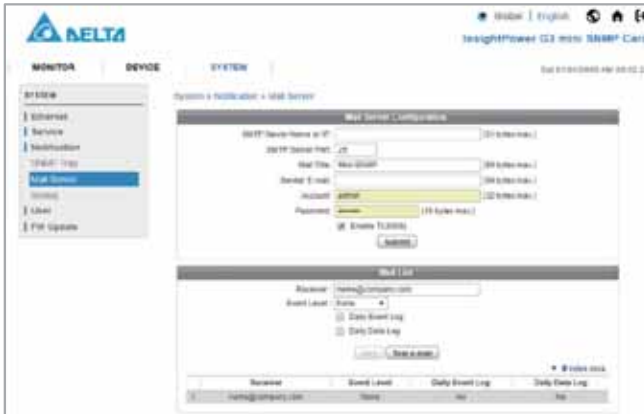
- **SMTP Server Name or IP**

   If a Host Name is entered, a **DNS IP** should be added. Please refer to *5-3-1 Ethernet*.

- **SMTP Server Port**

   The mail server's port number.

- **Mail Title**

   The subject of the notification E-mail.

- **Sender E-mail**

   The sender's E-mail address.

- **Account**

   The mail server login account.

- **Password**

   The mail server login password.

- **Receiver**

  The recipient's E-mail addresses.

- **Event Level**

  Select the Event Level. When the event is triggered, an E-mail notification will be sent to the corresponding receivers.

  1) **Information:** All event notifications are sent to the target address.

  2) **Warning:** Warning and Alarm event notifications are sent to the target address.

  3) **Alarm:** Only Alarm event notifications are sent to the target address.

- **Daily Event Log**

  If this is selected, all the event logs of each day will be sent in an attachment to the specified receivers at 0:00 AM the next day.

- **Daily Data Log**

  If this is selected, all the data logs of each day will be sent to the specified receivers at 0:00 AM the next day.

◎ **Syslog**

Syslog is used to store event logs on remote Syslog servers. This will not affect local event logs. After enabling the Syslog, please set up a server IP address. You can set up at maximum four Syslog servers at a time.

5-3-4 User

◎ **Local**

This page allows users to manage the Account Name, Password and Login Limitation for local authentication.

- **Administrator**

  Allowed to modify all settings.

- **Device Manager**

  Allowed to modify device related settings.

- **User (Read Only)**

  Only allowed to view settings without the permission to make changes.

5-3-5 FW Upgrade

The Upgrade page shows the Mini SNMP's current firmware version. The Administrator can update the Mini SNMP's firmware on this page. Click **Choose File**, select the file and click **Upload**. The upgrade process should take about one minute.

Chapter 6 : SNMP Device Firmware Upgrade

With the program EzSetting, you can effortlessly perform a firmware upgrade on your SNMP devices via LAN. Please refer to the following instructions.

Step 1 The subnet mask allows you to define the device discovery range in the specified subnet. Make sure the SNMP devices you wish to upgrade are in the same subnet that is specified. If it is not, please modify the subnet mask setting.

Step 2   Click **Discover**. A list of SNMP devices will show up.
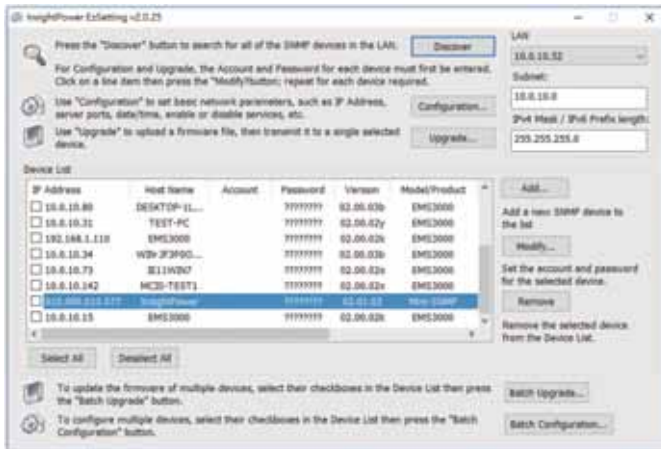
Step 3   Select a device from the Device List, click **Modify**, and enter Administrator account and password.

Step 4 Click **Upgrade**. The upgrade dialog box will pop up. Click **Browse** to se-
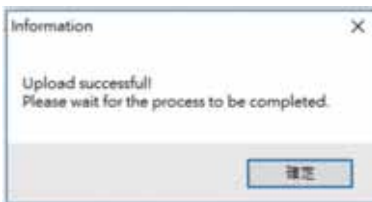lect a valid firmware binary file. Verify the firmware version shown under
File Information, and then click **Upgrade Now** to continue.

Step 5 The upgrade process should take about 20 seconds.

Step 6 When the upgrade is completed, the following dialog box appears. It
takes about 1 minute for the device to reboot.

Chapter 7 : Troubleshooting

Q1. How to set up an SNTP server on my workstation for the Mini SNMP to synchronize?

To enable SNTP services in Windows XP, go to **Start** → **Control Panel** → **Add/ Remove Programs** → **Add/ Remove Windows Components** → **Networking Services** → check **Simple TCP/ IP Services** → **OK**. To enable time synchronization, you need to set SNTP time server addresses in **Time Server**. Please refer to *Chapter 4: System Configurations*.

Q2. How to make sure the connection between the Mini SNMP and the UPS is established?

If the connection between the Mini SNMP and the UPS is correctly established, the yellow LED indicator should flash rapidly. If not, confirm that the device ID settings on the Mini SNMP and that on the UPS are consistent.

```
C:\>ping 172.16.186.230

Pinging 172.16.186.230 with 32 bytes of data:
Reply from 172.16.186.230: bytes=32 time=2ms TTL=64
Reply from 172.16.186.230: bytes=32 time=2ms TTL=64
Reply from 172.16.186.230: bytes=32 time=2ms TTL=64
Reply from 172.16.186.230: bytes=32 time=4ms TTL=64

Ping statistics for 172.16.186.230:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 4ms, Average = 2ms


C:\>
```

Q3. I can access the InsightPower G3 Mini SNMP Web, but I cannot log in.

Please check the IP addresses of the Mini SNMP and your workstation. By default, they must be within the same LAN so you can connect via the web interface. You can enable external connections to solve this issue. To do this, launch EzSetting and change User Limitation to **Allow Any**, as shown below.
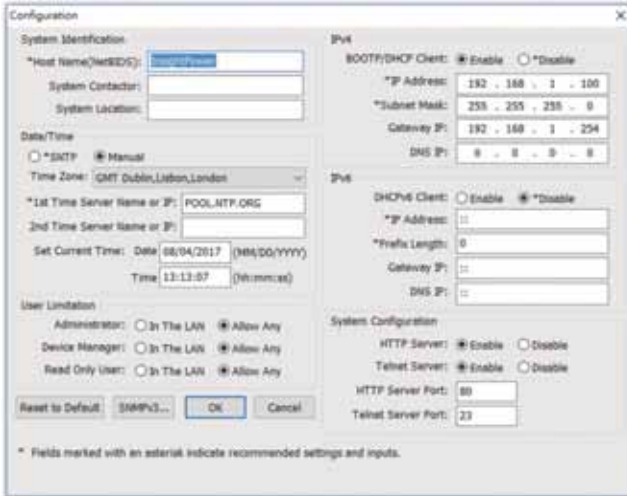
Q4. Unable to connect to the Mini SNMP via its Host Name.

If you just assign a new static IP address to the Mini SNMP, you may need to refresh the NetBIOS table so that it corresponds with the new setting. Although Windows updates its NetBIOS table periodically, you can still manually force it to refresh by entering the following command **nbtstat –R** in DOS prompt mode. After that, you can connect to the Mini SNMP by its Host Name. Please also ensure that the Host Name assigned to the Mini SNMP does not exceed 16 bytes.

Q5. How to check my workstation's IP address?

For Windows, please enter **ipconfig /all** in DOS prompt mode. For UNIX, please enter **ifconfig** in shell. You should be able to check your IP and MAC (Physical Address) now.

```
Physical Address. . . . . . . . . : 00-23-4D-A2-3A-2C
DHCP Enabled. . . . . . . . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::ad55:5b9b:74c6:e5fc%12(Preferred)
IPv4 Address. . . . . . . . . . . : 172.16.186.97(Preferred)
Subnet Mask . . . . . . . . . . . : 255.255.254.0

C:\>
```

Q6. Unable to ping the Mini SNMP from my workstation.

If the Mini SNMP is non-responsive, check the following:

1) If the green LED indicator on the Mini SNMP is OFF, check if the network cable is connected correctly from the Mini SNMP to the router or hub.

2) If the green LED indicator is ON, the problem may be a pinging failure due to incorrect IP address. Manually assign a valid IP address to the Mini SNMP.

3) If the green LED indicator flashes and (1) your network configuration includes a DHCP server, make sure the DHCP service is working properly. (2) Otherwise, make sure the assigned IP is not taken on the network. Please note that if the current configuration is not useable, the Mini SNMP will use the default IP settings (IPv4 address: 192.168.1.100/ net mask: 255.255.255.0/ gateway: 192.168.1.254).

4) If the problem persists, use a network cable to connect the Mini SNMP and the workstation. Ping the Mini SNMP's default or static IP address depending on your configurations. If it pings successfully, it means that the Mini SNMP is normal. Check your network equipment. Otherwise, contact your local dealer or service personnel for assistance.

Q7. Unable to perform an SNMP Get command.

Refer to *5-3-2 Service* to check the SNMP settings. Make sure that the workstation's IP address is added to the NMS IP list with Read Only or Read/ Write permission. The community string on the workstation and the Mini SNMP must match.

Q8. Unable to perform an SNMP Set command.

Refer to *5-3-2 Service* to check the SNMP settings. Make sure that the workstation's IP address is added to the NMS IP list with Read/ Write permission. The community string on the PC and the Mini SNMP must match.

Q9. Unable to receive SNMP trap.

Refer to *5-3-3 Notification* to check the SNMP Trap settings. Make sure that the workstation's IP address is added to the Target IP list.

Q10. **What to do if I forget Administrator's account and password?**

You can reset Administrator's account and password via text mode. Refer to *4-4 Configuring through COM Port* to establish a COM port connection with the Mini SNMP. When you are prompted by the login window, key in **rstadmin** within 60 seconds and press **enter**. The Administrator account and password are now reset to default (admin/ password).

Q11. **How to test SNMPv3 in Linux?**

Before you can access the SNMP OID (Object Identifier) via SNMPv3 protocol, the SNMPv3 USM table must be organized. Please refer to *5-3-2 Service* for more information.

To test SNMPv3 in Linux, launch shell and key in the following command.

```
snmpwalk -v 3 -u <user> -l authPriv -A <pass-
word> -X <password> -n <context name> -t 3 <ip>
1.3.6.1.2.1.1.1.0
```

-v: 1 for SNMPv1, 3 for SNMPv3.

-u: The user name which is assigned from SNMPv3 USM table.

-l: Followed by the security levels. They are: noAuthNoPriv, authNoPriv and authPriv.

-A: The Auth Password which is assigned from SNMPv3 USM table.

-X: The Priv Password which is assigned from SNMPv3 USM table.

-n: The Context Name which is assigned from SNMPv3 USM table.

-t: Timeout in seconds.

<ip>: The IP address of the Mini SNMP.

<oid>: The next available SNMP OID (for example: 1.3.6.1.2.1.1.1.0). Please refer to the RFC1213 MIB.

Appendix A : Specifications

Model	InsightPower G3 Mini SNMP Card
Power Input	12 Vdc
Power Consumption	2 Watt (Max.)
Network Connection	RJ-45 jack connector (10/ 100M)
Physical	
Size (W × D × H)	87 mm × 70 mm × 30 mm (3.4" × 2.8" × 1.2")
Weight	75 g (0.17 lb)
Environmental	
Operating Temperature	0 ~ 60°C (32°F ~ 140°F)
Storage Temperature	-40 ~ 125°C (-40°F ~ 257°F)
Operating Humidity	0 ~ 90 % (Non-condensing)

NOTE：
1. Refer to the rating label for the safety rating.
2. All specifications are subject to change without prior notice.

Appendix B : Warranty

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship within the warranty period. If the product has any failure problem within the warranty period, Seller will repair or replace the product at its sole discretion according to the failure situation.

This warranty does not apply to normal wear or to damage resulting from improper installation, operation, usage, maintenance or irresistible force (i.e. war, fire, natural disaster, etc.), and this warranty also expressly excludes all incidental and consequential damages.

Maintenance service for a fee is provided for any damage out of the warranty period. If any maintenance is required, please directly contact the supplier or Seller.

(!) **WARNING:**
The individual user should take care to determine prior to use whether the environment and the load characteristic are suitable, adequate or safe for the installation and the usage of this product. The User Manual must be carefully followed. Seller makes no representation or warranty as to the suitability or fitness of this product for any specific application.

DELTA

Appendix C : Cyber Security

For details, please refer the Security Handbook on the official website.

https://datacenter-softwarecenter.deltaww.com.cn.