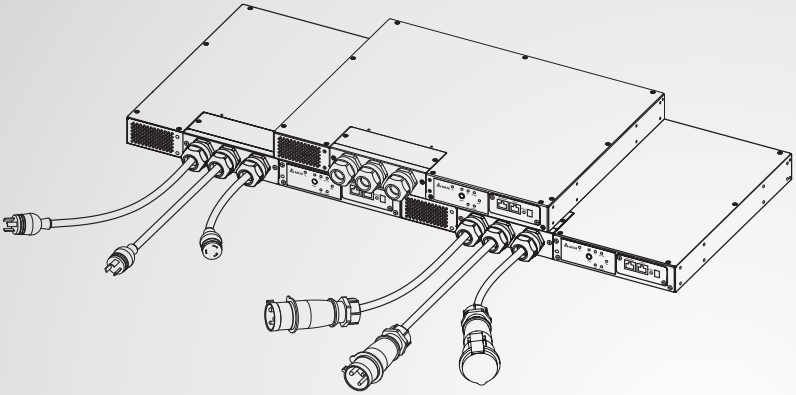


The power behind competitiveness

Delta Infrasuite Power Management

Rack Static Transfer Switch

User Manual

www.deltapowersolutions.com

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 Important Safety Notes

- Only qualified personnel can service this equipment.
- Follow the following precautions when working on this unit.
  1. Remove watches, rings, or other metal objects.
  2. Use tools with insulated handles.
  3. Examine the packing container. Notify the carrier immediately if any damage is present.
  4. Do not disassemble the unit.
  5. Do not operate the unit near water or in an area with excessive humidity.
  6. Keep liquid and foreign objects from getting inside the unit.
  7. Do not operate the unit close to gas or fire.
- Upstream circuit breaker must be added for each input. The recommended breaker is D curve 30A for STS30002SR00035 and D curve 32A for STS30002SR10035 and STS30002SR10135.
- Verify whether the branch circuit breaker or fuse on service feed is correct.
- Verify line voltage requirements and the supplied line voltage prior to installation.

1.2 Electrical Warnings

- When servicing this equipment, you will need to remove its protective covers and disconnect the input power. Please observe great caution during these procedures. Only qualified personnel can service this equipment.
- Check that power cords, plugs, and outlets are in good condition.

1.3 Standard Compliance

- **Safety**

  UL (US) : UL 62368-1 (only for STS30002SR00035)

  CE (EU) : IEC/EN 62368-1

- **EMI**

  CISPR 22 Class A and FCC Class A

- **EMS**

  IEC 61000-4-2 IEC 61000-4-6

  IEC 61000-4-3 IEC 61000-4-8

  IEC 61000-4-4 IEC 61000-4-11

  IEC 61000-4-5

- **IPv6 Certification**

  IPv6 Ready Logo Phase 2 (Core for Host, Logo ID 02-C-000624)

1.4 Storage

Please store the rSTS in its original package and in a dry place. Keep the storage temperature between -15 ~ 50°C (5 ~122°F).

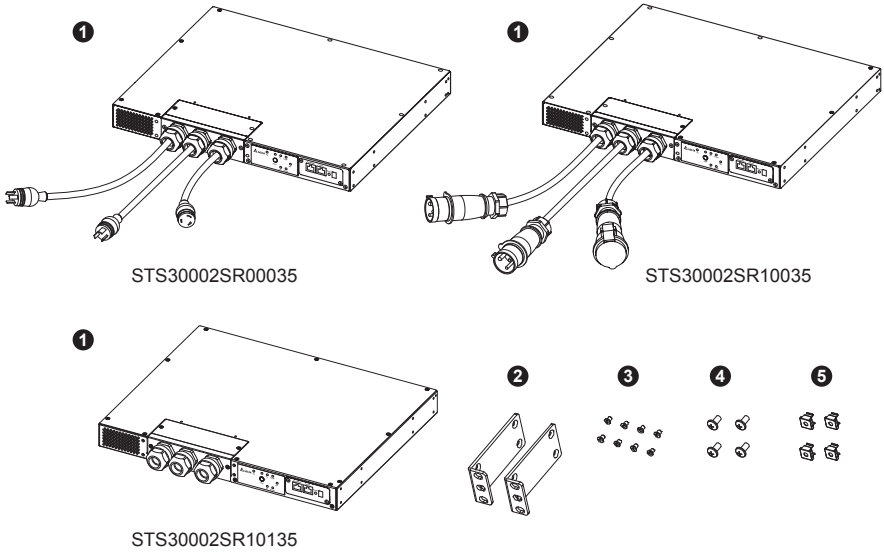
Chapter 2 : Introduction

2.1 General Overview

The rack static transfer switch, hereafter referred to as rSTS, is designed to guarantee uninterrupted operation of sensitive equipment. It is powered by two independent power sources and automatically makes a rapid switch from one source to the other when the original power supplying to its connected load fails.

User can know the power flow and rSTS's status from the front panel's LED indicators and monitor the rSTS via the built-in InsightPower SNMP IPv6. The unit has a network interface for users to read and write parameters and the network interface can be implemented via the Ethernet protocol through an RJ45 connector. The rSTS is designed to be efficient and reliable.

2.2 Package List



No.	Item	Q'ty
❶	rSTS	1 PC
❷	Bracket Ear	2 PCS
❸	Bracket Screw	8 PCS
❹	Rack Screw	4 PCS
❺	Rack Nut	4 PCS

NOTE:

1. If there is any damage or anything missing, please immediately contact the dealer from whom you purchased the unit.
2. If the rSTS needs to be returned, carefully repack the rSTS and all of the accessories using the original packing material that came with the unit.

2.3 Features

- **Flexible installation**

  Front installation and rear installation are applicable.

- **Self-test function**

  Power-on self-test
  Manual self-test

- **Withstands high inrush current**

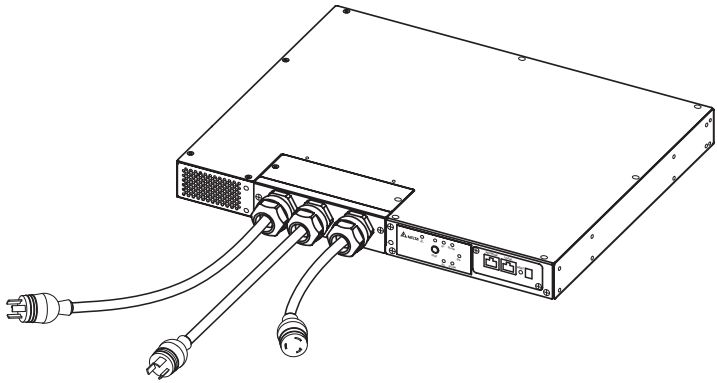
  SCR design withstands high inrush current during transferring process.

2.4 Model Type

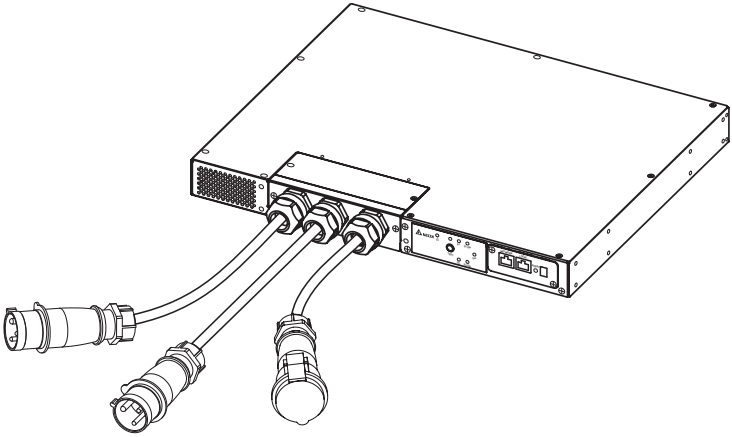
There are three models. Please see the following table and pictures.

Model No.	Input		Output	
	Type	Length	Type	Length
STS30002SR00035	L6-30P	3600 mm (141.73")	L6-30R	450 mm (17.72")
STS30002SR10035	IEC309-32A	4000 mm (157.48")	IEC309-32A	1000 mm (39.37")
STS30002SR10135	HP-T4049S-3P-L2	N/A	HP-T4049S-3P-L2	N/A

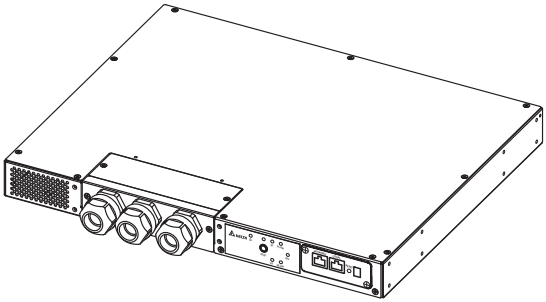
- **Model: STS30002SR00035**



- **Model: STS30002SR10035**



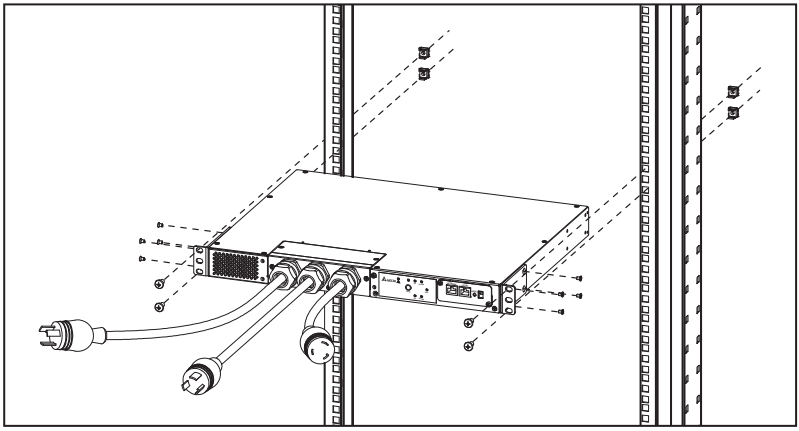
- **Model: STS30002SR10135**



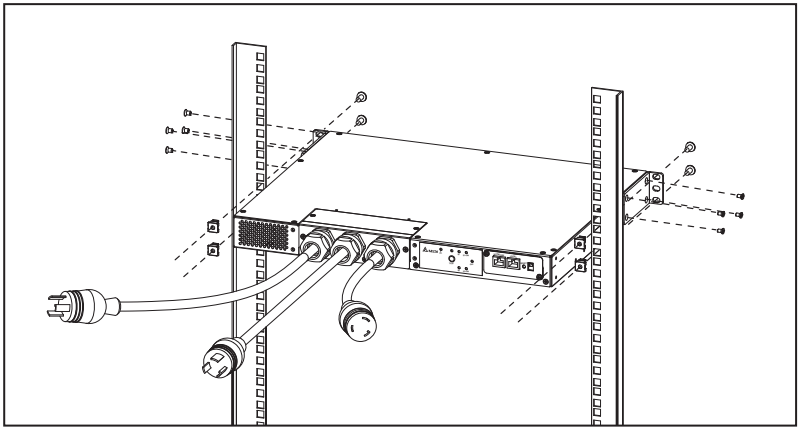
Chapter 3 : Installation

3.1 Installation_ Model: STS30002SR00035

- **Front installation**



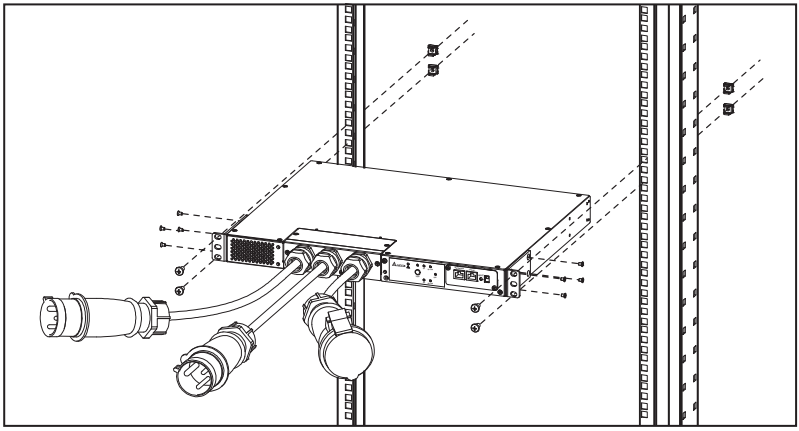
- **Rear installation**



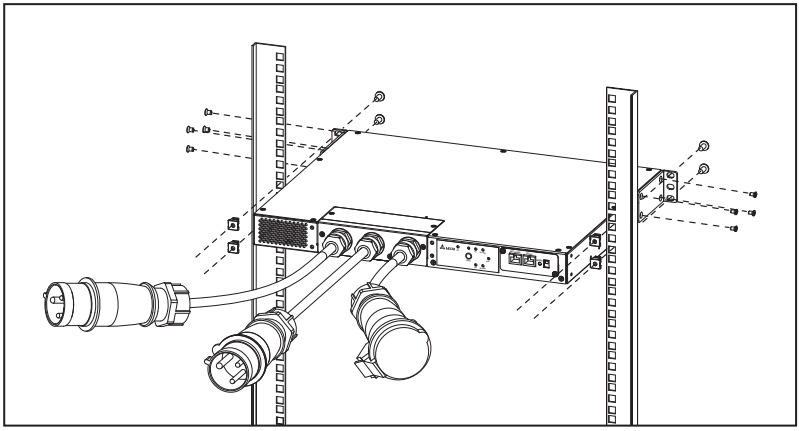
NOTE : After installation, the surplus four bracket screws, two rack nuts and two rack screws are spare parts.

3.2 Installation_ Model: STS30002SR10035

- **Front installation**



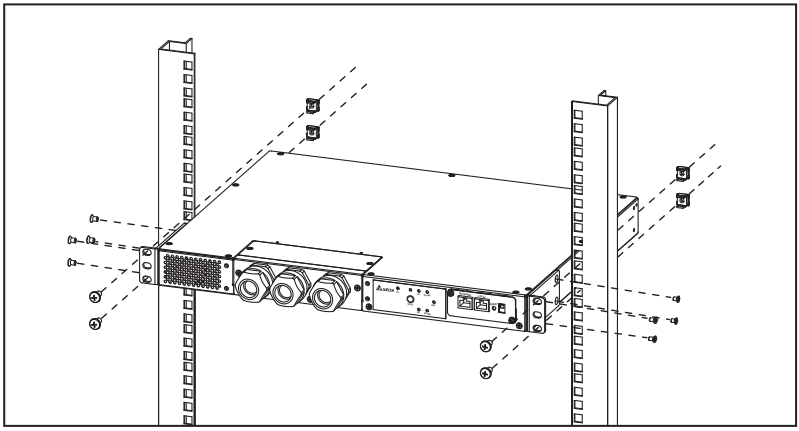
- **Rear installation**



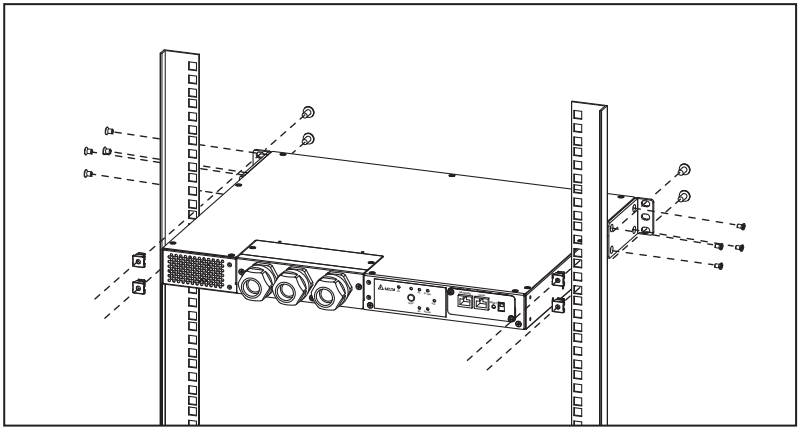
NOTE : After installation, the surplus four bracket screws, two rack nuts and two rack screws are spare parts.

3.3 Installation_ Model: STS30002SR10135

- **Front installation**



- **Rear installation**



NOTE : After installation, the surplus four bracket screws, two rack nuts and two rack screws are spare parts.

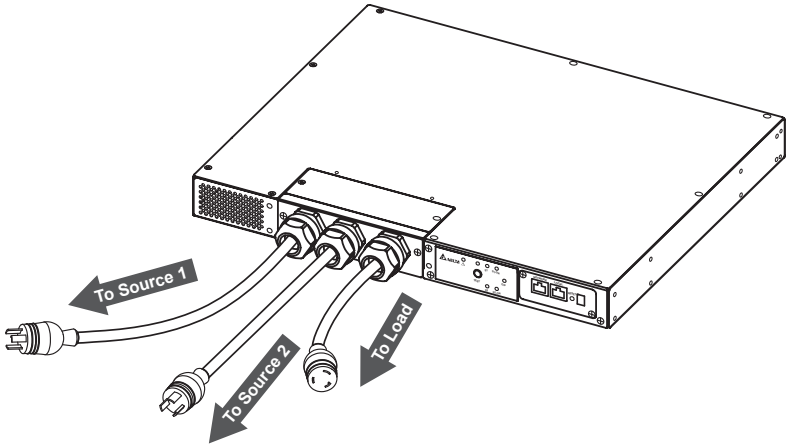
Chapter 4 : Wiring

4.1 Wiring_ Model: STS30002SR00035

1 Connect the input power cables (provided) to two power sources (source 1 (S1) & source 2 (S2)). Source 1 (S1) is the preferred source.

2 Connect the output power cable (provided) to your load.

3 Connect the Ethernet cable (not provided) to the front panel's '**NETWORK**' port.

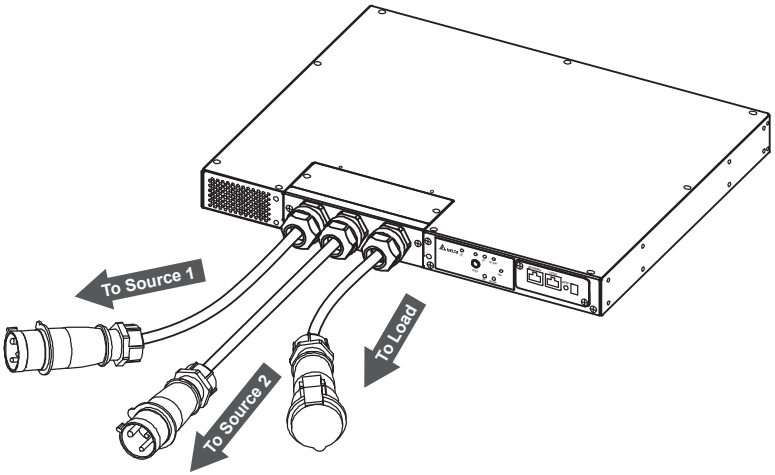


4.2 Wiring_ Model: STS30002SR10035

1 Connect the input power cables (provided) to two power sources (source 1 (S1) & source 2 (S2)). Source 1 (S1) is the preferred source.

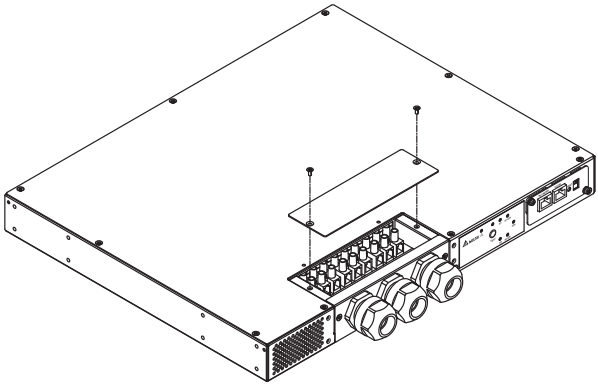
2 Connect the output power cable (provided) to your load.

3 Connect the Ethernet cable (not provided) to the front panel's '**NETWORK**' port.

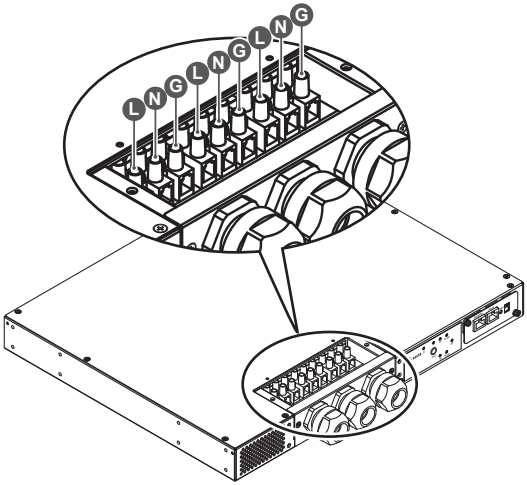


4.3 Wiring_ Model: STS30002SR10135

1 Remove the two screws shown in the figure below.

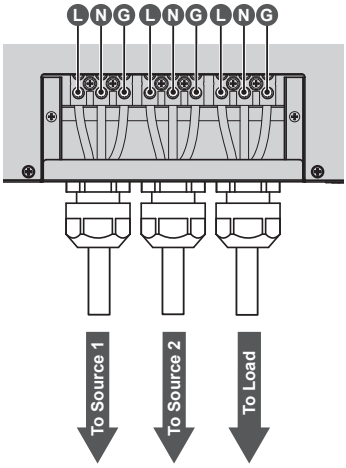


2 After removing the two screws, you will see the wiring terminals (L, N, G) as follows.



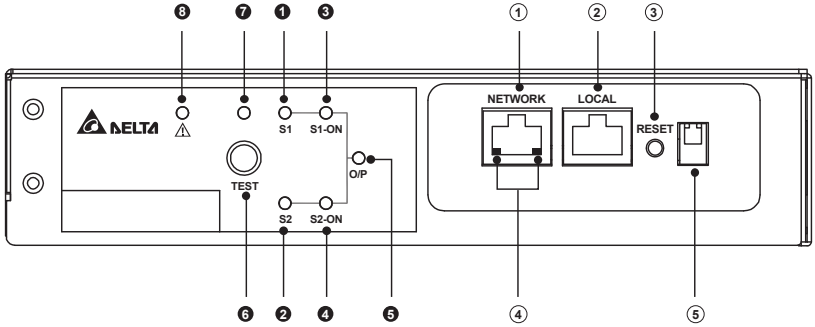
3 Follow the following table to use the specified wires to connect the wiring terminals and the source 1 (S1), source 2 (S2) and your load. For wiring, please refer the figure below. Please note that source 1 (S1) is the preferred source.

Wiring Terminal Location	L	N	G
Wire Function	Phase	Neutral	Ground
Terminal Wire Size Rating	32A		
Minimum Input Wire Size	10 AWG/ 3G4		
Tightening Torque	14Kgf-cm		



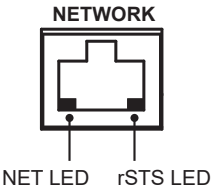
4 Connect the Ethernet cable (not provided) to the front panel's '**NETWORK**' port.

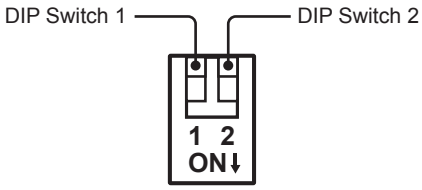
Chapter 5 : Front Panel



No.	Item	Description
❶	S1 LED	Green. The LED indicates the condition of input source 1. If the input source 1 is within the acceptable range, the LED will light up as green. If the input source 1 is out of the acceptable range, the LED will be off.
❷	S2 LED	Green. The LED indicates the condition of input source 2. If the input source 2 is within the acceptable range, the LED will light up as green. If the input source 2 is out of the acceptable range, the LED will be off.
❸	S1_ON LED	Green. If the rSTS uses input source 1 to supply power to the output, the LED will light up as green. If not, the LED will be off.
❹	S2_ON LED	Green. If the rSTS uses input source 2 to supply power to the output, the LED will light up as green. If not, the LED will be off.
❺	O/P LED	Green. The LED indicates the output condition (voltage is > 60Vac). If there is output, the LED will light up as green. If not, the LED will be off.
❻	Test Button	Use the button to test the rSTS. Press the button once and the rSTS will transfer to the 2nd source for 1 minute and then transfer back to the original preferred source.

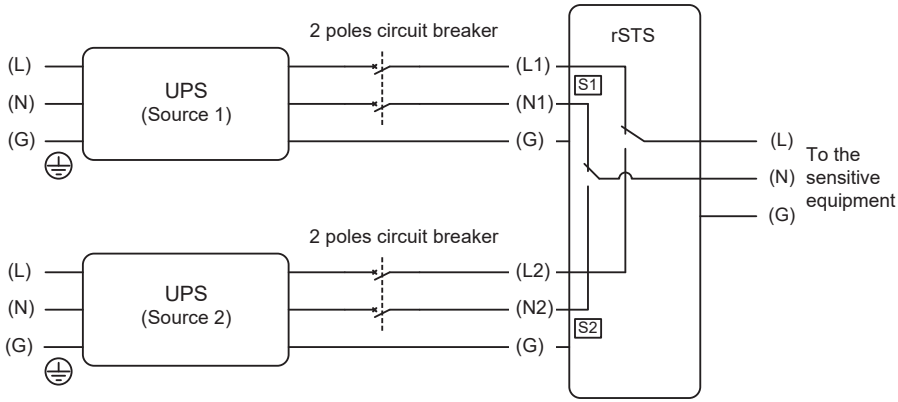
<table>
<tr><th>No.</th><th>Item</th><th>Description</th></tr>
<tr><td>❼</td><td>Test LED</td><td>Green. If you press the test button, the rSTS will be under test and the Test LED will flash (on: 0.5s; off: 0.5s). In normal operation, the LED will be off.</td></tr>
<tr><td>❽</td><td>Fault LED</td><td>Red. If the rSTS has any internal fault, the LED will light up as red. If the rSTS has any environmental fault, the LED will flash (on: 0.5s; off: 0.5s). Via the NETWORK port, fault messages will be sent to a connected PC. From the PC, you can see error codes as follows.
<table>
<tr><th colspan="2">Environmental Fault</th></tr>
<tr><th>Error Code</th><th>Meaning</th></tr>
<tr><td>E01</td><td>Output overload</td></tr>
<tr><td>E02</td><td>Over temperature (due to detection of ambient temperature)</td></tr>
<tr><td>E03</td><td>Over temperature warning (due to detection of S1 heat-sink temperature)</td></tr>
<tr><td>E04</td><td>Over temperature warning (due to detection of S2 heat-sink temperature)</td></tr>
<tr><th colspan="2">Internal Fault</th></tr>
<tr><th>Error Code</th><th>Meaning</th></tr>
<tr><td>E11</td><td>Over temperature (due to detection of S1 heat-sink temperature)</td></tr>
<tr><td>E12</td><td>Over temperature (due to detection of S2 heat-sink temperature)</td></tr>
<tr><td>E13</td><td>Auxiliary power 1 circuit failure</td></tr>
<tr><td>E14</td><td>Auxiliary power 2 circuit failure</td></tr>
<tr><td>E21</td><td>Input relay of S1 is open</td></tr>
<tr><td>E22</td><td>Input relay of S1 is short</td></tr>
<tr><td>E23</td><td>Input relay of S2 is open</td></tr>
<tr><td>E24</td><td>Input relay of S2 is short</td></tr>
<tr><td>E25</td><td>Input SCR of S1 is open</td></tr>
<tr><td>E27</td><td>Input SCR of S2 is open</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>No.</th><th>Item</th><th colspan="3">Description</th></tr>
<tr><td>①</td><td>NETWORK Port</td><td colspan="3">Connects to the Ethernet Network.</td></tr>
<tr><td>②</td><td>LOCAL Port</td><td colspan="3">Connects to a workstation with an RJ45 to DB9 cable to configure the system.</td></tr>
<tr><td>③</td><td>RESET Button</td><td colspan="3">Resets InsightPower SNMP IPv6 for rSTS (hereafter referred to as SNMP IPv6). This DOES NOT affect the operation of the rSTS.</td></tr>
<tr><td>④</td><td>LED Indicators</td><td colspan="3">NET LED (green) indicates network communication status. rSTS LED (amber) indicates the rSTS's communication status.
 
<table>
<tr><th>LED</th><th>Condition</th><th colspan="2">Meaning</th></tr>
<tr><td>ALL</td><td>Blinking Rapidly</td><td colspan="2">Firmware is upgrading.</td></tr>
<tr><td>NET LED</td><td>OFF</td><td colspan="2">Ethernet is unlinked.</td></tr>
<tr><td>NET LED</td><td>Blinking</td><td colspan="2">Ethernet is linked but no DHCP server is found.
(Default IP 192.168.1.100)</td></tr>
<tr><td>NET LED</td><td>Green</td><td colspan="2">Ethernet is linked.</td></tr>
<tr><td>rSTS LED</td><td>OFF</td><td colspan="2">1. Initialization
2. SNMP IPv6 abnormality</td></tr>
<tr><td>rSTS LED</td><td>Amber</td><td colspan="2">SNMP IPv6 abnormality</td></tr>
<tr><td rowspan="2">rSTS LED</td><td rowspan="2">Blinking</td><td>Every second</td><td>Poor connection between the rSTS and the SNMP IPv6.</td></tr>
<tr><td>Every 50 ms</td><td>Normal connection between the rSTS and the SNMP IPv6.</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>No.</th><th>Item</th><th>Description</th></tr>
<tr><td>⑤</td><td>DIP Switches</td><td>
Set up operation mode. Please refer to the following table.


<table>
<tr><th>DIP Switch 1</th><th>DIP Switch 2</th><th>Operation Mode</th><th>Description</th></tr>
<tr><td>OFF</td><td>OFF</td><td>Normal Mode</td><td>The built-in SNMP IPv6 provides the rSTS's status information and parameters through a network system.</td></tr>
<tr><td>OFF</td><td>ON</td><td>Pass Through Mode</td><td>The built-in SNMP IPv6 stops polling the rSTS but transfers the communication data between the LOCAL port and the rSTS. MODBUS Communication: 9600bps 8-N-1.</td></tr>
<tr><td>ON</td><td>OFF</td><td>N/A</td><td>Invalid state.</td></tr>
<tr><td>ON</td><td>ON</td><td>Configura-tion Mode</td><td>In this mode, users can login through the LOCAL port and configure the built-in SNMP IPv6's settings.</td></tr>
</table>
</td></tr>
</table>

Chapter 6 : Operation



After power connection, the rSTS will automatically perform power-on self-test. After the test, the rSTS will start supplying power to its connected equipment. You can also press the **Test Button** to force the rSTS to execute self-test.

Chapter 7 : InsightPower SNMP IPv6 for rSTS

7.1 Introduction of InsightPower SNMP IPv6 for rSTS

The InsightPower SNMP IPv6 for rSTS, hereafter referred to as SNMP IPv6, is built in the rSTS and is a device that provides an interface between the rSTS and a network. It communicates with the rSTS, acquires its information and remotely manages the rSTS via a network system. The SNMP IPv6 supports public protocols including SNMP and HTTP. You can effortlessly configure this SNMP IPv6 using a network system and easily obtain your rSTS's status and manage your rSTS via the SNMP IPv6.

For detailed information about the SNMP IPv6's user manual, please visit the website below.

https://datacenter-softwarecenter.deltaww.com/Download/DataCenter/Manual/SNMP_IPv6_for_rSTS(EN).pdf

7.2 SNMP IPv6 Features

- **Network rSTS management**

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

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

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

- **rSTS and system function configuration from any client (password protected)**

  Sets the rSTS and system parameters through a Web Browser.

- **Event logs & metering data keeping**

  Provides a history data of the rSTS's power events, power quality and status.

- **Other features and supported protocols include:**

  - User notification via SNMP Traps and e-mail
  - Network Time Protocol
  - Telnet configuration

- BOOTP/ DHCP
- HTTPS, SSH, SFTP and SNMPv3 security protocols
- RADIUS (Remote Authentication Dial In User Service) login and local authentication
- Remote event log management through syslog
- IPv6 Ready Logo certified (ID 02-C-000624)

DEFAULT SETTING

User Name: *admin*

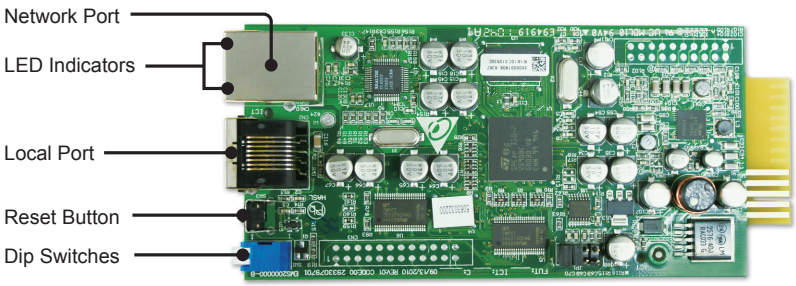
Password: *password*

DHCP Client: Enable

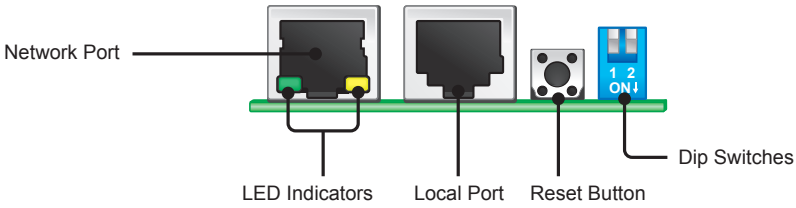
IPv4 Address: *192.168.1.100*

7.3 Top View and Front View of SNMP IPv6

- **Top View**



- **Front View**



7.4 Console Management

You can manage the SNMP IPv6 through the **LOCAL** port. Please use an RJ45 to DB9 cable to connect the SNMP IPv6's **LOCAL** port and your workstation's COM port. Make sure both of the DIP switches are set to the **OFF** position (normal mode). The baud-rate of the workstation's COM setting should be **2400** bps.

- **Web Card Main Menu**

```
+========================+
|   Web Card Main Menu   |
+========================+
Web Card Version 01.12.11f
MAC Address 00-30-ab-26-b1-b4
[1].User Manager
[2].TCP/IP Setting
[3].Network Parameter
[4].Time Server
[5].Soft Restart
[6].Reset All To Default
[d].Device Communication
[z].Exit Without Save
[0].Save And Exit

Please Enter Your Choice =>
```

- **User Manager**

```
+========================+
|     User Manager       |
+========================+
RADIUS
[1].RADIUS Auth: Disable
[2].Server:
[3].Secret:
[4].Port:       1812
----------------
Local Auth
    Administrator
[5].Account:    admin
[6].Password:   ********
[7].Limitation: Only in This LAN
    Device Manager
[8].Account:    device
[9].Password:   ********
[a].Limitation: Only in This LAN
    Read Only User
[b].Account:    user
[c].Password:   ********
[d].Limitation: Allow Any
[0].Back To Previous Menu

Please Enter Your Choice =>
```

- **TCP/ IP Setting**

```
+========================+
|     TCP/IP Setting     |
+========================+
[1].IPv4 Address:        192.168.1.100
[2].IPv4 Subnet Mask:    255.255.255.0
[3].IPv4 Gateway IP:     192.168.1.254
[4].IPv4 DNS or WINS IP:192.168.1.254
[5].DHCPv4 Client:       Enable
[6].IPv6 Address:        ::
[7].IPv6 Prefix Length: 0
[8].IPv6 Gateway IP:     fe80::226:Sbff:fecc:fdal
[9].IPv6 DNS IP:         ::
[a].DHCPv6:              Disable
[b].Host Name(NetBIOS): INSIGHTPOWER
[c].System Contact:
[d].System Location:
[e].Auto-Negotiation:    Enable
[f].Speed:               100M
[g].Duplex:              Full
[h].Status Stable:       3
[i].Telnet Idle Time:    60 Seconds
[0].Back To Previous Menu

Please Enter Your Choice =>
```

- **Network Parameter**

```
+========================+
|    Network Parameter   |
+========================+
[1].HTTP Server:           Enable
[2].HTTPS Server:          Enable
[3].Telnet Server:         Disable
[4].SSH/SFTP Server:       Enable
[5].FTP Server:            Enable
[6].Syslog:                Disable
[7].HTTP Server Port:      80
[8].HTTPS Server Port:     443
[9].Telnet Server Port:    23
[a].SSH Server Port:       22
[b].FTP Server Port:       21
[c].Syslog Server1:
[d].Syslog Server2:
[e].Syslog Server3:
[f].Syslog Server4:
[g].SNMP Get,Set Port:  161
[0].Back To Previous Menu

Please Enter Your Choice =>
```

- **Time Server**

```
+========================+
|       Time Server      |
+========================+
[1].Time Selection:      SNTP
[2].Time Zone:           +0 hr
[3].1st Time Server:
[4].2nd Time Server:
[5].Manual Date:         01/01/2000 (MM/DD/YYYY)
[6].Manual Time:         00:00:00 (hh:mm:ss)
[0].Back To Previous Menu

Please Enter Your Choice =>
```

- **Soft Restart**

```
+========================+
|   Web Card Main Menu   |
+========================+
Web Card Version 01.12.11f
MAC Address 00-30-ab-26-b1-b4
[1].User Manager
[2].TCP/IP Setting
[3].Network Parameter
[4].Time Server
[5].Soft Restart
[6].Reset All To Default
[d].Device Communication
[z].Exit Without Save
[0].Save And Exit

Please Enter Your Choice => 5

The Web Card Will Restart.
Are You Sure? [Y]es/[N]o =>
```

- **Device Communication**

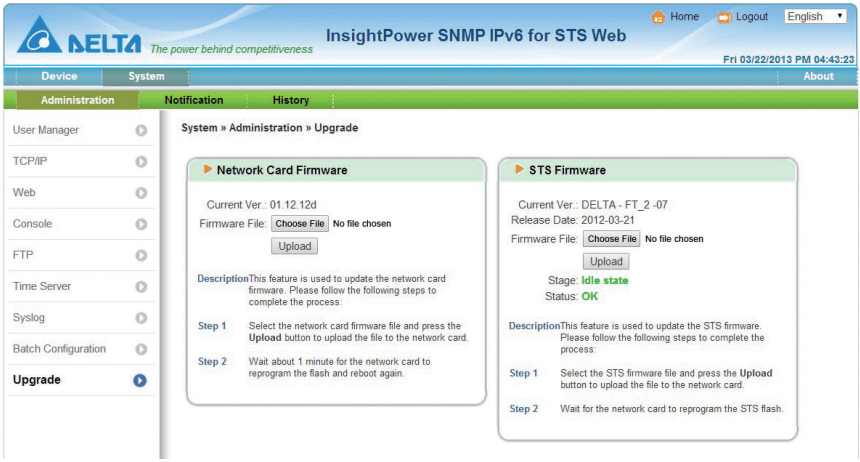
  You can enter the **rSTS Command Mode** below by selecting Device Communication.

```
STS> Vs1
216.8
STS> Vs2
217.9
STS> Iout
8.1
STS> Vout
217.1
STS> Vbp2s
180.0
STS> Vbs2p
180.0
STS> Tdp2s
12.0
STS> Tds2p
12.0
STS> TempF
96
STS> TempC
36
STS> Age
1075878
STS> Time
13:3:24 07/18 2011
STS> XCount
4402
STS> Prefer
S1
STS> DevID
12345678901234567890
STS> Serial

STS> Tprev1
13:35:16 07/18/2011
STS> Event1
0x0029
STS> Log
10
STS> Log 1
13:35:16 07/18/2011 0x0029
STS>

STS> SetDevID 1234567890abcdefghijklmn

STS> DevID
12345678901234567890
STS> SetDevID 1234567890abcdefghij

STS> DevID
1234567890abcdefghij
STS>
```

7.5 Upgrade

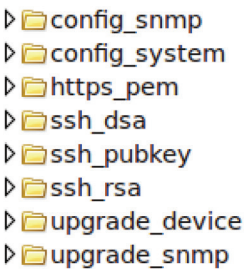
- **Upgrade via Web**

  You can upgrade the SNMP IPv6's firmware or the rSTS's firmware through **the InsightPower SNMP IPv6 for rSTS Web** (please see the following figure). The SNMP IPv6 will restart after finishing self-upgrade. If you upload the rSTS's firmware to the Web, you can see the rSTS's firmware upgrade progress from the Web.



- **Upgrade via FTP/ SFTP**

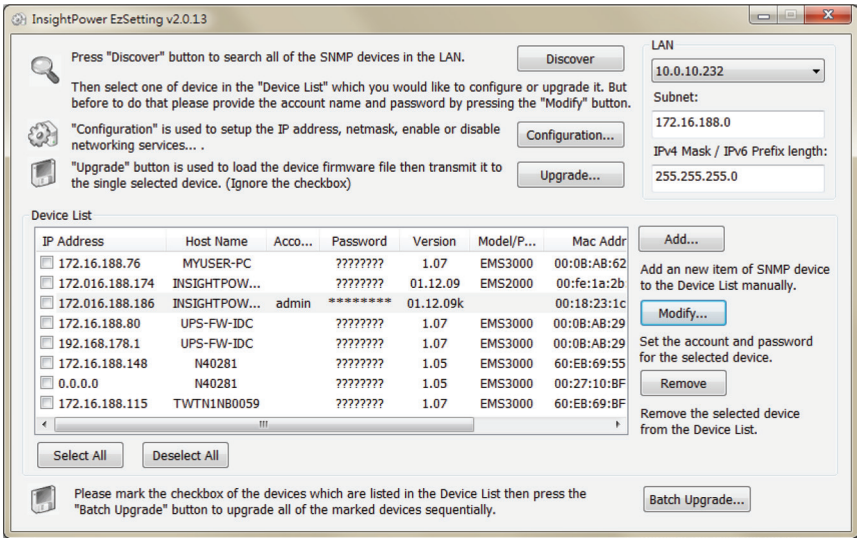
  You can also upgrade the SNMP IPv6's firmware or the rSTS's firmware by using FTP or SFTP program. Make sure you upload correct images to **upgrade_snmp** when upgrading SNMP IPv6's firmware, and upload correct images to **upgrade_device** when upgrading the rSTS's firmware.



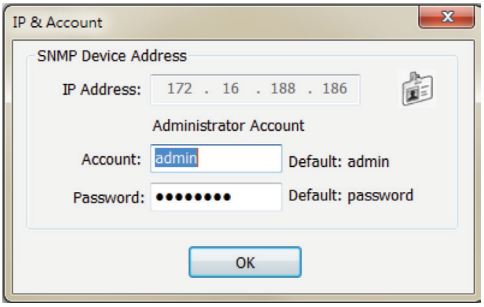
- **Upgrade via EzSetting**

  You can also upgrade the SNMP IPv6's firmware or the rSTS's firmware by using EzSetting.

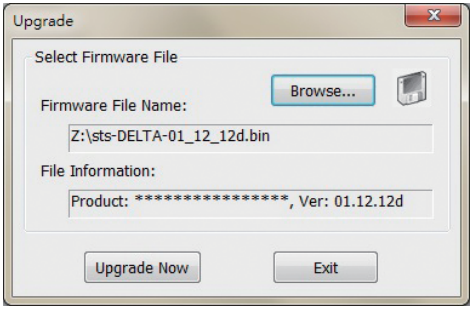
  1. Click **Discover.** A list of SNMP devices is shown. Select a device from the Device List, and click **Modify**.



  2. Enter Administrator account and password.



3. Click **Upgrade**. The upgrade dialog box pops up. Click **Browse** to select a valid firmware binary file. Verify the firmware version shown under File Information, and then click **Upgrade Now** to continue.



7.6 rSTS Command Settings

Command	Description	Parameter	Response
Info	Report summary information.	N/A	<Report>
TempF	Report internal rSTS Fahrenheit temperature.	N/A	#
TempC	Report internal rSTS Celsius temperature.	N/A	#
Age	Report internal rSTS age.	N/A	# days hh:mm:ss
Time	Report present time.	N/A	hh:mm:ss MM/DD/YYYY
XCount	Report number of times that rSTS has transferred.	N/A	#
FWVer	Report rSTS FW version.	N/A	<version string>
FWDate	Report rSTS FW release date.	N/A	YYYY-MM-DD
AgentVer	Report SNMP IPv6 version.	N/A	AA.BB.XXX
Model	Report the model name.	N/A	<Model name string>
Serial	Report the unit's serial number.	N/A	<Device serial string>
DevID	Report the unit's device ID.	N/A	<Device ID string>

Command	Description	Parameter	Response
Prefer	Report the preferred source.	N/A	S1 or S2
Sens	Report the sensitivity.	N/A	hi or low
Mode	Report the operation mode.	N/A	Initialization Diagnosis Off S1 S2 Safe Fault
Link	Check current MODBUS connection.	N/A	1- normal/ 2- abnormal/ 3- upgrading
Input/ Output Parameters			
Vout	Report the output voltage.	N/A	#.#
Iout	Report the output current.	N/A	#.#
Vs1	Report the primary voltage.	N/A	#.#
Vs2	Report the secondary voltage.	N/A	#.#
Fs1	Report the primary frequency.	N/A	#.#
Fs2	Report the secondary frequency.	N/A	#.#
Configuration			
Vtp2s	Report the primary to secondary trip voltage.	N/A	#.#
Vts2p	Report the secondary to primary trip voltage.	N/A	#.#
Vbp2s	Report the primary to secondary brownout voltage.	N/A	#.#
Vbs2p	Report the secondary to primary brownout voltage.	N/A	#.#
Tdp2s	Report the recovery time of transfer from primary to secondary.	N/A	#.#

Tds2p	Report the recovery time of transfer from secondary to primary.	N/A	#.#
Mvs1	Report the max voltage of comparing cycles for primary AC blackout.	N/A	#
Mvs2	Report the max voltage of comparing cycles for secondary AC blackout.	N/A	#
Mts1	Report the max time of comparing cycles for primary AC blackout.	N/A	#.#
Mts2	Report the max time of comparing cycles for secondary AC blackout.	N/A	#.#
Device Log			
Log	Report the event code and time of prior transfers.	[Index] [# to show] # = 1 - 20	STS> Log 10 STS> Log 1 15:33:59 03/20/2016 0x29 STS> Log 3 5 Index Time Date Event 3) 13:07:42 07/12/2011 0x29 4) 13:07:54 07/12/2011 0x2D 5) 15:19:00 06/20/2011 0x2B 6) 15:19:00 06/20/2011 0x2E 7) 15:19:00 06/20/2011 0x2B
Tprev[1..9]	Report the time of prior transfer/event. Tprev1 is the most recent time.	N/A	hh:mm:ss MM/DD/YYYY
Event[1..9]	Report the event code for prior transfer. Event1 is the most recent event.	N/A	0x#
Essential Log			
LogR	Report regular log.	[Index | Date] [1-288]	<List of regular log>
LogD	Report daily log.	[Index | Date | Month] [1-200]	<List of daily log>

LogM	Report monthly log.	[Index | Month] [1-200]	<List of monthly log>
Setting			
SetTime	Set the present time.	hh:mm:ss [MM/DD/YYYY]	[Message]
SetDate	Set the present date.	MM/DD/YYYY	[Message]
SetPrefer	Set the preferred source.	1 or 2	[Message]
SetDevID	Set the unit's device ID.	<20 characters> alphanumeric only	[Message]
SetVtp2s	Set the primary to secondary trip voltage.	165.0 ~ 175.0	[Message]
SetVts2p	Set the secondary to primary trip voltage.	165.0 ~ 175.0	[Message]
SetVbp2s	Set the primary to secondary brownout voltage.	180.0 ~ 264.0	[Message]
SetVbs2p	Set the secondary to primary brownout voltage.	180.0 ~ 264.0	[Message]
SetTdp2s	Set the recovery time of transfer from primary to secondary.	12.0 ~ 1800.0	[Message]
SetTds2p	Set the recovery time of transfer from secondary to primary.	12.0 ~ 1800.0	[Message]
SetMvs1	Set the max voltage of comparing cycles for primary AC blackout.	30 ~ 50	[Message]
SetMvs2	Set the max voltage of comparing cycles for secondary AC blackout.	30 ~ 50	[Message]
SetMts1	Set the max time of comparing cycles for primary AC blackout.	2.0 ~ 4.0	[Message]
SetMts2	Set the max time of comparing cycles for secondary AC blackout.	2.0 ~ 4.0	[Message]

Upgrade Status			
UpProcess	Status of upgrade progress.	N/A	Idle / Run / Error
UpStep	Stage of upgrade progress.	N/A	Init/ FileID/ Auth/ Addr/ Erase/ Program/ Read
UpPercentage	Percentage of upgrade progress.	N/A	#.#
UpResult	Result of upgrade progress.	N/A	OK/ No response/ File ID fail/ Authenticate fail/ Erase fail/ Flash fail/ Read fail/ Upgrade complete
UpDate	Report time of each FW upgrade.	[Index] [# to show] # = 1 - 20	STS> UpDate 3 STS> UpDate 1 13:43:15 04/10/2013 STS> UpDate 1 20 Index Time Date 1) 13:43:15 04/10/2013 2) 13:28:26 04/10/2013 3) 13:27:37 04/10/2013
AgentVer	Report SNMP IPv6 version.	N/A	AA.BB.XXX
Link	Check current MODBUS connection.	N/A	1 - normal / 2 - abnormal / 3- upgrading
Other			
Bye | Exit	Terminate remote connection.	N/A	

7.7 Key Generation for SSH

- **For Linux**

  (1) Please download and install OpenSSH from http://www.openssh.org.

  (2) Launch shell and enter the following command to create your own keys.

  Please ignore it when prompted to provide passphrase.

  DSA Key:ssh-keygen –t dsa

  RSA Key:ssh-keygen –t rsa

(3) Upload DSA and RSA key files on the web.

- **For Windows**

(1) Please download and install PuTTY from http://www.putty.org.

(2) Run **puttygen.exe** from the installed directory.

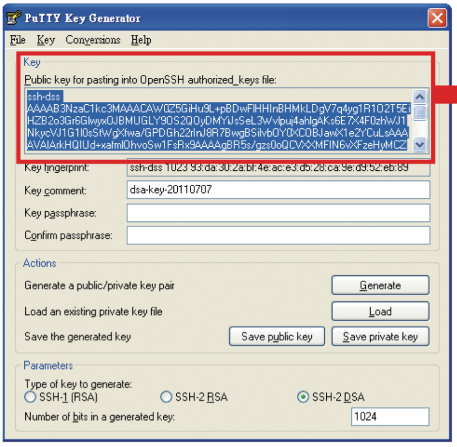
(3) Select **SSH-2 RSA** from the Parameters area and click **Key→ Generate key pair** to generate an RSA key.

(4) Select **Conversions→ Export OpenSSH Key** and assign a file name to the RSA key. Please ignore it when prompted to provide key passphrase.

(5) Select **SSH-2 DSA** from the Parameters area and select **Key→ Generate key pair** to generate a DSA key.

(6) Select **Export OpenSSH Key** from **Conversions** and assign a file name to the DSA key. Please ignore it when prompted to provide key passphrase.

(7) Upload the DSA and RSA key files to the web.



Please copy the context of public key here and paste it into a key file.

Chapter 8 : Troubleshooting

Problem	Possible case	Solution
All LEDs on the front panel are off.	The power sources, S1 and S2, are both absent.	1. Check the output (overload/ short-circuit). 2. Check both power sources, S1 and S2. 3. Reset the upstream circuit breakers.
S1 or S2 LED is off.	The corresponding power source is absent or out of range.	1. Check the corresponding power source. 2. Reset the corresponding upstream circuit breaker.
Fault LED flashes.	Output overload.	Reduce the connected load.
	Over temperature.	Check the environment temperature.
Fault LED lights up.	Internal component damage.	Please contact service personnel.
Can not communicate with the rSTS.	Wrong setting or malfunction.	Refer to the user manual of InsightPower SNMP IPv6 for rSTS.

Appendix 1 : Specifications

rSTS		
Operating Voltage	200/208/220/230/240 Vac	
Operating Frequency	45 ~ 65 Hz	
Current Rating	STS30002SR00035	24A for UL/25.6A for CE
	STS30002SR10035	30A*
	STS30002SR10135	30A*
Physical Dimensions (H × W × D)	STS30002SR00035	43 × 440 × 385 mm (1.69" × 17.32" × 15.16")
	STS30002SR10035	43 × 440 × 385 mm (1.69" × 17.32" × 15.16")
	STS30002SR10135	43 × 440 × 390 mm (1.69" × 17.32" × 15.35")
Weight	STS30002SR00035	7.7 kg (16.98 lb)
	STS30002SR10035	7.6 kg (16.76 lb)
	STS30002SR10135	6.2 kg (13.67 lb)
Environment	Operating temperature	0 ~ 40°C (32 ~ 104°F)
	Storage temperature	-15 ~ 50°C (5 ~122°F)
	Humidity	0% ~ 95% RH (non-condensing)
	Acoustic noise	< 40dBA
	Operating Elevation	0 ~ 2000 m (0 ~ 6562 ft)

NOTE :

1. * Under the condition of 35°C (95°F). If the environment temperature is between 36 ~ 40°C (96.8 ~ 104°F) (included), the product should be de-rated to 25.6A.
2. Refer to the rating label for the safety certification.
3. All specifications are subject to change without prior notice.

Appendix 2 : 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.

No. 501321230304
Version : V 3.4
Release Date : 2022_03_22

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