NetShelter™ Advanced 11000 Series Rack Power Distribution Units with NMC3

APDU11••• and APDU10••• RPDU (upgraded with NMC3)

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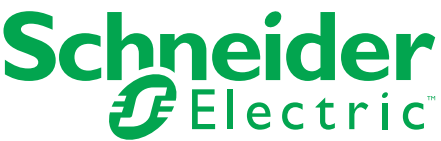
What's in This Document

Affected Revision Levels

Component	Version	Details
Network Management Card 3 (NMC3) Operating System and NetShelter RPDU Application	App 3.2.1.2 / APC Operating System 3.2.0.7	Not available for download
Secure NMC System (SNS) Tool for RPDU and NMC3 v3.1 Firmware Updates	App 3.2.1.2 / SNS Tool 2.1.0.1	Not available for download
PowerNet® SNMP Management Information Base (MIB)	4.5.6	powernet456.mib
Network Management Device IP Configuration Utility	4.0.5	DevIPSetup.exe

IMPORTANT: You must have a valid Secure NMC System (SNS) subscription (SWNMC3PDU-● Y-DIGI) for RPDU devices to update the firmware to version 3.x.x.x or later.

You must use the SNS tool for Rack Power Distribution Units (RPDUs) to upgrade to firmware version 3.x.x.x or later. This is the only supported upgrade method. See Additional Software and Documentation, page 4 for instructions to download the SNS Tool and its *User Guide*.

As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

New Features

APC Operating System
• Support added for user authentication via Lightweight Directory Access Protocol (LDAP). • Support added for TLS 1.3. • Support added for SNMPv3 encryption via the SHASHA-256 and AESAES-256 protocols.
All RPDU Applications
Support for APDU11••• and APDU10••• products upgraded with NMC3 display modules.

Fixed Issues

APC Operating System
Some cybersecurity improvements.
All RPDU Applications
None

Known Issues

APC Operating System
Certain characters, such as ™ or ©, will not be generated correctly when downloading a config.ini file via genini.htm. If a file with invalid content generated by this issue is uploaded back to the NMC, the lines with invalid content will be rejected and appropriate events will be logged.
All RPDU Applications
1. Synchronized outlet groups do not function when enabled over the network. They do function when enabled locally or when enabled through the **In/Out** ports. 2. The **Reset RPDU to Defaults** action also resets the system settings. 3. The data log may be cleared after updating firmware. The data log may be cleared when devices are added to or removed from the NPS group.

APDU11••• and APDU10••• RPDU (upgraded with NMC3) Applications

1. The serial number retrieved from SNMP for the RPDU does not match the actual serial number of the device.

2. The Network Port Sharing (NPS) system does not update connected units if one of the following occurred:

   • The upgrade file was uploaded via SCP without the original filename.

   • The host device was reset to factory defaults.

3. It is possible to configure an RPDU without a network connection as an NPS host if that RPDU has been configured with a static IP address. If one or more members of your NPS group have static IP addresses and you want to manually change the NPS host, ensure the new host has a network connection before changing the host.

4. When using certain tools (including the MIB Browser) as an SNMP interface to set string configurations on the device, be aware that strings starting with the "#" character may be reserved for special syntax by your interface tool. These strings will be interpreted as colon-separated decimal representations of ASCII character codes and will be stored as such by the Network Management Card. For example, setting #80:68:85 will result in the string "PDU being configured on the NMC." If values configured in this way are not valid strings (e.g. "#1"), the OID for that value may stop responding to get and set requests. To fix this OID behavior, overwrite the invalid configuration with a valid string via any non-SNMP interface.

5. The RPDU will not warn the user when they have connected too many guest devices to the NPS group. Up to 31 guest devices can be connected to an NPS group.

6. It may take 30 minutes or more to apply a comprehensive config.ini file to an NPS group.

7. If the clearing method for an outlet alarm action is set to **Auto**, outlets are automatically set to the non-action state when an alarm clears, regardless of what state they were in before the alarm. For example, if the alarm action is **Off**, the outlets are turned on when the alarm clears. This happens even if the outlets were off before the alarm started.

8. Outlet actions may only be canceled while they are queued in user-interfacing software layer. Once an action has been issued to the switching controller, it will be queued separately until the next available execution slot and cannot be canceled.

9. Reported device energy for metered by outlet devices is calculated as the sum of all outlet energy values. Resetting either device energy or outlet energy will reset both.

10. The two sensor ports should not be connected to anything except Schneider Electric sensor accessories. Consult the user guide for the list of supported accessories. Connecting other devices to these ports may result in damage to the RPDU and/or the connected device.

11. There is a label on the device providing values for MAC1 and MAC2. The MAC used for outgoing network connections, which may be seen on various interfaces, is MAC1. MAC2 is reserved to support the network port sharing (NPS) feature and its value may not be provided by any app interface.

12. If an RPDU in an NPS group loses power, its user-interfacing behaviors can be maintained by receiving power from neighboring devices of the same type. If power is restored after this condition occurs, the display module will reboot immediately. Outlet switch states will be restored to their last known values after the reboot.

13. It is possible to observe a large invalid value reported for device energy (~2^32 / 10 kWh) for several seconds after a device energy reset action if a load is added while the device energy reset is being finalized. The correct value will be reported after the device energy reset completes.

14. During a display module live swap of the demonstration model APDU10199SM, outlet switch states may change unexpectedly. Actual outlet state will be reported correctly after the swap and all outlets will be responsive to switching commands.

15. It is possible to configure outlet power thresholds that do not respect the outlets' current rating. The user is responsible for considering the practical implications of the configurations written to the device.

Miscellaneous

Additional Software and Documentation

You can download additional software and documentation from the Schneider Electric download center, www.se.com/ww/en/download.

1. Go to www.se.com/ww/en/download.

2. Click **Select Location**, then select your location from the provided list. You cannot download software or documentation until you specify your location.

3. Use the Search bar and the filter fields to find the needed file.

To find a document, enter the name or part number for your equipment in the Search bar. Then select **Installation & User Guides** under **Document Category**.

To find a firmware file, enter the name or part number for the firmware in the Search bar. Then select **Software & Firmware** under **Document Category**.

Software

- The Secure NMC System (SNS) tool for RPDUs (SFNMC3FMTRPDU) upgrades the firmware on your RPDU. This is the only supported upgrade method for firmware version 3.x.x.x or later.

- The PowerNet MIB allows your SNMP manager to process messages from your RPDU.

- The Network Management Device IP Configuration Utility (the Utility) is a Windows® application designed specifically to remotely configure the basic TCP/IP settings of Network Management Cards (NMCs). The Utility runs on Windows Vista®, Windows XP®, Windows 2000, Windows 2003, Windows 7, Windows 8, Windows Server® 2008, and Windows Server 2012. The Utility is for IPv4 only.

  To install the Utility, download the latest version of the utility from the Schneider Electric download center. Extract the zip file, then double-click DevIPSetup.exe to install the Utility. You can find instructions to use the Utility in the Utility interface under **Help**.

Documentation

- The Secure NMC System (SNS) Tool User Guide provides instructions on how to use the SNS tool to upgrade your firmware.

- The MIB Reference Guide explains the structure of the MIB, types of OIDs, and the procedure to define SNMP trap receivers. You can download the *PowerNet MIB Reference Guide* from www.se.com

  For information on specific OIDs, use an MIB browser to view their definitions and available values directly from the MIB itself. You can view the definitions of traps at the end of the MIB itself (the file *powernet452.mib*).

- The *User Guide* for your RPDU provides comprehensive user instructions, including instructions to recover from a lost password.

Event Support List

To obtain the event names and event codes for all events supported by a currently connected APC by Schneider Electric device, first use FTP to retrieve the config.ini file from the Network Management Card:

1. Open a connection to the NMC, using its IP Address:
   ```
   ftp > open <ip_address>
   ```

2. Log on using the Administrator user name and password.

3. Retrieve the config.ini file containing the settings of the Network Management Card:
   ```
   ftp > get config.ini
   ```

The file is written to the folder from which you launched FTP.

In the config.ini file, find the section heading [EventActionConfig]. In the list of events under that section heading, substitute 0x for the initial E in the code for any event to obtain the hexadecimal event code shown in the user interface and in the documentation. For example, the hexadecimal code for the code E0033 in theconfig.ini file (for the event "System: Configuration change") is 0x0033.

Hash Signatures

Not available for download

MD5 Hash:	DCCB1C2C53A4B94B6A83123FDCE67898
SHA-1 Hash:	BB774A62E295F38C9E1E9932664323C0ED5FB87F
SHA-256 Hash:	92AD43214535A1A74AA36DC2DEE109EF7354EE4608B901F0CA6AD67133E396A6