

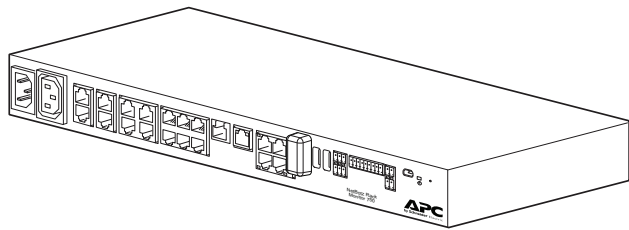
NetBotz Rack Monitor 750

Installation and Quick Start

NBRK0750

990-91106F-001

Release date 07/2024



Legal Information

The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/solutions with respect to the relevant specific application or use thereof.

The Schneider Electric brand and any trademarks of Schneider Electric SE and its subsidiaries referred to in this document are the property of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owner.

This document and its content are protected under applicable copyright laws and provided for informative use only. No part of this document may be reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), for any purpose, without the prior written permission of Schneider Electric.

Schneider Electric does not grant any right or license for commercial use of the document or its content, except for a non-exclusive and personal license to consult it on an "as is" basis.

Schneider Electric reserves the right to make changes or updates with respect to or in the content of this document or the format thereof, at any time without notice.

To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider Electric and its subsidiaries for any errors or omissions in the informational content of this document, as well as any non-intended use or misuse of the content thereof.

Table of Contents

General Information.....	5
Additional Options	6
Updates and Related Documents	6
Care and Disposal	7
Installation.....	8
Connect Sensors and Devices.....	9
Cascade Sensors and Pods from A-Link Ports	11
The Wireless Sensor Network	11
Devices on the Wireless Sensor Network.....	12
Connect the Wireless Sensor Network.....	12
Initial Configuration.....	14
Establish Network Settings.....	14
Use Your Computer to Establish Network Settings.....	14
Use a Terminal Emulator to Establish Network Settings	16
Access the Appliance.....	17
Access the Web User Interface (Web UI)	17
Types of User Accounts.....	18
Reset a Lost Super User Password	18
Reset a Lost Root Account Password.....	19
Reset to Defaults	19
Add Sensors to the Wireless Sensor Network	20
Connect Downstream Devices.....	21
Control Devices by Outlet.....	22
Configure Alarms.....	22
Update the Firmware	25
Specifications	26
Two-year Factory Warranty	28
Terms of Warranty	28
Non-transferable Warranty	28
Exclusions	28
Warranty Claims.....	29
Radio Frequency Interference	30

General Information

The APC NetBotz Room Monitor 755 functions as the central hardware appliance for a NetBotz security and environmental monitoring system. The appliance includes the following features:

- Multiple ports for connecting APC and third-party sensors and devices.
- Ports that provide power to or allow control over other devices.
- The ability to add sensor pods to increase monitored space.

The *NetBotz® Room Monitor 755 Installation and Quick Configuration Manual* describes how to install a NetBotz Room Monitor 755, connect devices to the appliance, and configure network settings. After performing the configuration procedures in this manual, you can access your system through a Web User Interface (UI) or Representational State Transfer Application Programming Interface (REST API), perform additional configuration tasks, and begin monitoring the environment.

NOTICE
<p>The equipment contains, and the software enables, visual recording capabilities, the improper use of which may subject you to civil and criminal penalties. Applicable laws regarding the use of such capabilities vary between jurisdictions and may require, among other things, express written consent from recorded subjects. You are solely responsible for insuring strict compliance with such laws and for strict adherence to any/all rights of privacy and personalty. Use of this software for illegal surveillance or monitoring shall be deemed unauthorized use in violation of the end user software agreement and result in the immediate termination of your license rights thereunder.</p>

Additional Options

The following sensors and devices are compatible with the Room Monitor 755. For more information about any of these options, contact your APC representative or the distributor from whom you purchased your product.

- NetBotz Rack Sensor Pod 150 (NBPD0150)
- NetBotz Room Sensor Pod 155 (NBPD0155)
- NetBotz Camera Pod 165 (NBPD0165)
- NetBotz Rack Access Pod 170 (NBPD0171, NBPD0175)
- NetBotz Rack Access Handle Kit (NBHN125, NBHN1356)
- Temperature Sensor (AP9335T)
- Temperature/Humidity Sensor (AP9335TH)
- Temperature/Humidity Sensor with Digital Display (AP9520TH)
- Alarm Beacon (AP9324)
- NetBotz Spot Fluid Sensor (NBES0301)
- NetBotz Door Switch Sensor for Rooms or Third Party Racks (NBES0302)
- NetBotz Door Switch Sensor for APC by Schneider Electric Racks (NBES0303)
- NetBotz Dry Contact Cable (NBES0304)
- NetBotz 0-5 V Sensor Cable (NBES0305)
- NetBotz Vibration Sensor (NBES0306)
- NetBotz Smoke Sensor (NBES0307)
- NetBotz Rope Leak Sensor (NBES0308)
- NetBotz Rope Leak Extension (NBES0309)
- NetBotz USB Coordinator & Router (NBWC100U)
- NetBotz Wireless Temperature Sensor (NBWS100T and NBWS100H)

Updates and Related Documents

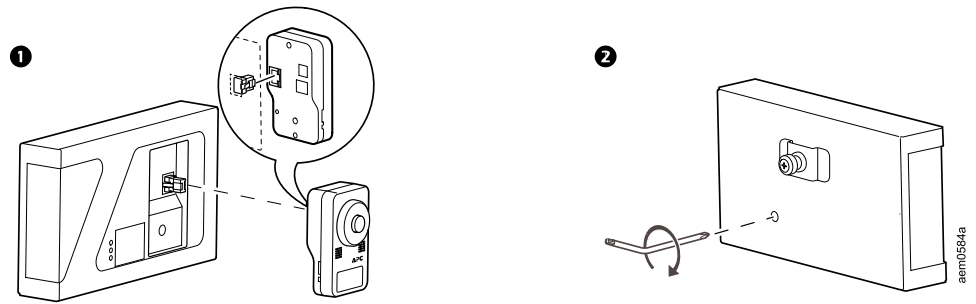
You can find updates to this document, the *User Guide*, and the *Release Notes* on the applicable product page of the APC website, www.apc.com.

Care and Disposal

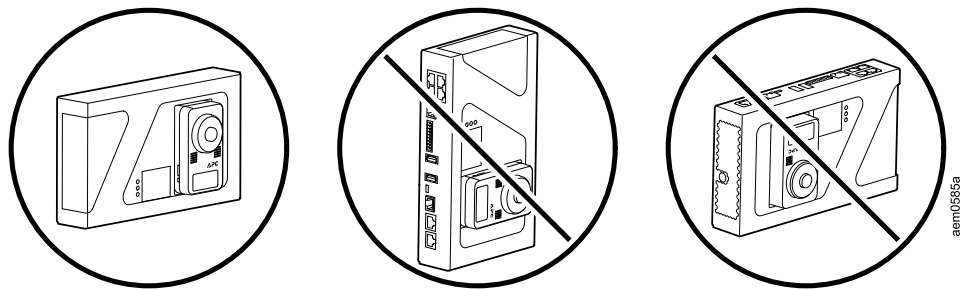
To clean the Room Monitor 755, gently wipe its surfaces with a clean, dry cloth. NetBotz appliances contain non-replaceable, lithium coin-cell batteries. Do not attempt to replace the battery. Consider the battery when disposing of the appliance.

Installation

Install the Camera Pod 165, then mount the appliance to a wall or rack.



NOTE: Only mount the appliance right-side-up. Do not mount the appliance upside-down or sideways.



Connect Sensors and Devices

NOTICE

EQUIPMENT DAMAGE RISK

Only connect approved devices to the appropriate ports as directed in this manual.

- Only connect approved devices to the appropriate ports as directed in this manual.
- Do not connect handles from NBHN125 or NBHN1356 to a Rack Access Pod (NBPD0171 or NBPD0175).
- Do not connect handles that come with a Rack Access Pod (NBPD0171 or NBPD0175) to the Rack Access ports on your appliance.

Failure to follow these instructions can result in equipment damage.

The following sensors and devices connect to specific ports:

Sensor/Device	Port/connection requirements
Alarm beacon (AP9324)	Beacon port (See <i>Control Devices by Outlet</i> , page 22.)
Door switch sensors <ul style="list-style-type: none"> • NBES0302 • NBES0303 	Universal sensor ports or Rack Access Ports (Door #1 and Door #2) NOTE: When using both a handle kit and a door switch sensor, connect the door switch sensor to a Rack Access port.
Downstream devices <ul style="list-style-type: none"> • Camera Pod 165 (NBPD0165) • Rack PDU with Network Management Card 2 (NMC2) • UPS with NMC2 	Private LAN port. NOTE: The discovery settings must match the downstream device settings, or the devices will not be discovered. (See <i>Connect Downstream Devices</i> , page 21)
Handle kits <ul style="list-style-type: none"> • NBHN125 • NBHN1356 	Rack Access ports: Handle #1 and Handle #2
Rack Access Pods <ul style="list-style-type: none"> • NBPD0171 • NBPD0175 	A-Link ports (See <i>Cascade Sensors and Pods from A-Link Ports</i> , page 11. See the <i>User Guide</i> on www.apc.com for instructions to configure rack access.)
Sensor Pods <ul style="list-style-type: none"> • Sensor Pod150 (NBPD0150) • Sensor Pod 155 (NBPD0155) 	A-Link ports (See <i>Cascade Sensors and Pods from A-Link Ports</i> , page 11.)
Temperature sensors <ul style="list-style-type: none"> • Temperature/Humidity Sensor with Display (AP9520TH) 	A-Link ports (See <i>Cascade Sensors and Pods from A-Link Ports</i> , page 11.)
Temperature sensors <ul style="list-style-type: none"> • Temperature Sensor (AP9335T) • Temperature/Humidity Sensor (AP9335TH) 	Universal sensor ports
Other NetBotz Sensors <ul style="list-style-type: none"> • Vibration Sensor (NBES0306) • Smoke Sensor (NBES0307) • Spot Fluid Sensor (NBES0301) • 0–5 V Sensor Cable (NBES0305) • Dry Contact Cable (NBES0304) 	Universal sensor ports
Third-party 0–5 V sensors	Standard third-party 0–5 V sensors require the NetBotz 0–5 V Sensor Cable (NBES0305). To connect a sensor to the cable, follow the instructions provided with the sensor and the instructions provided with the cable.

Sensor/Device	Port/connection requirements
Third-party dry contact sensors	Third-party dry contact sensors require the NetBotz Dry Contact Cable (NBES0304). To connect a sensor to the cable, follow the instructions provided with the sensor and the instructions provided with the cable.
NOTES: <ol style="list-style-type: none"><li data-bbox="156 304 1015 331">1. You can also connect sensors to the universal sensor ports on a Sensor Pod 150 or 155.<li data-bbox="156 338 1430 409">2. If a sensor cable is not long enough, use an RJ-45 coupling (provided with some sensors) and standard CAT-5 cabling to extend the cable up to 15 m (50 ft) for a Temperature/Humidity Sensor (AP9335TH) or a Temperature Sensor (AP9335T), and up to 30.5 m (100 ft) for all other supported sensors.	

Cascade Sensors and Pods from A-Link Ports

NOTICE

EQUIPMENT DAMAGE RISK

- Do not use crossover cables.
- Do not cascade appliances. Use one appliance per system.
- Do not connect A-Link devices to an Ethernet bus.

Failure to follow these instructions can result in equipment damage.

A-Link is an APC proprietary Controller Area Network (CAN) bus. Devices compatible with A-Link are not Ethernet devices and cannot coexist on an Ethernet bus with other networking devices, such as hubs and switches.

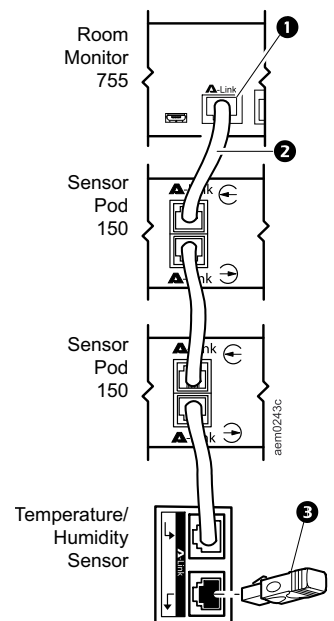
Before performing this procedure, follow the installation instructions provided with the devices you plan to cascade. You can cascade any or all of the following:

- NBRK0750: A combined total of four (4) NetBotz Rack Sensor Pod 150 (NBPD0150) units and NetBotz Room Sensor Pod 155 (NBPD0155) units. You can add up to 12 sensor pods by connecting a supplemental power supply (AP9505i) to every fourth pod.
- NBRK0755: A combined total of two (2) NetBotz Rack Sensor Pod 150 (NBPD0150) units and NetBotz Room Sensor Pod 155 (NBPD0155) units.
- NBRK0750 and NBRK0755: A combined total of eight (8) Temperature Sensors with Digital Display (AP9520T) and Temperature/Humidity Sensors with Digital Display (AP9520TH).
- One (1) rack access pod (NBPD0171, NBPD0175) with one supplemental power supply (AP9505i) attached.

To connect sensors and sensor pods to A-Link ports,

1. Connect sensors and sensor pods to the appliance as shown.
 - Connect to in and out ports as shown.
 - The combined length of all A-Link cables () must not exceed 1000 m (3,280 ft).
 - Use CAT-5 (or equivalent) Ethernet patch cables ().
2. Plug an A-Link terminator () into the unused A-Link port.
3. Connect supplemental power supplies (AP9505i) to the 24 VDC Inputs on your devices as required.

NOTE: The first time a sensor pod receives power, it obtains a unique identification address for communication over the A-Link bus. To avoid communication problems, complete steps 1 and 2 before you connect a supplemental power supply.



The Wireless Sensor Network

The wireless sensor network is made of a host appliance, a coordinator, routers, and end devices.

- The **host appliance** (your NetBotz Rack Monitor or Room Monitor) collects data from the wireless sensor network and generates alerts based on sensor readings.
- The **coordinator** is connected directly to the host appliance via USB. It reports data from the sensors on the network and provides available firmware updates to the wireless network. Each wireless sensor network must have only one coordinator, which is connected to a dedicated USB Type A port on the appliance.
- **Routers** extend the range of the wireless sensor network. Routers pass information between themselves and the coordinator, and between the coordinator and end devices. Each router is powered by an AC-USB adaptor, not directly connected to the host appliance.
Routers are optional. In a data center environment where obstructions are common, routers are recommended if sensors are more than 15 m (50 ft) from the coordinator.
- **End devices** monitor attached and internal sensors and send data back to the host appliance. End devices are powered by batteries, and are not connected to the host appliance.

Devices on the Wireless Sensor Network

NOTICE

EQUIPMENT DAMAGE RISK

Only the devices listed here are compatible with the NetBotz wireless sensor network. Other devices may not function and may damage the appliance or other wireless devices.

Failure to follow these instructions can result in equipment damage.

Device	Network Role
USB Coordinator & Router (NBWC100U)	Coordinator when connected to the appliance USB port Router when connected wirelessly and powered by an AC-USB adaptor
Wireless Temperature Sensor (NBWS100T)	End device
Wireless Temperature/Humidity Sensor (NBWS100H)	End device

The network can support up to 47 wireless routers or end devices, plus one coordinator.

NOTE: Wireless devices have a range of up to 30.5 m (100 ft), line of sight. In a data center environment where obstructions are common, a range of 15 m (50 ft) is typical for any wireless device.

Connect the Wireless Sensor Network

The order in which you configure your wireless sensor network and apply power to your wireless devices is important:

1. Select the coordinator and routers. If you have a pre-installed USB Coordinator and Router on your appliance, it acts as the coordinator. The pre-installed USB Coordinator and Router on your appliance acts as the coordinator. Note the extended address of the coordinator. If necessary, choose one or more USB Coordinator & Routers to become routers.
2. Choose the locations for the routers and end devices. Do not turn on the routers or end devices at this time.

3. Connect the Coordinator to the designated USB port on the NetBotz appliance.
4. Use an AC-USB adapter to apply power to each router. Routers are not directly connected to the NetBotz appliance.
5. Turn on the end devices after the coordinator and routers. This helps to preserve battery life.
6. Add end devices (wireless sensors) to the wireless sensor network. See [Add Sensors to the Wireless Sensor Network](#), page 20 for instructions. See **Adding sensors to the network** for instructions.

Initial Configuration

Establish Network Settings

You must configure the following TCP/IP settings before the appliance can operate on a network:

- IP address of the appliance
- Subnet mask
- Default gateway
- At least one IP address for a Domain Name System (DNS) server

By default, your appliance uses Dynamic Host Configuration Protocol (DHCP) to configure network settings. When you apply power to the appliance, it automatically attempts to contact a DHCP server.

You can use a computer to view the DHCP settings or configure the network settings manually. If needed, you can also view or configure network settings with a terminal emulator.

Use Your Computer to Establish Network Settings

1. Use the Public LAN port to connect your appliance to the network.
2. Ensure your computer is set to obtain network settings via DHCP. Connect a network cable from your computer to a Private LAN port on the appliance. Wait about 5 minutes for the computer to establish a working Ethernet connection through the appliance.

NOTE: Some computers are configured to prevent simultaneous connections to Ethernet and Wi-Fi, so you may need to disable Wi-Fi before connecting to the appliance.

3. For Windows® or Linux® systems, open a command prompt to view the default gateway, then enter the default gateway in your Web browser's URL address bar. The following commands allow you to view the default gateway:

- Windows: `ipconfig`
- Linux: `route -n`

For Macintosh® systems, open the network preferences for your Ethernet connection. Enter the **Router** address in your Web browser's URL address bar. The default gateway or router address takes you to the appliance Web UI.

NOTE: You may receive a message that the Web page is not secure. This is normal, and you can continue to the Web UI. See *Access the Web User Interface (Web UI)*, page 17 for more information.

4. Use the default user name and password (both are **superuser**) to log on to the appliance, and change the password when prompted. It is recommended that you use a strong password that complies with your company's password requirements.

5. Go to **Settings > System > Network** to view or configure the network settings for your appliance.

Setting	Description
Static	Select Static to manually configure your Network settings. This setting assigns a static IP address to the appliance.
DHCP	Use a DHCP server to configure network settings automatically. This setting assigns a dynamic IP address to the appliance.
Hostname	The host name of the appliance.
TCP/IP	
IP Address	The IP address of the appliance. Use the format xxx.xxx.xxx.xxx.
Subnet Mask	The subnet mask of the appliance.
Gateway	The IP address of the default gateway.
DNS	
Primary	The IP address of the primary DNS server
Secondary	The IP address of the secondary DNS server
Tertiary	The IP address of the tertiary DNS server

Click **Apply** to save your changes.

6. Test the IP connection of the appliance: Close the Web UI and disconnect your computer from the appliance. Start your Web browser and type the IP address of the appliance into the URL address bar. Press **Enter**. If the appliance is online and properly configured, the Web UI displays in the browser window.

Use a Terminal Emulator to Establish Network Settings

1. Connect a USB-A to Micro USB-B cable to the Console Port on the NetBotz appliance and a USB port on your computer.
2. Apply power to your appliance.

Use a PoE-ready ethernet cable to connect the appliance to power.

Plug the power cord provided with your appliance into a wall outlet, and then connect it to the AC line inlet.

The green Power LED illuminates. The appliance can take up to 2 minutes to initialize, depending on configuration settings.
3. Open a serial connection on your terminal emulator using port settings 115,200 baud, 8 data bits, no parity, 1 stop bit, and no flow control.
4. Press **Enter**, repeatedly if necessary, to display the `User Name` prompt. If you are unable to display the `User Name` prompt, verify the following:
 - The serial port is not in use by another application.
 - The terminal settings are correct as specified in step 3.
 - The correct cable is being used as specified in step 2.
 - The Silicon Labs CP210x driver is installed on your computer. (You can find the driver on www.silabs.com.)
5. Log on with the Root account user name (**root**) and password (you set the password on first use).
6. Configure your appliance to use network settings assigned by a DHCP server, or provide an IP address, subnet mask, gateway address, and at least one IP address for a DNS server.
7. Save your configuration settings, and close the terminal emulator.
8. Test the IP connection of the appliance: start your Web browser and type the IP address of the appliance into the URL address bar. Press **Enter**. If the appliance is online and properly configured, the Web UI displays in the browser window.

NOTE: The Web UI takes about 6 minutes to become available after start up.

NOTE: You may receive a message that the Web page is not secure. This is normal, and you can continue to the Web UI. See [Access the Web User Interface \(Web UI\)](#), page 17 for more information.

Access the Appliance

After the network settings are configured, you can access the appliance through the Web UI and REST API. The Web UI provides a real-time overview of alerts and device details, including sensor readings and images captured by cameras. The REST API allows you to interact with the appliance via JavaScript Object Notation (JSON) requests. See the *User Guide* on www.apc.com for detailed instructions on using the Web UI and REST API.

NOTE: The Web UI and REST API take about six minutes to become available after start-up.

Access the Web User Interface (Web UI)

After the network settings are configured, you can access the appliance through the Web UI. The Web UI provides a real-time overview of alerts and device details, including sensor readings and images captured by cameras. You can use Microsoft Internet Explorer® (IE) 11 or the latest version of Microsoft Edge®, Google Chrome®, or Mozilla Firefox® on Windows® 7 and 10 operating systems to access the appliance through its Web UI. Other commonly available browsers and operating systems may work but have not been fully tested.

NOTE: The Web UI takes about 6 minutes to become available after start-up.

NOTE: Camera streaming is not supported in IE 11.

1. Enter the host name or IP address of the appliance in the Web browser's URL address bar. (If you used DHCP to automatically obtain the IP address of the appliance, you can use your computer or a terminal emulator to view your current IP address. Follow steps 1-4 of *Use Your Computer to Establish Network Settings*, page 14 or 1-5 of *Use a Terminal Emulator to Establish Network Settings*, page 16.) You may receive a message that the Web page is not secure. This is normal when using a self-signed certificate (the default), and you can continue to the Web UI.

NOTE: Your appliance comes with a self-signed certificate installed. Browsers generate a security warning because they do not recognize the authority who signed the certificate. You can stop the warning message appearing by installing a certificate signed by a Certificate Authority (CA) the Web browser recognizes (see the *User Guide* on www.apc.com for more information). You can also direct the browser to accept the certificate to stop the warning message appearing.

2. Use your user name and case-sensitive password to log on. The default user name and password for the Super User are both **superuser**. The Super User must define the user name and password for Administrators.

Both the Super User and Administrators must change their passwords at first log on. Use strong passwords that comply with your company's password requirements.

Types of User Accounts

The appliance has three types of user accounts:

- Use the **Super User** account to log on to the Web UI after initial configuration. The Super User can create, edit, or delete Administrators.
The default user name and password for this account are both **superuser**. The Super User is required to change the Super User password the first time they log on.
- **Administrators (Admins)** are required to change their passwords when they first log on to the appliance. Admins can not create or edit other accounts.
- Use the **Root** account for procedures that require using the Console Port, e. g., using a terminal emulator to specify network settings. You are required to change the default password the first time you log on. You cannot change the default user name (**root**). The Root account is not used for most functions and should be shared with as few people as possible — ideally, only one person would have access to the Root account.

Reset a Lost Super User Password

1. Connect to the appliance with SSH or through the console port on your computer. Log on with the Root account user name and password, then press **Shift + x Enter** within 5 seconds of logging on.
2. Navigate to `/netbotz_app` and enter the following command:

```
./restart.sh stop startApp startClubber resetsupwd
```

The application restarts.
3. Log on to the appliance as the Super User (both the user name and password are **superuser**).
4. Change the default password.

Reset a Lost Root Account Password

1. Connect a USB-A to Micro USB-B cable to the Console Port on the NetBotz appliance and a USB port on your computer. Open a serial connection on your terminal emulator using port settings 115,200 baud, 8 data bits, no parity, 1 stop bit, and no flow control.
2. Disconnect and reconnect power to the appliance. Immediately press any key on your computer. If you do not press a key within 5 seconds of connecting power to the appliance, the appliance will restart normally.
You will see the following prompt: SNARC_SOCA9_BESTLA_2G #.
3. Enter the following commands:

```
setenv resetpwd true
saveenv
printenv resetpwd (You should receive a resetpwd=true response.)
boot
```

Wait for the system to restart.

4. Log on as the Root user. When prompted, reset the Root account password. If you are not prompted to reset the password, wait 10 seconds, then press **Enter** to log in again.
5. Disconnect and reconnect power to the appliance. Immediately press any key on your computer. If you do not press a key within 5 seconds of connecting power to the appliance, the appliance will restart normally.
6. Enter the following commands:

```
setenv resetpwd
printenv resetpwd (You should receive a ## Error: "resetpwd" not
defined response.)
saveenv
boot
```

Wait for the system to restart. Log on as the Root user.

NOTE: If you do not complete steps 5 and 6, you will be required to reset the Root password every time you access the console after the appliance restarts.

Reset to Defaults

This procedure reboots the appliance and resets all system settings (including passwords) to factory defaults.

NOTE: This procedure causes the appliance IP address to be reset. You may lose access to the appliance and may need to use a local connection to reset or rediscover the IP address.

1. Log into the Web UI as the Super User.
2. Open a new browser page, type

<your appliance's IP address>/rest/appliance/resetconfig
in the URL address bar, then press **Enter**.

Example: 93.184.216.34/rest/appliance/resetconfig

The appliance takes about 6 minutes to restart completely. Until the restart is complete, the Web UI is not available.

3. If needed, see [Use Your Computer to Establish Network Settings](#), page 14 or [Use a Terminal Emulator to Establish Network Settings](#), page 16 for instructions to discover or change the IP address.

The next time you log on to the Web UI, you must reset the Super User password. The next time you log onto the console, you must set the Root account password (see steps 1–5 of [Use a Terminal Emulator to Establish Network Settings](#), page 16). It is recommended that you reset both passwords immediately to increase the security of your system.

Add Sensors to the Wireless Sensor Network

Follow the instructions to [Connect the Wireless Sensor Network](#), page 12. Then, in the **Wireless** tab, click **ADD**, and select one of the following options.


Add Detected Sensors

1. Select any automatically detected device, or use the **Search** field to find the MAC address for a specific end device. You can enter a name for any selected sensor in the **Name** field.
2. Click **ADD** to add all selected sensors to the wireless sensor network, or click **CANCEL** to close the window.

Add Sensors Manually

1. Click **Choose File** to navigate to a CSV file saved on your computer, or type the MAC address of the device in the **MAC Address** field. You can enter a name for any selected sensor in the **Name** field. If you do not give the sensor a name, its MAC address is used as the name.

NOTE: The CSV format for each sensor should be *MAC address, optional name*.

2. Select **Add another** to add more than one sensor, or click Remove  to remove a sensor from the list. You can enter the name or MAC address of a specific sensor in the **Search** field to highlight it.
3. Click **ADD** to add all listed sensors to the wireless sensor network, or click **CANCEL** to close the window.

NOTE: Wireless devices show as **Disconnected** until they establish communication with the appliance.


Connect Downstream Devices

Compatible downstream devices include APC Rack Power Distribution Units (Rack PDUs) with Network Management Cards (NMC), Smart UPS (Uninterruptable Power Supply) units, or NetBotz Camera Pod 165 units. Other ONVIF cameras may work but have not been tested and are not guaranteed to include motion detection features.

To connect downstream devices, go to **Settings > System > Device Credentials**, and configure the following settings to match the settings on your device:

Setting	Description
Camera (ONVIF)	
NOTE: If you have not already set a password on a Camera Pod 165, you do not have to set the ONVIF credentials for that unit. The appliance will assign it a password.	
Username	The user name to access the camera..
Password/Confirm Password	The password to access the camera.
SNMPv1	
Read-only community name	The name used to access the Read-only community.
Read-Write community name	The name used to access the Read-write community.
SNMPv3 (More secure than SNMPv1.)	
Username	The identifier of the user profile.
Authentication/Encryption	Select whether to use No security , Authentication only , or both Authentication and Encryption .
Authentication	Verifies that the device communicating through SNMPv3 is the device claims to be, that the message has not been changed during transmission, and that the message was communicated in a timely manner, indicating that it was not delayed and that it was not copied and sent again later at an inappropriate time.
Protocol	SHA1: Most secure option. MD5: Less secure than SHA1.
Password/Confirm Password	The password or passphrase used for authentication.
Encryption	Encrypts the data sent over SNMPv3.
Protocol	AES-128: More secure than DES. Uses a 128-bit key to encrypt data. DES: Less secure than AES. Uses a 56-bit key.
Password/Confirm Password	The password or passphrase used for encryption.

Then connect the devices to your appliance through a Private LAN port. You can connect a network switch or hub to the Private LAN port to connect up to ten downstream devices, including up to four cameras. Performance may vary depending on the amount of video recorded or the number of sensors attached to your downstream devices.

NOTE: The appliance counts disconnected devices as supported units. Use the  icon to remove devices before replacing them with new ones.

If a Camera Pod 165 has previously been connected remotely (or connected to another appliance), reset the camera while it is connected to the appliance. If the camera does not appear after 10 minutes, disconnect the camera, remove it from the Web UI, then re-connect it. If you do not reset the camera, it may take hours or days to appear in the Web UI (the time depends on your company's DHCP lease configuration).

NOTE: See the *User Guide* on www.apc.com for instructions to connect Camera Pods remotely.

Once your devices are communicating with the appliance, you can change the **Device Credentials** to match a new set of devices without losing the established devices.

Control Devices by Outlet

Outlet-controlled devices include devices connected to the beacon port, switched outlet, or relay output ports/relay output port. You can select an outlet-controlled device to view its current status, or manually change the status of the device (from **inactive** to **active** or from **active** to **inactive**).

You can also configure alarms that will change the state of an outlet. See [Configure Alarms](#), page 22 for instructions.

Configure Alarms

Path: Settings > Alarm Configurations

NOTE: The options available depend on your appliance and which sensors are connected to it.

The appliance comes with default alarms pre-configured for its internal sensors (outlet, switched outlet, and current input). The appliance also creates default alarms when new sensors are connected. For example, if you connect a temperature sensor to the appliance, three **Default Temperature** alarms (**High**, **Low**, and **Too High**) are automatically created for that sensor.


When you connect additional sensors to the appliance, the appliance automatically applies the appropriate default alarms to those sensors. For example, if you connect three more temperature sensors to the appliance, the default temperature alarms are automatically applied to all three sensors. Unless you change these settings, any temperature sensor can set off any temperature alarm.

Sensor type	Name	Operation	Value	Severity	Description
Beacon	Default Beacon	Equals	Active	Informational	If the beacon is activated, generate an informational alarm.
Motion	Default Motion	Equals	Motion Detected	Informational	If motion is detected, generate an informational alarm.
Leak rope	Default Leakrope	Equals	Leak Detected	Informational	If a leak is detected, generate an informational alarm.
Smoke	Default Smoke	Equals	Smoke Detected	Informational	If smoke is detected, generate an informational alarm.
Battery	Default Battery (Too Low)	Less than	2.4 V	Critical	If the battery voltage falls below 2.4 V, generate a critical alarm named "Too Low."
	Default Battery (Low)	Less than	2.65 V	Warning	If the battery voltage falls below 2.65 V, generate a warning alarm named "Low."
Temperature	Default Temperature (Low)	Less than	18°C (64.4°F)	Warning	If the temperature falls below 18°C (64.4°F), generate a warning alarm named "Low."
	Default Temperature (High)	Greater than	27°C (80.6°F)	Warning	If the temperature rises above 27°C (80.6°F), generate a warning alarm named "High."
	Default Temperature (Too high)	Greater than	32°C (89.6°F)	Critical	If the temperature rises above 32°C (89.6°F), generate a warning alarm named "Too High."
Relative Humidity (RH)	Default Humidity (High)	Greater than	80% RH	Warning	If the humidity rises above 80%, generate a warning alarm named "High."
	Default Humidity (Low)	Less than	20% RH	Warning	If the humidity falls below 20%, generate a warning alarm named "Low."
State Door Contact	Default State Default Door Default Contact	Equals	Open	Info	If a State, Door, or Contact sensor is switched to Open , generate an informational alarm.
Vibration	Default Vibration	Equals	Vibration Detected	Info	If vibration is detected, generate an informational alarm.
Spot leak	Default Spot Leak	Equals	Leak Detected	Info	If a leak is detected, generate an informational alarm.

Sensor type	Name	Operation	Value	Severity	Description
Outlet Relay output Switched Outlet Switch	Default Outlet Default Output Relay Default Switched Outlet Default Switch	Equals	Relay Active	Info	If the status of an Outlet, Relay output, Switched outlet, or Switch is set to Active , generate an informational alarm.
External relay	Default External Relay	Equals	Relay On	Info	If the status of an external relay is set to On , generate an informational alarm.
Airflow	Default Airflow (Low)	Less than	8 ft/sec	Warning	If airflow falls below 8 feet per second, generate a warning alarm named "Low."

You can use the **Alarm Configuration** page (under **Settings > Alarm Configuration**) to edit the default alarms, create new alarms, or delete alarms. If you create new alarms, you must add sensors to the new alarms manually. Select the Name of an existing alarm configuration to change it, or click **ADD** and select the sensor type to create a new alarm. Then configure the alarm settings.

Setting	Description
General	
Name	The name of the alarm. This appears on the alarm configuration page, the Alarms tab, and the relevant sensor details window when the alarm is generated.
Type	Show the sensor type.
Operation	<p>Equals: If the device returns a value equal to the Value field, the alarm is generated.</p> <p>Not Equals: If the device returns a value different from the Value field, the alarm is generated.</p> <p>Less Than: If the device returns a value less than the Value field, the alarm is generated.</p> <p>Greater Than: If the device returns a value greater than the Value field, the alarm is generated.</p> <p>Less Than or Equals: If the device returns a value less than or equal to the Value field, the alarm is generated.</p> <p>Greater Than or Equals: If the device returns a value greater than or equal to the Value field, the alarm is generated.</p>
Value	<p>The alarm is based on this value. Available values depend on the selected type of device.</p> <p>Battery: Enter a value in Volts (V).</p> <p>0V-5V: Enter a value in Volts (V).</p> <p>4-20mA: Enter a value in milliamperes (mA).</p> <p>Air Flow: Enter a value in feet per second (ft/sec).</p> <p>Air Flow (speed): Enter a value in feet per minute (ft/min).</p> <p>Beacon: Select Active or Inactive.</p> <p>Humidity: Enter a percent value.</p> <p>Motion: Select No Motion or Motion Detected.</p> <p>Output Relay: Select Active or Inactive.</p> <p>RSSI: Enter a value in decibels (dB).</p> <p>State: Select Open or Closed.</p> <p>Switched Outlet: Select Active or Inactive.</p> <p>Temperature: Enter a value in degrees Fahrenheit or Celsius. The temperature scale is determined in your user settings. the <i>User Guide</i> on www.apc.com).</p>
Severity	<p>Select the severity of the alarm: Critical, Warning, or Informational.</p> <p>You can also use the severity to configure notification policies.</p>
Sensors	Select any sensors that can cause the alarm to be generated.
Clip Capture	This feature is optional. Select a camera to capture video from before and after the alarm is activated. The captured video will appear in the details window for any device that causes an alarm.
Control	<p>This feature is optional. Determine how other connected devices are affected by the alarm. Under Name, select devices the alarm will control. Under On alarm active and On alarm clear, select what will happen when the alarm activates and is cleared (respectively).</p> <p>For example, if you select Beacon at appliance, the beacon attached to your appliance will be controlled by the alarm. If you select On under On alarm active and select Off under On alarm clear, the beacon turns on when the alarm is generated and turns off when the alarm is cleared.</p>
Schedule	This feature is optional in firmware v5.1.0 and above. Select times during which the alarm can be generated. The alarm can not be generated during times that are not selected. Select Use a schedule to control when this configuration is active for the schedule to take effect.

Click **OK** to save the alarm configuration, or **CANCEL** to discard it. To delete an alarm, select  Delete.

NOTE: See the *User Guide* on www.apc.com for more detailed information about alarm configuration and default alarms.

Update the Firmware

It is recommended that you keep firmware versions current and consistent across your network to allow for implementation of the latest features, performance improvements, and bug fixes. Regular updates also help to ensure that all units support the same features in the same manner.

Schneider Electric firmware is signed. The hash signature is checked during the firmware update process. If the signature does not match, the firmware is not installed.

DO NOT run the installer if your calculated value does not match the published hash signature. Please contact support to report the issue.

NetBotz firmware version 5.3.5 must be installed to update to version 5.4.0

To update the firmware:

1. Download the latest firmware version for free from the APC website, www.apc.com.
2. Under **Settings > Firmware Update**, click **Choose File**, navigate to the firmware file on your computer, and select **Open**. Do not close the page while the file is uploading, or the upload will be aborted. (You can work in a different tab or a different browser window.)
3. Click **INSTALL** to install the firmware, or **Start Again** to select a different firmware version. Users can not access the Web UI while the firmware is updating. The appliance restarts when the upload is finished. This process can take about 30 minutes.

How to verify the checksum from Windows PowerShell

1. Download the most current NetBotz 5.x firmware update file to your Windows machine.
2. Open PowerShell. The PowerShell.exe command starts a session in a command window.
3. Navigate to the directory containing the downloaded file.
4. Use the Get-FileHash PowerShell command to calculate the SHA1 or MD5 checksum of the file and compare it against the published value in the table.
 - ***Get-FileHash -Path .\firmware_update_file_name -Algorithm SHA1***
 - ***Get-FileHash -Path .\firmware_update_file_name -Algorithm MD5***

How to verify the checksum from a Linux terminal

1. Download the most current NetBotz 5.x firmware update file to your Linux machine.
2. Open a terminal window.
3. Navigate to the directory containing the downloaded file.
4. Use the ***sha1sum*** or ***mda5sum*** terminal command to calculate the SHA1 or MD5 checksum of the file and compare it against the published value in the table.
 - ***sha1sum firmware_update_file_name***
 - ***md5sum firmware_update_file_name***

Specifications

Appliance Specifications

Electrical	
Input voltage, nominal	48 VDC
Maximum total current draw	640 mA
Physical	
Dimensions (H x W x D)	140 x 244 x 91.28 mm (5.5 x 9.6 x 3.6 in) with Camera Pod 165 installed
Weight	1.56 kg (3.44 lb)
Environmental	
Elevation (above MSL) Operating Storage	0 to 3000 m (0 to 10,000 ft) 0 to 4 572 m (0 to 15,000 ft)
Temperature Operating Storage	0 to 40°C (32 to 104°F) -5 to 55°C (23 to 131°F)
Humidity Operating Storage	0 to 95%, non-condensing 0 to 95%, non-condensing
Compliance	
Safety	<ul style="list-style-type: none"> • cULus-EU • CE • UKCA • CMIM
EMC	<ul style="list-style-type: none"> • EMC directive 2014/30/EU • EN55032:2015, EN55035:2017+A11:2020, Class A • FCC 47 CFR Part 15 Radiated and Conducted Emissions • ICES-003:2021 • ASNZS CISPR:22

Sensor Specifications

3.65 m (12 ft) Door Switch Sensor for APC Racks (NBES0303), 15.24 m (50 ft) Door Switch Sensor for Rooms or Third Party Racks (NBES0302)	
User input response times	200 mS
Maximum cable length	30.48 m (100 ft)
Gap distance	Less than 2.54 cm (1 in.) in air
Dry Contact Cable (NBES0304)	
User input response times	200 mS
Maximum cable length	30.48 m (100 ft)
Temperature Sensor (AP9335T)	
Temperature accuracy	± 1 °C (± 2 °F), from 0 to 40°C (32 to 104°F)
Sensor operating temperature	-10 to 70°C (14 to 159°F)
Maximum length of cable	15.2 m (50 ft)
Temperature/Humidity Sensor (AP9335TH)	
Temperature accuracy	± 1 °C (± 2 °F), from 32 to 0 to 40°C (104°F)
Humidity accuracy	± 4 % RH, 20 to 90% RH, at 25°C (77°F) ± 8 % RH, 30 to 80% RH, from 15 to 30°C (59 to 95°F)
Sensor operating temperature	-10 to 70°C (14 to 159°F)

Two-year Factory Warranty

This warranty applies only to the products you purchase for your use in accordance with this manual.

Terms of Warranty

Schneider Electric warrants its products to be free from defects in materials and workmanship for a period of two years from the date of purchase. Schneider Electric will repair or replace defective products covered by this warranty. This warranty does not apply to equipment that has been damaged by accident, negligence or misapplication or has been altered or modified in any way. Repair or replacement of a defective product or part thereof does not extend the original warranty period. Any parts furnished under this warranty may be new or factory-remanufactured.

Non-transferable Warranty

This warranty extends only to the original purchaser who must have properly registered the product. The product may be registered at www.apc.com.

Exclusions

APCSchneider Electric shall not be liable under the warranty if its testing and examination disclose that the alleged defect in the product does not exist or was caused by end user's or any third person's misuse, negligence, improper installation or testing. Further, APCSchneider Electric shall not be liable under the warranty for unauthorized attempts to repair or modify wrong or inadequate electrical voltage or connection, inappropriate on-site operation conditions, corrosive atmosphere, repair, installation, exposure to the elements, Acts of God, fire, theft, or installation contrary to APCSchneider Electric recommendations or specifications or in any event if the APCSchneider Electric serial number has been altered, defaced, or removed, or any other cause beyond the range of the intended use.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, OF PRODUCTS SOLD, SERVICED OR FURNISHED UNDER THIS AGREEMENT OR IN CONNECTION HERewith. APCSCHNEIDER ELECTRIC DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY, SATISFACTION AND FITNESS FOR A PARTICULAR PURPOSE. APCSCHNEIDER ELECTRIC EXPRESS WARRANTIES WILL NOT BE ENLARGED, DIMINISHED, OR AFFECTED BY AND NO OBLIGATION OR LIABILITY WILL ARISE OUT OF, APCSCHNEIDER ELECTRIC RENDERING OF TECHNICAL OR OTHER ADVICE OR SERVICE IN CONNECTION WITH THE PRODUCTS. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES. THE WARRANTIES SET FORTH ABOVE CONSTITUTE APCSCHNEIDER ELECTRIC'S SOLE LIABILITY AND PURCHASER'S EXCLUSIVE REMEDY FOR ANY BREACH OF SUCH WARRANTIES. APCSCHNEIDER ELECTRIC WARRANTIES EXTEND ONLY TO PURCHASER AND ARE NOT EXTENDED TO ANY THIRD PARTIES.

IN NO EVENT SHALL APCSCHNEIDER ELECTRIC, ITS OFFICERS, DIRECTORS, AFFILIATES OR EMPLOYEES BE LIABLE FOR ANY FORM OF INDIRECT, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, ARISING OUT OF THE USE, SERVICE OR INSTALLATION, OF THE PRODUCTS, WHETHER SUCH DAMAGES ARISE IN CONTRACT OR TORT, IRRESPECTIVE OF FAULT, NEGLIGENCE OR STRICT LIABILITY OR WHETHER APCSCHNEIDER ELECTRIC HAS BEEN ADVISED IN ADVANCE

OF THE POSSIBILITY OF SUCH DAMAGES. SPECIFICALLY, APCSCHNEIDER ELECTRIC IS NOT LIABLE FOR ANY COSTS, SUCH AS LOST PROFITS OR REVENUE, LOSS OF EQUIPMENT, LOSS OF USE OF EQUIPMENT, LOSS OF SOFTWARE, LOSS OF DATA, COSTS OF SUBSTITUTES, CLAIMS BY THIRD PARTIES, OR OTHERWISE.

NO SALESMAN, EMPLOYEE OR AGENT OF APCSCHNEIDER ELECTRIC IS AUTHORIZED TO ADD TO OR VARY THE TERMS OF THIS WARRANTY. WARRANTY TERMS MAY BE MODIFIED, IF AT ALL, ONLY IN WRITING SIGNED BY AN APCSCHNEIDER ELECTRIC OFFICER AND LEGAL DEPARTMENT.

Warranty Claims

Customers with warranty claims issues may access the customer support network through the Support page, www.apc.com/support. Select your country from the country selection pull-down menu at the top of the Web page. Select the **Support** tab to obtain contact information for customer support in your region.

Radio Frequency Interference

USA—FCC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference. The user will bear sole responsibility for correcting such interference.

After an electrostatic discharge (ESD) event, the appliance may require up to 2 minutes to restart services that are necessary for normal operation. During this time, the Web UI of the appliance will be unavailable. If any necessary services or devices external to the appliance, such as a DHCP server, were affected by the ESD event, these devices also need to restart properly.

Canada—ICES

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Japan — VCCI

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラス A 情報技術装置です。この装置を家庭環境で使用すると、電波妨害を引き起こすことがあります。この場合には、使用者が適切な対策を講ずるよう要求されることがあります。

Taiwan—BSMI

警告使用者：
這是甲類的資訊產品，在居住的
環境中使用時，可能會造成射頻
干擾，在這種情況下，使用者會
被要求採取某些適當的對策。

Australia and New Zealand

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

European Union

This product is in conformity with the protection requirements of EU Council Directive 2014/30/EU on the approximation of the laws of the Member States relating to electromagnetic compatibility. Schneider Electric cannot accept responsibility for any failure to satisfy the protection requirements resulting from an unapproved modification of the product.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 32/European Standard EN 55032. The limits for Class A equipment were derived for commercial and industrial environments to provide a reasonable protection against interference with licensed communication equipment.

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

United Kingdom

This product is in conformity with Electromagnetic Compatibility Regulation 2016 of the UK Legislation as applied to products being supplied in or into Great Britain from 1 January 2021.

APC by Schneider Electric
132 Fairgrounds Rd
West Kingston, RI 02892
USA

www.apc.com

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

© 2018 – 2024 APC by Schneider Electric. All rights reserved.

990-91106F-001