Installation and Configuration

UPS Management Card Accessory

Dry Contact I/O Card

AP9614

TME41752C

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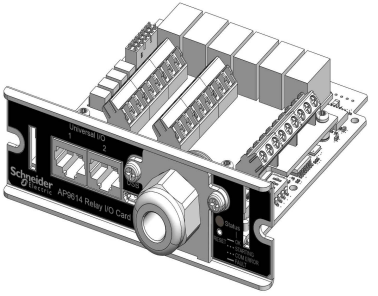

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Contents

Safety Information

Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it.The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury. including certain environmental hazards, potential damage or loss of data. The safety alert symbol shall not be used with this signal word.

Please note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has receive safety training to recognize and avoid the hazards involved.

Product Overview

Introduction

The Schneider Electric™ Dry Contact I/O Card (AP9614) is a management product that provides the following features:

- **UPS status information** presented through 6 fully isolated output relays. This is expandable to 8 using universal input/output ports and optional Dry Contact I/O Accessory (AP9810)
- **UPS control and testing** by using 4 opto-isolated input contacts. An additional 2 input contacts (non opto-isolated) may be added using universal input/output ports and an optional Dry Contact I/O Accessory (AP9810)
- **UPS control and testing based on environmental conditions** using universal input/output ports and an optional Environmental Sensor (AP9335T or AP9335TH)
- **Screw terminal connectors** for easy integration into various management systems
- **Web user interface** to customize your setup, see **Accessing the Web User Interface**

For more details, see **Showing the product detail**, **Configuring the Dip Switches**, **Installing**, **Specifications**.

Product description

The Schneider Electric Dry Contact I/O Card consists of a printed circuit board assembly. It installs in the of the UPS host device. The contents shipped with the product are:

- the Dry Contact I/O Card
- the USB A to Mini A cable to access the Web User Interface. For more information, see **Accessing the Web User Interface**
- this printed manual.

Hardware and software requirements and tools needed

The Dry Contact I/O Card works with most APC by Schneider Electric UPS devices with an output rated less than or equal to 160kVA and an available SmartSlot.

While most devices meet this requirement, verify the compatibility of your device by visiting the Knowledge Base article FA165616.

You need the following tools:

- #1 Phillips screwdriver for screw terminals
- #2 Phillips screwdriver for UPS screws
- a wrench of size 1" or 25.4 mm, or adjustable, to tighten the grommet

For the Web User Interface, you need the latest operating systems that supports network driver over USB (Windows 8 or higher).

Physical Security

Deploy the equipment in a secure location

Custodians should secure equipment from unauthorized physical access.

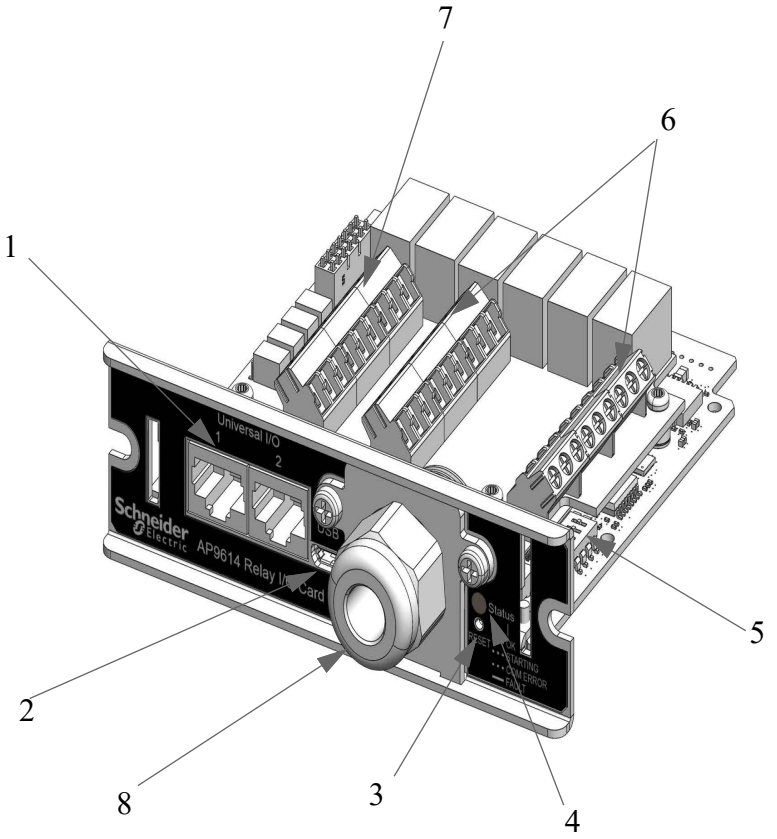
- Access should be restricted to those who require access to maintain the equipment.
- Restricted areas should be clearly marked for authorized personnel only.
- Restricted areas should be secured by locked doors.
- Access to the restricted areas should produce a physical or electronic audit trail.

Secure access to the device front panel and console port

Deploy the device in a rack or cage that can be locked with a suitable key, or other physical methods. This will prevent access to the physical ports of the device.

Showing the product detail

Itemizing the features of the Dry Contact I/O Card



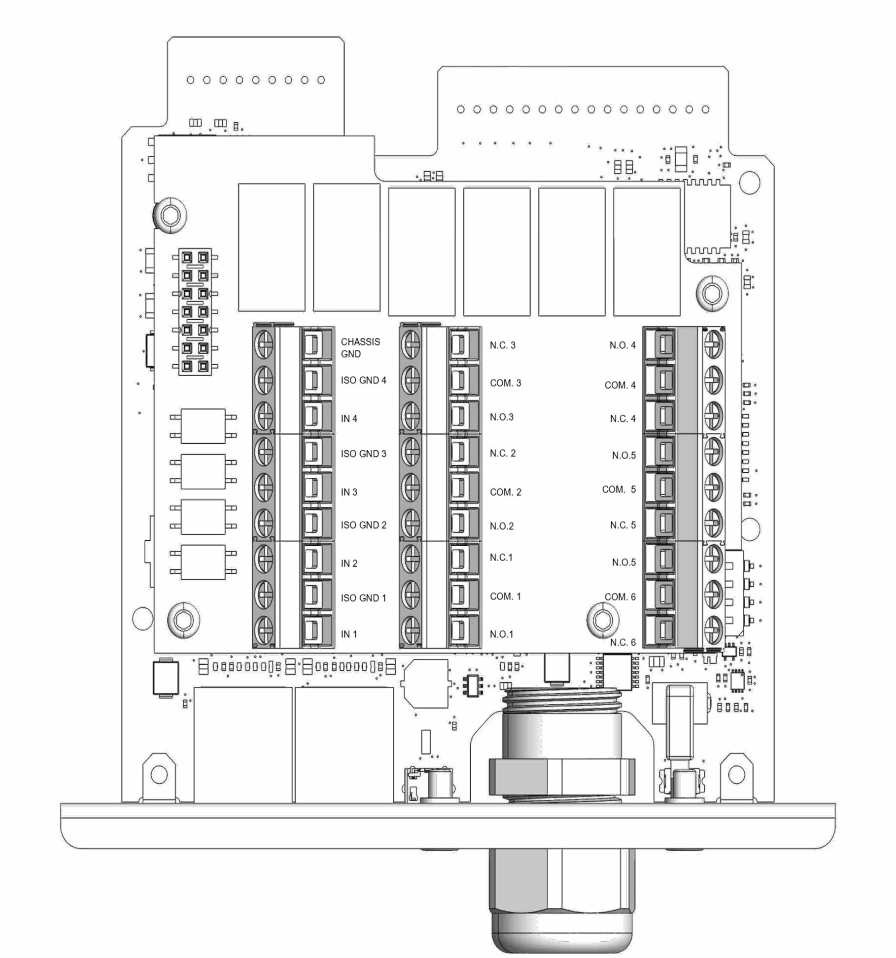
Item	Name	Description
1	Universal I/O ports 1 and 2	These support the AP9335T/TH and AP9810 dry contact accessories
2	USB cable connector	Connecting this to your PC enables the Web User Interface access over USB.
3	Reset button	Use an appropriately sized, non-metallic tool to press the Reset button. There are two options: • Press and hold button [LED turns off], release *in less than* 20 seconds [Card reboots with NO factory settings reset]. • Press and hold button [LED turns off], *continue holding for* 20 seconds [LED turns red, card resets to factory settings and reboots].
4	LED Status Indicator	

LED Status Indicator	State
Solid Green	Card communications and operations are normal
Flashing Green	Card is initializing
Flashing Red	Lost communication with UPS
	Lost communication with Universal I/O accessory
	Card hardware error
Solid Red	Non-operational fault with the UPS, not the Card: Visit Knowledge Base article FA171541 for more information.

Item	Name	Description
5	Dip switches	These are located near the back of the front panel on the right-hand side. See **Configuring the Dip Switches**.
6	Output relay terminals	Connections for alarm outputs. See **Itemizing the input contact and output relay terminal blocks** and **Ratings for input contacts and output relays**.
7	Input contact terminals	Connections for control inputs. See **Itemizing the input contact and output relay terminal blocks** and **Ratings for input contacts and output relays**.
8	Cord grip	Supports the cabling that is used to control external devices, or to connect up external switches. The bare wires connect to the terminal blocks on the Card. The cord grip is plastic and can secure a single cord with a diameter range of 5.8 – 10mm. This limits the number of conductors (inside the cord) and the power ratings.

Itemizing the input contact and output relay terminal blocks

Number of positions on each terminal block	9
Tightening torque	0.35 N.m (3.097 lb.in)
Tightening torque max	0.4 N.m (3.54 lb.in)
Wire stripping length	5 mm (0.19 in)
Minimum wire gauge	0.14 mm^2 (26 AWG)
Maximum wire gauge	2.5 mm^2 (14 AWG)



Configuring the Dip Switches

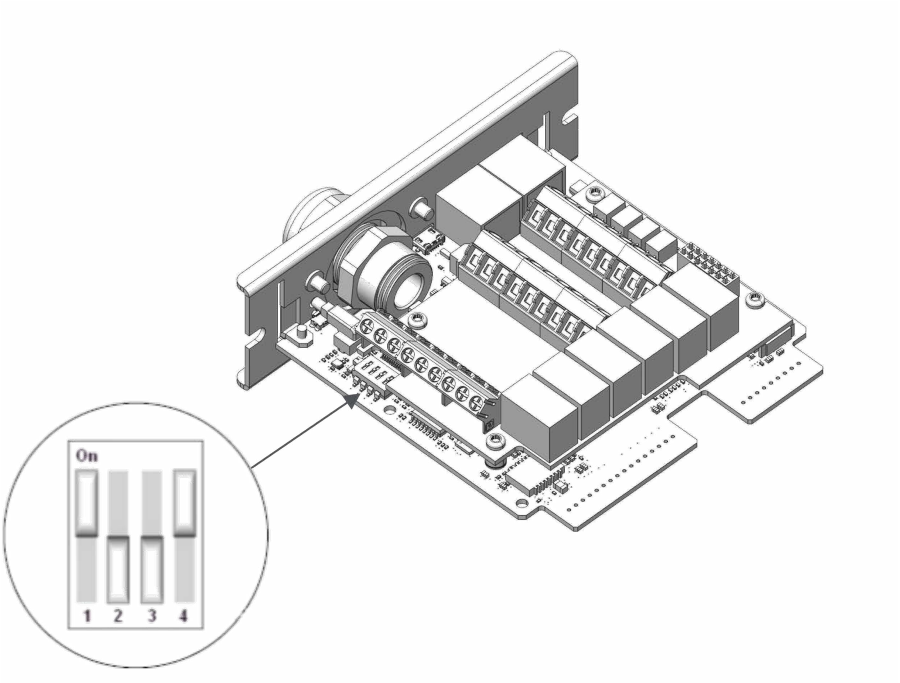
The Dry Contact I/O Card requires configuration before testing, final installation, and use.

For more information, see **Location of dip switches** and **Dip switches: input and outputs**.

Location of dip switches

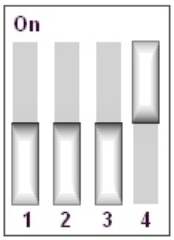
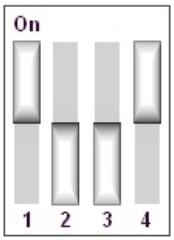
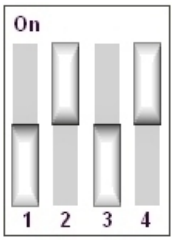
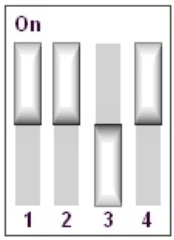
The “callout” below points to the location of the dip switches on the card, and shows one possible configuration: ON-OFF-OFF-ON.

See the other possible configurations at Dip switches: input and outputs



Dip switches: input and outputs

The table below lists the four possible configurations, with their corresponding inputs and outputs.

	Configuration 1	Configuration 2	Configuration 3	Configuration 4*
				
	OFF-OFF-OFF-ON	ON-OFF-OFF-ON	OFF-ON-OFF-ON	ON-ON-OFF-ON
Inputs	**Device Actions**			
1	Turn the UPS on.			See **Accessing the Web User Interface**
2	Turn the UPS off.		Turn off the UPS gracefully.	
3	Start UPS Self Test.			
4	Shut down the UPS when on battery except for Self Test or runtime calibration.	Put the UPS in bypass, if bypass is available on the UPS. If the UPS is in bypass, take the UPS out of bypass.	Shut down the UPS when on battery except for Self Test or runtime calibration.	
Outputs	**Device State**			
1	The UPS is on battery (e.g. during a power outage, Self Test, or runtime calibration).			See **Accessing the Web User Interface**
2	The UPS has a low battery.			
3	The protected load is not receiving power from the UPS or communication between the UPS and the Relay I/O Card has been lost.			
4	Replace the UPS battery.		UPS commanded to turn on (echo of Input 1).	
5	The UPS is overloaded.	The UPS is in bypass by selection from software, front panel, or rear panel.	UPS commanded to turn off gracefully (echo of Input 2).	
6	Any UPS fault or Self Test failure.	Any UPS fault, Self Test failure, or overload.	Any UPS fault, Self Test failure, overload, or replace battery.	

***In Configuration 4 the** Web User Interface **is used to configure the device. This is the factory default.**

Legacy Fault options

The Dry Contact I/O Card Web User Interface provides legacy fault options to emulate the fault options of the legacy Relay I/O module (AP9610). For more information, see **Accessing the Web User Interface**.

In the Web User Interface:

- Use the option “Fault Legacy” to emulate the AP9610 fault behavior for Output #6 in configurations 1–3. The table below describes the legacy fault behaviors that are emulated for Fault Legacy options 1, 2 and 3.

AP9614 Legacy Fault Conditions	Emulated AP9610 Output #6 behavior
Fault Legacy 1	Any UPS fault or self-test failure.
Fault Legacy 2	Any UPS fault, self-test failure or overload.
Fault Legacy 3	Any UPS fault, self-test failure, overload, or replace battery.

- Use the “Fault” option to manage fault behavior in SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS.

These options can be used to manage faults in environments with both AP9610 and AP9614 cards present. Visit Knowledge Base article FA171541 for more information on Fault Definitions

Installing

See **Planning your installation** directly below, **Installation steps**, and **Accessing the Web User Interface**.

Planning your installation

Operating considerations

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Read and understand this manual and the manuals of the UPS before installing this card.
Installation must be performed by qualified personnel.
The user is responsible for compliance with all international and national electric code requirements.

Failure to follow these instructions will result in death or serious injury.

Note the following characteristics of the Dry Contact I/O Card when making decisions regarding system integration:

- The coils for all output relays are normally energized. The Card will generate all possible alarms in case of a system fault, such as cable failure, removal of the Dry Contact I/O Card, severe UPS battery discharge, or catastrophic hardware failure on the Card.
- All output relays are isolated from each other and from the UPS system ground.
- All input contacts are isolated from the UPS system ground but are common to each other.
- Control inputs are driven by user-supplied dry contact outputs. The dry contact closure sensing voltage available on these inputs is nominally 5 VDC at less than 1 mA. All control inputs are referenced to the UPS system ground.
- All control inputs must be stable for a minimum of one second to be considered valid. Longer delays can be set through the Web User Interface. Control inputs can be asserted indefinitely.
- Be careful to assert just a single input to a device. Avoid initiating simultaneous, conflicting actions, e.g. input #1 (turn the UPS on) and input #2 (turn the UPS off).
- Control inputs are acted upon immediately after validation. However, there are several UPS conditions that can cause an input to be ineffective, such as self-test or runtime calibration. For confirmation of inputs, we recommend

that an output be configured and monitored appropriately to determine the effectiveness of an input.

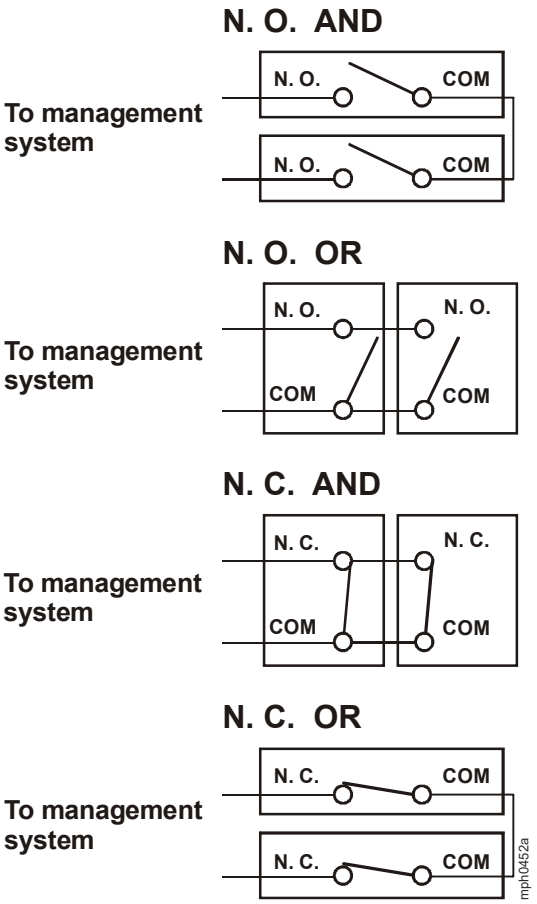
- Do not wire this Dry Contact I/O Card when it is powered.
- The installation of this Dry Contact I/O Card must follow applicable building and electrical codes.
- Do not use this card to control voltage exceeding 30 VAC or VDC.
- For proper operation, ensure that the UPS is grounded and the Dry Contact I/O Card is secured with two screws to the UPS.
- Use only a single cord with the plastic cord grip.

For more information, see **Ratings for input contacts and output relays** in Specifications.

Connection strategies

You can connect the alarm outputs of the Dry Contact I/O Card in several ways to meet the requirements of your management systems or switched load. Both normally open (N.O.) and normally closed (N.C.) systems are accommodated in any combination of AND or OR configurations.

You can combine Dry Contact I/O Card alarm outputs to form compound outputs, such as **replace battery OR fault** or **on-battery AND low battery**.



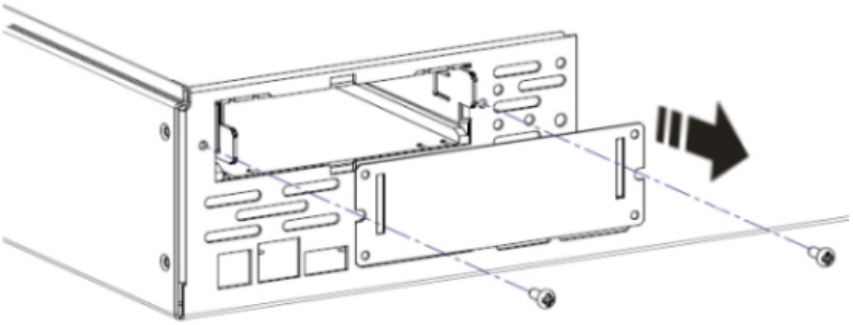
Installation steps

Warning: After installation, it is strongly recommended that you fully test your configuration before putting it into a production environment.

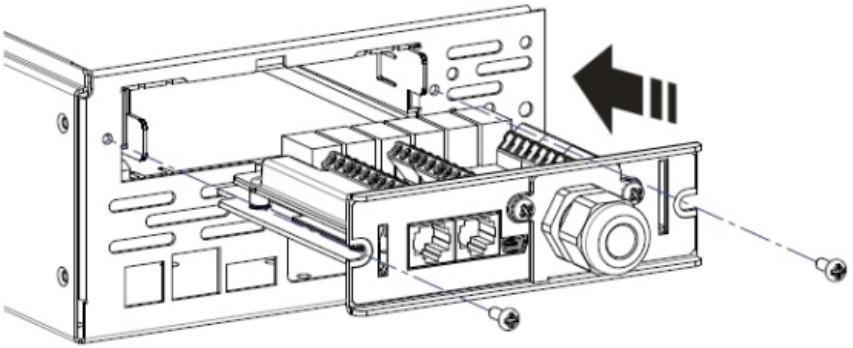
1. Make all connections to the Dry Contact I/O Card to support your configuration before continuing. For more information, see **Itemizing the input contact and output relay terminal blocks** on making the connections.

Electrostatic discharge: The Dry Contact I/O Card is sensitive to static electricity. Handle the Card by the end plate only. Do not touch the exposed printed circuit board.

2. Use a #2 Phillips-head screwdriver to remove the two screws retaining the slot cover on the host device. Keep the screws for use later. Keep the slot cover for future use.



3. Orient the Card to fit in the Card slot as shown. Slide the Card all the way into the slot until the end plate is flush with the back panel of the host device.



Trying to install the Card upside down may damage it. Observe the correct orientation of the Card. The sides of the printed circuit board align with the guides in the sides of the Card slot. The slot may be oriented horizontally or vertically in the host device, which must be off.

4. Secure the Card with the screws removed in step 2.

In order to provide proper grounding, the SmartSlot screws must be installed, the metal clamp must be securely tightened, and the UPS must be properly grounded.

5. Ensure the status LED is illuminated (For more information, see **Showing the product detail**).

For more information, see **Accessing the Web User Interface**.

Accessing the Web User Interface

To access the Web User Interface, you need:

- USB cable to connect your PC to the AP9614 card
- AP9614 Dip Switch Configuration 4. See **Dip switches: input and outputs**

With the Web User Interface, you can:

- Monitor the live **status** of the input contacts, output relay, temperature or humidity from the sensors connected to the Universal I/O ports.
- Review the **status** of your AP9614 Dry Contact I/O Card and Universal I/O ports.
- Perform **actions** in response to a status change in an input port or to some UPS event. For more information, see **Input Contact options**
- **Change the status of an output relay port** in response to a condition occurring in a device such as your UPS or an environmental monitor. For more information, see **Output Relay options**
- Upgrade the **firmware** on your AP9614 Dry Contact I/O Card. For more information, see **Upgrading the firmware**.

Launching the Web User Interface

To use the Web User Interface you need to:

1. Connect AP9614 to the PC (Windows 10 or higher or Linux) that supports network driver over USB.
2. Use any Internet browser to access http://169.254.111.222 (**NOTE**: https is not supported).
3. Login to the card with the default user name and password (apc/apc).
4. Change the password when prompted at the first login.
5. Access the card and enter **apc** in the user name box and the new password that you had configured.
6. You can also configure temperature in degree Celsius or degree Fahrenheit to monitor the temperature in the preferred scale.

UPS settings

Use the UPS settings of the Web User Interface to configure the Low Battery Duration, Shutdown Delay and Return Delay of the UPS.

UPS settings are available for SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS only. If UPS settings are not present in the Web User Interface, they are not available for your device.

For SMT, SMX, SURTD, SR1T, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS with switchable outlet groups you can configure:

- **Low Battery Duration** — the threshold of UPS runtime remaining for which you can configure a control action to be triggered. For example if Low Battery Duration is set to 5 minutes, the control action configured for the UPS would trigger when runtime remaining falls below 5 minutes.

  In dip switch configurations 1 – 3, the default Low Battery Duration is 2 minutes. In dip switch configuration 4, Low Battery Duration can be configured in the Web User Interface, to a value between 0 and 30 minutes.

For SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS without switchable outlet groups you can configure:

- **Shutdown Delay** — the duration that the UPS will wait before turning off when a UPS shutdown command is issued. In dip switch configurations 1 – 3, Shutdown Delay is 20 seconds. In dip switch configuration 4, Shutdown delay can be configured through the Web User Interface to a value between 0 and 600 seconds.
- **Return Delay** — the duration that the UPS will wait before turning on when a UPS turn on command is issued. In dip switch configurations 1 – 3, Return Delay is 10 seconds. In dip switch configuration 4, Return Delay can be configured in the Web User Interface to a value between 0 and 300 seconds.

Input Contact options

Use the input contact options available in the Web User Interface to trigger **Actions** on a **Target** device or relay, based upon a change in the status of an input contact.

<table>
<tr><th>Target</th><th>Control Action</th><th>Definition</th></tr>
<tr><td rowspan="4">UPS

UPS Outlet Group 1 – 3</td><td>On</td><td>Turn the target on immediately.</td></tr>
<tr><td>On with Delay</td><td>Turn the target on with the delay currently configured on the target device.

For SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS:<table><tr><th>With Switched Outlet Groups</th><th>Without Switched Outlet Groups</th></tr><tr><td>Turn on the outlet groups in sequence.</td><td>Turn on using the Return Delay setting, set in the Web User Interface. For more information, see UPS settings.</td></tr></table></td></tr>
<tr><td>Off</td><td>Turn the target off immediately.</td></tr>
<tr><td>Off Gracefully</td><td>Turn off the target gracefully, following the Low Battery and Shutdown Delay durations set on the UPS.

For SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS:<table><tr><th>With Switched Outlet Groups</th><th>Without Switched Outlet Groups</th></tr><tr><td>Turn off the outlet groups in sequence.</td><td>Turn off the target gracefully, following the Low Battery Duration and Shutdown Delay set in the Web User Interface.
For more information, see UPS settings.</td></tr></table></td></tr>
</table>

<table>
<tr><th>Target</th><th>Control Action</th><th>Definition</th></tr>
<tr><td>UPS</td><td>Shutdown</td><td>If the UPS is on battery, turn off the UPS, following the Shutdown Delay set on the UPS. Shutdown will not occur if the UPS is performing a runtime calibration.
Turn the UPS back on when input power is restored.

For SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS:<table><tr><th>With Switched Outlet Groups</th><th>Without Switched Outlet Groups</th></tr><tr><td>If the UPS is on battery, reboot the UPS in sequence. Turn off the outlet groups following any configured outlet group delays. Turn on the outlet groups in sequence when input power has been restored.</td><td>If the UPS is on battery, reboot it following the Shutdown Delay and Return Delay durations, set in the Web User Interface. For more information, see UPS settings.
Turn the UPS back on when input power is restored.</td></tr></table></td></tr>
<tr><td rowspan="2">UPS Outlet Group 1 – 3</td><td>Shutdown</td><td>For SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS:<table><tr><th>With Switched Outlet Groups</th></tr><tr><td>If the UPS is on battery, reboot the UPS in sequence. Turn off the outlet groups immediately, and turn the them back on in sequence when input power has been restored.</td></tr></table></td></tr>
<tr><td>Shutdown with Delay</td><td>For SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS:<table><tr><th>With Switched Outlet Groups</th></tr><tr><td>If the UPS is on battery, reboot the UPS in sequence. Turn off the outlet groups in sequence. Turn the outlet groups back on when input power has been restored.</td></tr></table></td></tr>
</table>

<table>
<tr><th>Target</th><th>Control Action</th><th>Definition</th></tr>
<tr><td>UPS

UPS Outlet Group 1 – 3</td><td>Reboot</td><td>Turn off the target immediately. Turn on the output of the UPS.

For SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS:<table><tr><th>With Switched Outlet Groups</th><th>Without Switched Outlet Groups</th></tr><tr><td>Turn off the target immediately. Turn on the outlet groups in sequence.</td><td>Turn off the target immediately. Turn it back on following the Return Delay set in the Web User Interface. For more information, see UPS settings.</td></tr></table></td></tr>
<tr><td rowspan="3">UPS

UPS Outlet Group 1 – 3</td><td>Reboot Gracefully</td><td>Restart the target using "Shutdown Delay" and turn using "Return Delay”.

For SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS:<table><tr><th>With Switched Outlet Groups</th><th>Without Switched Outlet Groups</th></tr><tr><td>Turn off the outlet groups in sequence. Turn on the outlet groups in sequence.</td><td>Turn off the target following the Shutdown Delay, and turn it on following the Return Delay, both set in the Web User Interface.
For more information, see UPS settings.</td></tr></table></td></tr>
<tr><td>Self Test</td><td>Perform a self test on the target.</td></tr>
<tr><td>Bypass *</td><td>Place the target in bypass mode. If the target is in bypass mode, take it out of bypass mode. This is not available for outlet groups.</td></tr>
<tr><td rowspan="2">Output Relay 1 – 6

UIO Port 1 – 2 Output Relay

(if optional AP9810 Dry Contact I/O Accessory is connected)</td><td>Normal</td><td>Set the output relay state to the state that is configured for Normal.You can configure the Normal state of an output relay to Normally Open or Normally Closed by wiring the contact to the respective contact point on the card.</td></tr>
<tr><td>Abnormal</td><td>Set the state of the output relay to the opposite of what is defined for Normal. For example if Normal is defined as Normally Open, choosing Abnormal sets the output relay to Normally Closed.</td></tr>
</table>

Not available on all devices. Refer to your UPS User Guide to verify that your UPS supports this function.

Output Relay options

Use the Output Relay options available in the Web User Interface to monitor a **Source** device or relay for configured **Conditions** and change the status of an output relay based upon the Condition detected.

Source	Condition	Definition
UPS **UPS Outlet Group 1–3**	**On**	Source is on.
	Off	Source is off.
	Online	Source is online.
	On Battery	Source is on battery.
	On Battery: Power Fail	Source is on battery due to a power outage.
	Low Battery	Source is reporting low battery, as the runtime remaining has fallen below the **Low Battery Duration**. For certain UPS devices, this duration can be set in the Web User Interface. For more information, see **UPS settings**
	Replace Battery	Battery needs to be replaced at source.
	Lost Communication	Internal communication between the AP9614 card and the Source has been lost.
	Overload	Source is overloaded.
	Bypass: Fault or Software*	Source is in bypass mode due to a hardware fault, or due to a software command. For example this condition can be triggered if a UPS is in bypass due to an internal fault, or is commanded to enter bypass by PowerView or other UPS smart-slot accessories.
	Bypass: Maintenance or Fault*	Source is in bypass mode due to a maintenance bypass, or a fault such as Internal Fault, Bypass Overload, or UPS Main Relay Fault.
	Bypass: Manual	Source has been manually set to bypass mode, for example through the UPS display interface.
	Off or Lost Communication	Source is off or internal communication between the AP9614 card and the source has been lost.
	Self Test	Source is in self test mode.
	Calibration	Source is currently performing a runtime calibration.

Source	Condition	Definition
UPS **UPS Outlet Group 1–3**	**Self Test Fail**	The source self test has failed.
	Fault	Source is reporting a fault. Visit Knowledge Base article FA171541 for more information.
	Fault Legacy 1- 3	Source is reporting a legacy fault. Visit Knowledge Base article FA171541 for more information.
	Bypass Out of Tolerance*	Source is reporting Bypass Out of Tolerance.
	Output Out of Tolerance*	Source is reporting Output Out of Tolerance.
	No battery	Source is reporting no battery present.
	Battery Over Temperature	Source is reporting battery exceeds internal temperature threshold. The temperature threshold is set by the UPS and is not configurable.
	Input Breaker Tripped*	Source is reporting input breaker has been tripped.
Input Contact 1 – 4	**Normal**	Set the input relay state to the state that is configured for Normal.You can configure the Normal state of an input relay to Normally Open or Normally Closed by wiring the contact to the respective contact point on the card.
	Abnormal	Set the state of the input relay to the opposite of what is defined for Normal. For example, if Normal is defined as Normally Open, choosing Abnormal sets the input relay to Normally Closed.

Not available on all devices. Refer to your UPS User Guide to verify that your UPS supports this function.

Universal I/O Port options

Use the Universal I/O Port options to configure responses to **Conditions** detected by devices connected to the ports. For example, if the AP9335T Temperature Sensor or AP9335TH Temperature and Humidity Sensor is connected to an I/O port, the following Environmental options are available:

Source	Condition	Definition
AP9335T Temperature Sensor **AP9335TH Temperature and Humidity Sensor**	**Temperature Above Maximum**	Sensor is reporting temperature is above maximum threshold.
	Temperature Below Minimum	Sensor is reporting temperature is below minimum threshold.
	Humidity Above Maximum	Sensor is reporting humidity is above maximum threshold.
	Humidity Below Minimum	Sensor is reporting humidity is below minimum threshold.

The minimum and maximum thresholds for temperature and humidity can be set in the Web User Interface. The temperature and humidity environmental alarms and inputs from the Dry Contact I/O accessory (AP9810) can also be mapped to targets, as detailed in **Input Contact options**.

Upgrading the firmware

Visit the Schneider Electric website, www.se.com to view the latest firmware release available for the Dry Contact I/O Card.

To install the firmware:

1. Download the latest firmware release to your PC.
2. Launch the Web User Interface, as described in **Accessing the Web User Interface**.
3. Select the Firmware tab.
4. Under Firmware Update, click Choose file and select the firmware downloaded in Step 1.
5. Click the Upload button to upload the firmware to the Card. The process may take a few minutes.
6. When the card has restarted, launch the Web User Interface. View the Firmware tab to confirm that the firmware has updated successfully.

Specifications

For all specifications, when there is a difference between the VDE and UL approval standards, use the lower rating.

Electrical, physical, environmental, and approval specifications

Item	Specification
Electrical	
Nominal switching capacity	3A@ 30 VAC or VDC
Rated voltage	24 VDC
Rated current	200 mA
Input Contact (#1–4) and Output Relay (#1–6)	See Ratings for input contacts and output relays
Physical	
Size (height × width × depth)	38.00 x 121.00 x 128.00 mm 1.50 x 4.75 x 5.05 in
Shipping size (height × width × depth)	51.00 x 165.00 x 238 mm 2.00 x 6.50 x 9.375 in
Weight	0.20 kg 0.44 lb
Shipping weight	0.44 kg 0.97 lb
Environmental	
Elevation Operating Storage	 0 to 3000 m (0 to 10,000 ft) 0 to 15 000 m (0 to 50,000 ft)
Temperature Operating Storage	 0 to 40°C (32 to 104°F) -15 to 65°C (5 to 149°F)
Relative Humidity Operating Storage	 0 to 95% 0 to 95%

Item	Specification
Approvals	
Emissions	47 CFR FCC, Part 15 using ANSI C63.4:2014, EN 61000-6-3:2007+A1:2011, BS EN 61000-6-3, EN 55032:2015 (ITE), BS EN 55032, VCCI V-3/2015.04, CISPR 32:2015, EN 61000-3-2, BS EN 61000-3-2, EN 61000-3-3, BS EN 61000-3-3
Immunity	EN 55024:2010+A1:2016, BS EN 55024, IEC 62040-2, C2:2016, BS EN 62040-2, EN 61326-2:2013, BS EN 61326-2, EN 61000-4-2, BS EN 61000-4-2, EN 61000-4-3, BS EN 61000-4-3, EN 61000-4-4, BS EN 61000-4-4, EN 61000-4-5, BS EN 61000-4-5, EN 61000-4-6, BS EN 61000-4-6, EN 61000-4-8, BS EN 61000-4-8, EN 61000-4-11, BS EN 61000-4-11

Ratings for input contacts and output relays

	Voltage Rating	Current Rating (Max.)
Input Contact (#1–4)	The input contacts should not be connected to any voltage. They should be shorted to ground, or left open via a relay connection at the other end. **Active**: when the input contact is shorted to ground. **Inactive**: when the input contact is left open.	N/A
Output Relay (#1–6)	0–30 VAC or VDC	3 A per relay (16 A Total Max)

Troubleshooting

Issue	Solution
The AP9614 Card status indicator is flashing red or solid red.	See **LED Status Indicator** for detailed descriptions of the status indicators.
The Web User Interface is not accessible from the web browser.	Verify whether the USB cable is plugged into the PC properly. Disconnect and reconnect the USB cable between the card and the PC. Check if more than one AP9614 card is connected to the same PC over the USB. Only one AP9614 can be connected and configured at the same time.
Configuration changes made in the Web User Interface have not been saved.	Ensure that the Apply button at the bottom of the configuration page is selected.
AP9614 Dry Contact I/O card does not activate the output relay upon Low Battery Warning until two minutes of runtime is remaining, though the Low Battery warning is set on the UPS to a value other than the default of 2 minutes.	This is a known issue affecting SMT, SMX, SURTD, SRT, Smart-UPS Ultra and Smart-UPS Modular Ultra UPS only. Use dip switch configuration 4 to configure the Low Battery Duration using the Web User Interface. For more information, see **Dip switches: input and outputs**.
Universal I/O alarms on the relay I/O card is not cleared when the probe is removed	Universal I/O alarms will remain on the system until the probe is connected again. Reconnect the removed sensor probe, clear the alarm, and remove the probe. An alternative method is to reboot AP9614.

Warranty

Two-Year Factory Warranty

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

Terms of warranty

APC warrants its products to be free from defects in materials and workmanship for a period of two years from the date of purchase. APC 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 the Schneider Electric site, www.se.com.

Exclusions

APC 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, APC 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 APC recommendations or specifications or in any event if the APC serial number has been altered, defaced, or removed, or any other cause beyond the range of the intended use.

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NO SALESMAN, EMPLOYEE OR AGENT OF APC 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 APC OFFICER AND LEGAL DEPARTMENT.

Warranty claims

Customers with warranty claims issues may access the customer support network through the Support page of the Schneider Electric site, www.se.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.

Labor

- APC will support labor costs if a quality issue is found during start-up that is determined to be caused by workmanship or a factory defect.
- The mechanical contractor who is performing the repairs must call APC technical services to obtain a repair authorization number before any work is started.
- The mechanical contractor must provide detailed information, (photos, start-up sheets) to APC technical services before any repairs are started.
- If any repairs are performed without prior authorization, APC will not pay for any labor cost.
- APC will not support claims for any of the following:
  - Truck rental
  - Travel time
  - Rental on recovery machine and cylinders
  - Gas mileage
  - Solder, flux, sil-phos, silver solder, and silver solder flux.
- APC will pay for $2.50 per pound for refrigerant.

Parts

- APC warrants the parts of their systems for 1 year from the date of start-up or 18 months from the shipping date of the system. This warranty covers only the cost of the part and not the labor for installation.
- Warranty parts requests need to have specific unit information (serial number, model number, job number) to allow proper identification and processing of the warranty part transaction.
- A purchase order may be required to issue any warranty part. An invoice will be sent once a parts order is filled and shipped to the field. You have 30 days to return a part to APC. After 30 days, the warranty invoice will be outstanding and payment of the invoice will be expected in full.
- Return authorization documentation will be sent with any replacement part. This documentation must be sent back with the defective part to APC for proper identification of the warranty return. Mark the warranty return number on the outside of the package.
- After the part has been received at APC, APC will determine the status of the credit based on an examination of the returned part. Parts that are damaged from: lack of maintenance, mis-application, improper installation, shipping damage, and acts of man/nature will not be covered under the parts warranty.
- For any warranty parts request received before 1:00 PM EST, the part will be shipped Same Day Standard Ground delivery. Any costs associated with

Next Day or Airfreight will be the responsibility of the party requesting the part.

- Shipping costs for warranty parts are the responsibility of the sender.

Life Support Policy

General policy

American Power Conversion (APC) does not recommend the use of any of its products in the following situations:

- In life-support applications where failure or malfunction of the APC product can be reasonably expected to cause failure of the life-support device or to affect significantly its safety or effectiveness.
- In direct patient care.

APC will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to APC that (a) the risks of injury or damage have been minimized, (b) the customer assumes all such risks, and (c) the liability of APC is adequately protected under the circumstances.

Examples of life-support devices

The term *life-support device* includes but is not limited to neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), autotransfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators (for adults and infants), anesthesia ventilators, infusion pumps, and any other devices designated as “critical” by the U.S. FDA.

Hospital-grade wiring devices and leakage current protection may be ordered as options on many APC UPS systems. APC does not claim that units with these modifications are certified or listed as hospital-grade by APC or any other organization. Therefore these units do not meet the requirements for use in direct patient care.

Worldwide Customer Support

Access to customer support terms may vary by product. Customer support is available in the following ways:

- Visit the Schneider Electric Web site to access documents in the Schneider Electric Knowledge Base and to submit customer support requests.
  - www.**schneider-electric**.com (Corporate Headquarters)
    Connect to localized Schneider Electric Web sites for specific countries, each of which provides customer support information.
  - www.**schneider-electric**.com/support/
    Global support searching Schneider Electric Knowledge Base and using e-support.
- Contact the Schneider Electric Customer Support Center by telephone or e-mail.
  - Local, country-specific centers: go to www.**schneider-electric**.com > Support > Operations for around the world for contact information.

For information on how to obtain local customer support, contact the representative or other distributors from whom you purchased your product.

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