Dry Contact I/O SmartSlot Card (AP9613)
Frequently Asked Questions

Summary
Dry Contact I/O SmartSlot Card (AP9613) is the Dry Contact (Relay) UPS management offer from APC by Schneider Electric. It is compatible with all UPSs with SmartSlot (except Symmetra PX (>160kVA)). It is the Dry Contact UPS management replacement to the now discontinued Relay I/O SmartSlot Card (AP9610). This Dry Contact offer provides relay input, output capabilities to supported UPSs.

This FAQ document provides answers to commonly-asked questions regarding the Dry Contact offer supporting SmartSlot enabled Smart-UPS & Symmetra UPS and its capabilities.

Questions
What are the main customer benefits in AP9613?
1. (4) Configurable Input Contacts to monitor external devices to trigger actions such as notifications or a change in output relay state with customizable delay
2. (6) Configurable Output Relays to trigger actions on external devices in response to the UPS or input contacts changing states and optionally include a customizable delay
3. Consists of (2) Universal I/O ports, supporting Temperature Sensor, Temperature and Humidity Sensor and Dry Contact I/O Accessory [specifically each Dry Contact I/O accessory usage increases the number of input contacts by (2) and output relays by (1)]

What are the benefits of upgrading to firmware v2.1.0?
What do I upgrade the firmware on my AP9613?
What are the salient features of the control policy in AP9613?
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How does AP9613 differ from AP9610 in physical appearance and connectivity?
Are there any changes in configurations or inputs & outputs in comparison to AP9610?
Where can I purchase Dry Contact I/O SmartSlot Card (AP9613)?

1 For detailed comparison between AP9610 and AP9613, kindly refer to “Comparison” section

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4. Supports higher output contact rating of 3A @ 30V DC, implying higher sourcing current and energy to the connected output device

5. Provides a user-friendly means of configuring the device through a Windows based PC, using the Configuration Utility on the device
   - Provides a control policy enabling the user to configure delays\(^2\) in input events and output actions using a pre-loaded Configuration Utility on the device
   - Enables user to configure interaction between device events (inputs) and control actions (outputs)

6. Supports on-field upgrade of the Dry Contact I/O SmartSlot Card firmware.

**What are the benefits of upgrading to firmware v2.1.0?**

With firmware v2.1.0 update, the Dry Contact I/O SmartSlot Card (AP9613) extends dry contact UPS management support to SRT Smart-UPS.

In addition, the v2.1.0 firmware update addresses some customer reported issues including,
- Automatic Voltage Regulation (AVR) Boost and Trim functions are no longer incorrectly reported as fault conditions
- Configuration Utility for the AP9613 Card now supports Windows 8/8.1 and 10
- Updated support for “Bypass out of tolerance” condition on supported UPS models
- UPS graceful turn off now correctly applies UPS Turn ON delay
- “Self test failed” condition is no longer incorrectly triggered, based on a refused self test
- Output relay states now change to normal state when the corresponding UPS fault conditions are cleared
- Output relays are no longer incorrectly triggered based on a “low battery” event in Configurations 1, 2, and 3.
- LED behavior on the Card has been updated to align with other APC Management Accessories and is clearly documented in the User Guide
- UPS Manufacture date now correctly appears in the Configuration Utility “About” menu.

**How do I upgrade the firmware on my AP9613?**

Dry Contact I/O SmartSlot Card (AP9613) firmware can be upgraded using the on-board Configuration Utility. The latest firmware downloaded from the APC Software/Firmware download page [here](https://www.apc.com) is uploaded to the SmartSlot Card, which is connected to a Windows PC, via the firmware tab in the Configuration Utility. Step by step instructions to upgrade the firmware is provided in the Installation and Configuration Guide, which ships with the card and is also available online on the webpage [here](https://www.apc.com).

**What are the salient features of the control policy in AP9613?**

There are multiple aspects to the control policy paradigm in AP9613,

a. **Supports configurable delay for an input event:** “Delay” duration can be configured for an input contact or output relay for an input event to exist, in order to be recognized as a valid event. For example, if it is required to monitor opening of a door (using a door sensor) to trigger shutdown of UPS and protected equipment with a delay of (2)\(^2\) Delay & Hold functionalities are discussed as part of the Control Policy supported by AP9613.
minutes to shutdown the connected server - Configure the Input contact connected to the door sensor to shut-off the UPS with a delay of (120) seconds.

b. **Supports configurable hold duration for an output action**: “Hold” duration can be configured for an output relay to retain the state in order to ensure better 3rd party device support. For example, if it is required to monitor humidity in the IT/utility room and relay the condition to the air-conditioning device, which expects signaling for a minimum of (3) seconds - Configure the Output relay signaling the air-conditioning device to signal & hold for (3) seconds, when the monitored humidity goes above the threshold.

c. **Support input output interaction**: Input events can be configured as source for output relays. For example, if it is required to monitor resumption of input power supply to UPS and switch off the power generator after a buffer delay of (2) minutes - Using the Input contact connected and configured to sense the mains power, Output relay is configured to switch-off the generator after a delay of (120) seconds.

**How do I configure my AP9613?**
Dry Contact I/O SmartSlot Card (AP9613) can be configured using the Configuration Utility on the device, through a Windows based PC. Set the DIP switch to Configuration 4 (ON-ON-OFF-ON) & reinsert the Dry Contact I/O SmartSlot Card. If the auto-run is enabled on the Windows based PC, on connecting the Dry Contact I/O SmartSlot Card via USB to a PC, the Configuration Utility would be invoked. In case, auto-run is disabled, with Dry Contact I/O SmartSlot Card mounted as an USB drive, the Configuration Utility named “RUNME.HTA” can be located on the drive through Windows Explorer and executed.  
The Dry Contact I/O SmartSlot Card settings are stored as a LUA file named “CONFIG.LUA” under the CONFIG folder on the device.

**What accessories does AP9613 support?**
The Dry Contact I/O SmartSlot Card (AP9613) supports Temperature Sensor, Temperature and Humidity Sensor and Dry Contact I/O Accessory (AP9810) to be connected to the UIO (Universal Input/Output) ports. On using UIO ports for I/O expansion, the total number of inputs is increased to (8) & number of outputs to (8) \(^3\).

**What are the capabilities of the additional configurable mode (Configuration 4)?**
Dry Contact I/O SmartSlot Card (AP9613) offers the following functionalities as part of the additional configurable mode (Configuration 4),

- Supports source selection for individual output relay ports, along with delay & hold durations
- Supports target selection for individual input contacts ports, along with delay duration
- Supports configuration of delays for input events and output actions,
- Supports interaction between device events (inputs) and control actions (outputs)
- Supports Dry Contact I/O SmartSlot Card firmware upgrade.

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\(^3\) Each Optional Dry Contact I/O Accessory (AP9810) consists of 2 Input contacts and 1 output relay
Comparison: Dry Contact I/O SmartSlot Card (AP9613) and Relay I/O SmartSlot Card (AP9610)

What Dry Contact I/O features are new to AP9613?

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>AP9610</th>
<th>AP9613</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatible with SMT, SMX, SURTD and SRT Smart-UPS</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Supported Output Contact rating</td>
<td>1A @ 30V DC</td>
<td>3A @ 30V DC</td>
</tr>
<tr>
<td>Supports programmable mode</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Supports Field Upgrade of the device firmware</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>On-board user-friendly Firmware Configuration Utility</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Supports delay &amp; hold functionalities based on device events</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Universal I/O support</td>
<td>✗</td>
<td>✓</td>
</tr>
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</table>

How does AP9613 differ from AP9610 in physical appearance and connectivity?

<table>
<thead>
<tr>
<th>Relay I/O SmartSlot Card (AP9610)</th>
<th>Dry Contact I/O SmartSlot Card (AP9613)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry contact screw terminal block positioned external to the SmartSlot Card</td>
<td>Dry contact screw terminal block positioned internal to the SmartSlot Card</td>
</tr>
<tr>
<td>DB-25 connector available to access dry contact inputs &amp; outputs; no ports for configuration or firmware upgrade</td>
<td>No external connector to access contact inputs &amp; outputs; 2 Universal Input/output ports and 1 mini-USB port available for configuration and firmware upgrade. <strong>Note:</strong> mini-USB port is NOT for monitoring I/O ports</td>
</tr>
<tr>
<td>Wired connections are either drawn from the DB-25 connector or using the supplied accessory connection board</td>
<td>Wired connections are drawn from the on-board screw terminal connectors through the cord grip</td>
</tr>
</tbody>
</table>

Position of DIP switches
Are there any changes in configurations or inputs & outputs in comparison to AP9610?
The number and functionality of input contacts & output relays in AP9613 are the same as in AP9610 when operating in Configurations 1 to 3. In Configuration 4, individual I/O ports have been provided with additional capability of user configuration in order to,
- provide configurable ‘delay’ in validating an input contact state
- ‘hold’ an output relay state for a specified period of time
- initiate control actions based on device input events or inputs from UIO port.

Where can I purchase Dry Contact I/O SmartSlot Card (AP9613)?
The Dry Contact I/O SmartSlot Card (AP9613) is available worldwide. Please contact your regional APC distributor to purchase the SKU. You can also purchase the SKU online from the SKU webpage, if enabled for your region. Please check here for online availability on the APC website.

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4 Configurations 1 to 3 remain unchanged from AP9610. Detailed description of the configurations is available in the manual online.