

# InRow® DX—ACRD600 Series and InRow® CW—ACRC600 Series

For details on upgrading the InRow DX air conditioner and InRow CW air conditioner firmware, see the *InRow DX Online Guide* and *InRow CW Online Guide*, available from the InRow RD product page of the Schneider Electric Web site, [www.schneider-electric.com](http://www.schneider-electric.com) or [www.apc.com](http://www.apc.com). BACnet® is a registered trademark of ASHRAE.

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## 1.0 Affected Revision Levels

apc\_hw06\_aos\_672.bin

Network Management Card Operating System & TCP/IP Stack

apc\_hw06\_acrd2g\_638.bin

ACRD2G Application for InRow RD/RC Air Conditioners

powernet428.mib or later

PowerNet SNMP Management Information Base (MIB)

# 2.0 OS & TCP/IP Stack Modifications (apc\_hw06\_aos\_672.bin)

## 2.1 Compatibility

apc\_hw06\_acrd2g\_638.bin

InRow RD2g Application for ACRD600 and ACRC600 Series

## 2.2 Known Issues in This Version

1. Non-ASCII characters conveyed to an ISX Manager will not display properly in ISXM.
2. The following fields do not accept UTF-8 characters (they accept ASCII only):
  - Any numeric field (only Arabic numbers are accepted)
  - The Datalog FTP Server name
3. The following warning events do NOT cause the Network Management Card to send an SNMP trap:
  - System: Detected an unauthorized user attempting to access the FTP interface
  - System: Password Changed
4. In the Web interface, the Primary and Secondary RADIUS servers accept invalid IP address values.
5. There are different Date Formats on the NMC General/About page.
6. The Config.ini keywords "LinkDisplay" and "LinkName" in the [SystemLinks] section accept a NULL value.
7. The Trap receiver NMS settings incorrectly allow for a NULL entry.
8. The SNMP v1 Trap Community Name incorrectly accepts values greater than the max of 15 and NULL.
9. The Syslog Server address incorrectly accepts a NULL entry.

## 2.3 New Features and Enhancements

1. 802.1x (EAPoL) w/TLS
2. Elliptical curve resolution

## 2.4 Bugs Fixed in This Version

1. The NMC Upgrade utility supports ASCII characters only for username and password.
2. In the Config.ini: the SystemDateTime Server keys return strange values when long strings are applied.
3. The SNMP v1 and v3 Community Access Addresses incorrectly allow for a NULL entry.
4. Cyber security penetration fixes.

## 3.0 InRow RD2g Application for ACRD600 and ACRC600 series (apc\_hw06\_acrd2g\_638.bin)

### 3.1 Hardware Compatibility

No incompatibilities

### 3.2 Firmware Compatibility

apc\_hw06\_aos\_672.bin

Network Management Card Operating System & TCP/IP Stack

See 1.0 OS & TCP/IP Stack Modifications (apc\_hw06\_aos\_672.bin) for a list of modifications and enhancements that affect this application version.

### 3.3 Known Issues in This Version

No known issues

### 3.4 New Features and Enhancements

1. Added BACnet support.
2. Added cool fail threshold to display interface. When the supply temperature is greater than this threshold with hysteresis and the cooling output < 8kw the unit will go into a cool fail state.
3. Suction Line Temperature has been added to the data log.

## 3.5 Bugs Fixed in This Version

1. New compressor on/off lead lag method that resolves some bug fixes and simplifies the method.
2. Improved compressor start-up logic to mitigate situations with low suction pressure conditions. Added number of compressor start attempts (3-10) and off time (2-10 minutes) between compressor starts due to low suction to be settable from the service menu. Changed the low suction pressure to start the compressor limit from 65 psi to 40 psi.
3. VFD trip management has been changed to have the VFD automatically clear the trip after 30 seconds. The R2 controller will assert the Compressor Drive Fail alarm and put the unit in IDLE state when a trip has been detected. When the trip has been detected as cleared the Compressor Drive Fail alarm will clear and the unit will start running. A two minute delay has been added when have more primary units running in a group than what is desired before selecting a backup unit. This is to allow some recovery time for a unit that has restarted from a failed state.
4. Relaxed the condition to allow a backup unit to become an assist unit in order to handle the condition when a unit is unable to run at nominal capacity. Once it has been detected that the supply temperature is not being maintained then wait an additional five minutes or if the group cooling output power is greater than 80% of nominal output power before having a backup unit become an assist unit.
5. Humidifier alarms will not be asserted when the user has disabled the humidification option.
6. Group Dewpoint is calculated using the dewpoint from the unit with the lowest return temperature and fans running instead of the group average dew point.
7. Implemented new air filter alarm threshold.
8. Changed the compressor high head condition to trigger only when the high head pressure switch is active.
9. Added filter to the Grundfos flow meter to prevent erroneous readings.
10. Added missing categories to the Alarm DDF for DCE.
11. The touchscreen display will automatically download controller firmware if no application exists on the controller.
12. The data log was being cleared after a cold start.

## 4.0 Device IP Configuration Wizard

The Device IP Configuration Wizard is a Windows-based application designed specifically to remotely configure the basic TCP/IP settings of Network Management Cards. The Wizard runs on Windows® 2000, Windows 2003, Windows Vista, Windows XP, Windows 7, Windows Server 2008, Windows Server 2016, Windows 8, Windows 10, and Windows 2012. This utility supports cards that have firmware version 3.X.X or higher and is for IPv4 only.

The Wizard is available as a free download from the American Power Conversion Web site ([www.apc.com/tools/download](http://www.apc.com/tools/download)).

1. On the Web site, select **Software Upgrades - Wizards and Configurators** from the **Filter by Software/Firmware** drop-down list .
2. Click **Submit** to view the list of utilities available for download.
3. Click on the **Download** button to download the Device IP Configuration Wizard.

### 4.1 Compatibility

This utility supports cards that have firmware version 3.0.x or higher and is for IPv4 only.

### 4.2 Known Issues in This Version

None

## 5.0 Miscellaneous

### 5.1 Recovering From a Lost Password

See the *Online Guide*, available from the unit product page on the Schneider Electric Web site ([www.schneider-electric.com](http://www.schneider-electric.com) or [www.apc.com](http://www.apc.com)), for instructions on how to recover from a lost password.

### 5.2 PowerNet MIB Reference Guide

The MIB Reference Guide, available on the Schneider Electric Web site ([www.schneider-electric.com](http://www.schneider-electric.com) or [www.apc.com](http://www.apc.com)), explains the structure of the MIB, types of OIDs, trap severity levels, and the procedure for defining trap receivers. For information on specific OIDs, use a MIB browser to view their definitions and available values directly from the MIB itself. You can also view the definitions of traps at the end of the MIB (the file with the .mib extension listed in section 3.2, available on the Schneider Electric Web site ([www.schneider-electric.com](http://www.schneider-electric.com) or [www.apc.com](http://www.apc.com))).

### 5.3 Event Support List

For the event names and event codes for all events supported for a device, first retrieve the config .ini file. To use FTP retrieve config.ini, perform the following:

1. Open a connection to the device using its IP Address:  

```
ftp> open <ip_address>
```
2. Log on using the Administrator user name and password.
3. Retrieve the config.ini file containing the settings of the device.

```
ftp> get config.ini
```

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

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

### 5.4 MD5, SHA-1, and SHA-256 Hash Signatures

MD5 Hash: 237951bbf282f51466ac17a5925e766c

SHA-1 Hash: 972b68f13fc058b1d29b1ba69fa97593b85219fb

SHA-256 Hash:

3d1c89fc9e2e3cded2b7414493da0a8f82ab19e098ba49c615f179f521f7ef77

## 5.5 Updating Touchscreen Display Font Files

Customers wishing to use the Chinese language translations will have to upgrade the font files used to generate the characters. This can only be done using a USB flash drive through the USB port on the front of the touchscreen display. The instructions are as follows:

Before starting the transfer, make sure the USB drive is formatted in FAT32.

1. Download the firmware upgrade files and unzip them.
2. Create a folder named apcfirm on the USB flash drive.
3. Place the extracted module files `apc_hw06_tsfonts4i1_604.bin` and `apc_hw06_tsfonts4i2_604.bin` in the apcfirm directory.
4. Use a text editor to create a file named `upload.rcf`. (The file extension must be `.rcf`, not `.txt` for example.)
5. In `upload.rcf`, add the following lines to the file:  
`FONT1=apc_hw06_tsfonts4i1_604.bin`  
`FONT2=apc_hw06_tsfonts4i2_604.bin`
6. Place `upload.rcf` in the apcfirm folder on the flash drive.
7. Insert the flash drive into the USB port on the cooling unit display interface.
8. Press the Display Reset button and wait for the card to reboot fully.
9. Remove the USB drive from the display interface.