

IP Interface Manual for AIRSYS Free Cooling Box (FCB)

FCB Models

F-OD.PCK.18F1.48DC.EXC F-OD.PCK.36F2.48DC.EXC

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1 GENERAL

This manual documents the IP User Interface. For details on setting up IP connections, please consult your network administrator.

For further information regarding remote communication for AIRSYS equipment, please contact AIRSYS Support at (855) 874-5380 or ASNSupport@air-sys.com

2 SETUP

The AIRSYS controller must have the correct hardware and setting for IP communication protocol. These steps can be skipped if pCO WebCard is preinstalled. If it is not preinstalled, remove the RS485 card and replace it with the pCO WebCard (Figure 1).



Figure 1: Install the pCO WebCard

2.1 Hardware

Initialize/Reset IP Address:

1. Cycle the controller breaker (QF) while pressing Reset on the WebCard (Figure 2).
2. Keep holding Reset for 20 seconds, the green Status light will start to flash red. Before the third red flash, release Reset.
3. If done correctly the Status light will flash quickly three times and return to steady green within 1 minute. This initializes the following settings:

IP address: 172.16.0.1

Subnet Mask: 255.255.0.0

Once connected with the default IP address, use the default username and password to configure Network and security settings:

User Name: admin

Password: fadmin



Figure 2: pCO WebCard

2.2 Controller Settings

Follow these steps to configure the controller for IP interface:

1. Press **Up** and **Down** together to display indoor temperature (**main menu**).
2. Press **Up** once, screen should display $5\ 2\ 1$, Press **Sel**.
3. Press **Down** until you get to $1\ 0\ 2$ and press **Sel**, the screen should display $1\ 5\ 2$.
4. Press **Sel**, input 123 and press **Sel** again, the screen should display $1\ 2\ 3$.
5. Press up until you get to $1\ 2\ 3$ and press **Sel**, the screen should display $1\ 2\ 3$.
6. Press **Up** to change to 4 and press **Sel**, the screen should return to $1\ 2\ 3$.
7. Press **Down** for $1\ 2\ 3$ and press **Sel**, the screen should display $1\ 2\ 3$.
8. Press **Up** to change to $1\ 2\ 3$, and press **Sel**, the screen should return to $1\ 2\ 3$.
9. Press **Up** and **Down** together to return to indoor temperature (**main menu**).

Note 1: Normal operation will not be interrupted during this change.

*Note 2: If you are lost at any point in the menus, press **Up** and **Down** together to start over.*

3 MAIN PAGE

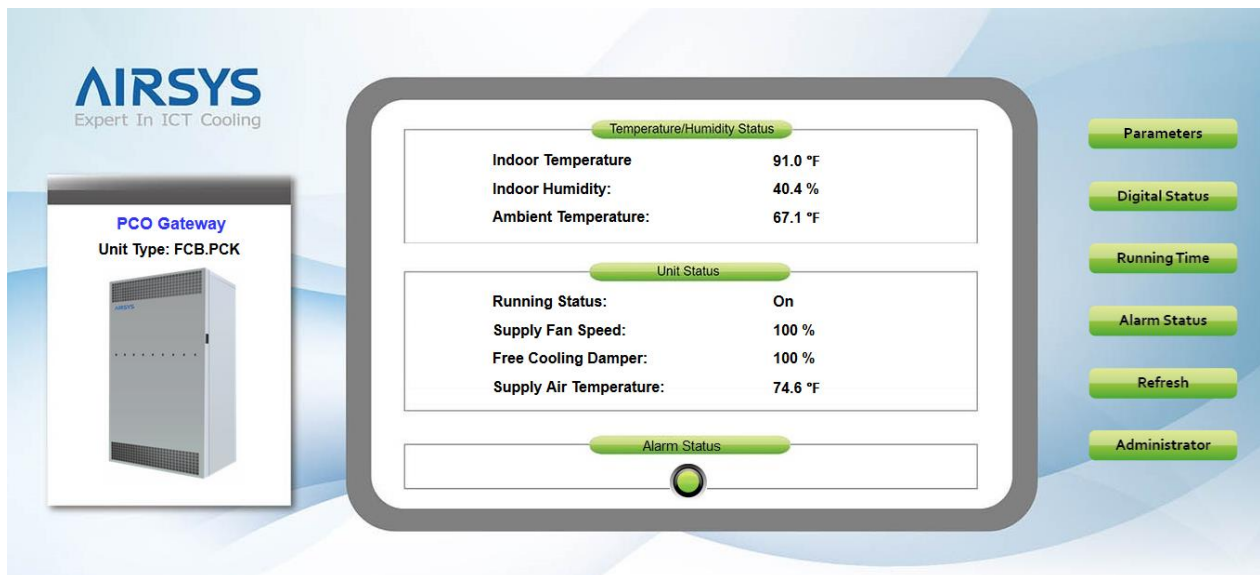


Figure 3: Monitoring Main Page

3.1 Temperature/Humidity Status

- 3.1.1 Indoor Temperature**
Displays real time indoor temperature.
- 3.1.2 Indoor Humidity**
Displays real time indoor relative humidity in %.
- 3.1.3 Outdoor Temperature**
Displays real time outdoor temperature.

3.2 Unit Status

- 3.2.1 Running Status**
On: Unit is powered on and will operate according to the environment and system settings.
Off by Alarm: Unit has been shut off by an alarm (e. g. smoke alarm).
Off by Supervisor: Unit has been shut off through remote control.
Off by Keyboard: Unit has been shut off through the local user interface.
- 3.2.2 Supply Fan Speed**
Displays the current supply fan speed as a percentage of maximum speed.
- 3.2.3 Free Cooling Damper**
Displays the current damper opening degree as a percentage of maximum. (100% = fully open, 0% = fully closed)
- 3.2.4 Supply Air Temperature**
Display real time supply air temperature.

3.3 Alarm Status

- 3.3.1 Alarm Status**
Green = No Alarm. Red = One or more alarm(s) present.
Press the button to display alarm detail.

4 PARAMETERS

Remote Parameter Settings				
Index	New Value		Current	Description
1	72.8	send	72.8 °F	FC Minimum Fan Speed Setpoint (must be < max fan speed setpoint)
2	78.9	send	78.9 °F	FC Maximum Fan Speed Setpoint (must be < high temp alarm setpoint (def:95F))
3	78.9	send	78.9 °F	AC1 Start Setpoint (must be < high temp alarm setpoint (def:95F))
4	74.8	send	74.8 °F	AC1 Stop Setpoint (must be < AC1 start setpoint)
5	78.9	send	78.9 °F	AC2 Start Setpoint (must be < high temp alarm setpoint (def:95F))
6	74.8	send	74.8 °F	AC2 Stop Setpoint (must be < AC2 start setpoint)
7	ON	send	ON	Enable Partial FC (Continue FC while AC is On if conditions remain favorable)

Unit Type: FCB

Refresh back

Figure 4: Parameters Page

This page displays the list of parameters that can be controlled remotely. To change a setting remotely, input a new value and press “Send”. The passcode for this page is 1028.

Warning: Improper system settings may adversely affect system performance and efficiency. Consult the manual for more details on system settings.

FC Minimum Fan Speed Setpoint

Determines the temperature at which free cooling will start with minimum fan speed. Must be less than FC max fan speed setpoint.

FC Maximum Fan Speed Setpoint

Determines the temperature at which the fan will be operating at maximum speed. Must be less than high temp alarm setpoint (Default high temp alarm setpoint: 95F).

AC1 Start Point

Determines the temperature at which HVAC Unit 1 will engage. Must be less than high temp alarm setpoint (Default: 95F).

AC1 Stop Point

Determines the temperature at which HVAC Unit 1 will stop cooling. Must be lower than AC1 start point.

AC2 Start Point

Determines the temperature at which HVAC Unit 2 will engage. Must be less than high temp alarm setpoint (Default: 95F).

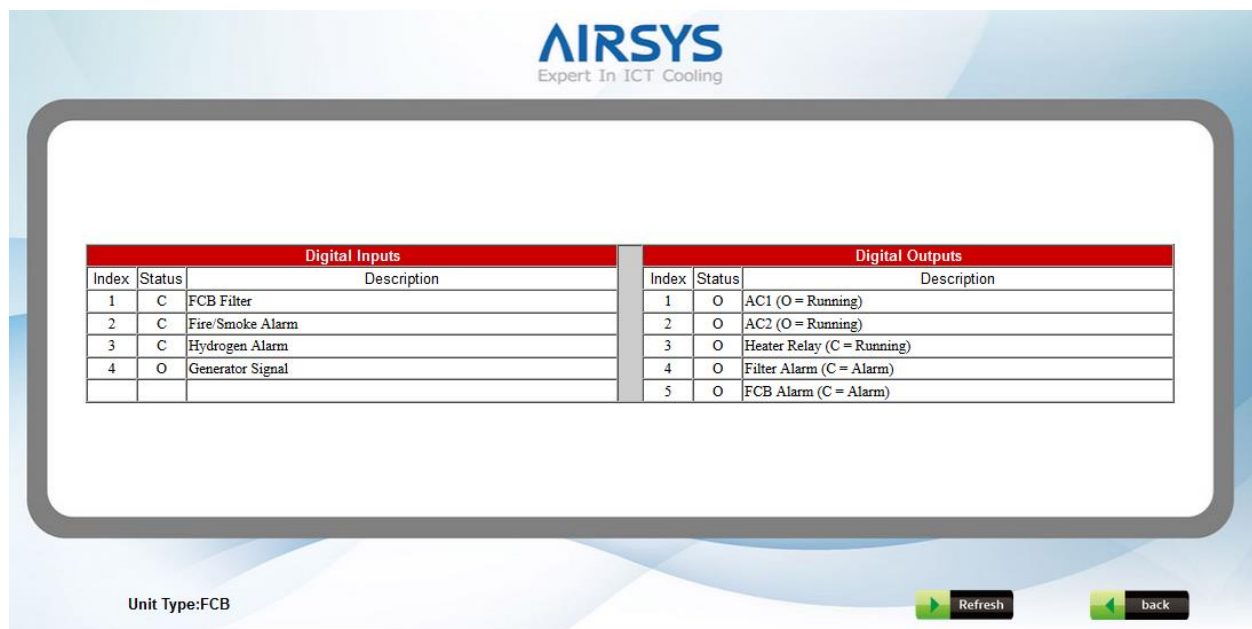
AC2 Stop Point

Determines the temperature at which HVAC Unit 2 will stop cooling. Must be lower than AC2 start point.

Enable Partial FC

Partial Free Cooling allows the FCB to use outside air to cool the room even if the AC units are running. Depending on the type of the building, enabling this setting can improve system performance. Disable this function if there is any conflicting airflow between the FCB and the AC units, such as if the supply air streams face each other.

5 DIGITAL STATUS



Digital Inputs			Digital Outputs		
Index	Status	Description	Index	Status	Description
1	C	FCB Filter	1	O	AC1 (O = Running)
2	C	Fire/Smoke Alarm	2	O	AC2 (O = Running)
3	C	Hydrogen Alarm	3	O	Heater Relay (C = Running)
4	O	Generator Signal	4	O	Filter Alarm (C = Alarm)
			5	O	FCB Alarm (C = Alarm)

Unit Type:FCB

Refresh back

Figure 5: Digital Status Page

This page displays the current digital input and output status of the controller. This will allow you to determine the running status of any of the connected systems as well as the actual input status of any alarms.

6 ALARM STATUS

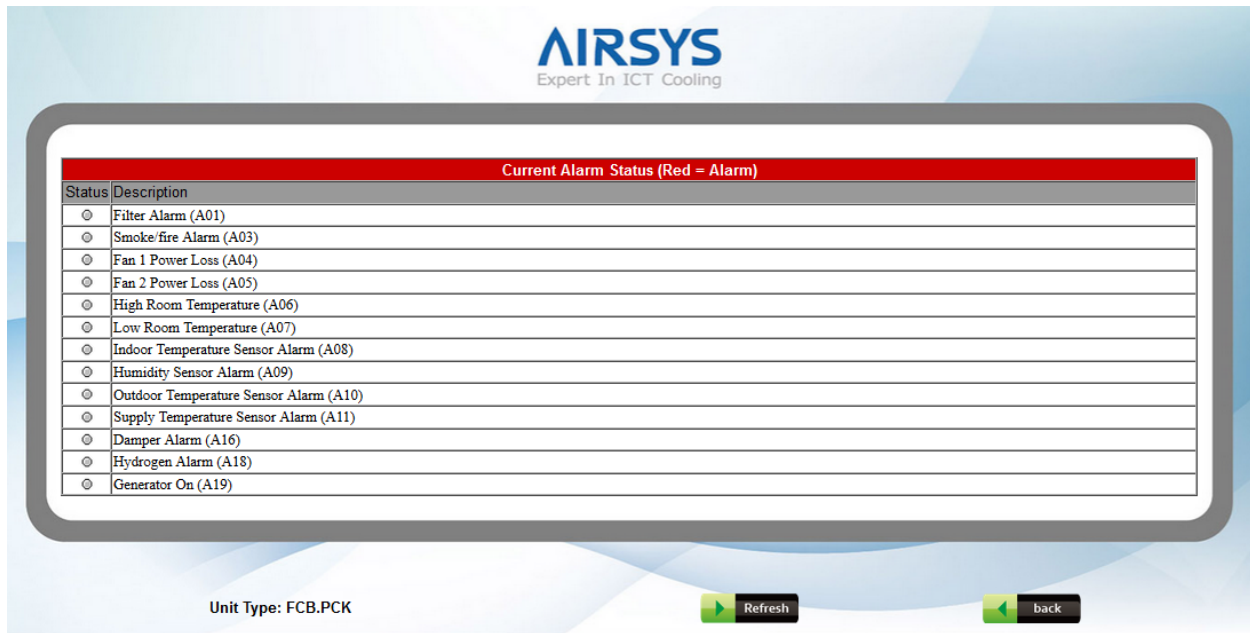


Figure 6: Alarm Status Page

Note: Alarm Status will be displayed as either Normal (Grey) or Active (Red)

A01 Filter Alarm

Filter alarm triggers when excess pressure has built up across the primary air filter (with the supply fans operating at full speed). Schedule a filter cleaning/replacement for optimum efficiency and capacity.

A03 Smoke/Fire Alarm

During Smoke/Fire Alarm, the FCB will shut down all system functions and disable connected systems.

A04/A05 Fan Power Loss

Indicates a loss of power to the fans. Restore power source or turn on breaker.

A06 High Temp Alarm

High Temp Alarm triggers when the indoor temperature reading is above the high temp alarm set point (adjustable).

A07 Low Temp Alarm

Low Temp Alarm triggers when the indoor temperature reading is below the low temp alarm set point (adjustable).

A08/A09/A10/A11 Sensor Alarm

Connection should be verified or sensor replaced.

A16 Damper Alarm

Indicating one of the two most common failure modes for the outside air damper has occurred.

- Damper stuck open
- Damper stuck closed

A18 Hydrogen Alarm

An active hydrogen alarm signal has been received by the unit. During this alarm, the damper will be fully open and fan will run full speed to lower the concentration of hydrogen.

A19 Generator On

An active generator on signal has been received by the unit. During generator mode, the outside air damper will be shut to prevent diesel fumes from entering the building.

7 CUSTOMIZING USER INTERFACE

All user interfaces may be customized through an html editor. Customized UI can be pre-loaded upon request. Please contact AIRSYS Support at ASNSupport@air-sys.com for more information.

8 SNMP/EMAIL NOTIFICATION

SNMP/Email Notification can be used to set up alarm trap for remote reporting.

8.1 Setup

1. On the main page, click on Administrator
2. Input user name / password. (**default: admin / fadmin**)
3. Click on Event -> Event triggered by digital alarms
4. Configure alarms using the table below. Digital Variable Value 0 = Normal / 1 = Alarm Active

8.2 Alarm List

Alarm #	Digital Variable	Description
A01	13	Filter Alarm
A03	15	Smoke/fire Alarm
A04	16	Fan 1 Power Loss
A05	17	Fan 2 Power Loss
A06	23	High Room Temperature
A07	22	Low Room Temperature
A08	18	Indoor Temperature Sensor Alarm
A09	19	Humidity Sensor Alarm
A10	20	Outdoor Temperature Sensor Alarm
A11	21	Supply Temperature Sensor Alarm
A16	28	Damper Alarm
A18	31	Hydrogen Alarm
A19	30	Generator On