BALTIMORE AIRCOIL COMPANY

Nexus® Modular Hybrid Cooler

iPilot® Control System

Quick Start Guide

Nexus® Modular Hybrid Cooler should be operated and maintained according to the Operation & Maintenance Manual, which should be thoroughly reviewed prior to operation of the equipment.

Be sure to have a copy of the submittal package available for reference. If you do not have a copy of the submittal package, or if you need additional information about this unit, contact your local BAC Representative whose name and telephone number are on a label adhered to the control panel door. The model number and serial number of the unit are also located in this area.

Document Summary

This document is not a substitute for reviewing and following the Operation & Maintenance Manual. This Quick Start Guide is intended to supplement the Operation & Maintenance Manual. The Operation & Maintenance Manual should be thoroughly reviewed prior to operation of the equipment.

Safety

⚠️ **DANGER:** Contact with rotating equipment can cause severe personal injury or death. Do not perform any service, maintenance, or inspection on or near the fan(s), motor(s), or inside the unit without first ensuring that the fans and pump motors are disconnected from the power source, locked out, and tagged out.

⚠️ **DANGER:** Dangerous voltages are present in this equipment. To service the iPilot® control system, disconnect the main electric power supply to the control panel and lock out and tag out the circuit. To service all other components on the unit, lock out and tag out the iPilot® control system. If ordered, the optional heater control panel should also be locked out and tagged out during service or maintenance.

⚠️ **WARNING:** Only qualified personnel should undertake the installation, operation, maintenance, and repair of this equipment. Proper care, procedures, and tools must be used in handling, lifting, installing, operating, maintaining, and repairing this equipment to prevent personal injury and/or property damage.

Pre-Startup

1. Verify the equipment is properly piped. Fluid needs to enter the top manifold (if included) and exit the bottom manifold (if included) as shown below in Figure 1.
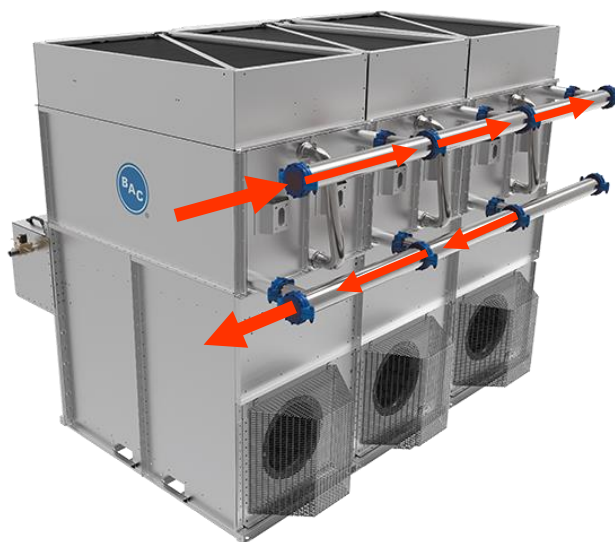

Figure 1. Fluid Inlet & Outlet Reference

2. Verify the equipment voltage noted on the equipment nameplate is equivalent to the site voltage. The equipment nameplate can be found on the front control panel door and is shown below in Figure 2.
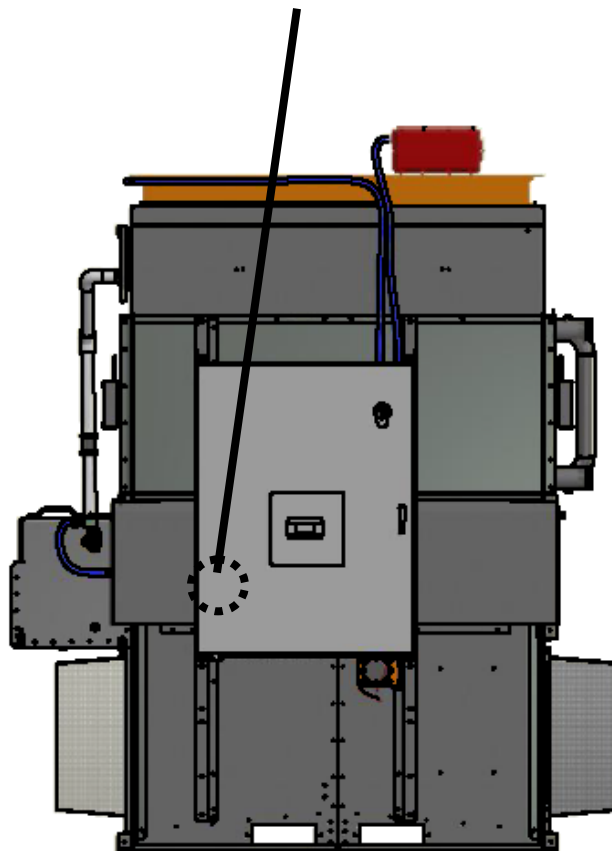

Figure 2. Equipment Nameplate

Optional Wiring Feature for Unit Communication

1. Verify that Building Management System (BMS) interface is correctly wired to the iPilot® control system per Figure 3 and the unit submittal package.

   a. Remote Start Signal, Terminals 21A, 23: Open = ON, Closed = OFF. Anytime equipment operation is required, Run Enable must be turned ON either locally through the iPilot® control system interface or remotely with a signal by others.

   b. Analog Control Signal, Terminals -V, 10V, mA: It is recommended to have the iPilot® control system automatically modulate the fan speed for optimal energy and water savings. Using an analog control signal for fan control is only available in Energy Saver Mode, and Water Saver Mode with Winter Guard enabled.

   c. Alarm Dry Contact, Terminals AL1, AL2: Open = Alarm, Closed = Normal

   d. BMS Communication via RS485, Terminals B1, B2: Modbus RTU, BACnet MS/TP.

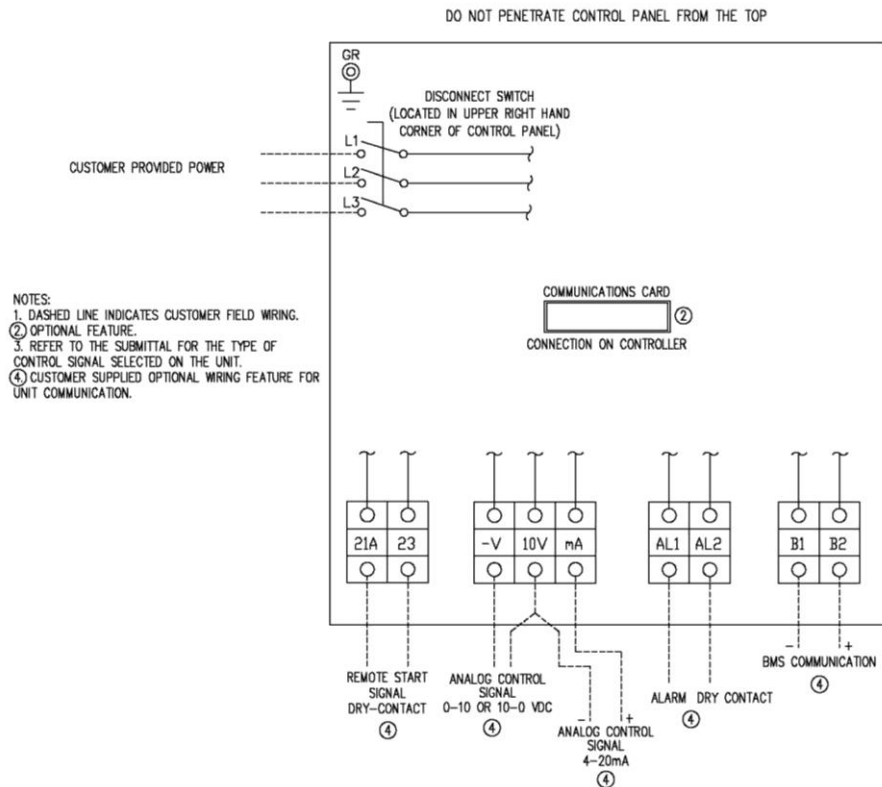   e. BMS Communication via Ethernet, Terminal 13, 14 as shown on Figure 4: Modbus TCP/IP, BACnet/IP
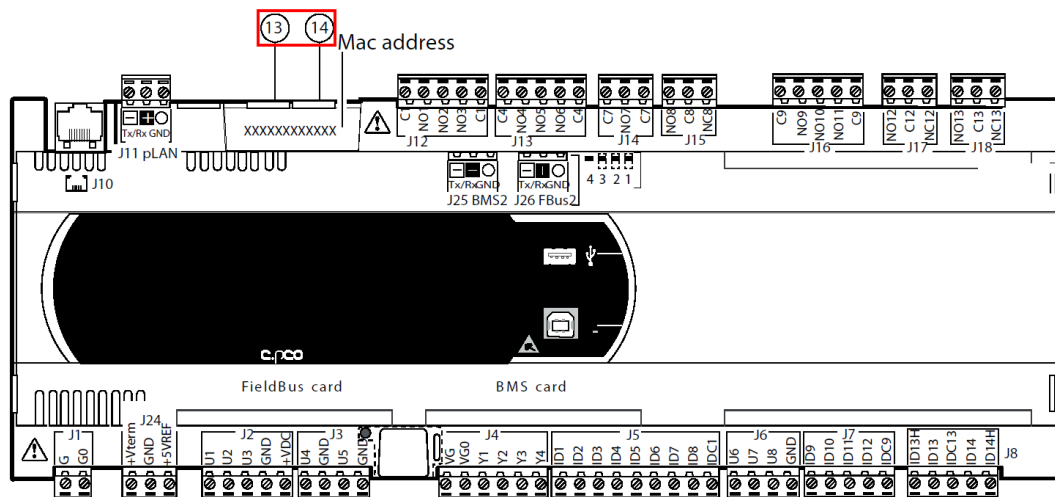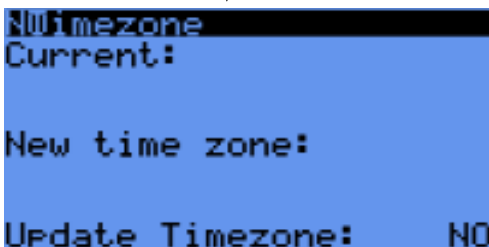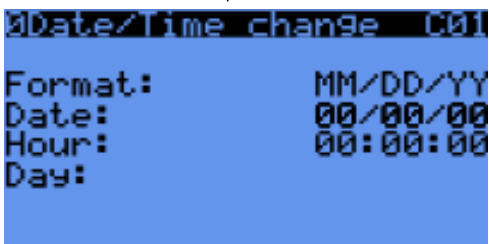

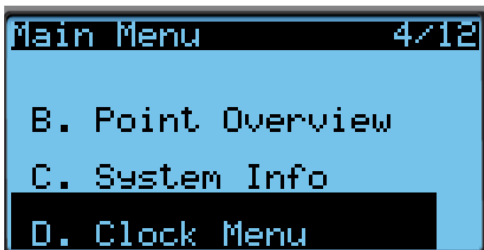*Figure 3. Control Panel Field Wiring*

Figure 4. PLC Ethernet Terminals

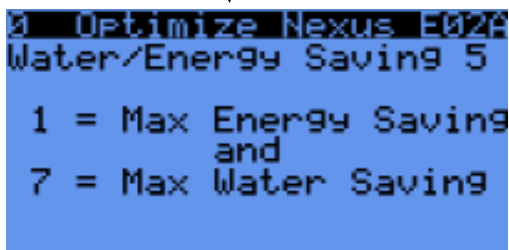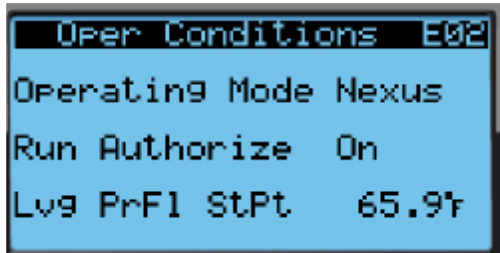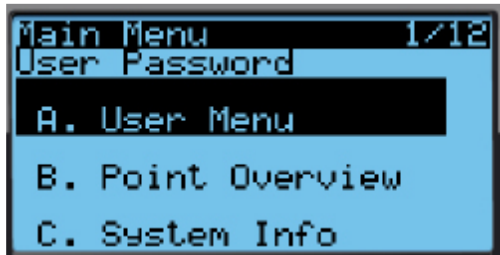# iPilot® Control System Quick Start with Recommended Settings

1. Verify that the supply power is connected to the iPilot® control system.

2. Turn on all circuit breakers inside the iPilot® control system.

3. Close the iPilot® control system panel and ensure that all the locks have been fully engaged and secured by rotating them 90° with a flathead screwdriver or coin.

4. Turn on the main power supply to the unit and ensure that main disconnect switch on the iPilot® control system is turned ON.

5. On the iPilot® control system keypad press *Prg*. Press enter (←) 4 times to enter the default user password of "0000".

```
Login

       🔑

Insert password:    0000
```

6. From the Main Menu scroll up (↑) or down (↓) and highlight "D. Clock Menu", then press enter (←). While in the Clock Menu, press enter (←) to begin making changes. Use the up (↑)/down (↓) arrows to set the date, time, and time zone, then press enter (←) to accept changes.

```
Main Menu         4/12


 B. Point Overview

 C. System Info

 D. Clock Menu
```
↓
```
Date/Time change  C01

Format:        MM/DD/YY
Date:          00/00/00
Hour:          00:00:00
Day:
```
↓
```
Timezone
Current:

New time zone:

Update Timezone:     NO
```

7. Press *Esc* to return to the Main Menu. From the Main Menu, scroll up (↑) or down (↓) and select "A. User Menu", then press enter (←). Press down (↓) to go to "Oper Conditions E02". Press enter (←) to begin making changes. Use the up (↑)/down (↓) arrows to set the following values, then press enter (←) to accept changes.

- Set Operating Mode to Nexus
  - o If customer analog control signal will be used, reference step 1.b of Optional Wiring Feature for Unit Communication
- Set Run Authorization to ON
- Set Leaving Process Fluid Setpoint at the value stated in the equipment Submittal

  Set Water/Energy Saving between 1-7 (5 recommended)

```
Main Menu            1/12
User Password

 A. User Menu

 B. Point Overview

 C. System Info
```

↓

```
   Oper Conditions   E02

Operating Mode Nexus

Run Authorize   On

Lvg PrFl StPt    65.9°F
```

↓

```
0  Optimize Nexus E02A
Water/Energy Saving 5

 1 = Max Energy Saving
         and
 7 = Max Water Saving
```
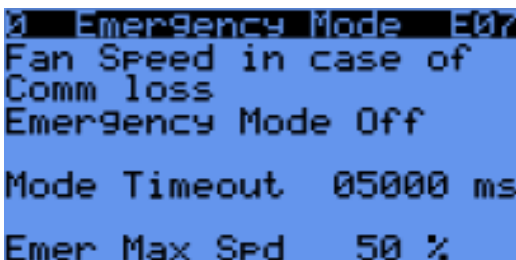
8. Press down (↓) to go to "Options E03". Press enter (←) to begin making changes. Use the up (↑)/down (↓) arrows to set the following values, then press enter (←) to accept changes.

   - Set Customer Input to NO (recommended)
   - Set Customer Input to YES (if customer analog control signal will be used, reference step 1.b of Optional Wiring Feature for Unit Communication)
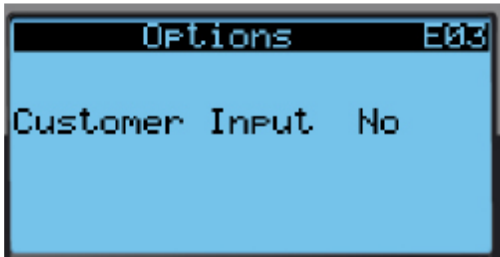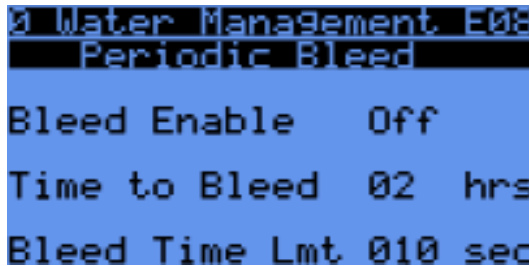

9. Press down (↓) twice to go to BMS Communication E05. Press enter (←) to begin making changes. Use the up (↑)/down (↓) arrows to set the following values, then press enter (←) to accept changes.

   - Choose Comm Type: None, BACnet/IP, BACnet/MSTP, Modbus IP, Modbus RTU
   - Set Enable Unit Run Access via BMS to NO
   - If applicable, configure the selected communication protocol in the proceeding screens
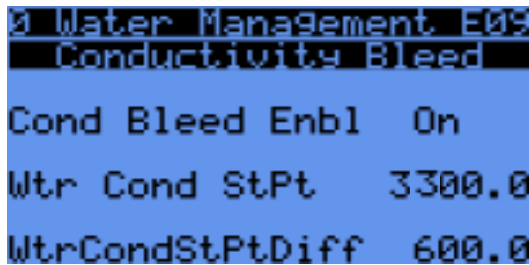

10. Press down (↓) twice to go to Emergency Mode E07. Press enter (←) to begin making changes. Use the up (↑)/down (↓) arrows to set the following values, then press enter (←) to accept changes.

    - Set Emergency mode to OFF. In the event of lost communication, the fan(s) will continue to operate at the last known fan speed.

11. Press down (↓) to go to "Water Management E08 Periodic Bleed". Press enter (←) to begin making changes. Use the up (↑)/down (↓) arrows to set the following values, then press enter (←) to accept changes.

 - Set Bleed Enable to ON or OFF.

    o This is an optional time-based bleed setting

 - Set Time to Bleed

    o This is the frequency of the optional time-based bleed

 - Set Bleed Time Lmt

    o This is the duration of the optional time-based bleed

```
0 Water Management E08
    Periodic Bleed

Bleed Enable    Off

Time to Bleed   02  hrs

Bleed Time Lmt 010 sec
```

12. Press down (↓) to go to "Water Management E09 Conductivity Bleed". Press enter (←) to begin making changes. Use the up (↑)/down (↓) arrows to set the following values, then press enter (←) to accept changes.

 - Set Cond Bleed Enbl to ON

 - Set Wtr Cond StPt to 3300 microohms/cm

 - Set WtrCondPtDiff to 600.0 microohms/cm

```
0 Water Management E09
    Conductivity Bleed

Cond Bleed Enbl   On

Wtr Cond StPt    3300.0

WtrCondStPtDiff   600.0
```

13. Press down (↓) to go to "Water Management E10 Periodic Drain". Press enter (←) to begin making changes. Use the up (↑)/down (↓) arrows to set the following values, then press enter (←) to accept changes

 - Set Drain Enable to either ON or OFF (ON is recommended)

    o This is an optional time-based drain setting

 - Set Time to Drain (2 hrs. is recommended)

    o If the equipment spray pump is not active for this amount of time, the basin will automatically drain.

```
0 Water Management E10
    Periodic Drain

Drain Enable    Off

Time to Drain   2   hrs
```
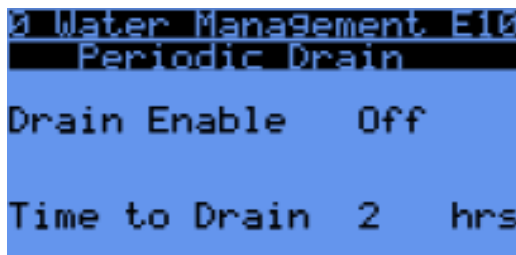
14. Press *Esc* to return to the Main Menu. From the Main Menu scroll up (↑) or down (↓) and select Logout, then press enter (←). Press enter (←) again to log out.

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BAC

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