



For All R-454B Control System, Water-Source, & Remote Air-Cooled Modules Models: UA & UW



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### Introduction

This document outlines the quick-start procedure for items that require configuration at initial system startup. Additional fine tuning may be required depending on the system's application.

This guide assumes the required software is installed on the CoolLogic Touch Control System and each of the Chiller Modules in the bank. It is important to verify that all sensors' input jumpers on the CoolLogic Touch Control System and Module Controllers are set properly per sensor type used (voltage, thermistor/dry contact, or current loop).

Î 🔂 🔍 📙		Home		
巻 -60.2 °F				
1 2				
C1 C2 C1 C2				
Req. 🗿 🎯 🙆 🌀				
Stat. 🕥 🕥 🥑 🥑				
Loop 1 Water DPT: 20.0		Comps Available:	2	
Loop 1 Water Return: 60.0		Status:	Schedule	Cool PID: 0.0
Loop 1 Water Supply: 60.0		System Mode:	Cool	
Loop 1 Flow: On		Comps Req:	0	
Chilled Wtr Setpoint: 50.0 °F	Hot Wtr Setpoint: 135.0 °F	Comps On:	0	
Status	System Setup	Service Menu		Alarm

### **HOME SCREEN**

View the status of the bank.

͡᠘ ◀ 📘			Module 1			
₩ 60.2 °E		LOOP 1		OA Terr	nperature	80.0
5 <u>~</u> -00.2 F	Temp In	31.8				
	Temp Out	39.7			R	etry Status:
	Valve Status	28.0		Module		0
2	Valve Output	28.0		Comp 1		0
	Flow Status	0	0	Comp 2		Ö
		Fan 1	Fan 2			C1 C2
	Fan Output	2.0	2.0			
		Comp 1	Comp 2	Refriger	ant Iso Valve	00
	Suction Pressure	105.1	107.3	Comp R	lequested	00
	Suction Temperature	17.4	7.5	Comp S	tatus	00
and the second sec	Suction SuperHeat	-21.5	-32.4	Hot Gas		00
	Discharge Pressure	291.8	274.7	Liquid Is	0	00
	Discharge Temperature	150.0	150.0	Liquid In	ij	00
	Liquid Pressure	293.6	170.0	Cool EX	, V	ĕĕ
	Coil LineTemperature	26.5	25.1	Heat FX	SV.	ăă
	Subcool Temperature	71.0	37.6	Dhace S	tatue	
	Runtime	0.0 hr	0.0 hr	Filase c	nalus	•
		_				
Status	System Setup		Service M	lenu		Alarm

Select the module number to view the status of the module.

## System Specifications and Initial Configuration

#### CONTROL SYSTEM SPECIFICATIONS

#### **Operating Conditions:**

- -4°F to 122°F (-20°C to 50°C)
- 10% to 90% RH (non-condensing)
- Front IP65 water and dust proof (rear: IP20)
- Vibration tested to EN 60068-64

#### Storage Temperature:

• -13°F to 158°F (-25°C to 70°C)

#### **ESTABLISHING COMMUNICATION**

Use this guide after all devices are properly addressed. Address the CoolLogic Touch Control System and Modules using the rotary dials on each control board. All control boards require a power cycle after setting the address.

IMPORTANT: Save Settings.

### SAVING YOUR CONFIGURATION

After all configuration items are set as desired for the chiller bank, access the Configuration Screen to save settings.

## System Setup > Controller Configuration and select **Backup Memory** to save your settings.

û ◀	!	Cont	roller Configuration	
		Port Settings		
	IP	Router	Communication	
		Backup & Restore		
	Backup Memory Note this overwrites fa	Valid? (5) 4:26 actory settings	5:16 PM 09/05/2024	Thursday
		Device Links		
			Module State Module Setu	us ioi
_	Status	System Setup	Service Menu	Alarm

After applied, verify the "VALID?" Indicator turns green.

## **Configuring System Type and Application**

Select System Setup from the Home Screen.

#### The default password to access the Setup menu is 2546

- **Chiller Module Type:** Choose the type of module being controlled.
- Control Type: Make your selection based on the bank application from the following options: Off, Cooling, Heating, Heat Recovery, SHC Pump, SHC Heat Recovery, SHC HR Cool Priority, SHC HR Heat Priority, or Constant Volume Cooling.
- Chiller Control Source: selects the start/stop method the chiller bank uses.
  - Digital Input enable with dry contact closure of the Remote Chiller Enable terminals within the CoolLogic Touch Control Panel and the three-way switch in the REMOTE position.
  - **Keypad** enable using the keypad and the three-way switch in the **LOCAL** position.
  - BAS enable via BACnet points and the threeway switch in the REMOTE position and the contact closure at the CoolLogic Touch Control Panel terminals 42 and 43 of the LVTB1.
- **Cooling Type:** selects the type of application in use.
  - Comfort Cooling select if LWT is 40°F 50°F (4.4°C 10°C).
  - Brine Duty Cooling select if cooling LWT is 20°F
    40°F (-6.7°C 4.4°C). (Ensure adequate glycol mixture before selecting Brine Duty Cooling.)
  - Data Center Cooling select if cooling LWT is above 50°F (10°C).
- **Glycol Enable:** select if using glycol in the source and/or load loops.
- **Chilled Water Design Delta:** the design difference between entering water and leaving water temperatures in cooling.

🔂 ┥ 📙	Syst	em Setu	р	
Chiller Module Type:	UAT	•	Cool & Heat	Setpoints
Control Type:	Cooling	•	Controller Co	nfiguration
Chiller Control Source:	OFF	-	Module Con	figuration
Cooling Type:	Comfort Cooling	•		
Glycol Enable:			Free Cooling	g Settings
Chilled Water Design Delta:	10.0			
Hot Water Design Delta:	20.0			
Cool Capacity Limiting:	100.0			
Heat Capacity Limiting:	100.0			
Module used as N + 1:	None	•	5.6.1	**
Module used as N + 2:	None	•	P Gain:	3.00
Smart Bypass:			I Gain:	0.03
Use Average OAT:			D Gain:	: 0.03
Use Adaptive Head Pressure:			Gain	1.00
			Stage Dov	wn Diff: 10.0
Status	System Setup	Servic	e Menu	Alarm

- Hot Water Design Delta: the design difference between entering water and leaving water temperatures in heating.
- **Cool Capacity Limiting:** assigns the maximum cooling capacity of the bank.
- Heat Capacity Limiting: assigns the maximum heating capacity of the bank.
- Module used as N + 1: assigns the module number that will be used as the redundant module.
- Module used as N + 2: assigns the module number that will be used as the second redundant module.
- **Smart Bypass:** when selected, the first module's valves always stay open acting as a bypass.
- BAS OAT Enable: on air-cooled products, select this to use the BAS-supplied outside air temperature instead of the outside air temperature measured on-board.
- Use Average OAT: select to use the average of the measured outside air temperature and the BAS-supplied outside air temperature
- Use Adaptive Head Pressure: when selected, a 4-pipe water-cooled or 2-pipe air-cooled configuration adjusts the head pressure target pressure relevant to the outside air temperature

# **Configuring System Type and Application**

### **COOL AND HEAT SETPOINTS**

ſî ◀ <mark>!!</mark>	Coo	& Heat Setpoints	
🗱 Chilled Water Setpoint:	Local	🍌 Hot Water Setpoint:	Local
Pause PID During Stage Up:			
Rem Cool Setpoint Type:	None 🔻		
Rem Heat Setpoint Type:	None 🔻		
Status	System Setup	Service Menu	Alarm

**Chilled Water Setpoint:** Enter the desired chilled water setpoint.

Hot Water Setpoint: Enter the desired hot water setpoint.

**PID Hold:** Checked box will not allow compressors to continue to stage up while there is a fault retry condition.

**Remote Cool/Heat Setpoint Type:** Assigns where the chiller bank reads its setpoints.

### **CONTROLLER CONFIGURATION**

û ◀ 🚦		Con	troller Configuration	
		Port Settings		
	IP	Router	Communication	
		Backup & Restore		
	Backup Memory Note this overwrites fa	Valid? 🧿 4:2 actory settings	6:16 PM 09/05/2024 <sup>-</sup>	Thursday
		Device Links		
			Module Status	
			Module Setup	
5	Status	System Setup	Service Menu	Alarm

IP: Configures BACnet over IP settings.

Router: Configures BACnet communication settings.

Communication: Configures BACnet Device Instance.

# NOTE: If Port Settings need to be changed, please contact a ClimaCool Representative.

**Module Setup:** Setup the time and communications settings of the module(s).

### **MODULE CONFIGURATION**

Enables/disables modules and sets the order that units will stage on.



Flip Lead/Lag Logic: Check Box to switch the leading and lagging compressors in a module.

**Disable Lead/Lag Rotation:** Check box to set compressor C1 to always lead.

#### Type of Variable Compressors:

- Fixed: No variable-speed compressors
- **VFD:** Variable Frequency Drive Installed in at least one compressor in the bank

### Service Menu

🔂 ┥ 📙	Servic	e Menu	
Software Version:	C17BP002NX2_04_2023_R3		Trends
Main Header Water Temps: LOOP 1 IN Raw : LOOP 1 Water Inlet : LOOP 1 OUT Raw : LOOP 1 Water Outlet : Ambient Temperature: Outdoor Air Raw: Outdoor Air:	Temp: Manual Offset: 60.0 60.0 60.0 60.0 -60.2 -60.2 °F 0.0 C	Reset All Modu Reset All Modu	le # 1 Alarms? le # 2 Alarms? le # 3 Alarms? le # 4 Alarms? le # 5 Alarms? le # 6 Alarms? le # 6 Alarms? le # 7 Alarms? le # 8 Alarms? le # 10 Alarms? e # 10 Alarms? e # 11 Alarms? f-Range Alarm Reset rel alarms reset
Status	System Setup	Service Menu	Alarm

#### **TRENDS**

**Note:** Alarms are removed only if the cause of the alarm is solved/removed.

View graphical trends

Service	Menu	
3P002NX2_04_2023_R3		Trends
mp: Manual Offset:	Reset All Modu Reset All Modu	le # 1 Alarms? le # 2 Alarms?

# Verifying Communication with Modules

Communication between the CoolLogic Touch Control System and Chiller Modules can be confirmed by entering the module's Status Screen from the Home Screen. Selecting a module image displays the Module Status Screen for that module. From this status screen, refrigerant pressures and temperatures display as shown in the figure below. If the module temperature or pressure field displays the value 0.0, then communication is not established with the module. Confirm that the STP CAT 6 ethernet cable is correctly connected and that power on all modules and the CoolLogic Touch Control System has been cycled. The CoolLogic Touch Control System must be powered on last. It takes two to three minutes for communication to be established to all modules.

🖆 ┥ 📙		N	lodule 1			
÷ 60.2 °⊏		LOOP 1			OA Temperature	80.0
2-00.2 F	Temp In	31.8				
	Temp Out	39.7			R	etry Status:
	Valve Status	28.0			Module	0
2	Valve Output	28.0			Comp 1	0
	Flow Status	0	0		Comp 2	Ö
		Fan 1	Fan 2			C1 C2
	Fan Output	2.0	2.0			
		Comp 1	Comp 2		Refrigerant Iso Valve	00
	Suction Pressure	105.1	107.3		Comp Requested	00
	Suction Temperature	17.4	7.5		Comp Status	00
	Suction SuperHeat	-21.5	-32.4		Hot Gas	00
	Discharge Pressure	291.8	274.7		Liquid Iso	00
	Discharge Temperature	150.0	150.0		Liquid Inj	00
	Liquid Pressure	293.6	170.0		Cool EXV	õõ
	Coil LineTemperature	26.5	25.1		Heat FXV	ăă
	Subcool Temperature	71.0	37.6		Phase Status	
	Runtime	0.0 hr	0.0 hr		Fhase Status	•
Status	System Setu	p	Service I	Menu	I A	larm

## **Control System Specifications**

☆ ◀					Status	3			
Heat PID	0.0								Retry Status
Cool PID HR PID	0.0 0.0		Valve S	Status		Leavin	g water	Rı	untimes
	Status:	Loop 1 Wtr:	Loop 2 to Evap:	Loop 2 to Cond:	Loop 3 Wtr:	Loop 1 Wtr:	Loop 3 Wtr	r: C1:	C2:
M2	Open Module	-1.9	12.6	12.6	-12.4	9.1	18.2	0.0 hr	0.0 hr
	Status		System S	etup	Se	rvice Menu		Al	arm

Overall system status and commands.

The bank is ready to start and run with the minimum configuration completed. It is recommended that you verify additional configuration settings that may require adjustment for the intended application.

## **Contact Information**

For more information on any of the previous configuration menus, contact ClimaCool Technical Services at 800-299-9747, Option 3 or www.climacoolcorp.com.

Notes
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# **Revision History**

Date	Section	Description
02/03/25	First Published	







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