



CoolLogic Touch Controller Quick Start Guide

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For All Air-Source, Water-Source, and Remote Air-Cooled Modules Models UCA/W/H/R



Models: UCA/W/H/R

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Introduction

Models: UCA/W/H/R

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

Models: UCA/W/H/R

Establishing Communication and Configuring Modules Present

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

IMPORTANT: Save Settings.

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.

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

Configuring System Type and Application

Models: UCA/W/H/R

û ◀ !	System Setup	ğ: 💾
General System Settings:		
Chiller Module Type:	UCW Cool & Heat Setpoints	
Chiller Control Type:		
Chiller Control Source:	Digital Input 🔻	
Enable Chiller from Keypad?:	Off Remote Reset & DL Setup	
Use High Amb temp Limit?:	No	
Disable Heating Below:	00.0 °F Controller Configuration	
Disable Cooling Below:	00.0 °F C17BQ001N02 - 08/15/23	
Status System Se	etup Service Menu Alarm	

Select System Setup from the Home Screen.

Chiller Module Type: Select the appropriate module type from the following options: UCW, UCH, UCR, UCA, UCA-UCF, UCA-HP, UCH-HP, UCH-HR.

Chiller Control Type: Make your selection based on the bank application from the following options: Cool Mode, Heat Mode, or Heat Recovery.

Chiller Control Source: This selects the start/stop method the chiller bank uses.

Keypad – Enable using the keypad **and** the three-way switch in the LOCAL position.

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.

BAS – Enable via BACnet points **and** the three-way switch in the REMOTE position **and** the contact closure at the *CoolLogic Touch* Control Panel terminals 42 and 43 of LVTB1.

Enable Chiller from Keypad: Enables chiller operation when the three-way switch is in the LOCAL position (both must be ON for the unit to run).

Use High Ambient Temp Limit: When ON, this disables unit operation in high ambient temperature conditions (default 115°f). *For UCA/UCF banks only.*

Disable Heating Below: The ambient temperature setpoint below which heating is disabled. This applies only to air source units. For UCA Heat Pump banks only.

Disable Cooling Below: The ambient temperature setpoint below which cooling is disabled. This applies only to air source units. For UCA/UCF banks only.

Models: UCA/W/H/R

Configuring System Type and Application

COOL AND HEAT SETPOINTS

} ∢ <mark>!</mark>	Heat Setpoints		¤	
*		2		
Cool Water Setpoint:	000.0 °F	Hot Water Setpoint:	000.0 °F	
Cool Water Offset:	0.00 °F	Hot Water Offset:	000.0 °F	
Cool Target Reset	Remote	Heat Target Reset	Remote	
Sensor Input Function :	None	Sensor Input Function :	None	▼
Sensor Input Type:	None	Sensor Input Type:	2-10VDC	▼
Sensor Input Offset:	00.0	Sensor Input Offset:	000.0	
Min Load Water Out:	000.0 °F	Min Source Water Out:	000.0 °F	
Max Load Water Out:	000.0 °F	Max Source Water Out:	000.0 °F	
Active Cool Setpoint:	00.0 °F	Active Heat Setpoint:	000.0 °F	
	00.01	Active neur octpoint.	000.01	
Status	System Setup	Service Menu	Alarm	

Under **Local**, select Hot (or Cool) water setpoint and enter the desired setpoint for each mode. The Min/Max for Load/Source Out is for bank safeties where a breach in these values disables the unit from running.

Input 8 and **Input 10** settings are related to the remote setpoint control functionality on the *CoolLogic Touch* Controller.

FREE COOLING SETUP

Free Cooling Setup is the required configuration to set up the UCF modules' operation in a bank.



Enable Free Cool Modules: Enable Free Cooling if Free Cooling modules are available.

Enable Free Cool Below: The maximum temperature at which Free Cooling starts.

Enable Free Cool Above: The minimum temperature at which Free Cooling stops.

Disable Free Cool Lockout: If the outside ambient temperature (OAT) is less than the low ambient temperature trip point, Free Cooling is disabled if this option is selected.

Run All Free Cooling Modules Together: All Free Cooling Modules stage up together instead of waiting for each UCF to stage up individually. The next UCF stages up only if the previous UCF module is at max capacity (full fan speed) for at least five minutes.

Disable Mechanical Cooling: Enabling this disables Mechanical Cooling from UCA modules when Free Cooling is Enabled.

Water Valve Open Below OAT: The OAT setpoint for Freeze Safety. When the OAT is at or below this setpoint, the open/close water valve opens and the mixing valve opens to the pre-set position.

Mix Valve Open Amount (3-8): The Mixing Valve Position when Freeze Safety occurs.

Use UCF1 as a Smart Bypass: Fixes the UCF1 motorized water value to the open position when the bank is off and a bypass is required.

REMOTE RESET AND DEMAND LIMITING SETUP

☆ ◀ !	Remote Reset/E	Demand Limiting Setup	📮 🛱
	*	2	
	Cool Target Reset	Heat Target Reset	Demand Limiting
Sensor Input Function :	REMOTE ANALOG TRG	REMOTE ANALOG TRG V	DEMLIN numcmp reset v
Sensor Input Type:	2-10VDC V	2-10VDC 🔻	2-10VDC •
Target Min reset:	00.0 °F	00.0 °F	
Target Max reset:	00.0 °F	00.0 °F	
Active Reset:	00.0 °F	00.0 °F	
Sensor Input Offset:	00.0	00.0	
Dem Lim Neg Reset:	00.0 °F	00.0 °F	
Dem Lim Pos Reset:	00.0 °F	00.0 °F	
Dem Lim Active Reset:	00.0 °F	00.0 °F	
Dem Lim Offset:	00.0	00.0	
Status	System Setup	Service Menu	Alarm

Remote Setpoint target configurations and Demand Limiting.

Sensor Input Function: Choose between HMI(None), Remote Analog Target (Input 6), or BAS Target (0-10).

Sensor Input Type: Choose between 4-20mA or 2-10VDC for Remote Analog Target use.

Configuring System Type and Application

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Target Min Reset: The minimum setpoint for Remote Analog Target or BAS Target.

Target Max Reset: The maximum setpoint for Remote Analog Target or BAS Target.

Active Reset: The active remote setpoint.

Sensor Input Offset: Input 6 (Cool) and Input 10 (Hot) Sensor Offset.

Dem Lim Neg Reset: Input 7's (0-10VDC) Demand Limiting Minimum Setpoint Addition (Cool SetPoint) or Subtraction (Heat Setpoint).

Dem Lim Pos Reset: Input 7's (0-10VDC) Demand Limiting Maximum Setpoint Addition Addition (Cool SetPoint) or Subtraction (Heat Setpoint).

Dem Lim Active Reset: The Active Setpoint Addition (Cool) or Setpoint Subtraction (Heat) from Demand Limiting.

Dem Lim Offset: Input 7(0-10VDC) offset.

CONTROLLER CONFIGURATION

	C	Controller Configuration	# 🖺
			Software Date: 2023-04-07
	Port Settings -		
Port S1: ARC156 Netwo	ork #: 00000		
IP	Router	Communication	
	Backup & Restor	9]
Backup Memory	Valid? 🔘 HH:I	MM:SS AM MM/DD/YYYY Da	y Of Week
Note this overwrites fa	ctory settings		
			_
	Device Links -		•
		Module Status	
		Module Setup	
Status	System Set	up Service Menu	Alarm

Backup Memory: Select this option to save the current configuration to non-volatile memory.

This option also enables access to setup network configurations for the device.

Models: UCA/W/H/R CoolLogic Touch Controller Level Configuration

From the 💮 menu.

û ◀ <mark>!</mark>		CoolLogic Touch Contro	oller Level Configuratio	n	☆ ∎
		aic Touch Lockout A	larm Passcode	ീറററ	
		1odule Selector	Flow Sensor Config	guration	
	Main Wa	ater & Ambient Temps	PID Setup		
		BinLoad	Start-up & Mode C	Change	
	Selec	t Trim Chill Modules	Standby Module Set	up (N+1)	
		Enable	e Pump		
Status		System Setup	Service Menu		Alarm

CoolLogic Touch Lockout Alarm Enter Passcode: The required Passcode to unlock the unit.

MODULE SELECTOR

Select the module size for each module in the bank. If a module is not being used, leave the size as "Not Used."

û ◀ <mark>!</mark>	Мо	dule Selector			🔷 🛱 🗒
			Variable Cap	acity	
Module Us	e Selector:	Size:	Comp 1: Con	np 2:	
Module 1:		Not Used 🔻			
Module 2:		Not Used 🔻			
Module 3:		Not Used 🔻			
Module 4:		Not Used 🔻			
Module 5:		Not Used 🔻			
Module 6:		Not Used 🔻			
Module 7:		Not Used 🔻			
		C	Compressor S	Settings	
Status	System Setup	Servic	e Menu	Ala	rm

Module Size Options are: Not Used, 20 Ton, 30 Ton, UCF 20/30, 50 Ton, 70 Ton, 85 Ton, UCF 50/70.

If a module is equipped with either a Digital Scroll compressor or a VFD compressor, the Variable Capacity check box should be selected.

Find additional settings for compressor operation (timers, variable compressor settings, and more) in the *Compressor Settings Screen*.

FLOW SENSOR CONFIGURATION

	Flow Senso	or Configuration	ų
		*	
Flow Sensor Setup:		Minimum Voltage:	00.0 V
COND Water Minimum Flow:	00.0 psi	Maximum Voltage:	00.0 V
EVAP Water Minimum Flow:	00.0 psi	DPT Sensor Pressure Range:	
COND Input Status:	00.0 psi	Minimum Flow:	00.0 psi
Input Offset:	00.0 psi	Maximum Flow:	00.0 psi
EVAP Input Status:	00.0 psi	2	
Input Offset:	00.0 psi	DPT Sensor Input Type:	
Use Low Diff Press Filter:	No 🔻	Minimum Voltage:	00.0 V
		Maximum Voltage:	00.0 V
		DPT Sensor Pressure Range:	
		Minimum Flow:	00.0 psi
		Movinum Flour	00.0 ==i

COND Water Minimum Flow: The minimum flow psi on Loop 2.

EVAP Water Minimum Flow: The minimum flow psi required for Loop 1.

COND Input Status: The current flow reading for Loop 2.

Input Offset: The offset for COND Input Status.

EVAP Input Status: The current flow reading for Loop 1.

Input Offset: The offset for EVAP Input Status.

CoolLogic Touch Controller Level Configuration

Models: UCA/W/H/R

Use Low Diff Press Filter: Prevents flow from dropping immediately where the decrease in value is limited by 1 psi every second.

The Minimum/Maximum for the Load (Cold Icon) and Source (Hot Icon) must be set to match SETRA DPT dipswitches. The SETRA DPT has multiple choices for pressure ranges based on the dipswitch. Example: If the 0-25 psi dipswitch is selected, then Minimum and Maximum flow must be set to 0 and 25, respectively.

For Reference: Below is the possible SETRA DPT configurations. The default Range Selection Switch is D (25psi) and Electrical Output is A (4-20mA) for general applications.



Electrical Connections

Calibrate the DPTs while the tubing is connected to the appropriate piping and the pump is not running. The pressure differential should read 0.0. If not, confirm that the tubing is properly connected, the pumps are off, the DPT is wired correctly, and there is no air in the lines. Adjust as needed using the OFFSET fields shown in the *Flow Sensor Configuration Screen*.

Example: F	low Sensor	Configuration	(UCH SHC)
		· · · · · · · · · · · · · · · · · · ·	

EVAP (LOAD COOL) MINIMUM DPT SENSOR PRESSURE SETPOINT							
30 Ton	30 Ton 50 Ton 70 Ton 85 Ton						
1.1 PSI	1.3 PSI	1.8 PSI	1.3 PSI				
EVAP (LOAD	EVAP (LOAD COOL) MINIMUM DPT SENSOR PRESSURE SETPOINT						
30 Ton	30 Ton 50 Ton 70 Ton 85 Ton						
1.5 PSI	1.8 PSI	2.2 PSI	1.8 PSI				

The values in the example are the absolute minimum for a UCH-style chiller, but can be set higher. These values are derived from the respective heat exchanger pressure drops and the operation limitations table, located in the unit Installation, Operation, and Maintenance Manual (IOM). A value of 0.5 psi is added to the result to accommodate the additional pressure losses of the piping between the heat exchanger and the header, where the DPT sensor is located.

MAIN WATER AND AMBIENT TEMPS

Configure appropriate **LO/HI Load/Src Water IN/OUT** depending on the brine used in the job site.

🖆 🖪 📕	Main Water & Ambient Temps					
Sensor Limits:						
LO Load Water IN:	0000.0 °F	LO Src Water IN:	0000.0 °F			
HI Load Water IN:	0000.0 °F	HI Src Water IN:	0000.0 °F			
LO Load Water OUT:	0000.0 °F	LO Src Water OUT:	0000.0 °F			
HI Load Water OUT:	0000.0 °F	HI Src Water OUT:	0000.0 °F			
Ambient Temperature Limits:						
Cooling Low Ambient Operation:	00 °F					
Heating Low Ambient Operation:	00 °F					
Enable HP Operation below:	00 °F					
Hi Ambient Temp Unit Disable:						
HI Outdoor Air Temp:	000.0 °F					
Use Average Outside Air Temp:						
Status System S	Setup	Service Menu	Alarm			

Cooling and Heating Low Ambient: Set these values using the unit IOM.

Enable HP Operation Below: The OAT at which heat pump operation is enabled.

HI Ambient Temp Unit Disable: Enable the HI Ambient Limit option for air-source units.

HI Outdoor Air Temp: The OAT at which the air-source units is disabled.

Use Average Outside Air Temp: Enable this option to aggregate and average the ambient temperature from all the modules.

Models: UCA/W/H/R

CoolLogic Touch Controller Level Configuration

PID SETUP

PID Configurations for both Heat Demand and Cool Demand.

₲ ◀			F	PID Setup	#
	Switching Differential	(+/-):	00.0	PID Output:	000
	Maximum PID of Las	t Stage:	000.0	Maximum PID Limit:	000.0
	Maximum PID Limit w	ith VFD:	000.0	Maximum PID Limit with	N+1: 000.0
	2			*	
	Interval:	000		Interval:	000
	P-Gain:	000.0		P-Gain:	000.0
	I-Gain #1:	00.000		I-Gain #1:	00.000
	I-Gain #2:	00.000		I-Gain #2:	00.000
	PID Rise:	000.0		PID Rise:	000.0
	PID Fall:	000.0		PID Fall:	000.0
	Control Setpoint Offset:	000.0		Control Setpoint Offset:	000.0
	Deadband # 1:	00.0		Deadband # 1:	00.0
	Deadband # 2:	00.0		Deadband # 2:	00.0
	Use Fixed PID Rise?:	No 🔻		Use Fixed PID Rise?:	No 🔻
	Use Fixed PID Fall?:	No 🔻		Use Fixed PID Fall?:	No 🔻
	Status Sy	/stem Se	tup	Service Menu	Alarm

Recommended: Set PID tuning up to stage one compressor up/down every 5-8 minutes.

Default:

- P-Gain: 16
- I-Gain: 0.40
- D-Gain: 0.0
- Rise: 6
- Fall: 32
- Deadband #1: 1.8
- Deadband #2: 0.0
- Switching Differential: 3

BINLOAD

This time accumulator displays the capacity use of the bank aggregated in hours.

🖆 🔍 📕		BinL	oad	🔅 🗳 🗳
	*	BinLoad:		
		Bin 10%:	000.0 hr	
		Bin 20%:	000.0 hr	
		Bin 30%:	000.0 hr	
		Bin 40%:	000.0 hr	
		Bin 50%:	000.0 hr	
		Bin 60%:	000.0 hr	
		Bin 70%:	000.0 hr	
		Bin 80%:	000.0 hr	
		Bin 90%:	000.0 hr	
		Bin 100%:	000.0 hr	
		Reset ALL Ho	urs:	
01.1	-	0.1	0	A1
Status	System	Setup	Service Menu	Alarm

START UP AND MODE CHANGE

☆ ◀ 🚹	Start-up & Mode Chang	8	₩
	Start-up Time Delay: Minimum mode Change Delay:	000 seconds 0000 seconds	
Status	System Setup Service	Menu	Alarm

Start-up Time Delay: The time delay before the unit starts up.

Minimum mode Change Delay: The required delay before the bank changes mode.

SELECT TRIM CHILL MODULES

Select Trim Chill Modules by selecting the box next to the modules. Selecting multiple modules as "Trim Chill" causes the trim module to be randomly selected every time the bank stages up the first unit or stages down the last unit.



CoolLogic Touch Controller Level Configuration

Models: UCA/W/H/R

STANDBY MODULE SETUP (N+1)

☆ ◀ 🛄	Standby Module Setup (N+1)		⇔ ≅
	Use N+1 Operation: Module used as Fixed + 1: Use Monthly Auto Rotation: Manually Rotate N+1 Module:	Off v 1 v Off v Off v	
Status	System Setup Service M	enu	Alarm

Use N+1 Operation: Enable N+1 Operation.

Module used as Fixed + 1: Select a fixed Module to be N+1.

Use Monthly Auto Rotation: Changes the N+1 module every month.

Manually Rotate N+1 Module: Enable this to increment the N+1 module to the next module. Continue toggling to keep incrementing.

Module Currently in Standby: Displays the current N+1 module.

ENABLE PUMP

This screen is used only when an ON/OFF pump is connected to BO3 on the *CoolLogic Touch* Controller. If **Enable Pump** is selected, the pump is enabled.



Models: UCA/W/H/R Se

Service Menu

	Serv	vice Menu	☆
Configure Refrigera	tion Sensors	Diagnostics manual mo	ode
Reset Comp Runtime	es and Cycles	Calibrate & Lock Temper	atures
Alarm Lockour	Reset		
Status	em Setup	Service Menu	Alarm

CONFIGURE REFRIGERATION SENSORS

යි 🔺 📙	Configure Ref	Configure Refrigeration Sensors							
Discharge Pressure Sensor	E Honeyvvell V	Suction Pressure Sensor							
Minimum Disch Press Voltage :	00.0 V	Minimum Suct Press Voltage	e: 00.0 V						
Maximum Disch Press Voltage :	00.0 V	Maximum Suct Press Voltage	e : 00.0 V						
Minimum Discharge Pressure :	000.0 psi	Minimum Suction Pressure :	000.0 psi						
Maximum Discharge Pressure :	000.0 psi	Maximum Suction Pressure	. 000.0 psi						
Minimum Disch Press OOR :	00.0 V	Minimum Suct Press OOR :	00.0 V						
Maximum Disch Press OOR :	00.0 V	Maximum Suct Press OOR :	00.0 V						
Status	System Setup	Service Menu	Alarm						

Refrigeration Sensor Input Type: Choose between Honeywell, Carel(default) or Custom. If Custom is selected, the below values must be set.

Minimum/Maximum ... Voltage – Signal Range for the pressure transducer.

Minimum/Maximum ... Pressure – Pressure Range for the pressure transducer.

Minimum/Maximum ... OOR Voltage – OOR fault limit range for Signal

DIAGNOSTICS MANUAL MODE

The manual control for the system to test modules.

🖆 🔺 📙	Diagnosti	cs manual mode	🛱 💾
Manual Mode Override:	Use Coo	olLogic OOR to send	
Current System Mode:	Cooling modules	into manual mode:	
Enable Manual Control:			
Set System Mode:	Cool 🗸		
Ignore Min ON/OFF Times			
	C	Comp on Fan on	Fan Control
Manu	al Mode Valve control	1: C2: Fan 1 Fan 2 Fa	an 1 Fan 2
M1	False 🔻	0.	00 V 0.00 V
M2	False 🗸	0.	00 V 0.00 V
M3	False 🗸	0.	00 V 0.00 V
M4	False ▼	0.	00 V 0.00 V
M5	False 🔻	0.	00 V 0.00 V
M6	False 🗸	0.	00 V 0.00 V
M7	False 🗸	0.	00 V 0.00 V
Status	System Setup	Service Menu	Alarm

Current System Mode: Displays the current manual mode.

Enable Manual Control: Enable Manual Mode.

Set System Mode: Set the Manual Mode.

Ignore Min ON/OFF Times: If enabled, the compressor minimum runtime and minimum off time is ignored.

Each Module and its components have independent manual controls, as shown.

Service Menu

Models: UCA/W/H/R

RESET COMP RUNTIMES AND CYCLES

Reset compressor runtimes and number of cycles for each compressor.



CALIBRATE AND LOCK TEMPERATURES

Calibrate and lock the main temperature sensors for diagnostic purposes.

☆ ◀ 🚦	Calibrate & Lo	ock Temperatures	🛱 💾
Main	Header Water Temps:	Values:	
Load	N Sensor:	000.0 °F Offset: Lock:	To:
Load '	Water IN:	000.0 °F 000.0	000.0
Load	OUT Sensor:	000.0 °F	
Load	Water OUT:	000.0 °F 000.0	000.0
Sourc	e IN Sensor:	000.0 °F	
Sourc	e Water IN:	000.0 °F 000.0	000.0
Sourc	e OUT Sensor:	000.0 °F	
Sourc	e Water OUT:	000.0 °F 000.0	000.0
Ambie	nt Temperature:		
Outdo	or Air Sensor:	000.0 °F	
Outdo	or Air:	000.0 °F 000.0	000.0
Status	System Setup	Service Menu	Alarm

Configuration to clear module and *CoolLogic Touch* Controller alarms.

ALARM LOCKOUT RESET

û ∢ <mark>!</mark>	Alarm Lockout Reset	‡ 🖺
	Reset All Module # 1 Alarms?	
	Reset All Module # 2 Alarms?	
	Reset All Module # 3 Alarms?	
	Reset All Module # 4 Alarms?	
	Reset All Module # 5 Alarms?	
	Reset All Module # 6 Alarms?	
	Reset All Module # 7 Alarms?	
	Master Panel Out-of-Range Alarm Reset	
Status	System Setup Service Menu	Alarm

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

Models: UCA/W/H/R

Verifying Communications with Modules

Communication between the CoolLogic Touch Controller 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 proper rotary address settings, that the ARC156 daisy chain communication string is correctly connected, and that power on all modules and the CoolLogic Touch Controller has been cycled. The CoolLogic Touch Controller must be powered on last. It takes two to three minutes for communication to be established to all modules.

		Modul	e 1		‡ :
ື <u>ﷺ</u> °000.0 °F					
		EVAP	COND	OA Temperature	000.0 °F
	Valve Status	Closed	Closed	CWR Temperature	000.0 °F
		Fan 1	Fan 2	CHWS Temperature	000.0 °F
2	Fan Output	00.0 V	00.0 V		
	•	Comp 1	Comp 2		Unload Status
° 3	Suction Pressure	000.0 psi	000.0 psi	Module	Cond WtrOut Tem
	Suction Temperature	000.0 °F	000.0 °F	Comp 1	Comp1 XLow Suct
°4	Suction SuperHeat	000.0 °F	000.0 °F	Comp 2	Comp2 XLow Suct
	Discharge Pressure	000.0 psi	000.0 psi		
°5	Discharge Temperature	000.0 °F	000.0 °F		
	Requested	0	0		
	Status	Ó	Ō		
- 1.20 C.20	Runtime	00000.0 hr	00000.0 hr		
9 7	Cycles	00000.0	00000.0		
	Minimum Runtime	Off	Off		
	Minimum Off Time	Off	Off		
Status	System Setup		Service	Menu	Alarm

Status

Models: UCA/W/H/R

Overall system status and commands.

1						Sta	itus					₽ ₽
		PID Count	000	.0		Phase	Input:	۲				
2	Low An	nbient Disable [®]	False					Ť	Ur	nload Stat	us	
2	Heat Mode	e OAT Disable	False						2			•
		Chiller Type:	UC/	N 1	HW	Setpoint r	eset: ^e	000.0 °F	De	efrost Stat	tus	0
				Valve	Status	Leaving	g water	Comp Ru	intimes	Comp	Cycles	
		Size:	Status:	LOAD:	SRC:	LOAD:	SRC:	C1:	C2:	C1:	C2:	
	M1	NA	Open	Closed	Closed	00.0 °F	00.0 °F	MMM	MMM	0	0	
	M2	NA	Open	Closed	Closed	00.0 °F	00.0 °F	MMM	MMM	0	0	
	MЗ	NA	Open	Closed	Closed	00.0 °F	00.0 °F	MMM	MMM	0	0	
	M4	NA	Open	Closed	Closed	00.0 °F	00.0 °F	MMM	MMM	0	0	
	M5	NA	Open	Closed	Closed	00.0 °F	00.0 °F	MMM	MMM	0	0	
	M6	NA	Open	Closed	Closed	00.0 °F	00.0 °F	MMM	MMM	0	0	
	M7	NA	Open	Closed	Closed	00.0 °F	00.0 °F	MMM	MMM	0	0	
		Status		Syste	m Setup		Ser	vice Menu		Ala	arm	

UNLOAD STATUS

Displays whether the modules or the compressors are in unload status.

🖆 🖣 🚦		P	All Module Unload	d Status	🛱 🖺
		Compressor 1:	Compressor 2:	Module Unload:	
	M1	False	False	False	
	140	F -l	F -l	E-l	
	MZ	False	Faise	Faise	Alarm Lockout Reset
	M3	False	False	False	
	M4	False	False	False	
	M5	False	False	False	
	M6	False	False	False	
	M7	False	False	False	
	Status	System Se	tup S	Service Menu	Alarm

DEFROST STATUS

ն ∢	!					j.	Defrost	Status				‡
Defr	ost ACL	T Delta	SP	00.0.8		Defros		reshold	000.0.°F			
Defr	ost Max	Disc Pi	ress:	000 ps	i	Outde	oor Air Te	mp Avg:	000.0 °F			
	Coil Fre	ezing T	ime:	000 mii	n							
N	lax Time	In Def	rost:	000 mi	n							
De	frost Re	eques	ted	Defrost \	/Vait T	ime	Defros	st Status	Lvg Air C	oil Temp	Discharg	je Press
	C1:	C2:		C1:		C2:	C1:	C2:	C1:	C2:	C1:	C2:
M1	۲	۲	ΗH	H:MM:SS	ннн	:MM:SS	٢	۲	00.0 °F	00.0 °F	000 psi	000 psi
М2	0	٢	ΗH	H:MM:SS	ннн	:MM:SS	٢	٢	00.0 °F	00.0 °F	000 psi	000 psi
MЗ	0	٢	ΗH	H:MM:SS	ннн	:MM:SS	٢	٢	00.0 °F	00.0 °F	000 psi	000 psi
M4	٢	٢	ΗH	H:MM:SS	ннн	:MM:SS	٢	۲	00.0 °F	00.0 °F	000 psi	000 psi
M5	٢	۲	ΗH	H:MM:SS	ннн	:MM:SS	0	۲	00.0 °F	00.0 °F	000 psi	000 psi
M6	0	۲	ΗH	H:MM:SS	ннн	:MM:SS	0	۲	00.0 °F	00.0 °F	000 psi	000 psi
Μ7	0	۲	нн	H:MM:SS	ннн	:MM:SS	0	٢	00.0 °F	00.0 °F	000 psi	000 psi
	Statu	IS		S	/stem	Setup		Servic	e Menu		Aları	m

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. Models: UCA/W/H/R Module Level Configuration (P)

Review the settings in each menu displayed below to confirm they are correct for the chiller application. Some of these settings are not available depending on the Module Unit Type selection in "CoolLogic Touch Controller Level Configuration".

☆ ◀ 📙	Module Lev	el Configuration	📮 🛱 💾
	Compressor Enable/Disable	Refrigeration Sensors & Alarms	
	Motorized Valve PID settings	Motorized valve option	
	Module Water Temp Limits	Compressor Settings	
	UCF Settings	UCA Fan Settings	
	Liquid Injection Configurations	Defrost Setup	
	Hot Gas Bypass Configurations		
Stati	us System Setup	Service Menu Alar	m

COMPRESSOR ENABLE/DISABLE

When the compressor's "Disable" box is selected, it is made unavailable for operation. This is useful for preventing nuisance NO RUN alarms while the compressor toggle switch is turned OFF. For normal operation, do not disable the compressors.

🖆 🖣 📕	Compr	Compressor Enable/Disable					ÿ ∎`
	Module 1: Module 2: Module 3: Module 4: Module 5: Module 5:	Status C1 © © ©					
	Module 7:	0	0				
Status	System Setup		Service M	enu		Alarm	

REFRIGERATION SENSOR AND ALARMS

5 🔺 !	Ref	rigeratior	1 Sens	ors & Alarms	- 🛱 I
Alarms Trip Points:				High Discharge Pressure Retries:	0
HI Discharge Pressure:	000 psi			High Discharge Temp Retries:	0
HI Discharge Temp:	000.0 °F]		Low-low Suction Pressure Retries:	0
Low Suction Pressure (Cool):	000 psi			Low Suction Temperature Retries:	0
Low Suction Pressure (Heat):	000 psi			Comp No Run Retries:	
Low-Low Suction Pressure:	000 psi				
	*	2	DEF		
Low Suction Temperature:	00.0 °F	00.0 °F		Comp Status Alarm Delay	000
Suction Alarm Time Delay:	000	000	000		
				Available Sensors:	
Alarms Available:				Discharge Pressure:	
Source Water Out Temp:				Discharge Temperature:	
Enable Source LO Alarm:				Suction Pressure:	
Enable Load HI Alarm:				Suction Temperature:	
Status	System Se	etup		Service Menu Alarm	1

HI Discharge Pressure: Sets the threshold above which the DISCHARGE PRESSURE ALARM is triggered for the selected refrigerant.

HI Discharge Temp: Sets the threshold above which the DISCHARGE TEMPERATURE ALARM is triggered for the selected refrigerant.

Low Suction Pressure (Cool/Heat): Sets the threshold below which the SUCTION PRESSURE ALARM is triggered for the selected refrigerant in the selected mode. Typically, this option only requires adjustment when glycol is used in the cooling or source loop.

Module Level Configuration (P)

Models: UCA/W/H/R

Low Suction Temperature: Sets the threshold below which the SUCTION TEMPERATURE ALARM is triggered for the selected mode.

Suction Alarm Time Delay: Sets the amount of time in seconds that the module delays before triggering a SUCTION TEMPERATURE or PRESSURE ALARM.

Alarms Available: Select the box to enable the alarms listed. De-select to disable.

***Retries:** The number of times a circuit unloads and retries before the fault becomes active.

Comp Status Alarm Delay: Sets the amount of time in seconds the module delays for the current switch to close after starting the compressor before triggering the COMPRESSOR NO-RUN ALARM.

Available Sensors: Select to enable out-of-range and limit alarms for the selected refrigerant sensor.

MOTORIZED VALVE PID SETTINGS

🟠 🔍 Motorized V	Valve PID settings	Þ 🗎
Module SP Target Settings (Evap) Suction Pressure Target Wtr Src: 000		
Mot Valve PID Configuration	Source Load	
Interval:	000 000	
P-Gain:	000 000	
I-Gain:	00.000 00.000	
D-Gain:	00.00	
Deadband:	00.0 00.0	
Ramp (sec):	000 seconds 000 seconds	
Minimum Out:	000.00 V 000.00 V	
Head Pressure Target Wtr Src:	000 psi	
Head Pressure Offset	000 psi Heat Valve PID	
Status System Setup	Service Menu Alarm	

Module SP Target Settings: The Suction Pressure valve control target for water-source units.

Mot Valve PID Configuration: The Valve PID configuration for water-source units.

HEAT VALVE PID

Valve PID settings for Discharge Pressure Control for air-source units.

🖆 🖣 Heating Valve PID Se	əttings	\$ #
Valve Interval	000	
P-Gain	000	
I-Gain	000	
D-Gain	000	
Deadband	000	
Ramp	000	
Max Output	000	
Min Discharge Press SP	000	
Status System Setup Ser	vice Menu	Alarm

MOTORIZED VALVE OPTION

Ĝ ∢ <mark>!</mark>	Motorized valve	e option	\$ 🗎
	Src Mot Vlv Alarm Delay	000	
	Load Mot VIv Alarm Delay:	000	
	Module 1 Smart Bypass:		
	Heat Disc Prs Target:	000 psi	
Status	System Setup	Service Menu	Alarm

Alarm Delay: The delay between the valve open command and valve feedback before an alarm is triggered.

Smart Bypass: Select to lock the Module 1 motorized water value in the open position as an alternative to a header bypass.

Heat Disc Prs Target: The Discharge Pressure target for air-source unit valve control in HEAT MODE.

Models: UCA/W/H/R Module Level Configuration (P)

MODULE WATER TEMP LIMITS

☆ ◀ !	Module Water Temp Lim	# 🗎	
	Delay Trip Time: Water Valve Open Below OAT: Mod Load Water Out LO Limit: Mod Load Water Out HI Limit (Cool): Mod Load Water Retries:	0.00 seconds 000.0 °F 000.0 °F 000.0 °F 000.0 °F	
	Mod Source Water LO Limit: Mod Source Water HI Limit: Mod Source Water HI Limit Retries:	000.0 °F 000.0 °F 0	
	MOD Cool Low OAT Operating point: MOD Heat Low OAT Operating point:	000.0 °F 000.0 °F	
Status	System Setup Service	e Menu	Alarm

Delay Time Trip: The time in seconds that the module delays before triggering a freeze protection alarm.

Water Valve Open Below OAT: Sets the OAT threshold below which the modules fix open their water valves (air-source units only).

Module Water Temp Limits: These are the LOW and HIGH water OUT temperature limits for the HEAT MODE and COOL MODE at the module sensor locations. The LOW water temp limits typically only require adjustment when glycol is used in the cooling loop.

Water Retries: The number of times the module retries operation before triggering a water temperature fault.

Mod Cool/Heat Low OAT Operating Point: Sets the OAT below which cooling/heating operation is prohibited (air-source units only).

COMPRESSOR SETTINGS

Decreasing the default values for Comp Minimum Run Time or Comp Minimum Off Time is not recommended. These values set the minimum ON and minimum OFF times for all compressors. Do not change these settings without consulting the factory, as doing so may cause excess wear and tear on the compressors.

ä ∢ !	Compr	essor Settings	4	× (
Comp Minimum Run time:	000 seconds	Variable Capacity Comps in Bank:		
Comp Minimum Off Time:	000 seconds			
Comp Min Off Defrost Delay:	000 seconds	Type of Variable Comps:	None	•
Ignore Minimum ON/OFF times :				Γ,
		VFD - Minimum Output Voltage:	00.0	
Comp 1 Start Delay:	000 seconds	Digital - Minimum Output Voltage:	00.0	
Comp 2 Start Delay:	000 seconds			
No-Run Alarm Delay:	000 seconds	VFD - Maximum Output Voltage:	00.0	
No-Run Alarm Retry:	000 seconds	Digital - Maximum Output Voltage:	00.0	
Flip Lead / Lag Logic: Disable Lead / Lag Rotation:		Variable Comp Selection		
Status Sy	stem Setup	Service Menu	Alarm	

Compressor (1/2) Start Delay: The delay in seconds before a module compressor runs after being requested. This option typically requires no adjustment. *Default 90 sec for Comp 1 and 220 for Comp 2.*

No-Run Alarm Delays: The delay in seconds before a module level no-run alarm appears. This option typically requires no adjustment.

No-Run Alarm Retry: The number of times the compressor is allowed to try running after a No Run Alarm.

Flip Lead/Lag Logic: Selecting this option reverses the lead/lag rotation, so that C2 is lead and C1 is lag. This rotates on a monthly basis.

Disable Lead/Lag Rotation: Selecting this option disables lead/lag rotation so that the current lead compressor will stay the lead compressor. De-select to return to normal lead/lag rotation.

Variable Capacity Comps in Bank: Select this option if any module in the bank utilizes a digital scroll compressor or VFD.

Type of Variable Compressors: Compressor type selection – choose between Digital and VFD. If no variable compressor is used, select **None**.

Module Level Configuration (🖱)

Models: UCA/W/H/R

VFD/Digital Minimum Output Voltage: Variable compressor minimum low voltage DC signal output. This option typically requires no adjustment. *Default* 7.5V for VFD type compressor and 2.4V for Digital type compressor.

Variable Compressor Selection: This button directs to the Module Selector Screen – select if using a variable compressor and the previous items are configured. Once at the Module Selector Screen, select the check boxes for the module(s) that contain a variable type of compressor.

UCF SETTINGS

UCF Configurations and PID setup for mixing valve and fan control.

🏠 ◀ 🚦		UC	F Settings	📮 🛱 💾
UCF 3 way	valve PID Settings:		UCF ECM Fan PID Settings:	
Interval:		000	Interval:	000
P-Gain:		000.0	P-Gain:	000.0
I-Gain:		00.000	I-Gain:	00.000
D-Gain:		00.00	D-Gain:	00.00
Deadband:		00.0	Deadband:	00.0
Ramp (sec)		000	Ramp (sec):	000
Minimum Ou	ıt:	000.00	Minimum Out:	000.00
UCF low ter	np safety:	000.00	Maximum Out:	000
Mix Valve m	in free position:	000.00	UCF AC Fan PID ON:	000
UCF Stage	Delay:	000.00	UCF AC Fan PID OFF:	000
Status	System	Setup	Service Menu	Alarm

UCA FAN SETTINGS

ଘ ◀	!	UCA	. Fan Settings	#
			UCA ECM Fan PID Settings:	
	Use Adaptive Head Pressure:		Interval:	000
	Head Pressure Target R-410a:	000 psi	P-Gain:	000.0
			l-Gain:	00.000
			D-Gain:	00.00
	Max Output:	000	Deadband:	00.0
	UCA020 Max Output:	000	Ramp (sec):	000
	UCA030 Max Output:	000	Minimum Out:	000.00
	UCA050 Max Output:	000	Maximum Out:	000
	UCA070 Max Output:	000	Heat Mode Fan Voltage:	00.0
	Fan Type:	False 🔻	Enable Heat Mode Fan Load Limit:	
	Comp Delay for Fan Ramp:	000	Enable Heat Mode Suction Limit:	000.0
	Fan initial speed:	000 %		
	Motorized Valve PID settings			
	Status System S	Setup	Service Menu	Alarm

Use Adaptive Head Pressure: Uses a custom curve to match appropriate head pressure to ambient temp (not recommended).

Head Pressure Target: The fan control to discharge pressure in HEAT MODE. Initially, the fan controls to 100 psi less than this value before slowly letting the control adjust to this value.

Max Outputs: The maximum fan speeds.

Fan Type: OFF or Rosenberg. If Rosenberg is selected, a delay is introduced before the compressor starts.

Comp Delay for Fan Ramp: The delay before the compressor starts so the Rosenberg fan can ramp up from the initial OFF mode.

Fan Initial Speed: The initial ramp-up target for the Rosenberg fan.

Fan PID: The PID values for fan modulation.

Enable Heat Mode Fan Load Limit: Enable suction pressure control in COOL MODE.

Enable Heat Mode Suction Limit: The air-source suction pressure target in COOL MODE.

LIQUID INJECTION CONFIGURATIONS

û ◀ <mark>!</mark>	Liquid Injection Configura	ations	¢ 🗎
	Liquid Injection Suct Press Heat Enable	000.00 psi	
	Liquid Injection Suct Press Cool Enable	000.00 psi	
	Min Suction SuperHeat Enable	000.00 °F	
	Liquid Injection Discharge Temp Enable	000.00 °F	
	Liquid Injection Discharge Temp Disable	000.00 °F	
Status	System Setup Servie	ce Menu	Alarm

Liquid Injection Suct Press Heat Enable: To enable Liquid Injection, suction pressure must be below this setpoint in HEAT MODE.

Liquid Injection Suct Press Cool Enable: To enable Liquid Injection, suction pressure must be below this setpoint in COOL MODE.

Min Suction SuperHeat Enable: The minimum SuperHeat to enable Liquid Injection.

Models: UCA/W/H/R Module Level Configuration (E)

Liquid Injection Discharge Temp Enable: The minimum Discharge Temperature to enable Liquid Injection.

Liquid Injection Discharge Temp Disable: The maximum Discharge Temperature to disable Liquid Injection.

HOT GAS BYPASS CONFIGURATIONS

	Hot Gas Byp	☆ ≧	
Bypass Min ON Time	000.00 seconds	Max Oil Purge Time	000.00 seconds
Bypass Max ON Time	000.00 seconds	Max SuperHeat Disable	000.00 °F
Suction Temp Low Enable	000.00 °F	Max SuperHeat(Liq Inj) Disable	000.00 °F
Suction Temp High Disable	000.00 °F	Max Disch Temp Disable	000.00 °F
Delay to Oil Purge	000.00 seconds	Min SuperHeat Enable	000.00 °F
Status	System Setup	Service Menu	Alarm

Bypass Min ON Time: The minimum time hot gas bypass is open.

Bypass Max ON Time: The maximum time hot gas bypass is open.

Suction Temp Low Enable: Enables Hot Gas Bypass at and below this suction temperature.

Suction Temp High Disable: Hot Gas Bypass disabled at and below this suction temp.

Delay to Oil Purge: The delay before the Oil Purge sequence opens Hot Gas Bypass.

Max Oil Purge Time: The maximum time for the Oil Purge Sequence.

Max SuperHeat Disable: Disables Hot Gas Bypass at and above this SuperHeat.

Max SuperHeat(Liq Inj) Disable: Disables Hot Gas Bypass at and above this SuperHeat if Liquid Injection is ON.

Max Disch Temp Disable: The High Discharge Temperature to disable Hot Gas Bypass.

Min SuperHeat Enable: Enables Hot Gas Bypass at and below this SuperHeat.

DEFROST SETUP



Select Defrost Header Bypass Control: The Header Bypass is locked open in defrost if this is enabled with 'Open Header Bypass in Defrost'.

Open Header Bypass in Defrost: The Header Bypass is locked open in defrost if this is enabled with 'Select Defrost Header Bypass Control'.

Disable Comps Waiting in Defrost: Bypasses delay so the compressor comes on earlier in Defrost.

Disable Cond Fan While in Defrost: When enabled, this option turns off the fan in Defrost. (default: Enabled)

Ignore Comp Min On Time for Defrost: Ignores Compressor Minimum On Time allowing the compressor to turn off immediately when defrost is done, and returns the compressor to HEAT MODE faster.

Start Defrost ACLT Delta: The ACLT sensor trip to start Defrost delay timer.

Maximum Time in Defrost: The maximum time a compressor can run in Defrost.

Maximum Defrost Discharge Press: This is the Defrost exit condition.

Disc Press > Max Before Exit Timer: This is the Defrost exit condition delay before Defrost is ended.

OAT Defrost Enable Threshold: The maximum ambient for defrost to occur.

Coil Freezing Time Before Defrost: This setting sets the Defrost start delay.

Module Level Configuration (📳)

Models: UCA/W/H/R

DEFROST LOAD LIMITING SETUP

Valve PID setup for Suction Pressure control when in Defrost/Cool Mode for Air Source Units.

☆ ◀ !	Defrost Load Limiting Setup				
Module SP Target S Suction Pressure	Settings (Evap) Target Air Src: 000				
	Defrost Valve PID Interval:		000 seconds		
D	efrost Valve P Gain:		000		
D	efrost Valve I Gain:		000		
D	efrost Valve D Gain:		000		
D	efrost Valve Dead Band 1		000		
D	efrost Valve Rise / Fall Rate:		000		
D	efrost Valve PID Gain		000		
D	efrost Valve Dead Band 2:		000		
D	efrost Valve I Gain 2:		000		
D	efrost Valve PID Max Output:		000		
Ν	Iin VIv Position in Defrost:		000 %		
Status	System Setup	Servio	ce Menu	Alarm	

Models: UCA/W/H/R Contact Information

> For more information on any of the previous configuration menus, contact ClimaCool Technical Services at 405.815.3000 or www.climacoolcorp.com.

Notes	Models: UCA/W/H/R







B 0 0 8 3 N 1



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