



Start-Up and Service Instructions

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SAFETY CONSIDERATIONS

Prop 65

Service technicians and installers may encounter substances regulated by California's Proposition 65. It is recommended that our products be handled by trained professionals who adhere to established industry-standard safety procedures, including the use of appropriate personal protective equipment, to protect against potential exposures.

General

Installation, start-up and servicing of equipment can be hazardous if certain factors particular to the installation are not considered: operating pressures, presence of electrical components and voltages and the installation site (elevated plinths and built-up structures).

Only properly qualified installation engineers and highly qualified installers and technicians, fully trained for the product, are authorized to install and start up the equipment safely. During all

servicing operations all instructions and recommendations which appear in the installation and service instructions for the product, as well as on tags and labels fixed to the equipment and components and accompanying parts supplied separately, must be read, understood, and followed.

- Follow standard safety codes and practices.
- Wear safety glasses and gloves.
- Use proper tools to move heavy objects carefully and set them down gently.

Avoid Electrocution

Only personnel qualified in accordance with IEC (International Electrotechnical Commission) recommendations may be permitted access to electrical components. It is particularly recommended that all sources of electricity to the unit be shut off before any work is begun. Shut off the main power supply at the main circuit breaker or isolator.

IMPORTANT: This equipment emits electromagnetic signals and complies with all relevant codes regarding electromagnetic compatibility.

⚠ CAUTION

RISK OF ELECTROCUTION

This equipment emits electromagnetic signals and complies with all relevant codes regarding electromagnetic compatibility.

⚠ CAUTION

RISK OF BURNS

Electrical currents cause components to get hot either temporarily or permanently. Handle power cables, electrical cables and conduits, terminal box covers and motor frames with great care.

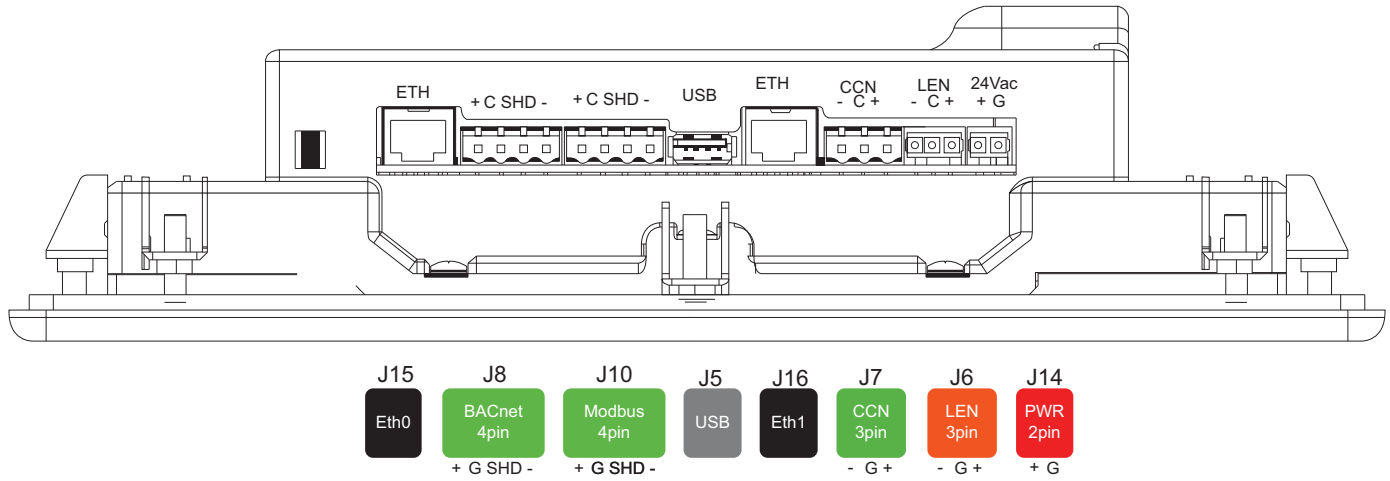
INSTALLATION

PIC6.1 Connection

SCHEMATIC DIAGRAM OF SYSTEM WIRING

System Control

The system comprises one primary unit and up to fifteen secondary units. Each outdoor unit (ODU) is equipped with a PIC6.1 micro-controller connected to the main board. The DIP switch S5 on the unit is used to configure the unit address. The power wiring and communication wiring procedures are illustrated in Fig. 1. The communication wiring includes connections between board A and board B of the unit, between multiple units, between the unit and the PIC6.1 microcontroller, and between the PIC6.1 microcontroller of the primary unit and the Building Management System (BMS). See Fig. 2 for system wiring.



NO.	LOCATION	PORT NUMBER	FUNCTION
1	Bottom	J15	Ethernet port eth0 BMS connection over BACnet IP or Modbus TCP
2	Bottom	J8	BMS connection over BACnet MSTP or Modbus RTU Note: Refer to 3.3.2.5 BMS protocol configuration, Select in the PIC6.1 menu (Main Menu→Configuration Menu→BMS Protocol)
3	Bottom	J10	Connection port to Modbus slave device Note: Not applicable for 30RQM020
4	Bottom	J5	USB port
5	Bottom	J16	Ethernet port eth1 Note: Not applicable for 30RQM020
6	Bottom	J7	CCN port
7	Bottom	J6	LEN port
8	Bottom	J14	Power port (AC24V)

Fig. 1 — PIC6.1 Connection

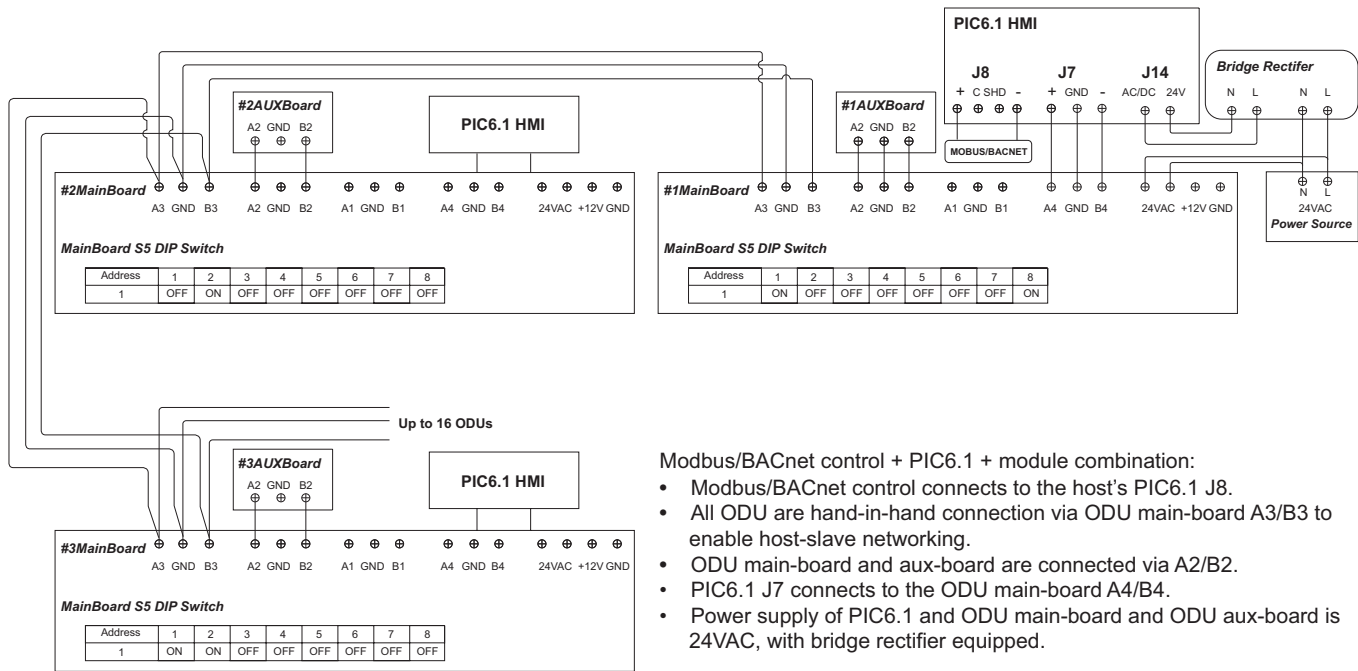


Fig. 2 — System Wiring

PIC6.1 MANUAL

General

For the 30RQM020, PIC6.1 serves solely as the HMI, while the control software runs on the control board (PCB) located in the unit's E-box.

The PIC6.1 is a 7-inch color touch screen that displays alarms, unit operating status, and other information efficiently. It supports network connections and unit customization, allowing users to

select control parameters of units. Communication protocol including CCN, BACnet, Modbus are supported.

If the display is inactive for an extended period, it will go dark and enter screen saver mode, while the controller continues to operate with the same settings. Touching the screen will reactivate it, showing the welcome page.

The home page shows basic system information. Swipe left or right to view the ODU status.

See Fig. 3 and Tables 1-2 for Home Page screens and buttons.

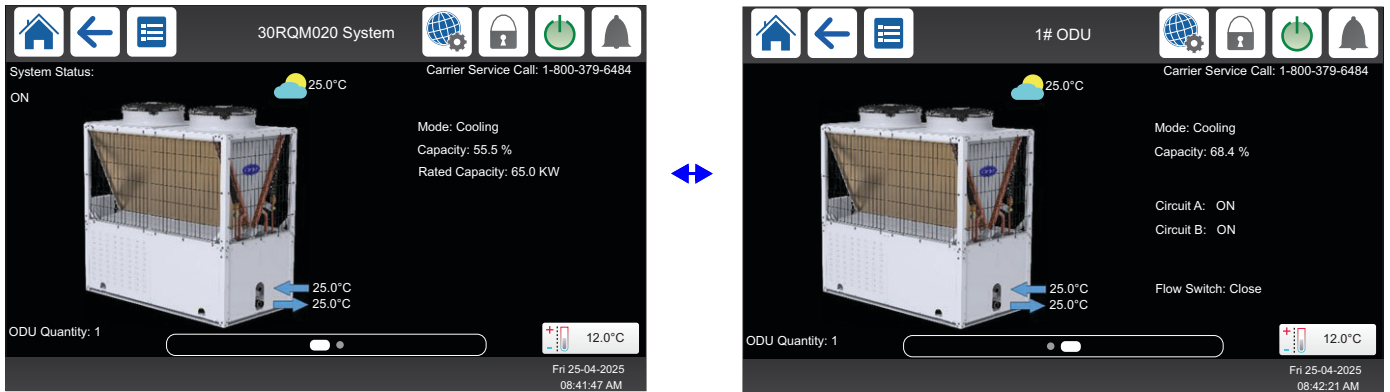


Fig. 3 — Home Page

Table 1 — Buttons Above the Home Page

ICON	INTERFACE	ICON	INTERFACE	ICON	INTERFACE	ICON	INTERFACE
	Home		Main Menu		Back		Language and Units
	Not logged in		User logged in		Unit is not running		Unit is running
	No alert/alarm		System alert		System alarm		Unit is off

Table 2 — Common Buttons

Login interface			
	Login: Advanced access		Exit: Reset user access
Parameters interface			
	Save changes		Cancel Changes
Navigation button			
	Previous page (when the menu exceeds one page)		Next page (when the menu exceeds one page)

MENU STRUCTURE

See Fig. 4 for Menu Structure.

PRIMARY/SECONDARY UNITS PERMISSION

All PRIMARY/SECONDARY units have PIC6.1 with the same home page interface. The primary unit's PIC6.1 controls

system settings oversee all primary units. A secondary unit's PIC6.1 cannot view the primary unit's system status (1#ODU). System parameters, system control, the holiday menu, and local schedule apply only at the system level of PIC6.1 for the primary unit (ODU). All other items are valid at the circuit or outdoor unit level unless specified otherwise.

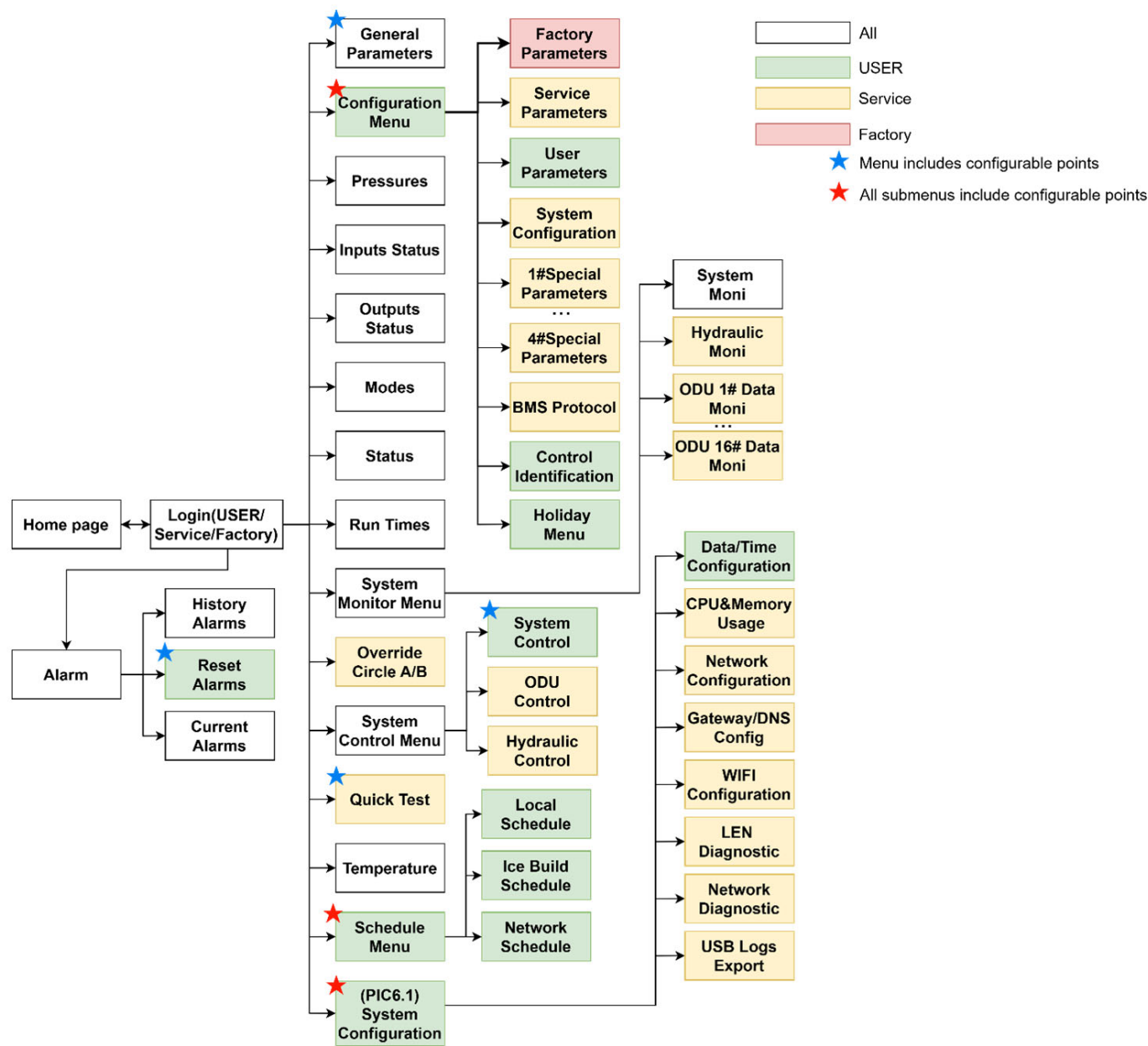


Fig. 4 — PIC6.1 - Menu Structure

Home Control Settings

HOME INTERFACE

The main interface displays system control, water temperatures, unit status, including load, mode, and compressor power. Parameters are in metric units. See Fig. 5.

Press button  to return to the main interface.

Press button  to access the main menu and all unit functions.

Press button  to return to the previous display.



Fig. 5 — Home Page System Interface

1. System Status
2. System load and mode
3. Set points + cooling/heating + Silent mode (click to jump to system control settings. User login is required.)
4. Date and time
5. System inlet and outlet water temperatures
6. Outdoor temperature
7. Number of units

Home page ODU interface

The PIC6.1 on the primary unit displays info for ODU units 1 to 16. The PIC6.1 on the secondary unit does not display info from the primary unit (ODU #1). System control and configuration are only valid in primary ODU PIC6.1, see Fig. 6.

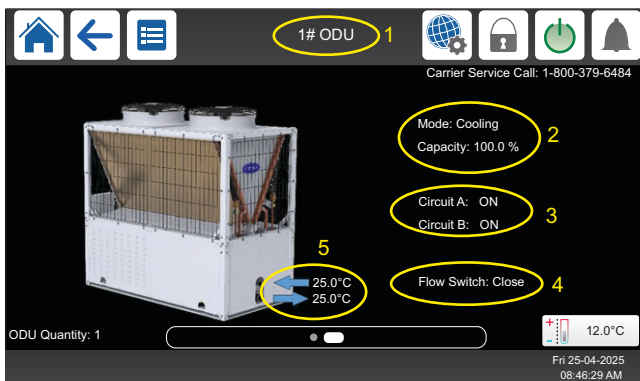


Fig. 6 — Home Page ODU interface

1. ODU number
2. ODU load and mode
3. ODU circuit status
4. Flow Switch Status
5. ODU inlet and outlet water temperatures

LANGUAGES AND UNITS SYSTEM INTERFACE

Select the controller language (only English available) and change the Unit Selection (imperial or metric) via the Language and Units button  in the system menu, see Fig. 7.

You do not need to save the selection. The settings will apply when you exit this page.

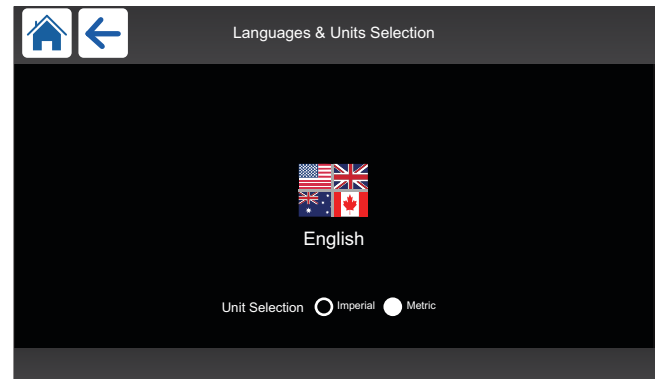


Fig. 7 — Languages and Unit Selections

LOGIN INTERFACE

The system has three password levels: factory, service, and user. The factory password allows changes to the user's login password.

Click the Login button  in the upper right corner to access the login menu, see Fig. 8-12.

NOTE: Users must log in to access the setpoint interface, configuration menu, and reset alarm interface on the touch screen.

1. Click the user login button to access the user login interface. Enter the default password (11) for more control options. Click on the bottom  left corner to complete the current access. Click on the bottom  left corner to cancel the current access.

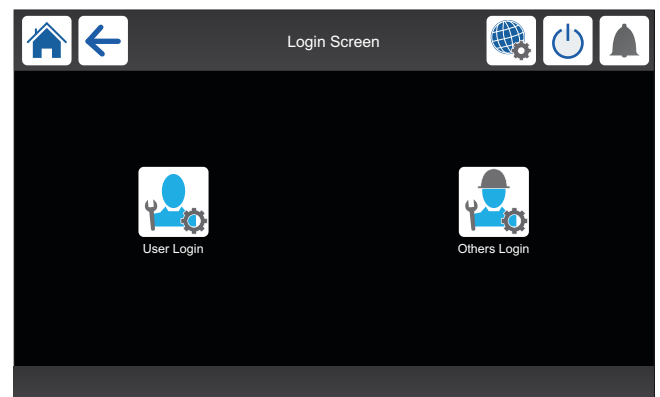


Fig. 8 — Login Screen

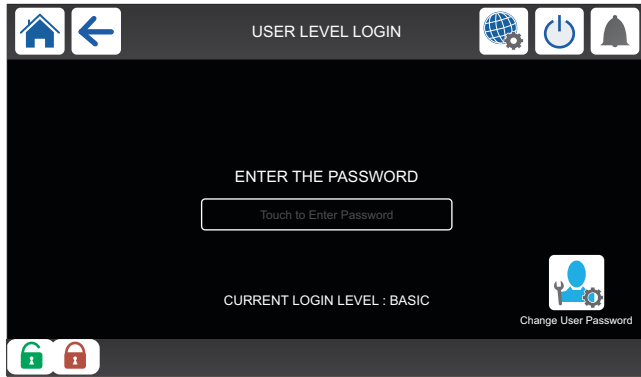


Fig. 9 — User Level Login

2. Service Login: Click Other Login, then click “Service Login.” Scan the QR code to get the password. Enter the password in the input field.
3. Factory login: Click Other Login, then select Factory Login in the next interface. Scan the QR code to get the password, enter it in the password field.

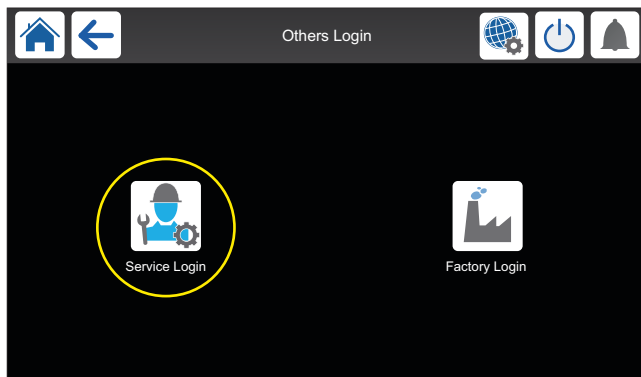


Fig. 10 — Others Login

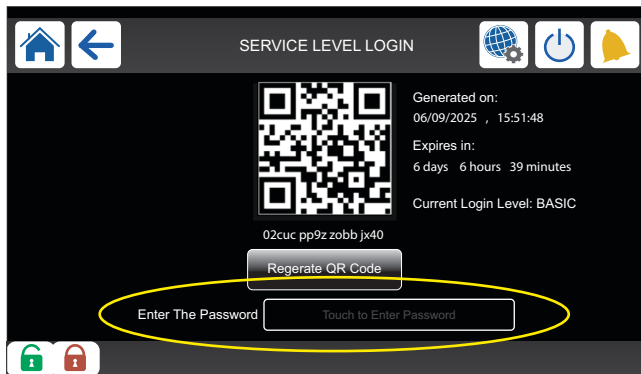


Fig. 11 — Service Level Login

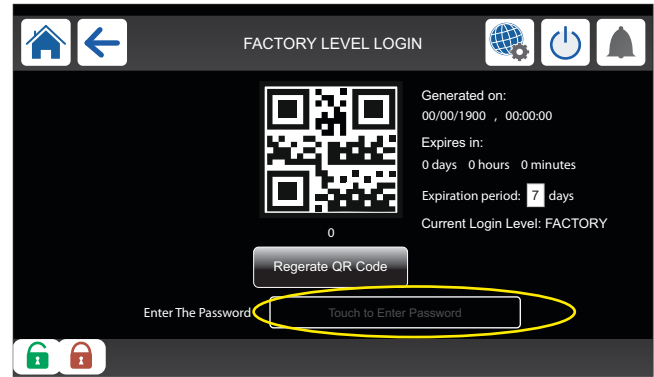


Fig. 12 — Factory Level Login

START/STOP INTERFACE

If the DIP switch S5-8 of the main ODU is set to OFF during initial commissioning, the “Local” tag may appear. Click Start/Stop  and follow instructions to switch Master S5-8 to ON. It will then display “System” at the top, see Fig. 13-15.



Fig. 13 — Start/Stop Interface

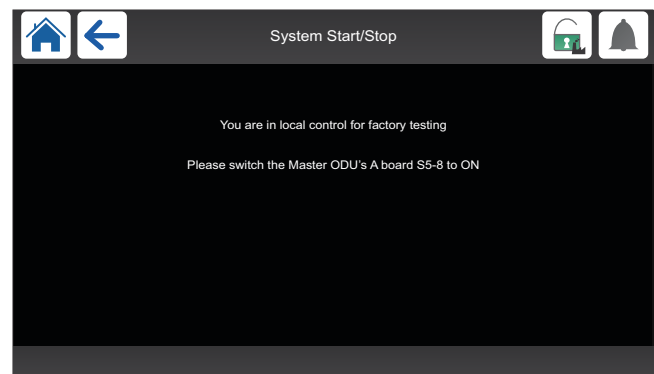


Fig. 14 — System Start/Stop

After changing to system status, the start/stop interface offers two modes:

1. Manual start/stop
2. Automatic start/stop based on schedule management (see system setting interface).

NOTE: Start/stop is system level and can only be configured through the Master ODU. Master ODU will synchronize this table to all Slave ODUs.

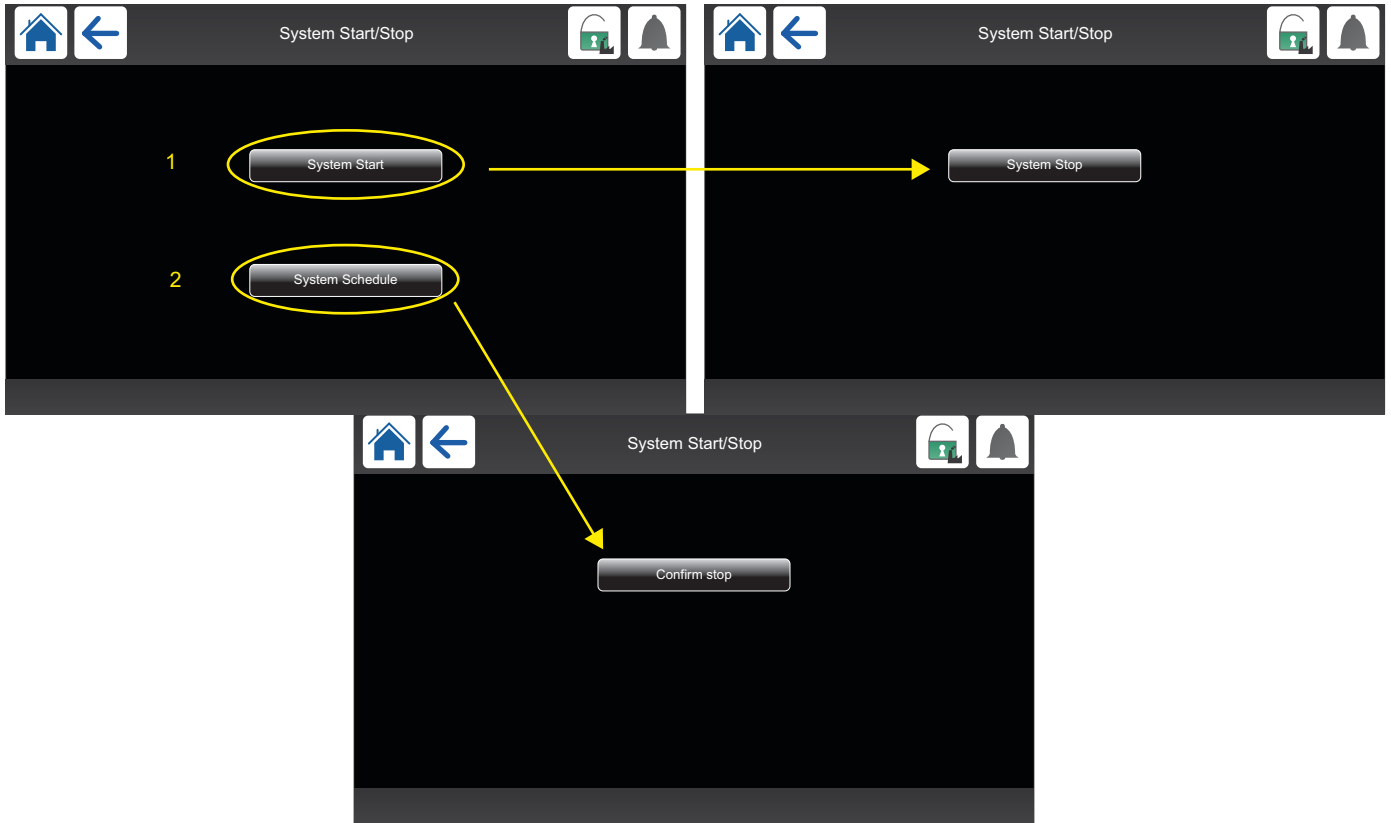


Fig. 15 — Automatic Start/Stop

SYSTEM SETTING INTERFACE

Click to access the system control settings, where you can adjust the water temperature setpoint and switch between cooling, heating, and silent modes, see Fig. 16 and 17. User level access is required to configure the mute mode.

The parameter “Config optimize control” (default=272) determines four modes:

- No Silent: 272
- Normal Silent: 336
- Night Silent: 304
- Super Silent: 368

NOTE: Some parameters are not applicable. Refer to Table 23 on page 30 about the configuration details. This menu is System level and can only be configured through Master ODU. The Master ODU will synchronize this table to all Slave ODUs.

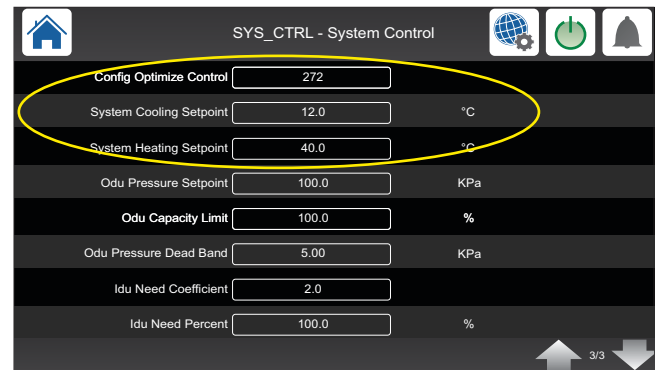


Fig. 17 — System Control, pg. 3

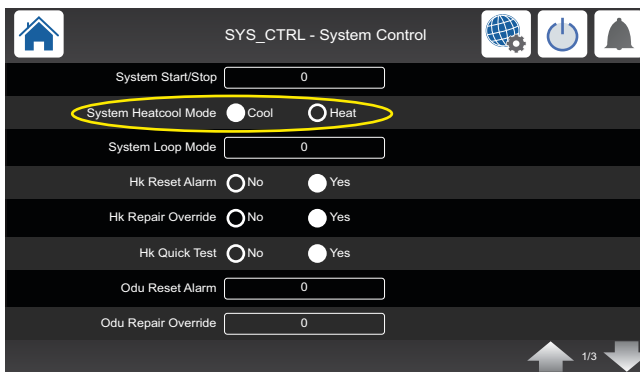


Fig. 16 — System Control, pg. 1

Main Menu Interface

Click the main menu button in the upper left to access control parameters like general settings, input, and output status, see Fig. 18-22.

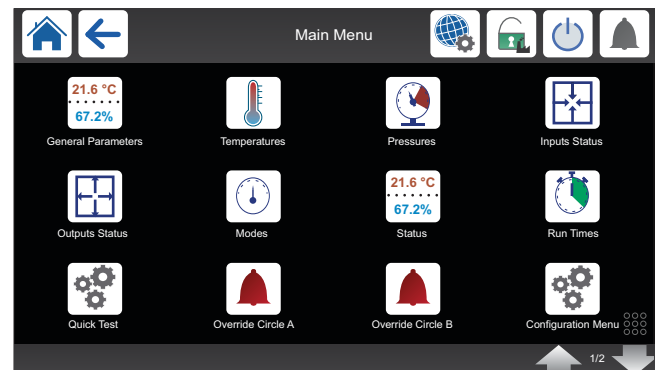


Fig. 18 — Main Menu, pg. 1

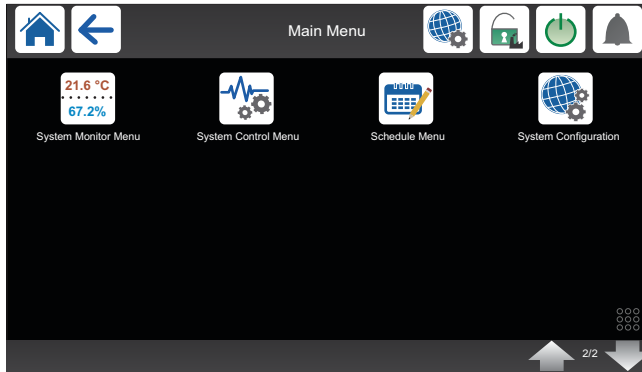


Fig. 19 — Main Menu, pg. 2



Fig. 22 — General Parameters, pg. 2

GENERAL PARAMETERS

Access general parameters via the main menu by clicking the General Parameters button . Use the up and down buttons   to navigate the screen.

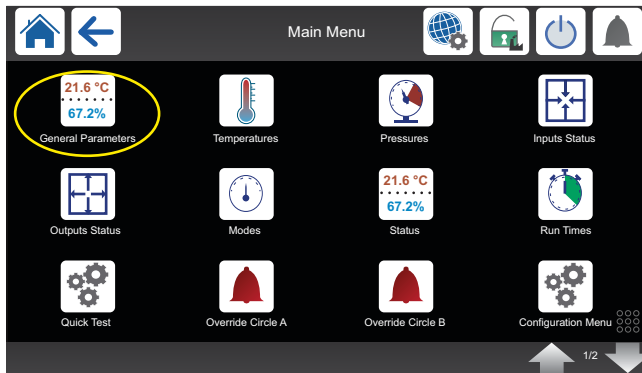


Fig. 20 — Main Menu - General Parameters

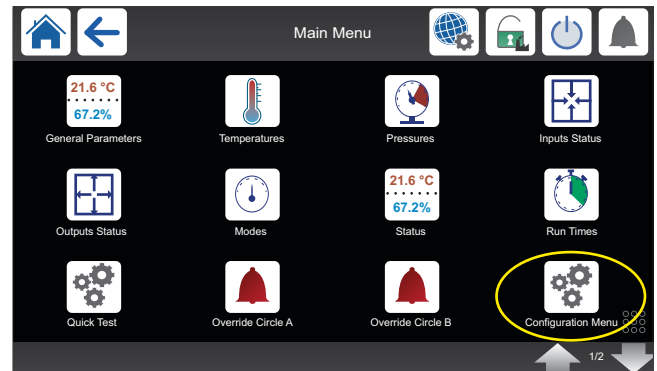


Fig. 23 — Main Menu - Configuration Menu

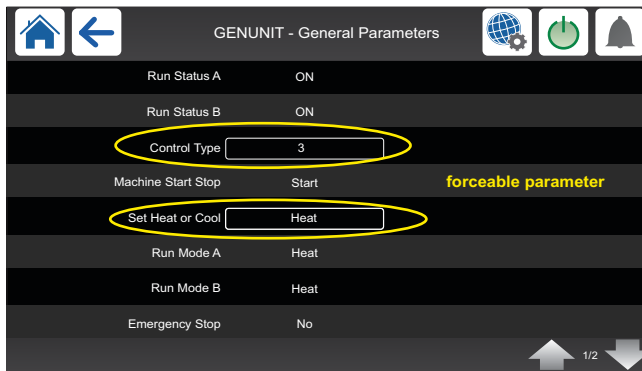


Fig. 21 — General Parameters, pg. 1

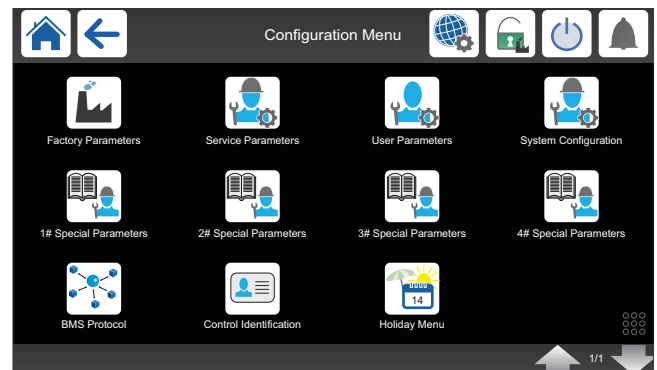


Fig. 24 — Configuration Menu

Factory parameters interface

After the factory user logs in, click the “Main Menu” button  on the main interface. Select “Configuration Menu” → “Factory Parameters” from the “Main Menu” to enter the “Factory Parameters” settings menu (Fig. 25). Click on the value you need to modify.

The default configuration parameters for the 30RQM020 model are illustrated in Fig. 26.

NOTE: Factory reset requires factory-level access and will restore all settings to default values. Reconfigure factory parameters based on the model after resetting. This menu is ODU level not system level and the Master and Slave ODUs can be configured separately.

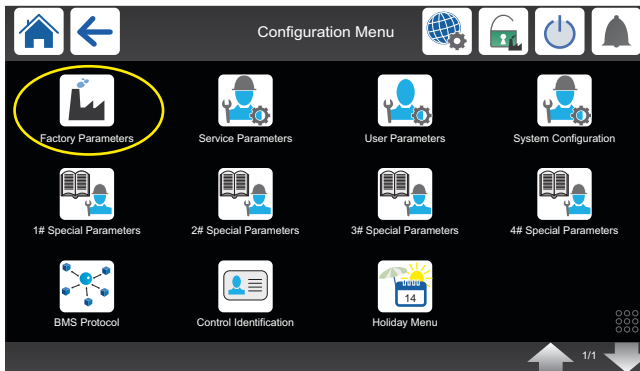


Fig. 25 — Configuration Menu, Factory Parameters

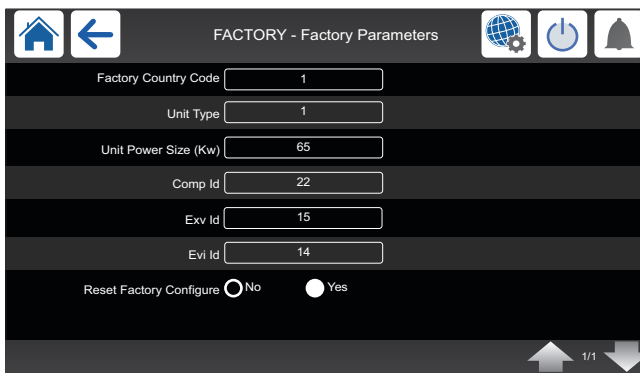


Fig. 26 — Factory Parameters

Service parameters

Within the Configuration Menu, select the button  to access the System Configuration Interface, which allows viewing or adjusting service parameters (Fig. 27 and 28).

NOTE: Some parameters are not applicable. Refer to Table 17 on page 25 about the configuration details. This menu is ODU level not system level and Master and Slave ODUs can be configured separately. However, this menu normally requires no configuration - after restoring the factory settings, the default values are correct.

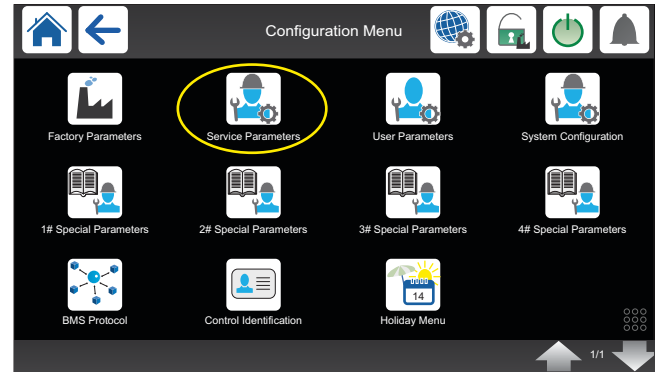


Fig. 27 — Configuration Menu, Service Parameters

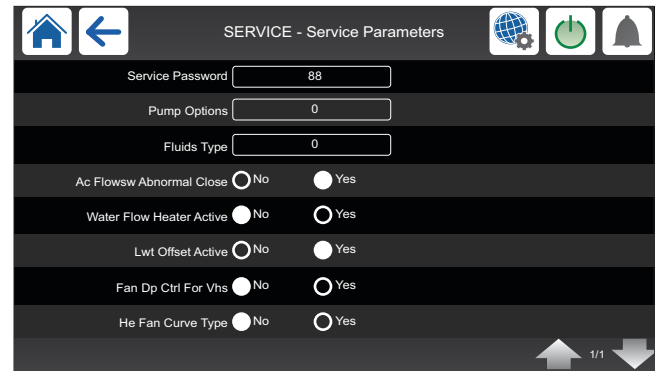


Fig. 28 — Service Parameters

User parameters

Click the button  to access the User Parameters Interface, where you can view and modify settings like water inlet control, manual defrost, and manual antifreeze quit (Fig. 29-31). Factory users can also change their login password here.

NOTE: Some parameters are not applicable. Refer to Table 18 on page 26 about the configuration details. This menu is ODU level not System level, and the Master and Slave ODUs can be configured separately.

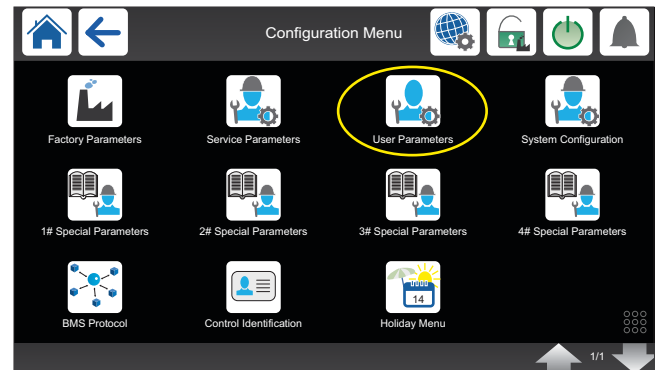


Fig. 29 — Configuration Menu, User Parameters

Fig. 30 — User Parameters, pg. 1

Fig. 31 — User Parameters, pg. 2

System configuration (ODU)

Click the button to access the System Configuration Interface (Fig 32 and 33). All ODU's (Primary and Secondary) have this menu but operator can only configure through the Primary ODU.

NOTE: Some parameters are not applicable. Refer to Table 19 on page 26 about configuration details. This menu is system level and can only be configured through Primary ODU. Primary ODU will synchronize this table to all Secondary ODUs.

Fig. 32 — Configuration Menu, System Configuration

Fig. 33 — System Configuration

BMS protocol configuration

Click the button to access the Configuration Interface. Configure Modbus/BACnet communication settings here (Fig. 34). It is recommended to make modifications on the primary units.

1. For Modbus TCP, follow these steps to configure the connection:

- Set Port RS485 Option to “0”;
- Set Modbus TCP Enable to “Enable”;
- Set Modbus TCP Port Number to “502”;

Fig. 34 — BMS Protocol

2. If using Modbus RTU, follow these steps to configure the connection:

- Set Port RS485 Option to “2”;
- Set Modbus TCP Enable to “Disable”;
- Set Modbus Server UID to the Modbus Master address;
- Set Modbus RTU Parity Option to the “0”;
- Set Modbus RTU Stop Bit to “2”;
- Set Modbus RTU Baud rate to “0”;
- Modbus Real Type:
 - Disable: real value = Modbus register value/10
 - Enable: IEEE float format

CONNECT - BMS Protocol

Modbus RTU Parity Option: 0 4

No=0, Odd=1, Even=2

Low=3, High=4

Modbus RTU Stop Bit: 2 5

1 Bit=1, 2 Bits=2

Modbus RTU Baudrate: 0 6

9600=0, 19200=1, 38400=2

Modbus Little Endian: ☐ No ☐ Yes

2/5

Fig. 35 — BMS Protocol, Pg. 2

CONNECT - BMS Protocol

Port J8 Option: 0 1

BACnet Configuration

BACnet/IP Enable: ☐ Disable ☒ Enable 2

BACnet Metric Unit: ☐ No ☐ Yes

BACnet Network: 1601

BACnet Identifier: 1600001 3

BACnet UDP Port: 47808

BACnet Alarms Enable: ☐ Disable ☒ Enable

3/5

Fig. 37 — BMS Protocol, Pg. 4 of 5

CONNECT - BMS Protocol

Modbus Real Type: ☐ No ☒ Yes

BACnet Configuration

BACnet/IP Enable: ☐ Disable ☒ Enable

BACnet Metric Unit: ☐ No ☐ Yes

BACnet Network: 1601

BACnet Identifier: 1600001

BACnet UDP Port: 47808

BACnet Alarms Enable: ☐ Disable ☒ Enable

3/5

Fig. 36 — BMS Protocol, Pg. 3

3. If select BACnet IP function, follow these steps to configure the connection:

- Set Port J8 Option to “0”;
- Set BACnet/IP Enable to “Enable”;
- Set the BACnet Network and Identifier;

The BACnet client’s IP subnet mask must match the chiller controller’s subnet mask. During initialization, the controller’s IP subnet mask is applied to the BACnet module.

e.g. PC IP=172.24.237.249 subnet mask=255.255.254.0
Controller IP=172.24.237.175 subnet mask=255.255.254.0

4. If select BACnet MS/TP function, follow these steps to configure the connection:

- Set Port J8 Option to “1”;
- Set BACnet/IP Enable to “Disable”;
- Set MS/TP Mac address and MS/TP Baud rate as BMS needed.

Control identification

Click to enter the configuration menu, and then click the button to enter the communication configuration interface (Fig. 38 and 39).

Configuration Menu

Factory Parameters Service Parameters User Parameters System Configuration

1# Special Parameters 2# Special Parameters 3# Special Parameters 4# Special Parameters

BMS Protocol **Control Identification** Holiday Menu

1/1

Fig. 38 — Configuration Menu, Control Identification

CTRL_ID - Control Identification

HMI CCN Address	116
ODU CCN Address	1
CCN Bus Number	0
Baud Rate	9600

Device Description	Carrier SmartVu
PIC Software Version	SCG-SR-20Y540100
ODU Software Version	0

Fig. 39 — Control Identification

In the communication configuration menu, view the software version numbers of PIC6.1 and ODU. Configure central controller parameters accordingly.

PARAMETER	CONTENT	NOTE
HMI CCN address	116	Set to 116 if it's not.
ODU CCN address	1	Corresponding to the DIP switch address of the ODU. PCB_A S5, range 1~16. ^a
CCN Bus number	0	Set to 0 if it's not.
Baud rate	38400/9600	Adaptive default configuration: 9600
PIC software version	SCG-SR-20Y540100	The last three digits represent the software version number. For example, 130 indicates V1.30, 131 indicates V1.31.
ODU software version	SCG-SR-20N560130	The initial ODU software for 30RQM020 is V1.30.

NOTE(S):

a. If connect PCB_B, need to update ODU CCN address from 1 to 185.

Holiday menu

Click  to enter the configuration menu, then select the button  to open the holiday interface. You can set up to 16 holidays simultaneously.

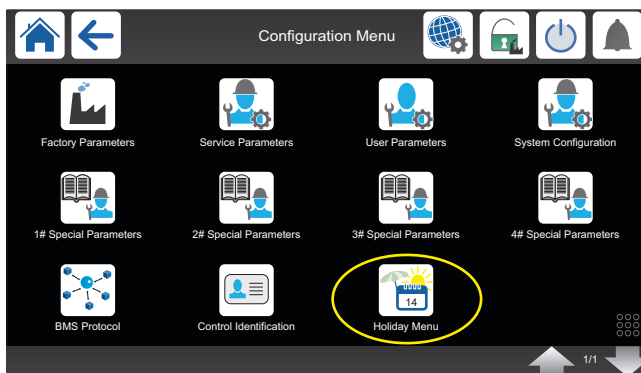


Fig. 40 — Configuration Menu, Holiday Menu

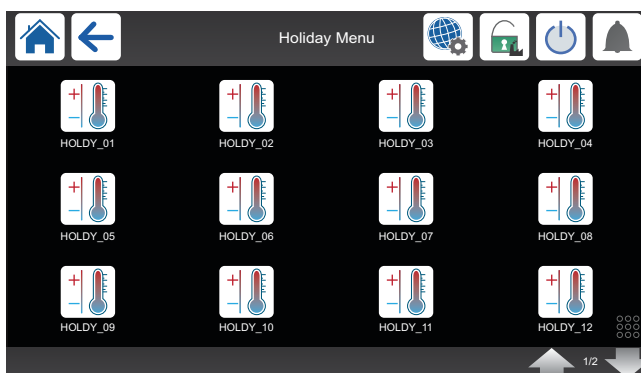


Fig. 41 — Holiday Menu

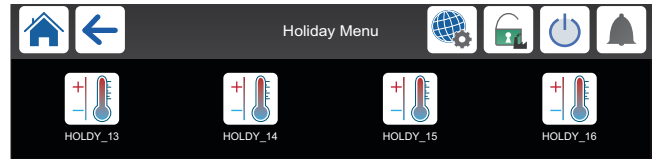


Fig. 41 — Holiday Menu (cont)

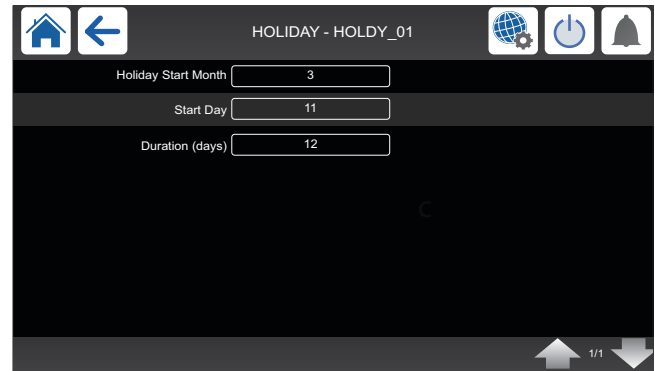


Fig. 42 — Holiday Screen

LOCAL SCHEDULE INTERFACE

Access the Schedule screen by going to the Configuration menu and clicking the Schedule menu button . Set the schedule; the selected period is shown by the green band on the timeline. Click to confirm  or cancel  the change, see Fig. 43 and 44.

NOTE: Select “System Schedule” on the Start/Stop interface to enable the schedule function.

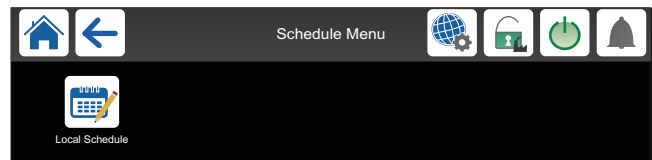


Fig. 43 — Schedule Menu

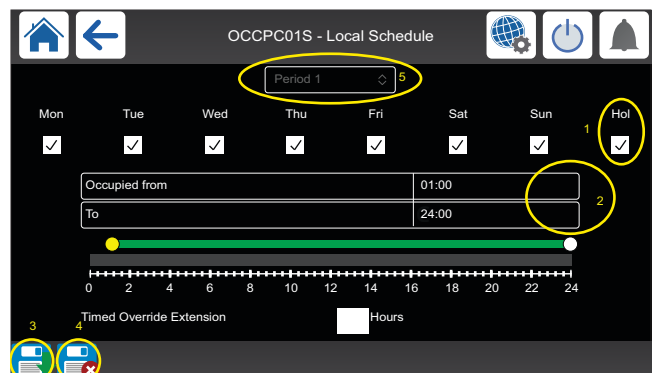


Fig. 44 — Local Schedule

NOTE: When the “Hol” option is selected, the current Local Schedule settings will be applied during holiday periods. The local schedule configuration logic will take precedence.

1. Enable the holiday setting
2. Modification of the period start and end schedules
3. Save
4. Cancel
5. Period switch

OVERRIDE CIRCLE A/B

Click the Override circle A/B button  in the main menu to enter the “Override circle A/B” interface, where the device parameters Override status can be checked. Click the up and down arrow buttons   to switch the screen, see Fig. 45-47.

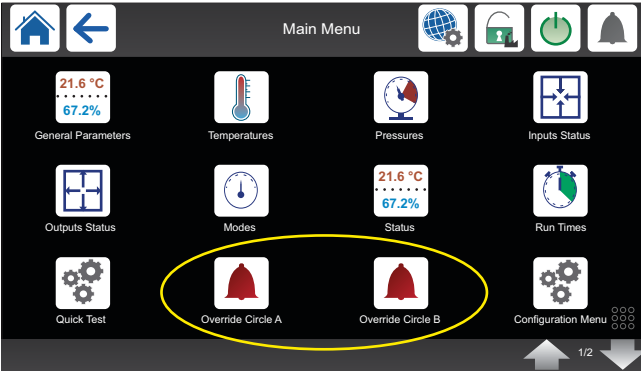


Fig. 45 — Main Menu, Override Circle A and B



Fig. 46 — Override Circle A



Fig. 47 — Override B

SYSTEM CONFIGURATION MENU (PIC6.1)

Click  to enter the system configuration menu, see Fig. 48-53.

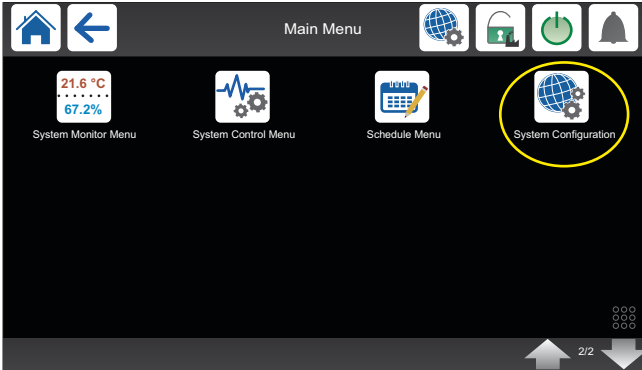


Fig. 48 — Main Menu, System Configuration

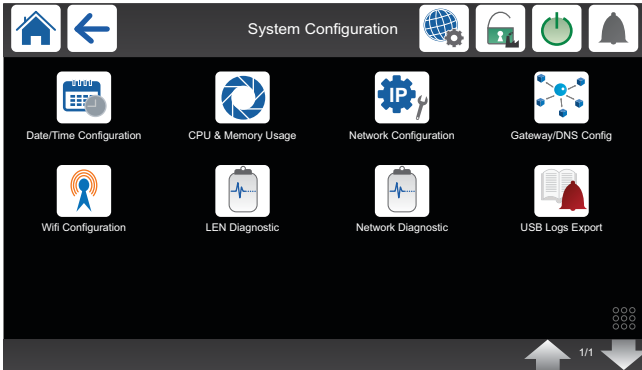


Fig. 49 — System Configuration

Date/Time Configuration interface

The date and time interface enables users to adjust system settings, including the time, date, daylight saving, time zone, and other configurations. Access it by clicking  the button in the system menu.

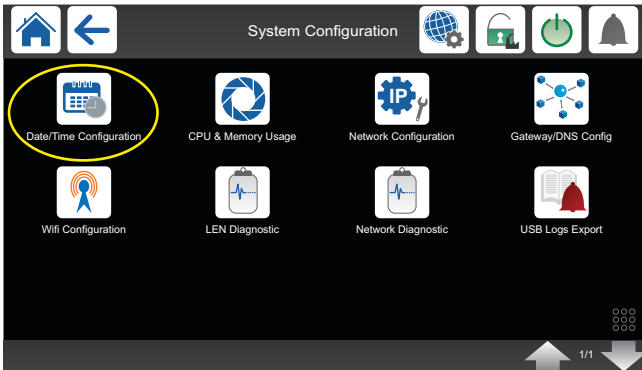


Fig. 50 — System Configuration, Date/Time Conf.

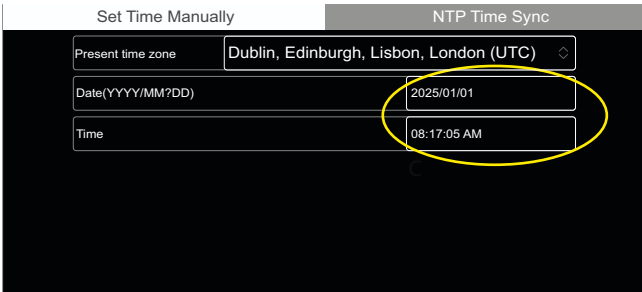


Fig. 51 — Date/Time Configuration

Network port configuration interface

The controller has two network ports: J15 (eth0) and J16 (eth1). To modify IP settings, use the system menu button . The default IP address for eth0 is 169.254.1.1.

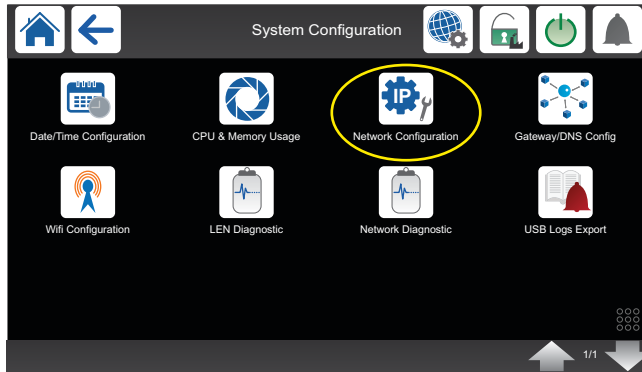


Fig. 52 — System Configuration, Network Conf.

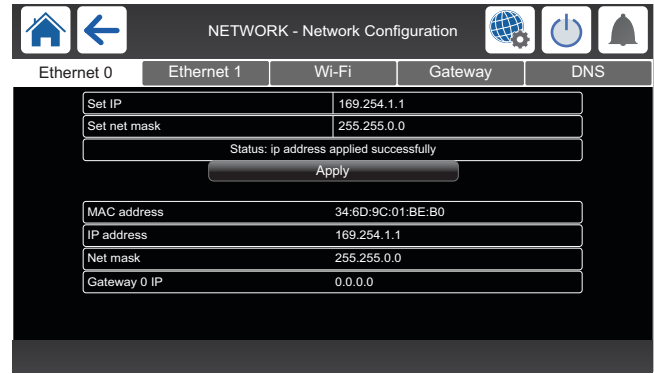


Fig. 53 — Network Configuration
PIC6.1 Control: Detailed Menu Structure
 For detailed menu information see Tables 3-29.

Table 3 — Main Menu Structure

ICON	DISPLAY TEXT	ACCESS	ASSOCIATED TABLE
	General Parameters	All	GENUNIT
	Temperatures	All	TEMP
	Pressures	All	PRESSURE
	Inputs Status	All	INPUTS
	Outputs Status	All	OUTPUTS
	Modes	All	MODES
	Status	All	STATUS
	Run Times	All	RUNTIME
	Quick Test	Service	QCK_TEST
	Override Circle A	Service	OVERIDEA
	Override Circle B	Service	OVERIDEB
	Configuration Menu	User	CONFIG
	System Monitor Menu	All	SYS_MONI
	System Control Menu	All	SYS_CTRL
	ODU Control	Service	ODU_CTRL
	Schedule Menu	User	MENUOCC
	System Configuration	User	SYSCONF

Table 4 — GENUNIT - General Parameters

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	STATUS	—	0	—	Run Status A	—
2	STATUS_B	—	0	—	Run Status B	—
3	CTRL_TYP ^a	0 to 3	0	—	Control Type	If PCB_A S5_8 of Master ODU is switched to ON (which is required while commissioning), this point will be fixed to 3 and become configurable. If not, service should configure it to 3 manually. 0, 1, and 2 are for factory test only. If the unit is being operated as stand alone, and not part of a modular system, select 3 and set ODU number in SYS_CFG to 1. It is one system with only 1 ODU.
4	MACH_S_S	STOP_START	STOP	—	Machine Start Stop	—
5	HEATCOOL	COOL_HEAT	COOL	—	Set Heat or Cool	—
6	RUN_MODE	COOL_HEAT	COOL	—	Run Mode A	—
7	RUNMODEB	COOL_HEAT	COOL	—	Run Mode B	—
8	EMESTOP	NO_YES	NO	—	Emergency Stop	—
9	SETPOINT	—	-17.78	°C	Actual Setpoint	—
			0	°F		—
10	UNIT_PID	0 to 100	0	%	Unit Capacity PID	Not Applicable
11	AB_BOOT	0 to 255	0	—	A/B Boot State	Not Applicable
12	AB_SCHED	—	0	—	A/B Boot Schedule Info	Not Applicable
13	AB_PERCT	0 to 100	0	%	A/B Boot Process Percent	Not Applicable

NOTE(S):

a. Only CTRL_TYP is configurable in this table.

Table 5 — TEMP - Temperature

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	EWT	—	-17.78	°C	Enter Water Temp	—
			0	°F		
2	LWT	—	-17.78	°C	Leave Water Temp	—
			0	°F		
3	DEFT	—	-17.78	°C	Defrost Temperature A	—
			0	°F		
4	OAT	—	-17.78	°C	Outdoor Ambient Temp	—
			0	°F		
5	ST_A	—	-17.78	°C	Comp A Suction Temp	—
			0	°F		
6	ST_H_A	—	-17.78	°C	Heat Comp A Suction Temp	—
			0	°F		
7	LWT_MAIN	—	-17.78	°C	Main Leave Water Temp	Not Applicable
			0	°F		
8	LWT_AVG	—	-17.78	°C	Average Leave Water Temp	—
			0	°F		
9	DT_A1	—	-17.78	°C	Comp A1 Discharge Temp	—
			0	°F		
10	DT_A2	—	-17.78	°C	Comp A2 Discharge Temp	Not Applicable
			0	°F		
11	OIL	—	-17.78	°C	Oil Temperature	Not Applicable
			0	°F		
12	SST_A	—	-17.78	°C	Saturate Suction Temp A	—
			0	°F		
13	SDT_A	—	-17.78	°C	Saturate Discharg Temp A	—
			0	°F		
14	SH_SP_A	—	-17.78	°C	Suction Super Heat SP A	—
			0	°F		
15	SH_ST_A	—	-17.78	°C	Suction Super Heat A	—
			0	°F		
16	SH_DT_A1	—	-17.78	°C	Discharg Super Heat A1	Not Applicable
			0	°F		

Table 5 — TEMP - Temperature (cont)

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
17	SH_DT_A2	—	-17.78	°C	Discharg Super Heat A2	Not Applicable
			0	°F		
18	eST_A	—	-17.78	°C	EVI Suction Temp A	—
			0	°F		
19	eSST_A1	—	-17.78	°C	EVI Saturate Suction A1	Not Applicable
			0	°F		
20	eSST_A2	—	-17.78	°C	EVI Saturate Suction A2	—
			0	°F		
21	eSH_SP_A	—	-17.78	°C	EVI Suct_Superheat SP A	—
			0	°F		
22	eSHST_A1	—	-17.78	°C	EVI Suction Superheat A1	—
			0	°F		
23	eSHST_A2	-	-17.78	°C	EVI Suction Superheat A2	Not Applicable
			0	°F		
24	eDT_A1	—	-17.78	°C	EVI Discharge Temp A1	—
			0	°F		
25	eDT_A2	—	-17.78	°C	EVI Discharge Temp A2	Not Applicable
			0	°F		
26	DEFT_B	—	-17.78	°C	Defrost Temperature B	—
			0	°F		
27	ST_B	—	-17.78	°C	Comp B Suction Temp	—
			0	°F		
28	DT_B1	—	-17.78	°C	Comp B1 Discharge Temp	—
			0	°F		
29	DT_B2	—	-17.78	°C	Comp B2 Discharge Temp	Not Applicable
			0	°F		
30	ST_H_B	—	-17.78	°C	Heat Comp B suction temp	—
			0	°F		
31	EVI_ST_B	—	-17.78	°C	EVI Suction Temp B	Not Applicable
			0	°F		
32	eDT_B1	—	-17.78	°C	EVI Discharg Temp B1	—
			0	°F		
33	eDT_B2	—	-17.78	°C	EVI Discharg Temp B2	Not Applicable
			0	°F		
34	SST_B	—	-17.78	°C	Saturate Suction Temp B	—
			0	°F		
35	SDT_B	—	-17.78	°C	Saturate Discharg Temp B	—
			0	°F		
36	SH_SP_B	—	-17.78	°C	Suction Superheat SP B	—
			0	°F		
37	SH_ST_B	—	-17.78	°C	Suction Superheat B	—
			0	°F		
38	SH_DT_B1	—	-17.78	°C	Discharg Superheat B1	—
			0	°F		
39	SH_DT_B2	—	-17.78	°C	Discharg Superheat B2	Not Applicable
			0	°F		
40	eSST_B1	—	-17.78	°C	EVI Saturate Suction B1	—
			0	°F		
41	eSST_B2	—	-17.78	°C	EVI Saturate Suction B2	Not Applicable
			0	°F		
42	ESH_SP_B	—	-17.78	°C	EVI Suct Superheat SP B	—
			0	°F		
43	eSHST_B1	—	-17.78	°C	EVI Suct Superheat B1	—
			0	°F		
44	eSHST_B2	—	-17.78	°C	EVI Suct Superheat B2	Not Applicable
			0	°F		

Table 6 — PRESSURE - Pressures

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	SP_A	—	0	kPa	Suction Pressure A	—
			0	PSI		
2	DP_A	—	0	kPa	Discharge Pressure A	—
			0	PSI		
3	SPEVI_A1	—	0	kPa	EVI Suction Pressure A1	—
			0	PSI		
4	SPEVI_A2	—	0	kPa	EVI Suction Pressure A2	Not Applicable
			0	PSI		
5	SP_B	—	0	kPa	Suction Pressure B	—
			0	PSI		
6	DP_B	—	0	kPa	Discharge Pressure B	—
			0	PSI		
7	SPEVI_B1	—	0	kPa	EVI Suction Pressure B1	—
			0	PSI		
8	SPEVI_B2	—	0	kPa	EVI Suction Pressure B2	Not Applicable
			0	PSI		

Table 7 — INPUTS - Inputs Status

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	REM_S_S	OPEN_CLOSE	OPEN	—	Remote Start Stop	Short-circuited by default at the factory.
2	REM_LOCK	OPEN_CLOSE	OPEN	—	Remote Chiller Lockout	Short-circuited by default at the factory.
3	FLOW_SW	OPEN_CLOSE	OPEN	—	Flow Switch	—
4	POWER_SW	OPEN_CLOSE	OPEN	—	Power Switch	Not Applicable
5	DP_SW_A	OPEN_CLOSE	OPEN	—	Discharge Pressure SW	Not Applicable
6	PUMP1_OL	OPEN_CLOSE	OPEN	—	Pump 1 Overload Switch	Y if pump is single pump or double pump (SYS_CFG>>WT_PUMP=1/2)
7	DT_SW_A	OPEN_CLOSE	OPEN	—	Discharge Temp Switch	Not Applicable
8	PUMP2_OL	OPEN_CLOSE	OPEN	—	Pump 2 Overload Switch	Y if pump is double pump (SYS_CFG>>WT_PUMP=2)
9	FAN_OL	OPEN_CLOSE	OPEN	—	Fan Overload Switch	Not Applicable
10	COMA1_OL	OPEN_CLOSE	OPEN	—	Comp A1 Overload Status	Not Applicable
11	COMA2_OL	OPEN_CLOSE	OPEN	—	Comp A2 Overload Status	Not Applicable
12	COMA1_FB	OPEN_CLOSE	OPEN	—	Comp A1 Feedback Status	Not Applicable
13	COMA2_FB	OPEN_CLOSE	OPEN	—	Comp A2 Feedback Status	Not Applicable
14	SW1	0 to 15	0	—	Switch 1 Status	Not Applicable
15	SW2	0 to 15	0	—	Switch 2 Status	Not Applicable
16	SW3	0 to 15	0	—	Switch 3 Status	Not Applicable
17	SW4	0 to 15	0	—	Switch 4 Status	—
18	SW5	0 to 255	0	—	Switch 5 Status	—

Table 8 — OUTPUTS - Output Status

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	COMP_A1	OFF_ON	OFF	—	Compressor A1 Output	Not Applicable
2	COMP_A2	OFF_ON	OFF	—	Compressor A2 Output	Not Applicable
3	PUMP1	OFF_ON	OFF	—	Pump 1 Output	—
4	PUMP2	OFF_ON	OFF	—	Pump 2 Output	—
5	AUX_HEAT	OFF_ON	OFF	—	Aux EHeater Output	—
6	RV_A	OFF_ON	OFF	—	4 Way Valve Output A	—
7	BP_HEAT	OFF_ON	OFF	—	BPHE heater Output	—
8	WV	OFF_ON	OFF	—	Water Valve Output	—
9	HGBPV	OFF_ON	OFF	—	Hot Gas Bypass Valve	—
10	CK_EHEAT	OFF_ON	OFF	—	Comp CK Eheater	—
11	FAN_L_A1	OFF_ON	OFF	—	Fan A1 Low Speed	Not Applicable
12	FAN_H_A2	OFF_ON	OFF	—	Fan A2 High Speed	Not Applicable
13	ALARM	OFF_ON	OFF	—	Alarm Relay	—
14	RUN	OFF_ON	OFF	—	Running Relay	—
15	EXV_A	—	0	%	EXV A Output Percent	—
16	EVI_A1	—	0	%	EVI A1 Output Percent	—
17	EVI_A2	—	0	%	EVI A2 Output Percent	Not Applicable
18	HEXV_A	—	0	%	Heat EXV A Output	—
19	AO_1	—	0	%	AO 1 Output Percent	Not Applicable
20	AO_2	—	0	%	AO 2 Output Percent	Not Applicable
21	AO_3	—	0	%	AO 3 Output Percent	Not Applicable
22	VS_CP_A	—	0	Hz	VS Comp A Speed	—
23	VS_CP_B	—	0	Hz	VS Comp B Speed	—
24	VS_FAN1	—	0	rpm	VS Fan1 Speed	—
25	VS_FAN2	—	0	rpm	VS Fan2 Speed	—
26	COMP_B1	OFF_ON	OFF	—	Compressor B1 Output	Not Applicable
27	COMP_B2	OFF_ON	OFF	—	Compressor B2 Output	Not Applicable
28	PUMP1_B	OFF_ON	OFF	—	Pump B1 Output	—
29	PUMP2_B	OFF_ON	OFF	—	Pump B2 Output	—
30	AUX_HE_B	OFF_ON	OFF	—	Aux EHeater B	—
31	RV_B	OFF_ON	OFF	—	4 Way Valve Output B	—
32	BP_HE_B	OFF_ON	OFF	—	BPHE heater B	—
33	WV_B	OFF_ON	OFF	—	Water Valve B	—
34	HGBPV_B	OFF_ON	OFF	—	Hot Gas Bypass B	—
35	CK_EH_B	OFF_ON	OFF	—	Comp CK Eheater B	—
36	FAN_L_B1	OFF_ON	OFF	—	Fan B1 Low Speed	Not Applicable
37	FAN_H_B2	OFF_ON	OFF	—	Fan B2 High Speed	Not Applicable
38	EXV_B	—	0	%	EXV B Output Percent	—
39	EVI_B1	—	0	%	EVI B1 Output Percent	—
40	EVI_B2	—	0	%	EVI B2 Output Percent	Not Applicable
41	HEXV_B	—	0	%	Heat EXV B Output	—
42	AO_B1	—	0	%	AO B1 Output Percent	Not Applicable
43	AO_B2	—	0	%	AO B2 Output Percent	Not Applicable
44	AO_B3	—	0	%	AO B3 Output Percent	Not Applicable
45	PUMP1_U	OFF_ON	OFF	—	Pump 1 Output Unit	^a Y if PUMP1 and/or PUMP1_B are 1, then PUMP1_U = 1. If PUMP1 and PUMP1_B are 0, then PUMP1_U = 0
46	PUMP2_U	OFF_ON	OFF	—	Pump 2 Output Unit	^a Y if PUMP2 and/or PUMP2_B are 1, then PUMP2_U = 1. If PUMP2 and PUMP2_B are 0, then PUMP2_U = 0
47	AUX_HE_U	OFF_ON	OFF	—	Aux Heater Unit	Y if AUX_HEAT and/or AUX_HE_B are 1, then AUX_HE_U = 1. If AUX_HEAT and AUX_HE_B are 0, then AUX_HE_U = 0

Table 8 — OUTPUTS - Output Status (cont)

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
48	BP_HE_U	OFF_ON	OFF	—	BPHE Heater Unit	Y if BP_HEAT and/or BP_HE_B are 1, then BP_HE_U = 1. If BP_HEAT and BP_HE_B are 0, then BP_HE_U = 0
49	WV_U	OFF_ON	OFF	—	Water Valve Unit	Y if WV and/or WV_B are 1, then WV_U = 1. If WV and WV_B are 0, then WV_U = 0
50	WFHEAT_U	OFF_ON	OFF	—	Water Flow Eheat Unit	Not Applicable

NOTE(S):

- a. Circuit A and circuit B calculate the demand of pump separately, PUMP1_U is the combined result of pump1.

Table 9 — MODES - Modes

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	MODES	0 to 255	0	—	Run Mode A	—
2	STARTUP	0 to 255	0	—	Startup State	—
3	SHUTDOWN	0 to 255	0	—	Shutdown State	—
4	DEFROST	0 to 255	0	—	Defrost State	—
5	ANTIFREEZE	0 to 255	0	—	Antifreeze State	—
6	FS_EXV_M	0 to 255	0	—	FS EXV Mode	Not Applicable
7	VS_CP_M	0 to 255	0	—	VS Comp Mode	—
8	VS_FAN_M	0 to 255	0	—	VS Fan Mode	—
9	VS_EXV_M	0 to 255	0	—	VS EXV Mode	—
10	EVI_M	0 to 255	0	—	EVI Control Mode	—
11	DEFSYNCA	0 to 255	0	—	Defrost Sync State	—
12	EVIDSH_M	0 to 255	0	—	EVI DSH Ctrl Mode	Not Applicable
13	MODES_B	0 to 255	0	—	Run Mode B	Same as MODES
14	STARTUPB	0 to 255	0	—	Startup State B	Same as STATRTUP
15	SHUTDN_B	0 to 255	0	—	Shutdown State B	Same as SHUTDOWN
16	DEFROSTB	0 to 255	0	—	Defrost State B	Same as DEFROST
17	ANTIF_B	0 to 255	0	—	Antifreeze State B	Same as ANTIFREEZE
18	FS_EXV_B	0 to 255	0	—	FS EXV Mode B	Not Applicable
19	VS_CP_B	0 to 255	0	—	VS Comp Mode B	Same as VS_CP_M
20	VS_FAN_B	0 to 255	0	—	VS Fan Mode B	Same as VS_FAN_M
21	VS_EXV_B	0 to 255	0	—	VS EXV Mode B	Same as VS_EXV_M
22	EVI_M_B	0 to 255	0	—	EVI Control Mode B	Same as EVI_M
23	DEFSYNCB	0 to 255	0	—	Defrost Sync State B	Same as DEFSYNCA
24	EVIDSH_B	0 to 255	0	—	EVI DSH Mode B	Not Applicable

Table 10 — STATUS - Status^a

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	UNIT_CAP	0 to 100	0	%	Unit Capacity Percent	—
2	FAN_CAP	0 to 100	0	%	Fan Capacity Percent	—
3	COMP_CAP	0 to 100	0	%	Compressor Capacity	—
4	CP_STAT	—	0	—	Comp VFD Status	—
5	CP_MAIN	—	0	—	Comp Main Actual Value	Not Applicable
6	CP_VOLT	—	380	V	Comp VFD Output Volt	—
7	CP_FREQ	—	0	Hz	Comp VFD Freq	—
8	CP_cardT	—	50	°C	Comp VFD Card Temp	Not Applicable
		—	122	°F		
9	CP_sinkT	—	50	°C	Comp VFD Heat Sink	—
		—	122	°F		
10	CP_POWER	—	20	kW	Comp VFD Power	Not Applicable
11	CP_AC_A	—	10	A	Comp VFD AC Current	—
12	CP_AMPS	—	10	A	Comp VFD Current	—
13	CP_ALM1H	—	0	—	Comp VFD Alarm 1H	—
14	CP_ALM1L	—	0	—	Comp VFD Alarm 1L	—
15	CP_ALM2H	—	0	—	Comp VFD Alarm 2H	Not Applicable

Table 10 — STATUS - Status^a (cont)

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
16	CP_ALM2L	—	0	—	Comp VFD Alarm 2L	Not Applicable
17	CP_WAR1H	—	0	—	Comp VFD Alarm 1H	Not Applicable
18	CP_WAR1L	—	0	—	Comp VFD Alarm 1L	Not Applicable
19	CP_WAR2H	—	0	—	Comp VFD Warn 2H	Not Applicable
20	CP_WAR2L	—	0	—	Comp VFD Warn 2L	Not Applicable
21	F1_STAT	—	0	—	Fan1 VFD Status	—
22	F2_STAT	—	0	—	Fan2 VFD Status	—
23	F1_RPM	—	0	rpm	Fan1 Rotate Speed	—
24	F2_RPM	—	0	rpm	Fan2 Rotate Speed	—
25	F1_VOLT	—	380	V	Fan1 VFD Output Volt	—
26	F2_VOLT	—	380	V	Fan2 VFD Output Volt	—
27	F1_AMPS	—	10	A	Fan1 VFD Current	—
28	F2_AMPS	—	10	A	Fan2 VFD Current	—
29	F1_ipmT	—	50	°C	Fan1 IPM Temp	—
		—	122	°F		
30	F2_ipmT	—	50	°C	Fan2 IPM Temp	—
		—	122	°F		
31	F1_ALM1	—	0	—	Fan1 VFD Alarm 1	—
32	F2_ALM1	—	0	—	Fan2 VFD Alarm 1	—
33	F1_ALM2	—	0	—	Fan1 VFD Alarm 2	—
34	F2_ALM2	—	0	—	Fan2 VFD Alarm 2	—
35	F1_WARN1	—	0	—	Fan1 VFD Warning 1	Not Applicable
36	F2_WARN1	—	0	—	Fan2 VFD Warning 1	Not Applicable
37	F1_WARN2	—	0	—	Fan1 VFD Warning 2	Not Applicable
38	F2_WARN2	—	0	—	Fan2 VFD Warning 2	Not Applicable
39	CP_CAP_B	0 to 100	0	%	Com B Capacity	—
40	CP_STATB	—	0	—	Comp VFD Status B	—
41	CP_MAINB	—	0	—	Comp Main Actual B	Not Applicable
42	CP_VOLT B	—	380	V	Comp B Output Volt	—
43	CP_FREQ B	—	0	Hz	Comp VFD Freq B	—
44	CPcardTB	—	50	°C	Comp B Card Temp	Not Applicable
			122	°F		
45	CPsinkTB	—	50	°C	Comp B Heat Sink	—
			122	°F		
46	CPPOWERB	—	20	kW	Comp B Power	Not Applicable
47	CP_AC_AB	—	10	A	Comp B AC Current	—
48	CP_AMPSB	—	10	A	Comp B Current	—
49	CPALM1HB	—	0	—	Comp B Alarm 1H	—
50	CPALM1LB	—	0	—	Comp B Alarm 1L	—
51	CPALM2HB	—	0	—	Comp B Alarm 2H	Not Applicable
52	CPALM2LB	—	0	—	Comp B Alarm 2L	Not Applicable
53	CPWAR1HB	—	0	—	Comp B Warn 1H	Not Applicable
54	CPWAR1LB	—	0	—	Comp B Warn 1L	Not Applicable
55	CPWAR2HB	—	0	—	Comp B Warn 2H	Not Applicable
56	CPWAR2LB	—	0	—	Comp B Warn 2L	Not Applicable

NOTE(S):

a. See Tables 27-29 for VFD Alarms.

Table 11 — RUNTIME - Run Times

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	MACH_HR	—	0	hours	Machine Run Hours	—
2	MACH_ST	—	0	—	Machine Run Time	—
3	CP_A1_HR	—	0	hours	Comp A1 Run Hours	—
4	CP_A2_HR	—	0	hours	Comp A2 Run Hours	Not Applicable
5	CP_A1_ST	—	0	—	Comp A1 Run Time	—
6	CP_A2_ST	—	0	—	Comp A2 Run Time	Not Applicable
7	CP_B1_HR	—	0	hours	Comp B1 Run Hours	—
8	CP_B2_HR	—	0	hours	Comp B2 Run Hours	Not Applicable
9	CP_B1_ST	—	0	—	Comp B1 Run Time	—
10	CP_B2_ST	—	0	—	Comp B2 Run Time	Not Applicable
11	FANA1_HR	—	0	hours	Fan A1 Run Hours	—
12	FANA2_HR	—	0	hours	Fan A2 Run Hours	—
13	FANA1_ST	—	0	—	Fan A1 Run Time	—
14	FANA2_ST	—	0	—	Fan A2 Run Time	—
15	PUMP1_HR	—	0	hours	Pump 1 Run Hours	—
16	PUMP2_HR	—	0	hours	Pump 2 Run Hours	—
17	AUX1_TX	—	0	—	AUX Com TX Counts	Not Applicable
18	COMP_TX	—	0	—	Comp A Com TX Counts	—
19	FAN1_TX	—	0	—	Fan 1 Com TX Counts	—
20	FAN2_TX	—	0	—	Fan 2 Com TX Counts	—
21	COMP2_TX	—	0	—	Comp B Com TX Counts	—
22	CIR_B_TX	—	0	—	Circle B Com TX Counts	—
23	AUX1_RX	—	0	—	AUX Com RX Counts	Not Applicable
24	COMP_RX	—	0	—	Comp A Com RX Counts	—
25	FAN1_RX	—	0	—	Fan 1 Com RX Counts	—
26	FAN2_RX	—	0	—	Fan 2 Com RX Counts	—
27	COMP2_RX	—	0	—	Comp B Com RX Counts	—
28	CIR_B_RX	—	0	—	Circle B Com RX Counts	—
29	OILSUM_A	—	0	hours	A Oil Back Sum Hours	—
30	OILSUM_B	—	0	hours	B Oil Back Sum Hours	—
31	RV_A_S_S	—	0	—	RV A Last Status	—
32	RV_B_S_S	—	0	—	RV B Last Status	—

Table 12 — QCK_TEST - Quick Test

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	QCK_TEST	0 to 2	0	—	Quick Test Enable	0=Disable 1=Quick test when unit is off 2=Lab force when unit is on
2	Q_COMPA1	0 to 255	0	—	Comp A1 Output Test	Not Applicable
3	Q_COMPA2	0 to 255	0	—	Comp A2 Or Hgbpv Output	Not Applicable
4	Q_PUMP1	OFF_ON	OFF	—	Ac Pump 1# Output Test	—
5	Q_AUHEAT	OFF_ON	OFF	—	Ac Aux Heat Output Test	—
6	Q_RV_A	OFF_ON	OFF	—	Ac 4wv Output Test	—
7	Q_PUMP2	OFF_ON	OFF	—	Ac Pump 2# Output Test	—
8	Q_BPHEAT	OFF_ON	OFF	—	Bphe Heat Output Test	—
9	Q_WV	OFF_ON	OFF	—	Ac Water Valve Output	—
10	Q_FAN_1L	0 to 255	0	—	Fan 1# Or L Output Test	Not Applicable
11	Q_FAN_2H	0 to 255	0	—	Fan 2# Or H Output Test	Not Applicable
12	Q_DO11	OFF_ON	OFF	—	Io(B) Do1 Output Test	—
13	Q_DO12	OFF_ON	OFF	—	Io(B) Do2 Output Test	—
14	Q_DO13	OFF_ON	OFF	—	Io(B) Do3 Hr Pump 1#	Not Applicable
15	Q_DO14	OFF_ON	OFF	—	Io(B) Do4 Hr Aux Heat	Not Applicable
16	Q_DO15	OFF_ON	OFF	—	Io(B) Do5 Hr 4wv	—
17	Q_DO16	OFF_ON	OFF	—	Io(B) Do6 Hr Pump 2#	Not Applicable
18	Q_DO17	OFF_ON	OFF	—	Io(B) Do7 Output Test	Not Applicable
19	Q_DO18	OFF_ON	OFF	—	Io(B) Do8 Hr Water Valve	Not Applicable
20	Q_DO19	OFF_ON	OFF	—	Io(B) Do9 Output Test	Not Applicable
21	Q_DO20	OFF_ON	OFF	—	Io(B) Do10 Output Test	Not Applicable
22	Q_DRY1	OFF_ON	OFF	—	Dry1 Output Test	—
23	Q_DRY2	OFF_ON	OFF	—	Dry2 Output Test	—
24	Q_DRY3	OFF_ON	OFF	—	Dry3 Output Test	—
25	Q_DRY4	OFF_ON	OFF	—	Dry4 Output Test	Not Applicable
26	Q_AO1	0 to 100	0	—	Ao1 Output Test	Not Applicable
27	Q_AO2	0 to 100	0	—	Ao2 Output Test	Not Applicable
28	Q_AO3	0 to 100	0	—	Ao3 Output Test	Not Applicable
29	Q_EXV1	0 to 100	0	—	Exv1(A) Output Test	—
30	Q_EXV2	0 to 100	0	—	Exv2(A) Output Test	—
31	Q_EXV3	0 to 100	0	—	Exv3(A) Output Test	—
32	Q_EXV4	0 to 100	0	—	Exv1(B) Output Test	—
33	Q_EXV5	0 to 100	0	—	Exv2(B) Output Test	—
34	Q_EXV6	0 to 100	0	—	Exv3(B) Output Test	—
35	Q_VS_CP1	0 to 120	0	Hz	Vs Cp A Output Test(Rps)	—
36	Q_VS_CP2	0 to 120	0	Hz	Vs Cp B Output Test(Rps)	—
37	Q_VSFAN1	0 to 1450	0	rpm	Vs Fan1 Output Test(Rpm)	—
38	Q_VSFAN2	0 to 1450	0	rpm	Vs Fan2 Output Test(Rpm)	—

Table 13 — OVERRIDEA - Override Circle A

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	DPSW_BK	NO_YES	NO	—	Dp Switch Break Override	Not Applicable
2	DTSW_BK	NO_YES	NO	—	Dt Switch Break Override	Not Applicable
3	DT1_HIGH	NO_YES	NO	—	Dt1 High/Sw Override	—
4	DT2_HIGH	NO_YES	NO	—	Dt2 High Override	—
5	DP_HIGH	0 to 2	0	—	Dp High Override	0=No 1=Yes 2 is N/A
6	HC_SST_L	NO_YES	NO	—	Heatcool Sst Low Override	—
7	HC_WTOUT	0 to 4	0	—	Heatcool Wt Out Override	0=NORMAL 1=COMP_SPPED_NO_INCREASE 2=COMP_SPPED_FORCE DECREASE 4=OVERRIDE 3 is N/A
8	CP_BOTH	NO_YES	NO	—	Comp Both Onoff Override	Not Applicable
9	DTSH1LOW	NO_YES	NO	—	Discharg Sh1 Low Override	—
10	DTSH2LOW	NO_YES	NO	—	Discharg Sh2 Low Override	—
11	MAP_UP	0 to 2	0	—	Envelope Map Up Out	0=No 1=Yes 2 is N/A
12	MAP_DOWN	NO_YES	NO	—	Envelope Map Down Out	—
13	MAP_LEFT	0 to 2	0	—	Envelope Map Left Out	0=No 1=Yes 2 is N/A
14	MAP_RIGH	NO_YES	NO	—	Envelope Map Right Out	—
15	MAP_L_U	0 to 3	0	—	Envelope Map Left Up	0=No 1=Yes 2 and 3 are N/A
16	CK_EHEAT	NO_YES	NO	—	Crankcase Eheat Wait	—
17	SILENT_M	0 to 2	0	—	Silent Mode Override	0=No 1=Yes 2 is N/A
18	CP_AMP_P	0 to 4	0	—	Comp Current Protect	0=NORMAL 1=COMP_SPPED_NO_INCREASE 2=COMP_SPPED_FORCE DECREASE 4=OVERRIDE 3 is N/A
19	VFD_T_P	0 to 4	0	—	VFD Temperature Protect	0=NORMAL 1=COMP_SPPED_NO_INCREASE 2=COMP_SPPED_FORCE DECREASE 4=OVERRIDE 3 is N/A
20	FLOW_SW	NO_YES	NO	—	Flow Switch Fault	—
21	OIL_BACK	NO_YES	NO	—	Oil Back Ctrl Override	—
22	RV_SW_F	NO_YES	NO	—	Rv Action Protect	—
23	EXV_LOST	NO_YES	NO	—	Exv Step Lost	—
24	CP1_DELP	NO_YES	NO	—	Comp 1# Dp-Sp Override	Not Applicable
25	CP2_DELP	NO_YES	NO	—	Comp 2# Dp-Sp Override	Not Applicable
26	P_R_LOW	NO_YES	NO	—	Press Ratio Low	Not Applicable
27	ECOSP1_H	NO_YES	NO	—	Eco Suction Press1 High	—
28	ECOSP2_H	NO_YES	NO	—	Eco Suction Press2 High	—
29	DEF_OFF	NO_YES	NO	—	Force Off When Def Wait	—
30	FAN_OL	NO_YES	NO	—	Fan Overload	Not Applicable
31	VS_CROSS	NO_YES	NO	—	Vs Comp Is Crossing Up	—
32	VSMAPOUT	NO_YES	NO	—	Vs Comp Rps Mismatch Map	Not Applicable
33	DEFFCOFF	NO_YES	NO	—	Force Off When Unit Def	—
34	OIL_LOSS	NO_YES	NO	—	Oil Loss Prevention	—

Table 14 — OVERRIDEB - Override Circle B

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	DPSW_BK	NO_YES	NO	—	Dp Switch Break Override	Not Applicable
2	DTSW_BK	NO_YES	NO	—	Dt Switch Break Override	Not Applicable
3	DT1_HIGH	NO_YES	NO	—	Dt1 High/Sw Override	—
4	DT2_HIGH	NO_YES	NO	—	Dt2 High Override	—
5	DP_HIGH	0 to 2	0	—	Dp High Override	0=No 1=Yes 2 is N/A
6	HC_SST_L	NO_YES	NO	—	Heatcool Sst Low Override	—
7	HC_WTOUT	0 to 4	0	—	Heatcool Wt Out Override	0=NORMAL 1=COMP_SPPED_NO_INC REASE 2=COMP_SPPED_FORCE DECREASE 4=OVERRIDE 3 is N/A
8	CP_BOTH	NO_YES	NO	—	Comp Both Onoff Override	Not Applicable
9	DTSH1LOW	NO_YES	NO	—	Discharg Sh1 Low Override	—
10	DTSH2LOW	NO_YES	NO	—	Discharg Sh2 Low Override	—
11	MAP_UP	0 to 2	0	—	Envelope Map Up Out	0=No 1=Yes 2 is N/A
12	MAP_DOWN	NO_YES	NO	—	Envelope Map Down Out	—
13	MAP_LEFT	0 to 2	0	—	Envelope Map Left Out	0=No 1=Yes 2 is N/A
14	MAP_RIGH	NO_YES	NO	—	Envelope Map Right Out	—
15	MAP_L_U	0 to 3	0	—	Envelope Map Left Up	0=No 1=Yes 2 and 3 are N/A
16	CK_EHEAT	NO_YES	NO	—	Crankcase Eheat Wait	—
17	SILENT_M	0 to 2	0	—	Silent Mode Override	0=No 1=Yes 2 is N/A
18	CP_AMP_P	0 to 4	0	—	Comp Current Protect	0=NORMAL 1=COMP_SPPED_NO_INC REASE 2=COMP_SPPED_FORCE DECREASE 4=OVERRIDE 3 is N/A
19	VFD_T_P	0 to 4	0	—	VFD Temperature Protect	0=NORMAL 1=COMP_SPPED_NO_INC REASE 2=COMP_SPPED_FORCE DECREASE 4=OVERRIDE 3 is N/A
20	FLOW_SW	NO_YES	NO	—	Flow Switch Fault	—
21	OIL_BACK	NO_YES	NO	—	Oil Back Ctrl Override	—
22	RV_SW_F	NO_YES	NO	—	Rv Action Protect	—
23	EXV_LOST	NO_YES	NO	—	Exv Step Lost	—
24	CP1_DELP	NO_YES	NO	—	Comp 1# Dp-Sp Override	Not Applicable
25	CP2_DELP	NO_YES	NO	—	Comp 2# Dp-Sp Override	Not Applicable
26	P_R_LOW	NO_YES	NO	—	Press Ratio Low	Not Applicable
27	ECOSP1_H	NO_YES	NO	—	Eco Suction Press1 High	—
28	ECOSP2_H	NO_YES	NO	—	Eco Suction Press2 High	—
29	DEF_OFF	NO_YES	NO	—	Force Off When Def Wait	—
30	FAN_OL	NO_YES	NO	—	Fan Overload	Not Applicable
31	VS_CROSS	NO_YES	NO	—	Vs Comp Is Crossing Up	—
32	VSMAPOUT	NO_YES	NO	—	Vs Comp Rps Mismatch Map	Not Applicable
33	DEFFCOFF	NO_YES	NO	—	Force Off When Unit Def	—
34	OIL_LOSS	NO_YES	NO	—	Oil Loss Prevention	—

Table 15 — CONFIG Menu

ICON	DISPLAY TEXT	ACCESS	ASSOCIATED TABLE
	Factory Parameters	FACTORY	FACTORY
	Service Parameters	SERVICE	SERVICE
	User Parameters	USER	USER_CFG
	System Configuration	SERVICE	SYS_CFG
	1# Special Parameters	SERVICE	SPECIAL1
	2# Special Parameters	SERVICE	SPECIAL2
	3# Special Parameters	SERVICE	SPECIAL3
	4# Special Parameters	SERVICE	SPECIAL4
	BMS Protocol	SERVICE	CONNECT
	Control Identification	USER	
	Holiday Menu	USER	

Table 16 — FACTORY - Factory Parameters^a

	NAME	RANGE	DEFAULT	DISPLAYED TEXT	30RQM020 NOTES
1	FAC_CODE	0 to 255	86	Factory Country Code	Set to 86 if it's not.
2	UnitType	0 to 2	0	Unit Type	Set to 1 if it's not.
3	UnitSize	1 to 1000	1	Unit Power Size (Kw)	Set to 65 if it's not.
4	Comp_ID	—	1	Comp Id	Set to 22 if it's not.
5	UnitEXV	—	0	EXV Id	Set to 15 if it's not.
6	UnitEVI	—	0	Evi Id	Set to 14 if it's not.
7	R_FT_SET	NO_YES	NO	Reset Factory Configuration	—

NOTE(S):

a. All parameters are configurable in this table.

Table 17 — SERVICE - Service Parameters^a

	NAME	RANGE	DEFAULT	DISPLAYED TEXT	30RQM020 NOTES
1	PUMP_OUT	0 to 3	0	Pump Options	Only for display.
2	FLUI_TYP	0 to 1	0	Fluids Type	Not Applicable
3	FLOW_ALM	NO_YES	NO	Ac Flows Abnormal Close	Set to NO if it's not.
4	WF_HEAT	NO_YES	YES	Water Flow Heater Active	Not Applicable
5	LWOFFSET	NO_YES	NO	Lwt Offset Active	Set to NO if it's not.
6	F_DPCTRL	NO_YES	YES	Fan Dp Ctrl for VHS	Set to YES if it's not.
7	FCV_NEW	NO_YES	YES	He Fan Curve Type	Not Applicable

NOTE(S):

a. All parameters are configurable in this table except PUMP_OPT.

Table 18 — USER_CFG - User Parameters

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	USE_PASS	0 to 9999	11	—	User Password	—
2	EWT_CTRL	NO_YES	YES	—	Ewt Control Option	Only for display. YES=EWT Control NO=LWT Control, Not Applicable
3	POWER_ON	NO_YES	NO	—	Power Down On/Off	Only for display.
4	COOL_SP	5 to 30 41 to 86	12 54	°C °F	Cool Setpoint	Not Applicable
5	COOL_DB	1 to 5 2 to 9	2 4	°C °F	Cool Dead Band	Not Applicable
6	HEAT_SP	25 to 60 77 to 140	40 104	°C °F	Heat Setpoint	Not Applicable
7	HEAT_DB	1 to 5 2 to 9	2 4	°C °F	Heat Dead Band	Not Applicable
8	LWT_DELT	0 to 5 0 to 9	1 2	°C °F	Lwt Ctlr Delt Dead Band	Not Applicable
9	CAPA_LIM	0 to 100	100	%	Capacity Limit	—
10	MAN_DEF	NO_YES	NO	—	Manual Defrost	—
11	MAN_AFQT	NO_YES	NO	—	Manual Antifreeze Quit	—

Table 19 — SYS_CFG - System Configuration^a

	NAME	RANGE	DEFAULT	DISPLAYED TEXT	30RQM020 NOTES
1	SYS_TYPE	0 to 1	1	System Type	0=Cooling Only 1=Heat Pump Set to 1 if it's not.
2	SYS_PIPE	2 to 4	2	Pipe Type	Set to 2 if it's not.
3	ODU_NUM	1 to 16	1	System ODU Number (1~16)	—
4	WT_PUMP	0 to 2	1	Pump Options	External pump options 0=No pump 1=1 fixed-frequency pump 2=2 fixed-frequency pumps (1+1backup)
5	IDU_NUM	0 to 128	0	System Idu Number (0~128)	Not Applicable
6	FAU_NUM	0 to 8	0	System Fau Number (0~8)	Not Applicable

NOTE(S):

a. All parameters in this table are configurable.

Table 20 — SYS_MONI Menu

ICON	DISPLAY TEXT	ACCESS	ASSOCIATED TABLE
	System Moni	All	SYS_MONI
	ODU #1 Data Moni	Service	OD01MONI
	ODU #2 Data Moni	Service	OD02MONI
	ODU #3 Data Moni	Service	OD03MONI
	ODU #4 Data Moni	Service	OD04MONI
	ODU #5 Data Moni	Service	OD05MONI
	ODU #6 Data Moni	Service	OD06MONI
	ODU #7 Data Moni	Service	OD07MONI
	ODU #8 Data Moni	Service	OD08MONI
	ODU #9 Data Moni	Service	OD09MONI
	ODU #10 Data Moni	Service	OD10MONI
	ODU #11Data Moni	Service	OD11MONI
	ODU #12 Data Moni	Service	OD12MONI
	ODU #13 Data Moni	Service	OD13MONI
	ODU #14 Data Moni	Service	OD14MONI
	ODU #15 Data Moni	Service	OD15MONI
	ODU #16 Data Moni	Service	OD16MONI

Table 21 — SYS_MONI - System Moni

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 APPLICATION
1	SYS_STAT	0 to 9	0	—	System Status	0=SYS_INIT 1=SYS_OFF 2=SYS_STARTUP 3=SYS_SHUTDOWN 4=SYS_RECYCLE 5=SYS_ON 6=SYS_WATERLOOP 7=SYS_ANTIFREE 8=SYS_TRIPOUT 9=SYS_QUICKTEST
2	SYS_S_S	START_STOP	STOP	—	System Start Stop	—
3	SYS_HC	COOL_HEAT	COOL	—	System Running Mode	—
4	SYS_ALM	0 to 2	0	—	System Alarm Status	0=NO_ALARM 1=PARTIAL 2=ALARM_SHUTDOWN
5	SYS_SIZE	—	0	kW	System Size	—
6	SYS_SP	5 to 60 41 to 140	14 54	°C °F	System Setpoint	—
7	SYS_EWT	—	-18 0	°C °F	System Enter Water	—
8	SYS_LWT	—	-18 0	°C °F	System Leave Water	—
9	SYS_OAT	—	-18 0	°C °F	System Outdoor Air	—
10	SYS_CAPA	0 to 100	0	%	System Capacity	—
11	SYS_PUMP	0 to 50	0	Hz	System Pump Speed	—
12	SYS_PID	0 to 100	0	%	System Capacity Pid	—

Table 22 — OD01MONI - ODU #1 Data Moni^a

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	SYS_STAT	0 to 255	0	—	ODU Status	0=SYS_INIT 1=SYS_OFF 2=SYS_STARTUP 3=SYS_SHUTDOWN 4=SYS_RECYCLE 5=SYS_ON 6=SYS_WATERLOOP 7=SYS_ANTIFREE 8=SYS_TRIPOUT 9=SYS_QUICKTEST
2	ODU_S_S	START_STOP	STOP	—	ODU Start or Stop	—
3	ODU_HC	COOL_HEAT	COOL	—	ODU Heating or Cooling	—
4	ODU_ALM	0 to 2	0	—	ODU Alarm	0=NO_ALARM 1=PARTIAL 2=ALARM_SHUTDOWN
5	COMP_A1	0 to 2	0	—	Compressor A1 Status	0=OFF 1=ON 2=FAULT
6	COMP_A2	0 to 2	0	—	Compressor A2 Status	Not Applicable
7	COMP_B1	0 to 2	0	—	Compressor B1 Status	0=OFF 1=ON 2=FAULT
8	COMP_B2	0 to 2	0	—	Compressor B2 Status	Not Applicable
9	DI1_8_A	0 to 255	0	—	Main Board Di (1_8)	—
10	DI1_8_B	0 to 255	0	—	Slave Board Di (1_8)	—
11	SW9_10_A	0 to 255	0	—	Main Board SW (9_10)	—
12	SW9_10_B	0 to 255	0	—	Slave Board SW (9_10)	—
13	DO1_8_A	0 to 255	0	—	Main Board DO (1_8)	—
14	DO1_8_B	0 to 255	0	—	Slave Board DO (1_8)	—
15	DO9_10_A	0 to 255	0	—	Main Board DO (9_10)	—
16	DO9_10_B	0 to 255	0	—	Slave Board DO (9_10)	—
17	COMP_CAP	0 to 100	0	%	Comp Capacity	—
18	FAN_CAP	0 to 100	0	%	Fan Capacity	—
19	EWT	—	-18 0	°C °F	Entering Water Temp	—
20	LWT	—	-18 0	°C °F	Leaving Water Temp	—

Table 22 — OD01MONI - ODU #1 Data Moni^a (cont)

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
21	DEFT_A	—	-18 0	°C °F	Defrost Temp A	—
22	DEFT_B	—	-18 0	°C °F	Defrost Temp B	—
23	OAT	—	-18 0	°C °F	Outdoor Air Temp	—
24	ST_A	—	-18 0	°C °F	Suction Temp A	—
25	ST_B	—	-18 0	°C °F	Suction Temp B	—
26	DT_A1	—	-18 0	°C °F	Discharge Temp A1	—
27	DT_A2	—	-18 0	°C °F	Discharge Temp A2	Not Applicable
28	DT_B1	—	-18 0	°C °F	Discharge Temp B1	—
29	DT_B2	—	-18 0	°C °F	Discharge Temp B2	Not Applicable
30	SP_A	—	-18 0	°C °F	Suction Pressure A	—
31	SP_B	—	0 0	kPa PSI	Suction Pressure B	—
32	DP_A	—	0 0	kPa PSI	Discharge Pressure A	—
33	DP_B	—	0 0	kPa PSI	Discharge Pressure B	—
34	SPECO_A	—	0 0	kPa PSI	Eco Suction Pressure A	—
35	SPECO_B	—	0 0	kPa PSI	Eco Suction Pressure B	—
36	EXV_A	0 to 100	0	%	Cir A Main EXV Open	—
37	EXV_B	0 to 100	0	%	Cir B Main EXV Open	—
38	EVI_A	0 to 100	0	%	Cir A EVI Open	—
39	EVI_B	0 to 100	0	%	Cir B EVI Open	—
40	VS_COMP	0 to 120	0	Hz	VS Comp Speed	—
41	VS_FAN1	0 to 1000	0	rpm	VS Fan 1 Speed	—
42	VS_FAN2	0 to 1000	0	rpm	VS Fan n2 Speed	—
43	ALARM_1C	—	0	—	Current Alarm 1	—
44	ALARM_2C	—	0	—	Current Alarm 2	—
45	ALARM_3C	—	0	—	Current Alarm 3	—
46	ALARM_4C	—	0	—	Current Alarm 4	—
47	ALARM_5C	—	0	—	Current Alarm 5	—
48	ST_ECO_A	—	-18 0	°C °F	Economic Suction A	Not Applicable
49	ST_ECO_B	—	-18 0	°C °F	Economic Suction B	Not Applicable
50	DT_ECO_A	—	-18 0	°C °F	Economic Discharge Temp A	—
51	DT_ECO_B	—	-18 0	°C °F	Economic Discharge Temp B	—
52	VS_CP_B	0 to 120	0	Hz	VS Comp Speed B	—

NOTE(S):

a. OD01MONI~OD16MONI tables are the same.

Table 23 — SYS_CTRL - System Control^{a,b}

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	SYS_S_S	0 to 3	0	—	System Start/Stop	0=Stop 1=Start 2/3 is not applicable
2	SYS_HC	COOL_HEAT	COOL	—	System Heat/Cool Mode	0=Cool 1=Heat
3	SYS_LOOP	0 to 2	0	—	System Loop Mode	0=Normal 1=Clean (open all water pumps and water valves). 2=Drain (open all water valves)
4	HK_R_ALM	NO_YES	NO	—	HK Reset Alarm	Not Applicable
5	HK_REP	NO_YES	NO	—	HK Repair Override	Not Applicable
6	HK_QTEST	NO_YES	NO	—	HK Quick Test	Not Applicable
7	OD_R_ALM	0 to 65535	0	—	ODU Reset Alarm	• Bit XX=0: Normal • Bit XX=1: Alarm Reset • Convert the 16 bit binary number to a decimal number. For example, 16=0000 0000 0001 0000 means to reset ODU5 alarm. • Bit0: ODU1 alarm reset • Bit1: ODU2 alarm reset • Bit15: ODU16 alarm reset
8	OD_REP	0 to 65535	0	—	ODU Repair Override	• Bit XX=0: normal • Bit XX=1: Repair • Convert the 16 bit binary number to a decimal number. For example, 16=0000 0000 0001 0000 means to put ODU5 in Repair mode (The system will never start ODU5 anymore). • Bit0: ODU1 maintain • Bit1: ODU2 maintain • Bit15: ODU16 maintain
9	OD_QTEST	0 to 65535	0	—	ODU Quick Test	• Bit XX=0: Disable • Bit XX=1: Enable • Do this when system is in off state. • Convert the 16 bit binary number to a decimal number. For example, 16=0000 0000 0001 0000 means to start ODU5 immediately. • Bit0: ODU1 qtest start • Bit1: ODU2 qtest start • Bit15: ODU16 qtest start
10	EWT_CTRL	NO_YES	YES	—	System EWT Control Option	YES=EWT Control NO=LWT Control, Not Applicable
11	CFG_CTRL	0 to 65535	272	—	Config Optimize Control	272=No Silent 304=Night Silent 336=Normal Silent 368=Super Silent
12	SYS_C_SP	6 to 30 43 to 86	12 54	°C °F	System Cooling Setpoint	—
13	SYS_H_HP	25 to 60 77 to 140	40 104	°C °F	System Heating Setpoint	—
14	ODU_P_SP	80 to 200 12 to 29	100 15	kPa PSI	ODU Pressure Point	Not Applicable
15	ODU_LIM	0 to 100	100	%	ODU Capacity Limit	—
16	ODU_P_DB	2 to 10 0.3 to 1.5	5 1	kPa PSI	ODU Pressure Dead Band	Not Applicable
17	IDU_COEF	0 to 10	2	—	IDU Need Coefficient	Not Applicable
18	IDU_NEED	0 to 200	100	%	IDU Need Percent	Not Applicable

NOTE(S):

- a. All parameters are configurable in this table but only through Master ODU or BMS.
b. Slave ODU can read but cannot write.

Table 24 — ODU_CTRL - ODU Control

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	ODU_S_S	0 to 65535	0	—	ODU Start or Stop	• Bit0: ODU1 startstop • Bit1: ODU2 startstop • Bit15: ODU16 startstop
2	ODU_HC	0 to 65535	0	—	ODU Heating or Cooling	• Bit0: ODU1 heatcool • Bit1: ODU2 heatcool • Bit15: ODU16 heatcool
3	RST_ALM	0 to 65535	0	—	Reset Alarm	• Bit0: ODU1 alarm reset • Bit1: ODU2 alarm reset • Bit15: ODU16 alarm reset
4	REPAIR	0 to 65535	0	—	Repair Override	• Bit0: ODU1 maintain • Bit1: ODU2 maintain • Bit15: ODU16 maintain
5	EMSTOP	0 to 65535	0	—	Emergency Stop	• Bit0: ODU1 emstop • Bit1: ODU2 emstop • Bit15: ODU16 emstop
6	COMP_A1	0 to 65535	0	—	Compressor A1 On/Off	• Bit0: ODU1 CompA1 ON/OFF • Bit1: ODU2 Comp A1 ON/OFF • Bit15: ODU16 Comp A1 ON/OFF
7	COMP_A2	0 to 65535	0	—	Compressor 2 On/Off	Not Applicable
8	COMP_B1	0 to 65535	0	—	Compressor B1 On/Off	• Bit0: ODU1 CompB1 ON/OFF • Bit1: ODU2 CompB1 ON/OFF • Bit15: ODU16 CompB1 ON/OFF
9	COMP_B2	0 to 65535	0	—	Compressor B2 On/Off	Not Applicable
10	WV_FORCE	0 to 65535	0	—	Water Valve Force Open	• Bit0: ODU1 WV Force ON/OFF • Bit1: ODU2 WV Force ON/OFF • Bit15: ODU16 WV Force ON/OFF
11	VS_COMP	0 to 7200	0	rpm	Variable Compressor rpm	—

Table 25 — Alarms Menu

ICON	DISPLAYED TEXT	ACCESS	ASSOCIATED TABLE
	Reset Alarms	User	ALARMRST
	Current Alarms	All	
	History Alarms	All	

Table 26 — ALARMRST - Reset Alarms

	NAME	RANGE	DEFAULT	UNIT	DISPLAYED TEXT	30RQM020 NOTES
1	RST_ALM	NO_YES	NO	—	Alarm Reset	—
2	AKM_STAT	—	—	—	Alarm State	NORMAL PARTIAL SHUTDOWN
3	alarm_1c	—	0	—	Current Alarm 1	—
4	alarm_2c	—	0	—	Current Alarm 2	—
5	alarm_3c	—	0	—	Current Alarm 3	—
6	alarm_4c	—	0	—	Current Alarm 4	—
7	alarm_5c	—	0	—	Current Alarm 5	—
8	alarm_1	—	0	—	jbus Current Alarm 1	—
9	alarm_2	—	0	—	jbus Current Alarm 2	—
10	alarm_3	—	0	—	jbus Current Alarm 3	—
11	alarm_4	—	0	—	jbus Current Alarm 4	—
12	alarm_5	—	0	—	jbus Current Alarm 5	—
13	RST_STR	—	0	—	Reset Status Register	Not Applicable

DIAGNOSTICS - TROUBLESHOOTING

The PIC6.1 control system includes multiple fault tracing aid functions, including “Reset alarms” and “Current alarms.” There are some slight differences between primary ODU and secondary ODU.

- Alarm Reset command is only available for Master ODU PIC6.1, it will reset alarms of system and all ODUs.
- Master ODU PIC6.1 shows and records system level alarm code and 1#~16# ODUs alarm code.
- Each slave ODU PIC6.1 shows and records 2#~16# ODUs alarm code.
- On all Master and Slave PIC6.1 Reset Alarms page shows system level alarm state: None, Partial, Alarm.

Alarm Display

The control system promptly shows the unit’s status. When the alarm activates, the clock icon on the touch screen lights up and shakes. For Alarm screens see Fig. 54-59.

- 🟡 The LED indicates that the loop is running by flashing and shaking, but a warning is present.
- 🔴 The indicator light being steady red and shaking signifies that the circuit has ceased functioning due to a malfunction.



Fig. 54 — 30RQM020 System

Click the button 🟡 at the top right of the interface to enter the alarm information and alarm reset interface.

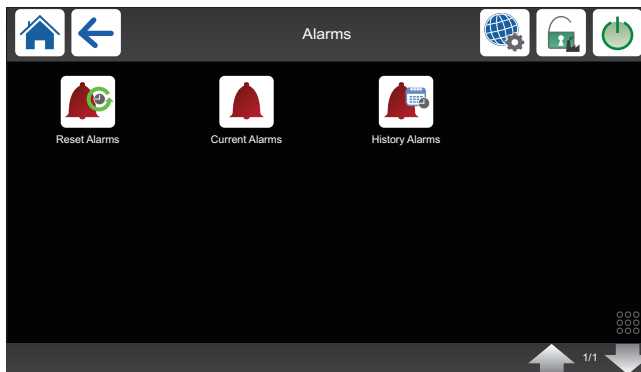


Fig. 55 — Alarms

Current Alarm

The current alarm interface shows the active alarms, along with the date and time they occurred. The controller displays up to five current alarms.

Tap the alarm button 🔴 and select the current alarms 🔴 to access the active alarm list.

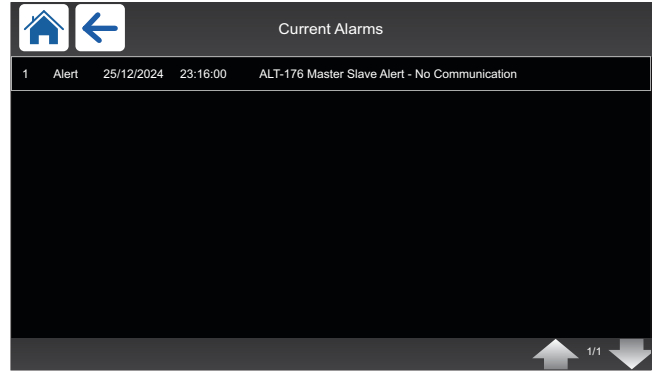


Fig. 56 — Current Alarms

Resetting Alarm

When the cause of the alarm has been rectified, the alarm can be reset. This may happen automatically upon returning to normal conditions or manually after taking action on the unit. Alarms can be reset while the unit is operational, meaning there is no need to stop the machine for resetting. In the event of a power supply interruption, the unit will automatically restart without requiring external commands. However, any faults active at the time of the supply interruption will be retained and may prevent certain circuits or units from restarting.

Alarms can be reset either automatically or manually. Manual alarm resets require user-level access rights. The alarm reset command is exclusive to the PIC6.1 of the primary unit, which, once executed, will reset alarms for both the system and all outdoor units.

The PIC6.1 of the host unit displays and logs system-level alarm codes as well as those of Outdoor Units (ODU) numbered 1 to 16. Conversely, the PIC6.1 of the secondary unit displays and logs alarm codes for ODUs numbered 2 to 16. On the “Reset Alarm” page across all PIC6.1 controllers in both primary and secondary units, the system-level alarm status will be indicated in three states: No Alarm, Partial Alarm, and Alarm.

Click the alarm button 🔴 and then select “Reset Alarm” 🔴 to access the alarm reset menu.

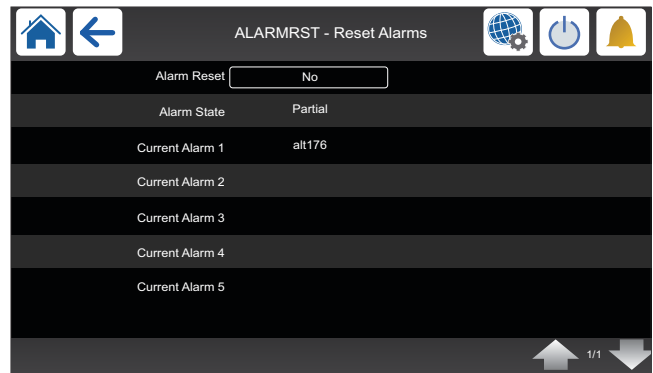


Fig. 57 — Reset Alarms, Primary ODU

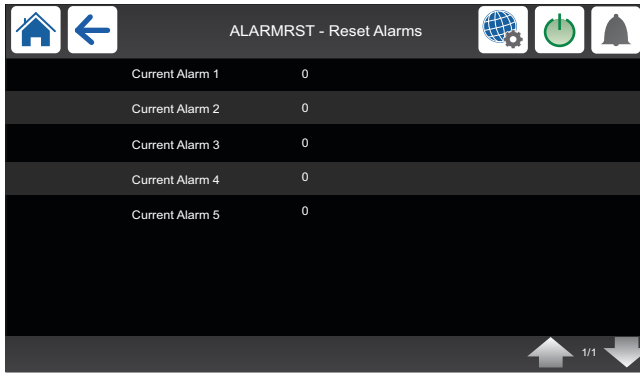


Fig. 58 — Reset Alarms, Slave ODU

Alarm History

The alarm history menu stores the previous 50 alarms.

Access the alarm history menu by clicking the alarm button  and selecting Alarm History .

Alarms History				
1	Alert	16/12/2024	08:07:00	ALT-176 Master Slave Alert - No Communication
2	Alert	06/12/2024	07:29:00	ALT-179 Master Slave Alert - Master CCN Write Rejection
3	Alert	06/12/2024	07:25:00	ALT-179 Master Slave Alert - Master CCN Write Rejection
4	Alert	06/12/2024	06:25:00	ALT-179 Master Slave Alert - Master CCN Write Rejection
5	Alert	05/12/2024	09:11:00	ALT-176 Master Slave Alert - No Communication
6	Alert	05/12/2024	08:59:00	ALT-176 Master Slave Alert - No Communication
7	Alert	05/12/2024	08:55:00	ALT-176 Master Slave Alert - No Communication

Fig. 59 — Alarm History

Alarm Codes

Table 27 — ODU Controller Alarm Code and Fault Analysis

FAULT CODE	FAULT DESCRIPTION	FAULT ANALYSIS	SOLUTION
CM000	Master Outdoor Unit Communication Failure	Failed communication between slave or hydraulic module and Master	1. Check the wiring, power supply, operating environment, configuration, and software implementation related to communication, and ensure they are correct and normal. 2. Check the communication bus earthing and whether the communication wiring is daisy chained.
CM001 ~ CM016	Slave Outdoor Unit Communication Failure (subcode)	Failed communication between Master and slave (2~16)	
CM070	Slave Hydronic Kit Communication Failure	Failed communication between Master and hydraulic module	
CM071	Pump1 VFD Communication Failure		
CM072	Pump2 VFD Communication Failure		
CM088	All Registered CTC thermostat Communication Failure		
CM181	Compressor VFD Communication Failure	Failed communication between motherboard and compressor VFD	
CM182	Fan 1# VFD Communication Failure	Failed communication between motherboard and #1 fan VFD	
CM183	Fan 2# VFD Communication Failure	Failed communication between motherboard and #2 fan VFD	
CM184	Compressor VFD Communication Failure (B)	Failed communication between motherboard and compressor VFD	
CM185	Circle B Board Communication Failure (B)	Failed communication between motherboard and auxiliary board	
CF021 ~ CF023	Factory Need Configure Or Configure Error (subcode)	Unit configuration does not exist Unit address number is not within the range (1~239)	Reset the unit configuration and address number
CF026	Slave Device Software Mismatch Master	The software version numbers of Master and slave do not match	Burn the same program version on both Master and slave
CF027	Unit Address is Out Of System Control Limit	DIP switch config. address of any unit is beyond the system setting range (1~16)	Configure the unit address within the system address range
CF028	Unit Type Mismatch System	Unit type (only cooling/heat pump) does not match system type	Configure unit type same as system type
CF051 ~ 059	Unit Configuration Mismatch 1# VFD (subcode)	VFD initialization failed	Check the VFD settings and related configuration parameters
CF061 ~ 059	Unit Configuration Mismatch 2# VFD (subcode)	Same as above	Same as above
VF101 ~ VF123	#1 Comp VFD Failure	Refer to compressor alarm code	Refer to compressor alarm code
VW150 ~ VW158	#1 Comp VFD Warning	Refer to P138~P140, compressor VFD manual	VW201~VW264 correspond to 64 VFD warnings (the first 32 correspond to the Warning Word column, and the last 32 correspond to the Warning Word 2 column)
VF201 ~ VF223	#2 Comp VFD Failure	Refer to compressor alarm code	Refer to compressor alarm code
VW250 ~ VW258	#2 Comp VFD Warning	Refer to P138~P140, compressor VFD manual	VW201~VW264 correspond to 64 VFD warnings (the first 32 correspond to the Warning Word column, and the last 32 correspond to the Warning Word 2 column)
VF301 ~ VF332	#1 Fan VFD Failure	Refer to Table 10	Refer to Table 10
VW333 ~ VW364	#1 Fan VFD Warning	Refer to Table 10	
VF401 ~ VF432	#2 Fan VFD Failure	Refer to Table 10	
VW433 ~ VW464	#2 Fan VFD Warning	Refer to Table 10	
TH701	EWT Thermistor Failure (TH1)	Temp. sensor damage, wiring failure, motherboard channel damage, wire/cable damage, or short circuit/open circuit	Replace the temp. sensor, check the wiring/motherboard
TH702	LWT Thermistor Failure (TH2)		
TH703	Defrost Thermistor Failure (A)		
TH704	Defrost Thermistor Failure (B)		
TH705	OAT Thermistor Failure (TH4)		
TH706	ST Thermistor Failure (A)(TH5)		
TH707	ST Thermistor Failure (B)(TH5)		
TH709	DT Thermistor Failure (A1)(TH7)		
TH710	DT Thermistor Failure (A2)(TH8)		
TH711	DT Thermistor Failure (B1)(TH7)		
TH715	Eco Discharge Thermistor Failure (A1)		

Table 27 — ODU Controller Alarm Code and Fault Analysis (cont)

FAULT CODE	FAULT DESCRIPTION	FAULT ANALYSIS	SOLUTION
TH716	Eco Discharge Thermistor Failure (A2)	Temp. sensor damage, wiring failure, motherboard channel damage, wire/cable damage, or short circuit/open circuit	Replace the temp. sensor, check the wiring/motherboard
TH717	Eco Discharge Thermistor Failure (B1)		
TH718	Eco Discharge Thermistor Failure (B2)		
TH719	Oil Thermistor Failure (TH8)		
TH720	HOT EWT Thermistor Failure (TH1)		
TH721	HOT LWT Thermistor Failure (TH2)		
TH722	Tank Thermistor Failure (TH6)		
PR731	Suction Pressure Sensor Failure (A)(PR1)	Pressure sensor damage or wiring fault	Replace the pressure sensor, check the line
PR732	Suction Pressure Sensor Failure (B)(PR1)		
PR733	Discharge Pressure Sensor Failure (A)(PR2)		
PR734	Discharge Pressure Sensor Failure (B)(PR2)		
PR735	ECO Suction Pressure Sensor Failure (A1)(PR3)		
PR736	ECO Suction Pressure Sensor Failure (A2)(PR4)		
SW752	External Interlock Failure	External interlocked hardware failure	Check external interlock components
SW753	Water flow abnormal, please check switch or clean filter	Filter/water circuit blockage, pump fault, flow switch fault	Check the water system flow, clean the filter, check the water pipeline for pollution and blockage, replace the pump/flow switch
SW754	Discharge Pressure Switch Failure (A)	Heat exchanger blockage, fan fault, excessive cooling medium, high pressure switch damage	Clear the objects blocking the heat exchange area of the heat exchanger, check the fan wiring/replace the fan, release the cooling medium, replace the high-pressure switch
SW755	Discharge Pressure Switch Failure (B)		
SW758	Water Pump 1# Overload Failure	Water circuit solenoid valve of the system is not open, or pump fails	Check solenoid valve and pump of the water system
SW759	Water Pump 2# Overload Failure		
SW760	Compressor A1 Overload Failure	Compressor wiring fault	Check compressor wiring
SW761	Compressor A2 Overload Failure		
SW762	Compressor B1 Overload Failure		
SW763	Compressor B2 Overload Failure		
SW764	Fan(s) Overload Failure	FCU blockage, fan wiring fault	Clear the objects blocking the heat exchange area of the heat exchanger, check fan wiring
SW765	Fan 2# Overload Failure		
SW766	Compressor A1 Contactor Output ON Failure	Contactor damage or incorrect wiring	Check contactor and corresponding wiring
SW767	Compressor A2 Contactor Output ON Failure		
SW768	Compressor B1 Contactor Output ON Failure		
SW769	Compressor B2 Contactor Output ON Failure		
SW770	Compressor A1 Contactor Output OFF Failure		
SW771	Compressor A2 Contactor Output OFF Failure		
SW772	Compressor B1 Contactor Output OFF Failure		
SW773	Compressor B2 Contactor Output OFF Failure		
SW774	Hot Flowrate Switch Failure	Filter/water circuit blockage, pump fault, flow switch fault	Check the water system flow, clean the filter, check the water pipeline for pollution and blockage, replace the pump/flow switch
SW775	Hot Water Pump Overload Failure	Water circuit solenoid valve of the hot water system is not open, or pump fails	Check solenoid valve and pump of the water system
WT781	LWT Too Low Failure	Low water flow in cooling mode	Check water system flow and clean the filter
WT782	LWT Too High Failure		
WT783	Heat Mode EWT Too Low Failure		

Table 27 — ODU Controller Alarm Code and Fault Analysis (cont)

FAULT CODE	FAULT DESCRIPTION	FAULT ANALYSIS	SOLUTION
WT784	EWT And LWT Sensor Installation Reverse	Inlet and outlet water temp. sensors installed in reverse, four-way valve fault (heating mode), compressor fault	Check if the inlet and outlet water temp. sensors are correctly installed, check the four-way valve, check if the compressor is running normally
WT785	Water Flow Too Low Failure	Water pump failure or water system blockage	Check water system flow and clean the filter
WT786	Heat Mode Water Temp MAP Protection	Sensor fault or out of operation range	Check sensor and system operation range
WT787	BPHE Antifreeze Protection	Low water flow in cooling mode	Check water system flow and clean the filter
WT788	Heat Reclaim BPHE Antifreeze Protection	Low water flow	Check water system flow and clean the filter
WT789	Hot Water EWT Too Low Failure	Low sensor temp.	Check sensor and water system
WT790	Hot Water LWT Too Low Failure		
WP801	Auto Delta P Setpoint Failure	System pump failure or water system fault	Check water system and pump operation status
WP802	Outdoor Pressure Difference is not established	Sensor damage or water pump failure	Check sensor or system operation status
WP803	Water Pressure Sensor Calibration Failure	Pressure sensor damage or test channel port damage	Check sensor and corresponding wiring and port
WP804	Filter Malfunction	Polluted or blocked system or water system failure	Check and clean water line or check pump operation status
RT821	Defrost Temp Too High Failure (A)	Improperly installed defrost Tempe. sensor, excessive cooling medium, heat exchanger blockage, fan failure	Check the placement position of defrost temp. sensor, clear the objects blocking the heat exchange area of the heat exchanger, check fan wiring, check the charge amount of cooling medium
RT822	Defrost Temp Too High Failure (B)	Improperly installed defrost Tempe. sensor, excessive cooling medium, heat exchanger blockage, fan failure	Check the placement position of defrost temp. sensor, clear the objects blocking the heat exchange area of the heat exchanger, check fan wiring, check the charge amount of cooling medium
RT823	Compressor A1 Discharge Temperature Too High	Heat exchanger blockage, fan fault, excessive cooling medium	Clear the objects blocking the heat exchange area of the heat exchanger, check fan wiring, check the charge amount of cooling medium
RT824	Compressor A2 Discharge Temperature Too High		
RT825	Compressor B1 Discharge Temperature Too High		
RT826	Compressor B2 Discharge Temperature Too High		
RT827	Compressor A1 Discharge Super Heat Too Low	Low water flow, EXV not open, insufficient cooling medium, heat exchanger blockage, suction temp. sensor failure	Check water system flow, clean the filter, check EXV and heat exchanger, check suction temperature sensor, check for leaks and add appropriate amount of cooling medium
RT828	Compressor A2 Discharge Super Heat Too Low		
RT829	Compressor B1 Discharge Super Heat Too Low		
RT830	Compressor B2 Discharge Super Heat Too Low		
RT831	Heat Cool Mode SST Too Low (A)	Low water flow, EXV not open, insufficient cooling medium, heat exchanger blockage, suction temp. sensor failure	Check water system flow, clean the filter, check EXV and heat exchanger, check suction temperature sensor, check for leaks and add appropriate amount of cooling medium
RT832	Heat Cool Mode SST Too Low (B)		
RT833	SDT Too High Failure (A)	Heat exchanger blockage, fan fault, EXV fault, excessive cooling medium	Clear the objects blocking the heat exchange area of the heat exchanger, check fan wiring, check EXV, release proper amount of cooling medium
RT834	SDT Too High Failure (B)		
RT835	SDT Too Low Failure (A)	Insufficient cooling medium, improperly installed exhaust temp. sensor, EXV fault	Check for leaks and add proper amount of cooling medium, check the installation of exhaust temp. sensor, check EXV
RT836	SDT Too Low Failure (B)		
RT837	SST Too Low Failure (A)	Heat exchanger blockage, fan fault, EXV fault, insufficient cooling medium, suction temp. sensor fault	Clear the objects blocking the heat exchange area of the heat exchanger, check fan, EXV and suction temp. sensor, check for leaks, and add proper amount of cooling medium
RT838	SST Too Low Failure (B)		

Table 27 — ODU Controller Alarm Code and Fault Analysis (cont)

FAULT CODE	FAULT DESCRIPTION	FAULT ANALYSIS	SOLUTION
RT839	SST Too High Failure (A)	EXV fault, improperly installed suction temp. sensor, excessive cooling medium, four-way valve leak (heating mode)	Check EXV, installation position of suction temp. sensor, charge amount of cooling medium, and four-way valve
RT840	SST Too High Failure (B)		
RT841	Eco ST and DT Sensor Installation Reverse (A)	Sensor wired in reverse	Check sensor position and electric control board wiring port
RT842	Eco ST and DT Sensor Installation Reverse (B)		
RP851	OAT Out Of Limit	Actual operating range of the unit out of the promised operating range, improperly installed ambient temp. sensor	Do not start the unit out of its operating range, check the installation of the ambient temp. sensor
RP852	SP Too Low Failure (A)	Heat exchanger blockage, low water flow, fan fault, EXV fault, insufficient cooling medium	Check heat exchanger, water system, fan and EXV
RP853	SP Too Low Failure (B)		
RP854	SP Too High Failure (A)	High water temp. cooling startup, excessive cooling medium	Check water system and EXV
RP855	SP Too High Failure (B)		
RP856	DP Too High Failure (A)	Excessive cooling medium, heat exchanger blockage, fan fault, EXV fault	Release proper amount of cooling medium, clear the objects blocking the heat exchange area of the heat exchanger, check fan wiring, check EXV
RP857	DP Too High Failure (B)		
RP858	DP/SP Ratio High (A)	Excessive cooling medium, EXV fault	Release proper amount of cooling medium, check EXV
RP859	DP/SP Ratio High (B)		
RP860	Comp A1 Delta Pressure Establish Failure	Compressor fault, insufficient cooling medium, four-way valve stuck	Check compressor and four-way valve, check for leaks and add cooling medium
RP861	Comp A2 Delta Pressure Establish Failure		
RP862	Comp B1 Delta Pressure Establish Failure		
RP863	Comp B2 Delta Pressure Establish Failure		
RP864	DP/SP Ratio Low (A)	Compressor fault, four-way valve fault, hot gas bypass fault	Check compressor, four-way valve and hot gas bypass valve
RP865	DP/SP Ratio Low (B)		
RP866	Eco suction pressure high (A1)	Excessive cooling medium, economizer expansion valve opening too large	Check economizer expansion valve and system filling amount
RP867	Eco suction pressure high (A2)		
AC881	System Failure	The system needs to be shut down as the following alarms occur: 1. Hydraulic module fault shutdown 2. System configuration error, etc.	Handle according to the specific cause of the system operation alarm
AC883	Service Maintenance Warning	Routine maintenance prompt for long operating cycle	Clean and maintain the hydraulic module
AC884	EXV Lost Step Failure (A)	EXV fault, drive line disconnected	Check EXV and drive circuit
AC885	EXV Lost Step Failure (B)		
AC886	Refrigerant Leak Alarm (A)	Cooling medium leak, insufficient cooling medium	Check for leaks and add cooling medium
AC887	Refrigerant Leak Alarm (B)		
AC888	RV Action Failure (A)	System high and low pressure not established, four-way valve fault	Check four-way valve, check if the compressor is running
AC889	RV Action Failure (B)	System high and low pressure not established, four-way valve fault	Check four-way valve, check if the compressor is running
AC890	Circle A unit alarm to Circle B	Hot water mode coil frosting	Check ambient temp. sensor and application range
AC893	Circle A Potential Oil Loss	Forced alarm triggered by system, causing failure to run at oil return frequency	Check the specific cause of the system operation alarm record and handle
AC894	Circle B Potential Oil Loss		
AC895	System Pump block due to all ODU flow switch alarm	System water pump alarm lock	Check system water pump

Table 28 — Fan Alarm Code and Fault Analysis

FAULT CODE		FAULT DESCRIPTION	FAULT ANALYSIS	SOLUTION
VF301	VF401	VFD Failure: DC Under Voltage	Hardware overcurrent or short circuit, immediate stop of driver, short circuit fault reported. Locked for 5 consecutive times.	Check motor for burnout. Power on again and change the module if it still fails.
VF302	VF402	VFD Failure: DC Over Voltage	In case of motor stalling, driver stops automatically, and fault is cleared automatically after 1 minute. For 3 times of stalling, fault is cleared after waiting 10 minutes. For 6 times, fault is cleared after waiting 1 hour.	Check if fan blade is stuck. Power on again and change the motor if it still fails.
VF303	VF403	VFD Failure: AC Current Protect (Input)	Module temp. sensor fault detected. Output stopped.	Power on again and change the module if it still fails.
VF304	VF404	VFD Failure: IPM Error	Module overheat	Check driver for cooling and ventilation
VF305	VF405	VFD Failure: PFC Error	Input voltage out of limit, module damage	Check input voltage and change the module if it still fails.
VF306	VF406	VFD Failure: Startup Failed	Input voltage out of limit, module damage	Check input voltage and change the module if it still fails.
VF307	VF407	VFD Failure: Mains Phase Loss	Output phase loss fault is reported as driver output line not connected to motor. Power on again to clear the fault.	Check three lines of the motor for correct connection with the driver.
VF308	VF408	VFD Failure: Drivers Rest	Input phase loss fault is reported as driver Input line not connected to motor. Power on again to clear the fault.	Check three lines of the motor for correct connection with the driver.
VF309	VF409	VFD Failure: Current Limit	Driver output current out of limit	Check if the unit runs normally. Power on again and change the driver if it still fails.
VF310	VF410	VFD Failure: PFC Temperature High	Communication fault	Check communication wiring. Power on again and change the driver if it still fails.
VF311	VF411	VFD Failure: Circuit malfunction	Bus imbalance	Check input voltage and change the module if it still fails.
VF312	VF412	VFD Failure: Out Of Step	Low input voltage	Check input voltage and change the module if it still fails.
VF313	VF413	VFD Failure: PFC Temperature Sensor Error	High input voltage	Check input voltage and change the module if it still fails.
VF314	VF414	VFD Failure: Communication Timeout	TP1 or TP2 input fault signal, driver stop	Power on again and change the driver if it still fails.
VF315	VF415	VFD Failure: IPM Temperature High	Normal R/W of EEPROM is unavailable	Power on again and change the driver if it still fails.
VF316	VF416	VFD Failure: IPM Temperature Sensor Error	Failed communication between Master and Slave control chips	Power on again and change the driver if it still fails.
VF317	VF417	VFD Failure: EEPROM Error	Ambient temp. is too high	Check driver for cooling and ventilation
VF318	VF418	VFD Failure: Drivers Debug Data1	Ambient temp. sensor fault detected. Output stopped.	Power on again and change the driver if it still fails.
VF319	VF419	VFD Failure: Drivers Debug Data2	External temp. sensor fault detected.	Power on again and change the driver if it still fails.
VF320	VF420	VFD Failure: AC Input Voltage Error	Current detection circuit fault	Power on again and change the driver if it still fails.
VF321	VF421	VFD Failure: Drivers Debug Data3	Detection started at 2% and higher rated rpm: counting started when output voltage is lower than 80% back EMF voltage corresponding to current frequency, and such fault triggered when the count is larger than 200 ms	
VF322	VF422	VFD Failure: HPS Protect	STO1 or STO2 disconnected	Check fan and finned heat exchanger

Table 29 — Compressor Alarm Code and Fault Analysis

FAULT CODE		FAULT DESCRIPTION	FAULT ANALYSIS	SOLUTION
System A	System B			
VF101	VF201	VFD Failure: DC Under Voltage	Triggered when bus voltage ripple is over 90V for 10s	Check voltage fluctuation
VF102	VF202	VFD Failure: DC Over Voltage	A07 triggered immediately when bus voltage is over 800V; E07 is triggered when this lasts for 7s	Check supply voltage
VF103	VF203	VFD Failure: AC Current Protect (Input)	A08 triggered immediately when bus voltage is below 372V; E08 is triggered when this lasts for 14s	Check supply voltage
VF104	VF204	VFD Failure: IPM Error	A09 triggered when current is over 150% rated motor current, driver's heat load parameter C1635 increases continuously and C1635 is over 90%; E09 triggered when C1635 is up to 100%	
VF105	VF205	VFD Failure: PFC Error	A09 triggered when it is over the set motor load (P192), motor's heat load parameter C1618 increases continuously and C1635 is over 90%; E09 triggered when it is up to 100%	
VF106	VF206	VFD Failure: Startup Failed	A12 triggered when VFD is overrated torque, E12 disabled by default	
VF107	VF207	VFD Failure: Mains Phase Loss	Peak phase-to-phase current is detected to be 220% rated RMS current during startup, which remains valid for 5 pulse detection cycles, and driver-to-ground short circuit signal is sent to MCU	
VF108	VF208	VFD Failure: Drivers Rest	Peak driver-to-ground current is detected to be 100% rated RMS current during startup, which remains for 2 pulse detection cycles, and driver-to-ground short circuit signal is sent to MCU	Check wiring
VF109	VF209	VFD Failure: Current Limit	Peak driver-to-ground current is detected to be 100% rated RMS current during startup, which remains for 2 pulse detection cycles, and driver-to-ground short circuit signal is sent to MCU	Check wiring
VF110	VF210	VFD Failure: PFC Temperature High	Communication timeout period over the set value in C08.03	Check communication wiring
VF111	VF211	VFD Failure: Circuit malfunction	Failure to speed up to C01.77 rpm within the time of C01.79 after receiving startup signal	Check for liquid slugging during startup and startup differential pressure
VF112	VF212	VFD Failure: Out Of Step	Output phase U loss, triggered when it lasts for 10s	Check wiring
VF113	VF213	VFD Failure: PFC Temperature Sensor Error	Output phase V loss, triggered when it lasts for 10s	Check wiring
VF114	VF214	VFD Failure: Communication Timeout	Output phase W loss, triggered when it lasts for 10s	Check wiring
VF115	VF215	VFD Failure: IPM Temperature High	Hardware: internal EEPROM chip damage, hardware circuit fault	Check circuit power supply
VF116	VF216	VFD Failure: IPM Temperature Sensor Error	3 conditions: rpm lower than the set value of C01.86, output current higher than the set value of C04.18, lasting for 2s	
VF117	VF217	VFD Failure: EEPROM Error	A59 triggered when output current is higher than the rating of C04.18*, E59 disabled by default	
VF118	VF218	VFD Failure: Drivers Debug Data1	IGBT temp. is lower than -40?	
VF119	VF219	VFD Failure: Drivers Debug Data2	STO1 and STO2 are disconnected	Check fan and finned heat exchanger
VF120	VF220	VFD Failure: AC Input Voltage Error	IGBT temp. is higher than 120?	
VF121	VF221	VFD Failure: Drivers Debug Data3	Detection started at 2% and higher rated rpm: counting started when output voltage is lower than 80% back EMF voltage corresponding to current frequency, and such fault triggered when the count is larger than 200 ms	
VF122	VF222	VFD Failure: HPS Protect	STO1 or STO2 disconnected	Check fan and finned heat exchanger

APPENDIX A — BACNET MSTP

Table A — BACnet Point Names

OBJECT NAME	DATABASE ALIAS NAME	TYPE	INSTANCE	LOW LIMIT	HIGH LIMIT	OPTION	COVIN	PV ACCESS	DESCRIPTION
OD01MONI_ARM_1C_1	OD01MONI_ARM_1C_1	AV	10	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_1C_2	OD01MONI_ARM_1C_2	AV	11	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_1C_3	OD01MONI_ARM_1C_3	AV	12	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_1C_4	OD01MONI_ARM_1C_4	AV	13	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_2C_1	OD01MONI_ARM_2C_1	AV	14	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_2C_2	OD01MONI_ARM_2C_2	AV	15	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_2C_3	OD01MONI_ARM_2C_3	AV	16	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_2C_4	OD01MONI_ARM_2C_4	AV	17	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_3C_1	OD01MONI_ARM_3C_1	AV	18	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_3C_2	OD01MONI_ARM_3C_2	AV	19	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_3C_3	OD01MONI_ARM_3C_3	AV	20	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_3C_4	OD01MONI_ARM_3C_4	AV	21	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_4C_1	OD01MONI_ARM_4C_1	AV	22	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_4C_2	OD01MONI_ARM_4C_2	AV	23	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_4C_3	OD01MONI_ARM_4C_3	AV	24	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_4C_4	OD01MONI_ARM_4C_4	AV	25	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_5C_1	OD01MONI_ARM_5C_1	AV	26	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_5C_2	OD01MONI_ARM_5C_2	AV	27	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_5C_3	OD01MONI_ARM_5C_3	AV	28	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_ARM_5C_4	OD01MONI_ARM_5C_4	AV	29	0	0	Type 6	0	RO	Current Alarm Part
OD01MONI_COMP_A1	OD01MONI_COMP_A1	MV	6	0	2	Type 5	0	RO	Compressor A1 Status
OD01MONI_COMP_A2	OD01MONI_COMP_A2	MV	7	0	2	Type 5	0	RO	Compressor A2 Status
OD01MONI_COMP_B1	OD01MONI_COMP_B1	MV	8	0	2	Type 5	0	RO	Compressor B1 Status
OD01MONI_COMP_B2	OD01MONI_COMP_B2	MV	9	0	2	Type 5	0	RO	Compressor B2 Status
OD01MONI_EWT	OD01MONI_EWT	AV	8	0	0	Type 6	0	RO	Entering Water Temp
OD01MONI_LWT	OD01MONI_LWT	AV	9	0	0	Type 6	0	RO	Leaving Water Temp
OD01MONI_ODU_ALM	OD01MONI_ODU_ALM	MV	5	0	2	Type 5	0	RO	Odu Alarm
OD01MONI_ODU_HC	OD01MONI_ODU_HC	MV	4	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD01MONI_ODU_S_S	OD01MONI_ODU_S_S	BV	2	0	1	Type 4	0	RO	Odu Start Or Stop
OD02MONI_ARM_1C_1	OD02MONI_ARM_1C_1	AV	32	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_1C_2	OD02MONI_ARM_1C_2	AV	33	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_1C_3	OD02MONI_ARM_1C_3	AV	34	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_1C_4	OD02MONI_ARM_1C_4	AV	35	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_2C_1	OD02MONI_ARM_2C_1	AV	36	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_2C_2	OD02MONI_ARM_2C_2	AV	37	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_2C_3	OD02MONI_ARM_2C_3	AV	38	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_2C_4	OD02MONI_ARM_2C_4	AV	39	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_3C_1	OD02MONI_ARM_3C_1	AV	40	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_3C_2	OD02MONI_ARM_3C_2	AV	41	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_3C_3	OD02MONI_ARM_3C_3	AV	42	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_3C_4	OD02MONI_ARM_3C_4	AV	43	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_4C_1	OD02MONI_ARM_4C_1	AV	44	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_4C_2	OD02MONI_ARM_4C_2	AV	45	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_4C_3	OD02MONI_ARM_4C_3	AV	46	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_4C_4	OD02MONI_ARM_4C_4	AV	47	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_5C_1	OD02MONI_ARM_5C_1	AV	48	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_5C_2	OD02MONI_ARM_5C_2	AV	49	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_5C_3	OD02MONI_ARM_5C_3	AV	50	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_ARM_5C_4	OD02MONI_ARM_5C_4	AV	51	0	0	Type 6	0	RO	Current Alarm Part
OD02MONI_COMP_A1	OD02MONI_COMP_A1	MV	12	0	2	Type 5	0	RO	Compressor A1 Status
OD02MONI_COMP_A2	OD02MONI_COMP_A2	MV	13	0	2	Type 5	0	RO	Compressor A2 Status
OD02MONI_COMP_B1	OD02MONI_COMP_B1	MV	14	0	2	Type 5	0	RO	Compressor B1 Status
OD02MONI_COMP_B2	OD02MONI_COMP_B2	MV	15	0	2	Type 5	0	RO	Compressor B2 Status
OD02MONI_EWT	OD02MONI_EWT	AV	30	0	0	Type 6	0	RO	Entering Water Temp
OD02MONI_LWT	OD02MONI_LWT	AV	31	0	0	Type 6	0	RO	Leaving Water Temp
OD02MONI_ODU_ALM	OD02MONI_ODU_ALM	MV	11	0	2	Type 5	0	RO	Odu Alarm
OD02MONI_ODU_HC	OD02MONI_ODU_HC	MV	10	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD02MONI_ODU_S_S	OD02MONI_ODU_S_S	BV	3	0	1	Type 4	0	RO	Odu Start Or Stop
OD03MONI_ARM_1C_1	OD03MONI_ARM_1C_1	AV	54	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_1C_2	OD03MONI_ARM_1C_2	AV	55	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_1C_3	OD03MONI_ARM_1C_3	AV	56	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_1C_4	OD03MONI_ARM_1C_4	AV	57	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_2C_1	OD03MONI_ARM_2C_1	AV	58	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_2C_2	OD03MONI_ARM_2C_2	AV	59	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_2C_3	OD03MONI_ARM_2C_3	AV	60	0	0	Type 6	0	RO	Current Alarm Part

APPENDIX A — BACnet MSTP (cont)

Table A — BACnet Point Names (cont)

OBJECT NAME	DATABASE ALIAS NAME	TYPE	INSTANCE	LOW LIMIT	HIGH LIMIT	OPTION	COVIN	PV ACCESS	DESCRIPTION
OD03MONI_ARM_2C_4	OD03MONI_ARM_2C_4	AV	61	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_3C_1	OD03MONI_ARM_3C_1	AV	62	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_3C_2	OD03MONI_ARM_3C_2	AV	63	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_3C_3	OD03MONI_ARM_3C_3	AV	64	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_3C_4	OD03MONI_ARM_3C_4	AV	65	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_4C_1	OD03MONI_ARM_4C_1	AV	66	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_4C_2	OD03MONI_ARM_4C_2	AV	67	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_4C_3	OD03MONI_ARM_4C_3	AV	68	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_4C_4	OD03MONI_ARM_4C_4	AV	69	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_5C_1	OD03MONI_ARM_5C_1	AV	70	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_5C_2	OD03MONI_ARM_5C_2	AV	71	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_5C_3	OD03MONI_ARM_5C_3	AV	72	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_ARM_5C_4	OD03MONI_ARM_5C_4	AV	73	0	0	Type 6	0	RO	Current Alarm Part
OD03MONI_COMP_A1	OD03MONI_COMP_A1	MV	18	0	2	Type 5	0	RO	Compressor A1 Status
OD03MONI_COMP_A2	OD03MONI_COMP_A2	MV	19	0	2	Type 5	0	RO	Compressor A2 Status
OD03MONI_COMP_B1	OD03MONI_COMP_B1	MV	20	0	2	Type 5	0	RO	Compressor B1 Status
OD03MONI_COMP_B2	OD03MONI_COMP_B2	MV	21	0	2	Type 5	0	RO	Compressor B2 Status
OD03MONI_EWT	OD03MONI_EWT	AV	52	0	0	Type 6	0	RO	Entering Water Temp
OD03MONI_LWT	OD03MONI_LWT	AV	53	0	0	Type 6	0	RO	Leaving Water Temp
OD03MONI_ODU_ALM	OD03MONI_ODU_ALM	MV	17	0	2	Type 5	0	RO	Odu Alarm
OD03MONI_ODU_HC	OD03MONI_ODU_HC	MV	16	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD03MONI_ODU_S_S	OD03MONI_ODU_S_S	BV	4	0	1	Type 4	0	RO	Odu Start Or Stop
OD04MONI_ARM_1C_1	OD04MONI_ARM_1C_1	AV	76	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_1C_2	OD04MONI_ARM_1C_2	AV	77	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_1C_3	OD04MONI_ARM_1C_3	AV	78	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_1C_4	OD04MONI_ARM_1C_4	AV	79	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_2C_1	OD04MONI_ARM_2C_1	AV	80	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_2C_2	OD04MONI_ARM_2C_2	AV	81	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_2C_3	OD04MONI_ARM_2C_3	AV	82	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_2C_4	OD04MONI_ARM_2C_4	AV	83	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_3C_1	OD04MONI_ARM_3C_1	AV	84	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_3C_2	OD04MONI_ARM_3C_2	AV	85	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_3C_3	OD04MONI_ARM_3C_3	AV	86	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_3C_4	OD04MONI_ARM_3C_4	AV	87	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_4C_1	OD04MONI_ARM_4C_1	AV	88	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_4C_2	OD04MONI_ARM_4C_2	AV	89	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_4C_3	OD04MONI_ARM_4C_3	AV	90	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_4C_4	OD04MONI_ARM_4C_4	AV	91	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_5C_1	OD04MONI_ARM_5C_1	AV	92	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_5C_2	OD04MONI_ARM_5C_2	AV	93	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_5C_3	OD04MONI_ARM_5C_3	AV	94	0	0	Type 6	0	RO	Current Alarm Part
OD04MONI_ARM_5C_4	OD04MONI_ARM_5C_4	AV	95	0	0	Type 6	0	RO	current alarm part
OD04MONI_COMP_A1	OD04MONI_COMP_A1	MV	24	0	2	Type 5	0	RO	Compressor A1 Status
OD04MONI_COMP_A2	OD04MONI_COMP_A2	MV	25	0	2	Type 5	0	RO	Compressor A2 Status
OD04MONI_COMP_B1	OD04MONI_COMP_B1	MV	26	0	2	Type 5	0	RO	Compressor B1 Status
OD04MONI_COMP_B2	OD04MONI_COMP_B2	MV	27	0	2	Type 5	0	RO	Compressor B2 Status
OD04MONI_EWT	OD04MONI_EWT	AV	74	0	0	Type 6	0	RO	Entering Water Temp
OD04MONI_LWT	OD04MONI_LWT	AV	75	0	0	Type 6	0	RO	Leaving Water Temp
OD04MONI_ODU_ALM	OD04MONI_ODU_ALM	MV	23	0	2	Type 5	0	RO	Odu Alarm
OD04MONI_ODU_HC	OD04MONI_ODU_HC	MV	22	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD04MONI_ODU_S_S	OD04MONI_ODU_S_S	BV	5	0	1	Type 4	0	RO	Odu Start Or Stop
OD05MONI_ARM_1C_1	OD05MONI_ARM_1C_1	AV	98	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_1C_2	OD05MONI_ARM_1C_2	AV	99	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_1C_3	OD05MONI_ARM_1C_3	AV	100	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_1C_4	OD05MONI_ARM_1C_4	AV	101	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_2C_1	OD05MONI_ARM_2C_1	AV	102	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_2C_2	OD05MONI_ARM_2C_2	AV	103	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_2C_3	OD05MONI_ARM_2C_3	AV	104	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_2C_4	OD05MONI_ARM_2C_4	AV	105	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_3C_1	OD05MONI_ARM_3C_1	AV	106	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_3C_2	OD05MONI_ARM_3C_2	AV	107	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_3C_3	OD05MONI_ARM_3C_3	AV	108	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_3C_4	OD05MONI_ARM_3C_4	AV	109	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_4C_1	OD05MONI_ARM_4C_1	AV	110	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_4C_2	OD05MONI_ARM_4C_2	AV	111	0	0	Type 6	0	RO	Current Alarm Part

APPENDIX A — BACnet MSTP (cont)

Table A — BACnet Point Names (cont)

OBJECT NAME	DATABASE ALIAS NAME	TYPE	INSTANCE	LOW LIMIT	HIGH LIMIT	OPTION	COVIN	PV ACCESS	DESCRIPTION
OD05MONI_ARM_4C_3	OD05MONI_ARM_4C_3	AV	112	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_4C_4	OD05MONI_ARM_4C_4	AV	113	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_5C_1	OD05MONI_ARM_5C_1	AV	114	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_5C_2	OD05MONI_ARM_5C_2	AV	115	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_5C_3	OD05MONI_ARM_5C_3	AV	116	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_ARM_5C_4	OD05MONI_ARM_5C_4	AV	117	0	0	Type 6	0	RO	Current Alarm Part
OD05MONI_COMP_A1	OD05MONI_COMP_A1	MV	30	0	2	Type 5	0	RO	Compressor A1 Status
OD05MONI_COMP_A2	OD05MONI_COMP_A2	MV	31	0	2	Type 5	0	RO	Compressor A2 Status
OD05MONI_COMP_B1	OD05MONI_COMP_B1	MV	32	0	2	Type 5	0	RO	Compressor B1 Status
OD05MONI_COMP_B2	OD05MONI_COMP_B2	MV	33	0	2	Type 5	0	RO	Compressor B2 Status
OD05MONI_EWT	OD05MONI_EWT	AV	96	0	0	Type 6	0	RO	Entering Water Temp
OD05MONI_LWT	OD05MONI_LWT	AV	97	0	0	Type 6	0	RO	Leaving Water Temp
OD05MONI_ODU_ALM	OD05MONI_ODU_ALM	MV	29	0	2	Type 5	0	RO	Odu Alarm
OD05MONI_ODU_HC	OD05MONI_ODU_HC	MV	28	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD05MONI_ODU_S_S	OD05MONI_ODU_S_S	BV	6	0	1	Type 4	0	RO	Odu Start Or Stop
OD06MONI_ARM_1C_1	OD06MONI_ARM_1C_1	AV	120	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_1C_2	OD06MONI_ARM_1C_2	AV	121	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_1C_3	OD06MONI_ARM_1C_3	AV	122	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_1C_4	OD06MONI_ARM_1C_4	AV	123	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_2C_1	OD06MONI_ARM_2C_1	AV	124	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_2C_2	OD06MONI_ARM_2C_2	AV	125	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_2C_3	OD06MONI_ARM_2C_3	AV	126	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_2C_4	OD06MONI_ARM_2C_4	AV	127	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_3C_1	OD06MONI_ARM_3C_1	AV	128	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_3C_2	OD06MONI_ARM_3C_2	AV	129	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_3C_3	OD06MONI_ARM_3C_3	AV	130	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_3C_4	OD06MONI_ARM_3C_4	AV	131	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_4C_1	OD06MONI_ARM_4C_1	AV	132	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_4C_2	OD06MONI_ARM_4C_2	AV	133	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_4C_3	OD06MONI_ARM_4C_3	AV	134	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_4C_4	OD06MONI_ARM_4C_4	AV	135	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_5C_1	OD06MONI_ARM_5C_1	AV	136	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_5C_2	OD06MONI_ARM_5C_2	AV	137	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_5C_3	OD06MONI_ARM_5C_3	AV	138	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_ARM_5C_4	OD06MONI_ARM_5C_4	AV	139	0	0	Type 6	0	RO	Current Alarm Part
OD06MONI_COMP_A1	OD06MONI_COMP_A1	MV	36	0	2	Type 5	0	RO	Compressor A1 Status
OD06MONI_COMP_A2	OD06MONI_COMP_A2	MV	37	0	2	Type 5	0	RO	Compressor A2 Status
OD06MONI_COMP_B1	OD06MONI_COMP_B1	MV	38	0	2	Type 5	0	RO	Compressor B1 Status
OD06MONI_COMP_B2	OD06MONI_COMP_B2	MV	39	0	2	Type 5	0	RO	Compressor B2 Status
OD06MONI_EWT	OD06MONI_EWT	AV	118	0	0	Type 6	0	RO	Entering Water Temp
OD06MONI_LWT	OD06MONI_LWT	AV	119	0	0	Type 6	0	RO	Leaving Water Temp
OD06MONI_ODU_ALM	OD06MONI_ODU_ALM	MV	35	0	2	Type 5	0	RO	Odu Alarm
OD06MONI_ODU_HC	OD06MONI_ODU_HC	MV	34	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD06MONI_ODU_S_S	OD06MONI_ODU_S_S	BV	7	0	1	Type 4	0	RO	Odu Start Or Stop
OD07MONI_ARM_1C_1	OD07MONI_ARM_1C_1	AV	142	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_1C_2	OD07MONI_ARM_1C_2	AV	143	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_1C_3	OD07MONI_ARM_1C_3	AV	144	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_1C_4	OD07MONI_ARM_1C_4	AV	145	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_2C_1	OD07MONI_ARM_2C_1	AV	146	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_2C_2	OD07MONI_ARM_2C_2	AV	147	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_2C_3	OD07MONI_ARM_2C_3	AV	148	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_2C_4	OD07MONI_ARM_2C_4	AV	149	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_3C_1	OD07MONI_ARM_3C_1	AV	150	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_3C_2	OD07MONI_ARM_3C_2	AV	151	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_3C_3	OD07MONI_ARM_3C_3	AV	152	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_3C_4	OD07MONI_ARM_3C_4	AV	153	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_4C_1	OD07MONI_ARM_4C_1	AV	154	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_4C_2	OD07MONI_ARM_4C_2	AV	155	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_4C_3	OD07MONI_ARM_4C_3	AV	156	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_4C_4	OD07MONI_ARM_4C_4	AV	157	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_5C_1	OD07MONI_ARM_5C_1	AV	158	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_5C_2	OD07MONI_ARM_5C_2	AV	159	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_5C_3	OD07MONI_ARM_5C_3	AV	160	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_ARM_5C_4	OD07MONI_ARM_5C_4	AV	161	0	0	Type 6	0	RO	Current Alarm Part
OD07MONI_COMP_A1	OD07MONI_COMP_A1	MV	42	0	2	Type 5	0	RO	Compressor A1 Status

APPENDIX A — BACnet MSTP (cont)

Table A — BACnet Point Names (cont)

OBJECT NAME	DATABASE ALIAS NAME	TYPE	INSTANCE	LOW LIMIT	HIGH LIMIT	OPTION	COVIN	PV ACCESS	DESCRIPTION
OD07MONI_COMP_A2	OD07MONI_COMP_A2	MV	43	0	2	Type 5	0	RO	Compressor A2 Status
OD07MONI_COMP_B1	OD07MONI_COMP_B1	MV	44	0	2	Type 5	0	RO	Compressor B1 Status
OD07MONI_COMP_B2	OD07MONI_COMP_B2	MV	45	0	2	Type 5	0	RO	Compressor B2 Status
OD07MONI_EWT	OD07MONI_EWT	AV	140	0	0	Type 6	0	RO	Entering Water Temp
OD07MONI_LWT	OD07MONI_LWT	AV	141	0	0	Type 6	0	RO	Leaving Water Temp
OD07MONI_ODU_ALM	OD07MONI_ODU_ALM	MV	41	0	2	Type 5	0	RO	Odu Alarm
OD07MONI_ODU_HC	OD07MONI_ODU_HC	MV	40	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD07MONI_ODU_S_S	OD07MONI_ODU_S_S	BV	8	0	1	Type 4	0	RO	Odu Start Or Stop
OD08MONI_ARM_1C_1	OD08MONI_ARM_1C_1	AV	164	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_1C_2	OD08MONI_ARM_1C_2	AV	165	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_1C_3	OD08MONI_ARM_1C_3	AV	166	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_1C_4	OD08MONI_ARM_1C_4	AV	167	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_2C_1	OD08MONI_ARM_2C_1	AV	168	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_2C_2	OD08MONI_ARM_2C_2	AV	169	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_2C_3	OD08MONI_ARM_2C_3	AV	170	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_2C_4	OD08MONI_ARM_2C_4	AV	171	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_3C_1	OD08MONI_ARM_3C_1	AV	172	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_3C_2	OD08MONI_ARM_3C_2	AV	173	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_3C_3	OD08MONI_ARM_3C_3	AV	174	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_3C_4	OD08MONI_ARM_3C_4	AV	175	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_4C_1	OD08MONI_ARM_4C_1	AV	176	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_4C_2	OD08MONI_ARM_4C_2	AV	177	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_4C_3	OD08MONI_ARM_4C_3	AV	178	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_4C_4	OD08MONI_ARM_4C_4	AV	179	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_5C_1	OD08MONI_ARM_5C_1	AV	180	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_5C_2	OD08MONI_ARM_5C_2	AV	181	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_5C_3	OD08MONI_ARM_5C_3	AV	182	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_ARM_5C_4	OD08MONI_ARM_5C_4	AV	183	0	0	Type 6	0	RO	Current Alarm Part
OD08MONI_COMP_A1	OD08MONI_COMP_A1	MV	48	0	2	Type 5	0	RO	Compressor A1 Status
OD08MONI_COMP_A2	OD08MONI_COMP_A2	MV	49	0	2	Type 5	0	RO	Compressor A2 Status
OD08MONI_COMP_B1	OD08MONI_COMP_B1	MV	50	0	2	Type 5	0	RO	Compressor B1 Status
OD08MONI_COMP_B2	OD08MONI_COMP_B2	MV	51	0	2	Type 5	0	RO	Compressor B2 Status
OD08MONI_EWT	OD08MONI_EWT	AV	162	0	0	Type 6	0	RO	Entering Water Temp
OD08MONI_LWT	OD08MONI_LWT	AV	163	0	0	Type 6	0	RO	Leaving Water Temp
OD08MONI_ODU_ALM	OD08MONI_ODU_ALM	MV	47	0	2	Type 5	0	RO	Odu Alarm
OD08MONI_ODU_HC	OD08MONI_ODU_HC	MV	46	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD08MONI_ODU_S_S	OD08MONI_ODU_S_S	BV	9	0	1	Type 4	0	RO	Odu Start Or Stop
OD09MONI_ARM_1C_1	OD09MONI_ARM_1C_1	AV	186	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_1C_2	OD09MONI_ARM_1C_2	AV	187	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_1C_3	OD09MONI_ARM_1C_3	AV	188	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_1C_4	OD09MONI_ARM_1C_4	AV	189	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_2C_1	OD09MONI_ARM_2C_1	AV	190	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_2C_2	OD09MONI_ARM_2C_2	AV	191	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_2C_3	OD09MONI_ARM_2C_3	AV	192	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_2C_4	OD09MONI_ARM_2C_4	AV	193	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_3C_1	OD09MONI_ARM_3C_1	AV	194	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_3C_2	OD09MONI_ARM_3C_2	AV	195	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_3C_3	OD09MONI_ARM_3C_3	AV	196	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_3C_4	OD09MONI_ARM_3C_4	AV	197	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_4C_1	OD09MONI_ARM_4C_1	AV	198	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_4C_2	OD09MONI_ARM_4C_2	AV	199	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_4C_3	OD09MONI_ARM_4C_3	AV	200	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_4C_4	OD09MONI_ARM_4C_4	AV	201	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_5C_1	OD09MONI_ARM_5C_1	AV	202	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_5C_2	OD09MONI_ARM_5C_2	AV	203	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_5C_3	OD09MONI_ARM_5C_3	AV	204	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_ARM_5C_4	OD09MONI_ARM_5C_4	AV	205	0	0	Type 6	0	RO	Current Alarm Part
OD09MONI_COMP_A1	OD09MONI_COMP_A1	MV	54	0	2	Type 5	0	RO	Compressor A1 Status
OD09MONI_COMP_A2	OD09MONI_COMP_A2	MV	55	0	2	Type 5	0	RO	Compressor A2 Status
OD09MONI_COMP_B1	OD09MONI_COMP_B1	MV	56	0	2	Type 5	0	RO	Compressor B1 Status
OD09MONI_COMP_B2	OD09MONI_COMP_B2	MV	57	0	2	Type 5	0	RO	Compressor B2 Status
OD09MONI_EWT	OD09MONI_EWT	AV	184	0	0	Type 6	0	RO	Entering Water Temp
OD09MONI_LWT	OD09MONI_LWT	AV	185	0	0	Type 6	0	RO	Leaving Water Temp
OD09MONI_ODU_ALM	OD09MONI_ODU_ALM	MV	53	0	2	Type 5	0	RO	Odu Alarm

APPENDIX A — BACnet MSTP (cont)

Table A — BACnet Point Names (cont)

OBJECT NAME	DATABASE ALIAS NAME	TYPE	INSTANCE	LOW LIMIT	HIGH LIMIT	OPTION	COVIN	PV ACCESS	DESCRIPTION
OD09MONI_ODU_HC	OD09MONI_ODU_HC	MV	52	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD09MONI_ODU_S_S	OD09MONI_ODU_S_S	BV	10	0	1	Type 4	0	RO	Odu Start Or Stop
OD10MONI_ARM_1C_1	OD10MONI_ARM_1C_1	AV	208	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_1C_2	OD10MONI_ARM_1C_2	AV	209	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_1C_3	OD10MONI_ARM_1C_3	AV	210	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_1C_4	OD10MONI_ARM_1C_4	AV	211	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_2C_1	OD10MONI_ARM_2C_1	AV	212	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_2C_2	OD10MONI_ARM_2C_2	AV	213	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_2C_3	OD10MONI_ARM_2C_3	AV	214	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_2C_4	OD10MONI_ARM_2C_4	AV	215	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_3C_1	OD10MONI_ARM_3C_1	AV	216	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_3C_2	OD10MONI_ARM_3C_2	AV	217	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_3C_3	OD10MONI_ARM_3C_3	AV	218	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_3C_4	OD10MONI_ARM_3C_4	AV	219	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_4C_1	OD10MONI_ARM_4C_1	AV	220	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_4C_2	OD10MONI_ARM_4C_2	AV	221	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_4C_3	OD10MONI_ARM_4C_3	AV	222	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_4C_4	OD10MONI_ARM_4C_4	AV	223	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_5C_1	OD10MONI_ARM_5C_1	AV	224	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_5C_2	OD10MONI_ARM_5C_2	AV	225	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_5C_3	OD10MONI_ARM_5C_3	AV	226	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_ARM_5C_4	OD10MONI_ARM_5C_4	AV	227	0	0	Type 6	0	RO	Current Alarm Part
OD10MONI_COMP_A1	OD10MONI_COMP_A1	MV	60	0	2	Type 5	0	RO	Compressor A1 Status
OD10MONI_COMP_A2	OD10MONI_COMP_A2	MV	61	0	2	Type 5	0	RO	Compressor A2 Status
OD10MONI_COMP_B1	OD10MONI_COMP_B1	MV	62	0	2	Type 5	0	RO	Compressor B1 Status
OD10MONI_COMP_B2	OD10MONI_COMP_B2	MV	63	0	2	Type 5	0	RO	Compressor B2 Status
OD10MONI_EWT	OD10MONI_EWT	AV	206	0	0	Type 6	0	RO	Entering Water Temp
OD10MONI_LWT	OD10MONI_LWT	AV	207	0	0	Type 6	0	RO	Leaving Water Temp
OD10MONI_ODU_ALM	OD10MONI_ODU_ALM	MV	59	0	2	Type 5	0	RO	Odu Alarm
OD10MONI_ODU_HC	OD10MONI_ODU_HC	MV	58	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD10MONI_ODU_S_S	OD10MONI_ODU_S_S	BV	11	0	1	Type 4	0	RO	Odu Start Or Stop
OD11MONI_ARM_1C_1	OD11MONI_ARM_1C_1	AV	230	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_1C_2	OD11MONI_ARM_1C_2	AV	231	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_1C_3	OD11MONI_ARM_1C_3	AV	232	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_1C_4	OD11MONI_ARM_1C_4	AV	233	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_2C_1	OD11MONI_ARM_2C_1	AV	234	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_2C_2	OD11MONI_ARM_2C_2	AV	235	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_2C_3	OD11MONI_ARM_2C_3	AV	236	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_2C_4	OD11MONI_ARM_2C_4	AV	237	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_3C_1	OD11MONI_ARM_3C_1	AV	238	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_3C_2	OD11MONI_ARM_3C_2	AV	239	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_3C_3	OD11MONI_ARM_3C_3	AV	240	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_3C_4	OD11MONI_ARM_3C_4	AV	241	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_4C_1	OD11MONI_ARM_4C_1	AV	242	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_4C_2	OD11MONI_ARM_4C_2	AV	243	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_4C_3	OD11MONI_ARM_4C_3	AV	244	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_4C_4	OD11MONI_ARM_4C_4	AV	245	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_5C_1	OD11MONI_ARM_5C_1	AV	246	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_5C_2	OD11MONI_ARM_5C_2	AV	247	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_5C_3	OD11MONI_ARM_5C_3	AV	248	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_ARM_5C_4	OD11MONI_ARM_5C_4	AV	249	0	0	Type 6	0	RO	Current Alarm Part
OD11MONI_COMP_A1	OD11MONI_COMP_A1	MV	66	0	2	Type 5	0	RO	Compressor A1 Status
OD11MONI_COMP_A2	OD11MONI_COMP_A2	MV	67	0	2	Type 5	0	RO	Compressor A2 Status
OD11MONI_COMP_B1	OD11MONI_COMP_B1	MV	68	0	2	Type 5	0	RO	Compressor B1 Status
OD11MONI_COMP_B2	OD11MONI_COMP_B2	MV	69	0	2	Type 5	0	RO	Compressor B2 Status
OD11MONI_EWT	OD11MONI_EWT	AV	228	0	0	Type 6	0	RO	Entering Water Temp
OD11MONI_LWT	OD11MONI_LWT	AV	229	0	0	Type 6	0	RO	Leaving Water Temp
OD11MONI_ODU_ALM	OD11MONI_ODU_ALM	MV	65	0	2	Type 5	0	RO	Odu Alarm
OD11MONI_ODU_HC	OD11MONI_ODU_HC	MV	64	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD11MONI_ODU_S_S	OD11MONI_ODU_S_S	BV	12	0	1	Type 4	0	RO	Odu Start Or Stop
OD12MONI_ARM_1C_1	OD12MONI_ARM_1C_1	AV	252	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_1C_2	OD12MONI_ARM_1C_2	AV	253	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_1C_3	OD12MONI_ARM_1C_3	AV	254	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_1C_4	OD12MONI_ARM_1C_4	AV	255	0	0	Type 6	0	RO	Current Alarm Part

APPENDIX A — BACnet MSTP (cont)

Table A — BACnet Point Names (cont)

OBJECT NAME	DATABASE ALIAS NAME	TYPE	INSTANCE	LOW LIMIT	HIGH LIMIT	OPTION	COVIN	PV ACCESS	DESCRIPTION
OD12MONI_ARM_2C_1	OD12MONI_ARM_2C_1	AV	256	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_2C_2	OD12MONI_ARM_2C_2	AV	257	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_2C_3	OD12MONI_ARM_2C_3	AV	258	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_2C_4	OD12MONI_ARM_2C_4	AV	259	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_3C_1	OD12MONI_ARM_3C_1	AV	260	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_3C_2	OD12MONI_ARM_3C_2	AV	261	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_3C_3	OD12MONI_ARM_3C_3	AV	262	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_3C_4	OD12MONI_ARM_3C_4	AV	263	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_4C_1	OD12MONI_ARM_4C_1	AV	264	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_4C_2	OD12MONI_ARM_4C_2	AV	265	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_4C_3	OD12MONI_ARM_4C_3	AV	266	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_4C_4	OD12MONI_ARM_4C_4	AV	267	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_5C_1	OD12MONI_ARM_5C_1	AV	268	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_5C_2	OD12MONI_ARM_5C_2	AV	269	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_5C_3	OD12MONI_ARM_5C_3	AV	270	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_ARM_5C_4	OD12MONI_ARM_5C_4	AV	271	0	0	Type 6	0	RO	Current Alarm Part
OD12MONI_COMP_A1	OD12MONI_COMP_A1	MV	72	0	2	Type 5	0	RO	Compressor A1 Status
OD12MONI_COMP_A2	OD12MONI_COMP_A2	MV	73	0	2	Type 5	0	RO	Compressor A2 Status
OD12MONI_COMP_B1	OD12MONI_COMP_B1	MV	74	0	2	Type 5	0	RO	Compressor B1 Status
OD12MONI_COMP_B2	OD12MONI_COMP_B2	MV	75	0	2	Type 5	0	RO	Compressor B2 Status
OD12MONI_EWT	OD12MONI_EWT	AV	250	0	0	Type 6	0	RO	Entering Water Temp
OD12MONI_LWT	OD12MONI_LWT	AV	251	0	0	Type 6	0	RO	Leaving Water Temp
OD12MONI_ODU_ALM	OD12MONI_ODU_ALM	MV	71	0	2	Type 5	0	RO	Odu Alarm
OD12MONI_ODU_HC	OD12MONI_ODU_HC	MV	70	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD12MONI_ODU_S_S	OD12MONI_ODU_S_S	BV	13	0	1	Type 4	0	RO	Odu Start Or Stop
OD13MONI_ARM_1C_1	OD13MONI_ARM_1C_1	AV	274	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_1C_2	OD13MONI_ARM_1C_2	AV	275	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_1C_3	OD13MONI_ARM_1C_3	AV	276	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_1C_4	OD13MONI_ARM_1C_4	AV	277	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_2C_1	OD13MONI_ARM_2C_1	AV	278	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_2C_2	OD13MONI_ARM_2C_2	AV	279	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_2C_3	OD13MONI_ARM_2C_3	AV	280	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_2C_4	OD13MONI_ARM_2C_4	AV	281	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_3C_1	OD13MONI_ARM_3C_1	AV	282	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_3C_2	OD13MONI_ARM_3C_2	AV	283	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_3C_3	OD13MONI_ARM_3C_3	AV	284	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_3C_4	OD13MONI_ARM_3C_4	AV	285	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_4C_1	OD13MONI_ARM_4C_1	AV	286	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_4C_2	OD13MONI_ARM_4C_2	AV	287	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_4C_3	OD13MONI_ARM_4C_3	AV	288	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_4C_4	OD13MONI_ARM_4C_4	AV	289	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_5C_1	OD13MONI_ARM_5C_1	AV	290	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_5C_2	OD13MONI_ARM_5C_2	AV	291	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_5C_3	OD13MONI_ARM_5C_3	AV	292	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_ARM_5C_4	OD13MONI_ARM_5C_4	AV	293	0	0	Type 6	0	RO	Current Alarm Part
OD13MONI_COMP_A1	OD13MONI_COMP_A1	MV	78	0	2	Type 5	0	RO	Compressor A1 Status
OD13MONI_COMP_A2	OD13MONI_COMP_A2	MV	79	0	2	Type 5	0	RO	Compressor A2 Status
OD13MONI_COMP_B1	OD13MONI_COMP_B1	MV	80	0	2	Type 5	0	RO	Compressor B1 Status
OD13MONI_COMP_B2	OD13MONI_COMP_B2	MV	81	0	2	Type 5	0	RO	Compressor B2 Status
OD13MONI_EWT	OD13MONI_EWT	AV	272	0	0	Type 6	0	RO	Entering Water Temp
OD13MONI_LWT	OD13MONI_LWT	AV	273	0	0	Type 6	0	RO	Leaving Water Temp
OD13MONI_ODU_ALM	OD13MONI_ODU_ALM	MV	77	0	2	Type 5	0	RO	Odu Alarm
OD13MONI_ODU_HC	OD13MONI_ODU_HC	MV	76	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD13MONI_ODU_S_S	OD13MONI_ODU_S_S	BV	14	0	1	Type 4	0	RO	Odu Start Or Stop
OD14MONI_ARM_1C_1	OD14MONI_ARM_1C_1	AV	296	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_1C_2	OD14MONI_ARM_1C_2	AV	297	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_1C_3	OD14MONI_ARM_1C_3	AV	298	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_1C_4	OD14MONI_ARM_1C_4	AV	299	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_2C_1	OD14MONI_ARM_2C_1	AV	300	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_2C_2	OD14MONI_ARM_2C_2	AV	301	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_2C_3	OD14MONI_ARM_2C_3	AV	302	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_2C_4	OD14MONI_ARM_2C_4	AV	303	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_3C_1	OD14MONI_ARM_3C_1	AV	304	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_3C_2	OD14MONI_ARM_3C_2	AV	305	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_3C_3	OD14MONI_ARM_3C_3	AV	306	0	0	Type 6	0	RO	Current Alarm Part

APPENDIX A — BACnet MSTP (cont)

Table A — BACnet Point Names (cont)

OBJECT NAME	DATABASE ALIAS NAME	TYPE	INSTANCE	LOW LIMIT	HIGH LIMIT	OPTION	COVIN	PV ACCESS	DESCRIPTION
OD14MONI_ARM_3C_4	OD14MONI_ARM_3C_4	AV	307	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_4C_1	OD14MONI_ARM_4C_1	AV	308	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_4C_2	OD14MONI_ARM_4C_2	AV	309	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_4C_3	OD14MONI_ARM_4C_3	AV	310	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_4C_4	OD14MONI_ARM_4C_4	AV	311	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_5C_1	OD14MONI_ARM_5C_1	AV	312	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_5C_2	OD14MONI_ARM_5C_2	AV	313	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_5C_3	OD14MONI_ARM_5C_3	AV	314	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_ARM_5C_4	OD14MONI_ARM_5C_4	AV	315	0	0	Type 6	0	RO	Current Alarm Part
OD14MONI_COMP_A1	OD14MONI_COMP_A1	MV	84	0	2	Type 5	0	RO	Compressor A1 Status
OD14MONI_COMP_A2	OD14MONI_COMP_A2	MV	85	0	2	Type 5	0	RO	Compressor A2 Status
OD14MONI_COMP_B1	OD14MONI_COMP_B1	MV	86	0	2	Type 5	0	RO	Compressor B1 Status
OD14MONI_COMP_B2	OD14MONI_COMP_B2	MV	87	0	2	Type 5	0	RO	Compressor B2 Status
OD14MONI_EWT	OD14MONI_EWT	AV	294	0	0	Type 6	0	RO	Entering Water Temp
OD14MONI_LWT	OD14MONI_LWT	AV	295	0	0	Type 6	0	RO	Leaving Water Temp
OD14MONI_ODU_ALM	OD14MONI_ODU_ALM	MV	83	0	2	Type 5	0	RO	Odu Alarm
OD14MONI_ODU_HC	OD14MONI_ODU_HC	MV	82	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD14MONI_ODU_S_S	OD14MONI_ODU_S_S	BV	15	0	1	Type 4	0	RO	Odu Start Or Stop
OD15MONI_ARM_1C_1	OD15MONI_ARM_1C_1	AV	318	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_1C_2	OD15MONI_ARM_1C_2	AV	319	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_1C_3	OD15MONI_ARM_1C_3	AV	320	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_1C_4	OD15MONI_ARM_1C_4	AV	321	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_2C_1	OD15MONI_ARM_2C_1	AV	322	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_2C_2	OD15MONI_ARM_2C_2	AV	323	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_2C_3	OD15MONI_ARM_2C_3	AV	324	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_2C_4	OD15MONI_ARM_2C_4	AV	325	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_3C_1	OD15MONI_ARM_3C_1	AV	326	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_3C_2	OD15MONI_ARM_3C_2	AV	327	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_3C_3	OD15MONI_ARM_3C_3	AV	328	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_3C_4	OD15MONI_ARM_3C_4	AV	329	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_4C_1	OD15MONI_ARM_4C_1	AV	330	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_4C_2	OD15MONI_ARM_4C_2	AV	331	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_4C_3	OD15MONI_ARM_4C_3	AV	332	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_4C_4	OD15MONI_ARM_4C_4	AV	333	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_5C_1	OD15MONI_ARM_5C_1	AV	334	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_5C_2	OD15MONI_ARM_5C_2	AV	335	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_5C_3	OD15MONI_ARM_5C_3	AV	336	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_ARM_5C_4	OD15MONI_ARM_5C_4	AV	337	0	0	Type 6	0	RO	Current Alarm Part
OD15MONI_COMP_A1	OD15MONI_COMP_A1	MV	90	0	2	Type 5	0	RO	Compressor A1 Status
OD15MONI_COMP_A2	OD15MONI_COMP_A2	MV	91	0	2	Type 5	0	RO	Compressor A2 Status
OD15MONI_COMP_B1	OD15MONI_COMP_B1	MV	92	0	2	Type 5	0	RO	Compressor B1 Status
OD15MONI_COMP_B2	OD15MONI_COMP_B2	MV	93	0	2	Type 5	0	RO	Compressor B2 Status
OD15MONI_EWT	OD15MONI_EWT	AV	316	0	0	Type 6	0	RO	Entering Water Temp
OD15MONI_LWT	OD15MONI_LWT	AV	317	0	0	Type 6	0	RO	Leaving Water Temp
OD15MONI_ODU_ALM	OD15MONI_ODU_ALM	MV	89	0	2	Type 5	0	RO	Odu Alarm
OD15MONI_ODU_HC	OD15MONI_ODU_HC	MV	88	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD15MONI_ODU_S_S	OD15MONI_ODU_S_S	BV	16	0	1	Type 4	0	RO	Odu Start Or Stop
OD16MONI_ARM_1C_1	OD16MONI_ARM_1C_1	AV	340	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_1C_2	OD16MONI_ARM_1C_2	AV	341	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_1C_3	OD16MONI_ARM_1C_3	AV	342	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_1C_4	OD16MONI_ARM_1C_4	AV	343	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_2C_1	OD16MONI_ARM_2C_1	AV	344	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_2C_2	OD16MONI_ARM_2C_2	AV	345	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_2C_3	OD16MONI_ARM_2C_3	AV	346	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_2C_4	OD16MONI_ARM_2C_4	AV	347	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_3C_1	OD16MONI_ARM_3C_1	AV	348	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_3C_2	OD16MONI_ARM_3C_2	AV	349	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_3C_3	OD16MONI_ARM_3C_3	AV	350	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_3C_4	OD16MONI_ARM_3C_4	AV	351	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_4C_1	OD16MONI_ARM_4C_1	AV	352	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_4C_2	OD16MONI_ARM_4C_2	AV	353	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_4C_3	OD16MONI_ARM_4C_3	AV	354	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_4C_4	OD16MONI_ARM_4C_4	AV	355	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_5C_1	OD16MONI_ARM_5C_1	AV	356	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_5C_2	OD16MONI_ARM_5C_2	AV	357	0	0	Type 6	0	RO	Current Alarm Part

APPENDIX A — BACnet MSTP (cont)

Table A — BACnet Point Names (cont)

OBJECT NAME	DATABASE ALIAS NAME	TYPE	INSTANCE	LOW LIMIT	HIGH LIMIT	OPTION	COVIN	PV ACCESS	DESCRIPTION
OD16MONI_ARM_5C_3	OD16MONI_ARM_5C_3	AV	358	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_ARM_5C_4	OD16MONI_ARM_5C_4	AV	359	0	0	Type 6	0	RO	Current Alarm Part
OD16MONI_COMP_A1	OD16MONI_COMP_A1	MV	96	0	2	Type 5	0	RO	Compressor A1 Status
OD16MONI_COMP_A2	OD16MONI_COMP_A2	MV	97	0	2	Type 5	0	RO	Compressor A2 Status
OD16MONI_COMP_B1	OD16MONI_COMP_B1	MV	98	0	2	Type 5	0	RO	Compressor B1 Status
OD16MONI_COMP_B2	OD16MONI_COMP_B2	MV	99	0	2	Type 5	0	RO	Compressor B2 Status
OD16MONI_EWT	OD16MONI_EWT	AV	338	0	0	Type 6	0	RO	Entering Water Temp
OD16MONI_LWT	OD16MONI_LWT	AV	339	0	0	Type 6	0	RO	Leaving Water Temp
OD16MONI_ODU_ALM	OD16MONI_ODU_ALM	MV	95	0	2	Type 5	0	RO	Odu Alarm
OD16MONI_ODU_HC	OD16MONI_ODU_HC	MV	94	0	1	Type 5	0	RO	Odu Heating Or Cooling
OD16MONI_ODU_S_S	OD16MONI_ODU_S_S	BV	17	0	1	Type 4	0	RO	Odu Start Or Stop
SYS_CFG_ODU_NUM	SYS_CFG_ODU_NUM	AV	360	1	16	Type 6	0	RW	System Odu Number(1~16)
SYS_CFG_WT_PUMP	SYS_CFG_WT_PUMP	AV	361	0	3	Type 6	0	RW	Pump Options
SYS_CTRL_EWT_CTRL	SYS_CTRL_EWT_CTRL	BV	19	0	1	Type 4	0	RW	System Ewt Ctrl Option
SYS_CTRL_HK_R_ALM	SYS_CTRL_HK_R_ALM	BV	18	0	1	Type 4	0	RW	Hk Reset Alarm
SYS_CTRL_OD_R_ALM	SYS_CTRL_OD_R_ALM	AV	364	0	65535	Type 6	0	RW	Odu Reset Alarm
SYS_CTRL_SYS_C_SP	SYS_CTRL_SYS_C_SP	AV	365	42.8	86	Type 6	0	RW	System Cooling Setpoint
SYS_CTRL_SYS_H_SP	SYS_CTRL_SYS_H_SP	AV	366	77	140	Type 6	0	RW	System Heating Setpoint
SYS_CTRL_SYS_HC	SYS_CTRL_SYS_HC	AV	363	0	4	Type 6	0	RW	System Heatcool Mode
SYS_CTRL_SYS_S_S	SYS_CTRL_SYS_S_S	AV	362	0	3	Type 6	0	RW	System Start/Stop
SYS_MONI_SYS_ALM	SYS_MONI_SYS_ALM	MV	3	0	2	Type 5	0	RO	System Alarm Status
SYS_MONI_SYS_CAPA	SYS_MONI_SYS_CAPA	AV	6	0	100	Type 6	0	RO	System Capacity
SYS_MONI_SYS_EWT	SYS_MONI_SYS_EWT	AV	3	0	0	Type 6	0	RO	System Enter Water
SYS_MONI_SYS_HC	SYS_MONI_SYS_HC	MV	2	0	1	Type 5	0	RO	System Running Mode
SYS_MONI_SYS_LWT	SYS_MONI_SYS_LWT	AV	4	0	0	Type 6	0	RO	System Leave Water
SYS_MONI_SYS_OAT	SYS_MONI_SYS_OAT	AV	5	0	0	Type 6	0	RO	System Outdoor Air
SYS_MONI_SYS_PUMP	SYS_MONI_SYS_PUMP	AV	7	0	50	Type 6	0	RO	System Pump Speed
SYS_MONI_SYS_S_S	SYS_MONI_SYS_S_S	BV	1	0	1	Type 4	0	RO	System Start Stop
SYS_MONI_SYS_SIZE	SYS_MONI_SYS_SIZE	AV	1	0	0	Type 6	0	RO	System Size
SYS_MONI_SYS_SP	SYS_MONI_SYS_SP	AV	2	41	140	Type 6	0	RO	System Setpoint
SYS_MONI_SYS_STAT	SYS_MONI_SYS_STAT	MV	1	0	255	Type 5	0	RO	System Status

APPENDIX B — MODBUS RTU AND TCP IP

Table B — System Monitor

MODBUS ADDRESS	DESCRIPTION	UNIT	RANGE	REMARK
30001	System State		0 = Initialization 1 = Off 2 = Startup 3 = Shutdown 4 = Recycle 5 = On 6 = Waterloop 7 = Antifreeze 8 = Tripout 9 = Quicktest	Protocol Value = Actual Value
30002	System On/Off		0 = Off 1 = On	
30003	System Mode		0 = Cooling 1 = Heating	
30004	System Failure		0 = None 1 = Warning 2 = Alarm	
30005	System Rated Capacity	kW		Protocol Value = Actual Value x 10
30006	System Setpoint	°C		
30007	System Entering Water Temperature	°C		
30008	System Leaving Water Temperature	°C		
30009	System Outdoor Ambient Temperature	°C		
30010	System Capacity Output	%		

Table C — ODU Monitor

MODBUS ADDRESS	DESCRIPTION	UNIT	RANGE	REMARK
30003+100*(address)	ODU On/Off		0 = Off 1 = On	Protocol Value = Actual Value
30004+100*(address)	ODU Mode		0 = Cooling 1 = Heating	
30005+100*(address)	ODU Failure		0 = None 1 = Warning 2 = Alarm	
30006+100*(address)	Compressor A1 State		0 = Off 1 = On 2 = Override, Alarm, Maintain	
30007+100*(address)	Compressor A2 State			
30008+100*(address)	Compressor B1 State			
30009+100*(address)	Compressor B2 State			
30020+100*(address)	ODU Entering Water Temperature	°C		Protocol Value = Actual Value x 10
30021+100*(address)	ODU Leaving Water Temperature	°C		
(30044+100*(address)) ~ (30047+100*(address))	ODU Alarm Code			8 Bytes ASC II Code
(30048+100*(address)) ~ (30051+100*(address))				
(30052+100*(address)) ~ (30055+100*(address))				
(30056+100*(address)) ~ (30059+100*(address))				
(30060+100*(address)) ~ (30063+100*(address))				

Table D — System Configuration

MODBUS ADDRESS	DESCRIPTION	UNIT	RANGE	REMARK
40003	ODU Number		1 to 16	Protocol Value = Actual Value
40004	Pump Type		0 = None 1 = Single Fixed Frequency Pump 2 = Double Fixed Frequency Pump; 1=1 Backup	

APPENDIX B — MODBUS RTU AND TCP IP (cont)

Table E — System Control

MODBUS ADDRESS	DESCRIPTION	UNIT	RANGE	REMARK
40051	System On/Off		0 = Off 1 = On	Protocol Value = Actual Value
40052	System Mode		0 = Cooling 1 = Heating	
40054	Hydraulic Kit Alarm Reset		0 = Normal State 1 = Reset Hydraulic Kit Alarm	
40057	ODU Alarm Reset		Bit = 0: Normal State Bit = 1: Reset ODU Alarm Bit 0 to Bit 15: #1 ODU to #16ODU	
40060	Water Temperature Control Type		0 = Leaving Water Control 1 = Entering Water Control	
40062	Compressor B1 State	°C	60 to 300	Protocol Value = Actual Value x 10
40063	Compressor B2 State	°C	250 to 600	

Table F — Modbus

PARAMETER	DESCRIPTION	ADDRESS		REG. N°	DISPLAY MODE	TYPE	UNIT	VALUE		
		HEXADECIMAL	DECIMAL					MIN.	MAX.	DEFAULT
OD01MONI_ODU_S_S	Odu Start Or Stop	0x7546	30022	1	16bits UINT	IR		0	1	0
OD01MONI_ODU_HC	Odu Heating Or Cooling	0x7548	30024	1	16bits UINT	IR		0	1	0
OD01MONI_ODU_ALM	Odu Alarm	0x754A	30026	1	16bits UINT	IR		0	2	0
OD01MONI_COMP_A1	Compressor A1 Status	0x754C	30028	1	16bits UINT	IR		0	2	0
OD01MONI_COMP_A2	Compressor A2 Status	0x754E	30030	1	16bits UINT	IR		0	2	0
OD01MONI_COMP_B1	Compressor B1 Status	0x7550	30032	1	16bits UINT	IR		0	2	0
OD01MONI_COMP_B2	Compressor B2 Status	0x7552	30034	1	16bits UINT	IR		0	2	0
OD01MONI_EWT	Entering Water Temp	0x7554	30036	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD01MONI_LWT	Leaving Water Temp	0x7556	30038	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD01MONI_ARM_1C_1	Current Alarm Part	0x7558	30040	1	16bits UINT	IR				0
OD01MONI_ARM_1C_2	Current Alarm Part	0x755A	30042	1	16bits UINT	IR				0
OD01MONI_ARM_1C_3	Current Alarm Part	0x755C	30044	1	16bits UINT	IR				0
OD01MONI_ARM_1C_4	Current Alarm Part	0x755E	30046	1	16bits UINT	IR				0
OD01MONI_ARM_2C_1	Current Alarm Part	0x7560	30048	1	16bits UINT	IR				0
OD01MONI_ARM_2C_2	Current Alarm Part	0x7562	30050	1	16bits UINT	IR				0
OD01MONI_ARM_2C_3	Current Alarm Part	0x7564	30052	1	16bits UINT	IR				0
OD01MONI_ARM_2C_4	Current Alarm Part	0x7566	30054	1	16bits UINT	IR				0
OD01MONI_ARM_3C_1	Current Alarm Part	0x7568	30056	1	16bits UINT	IR				0
OD01MONI_ARM_3C_2	Current Alarm Part	0x756A	30058	1	16bits UINT	IR				0
OD01MONI_ARM_3C_3	Current Alarm Part	0x756C	30060	1	16bits UINT	IR				0
OD01MONI_ARM_3C_4	Current Alarm Part	0x756E	30062	1	16bits UINT	IR				0
OD01MONI_ARM_4C_1	Current Alarm Part	0x7570	30064	1	16bits UINT	IR				0
OD01MONI_ARM_4C_2	Current Alarm Part	0x7572	30066	1	16bits UINT	IR				0
OD01MONI_ARM_4C_3	Current Alarm Part	0x7574	30068	1	16bits UINT	IR				0
OD01MONI_ARM_4C_4	Current Alarm Part	0x7576	30070	1	16bits UINT	IR				0
OD01MONI_ARM_5C_1	Current Alarm Part	0x7578	30072	1	16bits UINT	IR				0
OD01MONI_ARM_5C_2	Current Alarm Part	0x757A	30074	1	16bits UINT	IR				0
OD01MONI_ARM_5C_3	Current Alarm Part	0x757C	30076	1	16bits UINT	IR				0
OD01MONI_ARM_5C_4	Current Alarm Part	0x757E	30078	1	16bits UINT	IR				0
OD02MONI_ODU_S_S	Odu Start Or Stop	0x75CA	30154	1	16bits UINT	IR		0	1	0
OD02MONI_ODU_HC	Odu Heating Or Cooling	0x75CC	30156	1	16bits UINT	IR		0	1	0
OD02MONI_ODU_ALM	Odu Alarm	0x75CE	30158	1	16bits UINT	IR		0	2	0
OD02MONI_COMP_A1	Compressor A1 Status	0x75D0	30160	1	16bits UINT	IR		0	2	0
OD02MONI_COMP_A2	Compressor A2 Status	0x75D2	30162	1	16bits UINT	IR		0	2	0
OD02MONI_COMP_B1	Compressor B1 Status	0x75D4	30164	1	16bits UINT	IR		0	2	0
OD02MONI_COMP_B2	Compressor B2 Status	0x75D6	30166	1	16bits UINT	IR		0	2	0
OD02MONI_EWT	Entering Water Temp	0x75D8	30168	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD02MONI_LWT	Leaving Water Temp	0x75DA	30170	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD02MONI_ARM_1C_1	Current Alarm Part	0x75DC	30172	1	16bits UINT	IR				0
OD02MONI_ARM_1C_2	Current Alarm Part	0x75DE	30174	1	16bits UINT	IR				0
OD02MONI_ARM_1C_3	Current Alarm Part	0x75E0	30176	1	16bits UINT	IR				0
OD02MONI_ARM_1C_4	Current Alarm Part	0x75E2	30178	1	16bits UINT	IR				0
OD02MONI_ARM_2C_1	Current Alarm Part	0x75E4	30180	1	16bits UINT	IR				0
OD02MONI_ARM_2C_2	Current Alarm Part	0x75E6	30182	1	16bits UINT	IR				0
OD02MONI_ARM_2C_3	Current Alarm Part	0x75E8	30184	1	16bits UINT	IR				0

APPENDIX B — MODBUS RTU AND TCP IP (cont)

Table F — Modbus (cont)

PARAMETER	DESCRIPTION	ADDRESS		REG. N°	DISPLAY MODE	TYPE	UNIT	VALUE		
		HEXADECIMAL	DECIMAL					MIN.	MAX.	DEFAULT
OD02MONI_ARM_2C_4	Current Alarm Part	0x75EA	30186	1	16bits UINT	IR				0
OD02MONI_ARM_3C_1	Current Alarm Part	0x75EC	30188	1	16bits UINT	IR				0
OD02MONI_ARM_3C_2	Current Alarm Part	0x75EE	30190	1	16bits UINT	IR				0
OD02MONI_ARM_3C_3	Current Alarm Part	0x75F0	30192	1	16bits UINT	IR				0
OD02MONI_ARM_3C_4	Current Alarm Part	0x75F2	30194	1	16bits UINT	IR				0
OD02MONI_ARM_4C_1	Current Alarm Part	0x75F4	30196	1	16bits UINT	IR				0
OD02MONI_ARM_4C_2	Current Alarm Part	0x75F6	30198	1	16bits UINT	IR				0
OD02MONI_ARM_4C_3	Current Alarm Part	0x75F8	30200	1	16bits UINT	IR				0
OD02MONI_ARM_4C_4	Current Alarm Part	0x75FA	30202	1	16bits UINT	IR				0
OD02MONI_ARM_5C_1	Current Alarm Part	0x75FC	30204	1	16bits UINT	IR				0
OD02MONI_ARM_5C_2	Current Alarm Part	0x75FE	30206	1	16bits UINT	IR				0
OD02MONI_ARM_5C_3	Current Alarm Part	0x7600	30208	1	16bits UINT	IR				0
OD02MONI_ARM_5C_4	Current Alarm Part	0x7602	30210	1	16bits UINT	IR				0
OD03MONI_ODU_S_S	Odu Start Or Stop	0x764E	30286	1	16bits UINT	IR		0	1	0
OD03MONI_ODU_HC	Odu Heating Or Cooling	0x7650	30288	1	16bits UINT	IR		0	1	0
OD03MONI_ODU_ALM	Odu Alarm	0x7652	30290	1	16bits UINT	IR		0	2	0
OD03MONI_COMP_A1	Compressor A1 Status	0x7654	30292	1	16bits UINT	IR		0	2	0
OD03MONI_COMP_A2	Compressor A2 Status	0x7656	30294	1	16bits UINT	IR		0	2	0
OD03MONI_COMP_B1	Compressor B1 Status	0x7658	30296	1	16bits UINT	IR		0	2	0
OD03MONI_COMP_B2	Compressor B2 Status	0x765A	30298	1	16bits UINT	IR		0	2	0
OD03MONI_EWT	Entering Water Temp	0x765C	30300	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD03MONI_LWT	Leaving Water Temp	0x765E	30302	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD03MONI_ARM_1C_1	Current Alarm Part	0x7660	30304	1	16bits UINT	IR				0
OD03MONI_ARM_1C_2	Current Alarm Part	0x7662	30306	1	16bits UINT	IR				0
OD03MONI_ARM_1C_3	Current Alarm Part	0x7664	30308	1	16bits UINT	IR				0
OD03MONI_ARM_1C_4	Current Alarm Part	0x7666	30310	1	16bits UINT	IR				0
OD03MONI_ARM_2C_1	Current Alarm Part	0x7668	30312	1	16bits UINT	IR				0
OD03MONI_ARM_2C_2	Current Alarm Part	0x766A	30314	1	16bits UINT	IR				0
OD03MONI_ARM_2C_3	Current Alarm Part	0x766C	30316	1	16bits UINT	IR				0
OD03MONI_ARM_2C_4	Current Alarm Part	0x766E	30318	1	16bits UINT	IR				0
OD03MONI_ARM_3C_1	Current Alarm Part	0x7670	30320	1	16bits UINT	IR				0
OD03MONI_ARM_3C_2	Current Alarm Part	0x7672	30322	1	16bits UINT	IR				0
OD03MONI_ARM_3C_3	Current Alarm Part	0x7674	30324	1	16bits UINT	IR				0
OD03MONI_ARM_3C_4	Current Alarm Part	0x7676	30326	1	16bits UINT	IR				0
OD03MONI_ARM_4C_1	Current Alarm Part	0x7678	30328	1	16bits UINT	IR				0
OD03MONI_ARM_4C_2	Current Alarm Part	0x767A	30330	1	16bits UINT	IR				0
OD03MONI_ARM_4C_3	Current Alarm Part	0x767C	30332	1	16bits UINT	IR				0
OD03MONI_ARM_4C_4	Current Alarm Part	0x767E	30334	1	16bits UINT	IR				0
OD03MONI_ARM_5C_1	Current Alarm Part	0x7680	30336	1	16bits UINT	IR				0
OD03MONI_ARM_5C_2	Current Alarm Part	0x7682	30338	1	16bits UINT	IR				0
OD03MONI_ARM_5C_3	Current Alarm Part	0x7684	30340	1	16bits UINT	IR				0
OD03MONI_ARM_5C_4	Current Alarm Part	0x7686	30342	1	16bits UINT	IR				0
OD04MONI_ODU_S_S	Odu Start Or Stop	0x76D2	30418	1	16bits UINT	IR		0	1	0
OD04MONI_ODU_HC	Odu Heating Or Cooling	0x76D4	30420	1	16bits UINT	IR		0	1	0
OD04MONI_ODU_ALM	Odu Alarm	0x76D6	30422	1	16bits UINT	IR		0	2	0
OD04MONI_COMP_A1	Compressor A1 Status	0x76D8	30424	1	16bits UINT	IR		0	2	0
OD04MONI_COMP_A2	Compressor A2 Status	0x76DA	30426	1	16bits UINT	IR		0	2	0
OD04MONI_COMP_B1	Compressor B1 Status	0x76DC	30428	1	16bits UINT	IR		0	2	0
OD04MONI_COMP_B2	Compressor B2 Status	0x76DE	30430	1	16bits UINT	IR		0	2	0
OD04MONI_EWT	Entering Water Temp	0x76E0	30432	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD04MONI_LWT	Leaving Water Temp	0x76E2	30434	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD04MONI_ARM_1C_1	Current Alarm Part	0x76E4	30436	1	16bits UINT	IR				0
OD04MONI_ARM_1C_2	Current Alarm Part	0x76E6	30438	1	16bits UINT	IR				0
OD04MONI_ARM_1C_3	Current Alarm Part	0x76E8	30440	1	16bits UINT	IR				0
OD04MONI_ARM_1C_4	Current Alarm Part	0x76EA	30442	1	16bits UINT	IR				0
OD04MONI_ARM_2C_1	Current Alarm Part	0x76EC	30444	1	16bits UINT	IR				0
OD04MONI_ARM_2C_2	Current Alarm Part	0x76EE	30446	1	16bits UINT	IR				0
OD04MONI_ARM_2C_3	Current Alarm Part	0x76F0	30448	1	16bits UINT	IR				0
OD04MONI_ARM_2C_4	Current Alarm Part	0x76F2	30450	1	16bits UINT	IR				0
OD04MONI_ARM_3C_1	Current Alarm Part	0x76F4	30452	1	16bits UINT	IR				0
OD04MONI_ARM_3C_2	Current Alarm Part	0x76F6	30454	1	16bits UINT	IR				0
OD04MONI_ARM_3C_3	Current Alarm Part	0x76F8	30456	1	16bits UINT	IR				0
OD04MONI_ARM_3C_4	Current Alarm Part	0x76FA	30458	1	16bits UINT	IR				0

APPENDIX B — MODBUS RTU AND TCP IP (cont)

Table F — Modbus (cont)

PARAMETER	DESCRIPTION	ADDRESS		REG. N°	DISPLAY MODE	TYPE	UNIT	VALUE		
		HEXADECIMAL	DECIMAL					MIN.	MAX.	DEFAULT
OD04MONI_ARM_4C_1	Current Alarm Part	0x76FC	30460	1	16bits UINT	IR				0
OD04MONI_ARM_4C_2	Current Alarm Part	0x76FE	30462	1	16bits UINT	IR				0
OD04MONI_ARM_4C_3	Current Alarm Part	0x7700	30464	1	16bits UINT	IR				0
OD04MONI_ARM_4C_4	Current Alarm Part	0x7702	30466	1	16bits UINT	IR				0
OD04MONI_ARM_5C_1	Current Alarm Part	0x7704	30468	1	16bits UINT	IR				0
OD04MONI_ARM_5C_2	Current Alarm Part	0x7706	30470	1	16bits UINT	IR				0
OD04MONI_ARM_5C_3	Current Alarm Part	0x7708	30472	1	16bits UINT	IR				0
OD04MONI_ARM_5C_4	current alarm part	0x770A	30474	1	16bits UINT	IR				0
OD05MONI_ODU_S_S	Odu Start Or Stop	0x7756	30550	1	16bits UINT	IR		0	1	0
OD05MONI_ODU_HC	Odu Heating Or Cooling	0x7758	30552	1	16bits UINT	IR		0	1	0
OD05MONI_ODU_ALM	Odu Alarm	0x775A	30554	1	16bits UINT	IR		0	2	0
OD05MONI_COMP_A1	Compressor A1 Status	0x775C	30556	1	16bits UINT	IR		0	2	0
OD05MONI_COMP_A2	Compressor A2 Status	0x775E	30558	1	16bits UINT	IR		0	2	0
OD05MONI_COMP_B1	Compressor B1 Status	0x7760	30560	1	16bits UINT	IR		0	2	0
OD05MONI_COMP_B2	Compressor B2 Status	0x7762	30562	1	16bits UINT	IR		0	2	0
OD05MONI_EWT	Entering Water Temp	0x7764	30564	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD05MONI_LWT	Leaving Water Temp	0x7766	30566	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD05MONI_ARM_1C_1	Current Alarm Part	0x7768	30568	1	16bits UINT	IR				0
OD05MONI_ARM_1C_2	Current Alarm Part	0x776A	30570	1	16bits UINT	IR				0
OD05MONI_ARM_1C_3	Current Alarm Part	0x776C	30572	1	16bits UINT	IR				0
OD05MONI_ARM_1C_4	Current Alarm Part	0x776E	30574	1	16bits UINT	IR				0
OD05MONI_ARM_2C_1	Current Alarm Part	0x7770	30576	1	16bits UINT	IR				0
OD05MONI_ARM_2C_2	Current Alarm Part	0x7772	30578	1	16bits UINT	IR				0
OD05MONI_ARM_2C_3	Current Alarm Part	0x7774	30580	1	16bits UINT	IR				0
OD05MONI_ARM_2C_4	Current Alarm Part	0x7776	30582	1	16bits UINT	IR				0
OD05MONI_ARM_3C_1	Current Alarm Part	0x7778	30584	1	16bits UINT	IR				0
OD05MONI_ARM_3C_2	Current Alarm Part	0x777A	30586	1	16bits UINT	IR				0
OD05MONI_ARM_3C_3	Current Alarm Part	0x777C	30588	1	16bits UINT	IR				0
OD05MONI_ARM_3C_4	Current Alarm Part	0x777E	30590	1	16bits UINT	IR				0
OD05MONI_ARM_4C_1	Current Alarm Part	0x7780	30592	1	16bits UINT	IR				0
OD05MONI_ARM_4C_2	Current Alarm Part	0x7782	30594	1	16bits UINT	IR				0
OD05MONI_ARM_4C_3	Current Alarm Part	0x7784	30596	1	16bits UINT	IR				0
OD05MONI_ARM_4C_4	Current Alarm Part	0x7786	30598	1	16bits UINT	IR				0
OD05MONI_ARM_5C_1	Current Alarm Part	0x7788	30600	1	16bits UINT	IR				0
OD05MONI_ARM_5C_2	Current Alarm Part	0x778A	30602	1	16bits UINT	IR				0
OD05MONI_ARM_5C_3	Current Alarm Part	0x778C	30604	1	16bits UINT	IR				0
OD05MONI_ARM_5C_4	Current Alarm Part	0x778E	30606	1	16bits UINT	IR				0
OD06MONI_ODU_S_S	Odu Start Or Stop	0x77DA	30682	1	16bits UINT	IR		0	1	0
OD06MONI_ODU_HC	Odu Heating Or Cooling	0x77DC	30684	1	16bits UINT	IR		0	1	0
OD06MONI_ODU_ALM	Odu Alarm	0x77DE	30686	1	16bits UINT	IR		0	2	0
OD06MONI_COMP_A1	Compressor A1 Status	0x77E0	30688	1	16bits UINT	IR		0	2	0
OD06MONI_COMP_A2	Compressor A2 Status	0x77E2	30690	1	16bits UINT	IR		0	2	0
OD06MONI_COMP_B1	Compressor B1 Status	0x77E4	30692	1	16bits UINT	IR		0	2	0
OD06MONI_COMP_B2	Compressor B2 Status	0x77E6	30694	1	16bits UINT	IR		0	2	0
OD06MONI_EWT	Entering Water Temp	0x77E8	30696	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD06MONI_LWT	Leaving Water Temp	0x77EA	30698	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD06MONI_ARM_1C_1	Current Alarm Part	0x77EC	30700	1	16bits UINT	IR				0
OD06MONI_ARM_1C_2	Current Alarm Part	0x77EE	30702	1	16bits UINT	IR				0
OD06MONI_ARM_1C_3	Current Alarm Part	0x77F0	30704	1	16bits UINT	IR				0
OD06MONI_ARM_1C_4	Current Alarm Part	0x77F2	30706	1	16bits UINT	IR				0
OD06MONI_ARM_2C_1	Current Alarm Part	0x77F4	30708	1	16bits UINT	IR				0
OD06MONI_ARM_2C_2	Current Alarm Part	0x77F6	30710	1	16bits UINT	IR				0
OD06MONI_ARM_2C_3	Current Alarm Part	0x77F8	30712	1	16bits UINT	IR				0
OD06MONI_ARM_2C_4	Current Alarm Part	0x77FA	30714	1	16bits UINT	IR				0
OD06MONI_ARM_3C_1	Current Alarm Part	0x77FC	30716	1	16bits UINT	IR				0
OD06MONI_ARM_3C_2	Current Alarm Part	0x77FE	30718	1	16bits UINT	IR				0
OD06MONI_ARM_3C_3	Current Alarm Part	0x7800	30720	1	16bits UINT	IR				0
OD06MONI_ARM_3C_4	Current Alarm Part	0x7802	30722	1	16bits UINT	IR				0
OD06MONI_ARM_4C_1	Current Alarm Part	0x7804	30724	1	16bits UINT	IR				0
OD06MONI_ARM_4C_2	Current Alarm Part	0x7806	30726	1	16bits UINT	IR				0
OD06MONI_ARM_4C_3	Current Alarm Part	0x7808	30728	1	16bits UINT	IR				0
OD06MONI_ARM_4C_4	Current Alarm Part	0x780A	30730	1	16bits UINT	IR				0
OD06MONI_ARM_5C_1	Current Alarm Part	0x780C	30732	1	16bits UINT	IR				0

APPENDIX B — MODBUS RTU AND TCP IP (cont)

Table F — Modbus (cont)

PARAMETER	DESCRIPTION	ADDRESS		REG. N°	DISPLAY MODE	TYPE	UNIT	VALUE		
		HEXADECIMAL	DECIMAL					MIN.	MAX.	DEFAULT
OD06MONI_ARM_5C_2	Current Alarm Part	0x780E	30734	1	16bits UINT	IR				0
OD06MONI_ARM_5C_3	Current Alarm Part	0x7810	30736	1	16bits UINT	IR				0
OD06MONI_ARM_5C_4	Current Alarm Part	0x7812	30738	1	16bits UINT	IR				0
OD07MONI_ODU_S_S	Odu Start Or Stop	0x785E	30814	1	16bits UINT	IR		0	1	0
OD07MONI_ODU_HC	Odu Heating Or Cooling	0x7860	30816	1	16bits UINT	IR		0	1	0
OD07MONI_ODU_ALM	Odu Alarm	0x7862	30818	1	16bits UINT	IR		0	2	0
OD07MONI_COMP_A1	Compressor A1 Status	0x7864	30820	1	16bits UINT	IR		0	2	0
OD07MONI_COMP_A2	Compressor A2 Status	0x7866	30822	1	16bits UINT	IR		0	2	0
OD07MONI_COMP_B1	Compressor B1 Status	0x7868	30824	1	16bits UINT	IR		0	2	0
OD07MONI_COMP_B2	Compressor B2 Status	0x786A	30826	1	16bits UINT	IR		0	2	0
OD07MONI_EWT	Entering Water Temp	0x786C	30828	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD07MONI_LWT	Leaving Water Temp	0x786E	30830	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD07MONI_ARM_1C_1	Current Alarm Part	0x7870	30832	1	16bits UINT	IR				0
OD07MONI_ARM_1C_2	Current Alarm Part	0x7872	30834	1	16bits UINT	IR				0
OD07MONI_ARM_1C_3	Current Alarm Part	0x7874	30836	1	16bits UINT	IR				0
OD07MONI_ARM_1C_4	Current Alarm Part	0x7876	30838	1	16bits UINT	IR				0
OD07MONI_ARM_2C_1	Current Alarm Part	0x7878	30840	1	16bits UINT	IR				0
OD07MONI_ARM_2C_2	Current Alarm Part	0x787A	30842	1	16bits UINT	IR				0
OD07MONI_ARM_2C_3	Current Alarm Part	0x787C	30844	1	16bits UINT	IR				0
OD07MONI_ARM_2C_4	Current Alarm Part	0x787E	30846	1	16bits UINT	IR				0
OD07MONI_ARM_3C_1	Current Alarm Part	0x7880	30848	1	16bits UINT	IR				0
OD07MONI_ARM_3C_2	Current Alarm Part	0x7882	30850	1	16bits UINT	IR				0
OD07MONI_ARM_3C_3	Current Alarm Part	0x7884	30852	1	16bits UINT	IR				0
OD07MONI_ARM_3C_4	Current Alarm Part	0x7886	30854	1	16bits UINT	IR				0
OD07MONI_ARM_4C_1	Current Alarm Part	0x7888	30856	1	16bits UINT	IR				0
OD07MONI_ARM_4C_2	Current Alarm Part	0x788A	30858	1	16bits UINT	IR				0
OD07MONI_ARM_4C_3	Current Alarm Part	0x788C	30860	1	16bits UINT	IR				0
OD07MONI_ARM_4C_4	Current Alarm Part	0x788E	30862	1	16bits UINT	IR				0
OD07MONI_ARM_5C_1	Current Alarm Part	0x7890	30864	1	16bits UINT	IR				0
OD07MONI_ARM_5C_2	Current Alarm Part	0x7892	30866	1	16bits UINT	IR				0
OD07MONI_ARM_5C_3	Current Alarm Part	0x7894	30868	1	16bits UINT	IR				0
OD07MONI_ARM_5C_4	Current Alarm Part	0x7896	30870	1	16bits UINT	IR				0
OD08MONI_ODU_S_S	Odu Start Or Stop	0x78E2	30946	1	16bits UINT	IR		0	1	0
OD08MONI_ODU_HC	Odu Heating Or Cooling	0x78E4	30948	1	16bits UINT	IR		0	1	0
OD08MONI_ODU_ALM	Odu Alarm	0x78E6	30950	1	16bits UINT	IR		0	2	0
OD08MONI_COMP_A1	Compressor A1 Status	0x78E8	30952	1	16bits UINT	IR		0	2	0
OD08MONI_COMP_A2	Compressor A2 Status	0x78EA	30954	1	16bits UINT	IR		0	2	0
OD08MONI_COMP_B1	Compressor B1 Status	0x78EC	30956	1	16bits UINT	IR		0	2	0
OD08MONI_COMP_B2	Compressor B2 Status	0x78EE	30958	1	16bits UINT	IR		0	2	0
OD08MONI_EWT	Entering Water Temp	0x78F0	30960	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD08MONI_LWT	Leaving Water Temp	0x78F2	30962	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD08MONI_ARM_1C_1	Current Alarm Part	0x78F4	30964	1	16bits UINT	IR				0
OD08MONI_ARM_1C_2	Current Alarm Part	0x78F6	30966	1	16bits UINT	IR				0
OD08MONI_ARM_1C_3	Current Alarm Part	0x78F8	30968	1	16bits UINT	IR				0
OD08MONI_ARM_1C_4	Current Alarm Part	0x78FA	30970	1	16bits UINT	IR				0
OD08MONI_ARM_2C_1	Current Alarm Part	0x78FC	30972	1	16bits UINT	IR				0
OD08MONI_ARM_2C_2	Current Alarm Part	0x78FE	30974	1	16bits UINT	IR				0
OD08MONI_ARM_2C_3	Current Alarm Part	0x7900	30976	1	16bits UINT	IR				0
OD08MONI_ARM_2C_4	Current Alarm Part	0x7902	30978	1	16bits UINT	IR				0
OD08MONI_ARM_3C_1	Current Alarm Part	0x7904	30980	1	16bits UINT	IR				0
OD08MONI_ARM_3C_2	Current Alarm Part	0x7906	30982	1	16bits UINT	IR				0
OD08MONI_ARM_3C_3	Current Alarm Part	0x7908	30984	1	16bits UINT	IR				0
OD08MONI_ARM_3C_4	Current Alarm Part	0x790A	30986	1	16bits UINT	IR				0
OD08MONI_ARM_4C_1	Current Alarm Part	0x790C	30988	1	16bits UINT	IR				0
OD08MONI_ARM_4C_2	Current Alarm Part	0x790E	30990	1	16bits UINT	IR				0
OD08MONI_ARM_4C_3	Current Alarm Part	0x7910	30992	1	16bits UINT	IR				0
OD08MONI_ARM_4C_4	Current Alarm Part	0x7912	30994	1	16bits UINT	IR				0
OD08MONI_ARM_5C_1	Current Alarm Part	0x7914	30996	1	16bits UINT	IR				0
OD08MONI_ARM_5C_2	Current Alarm Part	0x7916	30998	1	16bits UINT	IR				0
OD08MONI_ARM_5C_3	Current Alarm Part	0x7918	31000	1	16bits UINT	IR				0
OD08MONI_ARM_5C_4	Current Alarm Part	0x791A	31002	1	16bits UINT	IR				0
OD09MONI_ODU_S_S	Odu Start Or Stop	0x7966	31078	1	16bits UINT	IR		0	1	0
OD09MONI_ODU_HC	Odu Heating Or Cooling	0x7968	31080	1	16bits UINT	IR		0	1	0

APPENDIX B — MODBUS RTU AND TCP IP (cont)

Table F — Modbus (cont)

PARAMETER	DESCRIPTION	ADDRESS		REG. N°	DISPLAY MODE	TYPE	UNIT	VALUE		
		HEXADECIMAL	DECIMAL					MIN.	MAX.	DEFAULT
OD09MONI_ODU_ALM	Odu Alarm	0x796A	31082	1	16bits UINT	IR		0	2	0
OD09MONI_COMP_A1	Compressor A1 Status	0x796C	31084	1	16bits UINT	IR		0	2	0
OD09MONI_COMP_A2	Compressor A2 Status	0x796E	31086	1	16bits UINT	IR		0	2	0
OD09MONI_COMP_B1	Compressor B1 Status	0x7970	31088	1	16bits UINT	IR		0	2	0
OD09MONI_COMP_B2	Compressor B2 Status	0x7972	31090	1	16bits UINT	IR		0	2	0
OD09MONI_EWT	Entering Water Temp	0x7974	31092	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD09MONI_LWT	Leaving Water Temp	0x7976	31094	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD09MONI_ARM_1C_1	Current Alarm Part	0x7978	31096	1	16bits UINT	IR				0
OD09MONI_ARM_1C_2	Current Alarm Part	0x797A	31098	1	16bits UINT	IR				0
OD09MONI_ARM_1C_3	Current Alarm Part	0x797C	31100	1	16bits UINT	IR				0
OD09MONI_ARM_1C_4	Current Alarm Part	0x797E	31102	1	16bits UINT	IR				0
OD09MONI_ARM_2C_1	Current Alarm Part	0x7980	31104	1	16bits UINT	IR				0
OD09MONI_ARM_2C_2	Current Alarm Part	0x7982	31106	1	16bits UINT	IR				0
OD09MONI_ARM_2C_3	Current Alarm Part	0x7984	31108	1	16bits UINT	IR				0
OD09MONI_ARM_2C_4	Current Alarm Part	0x7986	31110	1	16bits UINT	IR				0
OD09MONI_ARM_3C_1	Current Alarm Part	0x7988	31112	1	16bits UINT	IR				0
OD09MONI_ARM_3C_2	Current Alarm Part	0x798A	31114	1	16bits UINT	IR				0
OD09MONI_ARM_3C_3	Current Alarm Part	0x798C	31116	1	16bits UINT	IR				0
OD09MONI_ARM_3C_4	Current Alarm Part	0x798E	31118	1	16bits UINT	IR				0
OD09MONI_ARM_4C_1	Current Alarm Part	0x7990	31120	1	16bits UINT	IR				0
OD09MONI_ARM_4C_2	Current Alarm Part	0x7992	31122	1	16bits UINT	IR				0
OD09MONI_ARM_4C_3	Current Alarm Part	0x7994	31124	1	16bits UINT	IR				0
OD09MONI_ARM_4C_4	Current Alarm Part	0x7996	31126	1	16bits UINT	IR				0
OD09MONI_ARM_5C_1	Current Alarm Part	0x7998	31128	1	16bits UINT	IR				0
OD09MONI_ARM_5C_2	Current Alarm Part	0x799A	31130	1	16bits UINT	IR				0
OD09MONI_ARM_5C_3	Current Alarm Part	0x799C	31132	1	16bits UINT	IR				0
OD09MONI_ARM_5C_4	Current Alarm Part	0x799E	31134	1	16bits UINT	IR				0
OD10MONI_ODU_S_S	Odu Start Or Stop	0x79EA	31210	1	16bits UINT	IR		0	1	0
OD10MONI_ODU_HC	Odu Heating Or Cooling	0x79EC	31212	1	16bits UINT	IR		0	1	0
OD10MONI_ODU_ALM	Odu Alarm	0x79EE	31214	1	16bits UINT	IR		0	2	0
OD10MONI_COMP_A1	Compressor A1 Status	0x79F0	31216	1	16bits UINT	IR		0	2	0
OD10MONI_COMP_A2	Compressor A2 Status	0x79F2	31218	1	16bits UINT	IR		0	2	0
OD10MONI_COMP_B1	Compressor B1 Status	0x79F4	31220	1	16bits UINT	IR		0	2	0
OD10MONI_COMP_B2	Compressor B2 Status	0x79F6	31222	1	16bits UINT	IR		0	2	0
OD10MONI_EWT	Entering Water Temp	0x79F8	31224	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD10MONI_LWT	Leaving Water Temp	0x79FA	31226	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD10MONI_ARM_1C_1	Current Alarm Part	0x79FC	31228	1	16bits UINT	IR				0
OD10MONI_ARM_1C_2	Current Alarm Part	0x79FE	31230	1	16bits UINT	IR				0
OD10MONI_ARM_1C_3	Current Alarm Part	0x7A00	31232	1	16bits UINT	IR				0
OD10MONI_ARM_1C_4	Current Alarm Part	0x7A02	31234	1	16bits UINT	IR				0
OD10MONI_ARM_2C_1	Current Alarm Part	0x7A04	31236	1	16bits UINT	IR				0
OD10MONI_ARM_2C_2	Current Alarm Part	0x7A06	31238	1	16bits UINT	IR				0
OD10MONI_ARM_2C_3	Current Alarm Part	0x7A08	31240	1	16bits UINT	IR				0
OD10MONI_ARM_2C_4	Current Alarm Part	0x7A0A	31242	1	16bits UINT	IR				0
OD10MONI_ARM_3C_1	Current Alarm Part	0x7A0C	31244	1	16bits UINT	IR				0
OD10MONI_ARM_3C_2	Current Alarm Part	0x7A0E	31246	1	16bits UINT	IR				0
OD10MONI_ARM_3C_3	Current Alarm Part	0x7A10	31248	1	16bits UINT	IR				0
OD10MONI_ARM_3C_4	Current Alarm Part	0x7A12	31250	1	16bits UINT	IR				0
OD10MONI_ARM_4C_1	Current Alarm Part	0x7A14	31252	1	16bits UINT	IR				0
OD10MONI_ARM_4C_2	Current Alarm Part	0x7A16	31254	1	16bits UINT	IR				0
OD10MONI_ARM_4C_3	Current Alarm Part	0x7A18	31256	1	16bits UINT	IR				0
OD10MONI_ARM_4C_4	Current Alarm Part	0x7A1A	31258	1	16bits UINT	IR				0
OD10MONI_ARM_5C_1	Current Alarm Part	0x7A1C	31260	1	16bits UINT	IR				0
OD10MONI_ARM_5C_2	Current Alarm Part	0x7A1E	31262	1	16bits UINT	IR				0
OD10MONI_ARM_5C_3	Current Alarm Part	0x7A20	31264	1	16bits UINT	IR				0
OD10MONI_ARM_5C_4	Current Alarm Part	0x7A22	31266	1	16bits UINT	IR				0
OD11MONI_ODU_S_S	Odu Start Or Stop	0x7A6E	31342	1	16bits UINT	IR		0	1	0
OD11MONI_ODU_HC	Odu Heating Or Cooling	0x7A70	31344	1	16bits UINT	IR		0	1	0
OD11MONI_ODU_ALM	Odu Alarm	0x7A72	31346	1	16bits UINT	IR		0	2	0
OD11MONI_COMP_A1	Compressor A1 Status	0x7A74	31348	1	16bits UINT	IR		0	2	0
OD11MONI_COMP_A2	Compressor A2 Status	0x7A76	31350	1	16bits UINT	IR		0	2	0
OD11MONI_COMP_B1	Compressor B1 Status	0x7A78	31352	1	16bits UINT	IR		0	2	0
OD11MONI_COMP_B2	Compressor B2 Status	0x7A7A	31354	1	16bits UINT	IR		0	2	0

APPENDIX B — MODBUS RTU AND TCP IP (cont)

Table F — Modbus (cont)

PARAMETER	DESCRIPTION	ADDRESS		REG. N°	DISPLAY MODE	TYPE	UNIT	VALUE		
		HEXADECIMAL	DECIMAL					MIN.	MAX.	DEFAULT
OD11MONI_EWT	Entering Water Temp	0x7A7C	31356	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD11MONI_LWT	Leaving Water Temp	0x7A7E	31358	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD11MONI_ARM_1C_1	Current Alarm Part	0x7A80	31360	1	16bits UINT	IR				0
OD11MONI_ARM_1C_2	Current Alarm Part	0x7A82	31362	1	16bits UINT	IR				0
OD11MONI_ARM_1C_3	Current Alarm Part	0x7A84	31364	1	16bits UINT	IR				0
OD11MONI_ARM_1C_4	Current Alarm Part	0x7A86	31366	1	16bits UINT	IR				0
OD11MONI_ARM_2C_1	Current Alarm Part	0x7A88	31368	1	16bits UINT	IR				0
OD11MONI_ARM_2C_2	Current Alarm Part	0x7A8A	31370	1	16bits UINT	IR				0
OD11MONI_ARM_2C_3	Current Alarm Part	0x7A8C	31372	1	16bits UINT	IR				0
OD11MONI_ARM_2C_4	Current Alarm Part	0x7A8E	31374	1	16bits UINT	IR				0
OD11MONI_ARM_3C_1	Current Alarm Part	0x7A90	31376	1	16bits UINT	IR				0
OD11MONI_ARM_3C_2	Current Alarm Part	0x7A92	31378	1	16bits UINT	IR				0
OD11MONI_ARM_3C_3	Current Alarm Part	0x7A94	31380	1	16bits UINT	IR				0
OD11MONI_ARM_3C_4	Current Alarm Part	0x7A96	31382	1	16bits UINT	IR				0
OD11MONI_ARM_4C_1	Current Alarm Part	0x7A98	31384	1	16bits UINT	IR				0
OD11MONI_ARM_4C_2	Current Alarm Part	0x7A9A	31386	1	16bits UINT	IR				0
OD11MONI_ARM_4C_3	Current Alarm Part	0x7A9C	31388	1	16bits UINT	IR				0
OD11MONI_ARM_4C_4	Current Alarm Part	0x7A9E	31390	1	16bits UINT	IR				0
OD11MONI_ARM_5C_1	Current Alarm Part	0x7AA0	31392	1	16bits UINT	IR				0
OD11MONI_ARM_5C_2	Current Alarm Part	0x7AA2	31394	1	16bits UINT	IR				0
OD11MONI_ARM_5C_3	Current Alarm Part	0x7AA4	31396	1	16bits UINT	IR				0
OD11MONI_ARM_5C_4	Current Alarm Part	0x7AA6	31398	1	16bits UINT	IR				0
OD12MONI_ODU_S_S	Odu Start Or Stop	0x7AF2	31474	1	16bits UINT	IR		0	1	0
OD12MONI_ODU_HC	Odu Heating Or Cooling	0x7AF4	31476	1	16bits UINT	IR		0	1	0
OD12MONI_ODU_ALM	Odu Alarm	0x7AF6	31478	1	16bits UINT	IR		0	2	0
OD12MONI_COMP_A1	Compressor A1 Status	0x7AF8	31480	1	16bits UINT	IR		0	2	0
OD12MONI_COMP_A2	Compressor A2 Status	0x7AFA	31482	1	16bits UINT	IR		0	2	0
OD12MONI_COMP_B1	Compressor B1 Status	0x7AFC	31484	1	16bits UINT	IR		0	2	0
OD12MONI_COMP_B2	Compressor B2 Status	0x7AFE	31486	1	16bits UINT	IR		0	2	0
OD12MONI_EWT	Entering Water Temp	0x7B00	31488	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD12MONI_LWT	Leaving Water Temp	0x7B02	31490	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD12MONI_ARM_1C_1	Current Alarm Part	0x7B04	31492	1	16bits UINT	IR				0
OD12MONI_ARM_1C_2	Current Alarm Part	0x7B06	31494	1	16bits UINT	IR				0
OD12MONI_ARM_1C_3	Current Alarm Part	0x7B08	31496	1	16bits UINT	IR				0
OD12MONI_ARM_1C_4	Current Alarm Part	0x7B0A	31498	1	16bits UINT	IR				0
OD12MONI_ARM_2C_1	Current Alarm Part	0x7B0C	31500	1	16bits UINT	IR				0
OD12MONI_ARM_2C_2	Current Alarm Part	0x7B0E	31502	1	16bits UINT	IR				0
OD12MONI_ARM_2C_3	Current Alarm Part	0x7B10	31504	1	16bits UINT	IR				0
OD12MONI_ARM_2C_4	Current Alarm Part	0x7B12	31506	1	16bits UINT	IR				0
OD12MONI_ARM_3C_1	Current Alarm Part	0x7B14	31508	1	16bits UINT	IR				0
OD12MONI_ARM_3C_2	Current Alarm Part	0x7B16	31510	1	16bits UINT	IR				0
OD12MONI_ARM_3C_3	Current Alarm Part	0x7B18	31512	1	16bits UINT	IR				0
OD12MONI_ARM_3C_4	Current Alarm Part	0x7B1A	31514	1	16bits UINT	IR				0
OD12MONI_ARM_4C_1	Current Alarm Part	0x7B1C	31516	1	16bits UINT	IR				0
OD12MONI_ARM_4C_2	Current Alarm Part	0x7B1E	31518	1	16bits UINT	IR				0
OD12MONI_ARM_4C_3	Current Alarm Part	0x7B20	31520	1	16bits UINT	IR				0
OD12MONI_ARM_4C_4	Current Alarm Part	0x7B22	31522	1	16bits UINT	IR				0
OD12MONI_ARM_5C_1	Current Alarm Part	0x7B24	31524	1	16bits UINT	IR				0
OD12MONI_ARM_5C_2	Current Alarm Part	0x7B26	31526	1	16bits UINT	IR				0
OD12MONI_ARM_5C_3	Current Alarm Part	0x7B28	31528	1	16bits UINT	IR				0
OD12MONI_ARM_5C_4	Current Alarm Part	0x7B2A	31530	1	16bits UINT	IR				0
OD13MONI_ODU_S_S	Odu Start Or Stop	0x7B76	31606	1	16bits UINT	IR		0	1	0
OD13MONI_ODU_HC	Odu Heating Or Cooling	0x7B78	31608	1	16bits UINT	IR		0	1	0
OD13MONI_ODU_ALM	Odu Alarm	0x7B7A	31610	1	16bits UINT	IR		0	2	0
OD13MONI_COMP_A1	Compressor A1 Status	0x7B7C	31612	1	16bits UINT	IR		0	2	0
OD13MONI_COMP_A2	Compressor A2 Status	0x7B7E	31614	1	16bits UINT	IR		0	2	0
OD13MONI_COMP_B1	Compressor B1 Status	0x7B80	31616	1	16bits UINT	IR		0	2	0
OD13MONI_COMP_B2	Compressor B2 Status	0x7B82	31618	1	16bits UINT	IR		0	2	0
OD13MONI_EWT	Entering Water Temp	0x7B84	31620	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD13MONI_LWT	Leaving Water Temp	0x7B86	31622	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD13MONI_ARM_1C_1	Current Alarm Part	0x7B88	31624	1	16bits UINT	IR				0

APPENDIX B — MODBUS RTU AND TCP IP (cont)

Table F — Modbus (cont)

PARAMETER	DESCRIPTION	ADDRESS		REG. N°	DISPLAY MODE	TYPE	UNIT	VALUE		
		HEXADECIMAL	DECIMAL					MIN.	MAX.	DEFAULT
OD13MONI_ARM_1C_2	Current Alarm Part	0x7B8A	31626	1	16bits UINT	IR				0
OD13MONI_ARM_1C_3	Current Alarm Part	0x7B8C	31628	1	16bits UINT	IR				0
OD13MONI_ARM_1C_4	Current Alarm Part	0x7B8E	31630	1	16bits UINT	IR				0
OD13MONI_ARM_2C_1	Current Alarm Part	0x7B90	31632	1	16bits UINT	IR				0
OD13MONI_ARM_2C_2	Current Alarm Part	0x7B92	31634	1	16bits UINT	IR				0
OD13MONI_ARM_2C_3	Current Alarm Part	0x7B94	31636	1	16bits UINT	IR				0
OD13MONI_ARM_2C_4	Current Alarm Part	0x7B96	31638	1	16bits UINT	IR				0
OD13MONI_ARM_3C_1	Current Alarm Part	0x7B98	31640	1	16bits UINT	IR				0
OD13MONI_ARM_3C_2	Current Alarm Part	0x7B9A	31642	1	16bits UINT	IR				0
OD13MONI_ARM_3C_3	Current Alarm Part	0x7B9C	31644	1	16bits UINT	IR				0
OD13MONI_ARM_3C_4	Current Alarm Part	0x7B9E	31646	1	16bits UINT	IR				0
OD13MONI_ARM_4C_1	Current Alarm Part	0x7BA0	31648	1	16bits UINT	IR				0
OD13MONI_ARM_4C_2	Current Alarm Part	0x7BA2	31650	1	16bits UINT	IR				0
OD13MONI_ARM_4C_3	Current Alarm Part	0x7BA4	31652	1	16bits UINT	IR				0
OD13MONI_ARM_4C_4	Current Alarm Part	0x7BA6	31654	1	16bits UINT	IR				0
OD13MONI_ARM_5C_1	Current Alarm Part	0x7BA8	31656	1	16bits UINT	IR				0
OD13MONI_ARM_5C_2	Current Alarm Part	0x7BAA	31658	1	16bits UINT	IR				0
OD13MONI_ARM_5C_3	Current Alarm Part	0x7BAC	31660	1	16bits UINT	IR				0
OD13MONI_ARM_5C_4	Current Alarm Part	0x7BAE	31662	1	16bits UINT	IR				0
OD14MONI_ODU_S_S	Odu Start Or Stop	0x7BFA	31738	1	16bits UINT	IR		0	1	0
OD14MONI_ODU_HC	Odu Heating Or Cooling	0x7BFC	31740	1	16bits UINT	IR		0	1	0
OD14MONI_ODU_ALM	Odu Alarm	0x7BFE	31742	1	16bits UINT	IR		0	2	0
OD14MONI_COMP_A1	Compressor A1 Status	0x7C00	31744	1	16bits UINT	IR		0	2	0
OD14MONI_COMP_A2	Compressor A2 Status	0x7C02	31746	1	16bits UINT	IR		0	2	0
OD14MONI_COMP_B1	Compressor B1 Status	0x7C04	31748	1	16bits UINT	IR		0	2	0
OD14MONI_COMP_B2	Compressor B2 Status	0x7C06	31750	1	16bits UINT	IR		0	2	0
OD14MONI_EWT	Entering Water Temp	0x7C08	31752	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD14MONI_LWT	Leaving Water Temp	0x7C0A	31754	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD14MONI_ARM_1C_1	Current Alarm Part	0x7C0C	31756	1	16bits UINT	IR				0
OD14MONI_ARM_1C_2	Current Alarm Part	0x7C0E	31758	1	16bits UINT	IR				0
OD14MONI_ARM_1C_3	Current Alarm Part	0x7C10	31760	1	16bits UINT	IR				0
OD14MONI_ARM_1C_4	Current Alarm Part	0x7C12	31762	1	16bits UINT	IR				0
OD14MONI_ARM_2C_1	Current Alarm Part	0x7C14	31764	1	16bits UINT	IR				0
OD14MONI_ARM_2C_2	Current Alarm Part	0x7C16	31766	1	16bits UINT	IR				0
OD14MONI_ARM_2C_3	Current Alarm Part	0x7C18	31768	1	16bits UINT	IR				0
OD14MONI_ARM_2C_4	Current Alarm Part	0x7C1A	31770	1	16bits UINT	IR				0
OD14MONI_ARM_3C_1	Current Alarm Part	0x7C1C	31772	1	16bits UINT	IR				0
OD14MONI_ARM_3C_2	Current Alarm Part	0x7C1E	31774	1	16bits UINT	IR				0
OD14MONI_ARM_3C_3	Current Alarm Part	0x7C20	31776	1	16bits UINT	IR				0
OD14MONI_ARM_3C_4	Current Alarm Part	0x7C22	31778	1	16bits UINT	IR				0
OD14MONI_ARM_4C_1	Current Alarm Part	0x7C24	31780	1	16bits UINT	IR				0
OD14MONI_ARM_4C_2	Current Alarm Part	0x7C26	31782	1	16bits UINT	IR				0
OD14MONI_ARM_4C_3	Current Alarm Part	0x7C28	31784	1	16bits UINT	IR				0
OD14MONI_ARM_4C_4	Current Alarm Part	0x7C2A	31786	1	16bits UINT	IR				0
OD14MONI_ARM_5C_1	Current Alarm Part	0x7C2C	31788	1	16bits UINT	IR				0
OD14MONI_ARM_5C_2	Current Alarm Part	0x7C2E	31790	1	16bits UINT	IR				0
OD14MONI_ARM_5C_3	Current Alarm Part	0x7C30	31792	1	16bits UINT	IR				0
OD14MONI_ARM_5C_4	Current Alarm Part	0x7C32	31794	1	16bits UINT	IR				0
OD15MONI_ODU_S_S	Odu Start Or Stop	0x7C7E	31870	1	16bits UINT	IR		0	1	0
OD15MONI_ODU_HC	Odu Heating Or Cooling	0x7C80	31872	1	16bits UINT	IR		0	1	0
OD15MONI_ODU_ALM	Odu Alarm	0x7C82	31874	1	16bits UINT	IR		0	2	0
OD15MONI_COMP_A1	Compressor A1 Status	0x7C84	31876	1	16bits UINT	IR		0	2	0
OD15MONI_COMP_A2	Compressor A2 Status	0x7C86	31878	1	16bits UINT	IR		0	2	0
OD15MONI_COMP_B1	Compressor B1 Status	0x7C88	31880	1	16bits UINT	IR		0	2	0
OD15MONI_COMP_B2	Compressor B2 Status	0x7C8A	31882	1	16bits UINT	IR		0	2	0
OD15MONI_EWT	Entering Water Temp	0x7C8C	31884	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD15MONI_LWT	Leaving Water Temp	0x7C8E	31886	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD15MONI_ARM_1C_1	Current Alarm Part	0x7C90	31888	1	16bits UINT	IR				0
OD15MONI_ARM_1C_2	Current Alarm Part	0x7C92	31890	1	16bits UINT	IR				0
OD15MONI_ARM_1C_3	Current Alarm Part	0x7C94	31892	1	16bits UINT	IR				0
OD15MONI_ARM_1C_4	Current Alarm Part	0x7C96	31894	1	16bits UINT	IR				0
OD15MONI_ARM_2C_1	Current Alarm Part	0x7C98	31896	1	16bits UINT	IR				0
OD15MONI_ARM_2C_2	Current Alarm Part	0x7C9A	31898	1	16bits UINT	IR				0

APPENDIX B — MODBUS RTU AND TCP IP (cont)

Table F — Modbus (cont)

PARAMETER	DESCRIPTION	ADDRESS		REG. N°	DISPLAY MODE	TYPE	UNIT	VALUE		
		HEXADECIMAL	DECIMAL					MIN.	MAX.	DEFAULT
OD15MONI_ARM_2C_3	Current Alarm Part	0x7C9C	31900	1	16bits UINT	IR				0
OD15MONI_ARM_2C_4	Current Alarm Part	0x7C9E	31902	1	16bits UINT	IR				0
OD15MONI_ARM_3C_1	Current Alarm Part	0x7CA0	31904	1	16bits UINT	IR				0
OD15MONI_ARM_3C_2	Current Alarm Part	0x7CA2	31906	1	16bits UINT	IR				0
OD15MONI_ARM_3C_3	Current Alarm Part	0x7CA4	31908	1	16bits UINT	IR				0
OD15MONI_ARM_3C_4	Current Alarm Part	0x7CA6	31910	1	16bits UINT	IR				0
OD15MONI_ARM_4C_1	Current Alarm Part	0x7CA8	31912	1	16bits UINT	IR				0
OD15MONI_ARM_4C_2	Current Alarm Part	0x7CAA	31914	1	16bits UINT	IR				0
OD15MONI_ARM_4C_3	Current Alarm Part	0x7CAC	31916	1	16bits UINT	IR				0
OD15MONI_ARM_4C_4	Current Alarm Part	0x7CAE	31918	1	16bits UINT	IR				0
OD15MONI_ARM_5C_1	Current Alarm Part	0x7CB0	31920	1	16bits UINT	IR				0
OD15MONI_ARM_5C_2	Current Alarm Part	0x7CB2	31922	1	16bits UINT	IR				0
OD15MONI_ARM_5C_3	Current Alarm Part	0x7CB4	31924	1	16bits UINT	IR				0
OD15MONI_ARM_5C_4	Current Alarm Part	0x7CB6	31926	1	16bits UINT	IR				0
OD16MONI_ODU_S_S	Odu Start Or Stop	0x7D02	32002	1	16bits UINT	IR		0	1	0
OD16MONI_ODU_HC	Odu Heating Or Cooling	0x7D04	32004	1	16bits UINT	IR		0	1	0
OD16MONI_ODU_ALM	Odu Alarm	0x7D06	32006	1	16bits UINT	IR		0	2	0
OD16MONI_COMP_A1	Compressor A1 Status	0x7D08	32008	1	16bits UINT	IR		0	2	0
OD16MONI_COMP_A2	Compressor A2 Status	0x7D0A	32010	1	16bits UINT	IR		0	2	0
OD16MONI_COMP_B1	Compressor B1 Status	0x7D0C	32012	1	16bits UINT	IR		0	2	0
OD16MONI_COMP_B2	Compressor B2 Status	0x7D0E	32014	1	16bits UINT	IR		0	2	0
OD16MONI_EWT	Entering Water Temp	0x7D10	32016	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD16MONI_LWT	Leaving Water Temp	0x7D12	32018	2	16bits FLOAT	IR	°F			0
							°C			-17.8
OD16MONI_ARM_1C_1	Current Alarm Part	0x7D14	32020	1	16bits UINT	IR				0
OD16MONI_ARM_1C_2	Current Alarm Part	0x7D16	32022	1	16bits UINT	IR				0
OD16MONI_ARM_1C_3	Current Alarm Part	0x7D18	32024	1	16bits UINT	IR				0
OD16MONI_ARM_1C_4	Current Alarm Part	0x7D1A	32026	1	16bits UINT	IR				0
OD16MONI_ARM_2C_1	Current Alarm Part	0x7D1C	32028	1	16bits UINT	IR				0
OD16MONI_ARM_2C_2	Current Alarm Part	0x7D1E	32030	1	16bits UINT	IR				0
OD16MONI_ARM_2C_3	Current Alarm Part	0x7D20	32032	1	16bits UINT	IR				0
OD16MONI_ARM_2C_4	Current Alarm Part	0x7D22	32034	1	16bits UINT	IR				0
OD16MONI_ARM_3C_1	Current Alarm Part	0x7D24	32036	1	16bits UINT	IR				0
OD16MONI_ARM_3C_2	Current Alarm Part	0x7D26	32038	1	16bits UINT	IR				0
OD16MONI_ARM_3C_3	Current Alarm Part	0x7D28	32040	1	16bits UINT	IR				0
OD16MONI_ARM_3C_4	Current Alarm Part	0x7D2A	32042	1	16bits UINT	IR				0
OD16MONI_ARM_4C_1	Current Alarm Part	0x7D2C	32044	1	16bits UINT	IR				0
OD16MONI_ARM_4C_2	Current Alarm Part	0x7D2E	32046	1	16bits UINT	IR				0
OD16MONI_ARM_4C_3	Current Alarm Part	0x7D30	32048	1	16bits UINT	IR				0
OD16MONI_ARM_4C_4	Current Alarm Part	0x7D32	32050	1	16bits UINT	IR				0
OD16MONI_ARM_5C_1	Current Alarm Part	0x7D34	32052	1	16bits UINT	IR				0
OD16MONI_ARM_5C_2	Current Alarm Part	0x7D36	32054	1	16bits UINT	IR				0
OD16MONI_ARM_5C_3	Current Alarm Part	0x7D38	32056	1	16bits UINT	IR				0
OD16MONI_ARM_5C_4	Current Alarm Part	0x7D3A	32058	1	16bits UINT	IR				0
SYS_CFG_ODU_NUM	System Odu Number(1~16)	0x9C44	40004	1	16bits UINT	HR		1	16	1
SYS_CFG_WT_PUMP	Pump Options	0x9C46	40006	1	16bits UINT	HR		0	3	1
SYS_CTRL_SYS_S_S	System Start/Stop	0x9C4C	40012	1	16bits UINT	HR		0	3	0
SYS_CTRL_SYS_HC	System Heatcool Mode	0x9C4E	40014	1	16bits UINT	HR		0	4	0
SYS_CTRL_HK_R_ALM	Hk Reset Alarm	0x9C52	40018	1	16bits UINT	HR		0	1	0
SYS_CTRL_OD_R_ALM	Odu Reset Alarm	0x9C58	40024	1	16bits UINT	HR		0	65535	0
SYS_CTRL_EWT_CTRL	System Ewt Ctrl Option	0x9C5E	40030	1	16bits UINT	HR		0	1	1
SYS_CTRL_SYS_C_SP	System Cooling Setpoint	0x9C62	40034	2	16bits FLOAT	HR	°F	42.8	86	53.6
							°C	6	30	12
SYS_CTRL_SYS_H_SP	System Heating Setpoint	0x9C64	40036	2	16bits FLOAT	HR	°F	77	140	104
							°C	25	60	40
SYS_MONI_SYS_STAT	System Status	0x7530	30000	1	16bits UINT	IR		0	255	0
SYS_MONI_SYS_S_S	System Start Stop	0x7532	30002	1	16bits UINT	IR		0	1	0
SYS_MONI_SYS_HC	System Running Mode	0x7534	30004	1	16bits UINT	IR		0	1	0
SYS_MONI_SYS_ALM	System Alarm Status	0x7536	30006	1	16bits UINT	IR		0	2	0
SYS_MONI_SYS_SIZE	System Size	0x7538	30008	2	16bits FLOAT	IR	kW			0
SYS_MONI_SYS_SP	System Setpoint	0x753A	30010	2	16bits FLOAT	IR	°F	41	140	53.6
							°C	5	60	12
SYS_MONI_SYS_EWT	System Enter Water	0x753C	30012	2	16bits FLOAT	IR	°F			0
							°C			-17.8

APPENDIX B — MODBUS RTU AND TCP IP (cont)

Table F — Modbus (cont)

PARAMETER	DESCRIPTION	ADDRESS		REG. N°	DISPLAY MODE	TYPE	UNIT	VALUE		
		HEXADECIMAL	DECIMAL					MIN.	MAX.	DEFAULT
SYS_MONI_SYS_LWT	System Leave Water	0x753E	30014	2	16bits FLOAT	IR	°F			0
							°C			-17.8
SYS_MONI_SYS_OAT	System Outdoor Air	0x7540	30016	2	16bits FLOAT	IR	°F			0
							°C			-17.8
SYS_MONI_SYS_CAPA	System Capacity	0x7542	30018	2	16bits FLOAT	IR	%	0	100	0
SYS_MONI_SYS_PUMP	System Pump Speed	0x7544	30020	2	16bits FLOAT	IR	HZ	0	50	0

APPENDIX C — TEMPERATURE/RESISTANCE

**Table G — 10K Thermistor
Temperature vs. Resistance**

°F	°C	RESISTANCE (Ohms)
-35	-40	1660434
-33	-39	1553957
-31	-38	1455018
-29	-37	1363033
-27	-36	1277471
-26	-35	1197841
-24	-34	1123696
-22	-33	1054623
-20	-32	990245
-18	-31	930212
-17	-30	874204
-15	-29	821927
-13	-28	773110
-11	-27	727502
-9	-26	684873
-8	-25	645010
-6	-24	607718
-4	-23	572814
-2	-22	540132
-0	-21	509518
1	-20	480827
3	-19	453928
5	-18	428698
7	-17	405025
9	-16	382802
10	-15	361933
12	-14	342327
14	-13	323900
16	-12	306576
18	-11	290281
19	-10	274949
21	-9	260517
23	-8	246927
25	-7	234125
27	-6	222062
28	-5	210691
30	-4	199967
32	-3	189851
34	-2	180305
36	-1	171294
37	0	162784
39	1	154745
41	2	147148

**Table G — 10K Thermistor
Temperature vs. Resistance (cont)**

°F	°C	RESISTANCE (Ohms)
43	3	139967
45	4	133177
46	5	126754
48	6	120677
50	7	114924
52	8	109478
54	9	104320
55	10	99432
57	11	94801
59	12	90410
61	13	86247
63	14	82298
64	15	78551
66	16	74994
68	17	71618
70	18	68411
72	19	65365
73	20	62471
75	21	59720
77	22	57104
79	23	54617
81	24	52251
82	25	50000
84	26	47857
86	27	45818
88	28	43875
90	29	42025
91	30	40263
93	31	38583
95	32	36982
97	33	35455
99	34	33999
100	35	32610
102	36	31285
104	37	30020
106	38	28812
108	39	27659
109	40	26558
111	41	25506
113	42	24501
115	43	23541
117	44	22622
118	45	21744

**Table G — 10K Thermistor
Temperature vs. Resistance (cont)**

°F	°C	RESISTANCE (Ohms)
120	46	20905
122	47	20101
124	48	19333
126	49	18597
127	50	17893
129	51	17219
131	52	16574
133	53	15956
135	54	15363
136	55	14796
138	56	14252
140	57	13730
142	58	13231
144	59	12751
145	60	12291
147	61	11850
149	62	11427
151	63	11021
153	64	10631
154	65	10256
156	66	9897
158	67	9551
160	68	9220
162	69	8901
163	70	8595
165	71	8300
167	72	8017
169	73	7745
171	74	7484
172	75	7232
174	76	6990
176	77	6757
178	78	6533
180	79	6317
181	80	6109
183	81	5909
185	82	5717
187	83	5531
189	84	5353
190	85	5181
192	86	5015
194	87	4855
196	88	4701

APPENDIX C — TEMPERATURE/RESISTANCE (cont)

**Table G — 10K Thermistor
Temperature vs. Resistance (cont)**

°F	°C	RESISTANCE (Ohms)
198	89	4552
199	90	4409
201	91	4271
203	92	4138
205	93	4009
207	94	3885
208	95	3766
210	96	3650
212	97	3539
214	98	3431
216	99	3327
217	100	3227
219	101	3130
221	102	3037
223	103	2946
225	104	2859
226	105	2774
228	106	2693
230	107	2614
232	108	2538
234	109	2464
235	110	2393
237	111	2324
239	112	2257
241	113	2193
243	114	2130
244	115	2070
246	116	2012
248	117	1955
250	118	1900
252	119	1847
253	120	1796
255	121	1746
257	122	1698
259	123	1652
261	124	1606
262	125	1563
264	126	1520
266	127	1479
268	128	1439
270	129	1401
271	130	1363
273	131	1327
275	132	1292

**Table G — 10K Thermistor
Temperature vs. Resistance (cont)**

°F	°C	RESISTANCE (Ohms)
277	133	1258
279	134	1225
280	135	1193
282	136	1162
284	137	1131
286	138	1102
288	139	1074
289	140	1046
291	141	1019
293	142	993
295	143	968
297	144	944
298	145	920
300	146	897
302	147	874
304	148	852
306	149	831
307	150	811
309	151	791
311	152	771
313	153	752
315	154	734
316	155	716
318	156	699
320	157	682
0	158	666
0	159	650
32	160	634

