



Modbus Manual Cx-Series

940140-0012 Rev. -

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1 BMS CONFIGURATION

1.1 Modbus twisted pair (J4 FBus)

The baud rate, parity and stop bit settings for J4 can be changed from the Settings>Configuration>Network Config. From this menu, the BACnet device instance can also be changed. Once these settings are changed, a power cycle of the heat pump is required for them to take effect.

1.2 Modbus IP

The heat pump default configuration for Modbus IP uses port 502 on TCP.

1.3 Default Network Information

The default IP address for the master heat pump is: “110.100.100.101”.

The default Netmask is: “255.255.255.0”.

For different settings contact the factory.

1.4 Cloud Based Reporting Protonode

The cloud-based reporting protonode allows the heat pump to report to a web user interface via ethernet, wi-fi, or cellular based services. If the cloud-based reporting protonode is used, it will change the BACnet points that contain 0 as a status. Contact the factory for specific details and documentation about this feature.

2 BMS CONTROL

2.1 Bit Fields

There are several points that use have binary values mapped to a single 16- or 32-bit value. These points are the BMS stage lists and the alarm codes.

2.2 Alarm Code

The alarm code for each unit can be a value between 0 to 4,294,967,296 (32 bits). The binary value of this number breaks down into a detailed alarm listing. The bitfield is indexed where the most significant bit (MSB) is 31 and the least (LSB) is 0; refer to Table 1 for the mapping. Whenever any alarm event is active bit 0 is also true.

Table 1: Bitfield Alarm Map

BIT	ALARM/EVENT
0	GLOBAL ALARM
1	COMPRESSOR OVERLOAD ALARM
2	ENTERING SOURCE TEMPERATURE ALARM
3	LEAVING SOURCE TEMPERATURE ALARM
4	SOURCE FLOW ALARM
5	SOURCE OVERLOAD ALARM
6	DISCHARGE PRESSURE ALARM
7	SUCTION PRESSURE ALARM
8	SUCTION TEMPERATURE ALARM
9	COMPRESSOR MODULE ALARM
10	POTABLE PUMP ALARM
11	ENTERING POTABLE WATER OVER MAX
12	PHASE VOLT FAILURE ALARM
13	EXPANSION VALVE DRIVER ALARM
14	REFRIGERANT LEAK ALARM
15	COMPRESSION RATIO ALARM
16	VFD ALARM
17	SENSOR FAILURE ALARM
18	EXPANSION CARD OFFLINE ALARM
19	DISCHARGE TEMPERATURE ALARM

2.3 External BMS control

When the maximum entering water event (alarm bit 11: Entering potable water over max) is triggered the heat pump will shut off and remain off for 10 minutes (default). If the BMS call/demand is still active, the heat pump will attempt to start again if a call is present. Because of this, it is recommended that the alarm bit 11 is utilized to end the heating demand signal sent via BMS to prevent short cycling of the heat pumps.

3 MODBUS POINTS LIST (SIMPLIFIED)

Index	Variable Name	Size	Type	Function	Possible Values	Description
0	BMS Call for Heat	1	Boolean	R/W	0 = No Call, 1 = Call	Provides a Call for heat from a BMS system
1	Enable Unit 1	1	Boolean	R/W	0 = Disable, 1 = Enable	Enables/Disables operation of individual heat pump module
2	Enable Unit 2	1	Boolean	R/W		
3	Enable Unit 3	1	Boolean	R/W		
4	Enable Unit 4	1	Boolean	R/W		
5	Enable Unit 5	1	Boolean	R/W		
6	Enable Unit 6	1	Boolean	R/W		
7	Enable Unit 7	1	Boolean	R/W		
8	Enable Unit 8	1	Boolean	R/W		
9	Enable Unit 9	1	Boolean	R/W		
10	Enable Unit 10	1	Boolean	R/W		
11	Enable Unit 11	1	Boolean	R/W		
12	Enable Unit 12	1	Boolean	R/W		
26	View Stage Settings: Stage Call for heat	1	Boolean	R	0 = No Call, 1 = Call	Shows the status of the currently selected stage
13	Tank 1 Temperature	1	UINT16	R	-100 to 250	Current tank temperature at Aquastat 1
14	Tank 2 Temperature	1	UINT16	R	-100 to 250	Current tank temperature at Aquastat 2
15	Tank 3 Temperature	1	UINT16	R	-100 to 250	Current tank temperature at Aquastat 3
16	Tank 4 Temperature	1	UINT16	R	-100 to 250	Current tank temperature at Aquastat 4
17	Leaving Temperature Setpoint	1	UINT16	R/W	100 to 185	Target output temperature for the heat pump array
18	VFD Frequency Setpoint	1	INT16	R/W	35 to 60	Target VFD frequency for the heat pump array

Index	Variable Name	Size	Type	Function	Possible Values	Description
19	External Staging: Number to run	1	INT16	R/W	1 to 12	Allows a BMS system to control staging, and the PLC to control Lead-lag
20	View Stage Settings: Stage ID Number	1	UINT16	R/W	1 to 12	Allows the user to view information about a specific stage
21	View Stage Settings: Stage Type	1	UINT16	R	0=Disabled, 1=Single Instant, 2=Single W/ Delay, 3=Dual W/ Delay	Selected stage operating method.
22	View Stage Settings: Stage Status	1	UINT16	R	0=Disabled, 1=Inactive, 2=Delay Timer, 3+= (#-3) to Run	Selected stage status
23	View Stage Settings: Delay Timer	1	INT16	R	0 to 32000 seconds	Current delay time remaining before the stage is active.
24	View Stage Settings: Aquastat 1	1	UINT16	R	0 to 250	Selected stage aquastat 1 temperature
25	View Stage Settings: Aquastat 2	2	UINT16	R	0 to 250	Selected stage aquastat 2 temperature
27	BMS Stage List	1	UINT16	R	Each bit represents a unit (eg. If Bit 0 = true, Unit 1 is active) [15][14][13][12][11][10][9][8][7][6][5][4][3][2][1][0]	Displays the active stages
28	BMS Stage Available List	1	UNIT16	R		Displays the available units
29	BMS Stage Run List	1	UNIT16	R		Displays the running units
35	Unit 1: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
37	Unit 1: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours

Index	Variable Name	Size	Type	Function	Possible Values	Description
39	Unit 1: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
40	Unit 1: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency
50	Unit 1: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
51	Unit 1: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
52	Unit 1: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
53	Unit 1: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
62	Unit 2: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
64	Unit 2: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours
66	Unit 2: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
67	Unit 2: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency

Index	Variable Name	Size	Type	Function	Possible Values	Description
77	Unit 2: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
78	Unit 2: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
79	Unit 2: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
80	Unit 2: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
89	Unit 3: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
91	Unit 3: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours
93	Unit 3: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
94	Unit 3: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency
104	Unit 3: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
105	Unit 3: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
106	Unit 3: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature

Index	Variable Name	Size	Type	Function	Possible Values	Description
107	Unit 3: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
116	Unit 4: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
118	Unit 4: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours
120	Unit 4: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
121	Unit 4: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency
131	Unit 4: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
132	Unit 4: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
133	Unit 4: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
134	Unit 4: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
143	Unit 5: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
145	Unit 5: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours

Index	Variable Name	Size	Type	Function	Possible Values	Description
147	Unit 5: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
148	Unit 5: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency
158	Unit 5: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
159	Unit 5: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
160	Unit 5: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
161	Unit 5: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
170	Unit 6: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
172	Unit 6: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours
174	Unit 6: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
175	Unit 6: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency

Index	Variable Name	Size	Type	Function	Possible Values	Description
185	Unit 6: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
186	Unit 6: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
187	Unit 6: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
188	Unit 6: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
197	Unit 7: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
199	Unit 7: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours
201	Unit 7: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
202	Unit 7: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency
212	Unit 7: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
213	Unit 7: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
214	Unit 7: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature

Index	Variable Name	Size	Type	Function	Possible Values	Description
215	Unit 7: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
224	Unit 8: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
226	Unit 8: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours
228	Unit 8: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
229	Unit 8: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency
239	Unit 8: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
240	Unit 8: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
241	Unit 8: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
242	Unit 8: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
251	Unit 9: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
253	Unit 9: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours

Index	Variable Name	Size	Type	Function	Possible Values	Description
255	Unit 9: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
256	Unit 9: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency
266	Unit 9: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
267	Unit 9: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
268	Unit 9: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
269	Unit 9: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
278	Unit 10: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
280	Unit 10: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours
282	Unit 10: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
283	Unit 10: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency

Index	Variable Name	Size	Type	Function	Possible Values	Description
293	Unit 10: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
294	Unit 10: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
295	Unit 10: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
296	Unit 10: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
305	Unit 11: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
307	Unit 11: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours
309	Unit 11: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
310	Unit 11: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency
320	Unit 11: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
321	Unit 11: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature

Index	Variable Name	Size	Type	Function	Possible Values	Description
322	Unit 11: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
323	Unit 11: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature
332	Unit 12: Alarm Code	2	UNIT32	R	0 to 4,294,967,296	Alarm Code
334	Unit 12: Run Hours	2	UNIT32	R	0 to 4,294,967,296	Run Hours
336	Unit 12: Run Status	1	INT16	R	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
337	Unit 12: VFD Frequency	1	INT16	R	35 to 60	VFD Frequency
347	Unit 12: Entering Potable Temperature	1	INT16	R	-100 to 350	Entering Potable Temperature
348	Unit 12: Leaving Potable Temperature	1	INT16	R	-100 to 350	Leaving Potable Temperature
349	Unit 12: Entering Source Temperature	1	INT16	R	-100 to 350	Entering Source Temperature
350	Unit 12: Leaving Source Temperature	1	INT16	R	-100 to 350	Leaving Source Temperature

4 MODBUS POINTS LIST (ADVANCED)

Index	Variable Name	Type	Type	Possible Values	Description
0	BMS Call for Heat	Coil	Boolean	0 = No Call, 1 = Call	Provides a Call for heat from a BMS system
1	Enable Unit 1	Coil	Boolean	0 = Disable, 1 = Enable	Enables/Disables operation of individual heat pump module
2	Enable Unit 2	Coil	Boolean		
3	Enable Unit 3	Coil	Boolean		
4	Enable Unit 4	Coil	Boolean		
5	Enable Unit 5	Coil	Boolean		
6	Enable Unit 6	Coil	Boolean		
7	Enable Unit 7	Coil	Boolean		
8	Enable Unit 8	Coil	Boolean		
9	Enable Unit 9	Coil	Boolean		
10	Enable Unit 10	Coil	Boolean		
11	Enable Unit 11	Coil	Boolean		
12	Enable Unit 12	Coil	Boolean		
26	View Stage Settings: Stage Call for heat	Coil	Boolean	0 = No Call, 1 = Call	Shows the status of the currently selected stage

Index	Variable Name	Type	Type	Possible Values	Description
13	Tank 1 Temperature	HoldingRegister	UINT16	-100 to 250	Current tank temperature at Aquastat 1
14	Tank 2 Temperature	HoldingRegister	UINT16	-100 to 250	Current tank temperature at Aquastat 2
15	Tank 3 Temperature	HoldingRegister	UINT16	-100 to 250	Current tank temperature at Aquastat 3
16	Tank 4 Temperature	HoldingRegister	UINT16	-100 to 250	Current tank temperature at Aquastat 4
17	Leaving Temperature Setpoint	HoldingRegister	UINT16	100 to 185	Target output temperature for the heat pump array
18	VFD Frequency Setpoint	HoldingRegister	INT16	35 to 60	Target VFD frequency for the heat pump array
19	External Staging: Number to run	HoldingRegister	INT16	1 to 12	Allows a BMS system to control staging, and the PLC to control Lead-lag
20	View Stage Settings: Stage ID Number	HoldingRegister	UINT16	1 to 12	Allows the user to view information about a specific stage
21	View Stage Settings: Stage Type	HoldingRegister	UINT16	0=Disabled, 1=Single Instant, 2=Single W/ Delay, 3=Dual W/ Delay	Selected stage operating method.
22	View Stage Settings: Stage Status	HoldingRegister	UINT16	0=Disabled, 1=Inactive, 2=Delay Timer, 3+= (#-3) to Run	Selected stage status

Index	Variable Name	Type	Type	Possible Values	Description
23	View Stage Settings: Delay Timer	HoldingRegister	INT16	0 to 32000 seconds	Current delay time remaining before the stage is active.
24	View Stage Settings: Aquastat 1	HoldingRegister	UINT16	0 to 250	Selected stage aquastat 1 temperature
25	View Stage Settings: Aquastat 2	HoldingRegister	UINT16	0 to 250	Selected stage aquastat 2 temperature
27	BMS Stage List	HoldingRegister	UINT16	Each bit represents a unit (eg. If Bit 0 = true, Unit 1 is active) [15][14][13][12][11][10][9][8][7][6][5][4][3][2][1][0]	Displays the active stages
28	BMS Stage Available List	HoldingRegister	UNIT16		Displays the available units
29	BMS Stage Run List	HoldingRegister	UNIT16		Displays the running units
35	Unit 1: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code
37	Unit 1: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
39	Unit 1: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
40	Unit 1: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency

Index	Variable Name	Type	Type	Possible Values	Description
41	Unit 1: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
42	Unit 1: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
43	Unit 1: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature
44	Unit 1: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
45	Unit 1: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
46	Unit 1: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value /10	Compressor Power
47	Unit 1: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value /10	Unit Power
48	Unit 1: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP
49	Unit 1: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
50	Unit 1: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
51	Unit 1: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
52	Unit 1: Entering	HoldingRegister	INT16	-100 to 350	Entering Source Temperature

Index	Variable Name	Type	Type	Possible Values	Description
	Source Temperature				
53	Unit 1: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
54	Unit 1: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
55	Unit 1: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power
56	Unit 1: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
57	Unit 1: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
58	Unit 1: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure
59	Unit 1: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
60	Unit 1: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
61	Unit 1: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
62	Unit 2: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code

Index	Variable Name	Type	Type	Possible Values	Description
64	Unit 2: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
66	Unit 2: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
67	Unit 2: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency
68	Unit 2: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
69	Unit 2: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
70	Unit 2: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature
71	Unit 2: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
72	Unit 2: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
73	Unit 2: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
74	Unit 2: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
75	Unit 2: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP

Index	Variable Name	Type	Type	Possible Values	Description
76	Unit 2: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
77	Unit 2: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
78	Unit 2: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
79	Unit 2: Entering Source Temperature	HoldingRegister	INT16	-100 to 350	Entering Source Temperature
80	Unit 2: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
81	Unit 2: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
82	Unit 2: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power
83	Unit 2: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
84	Unit 2: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
85	Unit 2: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure

Index	Variable Name	Type	Type	Possible Values	Description
86	Unit 2: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
87	Unit 2: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
88	Unit 2: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
89	Unit 3: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code
91	Unit 3: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
93	Unit 3: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
94	Unit 3: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency
95	Unit 3: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
96	Unit 3: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
97	Unit 3: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature

Index	Variable Name	Type	Type	Possible Values	Description
98	Unit 3: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
99	Unit 3: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
100	Unit 3: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
101	Unit 3: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
102	Unit 3: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP
103	Unit 3: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
104	Unit 3: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
105	Unit 3: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
106	Unit 3: Entering Source Temperature	HoldingRegister	INT16	-100 to 350	Entering Source Temperature
107	Unit 3: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
108	Unit 3: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
109	Unit 3: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power

Index	Variable Name	Type	Type	Possible Values	Description
110	Unit 3: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
111	Unit 3: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
112	Unit 3: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure
113	Unit 3: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
114	Unit 3: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
115	Unit 3: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
116	Unit 4: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code
118	Unit 4: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
120	Unit 4: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
121	Unit 4: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency

Index	Variable Name	Type	Type	Possible Values	Description
122	Unit 4: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
123	Unit 4: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
124	Unit 4: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature
125	Unit 4: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
126	Unit 4: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
127	Unit 4: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
128	Unit 4: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
129	Unit 4: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP
130	Unit 4: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
131	Unit 4: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
132	Unit 4: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
133	Unit 4: Entering	HoldingRegister	INT16	-100 to 350	Entering Source Temperature

Index	Variable Name	Type	Type	Possible Values	Description
	Source Temperature				
134	Unit 4: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
135	Unit 4: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
136	Unit 4: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power
137	Unit 4: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
138	Unit 4: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
139	Unit 4: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure
140	Unit 4: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
141	Unit 4: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
142	Unit 4: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
143	Unit 5: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code

Index	Variable Name	Type	Type	Possible Values	Description
145	Unit 5: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
147	Unit 5: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
148	Unit 5: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency
149	Unit 5: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
150	Unit 5: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
151	Unit 5: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature
152	Unit 5: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
153	Unit 5: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
154	Unit 5: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
155	Unit 5: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
156	Unit 5: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP

Index	Variable Name	Type	Type	Possible Values	Description
157	Unit 5: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
158	Unit 5: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
159	Unit 5: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
160	Unit 5: Entering Source Temperature	HoldingRegister	INT16	-100 to 350	Entering Source Temperature
161	Unit 5: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
162	Unit 5: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
163	Unit 5: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power
164	Unit 5: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
165	Unit 5: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
166	Unit 5: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure

Index	Variable Name	Type	Type	Possible Values	Description
167	Unit 5: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
168	Unit 5: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
169	Unit 5: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
170	Unit 6: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code
172	Unit 6: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
174	Unit 6: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
175	Unit 6: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency
176	Unit 6: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
177	Unit 6: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
178	Unit 6: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature

Index	Variable Name	Type	Type	Possible Values	Description
179	Unit 6: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
180	Unit 6: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
181	Unit 6: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
182	Unit 6: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
183	Unit 6: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP
184	Unit 6: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
185	Unit 6: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
186	Unit 6: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
187	Unit 6: Entering Source Temperature	HoldingRegister	INT16	-100 to 350	Entering Source Temperature
188	Unit 6: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
189	Unit 6: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
190	Unit 6: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power

Index	Variable Name	Type	Type	Possible Values	Description
191	Unit 6: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
192	Unit 6: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
193	Unit 6: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure
194	Unit 6: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
195	Unit 6: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
196	Unit 6: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
197	Unit 7: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code
199	Unit 7: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
201	Unit 7: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
202	Unit 7: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency

Index	Variable Name	Type	Type	Possible Values	Description
203	Unit 7: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
204	Unit 7: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
205	Unit 7: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature
206	Unit 7: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
207	Unit 7: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
208	Unit 7: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
209	Unit 7: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
210	Unit 7: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP
211	Unit 7: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
212	Unit 7: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
213	Unit 7: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
214	Unit 7: Entering	HoldingRegister	INT16	-100 to 350	Entering Source Temperature

Index	Variable Name	Type	Type	Possible Values	Description
	Source Temperature				
215	Unit 7: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
216	Unit 7: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
217	Unit 7: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power
218	Unit 7: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
219	Unit 7: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
220	Unit 7: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure
221	Unit 7: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
222	Unit 7: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
223	Unit 7: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
224	Unit 8: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code

Index	Variable Name	Type	Type	Possible Values	Description
226	Unit 8: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
228	Unit 8: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
229	Unit 8: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency
230	Unit 8: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
231	Unit 8: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
232	Unit 8: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature
233	Unit 8: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
234	Unit 8: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
235	Unit 8: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
236	Unit 8: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
237	Unit 8: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP

Index	Variable Name	Type	Type	Possible Values	Description
238	Unit 8: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
239	Unit 8: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
240	Unit 8: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
241	Unit 8: Entering Source Temperature	HoldingRegister	INT16	-100 to 350	Entering Source Temperature
242	Unit 8: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
243	Unit 8: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
244	Unit 8: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power
245	Unit 8: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
246	Unit 8: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
247	Unit 8: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure

Index	Variable Name	Type	Type	Possible Values	Description
248	Unit 8: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
249	Unit 8: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
250	Unit 8: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
251	Unit 9: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code
253	Unit 9: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
255	Unit 9: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
256	Unit 9: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency
257	Unit 9: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
258	Unit 9: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
259	Unit 9: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature

Index	Variable Name	Type	Type	Possible Values	Description
260	Unit 9: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
261	Unit 9: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
262	Unit 9: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
263	Unit 9: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
264	Unit 9: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP
265	Unit 9: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
266	Unit 9: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
267	Unit 9: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
268	Unit 9: Entering Source Temperature	HoldingRegister	INT16	-100 to 350	Entering Source Temperature
269	Unit 9: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
270	Unit 9: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
271	Unit 9: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power

Index	Variable Name	Type	Type	Possible Values	Description
272	Unit 9: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
273	Unit 9: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
274	Unit 9: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure
275	Unit 9: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
276	Unit 9: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
277	Unit 9: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
278	Unit 10: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code
280	Unit 10: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
282	Unit 10: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
283	Unit 10: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency

Index	Variable Name	Type	Type	Possible Values	Description
284	Unit 10: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
285	Unit 10: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
286	Unit 10: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature
287	Unit 10: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
288	Unit 10: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
289	Unit 10: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
290	Unit 10: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
291	Unit 10: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP
292	Unit 10: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
293	Unit 10: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
294	Unit 10: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature

Index	Variable Name	Type	Type	Possible Values	Description
295	Unit 10: Entering Source Temperature	HoldingRegister	INT16	-100 to 350	Entering Source Temperature
296	Unit 10: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
297	Unit 10: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
298	Unit 10: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power
299	Unit 10: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
300	Unit 10: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
301	Unit 10: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure
302	Unit 10: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
303	Unit 10: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
304	Unit 10: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
305	Unit 11: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code

Index	Variable Name	Type	Type	Possible Values	Description
307	Unit 11: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
309	Unit 11: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
310	Unit 11: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency
311	Unit 11: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
312	Unit 11: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
313	Unit 11: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature
314	Unit 11: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
315	Unit 11: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
316	Unit 11: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
317	Unit 11: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
318	Unit 11: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP

Index	Variable Name	Type	Type	Possible Values	Description
319	Unit 11: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
320	Unit 11: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
321	Unit 11: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
322	Unit 11: Entering Source Temperature	HoldingRegister	INT16	-100 to 350	Entering Source Temperature
323	Unit 11: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
324	Unit 11: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
325	Unit 11: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power
326	Unit 11: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
327	Unit 11: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
328	Unit 11: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure

Index	Variable Name	Type	Type	Possible Values	Description
329	Unit 11: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
330	Unit 11: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
331	Unit 11: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature
332	Unit 12: Alarm Code	HoldingRegister	UNIT32	0 to 4,294,967,296	Alarm Code
334	Unit 12: Run Hours	HoldingRegister	UNIT32	0 to 4,294,967,296	Run Hours
336	Unit 12: Run Status	HoldingRegister	INT16	0=Offline, 1= Unit on, 2=off by Alarm, 3=Standby, 4=Off by Local Key, 5=Exv not ready, 6= Manual Mode, 7=Start Delay, 8= Unit is Running, 9=Off by BMS, 10=Off by Max Potable Temperature, 11=Off by Alarm Timeout, 12=End of Run Defrost	Run Status
337	Unit 12: VFD Frequency	HoldingRegister	INT16	35 to 60	VFD Frequency
338	Unit 12: Discharge Temperature	HoldingRegister	INT16	-100 to 350	Discharge Temperature
339	Unit 12: Condensing Temperature	HoldingRegister	INT16	-100 to 350	Condensing Temperature
340	Unit 12: Liquid Temperature	HoldingRegister	INT16	-100 to 350	Liquid Temperature

Index	Variable Name	Type	Type	Possible Values	Description
341	Unit 12: Heating	HoldingRegister	UINT16	Display Value =PLC Value x100	Heating
342	Unit 12: Cooling	HoldingRegister	UINT16	Display Value =PLC Value x100	Cooling
343	Unit 12: Compressor Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Compressor Power
344	Unit 12: Unit Power	HoldingRegister	UINT16	Display Value =PLC Value x10	Unit Power
345	Unit 12: Heating COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Heating COP
346	Unit 12: Cooling COP	HoldingRegister	UINT16	Display Value =PLC Value / 10	Cooling COP
347	Unit 12: Entering Potable Temperature	HoldingRegister	INT16	-100 to 350	Entering Potable Temperature
348	Unit 12: Leaving Potable Temperature	HoldingRegister	INT16	-100 to 350	Leaving Potable Temperature
349	Unit 12: Entering Source Temperature	HoldingRegister	INT16	-100 to 350	Entering Source Temperature
350	Unit 12: Leaving Source Temperature	HoldingRegister	INT16	-100 to 350	Leaving Source Temperature
351	Unit 12: Aux Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Flow Rate
352	Unit 12: Aux Power	HoldingRegister	INT16	Display Value =PLC Value x10	Aux Power

Index	Variable Name	Type	Type	Possible Values	Description
353	Unit 12: Potable Flow Rate	HoldingRegister	INT16	Display Value =PLC Value x10	Potable Flow Rate
354	Unit 12: Compressor Temperature	HoldingRegister	INT16	-100 to 350	Compressor Temperature
355	Unit 12: Discharge Pressure	HoldingRegister	INT16	-9999 to 9999	Discharge Pressure
356	Unit 12: Suction Pressure	HoldingRegister	INT16	-9999 to 9999	Suction Pressure
357	Unit 12: Suction Temperature	HoldingRegister	INT16	-100 to 350	Suction Temperature
358	Unit 12: Evaporating Temperature	HoldingRegister	INT16	-100 to 350	Evaporating Temperature