

BAS integration guide

Modbus protocol

Doc. Name:

D-EIGOC00103-23_01EN_EWAD/H_EWFD/H-T/MZD

Product Name:

EWAD/H-T/MZD & EWFD/H-T/MZD

Control software name:

ETRA / OMEGA



Table of contents

1. Introduction	3
2. About this document	4
2.1 Revision History	4
2.2 Notice	4
2.3 Before starting	4
3. Safety information	5
4. Commission this unit in a Modbus network.....	6
4.1 General information	6
4.2 Modbus MSTP module (POL902)	7
4.3 Modbus MSTP software option (Microtech 4)	9
5. Modbus integration list	10
5.1 Alarm Codes and Indexes.....	24



1. Introduction

This document contains information to incorporate a MicroTech® III and Microtech 4 Unit Controllers into a building automation system (BAS) via Modbus communication protocols.

Microtech III and Microtech 4 are suitable for network integration. Data points accessible from a Modbus network are made available to a BAS provided that the proper communication module (Microtech III and Microtech 4) or the corresponding software option (Microtech 4) are installed / activated.

Modbus terms are not defined. Refer to the standard Modbus specifications for definitions and details about the protocol.



2. About this document

2.1 Revision History

Version	Date	Software Version	Description
D-EIGOC00103-22EN_EWAD-TZD	12/2023	ETRA / OMEGA	First version released

2.2 Notice

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- **Modbus** from Schneider Electric (originally from Modicon)
- **MicroTech III** from Daikin Applied Europe.
- **MicroTech 4** from Daikin Applied Europe.

2.3 Before starting

Application range	This document refers to the following components:	
	Microtech III	Controller
	Microtech 4	Controller
	POL902.00/STD	Modbus MSTP module
Users	Users of this document are intended to be:	
	- Modbus systems integrators	
	- Service Technicians	
	- Plant Engineers	
Conventions	- Sales staff	
	Microtech III e Microtech 4 further in this document and when proper will be referred to as “Microtech”	
Abbreviation		
	BSP	Board Support Package (operating system)
References		
	• Siemens Building Technologies - CB1J3960en - Modbus communication, slave mode	
	• Siemens Building Technologies - CB1Q3934en - Climatix TM Modbus communication modules POL902.00	
	• The Modbus Organization - www.modbus.org	



3. Safety information

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 main power supply at the main circuit breaker or isolator.

IMPORTANT: This equipment uses and emits electromagnetic signals. Tests have shown that the equipment conforms to all applicable codes with respect to electromagnetic compatibility.



RISK OF ELECTROCUTION: Even when the main circuit breaker or isolator is switched off, certain circuits may still be energized, since they may be connected to a separate power source.



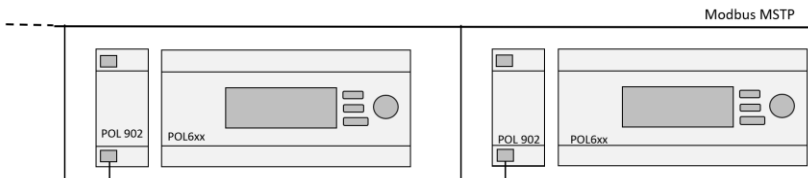
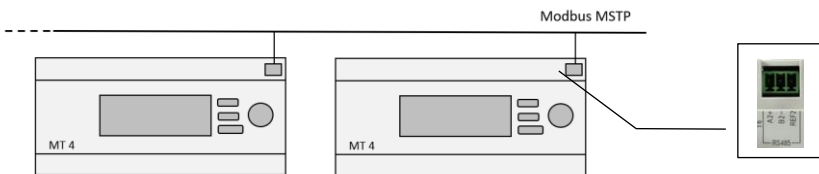
RISK OF BURNS: Electrical currents cause components to get hot either temporarily or permanently. Handle power cable, electrical cables and conduits, terminal box covers and motor frames with great care.

Field of application		Use Modbus communication module only for control and monitoring functions in ventilation, air conditioning and refrigeration plants.
Intended use		Trouble-free and safe product operation of the above products presupposes transport, storage, mounting, installation, and commissioning as intended as well as careful operation.
Electrical installation		Fuses, switches, wiring and grounding must comply with local safety regulations for electrical installations.
Wiring		When wiring, strictly separate AC 230 V mains voltage from AC 24 V safety extralow voltage (SELV) to protect against electrical shock!
Commissioning and maintenance		Only qualified staff trained accordingly may prepare for use, commission, and maintain Modbus communication modules. Maintenance of Modbus communication modules generally only means regular cleaning. We recommend removing dust and dirt from system components installed in the control panels during standard service.
Faults		Only authorized staff may diagnose and correct faults and recommission the plant. This applies to working within the panel as well (e.g. testing or changing fuses).
Storage and transport		Refer to the environmental conditions specified in the respective data sheets for storage and transport. If in doubt, contact your supplier.
Disposal		Devices contain electrical and electronic components; do not dispose of them in household garbage. Observe all local and applicable laws.



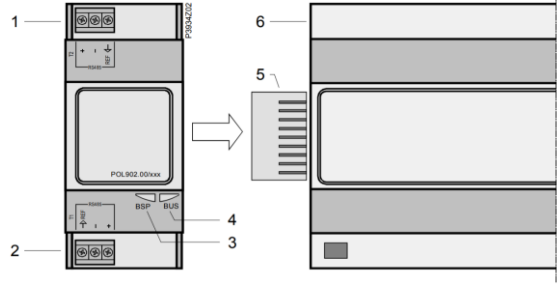
4. Commission this unit in a Modbus network

4.1 General information

Unit controller is a Microtech III or a POL638	Microtech III controller can be integrated in a Modbus network provided that it is equipped with the proper communication module. See “Communication modules” section below in this page.
Unit controller is a Microtech 4	Microtech 4 controller can be integrated in a Modbus network provided one of the followings: a) it is equipped with the proper communication module b) the onboard communication has been made available (software option).
Modbus MSTP (POL902)	Communication module to configure Microtech controllers in Modbus network is the POL902: 
Communication software option	For Microtech 4, Modbus communication is also available onboard the controller as a software option. 



4.2 Modbus MSTP module (POL902)

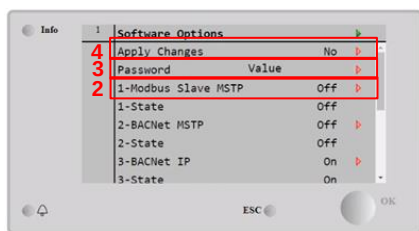
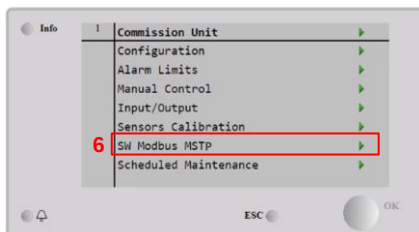
Module description																			
	<table><tr><th>Part</th><th>Description</th></tr><tr><td>1</td><td>Modbus RS485 interface T1 (slave, channel 0).</td></tr><tr><td>2</td><td>Modbus RS485 interface T2 (slave, channel 1).</td></tr><tr><td>3</td><td>Status display "BSP" (Board Support Package).</td></tr><tr><td>4</td><td>Status display "BUS" (bus connections o.k. / bus traffic).</td></tr><tr><td>5</td><td>Plug connection "Communication extension bus".</td></tr><tr><td>6</td><td>Microtech III controller.</td></tr></table>	Part	Description	1	Modbus RS485 interface T1 (slave, channel 0).	2	Modbus RS485 interface T2 (slave, channel 1).	3	Status display "BSP" (Board Support Package).	4	Status display "BUS" (bus connections o.k. / bus traffic).	5	Plug connection "Communication extension bus".	6	Microtech III controller.				
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BSP Led	<table><tr><th>Color</th><th>Flashing frequency</th><th>Meaning</th></tr><tr><td>Green</td><td>Steady on</td><td>BSP operating and communication with controller working.</td></tr><tr><td>Yellow</td><td>Steady on</td><td>BSP operating, but no communication with controller.</td></tr><tr><td>Red</td><td>Steady on</td><td>Hardware fault.</td></tr><tr><td>Red/Yellow</td><td>Flashing at 1 Hz (1 second on/ 1 second off)</td><td>Upgrade mode running.</td></tr><tr><td>Red</td><td>Flashing at 2 Hz (0,5 second on/ 0,5 second off)</td><td>BSP error (software error).</td></tr></table>	Color	Flashing frequency	Meaning	Green	Steady on	BSP operating and communication with controller working.	Yellow	Steady on	BSP operating, but no communication with controller.	Red	Steady on	Hardware fault.	Red/Yellow	Flashing at 1 Hz (1 second on/ 1 second off)	Upgrade mode running.	Red	Flashing at 2 Hz (0,5 second on/ 0,5 second off)	BSP error (software error).
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Configuration parameters	<table><tr><th>Parameter</th><th>Default value</th></tr><tr><td>Address T1</td><td>1</td></tr><tr><td>Parity T1</td><td>None</td></tr><tr><td>2 Stop bits T1</td><td>Yes</td></tr><tr><td>Baud rate T1</td><td>19200</td></tr><tr><td>Rspnce Dly T1</td><td>5 ms</td></tr><tr><td>Port T2</td><td>Passive</td></tr><tr><td>Address T2</td><td>1</td></tr><tr><td>Parity T2</td><td>None</td></tr></table>	Parameter	Default value	Address T1	1	Parity T1	None	2 Stop bits T1	Yes	Baud rate T1	19200	Rspnce Dly T1	5 ms	Port T2	Passive	Address T2	1	Parity T2	None
Parameter	Default value																		
Address T1	1																		
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Baud rate T1	19200																		
Rspnce Dly T1	5 ms																		
Port T2	Passive																		
Address T2	1																		
Parity T2	None																		



		2 Stop bits T2	Yes	
		Baud rate T2	19200	
		Rspnce Dly T2	5 ms	



4.3 Modbus MSTP software option (Microtech 4)

Option enabling	1. From the HMI main menu choose:														
	Commissioning→ Configuration→ Software Options 2. Select “On” for option #1-Modbus Slave MSTP 3. Insert the unlock password 4. Apply Changes														
Option configuration	5. From the HMI main menu choose:														
	Commissioning 6. Select “SW Modbus MSTP”														
	7. Select proper parameters for Modbus communication														
	<table><thead><tr><th>Parameter</th><th>Default value</th></tr></thead><tbody><tr><td>Address</td><td>Variable</td></tr><tr><td>Baudrate</td><td>19200</td></tr><tr><td>Parity</td><td>None</td></tr><tr><td>2StopBits</td><td>No</td></tr><tr><td>Delay</td><td>100 ms</td></tr><tr><td>Response Timeout</td><td>100 ms</td></tr></tbody></table>	Parameter	Default value	Address	Variable	Baudrate	19200	Parity	None	2StopBits	No	Delay	100 ms	Response Timeout	100 ms
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Delay	100 ms														
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5. Modbus integration list

Description	Type	Address	Gain	Range	Read/Write
Unit - Control Source	UNSIGNED WORD	1	1	0 Network 1 Local	R
Unit - Enabled State	UNSIGNED WORD	2	1	0 Disabled 1 Enabled	R
Unit - Run Allowed	UNSIGNED WORD	3	1	0 Off 1 Allowed	R
Unit - Capacity Limited	UNSIGNED WORD	4	1	0 NotLimited 1 Limited	R
Unit - Alarm Output	UNSIGNED WORD	5	1	0 NoAlarm 1 Alarm	R
Evaporator - Water Flow State	UNSIGNED WORD	6	1	0 NoFlow 1 Flow	R
Unit - Operating State	UNSIGNED WORD	8	1	0 ThermoOff 1 ThermoOn	R
Unit - Enable Setpoint	UNSIGNED WORD	9	1	0 Disable 1 Enable	W
Unit - Alarm Reset Setpoint	UNSIGNED WORD	10	1	0 None 1 Clear	W
Unit - Active Operation Mode	UNSIGNED WORD	11	1	1 Ice 2 Cool 3 Heat	R
Unit - Active Temperature Setpoint	SIGNED WORD	12	0,1	°C	R
Unit - Actual Capacity	SIGNED WORD	13	0,1	%	R
Unit - Active Capacity Limit	SIGNED WORD	14	0,1	%	R



Description	Type	Address	Gain	Range	Read/Write
Unit - Status	UNSIGNED WORD	15	1	1 Off 2 Start 3 Run 4 PreShutdown 5 Service	R
Evaporator Entering Water Temperature	SIGNED WORD	16	0,1	°C	R
Evaporator Leaving Water Temperature	SIGNED WORD	17	0,1	°C	R
Heat Recovery - Enable Setpoint	UNSIGNED WORD	18	1	0 Disable 1 Enable	W
Heat Recovery - Entering Water Temperature	SIGNED WORD	22	0,1	°C	R
Heat Recovery - Leaving Water Temperature	SIGNED WORD	23	0,1	°C	R
Outside Air Temperature	SIGNED WORD	24	0,1	°C	R
Unit - Average Current	SIGNED WORD	25	1	A	R
Unit - Average Voltage	SIGNED WORD	26	0,1	V	R
Unit - Active Power	SIGNED WORD	27	0,1	kW	R
Unit Alarm - Warning Index	SIGNED WORD	28	1	0....65534	R
Unit Alarm - Problem Index	SIGNED WORD	29	1	0....65534	R
Unit Alarm - Fault Index	SIGNED WORD	30	1	0....65534	R
Unit Alarm - Warning Code	SIGNED WORD	31	1	0....65534	R
Unit Alarm - Problem Code	SIGNED WORD	32	1	0....65534	R
Unit Alarm - Fault Code	SIGNED WORD	33	1	0....65534	R
Unit - Operation Mode Setpoint	UNSIGNED WORD	34	1	0 NULL 1 Ice 2 Cool 3 Heat	W



Description	Type	Address	Gain	Range	Read/Write
Unit - Cool Temperature Setpoint	SIGNED WORD	35	0,1	°C	W
Unit - Ice Temperature Setpoint	SIGNED WORD	36	0,1	°C	W
Unit - Heat Temperature Setpoint	SIGNED WORD	37	0,1	°C	W
Unit - Capacity Limit Setpoint	SIGNED WORD	38	0,1	%	W
Circuit 1 - Condenser Refrigerant Pressure	SIGNED WORD	39	0,1	kPa	R
Circuit 1 - Condenser Saturated Temperature	SIGNED WORD	40	0,1	°C	R
Circuit 1 - Evaporator Refrigerant Pressure	SIGNED WORD	41	0,1	kPa	R
Circuit 1 - Evaporator Saturated Temperature	SIGNED WORD	42	0,1	°C	R
Circuit 2 - Condenser Refrigerant Pressure	SIGNED WORD	43	0,1	kPa	R
Circuit 2 - Condenser Saturated Temperature	SIGNED WORD	44	0,1	°C	R
Circuit 2 - Evaporator Refrigerant Pressure	SIGNED WORD	45	0,1	kPa	R
Circuit 2 - Evaporator Saturated Temperature	SIGNED WORD	46	0,1	°C	R
Circuit 1 - Shutdown Alarm	UNSIGNED WORD	51	1	0 NoAlarm 1 Alarm	R
Circuit 2 - Shutdown Alarm	UNSIGNED WORD	52	1	0 NoAlarm 1 Alarm	R
Unit - Shutdown Alarm	UNSIGNED WORD	54	1	0 NoAlarm 1 Alarm	R
Heat Recovery - Temperature Setpoint	SIGNED WORD	59	1	°C	W
Heat Recovery - Operating State	UNSIGNED WORD	60	1	1 Off 2 Recirculation 3 Regulation	R
Circ 1 Compressor 1 - Suction Temperature	SIGNED WORD	65	0,1	°C	R
Circ 1 Compressor 1 - Discharge Temperature	SIGNED WORD	68	0,1	°C	R
Circ 1 Compressor 1 - RLA Percentage	SIGNED WORD	69	1	%	R
Circ 1 Compressor 1 - Current	SIGNED WORD	70	1	A	R



Description	Type	Address	Gain	Range	Read/Write
Circ 1 Compressor 1 - Power	SIGNED WORD	72	1	kW	R
Circ 1 Compressor 1 - Number of Starts	UNSIGNED WORD	73	1	-	W
Circ 1 Compressor 1 - Number of Running Hours	UNSIGNED DOUBLE	74	1	h	W
Circ 2 Compressor 1 - Suction Temperature	SIGNED WORD	104	0,1	°C	R
Circ 2 Compressor 1 - Discharge Temperature	SIGNED WORD	107	0,1	°C	R
Circ 2 Compressor 1 - RLA Percentage	SIGNED WORD	108	1	%	R
Circ 2 Compressor 1 - Current	SIGNED WORD	109	1	A	R
Circ 2 Compressor 1 - Power	SIGNED WORD	111	1	kW	R
Circ 2 Compressor 1 - Number of Starts	UNSIGNED WORD	112	1	-	W
Circ 2 Compressor 1 - Number of Running Hours	UNSIGNED DOUBLE	113	1	h	W
Freecooling - Enable Setpoint	UNSIGNED WORD	250	1	0 Disable 1 Enable	W
Freecooling - Status	UNSIGNED WORD	251	1	0 Unit Off 1 FC Full 2 FC Mix 3 Mech	R
Freecooling - Enabled State	UNSIGNED WORD	252	1	1 No 2 Yes	R
AntiVacuum Protection State	UNSIGNED WORD	258	1	0 No 1 Yes	R
Performance - Unit Thermal Capacity	UNSIGNED DOUBLE	260	0,1	kW	R
Performance - Unit Power Input	UNSIGNED DOUBLE	262	0,1	kW	R
Performance - Unit Efficiency	SIGNED WORD	264	0,01	-	R
Performance - Unit Integrated Efficiency	SIGNED WORD	265	0,01	-	R
Performance - Unit Thermal Energy	UNSIGNED DOUBLE	266	0,1	MWh	R
Performance - Unit Electrical Energy	UNSIGNED DOUBLE	268	0,1	MWh	R



Description	Type	Address	Gain	Range	Read/Write
Performance - Freecooling Thermal Capacity	UNSIGNED DOUBLE	273	0,1	kW	R
Performance - Mechanical Thermal Capacity	UNSIGNED DOUBLE	275	0,1	kW	R
Performance - Percentage of Freecooling Capacity	UNSIGNED WORD	277	1	%	R
Evaporator Pump - Speed	SIGNED WORD	296	1	%	R
Evaporator Pump 1 - Number of Running Hours	UNSIGNED DOUBLE	303	1	-	R
Evaporator Pump 1 - Operating State	UNSIGNED WORD	305	1	0 Stop 1 Run	R
Evaporator Pump 2 - Number of Running Hours	UNSIGNED DOUBLE	306	1	-	R
Evaporator Pump 2 - Operating State	UNSIGNED WORD	308	1	0 Stop 1 Run	R
Evaporator Pump - Electrical Power	UNSIGNED WORD	310	0,1	kW	R
Evaporator Differential Pressure	UNSIGNED WORD	312	1	kPa	R
Evaporator Estimated Water Flow	UNSIGNED WORD	314	0,1	kg/s	R
Evaporator Pump - Speed RPM	UNSIGNED WORD	322	0,1	rpm	R
Unit - Measurement unit setpoint	UNSIGNED WORD	316	1	0 English 1 Metric	W
Unit - Model	UNSIGNED WORD	317	1	1 Centrifugal 2 Water Cooled 3 Air Cooled 4 HeatPump 5 Reserved 6 Reserved 7 Reserved 8 Reserved 9 Other	R



Description	Type	Address	Gain	Range	Read/Write
Unit - Safety Mode Setpoint	UNSIGNED WORD	318		0 Off 1 On	R
Unit - Safety Mode State	UNSIGNED WORD	319		0 Off 1 On	R
Unit Alarm - Evaporator Entering Temperature Sensor Fault	UNSIGNED WORD	366	1	0 NoAlarm 1 Alarm	R
Unit Warning - Setpoint Reset Input Out of Range	UNSIGNED WORD	377	1	0 NoAlarm 1 Alarm	R
Unit Warning - Demand Limit Input Out of Range	UNSIGNED WORD	378	1	0 NoAlarm 1 Alarm	R
Circuit 1 Warning - Power Loss while Compressor Running	UNSIGNED WORD	384	1	0 NoAlarm 1 Alarm	R
Circuit 2 Warning - Power Loss while Compressor Running	UNSIGNED WORD	385	1	0 NoAlarm 1 Alarm	R
Unit Warning - Inhibition for Low Ambient Temperature	UNSIGNED WORD	388	1	0 NoAlarm 1 Alarm	R
Evaporator Pump 1 - Fault	UNSIGNED WORD	430	1	0 NoAlarm 1 Alarm	R
Evaporator Pump 2 - Fault	UNSIGNED WORD	431	1	0 NoAlarm 1 Alarm	R
Circ 1 Comp 1 Alarm - Low Pressure Ratio	UNSIGNED WORD	440	1	0 NoAlarm 1 Alarm	R
Circ 2 Comp 1 Alarm - Low Pressure Ratio	UNSIGNED WORD	442	1	0 NoAlarm 1 Alarm	R
Unit Alarm - Outside Air Temperature Sensor Fault	UNSIGNED WORD	446	1	0 NoAlarm 1 Alarm	R



Description	Type	Address	Gain	Range	Read/Write
Circ 1 Comp 1 Alarm - High Motor Current	UNSIGNED WORD	447	1	0 NoAlarm 1 Alarm	R
Circ 2 Comp 1 Alarm - High Motor Current	UNSIGNED WORD	449	1	0 NoAlarm 1 Alarm	R
Circ 1 Comp 1 Alarm - High Motor Temperature	UNSIGNED WORD	478	1	0 NoAlarm 1 Alarm	R
Circ 2 Comp 1 Alarm - High Motor Temperature	UNSIGNED WORD	480	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Condenser Pressure Sensor Fault	UNSIGNED WORD	509	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Condenser Pressure Sensor Fault	UNSIGNED WORD	511	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Condenser High Pressure	UNSIGNED WORD	517	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Condenser High Pressure	UNSIGNED WORD	519	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Discharge Temperature Sensor Fault	UNSIGNED WORD	529	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Discharge Temperature Sensor Fault	UNSIGNED WORD	531	1	0 NoAlarm 1 Alarm	R
Circ 1 Comp 1 Alarm - High Discharge Temperature	UNSIGNED WORD	535	1	0 NoAlarm 1 Alarm	R
Circ 2 Comp 1 Alarm - High Discharge Temperature	UNSIGNED WORD	537	1	0 NoAlarm 1 Alarm	R
Unit Alarm - Evaporator Water Flow Loss	UNSIGNED WORD	542	1	0 NoAlarm 1 Alarm	R



Description	Type	Address	Gain	Range	Read/Write
Unit Alarm - Evaporator Water Freeze	UNSIGNED WORD	543	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Evaporator Pressure Low	UNSIGNED WORD	545	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Evaporator Pressure Low	UNSIGNED WORD	547	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Evaporator Pressure Sensor Failure	UNSIGNED WORD	552	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Evaporator Pressure Sensor Failure	UNSIGNED WORD	554	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Too many restart	UNSIGNED WORD	583	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Too many restart	UNSIGNED WORD	585	1	0 NoAlarm 1 Alarm	R
Unit Alarm - Evaporator Leaving Temperature Sensor Fault	UNSIGNED WORD	589	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Mechanical High Pressure	UNSIGNED WORD	601	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Mechanical High Pressure	UNSIGNED WORD	603	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Oil Filter High Pressure	UNSIGNED WORD	637	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Oil Filter High Pressure	UNSIGNED WORD	639	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Oil Pressure Sensor Failure	UNSIGNED WORD	643	1	0 NoAlarm 1 Alarm	R



Description	Type	Address	Gain	Range	Read/Write
Circuit 2 Alarm - Oil Pressure Sensor Failure	UNSIGNED WORD	645	1	0 NoAlarm 1 Alarm	R
Unit Alarm - Phase Voltage	UNSIGNED WORD	661	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - OverVoltage	UNSIGNED WORD	667	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - OverVoltage	UNSIGNED WORD	668	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - UnderVoltage	UNSIGNED WORD	670	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - UnderVoltage	UNSIGNED WORD	671	1	0 NoAlarm 1 Alarm	R
Circ 1 Comp 1 Alarm - Suction Temperature Sensor Fault	UNSIGNED WORD	698	1	0 NoAlarm 1 Alarm	R
Circ 2 Comp 1 Alarm - Suction Temperature Sensor Fault	UNSIGNED WORD	700	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - No Pressure at Start	UNSIGNED WORD	711	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - No Pressure at Start	UNSIGNED WORD	712	1	0 NoAlarm 1 Alarm	R
Controller Alarm - Circuit 1 Board Offline	UNSIGNED WORD	723	1	0 NoAlarm 1 Alarm	R
Controller Alarm - Circuit 2 Board Offline	UNSIGNED WORD	724	1	0 NoAlarm 1 Alarm	R
Unit - Power Restore	UNSIGNED WORD	740	1	0 NoAlarm 1 Alarm	R



Description	Type	Address	Gain	Range	Read/Write
Circuit 1 Alarm - Pumpdown Failure	UNSIGNED WORD	741	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Pumpdown Failure	UNSIGNED WORD	742	1	0 NoAlarm 1 Alarm	R
Unit Alarm - External Event	UNSIGNED WORD	745	1	0 NoAlarm 1 Alarm	R
Controller Alarm - Unit Board Offline	UNSIGNED WORD	746	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - No Pressure change at Start	UNSIGNED WORD	747	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - No Pressure change at Start	UNSIGNED WORD	748	1	0 NoAlarm 1 Alarm	R
Circ 1 Compr 1 Alarm - VFD Fault	UNSIGNED WORD	762	1	0 NoAlarm 1 Alarm	R
Circ 2 Compr 1 Alarm - VFD Fault	UNSIGNED WORD	764	1	0 NoAlarm 1 Alarm	R
Circ 1 Compr 1 Alarm - VFD High Temperature	UNSIGNED WORD	768	1	0 NoAlarm 1 Alarm	R
Circ 2 Compr 1 Alarm - VFD High Temperature	UNSIGNED WORD	770	1	0 NoAlarm 1 Alarm	R
Circ 1 Compr 1 Alarm - VFD Communication Failure	UNSIGNED WORD	774	1	0 NoAlarm 1 Alarm	R
Circ 2 Compr 1 Alarm - VFD Communication Failure	UNSIGNED WORD	776	1	0 NoAlarm 1 Alarm	R
Unit Alarm - Emergency Stop Switch	UNSIGNED WORD	798	1	0 NoAlarm 1 Alarm	R



Description	Type	Address	Gain	Range	Read/Write
Unit Alarm - Evaporator Temperature Sensors Inverted	UNSIGNED WORD	799	1	0 NoAlarm 1 Alarm	R
Unit Alarm - External Alarm	UNSIGNED WORD	800	1	0 NoAlarm 1 Alarm	R
Circ 1 Compr 1 Problem - Low Discharge Superheat	UNSIGNED WORD	808	1	0 NoAlarm 1 Alarm	R
Circ 2 Compr 1 Problem - Low Discharge Superheat	UNSIGNED WORD	810	1	0 NoAlarm 1 Alarm	R
Unit Warning - Curennt Limit Input Out Of Range	UNSIGNED WORD	814	1	0 NoAlarm 1 Alarm	R
Controller Alarm - Option Board Offline	UNSIGNED WORD	815	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Gas Leakage	UNSIGNED WORD	844	1	0 NoAlarm 1 Alarm	R
Circuit 2 Alarm - Gas Leakage	UNSIGNED WORD	845	1	0 NoAlarm 1 Alarm	R
Unit - Electrical Panel Temperature	SIGNED WORD	850	0,1	°C	R
Unit Warning - Electrical Panel Temp Sensor Fault	UNSIGNED WORD	851	1	0 NoAlarm 1 Alarm	R
Unit Warning - Electrical Panel High Temperature	UNSIGNED WORD	852	1	0 NoAlarm 1 Alarm	R
Controller Alarm - Fan Board Offline	UNSIGNED WORD	900	1	0 NoAlarm 1 Alarm	R
Circuit 1 Alarm - Fan Fault	UNSIGNED WORD	901	1	0 NoAlarm 1 Alarm	R



Description	Type	Address	Gain	Range	Read/Write
Circuit 2 Alarm - Fan Fault	UNSIGNED WORD	902	1	0 NoAlarm 1 Alarm	R
Shunt Active Filter – Grid Voltage	SIGNED WORD	950	1	V	R
Shunt Active Filter – Grid Active Power	SIGNED WORD	951	1	kW	R
Shunt Active Filter – Grid Power Factor	SIGNED WORD	952	1		R
Shunt Active Filter – Grid TDDi	SIGNED WORD	953	1	%	R
Circ 2 Compressor 1 - Actual Capacity	SIGNED WORD	1800	0,1	%	R
Circ 2 Compressor 1 - OffAuto Setpoint	UNSIGNED WORD	1801	1	0 Off 1 Auto	W
Circ 2 Compressor 1 - Full Load State	UNSIGNED WORD	1802	1	0 Normal 1 Full Load	R
Circ 2 Compressor 1 - VFD Output	SIGNED WORD	1805	1	rpm	R
Circ 2 Compressor 1 - Alarm Active	UNSIGNED WORD	1806	1	0 NoAlarm 1 Alarm	R
Circ 2 Compressor 1 - Oil Feed Pressure	SIGNED WORD	1809	0,1	kPa	R
Circ 2 Compressor 1 - Operating State	UNSIGNED WORD	1812	1	0 Stop 1 Run	R
Circ 1 Compressor 1 - Actual Capacity	SIGNED WORD	1840	0,1	%	R
Circ 1 Compressor 1 - OffAuto Setpoint	UNSIGNED WORD	1841	1	0 Off 1 Auto	W
Circ 1 Compressor 1 - Full Load State	UNSIGNED WORD	1842	1	0 Normal 1 Full Load	R



Description	Type	Address	Gain	Range	Read/Write
Circ 1 Compressor 1 - VFD Output	SIGNED WORD	1845	1	rpm	R
Circ 1 Compressor 1 - Alarm Active	UNSIGNED WORD	1846	1	0 NoAlarm 1 Alarm	R
Circ 1 Compressor 1 - Oil Feed Pressure	SIGNED WORD	1849	0,1	kPa	R
Circ 1 Compressor 1 - Operating State	UNSIGNED WORD	1852	1	0 Stop 1 Run	R
Unit - Refrigerant type	UNSIGNED WORD	1854	1	1 R22 2 R134a 3 R407c 4 R410a 5 R1234ze 5 resv3	R
Unit - Number of Circuits	SIGNED WORD	1855	1	1...2	R
Unit - Number of Compressors	SIGNED WORD	1856	1	1...4	R
Circuit 2 - Evaporator Superheat Active Setpoint	SIGNED WORD	1896	0,1	dK	R
Circuit 1 - Evaporator Superheat Active Setpoint	SIGNED WORD	1897	0,1	dK	R
Circuit 2 - Evaporator Superheat Temperature	SIGNED WORD	1898	0,1	dK	R
Circuit 1 - Evaporator Superheat Temperature	SIGNED WORD	1899	0,1	dK	R
Unit - Active Energy	UNSIGNED DOUBLE	1900	0,1	kWh	R
Unit - Power Factor	SIGNED WORD	1902	0,01	-	R
Unit - Current Limit Setpoint	SIGNED WORD	1903	0,1	A	W
Variable Flow - Plant Differential Pressure	SIGNED WORD	1905	0,1	kPa	W
Varibale Flow - Water Bypass Valve State	UNSIGNED WORD	1906	1	0 Closed 1 Opened	R
Varibale Flow - Plant Differential Pressure setpoint	UNSIGNED WORD	1909	0,1	kPa	W
Variable Flow - Plant Delta Temperature	SIGNED WORD	1911	0,1	°Dc	R



Description	Type	Address	Gain	Range	Read/Write
Variable Flow - Plant Delta Temperature Setpoint	SIGNED WORD	1913	0,1	°Dc	W
Variable Flow - Fixed Speed 1 Setpoint	SIGNED WORD	1915	0,1	%	W
Circuit 2 - Expansion Valve Position	SIGNED WORD	1966	1	%	R
Circuit 2 - Fan Speed	SIGNED WORD	1970	1	%	R
Circuit 2 - Condenser Approach Temperature	SIGNED WORD	1971	0,1	dK	R
Circuit 2 - Evaporator Approach Temperature	SIGNED WORD	1972	0,1	dK	R
Circuit 2 - Fan Staging	SIGNED WORD	1981	1	0 Off 1 Run	R
Circuit 1 - Expansion Valve Position	SIGNED WORD	1982	1	%	R
Circuit 1 - Fan Speed	SIGNED WORD	1986	1	%	R
Circuit 1 - Condenser Approach Temperature	SIGNED WORD	1987	0,1	dK	R
Circuit 1 - Evaporator Approach Temperature	SIGNED WORD	1988	0,1	dK	R
Circuit 1 - Fan Staging	SIGNED WORD	1997	1	0 Off 1 Run	R
Noise Reduction - Enable Setpoint	UNSIGNED WORD	1998	1	0 Auto 1 Reducing	W
Noise Reduction - Operating State	UNSIGNED WORD	2000	1	0 Normal 1 Reduced	R



5.1 Alarm Codes and Indexes

Premise		Unit communicates to BAS the status alarm through Codes and Indexes. Those are grouped in 3 level of alarm	
Levels of Alarm		The three levels of alarms are as it follows:	
		Level	Description
		Warning	They are notifications from unit or equipment of an incorrect status
		Problem	They are notifications from unit or equipment of a status that does allow unit to work properly
		Fault	They are notifications from unit or equipment (circuits, Compressors, Sensors, etc) that can cause stop of the unit or specific equipment
Index		Index describes the general cause of the notification	
Code		Code describes which equipment or device of the unit is generating a notification	

CODE	INDEX	LEVEL	Device	Description
257	1	Warning	Unit	Condenser Entering Water Temperature Sensor Failure
513	2	Warning	Unit	Evaporator Entering Water Temperature Sensor Failure
769	3	Warning	Unit	Liquid Line Refrigerant Temperature Sensor Failure
1025	4	Warning	Unit	Condenser Leaving Water Temperature Sensor Failure (STOP if Heat)
1281	5	Warning	Unit	Evaporator pump maintenance
1537	6	Warning	Unit	Condenser pump maintenance
1829	7	Warning	C1.Comp1	Compressor maintenance #n
1833		Warning	C1.Comp2	
1837		Warning	C1.Comp3	
1861		Warning	C2.Comp1	
1865		Warning	C2.Comp2	
1869		Warning	C2.Comp3	



CODE	INDEX	LEVEL	Device	Description
2049	8	Warning	Unit	Bad setpoint override input
2305	9	Warning	Unit	Bad demand limit input
2561	10	Warning	Unit	Power Loss While Running
2817	11	Warning	Unit	Unit Power Restore
3105	12	Warning	Circuit 1	Circuit Failed Pumpdown
3137		Warning	Circuit 2	
3329	13	Warning	Unit	External Event
3585	14	Warning	Unit	Bad Current Limit Input
3841	15	Warning	Unit	Option Controller Communication Failed
4128	16	Warning	Circuit 1	Low Refrigerant Charge
4160		Warning	Circuit 2	
4352	17	Warning	Unit	Chiller network Communication Failure
6177	24	Warning	Circuit 1	Economizer Pressure Sensor Fault #n
6209		Warning	Circuit 2	
6433	25	Warning	Circuit 1	Economizer Temperature Sensor Fault #n
6465		Warning	Circuit 2	
6689	26	Warning	Circuit 1	Economizer EXV Motor Fault
6721		Warning	Circuit 2	
7201	28	Warning	Circuit 1	Economizer EXV Module Communications Fault
7233		Warning	Circuit 2	
7461	29	Warning	C1.Comp1	Hot Gas Bypass Fault
7465		Warning	C1.Comp2	
7493		Warning	C1.Comp1	
7497		Warning	C1.Comp2	
7681	30	Warning	Unit	Energy Meter Communication Failure
9729	38	Warning	Unit	Heat Recovery Entering Water Temperature Sensor Fault



CODE	INDEX	LEVEL	Device	Description
9985	39	Warning	Unit	Heat Recovery Leaving Water Temperature Sensor Fault
10241	40	Warning	Unit	SwitchBox Temperature High
10497	41	Warning	Unit	SwitchBox Temperature Sensor Fault
10785	42	Warning	Circuit 1	Defrost EXV Motor Fault
10817		Warning	Circuit 2	
11009	43	Warning	Unit	Heat Recovery EWT or LWT freeze
11265	44	Warning	Unit	Heat Recovery Water Temperature Inverted
11553	45	Warning	Circuit 1	Liquid Refrigerant Temperature Sensor Fault
11585		Warning	Circuit 2	
11777	46	Warning	Unit	Smart Grid Communication Failure
16418	64	Problem	Circuit 1	Power Loss While Running
16450		Problem	Circuit 2	
16642	65	Problem	Unit	START INHIBITED - Ambient Temperature Low
16898	66	Problem	Unit	INHIBIT LOAD – Condenser Pressure High
17186	67	Problem	Circuit 1	INHIBIT LOAD – Condenser Pressure High
17218		Problem	Circuit 2	
17410	68	Problem	Unit	UNLOAD – Condenser Pressure High
17698	69	Problem	Circuit 1	UNLOAD – Condenser Pressure High
17730		Problem	Circuit 2	
18178	71	Problem	Pump 1	PUMP START ATTEMPTED - Condenser Pump #1 Failure
18434	72	Problem	Pump 2	PUMP START ATTEMPTED - Condenser Pump #2 Failure
18722	73	Problem	Circuit 1	INHIBIT LOAD - Discharge Temperature High
18754		Problem	Circuit 2	
18946	74	Problem	Unit	NO EWT RESET - Entering Evaporator Temperature Sensor Failure
19202	75	Problem	Unit	INHIBIT LOAD - Evaporator Pressure Low
19490	76	Problem	Circuit 1	INHIBIT LOAD - Evaporator Pressure Low



CODE	INDEX	LEVEL	Device	Description
19522		Problem	Circuit 2	
19714	77	Problem	Unit	UNLOAD - Evaporator Pressure Low
20002	78	Problem	Circuit 1	UNLOAD - Evaporator Pressure Low
20034		Problem	Circuit 2	
20262	79	Problem	C1.Comp1	UNLOAD - Compressor Motor Current High
20266		Problem	C1.Comp2	
20294		Problem	C2.Comp1	
20298		Problem	C2.Comp2	
20513	80	Problem	Circuit 1	UNLOAD - Discharge Temperature High
20545		Problem	Circuit 2	
20738	81	Problem	Pump 1	PUMP START ATTEMPTED - Evaporator Pump #1 Failure
20994	82	Problem	Pump 2	PUMP START ATTEMPTED - Evaporator Pump #2 Failure
21250	83	Problem	Unit	(Check Chiller Display for Cause)
21542	84	Problem	C1.Comp1	INHIBIT LOAD - Compressor Motor Current High
21546		Problem	C1.Comp2	
21574		Problem	C2.Comp1	
21578		Problem	C2.Comp2	
21763	85	Problem	Unit	UNLOAD - Power Holes
22050	86	Problem	Circuit 1	INHIBIT FREECOOLING - Wrong Valve Position
22082		Problem	Circuit 2	
22274	87	Problem	Unit	DATACENTER MODULE - SAF Side - Top Temperature Sensor Fault
22530	88	Problem	Unit	DATACENTER MODULE - SAF Side - Top Left Temperature Sensor Fault
22786	89	Problem	Unit	DATACENTER MODULE - SAF Side - Top Right Temperature Sensor Fault
23042	90	Problem	Unit	DATACENTER MODULE - PLC Side - Temperature Sensor Fault
23298	91	Problem	Unit	DATACENTER MODULE - SAF Side - Bottom Temperature Sensor Fault
23554	92	Problem	Unit	DATACENTER MODULE - SAF Side - Relative Humidity Sensor Fault



CODE	INDEX	LEVEL	Device	Description
23810	93	Problem	Unit	DATACENTER MODULE - Module Communication Fail
1027	4	Fault	Unit	UNIT SHUTDOWN - Condenser Leaving Water Temperature Sensor Failure (If Watercooled Heatpump)
5671	22	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Oil Sump Temperature High
5675		Fault	C1.Comp2	
5703		Fault	C2.Comp1	
5707		Fault	C2.Comp2	
6691	26	Fault	Circuit 1	CIRCUIT SHUTDOWN - Eco EXV Alarm
6723		Fault	Circuit 2	
6947	27	Fault	Circuit 1	CIRCUIT SHUTDOWN - Fans Fault Alarm
6979		Fault	Circuit 2	
9251	36	Fault	Circuit 1	CIRCUIT SHUTDOWN - EXV Alarm
9283		Fault	Circuit 2	
26151	102	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Discharge Pressure Sensor Fault
26155		Fault	C1.Comp2	
26407	103	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Suction Pressure Low
26411		Fault	C1.Comp2	
26663	104	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Discharge Pressure High
26667		Fault	C1.Comp2	
27943	109	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Surge Temperature
27947		Fault	C1.Comp2	
31015	121	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Suction Pressure Sensor Fault
31019		Fault	C1.Comp2	
32551	127	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Low pressure ratio
32555		Fault	C1.Comp2	
32583		Fault	C2.Comp1	
32587		Fault	C2.Comp2	



CODE	INDEX	LEVEL	Device	Description
32771	128	Fault	Unit	UNIT SHUTDOWN - Outside Air Temperature Sensor Fault
33063	129	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Motor Overload Trip
33067		Fault	C1.Comp2	
33095		Fault	C2.Comp1	
33099		Fault	C2.Comp2	
33059	129	Fault	Circuit 1	CIRCUIT SHUTDOWN - Motor Current High
33091		Fault	Circuit 2	
33795	132	Fault	Unit	UNIT SHUTDOWN - Motor Protector Trip
34087	133	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Motor Protector Trip
34091		Fault	C1.Comp2	
34119		Fault	C2.Comp1	
34123		Fault	C2.Comp2	
34083	133	Fault	Circuit 1	CIRCUIT SHUTDOWN - Motor Protector Trip
34115		Fault	Circuit 2	
34343	134	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Current High
34347		Fault	C1.Comp2	
34375		Fault	C2.Comp1	
34379		Fault	C2.Comp2	
34599	135	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Motor Temperature High #n
34603		Fault	C1.Comp2	
34631		Fault	C2.Comp1	
34635		Fault	C2.Comp2	
34855	136	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Temperature Sensor Fault
34859		Fault	C1.Comp2	
34887		Fault	C2.Comp1	
34891		Fault	C2.Comp2	



CODE	INDEX	LEVEL	Device	Description
35111	137	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Phase Loss
35115		Fault	C1.Comp2	
35143		Fault	C2.Comp1	
35147		Fault	C2.Comp2	
35367	138	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Phase Reversal
35371		Fault	C1.Comp2	
35399		Fault	C2.Comp1	
35403		Fault	C2.Comp2	
35623	139	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Overvoltage
35627		Fault	C1.Comp2	
35655		Fault	C2.Comp1	
35659		Fault	C2.Comp2	
35879	140	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Undervoltage
35883		Fault	C1.Comp2	
35911		Fault	C2.Comp1	
35915		Fault	C2.Comp2	
36099	141	Fault	Unit	UNIT SHUTDOWN - Condenser Pressure Sensor Fault
36391	142	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Condenser Pressure Sensor Fault #n
36395		Fault	C1.Comp2	
36423		Fault	C2.Comp1	
36427		Fault	C2.Comp2	
36387	142	Fault	Circuit 1	CIRCUIT SHUTDOWN - Condenser Pressure Sensor Fault #n
36419		Fault	Circuit 2	
36611	143	Fault	Unit	UNIT SHUTDOWN - Condenser Water Flow Loss
36867	144	Fault	Unit	UNIT SHUTDOWN - Condenser Pressure High
37155	145	Fault	Circuit 1	CIRCUIT SHUTDOWN - Condenser Pressure High #n



CODE	INDEX	LEVEL	Device	Description
37187		Fault	Circuit 2	
37415	146	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Current High with Compressor OFF #n
37419		Fault	C1.Comp2	
37447		Fault	C2.Comp1	
37451		Fault	C2.Comp2	
37671	147	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Discharge Temperature Sensor Fault #n
37675		Fault	C1.Comp2	
37703		Fault	C2.Comp1	
37707		Fault	C2.Comp2	
37927	148	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Discharge Temperature High #n
37931		Fault	C1.Comp2	
37959		Fault	C2.Comp1	
37963		Fault	C2.Comp2	
38147	149	Fault	Unit	UNIT SHUTDOWN - Condenser Entering Water Temperature Sensor Fault
38403	150	Fault	Unit	UNIT SHUTDOWN - Evaporator Water Flow Loss
38659	151	Fault	Unit	UNIT SHUTDOWN - Evaporator LWT or EWT Low (Freeze)
38915	152	Fault	Unit	UNIT SHUTDOWN - Evaporator Pressure Low
39207	153	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Evaporator (or Suction) Pressure Low #n
39211		Fault	C1.Comp2	
39239		Fault	C2.Comp1	
39243		Fault	C2.Comp2	
39203	153	Fault	Circuit 1	CIRCUIT SHUTDOWN - Evaporator Pressure Low
39235		Fault	Circuit 2	
39427	154	Fault	Unit	UNIT SHUTDOWN - Evaporator Pressure Sensor Fault
39719	155	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Evaporator Pressure Sensor Fault #n
39723		Fault	C1.Comp2	



CODE	INDEX	LEVEL	Device	Description
39751		Fault	C2.Comp1	
39755		Fault	C2.Comp2	
39715	155	Fault	Circuit 1	CIRCUIT SHUTDOWN - Evaporator Pressure Sensor Fault #n
39747		Fault	Circuit 2	
39975	156	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Ground Fault Trip #n
39979		Fault	C1.Comp2	
40007		Fault	C2.Comp1	
40011		Fault	C2.Comp2	
40231	157	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Lift Pressure Low #n
40235		Fault	C1.Comp2	
40263		Fault	C2.Comp1	
40267		Fault	C2.Comp2	
40483	158	Fault	Circuit 1	CIRCUIT SHUTDOWN - Liquid Line Pressure Sensor Fault #n
40515		Fault	Circuit 2	
40739	159	Fault	Circuit 1	CIRCUIT SHUTDOWN - Liquid Line Temperature Sensor Fault #n
40771		Fault	Circuit 2	
40963	160	Fault	Unit	UNIT LOCKOUT - Number of Allowed Re-Starts Exceeded
41255	161	Fault	C1.Comp1	COMPRESSOR LOCKOUT - Number of Allowed Restarts Exceeded #n
41259		Fault	C1.Comp2	
41287		Fault	C2.Comp1	
41291		Fault	C2.Comp2	
41251	161	Fault	Circuit 1	CIRCUIT LOCKOUT - Number of Allowed Restarts Exceeded #n
41283		Fault	Circuit 2	
41475	162	Fault	Unit	UNIT SHUTDOWN - Evaporator Leaving Water Temperature Sensor Fault
41731	163	Fault	Unit	UNIT SHUTDOWN - Evaporator Entering Water Temperature Sensor Fault
42023	164	Fault	C1.Comp1	



CODE	INDEX	LEVEL	Device	Description
42027		Fault	C1.Comp2	COMPRESSOR SHUTDOWN - Evaporator Leaving Water Temperature Sensor Fault #n
42055		Fault	C2.Comp1	
42059		Fault	C2.Comp2	
42019	164	Fault	Circuit 1	CIRCUIT SHUTDOWN - Evaporator Leaving Water Temperature Sensor Fault #n
42051		Fault	Circuit 2	
42243	165	Fault	Unit	UNIT SHUTDOWN - Mechanical High Pressure Trip
42535	166	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Mechanical High Pressure Trip #n
42539		Fault	C1.Comp2	
42567		Fault	C2.Comp1	
42571		Fault	C2.Comp2	
42531	166	Fault	Circuit 1	CIRCUIT SHUTDOWN - Mechanical High Pressure Trip #n
42563		Fault	Circuit 2	
42791	167	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Oil Net Pressure Low #n
42795		Fault	C1.Comp2	
42823		Fault	C2.Comp1	
42827		Fault	C2.Comp2	
43047	168	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Oil Feed Temperature High #n
43051		Fault	C1.Comp2	
43079		Fault	C2.Comp1	
43083		Fault	C2.Comp2	
43303	169	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Oil Feed Temperature Low #n
43307		Fault	C1.Comp2	
43335		Fault	C2.Comp1	
43339		Fault	C2.Comp2	
43559	170	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Oil Feed Temperature Sensor Fault #n
43563		Fault	C1.Comp2	



CODE	INDEX	LEVEL	Device	Description
43591		Fault	C2.Comp1	
43595		Fault	C2.Comp2	
43815	171	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Oil Level Low #n
43819		Fault	C1.Comp2	
43847		Fault	C2.Comp1	
43851		Fault	C2.Comp2	
44071		Fault	C1.Comp1	
44075	172	Fault	C1.Comp2	COMPRESSOR SHUTDOWN - Oil Delta Pressure High #n
44103		Fault	C2.Comp1	
44107		Fault	C2.Comp2	
44327	173	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Oil Feed Pressure Sensor Fault #n
44331		Fault	C1.Comp2	
44359		Fault	C2.Comp1	
44363		Fault	C2.Comp2	
44583	174	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Oil Sump Pressure Sensor Fault #n
44587		Fault	C1.Comp2	
44615		Fault	C2.Comp1	
44619		Fault	C2.Comp2	
44839	175	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Oil Sump Temperature Sensor Fault #n
44843		Fault	C1.Comp2	
44871		Fault	C2.Comp1	
44875		Fault	C2.Comp2	
45059	176	Fault	Unit	UINT SHUTDOWN - Phase Voltage Monitoring Alarm
45091		Fault	Circuit 1	CIRCUIT SHUTDOWN - Phase Voltage Monitoring Alarm
45123		Fault	Circuit 2	
45351	177	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Starter Fault #n



CODE	INDEX	LEVEL	Device	Description
45355		Fault	C1.Comp2	
45383		Fault	C2.Comp1	
45387		Fault	C2.Comp2	
45607	178	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - No Starter Transition #n
45611		Fault	C1.Comp2	
45639		Fault	C2.Comp1	
45643		Fault	C2.Comp2	
45863	179	Fault	C1.Comp1	COMPRESSOR START ABORT - Oil Pressure Low #n
45867		Fault	C1.Comp2	
45895		Fault	C2.Comp1	
45899		Fault	C2.Comp2	
46119	180	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Subcooling Low #n
46123		Fault	C1.Comp2	
46151		Fault	C2.Comp1	
46155		Fault	C2.Comp2	
46375	181	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Surge Suction Superheat High-Running #n
46379		Fault	C1.Comp2	
46407		Fault	C2.Comp1	
46411		Fault	C2.Comp2	
46631	182	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Surge Suction Superheat High-Starting #n
46635		Fault	C1.Comp2	
46663		Fault	C2.Comp1	
46667		Fault	C2.Comp2	
46887	183	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Suction Temperature Sensor Fault #n
46891		Fault	C1.Comp2	
46919		Fault	C2.Comp1	



CODE	INDEX	LEVEL	Device	Description
46923		Fault	C2.Comp2	
46883	183	Fault	Circuit 1	CIRCUIT SHUTDOWN - Suction Temperature Sensor Fault #n
46915		Fault	Circuit 2	
47143	184	Fault	C1.Comp1	COMPRESSOR START ABORT - Vanes Alarm #n
47147		Fault	C1.Comp2	
47175		Fault	C2.Comp1	
47179		Fault	C2.Comp2	
47399	185	Fault	C1.Comp1	COMPRESSOR SHUTDOWN – Motor Fault #n
47403		Fault	C1.Comp2	
47431		Fault	C2.Comp1	
47435		Fault	C2.Comp2	
47619	186	Fault	Unit	UNIT SHUTDOWN - Mechanical Low Pressure Trip
47911	187	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Mechanical Low Pressure Trip #n
47915		Fault	C1.Comp2	
47943		Fault	C2.Comp1	
47947		Fault	C2.Comp2	
47907	187	Fault	Circuit 1	CIRCUIT SHUTDOWN - Mechanical Low Pressure Trip #n
47939		Fault	Circuit 2	
48131	188	Fault	Unit	Controller board offline #n (Circuit number describe Control board number. 0=Unit alarm for Extension modules other than Circuits extension)
48163		Fault	Circuit 1	
48195		Fault	Circuit 2	
48419	189	Fault	Circuit 1	CIRCUIT SHUTDOWN - No Pressure Change After Start
48451		Fault	Circuit 2	
48675	190	Fault	Circuit 1	CIRCUIT SHUTDOWN - No Pressure at Startup
48707		Fault	Circuit 2	
48935	191	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Slide position sensor Fault #n



CODE	INDEX	LEVEL	Device	Description
48939		Fault	C1.Comp2	
48967		Fault	C2.Comp1	
48971		Fault	C2.Comp2	
49155	192	Fault	Unit	UNIT STOP - Emergency Stop Alarm
49411	193	Fault	Unit	UNIT STOP - Evaporator Water Temperatures Inverted
49667	194	Fault	Unit	UNIT STOP - External Alarm
49923	195	Fault	Unit	UNIT SHUTDOWN - Evaporator Leaving Water Temperature 1 Sensor Fault
50179	196	Fault	Unit	UNIT SHUTDOWN - Evaporator Leaving Water Temperature 2 Sensor Fault
50435	197	Fault	Unit	UNIT SHUTDOWN - Evaporator 1 Freeze Protection
50691	198	Fault	Unit	UNIT SHUTDOWN - Evaporator 2 Freeze Protection
50983	199	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Fault #n
50987		Fault	C1.Comp2	
51015		Fault	C2.Comp1	
51019		Fault	C2.Comp2	
51239	200	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Temperature High #n
51243		Fault	C1.Comp2	
51271		Fault	C2.Comp1	
51275		Fault	C2.Comp2	
51495	201	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Communication Error #n
51499		Fault	C1.Comp2	
51527		Fault	C2.Comp1	
51531		Fault	C2.Comp2	
51751	202	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Temperature Low #n
51755		Fault	C1.Comp2	
51783		Fault	C2.Comp1	
51787		Fault	C2.Comp2	



CODE	INDEX	LEVEL	Device	Description
52007	203	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Undergrid
52011		Fault	C1.Comp2	
52039		Fault	C2.Comp1	
52043		Fault	C2.Comp2	
52263	204	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Overgrid
52267		Fault	C1.Comp2	
52295		Fault	C2.Comp1	
52299		Fault	C2.Comp2	
52519	205	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Discharge Superheat Low #n
52523		Fault	C1.Comp2	
52551		Fault	C2.Comp1	
52555		Fault	C2.Comp2	
52739	206	Fault	Unit	UNIT SHUTDOWN - Gas Leakage
52771		Fault	Circuit 1	CIRCUIT SHUTDOWN - Gas Leakage
52803		Fault	Circuit 2	
52995	207	Fault	Unit	UNIT SHUTDOWN - Battery Mode
53251	208	Fault	Unit	UNIT SHUTDOWN - High Pitch (Marine)
53507	209	Fault	Unit	UNIT SHUTDOWN - High Roll (Marine)
53763	210	Fault	Unit	UNIT SHUTDOWN - Pitch Sensor Fault (Marine)
54019	211	Fault	Unit	UNIT SHUTDOWN - Roll Sensor Fault (Marine)
54275	212	Fault	Unit	UNIT SHUTDOWN - Evaporator Differenital Pressure Sensor Fault
54531	213	Fault	Unit	UNIT SHUTDOWN - Evaporator Differenital Pressure High
54787	214	Fault	Unit	UNIT SHUTDOWN - Condenser Differenital Pressure Sensor Fault
55043	215	Fault	Unit	UNIT SHUTDOWN - Condenser Differenital Pressure High
55335	216	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Card Temperature High
55339		Fault	C1.Comp2	



CODE	INDEX	LEVEL	Device	Description
55367		Fault	C2.Comp1	
55371		Fault	C2.Comp2	
55591	217	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - RLA High
55595		Fault	C1.Comp2	
55623		Fault	C2.Comp1	
55627		Fault	C2.Comp2	
55847		Fault	C1.Comp1	
55851	218	Fault	C1.Comp2	COMPRESSOR SHUTDOWN - RLA Low
55879		Fault	C2.Comp1	
55883		Fault	C2.Comp2	
56103	219	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - Surge Alarm
56107		Fault	C1.Comp2	
56135		Fault	C2.Comp1	
56139		Fault	C2.Comp2	
56323	220	Fault	Unit	UNIT SHUTDOWN - Evaporator Water Differential Pressure Low
56579	221	Fault	Unit	UNIT SHUTDOWN - Condenser Water Differential Pressure Low
56835	222	Fault	Unit	UNIT SHUTDOWN - Unit or Compressor not configured
57091	223	Fault	Unit	UNIT SHUTDOWN - Power Availability Alarm (Marine)
57347	224	Fault	Unit	UNIT SHUTDOWN - Freecooling water valves feedback Alarm
57635	225	Fault	Circuit 1	CIRCUIT SHUTDOWN - Freecooling Valves Feedback Alarm
57667		Fault	Circuit 2	
57895	226	Fault	C1.Comp1	COMPRESSOR SHUTDOWN - VFD Components to be replaced
57899		Fault	C1.Comp2	
57927		Fault	C2.Comp1	
57931		Fault	C2.Comp2	



CODE	INDEX	LEVEL	Device	Description
58147	227	Fault	Circuit 1	CIRCUIT SHUTDOWN - Fans Communication Fail
58179		Fault	Circuit 2	
58403	228	Fault	Circuit 1	CIRCUIT SHUTDOWN - Anti-Chattering Alarm
58435		Fault	Circuit 2	
58663	229	Fault	C1.Comp1	CIRCUIT SHUTDOWN - Comp X Alarm
58667		Fault	C1.Comp2	
58671		Fault	C1.Comp3	
58675		Fault	C1.Comp4	
58695		Fault	C2.Comp1	
58699		Fault	C2.Comp2	
58703		Fault	C2.Comp3	
58707		Fault	C2.Comp4	
58915	230	Fault	Circuit 1	CIRCUIT SHUTDOWN - Ssh Low Limit Alarm
58947		Fault	Circuit 2	
59139	231	Fault	Unit	UNIT SHUTDOWN - Tank Water Temp Sensor fault
59651	233	Fault	Unit	UNIT SHUTDOWN - Condenser LWT or EWT (freeze)
59907	234	Fault	Unit	UNIT SHUTDOWN - Changeover Valve hardware Alarm
60163	235	Fault	Unit	UNIT SHUTDOWN - Changeover Valve feedback Alarm
60419	236	Fault	Unit	UNIT SHUTDOWN – Beluga Pump Fault Alarm
60675	237	Fault	Unit	UNIT SHUTDOWN – Beluga Pump Modbus Communication Alarm



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