Table 27 — Alarm and Alert Codes

ALARM/ ALERT CODE	ALARM OR ALERT	DESCRIPTION	WHY WAS THIS ALARM GENERATED?	ACTION TAKEN BY CONTROL	RESET METHOD	PROBABLE CAUSE
51	Alert	Circuit A, Compressor 1 Failure	Compressor feedback signal does not match relay state	Circuit A shut down.	Manual	High-pressure or loss-of-charge switch open, faulty control relay or CPCS board, loss of condenser air, liquid valve closed, operation beyond capability.
52	Alert	Circuit A, Compressor 2 Failure	Compressor feedback signal does not match relay state	Circuit A shut down. Circuit restarted in 1 minute. Compressor A2 not used until alarm is reset.	Manual	High-pressure switch open, faulty control relay or CPCS board, loss of condenser air, liquid valve closed, operation beyond capability.
53	Alert	Circuit A, Compressor 3 Failure	Compressor feedback signal does not match relay state	Circuit A shut down. Circuit restarted in 1 minute. Compressor A3 not used until alarm is reset.	Manual	High-pressure switch open, faulty control relay or CPCS board, loss of condenser air, liquid valve closed, operation beyond capability.
54	Alert	Circuit A, Compressor 4 Failure	Compressor feedback signal does not match relay state	Circuit A shut down. Circuit restarted in 1 minute. Compressor A4 not used until alarm is reset.	Manual	High-pressure switch open, faulty control relay or CPCS board, loss of condenser air, liquid valve closed, operation beyond capability.
55	Alert	Circuit B, Compressor 1 Failure	Compressor feedback signal does not match relay state	Circuit B shut down.	Manual	High-pressure or loss-of-charge switch open, faulty control relay or CPCS board, loss of condenser air, liquid valve closed, operation beyond capability.
56	Alert	Circuit B, Compressor 2 Failure	Compressor feedback signal does not match relay state	Circuit B shut down. Circuit restarted in 1 minute. Compressor B2 not used until alarm is reset.	Manual	High-pressure switch open, faulty control relay or CPCS board, loss of condenser air, liquid valve closed, operation beyond capability.
57	Alert	Circuit B, Compressor 3 Failure	Compressor feedback signal does not match relay state	Circuit B shut down. Circuit restarted in 1 minute. Compressor B3 not used until alarm is reset.	Manual	High-pressure switch open, faulty control relay or CPCS board, loss of condenser air, liquid valve closed, operation beyond capability.
60	Alarm	Cooler Leaving Fluid Thermistor Failure (T1)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Chiller shutdown after pumpdown complete.	Automatic	Thermistor failure, damaged cable/wire or wiring error.
61	Alarm	Cooler Entering Fluid Thermistor Failure (T2)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Chiller shutdown after pumpdown complete.	Automatic	Thermistor failure, damaged cable/wire or wiring error.
64	Alert	Circuit A Saturated Condensing Thermistor Failure (T3)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Circuit A shutdown after pumpdown complete. (EXV only)	Automatic	Thermistor failure, damaged cable/wire or wiring error.
65	Alert	Circuit B Saturated Condensing Thermistor Failure (T4)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Circuit B shutdown after pumpdown complete.	Automatic	Thermistor failure, damaged cable/wire or wiring error.
66	Alert	Circuit A Saturated Suction Thermistor Failure (T5)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Circuit A shutdown after pumpdown complete. (EXV only)	Automatic	Thermistor failure, damaged cable/wire or wiring error.
67	Alert	Circuit B Saturated Suction Thermistor Failure (T6)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Circuit B shutdown after pumpdown complete.	Automatic	Thermistor failure, damaged cable/wire or wiring error.
68	Alert	Compressor A1 Suction Gas Thermistor Failure (T7)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Circuit A shutdown after pumpdown complete. (EXV only).	Automatic	Thermistor failure, damaged cable/wire or wiring error.
69	Alert	Compressor B1 Suction Gas Thermistor Failure (T8)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Circuit B shutdown after pumpdown complete. (EXV only).	Automatic	Thermistor failure, damaged cable/wire or wiring error.
73	Alert	Outside Air Thermistor Failure (T9)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Temperature reset disabled. Chiller runs under normal control/set points.	Automatic	Thermistor failure, damaged cable/wire or wiring error.
74	Alert	Space Temperature Thermistor Failure (T10)	Thermistor outside range of −40 to 245 F (−40 to 118 C)	Temperature reset disabled. Chiller runs under normal control/set points.	Automatic	Thermistor failure, damaged cable/wire or wiring error.
77	Alert	Circuit A Saturated Suction Temperature exceeds Cooler Leaving Fluid Temperature	Saturated suction is greater than leaving fluid temperature for more than 5 minutes	Circuit A shutdown after pumpdown complete.	Automatic	Faulty expansion valve or EXV board, faulty cooler suction thermistor (T5) or leaving fluid thermistor (T1).
78	Alert	Circuit B Saturated Suction Temperature exceeds Cooler Leaving Fluid Temperature	Saturated suction is greater than leaving fluid temperature for more than 5 minutes	Circuit B shutdown after pumpdown complete	Automatic	Faulty expansion valve or EXV board, faulty cooler suction thermistor (T6) or leaving fluid thermistor (T1).

Table 27 — Alarm and Alert Codes (cont)

ALARM/ ALERT CODE	ALARM OR ALERT	DESCRIPTION	WHY WAS THIS ALARM GENERAED?	ACTION TAKEN BY CONTROL	RESET METHOD	PROBABLE CAUSE
112	Alert	Circuit A High Suction Superheat	If EXV is greater than 98%, suction superheat is greater than 75 F (41.7 C) and saturated suction temperature is less than MOP for 5 minutes	Circuit A shutdown after pumpdown complete.	Manual	Faulty expansion valve or EXV board, low refrigerant charge, plugged filter drier, faulty suction gas thermistor (T7) or cooler thermistor (T5).
113	Alert	Circuit B High Suction Superheat	If EXV is greater than 98%, suction superheat is greater than 75 F (41.7 C) and saturated suction temperature is less than MOP for 5 minutes	Circuit B shutdown after pumpdown complete.	Manual	Faulty expansion valve or EXV board, low refrigerant charge, plugged filter drier, faulty suction gas thermistor (T8) or cooler thermistor (T6).
114	Alert	Circuit A Low Suction Superheat	If EXV is greater than 10%, and either suction superheat is less than 19 F (10.6 C) or saturated suction temperature is greater than MOP for 5 minutes	Circuit A shutdown after pumpdown complete.	Automatic restart after first daily occurrence. Manual restart thereafter.	Faulty expansion valve or EXV board, faulty suction gas thermistor (T7) or cooler thermistor (T5).
115	Alert	Circuit B Low Suction Superheat	If EXV is greater than 10%, and either suction superheat is less than 19 F (10.6 C) or saturated suction temperature is greater than MOP for 5 minutes	Circuit B shutdown after pumpdown complete.	Automatic restart after first daily occurrence. Manual restart thereafter.	Faulty expansion valve or EXV board, faulty suction gas thermistor (T8) or cooler thermistor (T6).
116	Alert	Circuit A Low Cooler Suction Temperature	1. If the saturated suction temperature is 24 to 29° F (13.3 to 16.1° C) below cooler LWT and is also 2° F (1.1° C) less than freeze* 2. If the saturated suction temperature is 30° F (16.7° C) below cooler LWT and is also 2° F (1.1° C) less than freeze* for 10 minutes	1. Mode 7 initiated. No additional capacity increases. Alert not tripped. 2. Circuit shutdown without going through pumpdown.	1. Automatic reset if corrected. 2. Manual	Faulty expansion valve or EXV board, low refrigerant charge, plugged filter drier, faulty suction gas thermistor (T7) or cooler thermistor (T5), low cooler fluid flow.
117	Alert	Circuit B Low Cooler Suction Temperature	1. If the saturated suction temperature is 24 to 29° F (13.3 to 16.1° C) below cooler LWT and is also 2° F (1.1° C) less than freeze* 2. If the saturated suction temperature is 30° F (16.7° C) below cooler LWT and is also 2° F (1.1° C) less than freeze* for 10 minutes	1. Mode 8 initiated. No additional capacity increases. Alert not tripped. 2. Circuit shutdown without going through pumpdown.	1. Automatic reset if corrected. 2. Manual	Faulty expansion valve or EXV board, low refrigerant charge, plugged filter drier, faulty suction gas thermistor (T8) or cooler thermistor (T6), low cooler fluid flow.
118	Alert	Circuit A Low Oil Pressure	Oil pressure switch open after 1 minute of continuous operation	Circuit shutdown without going through pumpdown.	Manual	Oil pump failure, low oil level, switch failure or compressor circuit breaker tripped.
119	Alert	Circuit B Low Oil Pressure	Oil pressure switch open after 1 minute of continuous operation	Circuit shutdown without going through pumpdown.	Manual	Oil pump failure, low oil level, switch failure or compressor circuit breaker tripped.

LEGEND

CCN — Carrier Comfort Network
CPCS — Compressor Protection Control System
CXB — Compressor Expansion Board
EMM — Energy Management Module
EXV — Electronic Expansion Valve
FSM — Flotronic™ System Manager
MBB — Main Base Board
MOP — Maximum Operating Pressure
WSM — Water System Manager

*Freeze is defined as 34° F (1.1 C) for water. For brine fluids, freeze is CSP.1 −8° F (4.4 C) for single set point and lower of CSP.1/CSP.2 −8° F (4.4 C) for dual set point configuration.

NOTE: The following table shows illegal configurations:

1	Zero compressors in a circuit
2	Four compressors in a circuit with two unloaders
3	Four compressors in a circuit with one unloader and hot gas bypass
4	Two unloaders and hot gas bypass in a circuit.
5	More than one compressor quantity difference between circuits
6	Fluid type of low temperature brine
7	Air cooled head pressure control with common fan staging and different head pressure control methods for each circuit.

Table 27 — Alarm and Alert Codes (cont)

ALARM/ ALEERT CODE	ALARM OR ALERT	DESCRIPTION	WHY WAS THIS ALARm GENERATED?	ACTION TAKEN BY CONTROL	RESET METHOD	PROBABLE CAUSE
150	Alarm	Emergency Stop	CCN emergency stop command received	Chiller shutdown without going through pumpdown.	Automatic once CCN command for EMSTOP returns to normal	CCN Network command.
151	Alarm	Illegal Configuration	One or more of the illegal configurations shown in the Note below exists.	Chiller is not allowed to start.	Manual once configuration errors are corrected	Configuration error. See Note on page 49.
152	Alarm	Unit Down Due to Failure	Both circuits are down due to alarms/alerts.	Chiller is unable to run.	Automatic once alarms/alerts are cleared that prevent the chiller from starting.	Alarm notifies user that chiller is 100% down.
153	Alarm	Real Time Clock Hardware Failure	Internal clock on MBB fails	Occupancy schedule will not be used. Chiller defaults to Local On mode.	Automatic when correct clock control restarts.	Main Base Board failure.
154	Alarm	Serial EEPROM Hardware Failure	Hardware failure with MBB	Chiller is unable to run.	Manual	Main Base Board failure.
155	Alert	Serial EEPROM Storage Failure	Configuration/storage failure with MBB	No Action	Manual	Potential failure of MBB. Download current operating software. Replace MBB if error occurs again.
156	Alarm	Critical Serial EEPROM Storage Failure	Configuration/storage failure with MBB	Chiller is not allowed to run.	Manual	Main Base Board failure.
157	Alarm	A/D Hardware Failure	Hardware failure with peripheral device	Chiller is not allowed to run.	Manual	Main Base Board failure.
170	Alert	Loss of Communication with CXB	MBB loses communication with CXB	Compressors A3, A4 and B3 and unloaders A2/B2 unable to operate.	Automatic	Wiring error, faulty wiring or failed CXB module.
172	Alarm	Loss of Communication with EXV	MBB loses communication with EXV	Chiller shutdown without going through pumpdown.	Automatic	Wiring error, faulty wiring or failed EXV module.
173	Alert	Loss of Communication with EMM	MBB loses communication with EMM	4 to 20 mA temperature reset disabled. Demand Limit set to 100%. 4 to 20 mA set point disabled.	Automatic	Wiring error, faulty wiring or failed Energy Management Module (EMM).
174	Alert	4 to 20 mA Cooling Set Point Input Failure	If configured with EMM and input less than 2 mA or greater than 22 mA	Set point function disabled. Chiller controls to CSP1.	Automatic	Faulty signal generator, wiring error, or faulty EMM.
176	Alert	4 to 20 mA Temperature Reset Input Failure	If configured with EMM and input less than 2 mA or greater than 22 mA	Reset function disabled. Chiller returns to normal set point control.	Automatic	Faulty signal generator, wiring error, or faulty EMM.
177	Alert	4 to 20 mA Demand Limit Input Failure	If configured with EMM and input less than 2 mA or greater than 22 mA	Demand limit function disabled. Chiller returns to 100% demand limit control.	Automatic	Faulty signal generator, wiring error, or faulty EMM.
200	Alarm	Cooler Pump Interlock Failure to Close at Start-Up	If configured for cooler pump control and cooler pump interlock not closed within 1 minute after pump is started	Cooler pump shut off. Chiller shutdown without going through pumpdown.	Manual	Failure of cooler pump or controls.
201	Alarm	Cooler Pump Interlock Opened During Normal Operation	If configured for cooler pump control and interlock opens while cooler pump relay is on	Cooler pump shut off. Chiller shutdown without going through pumpdown.	Manual	Failure of cooler pump or controls.
202	Alarm	Cooler Pump Interlock Closed When Pump is Off	If configured for cooler pump control and interlock closes while cooler pump relay is off	Chiller is not allowed to start.	Manual	Failure of cooler pump relay or interlock, welded contacts.

Table 27 — Alarm and Alert Codes (cont)

ALARM/ ALEERT CODE	ALARM OR ALERT	DESCRIPTION	WHY WAS THIS ALARm GENERATED?	ACTION TAKEN BY CONTROL	RESET METHOD	PROBABLE CAUSE
203	Alert	Loss of Communication with Slave Chiller	Master MBB loses communication with Slave MBB	Dual chiller control disabled. Chiller runs as a stand-alone machine.	Automatic	Wiring error, faulty wiring, failed Slave MBB module, power loss at Slave chiller, wrong slave address.
204	Alert	Loss of Communication with Master Chiller	Slave MBB loses communication with Master MBB	Dual chiller control disabled. Chiller runs as a stand-alone machine	Automatic	Wiring error, faulty wiring, failed Master MBB module, power loss at Master chiller.
206	Alert	High Leaving Chilled Water Temperature	LWT read is greater than LCW Alert Limit, Total capacity is 100% and LWT is greater than LWT reading one minute ago	Alert only. No action taken.	Automatic	Building load greater than unit capacity, low water/brine flow or compressor fault. Check for other alarms/alerts.
207	Alarm	Cooler Freeze Protection	Cooler EWT or LWT is less than freeze*	Chiller shutdown without going through pumpdown. Cooler pump continues to run (if control enabled).	Automatic for first occurrence of day. Manual reset thereafter.	Faulty thermistor (T1/T2), low water flow.
208	Alarm	Low Cooler Fluid Flow	Cooler EWT is less than LWT by 3° F (1.7° C) for 1 minute after a circuit is started	Chiller shutdown without going through pumpdown. Cooler pump shut off (if control enabled).	Manual	Faulty cooler pump, low water flow, plugged fluid strainer.
950	Alert	Loss of Communication with WSM	No communications have been received by MBB within 5 minutes of last transmission	WSM forces removed. Chiller runs under own control.	Automatic	Failed module, wiring error, failed transformer, loose connection plug, wrong address.
951	Alert	Loss of Communication with FSM	No communications have been received by MBB within 5 minutes of last transmission	FSM forces removed. Chiller runs under own control.	Automatic	Failed module, wiring error, failed transformer, loose connection plug, wrong address.

LEGEND

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MBB — Main Base Board
MOP — Maximum Operating Pressure
WSM — Water System Manager

*Freeze is defined as 34° F (1.1 C) for water. For brine fluids, freeze is CSP.1 −8° F (4.4 C) for single set point and lower of CSP.1/CSP.2 −8° F (4.4 C) for dual set point configuration.

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5	More than one compressor quantity difference between circuits
6	Fluid type of low temperature brine
7	Air cooled head pressure control with common fan staging and different head pressure control methods for each circuit.