Liebert - iCOM_SC - BACnet Mapping FDM Version #31

Binary Data

Compressors

Data Label	Object Type	Instance	Object Name	Access	Notes
Compressor Not Stopping	Binary_Value	1	5263	RD	

Compressors - Compressor 1

Data Label	Object Type	Instance	Object Name	Access	Notes
Compressor Hours Exceeded	Binary_Value	12	5269_1	RD	
Compressor High Head Pressure	Binary_Value	13	5270_1	RD	
Compressor Low Suction Pressure	Binary_Value	14	5271_1	RD	
Compressor Thermal Overload	Binary_Value	15	5272_1	RD	
Compressor Low Oil Pressure	Binary_Value	16	5273_1	RD	
Compressor Loss of Differential Pressure	Binary_Value	17	5275_1	RD	
Compressor Capacity Reduced	Binary_Value	18	5513_1	RD	

Compressors - Compressor 2

Data Label	Object Type	Instance	Object Name	Access	Notes
Compressor Hours Exceeded	Binary_Value	29	5269_2	RD	
Compressor High Head Pressure	Binary_Value	30	5270_2	RD	
Compressor Low Suction Pressure	Binary_Value	31	5271_2	RD	
Compressor Thermal Overload	Binary_Value	32	5272_2	RD	
Compressor Low Oil Pressure	Binary_Value	33	5273_2	RD	
Compressor Loss of Differential Pressure	Binary_Value	34	5275_2	RD	
Compressor Capacity Reduced	Binary_Value	35	5513_2	RD	

Condensers 1

Data Label	Object Type	Instance	Object Name	Access	Notes
Condenser Fan Issue	Binary_Value	46	5277_1	RD	
Low Condenser Refrigerant Pressure	Binary_Value	47	5278_1	RD	
Condenser Max Fan Speed Override	Binary_Value	48	5545_1	RD	

Condensers 2

Data Label	Object Type	Instance	Object Name	Access	Notes
Condenser Fan Issue	Binary_Value	59	5277_2	RD	

Low Condenser Refrigerant Pressure	Binary_Value	60	5278_2	RD	
Condenser Max Fan Speed Override	Binary_Value	61	5545_2	RD	

Fluid

Data Label	Object Type	Instance	Object Name	Access	Notes
Low Fluid Pressure	Binary_Value	72	5280	RD	
Return Fluid Temp Sensor Issue	Binary_Value	73	5295	RD	

Fluid - Supply (Outlet) Fluid

Data Label	Object Type	Instance	Object Name	Access	Notes
Supply Fluid Over Temp	Binary_Value	84	4645	RD	
Supply Fluid Under Temp	Binary_Value	85	4648	RD	
Supply Fluid Temp Sensor Issue	Binary_Value	86	4651	RD	

Pumps

Data Label	Object Type	Instance	Object Name	Access	Notes
All Pumps Loss of Flow	Binary_Value	97	5297	RD	
Pump 1 Loss of Flow	Binary_Value	98	4656	RD	
Pump 2 Loss of Flow	Binary_Value	99	4659	RD	

Pumps - Pump 1

Data Label	Object Type	Instance	Object Name	Access	Notes
Pump Hours Exceeded	Binary_Value	110	5300_1	RD	

Pumps - Pump 2

Data Label	Object Type	Instance	Object Name	Access	Notes
Pump Hours Exceeded	Binary_Value	121	5300_2	RD	

Free Cooling

Data Label	Object Type	Instance	Object Name	Access	Notes
Free Cooling Valve Hours Exceeded	Binary_Value	132	5306	RD	
Ambient Air Temperature Sensor Issue	Binary_Value	133	4618	RD	

Evaporators

Data Label	Object Type	Instance	Object Name	Access	Notes
Evaporator Inlet Temp Sensor Issue	Binary_Value	144	5308	RD	
Evaporator Return Fluid Over Temp	Binary_Value	145	5559	RD	

Evaporator Return Fluid Under Temp	Binary_Value	146	5560	RD	

Evaporators - Evaporator 1

Data Label	Object Type	Instance	Object Name	Access	Notes
Evaporator Fluid Freeze - Auto Reset	Binary_Value	157	5310_1	RD	
Evaporator Fluid Freeze - Manual Reset Required	Binary_Value	158	5311_1	RD	
Supply Refrigerant Temp Sensor Issue	Binary_Value	159	4640_1	RD	

Evaporators - Evaporator 2

Data Label	Object Type	Instance	Object Name	Access	Notes
Evaporator Fluid Freeze - Auto Reset	Binary_Value	170	5310_2	RD	
Evaporator Fluid Freeze - Manual Reset Required	Binary_Value	171	5311_2	RD	
Supply Refrigerant Temp Sensor Issue	Binary_Value	172	4640_2	RD	

System Events

Data Label	Object Type	Instance	Object Name	Access	Notes
Customer Input 1	Binary_Value	183	4270	RD	
Customer Input 2	Binary_Value	184	4271	RD	
Unit On	Binary_Value	185	5109	RD	
Unit Off	Binary_Value	186	5110	RD	
Master Unit Communication Lost	Binary_Value	187	5120	RD	
Subgroup Event Occurred During Communication Loss	Binary_Value	188	5315	RD	
Humidifier Control Board Not Detected	Binary_Value	189	5045	RD	
RAM Battery Issue	Binary_Value	190	5119	RD	
Unit Code Missing	Binary_Value	191	5418	RD	

Analog Data

Compressors

Data Label	Object Type	Instance	Object Name	Access	Notes
Compressor Shut Down - Ambient Air Low Temp Limit	Analog_Value	1	5262	RW	

Compressors - Compressor 1

Data Label	Object Type	Instance	Object Name	Access	Notes
Compressor Head Pressure	Analog_Value	12	5266_1	RD	

| Compressor Hours | Analog_Value | 13 | 5267_1 | RW | |
| Compressor Hours Threshold | Analog_Value | 14 | 5268_1 | RW | |

Compressors - Compressor 2

Data Label	Object Type	Instance	Object Name	Access	Notes
Compressor Head Pressure	Analog_Value	25	5266_2	RD	
Compressor Hours	Analog_Value	26	5267_2	RW	
Compressor Hours Threshold	Analog_Value	27	5268_2	RW	

Condensers 1

Data Label	Object Type	Instance	Object Name	Access	Notes
Condenser Fan Speed	Analog_Value	38	5276_1	RD	

Condensers 2

Data Label	Object Type	Instance	Object Name	Access	Notes
Condenser Fan Speed	Analog_Value	49	5276_2	RD	

Fluid

Data Label	Object Type	Instance	Object Name	Access	Notes
Fluid Pressure	Analog_Value	60	5279	RD	
Fluid Cooling Proportional Band	Analog_Value	61	5281	RW	

Fluid - Supply (Outlet) Fluid

Data Label	Object Type	Instance	Object Name	Access	Notes
Supply Fluid Temp Set Point 1	Analog_Value	72	5283	RW	
Supply Fluid Temp Set Point 2	Analog_Value	73	5284	RW	
Supply Fluid Over Temp Alarm Threshold	Analog_Value	74	5285	RW	
Supply Fluid Over Temp Warning Threshold	Analog_Value	75	4644	RW	
Supply Fluid Under Temp Warning Threshold	Analog_Value	76	5286	RW	
Supply Fluid Under Temp Alarm Threshold	Analog_Value	77	5287	RW	

Pumps - Pump 1

Data Label	Object Type	Instance	Object Name	Access	Notes
Pump Hours	Analog_Value	88	5298_1	RW	
Pump Hours Threshold	Analog_Value	89	5299_1	RW	

Pumps - Pump 2

Data Label	Object Type	Instance	Object Name	Access	Notes
Pump Hours	Analog_Value	100	5298_2	RW	
Pump Hours Threshold	Analog_Value	101	5299_2	RW	

Free Cooling

Data Label	Object Type	Instance	Object Name	Access	Notes
Free Cooling External Temperature Delta	Analog_Value	112	5301	RW	
Free Cooling Valve Open Position	Analog_Value	113	5303	RD	
Free Cooling Valve Hours	Analog_Value	114	5304	RW	
Free Cooling Valve Hours Threshold	Analog_Value	115	5305	RW	

Evaporators

Data Label	Object Type	Instance	Object Name	Access	Notes
Evaporator Return Fluid Temperature	Analog_Value	126	5307	RD	
Evaporator Return Fluid Over Temp Alarm Threshold	Analog_Value	127	5555	RW	
Evaporator Return Fluid Over Temp Warning Threshold	Analog_Value	128	5556	RW	
Evaporator Return Fluid Under Temp Warning Threshold	Analog_Value	129	5557	RW	
Evaporator Return Fluid Under Temp Alarm Threshold	Analog_Value	130	5558	RW	

Brine

Data Label	Object Type	Instance	Object Name	Access	Notes
Supply Brine Temp Set Point	Analog_Value	141	5312	RW	

Standby Units

Data Label	Object Type	Instance	Object Name	Access	Notes
Standby Units	Analog_Value	152	5314	RW	

System Operations

Data Label	Object Type	Instance	Object Name	Access	Notes
Return Fluid Temperature	Analog_Value	163	5288	RD	
Supply Fluid Temperature	Analog_Value	164	4643	RD	
Actual Supply Fluid Temp Set Point	Analog_Value	165	5282	RD	
Condenser Inlet Water Temperature	Analog_Value	166	5517	RD	

Condenser Outlet Water Temperature	Analog_Value	167	5518	RD	
Supply Heated Water Temp Set Point	Analog_Value	168	5313	RW	
Free Cooling Utilization	Analog_Value	169	5519	RD	
Reheat Utilization	Analog_Value	170	5080	RD	
Compressor Utilization	Analog_Value	171	5078	RD	
Ambient Air Temperature	Analog_Value	172	4594	RD	
Compressor Economizer Utilization	Analog_Value	173	5520	RD	
Condenser Adiabatic Cooling Utilization	Analog_Value	174	5521	RD	

Time

Data Label	Object Type	Instance	Object Name	Access	Notes
System Date and Time	Analog_Value	185	4293	RW	

Multistate Data

Protocol

Data Label	Object Type	Instance	Object Name	Access	Notes
Server Class	MultiState_Value	1	4553	RD	1 = UPS 2 = AIR 3 = PMP 4 = PDU

Compressors - Compressor 1

Data Label	Object Type	Instance	Object Name	Access	Notes
Compressor State	MultiState_Value	12	5264_1	RD	1 = off 2 = on
Compressor Capacity Control State	MultiState_Value	13	5265_1	RD	1 = off 2 = on

Compressors - Compressor 2

Data Label	Object Type	Instance	Object Name	Access	Notes
Compressor State	MultiState_Value	24	5264_2	RD	1 = off 2 = on
Compressor Capacity Control State	MultiState_Value	25	5265_2	RD	1 = off 2 = on

Free Cooling

Data Label	Object Type	Instance	Object Name	Access	Notes

Free Cooling Status	MultiState_Value	36	5302	RD	1 = off 2 = on 3 = No Support

System Events

Data Label	Object Type	Instance	Object Name	Access	Notes
System Event Acknowledge/Reset	MultiState_Value	47	4717	WO	1 = Reset 2 = Acknowledge

System Info

Data Label	Object Type	Instance	Object Name	Access	Notes
System Status	MultiState_Value	58	4123	RD	1 = Normal Operation 2 = StartUp 3 = Normal with Warning 4 = Normal with Alarm 5 = Abnormal Operation
System Operating State	MultiState_Value	59	4706	RD	1 = off 2 = on 3 = standby
System Control Mode	MultiState_Value	60	4707	RD	1 = Internal (Auto) 2 = External (Manual)
System Operating State Reason	MultiState_Value	61	5074	RD	1 = Reason Unknown 2 = Network Display 3 = Alarm 4 = Schedule 5 = Remote System 6 = External Input 7 = Local Display
System On/Off Control	MultiState_Value	62	5143	RW	1 = off 2 = on

System Operations

Data Label	Object Type	Instance	Object Name	Access	Notes
Pump 1 State	MultiState_Value	73	4654	RD	1 = off 2 = on
Pump 2 State	MultiState_Value	74	4655	RD	1 = off 2 = on

Glossary

Data Label	Data Description
Actual Supply Fluid Temp Set Point	The actual set point value being used for the desired fluid temperature at the outlet of the unit.
All Pumps Loss of Flow	System is shut down due to loss of flow in all available pumps.
Ambient Air Temperature Sensor Issue	The ambient air temperature sensor is disconnected or the signal is out of range.
Ambient Air Temperature	Ambient air temperature.
Compressor Capacity Control State	Compressor capacity control state. When 'ON', the cooling capacity of the compressor has been reduced.
Compressor Capacity Reduced	Compressor capacity has been reduced.
Compressor Economizer Utilization	Present compressor economizer utilization expressed as a percentage of the maximum.
Compressor Head Pressure	Compressor head pressure.
Compressor High Head Pressure	Compressor is shut down due to high head pressure.
Compressor Hours Exceeded	[Compressor Hours] has exceeded [Compressor Hours Threshold].
Compressor Hours Threshold	Threshold value used in the [Compressor Hours Exceeded] event.
Compressor Hours	Operating hours for compressor since last reset of this value.
Compressor Loss of Differential Pressure	Compressor is shut down due to low differential pressure.
Compressor Low Oil Pressure	Compressor low oil pressure.
Compressor Low Suction Pressure	Compressor is shut down due to low suction pressure.
Compressor Not Stopping	Compressor commanded to stop, but continues to run.
Compressor Shut Down - Ambient Air Low Temp Limit	When the temperature of ambient air falls below this lower threshold, the compressor will be shut off. Correct condensing pressure cannot be achieved when temperature is too low.
Compressor State	Compressor operational state.
Compressor Thermal Overload	Compressor is shut down due to thermal overload.
Compressor Utilization	Present compressor utilization expressed as a percentage of the maximum rated capacity.
Condenser Adiabatic Cooling Utilization	Present adiabatic cooling utilization expressed as a percentage of the maximum.
Condenser Fan Issue	Condenser fan is not operating within its operational parameters.
Condenser Fan Speed	Condenser fan speed expressed as a percentage of the maximum rated speed.
Condenser Inlet Water Temperature	For water cooled condensers, the temperature of the water entering the heat exchanger, before cooling the refrigerant.
Condenser Max Fan Speed Override	Fan speed exceeding the maximum set point in order to alleviate a high temperature or pressure condition.
Condenser Outlet Water Temperature	For water cooled condensers, the temperature of the water exiting the heat exchanger, after cooling the refrigerant.
Customer Input 1	Customer input 1.
Customer Input 2	Customer input 2.
Evaporator Fluid Freeze - Auto Reset	Evaporator outlet fluid temperature has dropped below the freeze threshold. Evaporator has been shut down, but will restart when the temperature rises above the threshold.
Evaporator Fluid Freeze - Manual Reset Required	Evaporator outlet fluid temperature has dropped below the freeze threshold. Evaporator has been shut down and requires a manual reset.
Evaporator Inlet Temp Sensor Issue	The evaporator inlet temperature sensor is disconnected or the signal is out of range.
Evaporator Return Fluid Over Temp Alarm Threshold	Alarm threshold value used in the [Evaporator Return Fluid Over Temp] event.

Evaporator Return Fluid Over Temp Warning Threshold	Warning threshold value used in the [Evaporator Return Fluid Over Temp] event.
Evaporator Return Fluid Over Temp	[Evaporator Return Fluid Temperature] has exceeded a threshold. The event is deactivated when the temperature drops below the threshold.
Evaporator Return Fluid Temperature	Fluid temperature measured at the inlet of the evaporator.
Evaporator Return Fluid Under Temp Alarm Threshold	Alarm threshold value used in the [Evaporator Return Fluid Under Temp] event.
Evaporator Return Fluid Under Temp Warning Threshold	Warning threshold value used in the [Evaporator Return Fluid Under Temp] event.
Evaporator Return Fluid Under Temp	[Evaporator Return Fluid Temperature] has dropped below a threshold. The event is deactivated when the temperature rises above the threshold.
Fluid Cooling Proportional Band	Temperature control band above [Actual Supply Fluid Temp Set Point]. If [Return Fluid Temperature] is within this band, fluid cooling operations are proportionally controlled.
Fluid Pressure	Fluid pressure. This is the pressure within a closed water/glycol circuit.
Free Cooling External Temperature Delta	Minimum temperature delta required between return fluid and external ambient air temperatures in order to enable free cooling.
Free Cooling Status	Free cooling status.
Free Cooling Utilization	Present free cooling utilization expressed as a percentage of the maximum.
Free Cooling Valve Hours Exceeded	[Free Cooling Valve Hours] has exceeded [Free Cooling Valve Hours Threshold].
Free Cooling Valve Hours Threshold	Threshold value used in the [Free Cooling Valve Hours Exceeded] event.
Free Cooling Valve Hours	Operating hours for free cooling valve since last reset of this value.
Free Cooling Valve Open Position	Free cooling valve open position.
Humidifier Control Board Not Detected	Humidifier control board is required to be connected, but no signal is detected.
Low Condenser Refrigerant Pressure	Refrigerant pressure in condenser coil is too low.
Low Fluid Pressure	[Fluid Pressure] has dropped below a specified threshold.
Master Unit Communication Lost	Communication with master unit has been lost.
Pump 1 Loss of Flow	Loss of flow is detected in pump 1. This condition occurs when no flow is detected through the flow switch.
Pump 1 State	Pump 1 operational state.
Pump 2 Loss of Flow	Loss of flow is detected in pump 2. This condition occurs when no flow is detected through the flow switch.
Pump 2 State	Pump 2 operational state.
Pump Hours Exceeded	[Pump Hours] has exceeded [Pump Hours Threshold].
Pump Hours Threshold	Threshold value used in the [Pump Hours Exceeded] event.
Pump Hours	Operating hours for pump since last reset of this value.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.
Reheat Utilization	Present reheating utilization expressed as a percentage of the maximum rated capacity.
Return Fluid Temp Sensor Issue	The return fluid temperature sensor is disconnected or the signal is out of range.
Return Fluid Temperature	Fluid temperature measured at the inlet of the unit.
Server Class	The general classification for this system
Standby Units	The number of standby units.
Subgroup Event Occurred During Communication Loss	While subgroup unit communication was lost, an event occurred on the subgroup unit. Please check subgroup unit event log.

Supply Brine Temp Set Point	Desired brine fluid temperature at the outlet of the unit.
Supply Fluid Over Temp Alarm Threshold	Threshold value used to generate a [Supply Fluid Over Temp] alarm.
Supply Fluid Over Temp Warning Threshold	Threshold value used to generate a [Supply Fluid Over Temp] warning.
Supply Fluid Over Temp	[Supply Fluid Temperature] has exceeded a specified threshold.
Supply Fluid Temp Sensor Issue	The supply fluid temperature sensor is disconnected or the signal is out of range.
Supply Fluid Temp Set Point 1	Set point 1 of desired fluid temperature at the outlet of the unit.
Supply Fluid Temp Set Point 2	Set point 2 of desired fluid temperature at the outlet of the unit.
Supply Fluid Temperature	Fluid temperature measured at the outlet of the unit.
Supply Fluid Under Temp Alarm Threshold	Threshold value used to generate a [Supply Fluid Under Temp] alarm.
Supply Fluid Under Temp Warning Threshold	Threshold value used to generate a [Supply Fluid Under Temp] warning.
Supply Fluid Under Temp	[Supply Fluid Temperature] has dropped below a specified threshold.
Supply Heated Water Temp Set Point	Desired heated water temperature at the outlet of the unit.
Supply Refrigerant Temp Sensor Issue	The supply refrigeramt temperature sensor is disconnected or the signal is out of range.
System Control Mode	System control mode.
System Date and Time	The system date and time
System Event Acknowledge/Reset	Reset and/or acknowledge all events.
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Status	The operating status for the system
Unit Code Missing	Unit code has not been entered and saved.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.