Liebert - iXPCray - BACnet Mapping FDM Version #247

Binary Data

External Air

Data Label	Object Type	Instance	Object Name	Access	Notes
Ext Air Sensor A Over Temperature	Binary_Value	1	4601	RD	
Ext Air Sensor B Over Temperature	Binary_Value	2	4604	RD	
Ext Air Sensor A Under Temperature	Binary_Value	3	4608	RD	
Ext Air Sensor B Under Temperature	Binary_Value	4	4611	RD	
Ext Dew Point Over Temperature	Binary_Value	5	4615	RD	
Ext Air Sensor A Issue	Binary_Value	6	4618	RD	
Ext Air Sensor B Issue	Binary_Value	7	4621	RD	

Chilled Water

Data Label	Object Type	Instance	Object Name	Access	Notes
Supply Chilled Water Over Temp	Binary_Value	18	4626	RD	
Supply Chilled Water Temp Sensor Issue	Binary_Value	19	4629	RD	
Chilled Water Control Valve Position	Binary_Value	20	4703	RD	
Supply Chilled Water Loss of Flow	Binary_Value	21	4980	RD	

Refrigerant

Data Label	Object Type	Instance	Object Name	Access	Notes
Supply Refrigerant Over Temp	Binary_Value	32	4634	RD	
Supply Refrigerant Under Temp	Binary_Value	33	4637	RD	
Supply Refrigerant Temp Sensor Issue	Binary_Value	34	4640	RD	

Pump/Inverter

Data Label	Object Type	Instance	Object Name	Access	Notes
Pump Short Cycle	Binary_Value	45	4662	RD	

Pump/Inverter - Inverter

Data Label	Object Type	Instance	Object Name	Access	Notes
Inverter 1 Short Cycle	Binary_Value	56	4996	RD	

Pump/Inverter - Pump

Data Label	Object Type	Instance	Object Name	Access	Notes

| Pump 1 Loss of Flow | Binary_Value | 67 | 4656 | RD | |
| Pump 1 Hours Exceeded | Binary_Value | 68 | 5300 | RD | |

System

Data Label	Object Type	Instance	Object Name	Access	Notes
Customer Input 1	Binary_Value	79	4270	RD	
System Condensation Detected	Binary_Value	80	4711	RD	
Shutdown - Loss Of Power	Binary_Value	81	4714	RD	
Smoke Detected	Binary_Value	82	4720	RD	
Water Under Floor	Binary_Value	83	4723	RD	
Service Required	Binary_Value	84	4726	RD	
Fan Issue	Binary_Value	85	4729	RD	

Analog Data

External Air

Data Label	Object Type	Instance	Object Name	Access	Notes
Dew Point Temperature	Analog_Value	1	4867	RD	
Minimum Room Temperature Set Point	Analog_Value	2	4709	RW	
Ext Air Sensor A Temperature	Analog_Value	3	4594	RD	
Ext Air Sensor A Humidity	Analog_Value	4	4595	RD	
Ext Air Sensor A Dew Point Temp	Analog_Value	5	4596	RD	
Ext Air Sensor B Temperature	Analog_Value	6	4597	RD	
Ext Air Sensor B Humidity	Analog_Value	7	4598	RD	
Ext Air Sensor B Dew Point Temp	Analog_Value	8	4599	RD	
Ext Air Over Temp Threshold	Analog_Value	9	4600	RW	
Ext Air Under Temp Threshold	Analog_Value	10	4607	RW	
Ext Dew Point Over Temp Threshold	Analog_Value	11	4614	RW	

Chilled Water

Data Label	Object Type	Instance	Object Name	Access	Notes
Supply Chilled Water Temperature	Analog_Value	22	4624	RD	
Supply Chilled Water Over Temp Threshold	Analog_Value	23	4625	RW	

Refrigerant

Data Label	Object Type	Instance	Object Name	Access	Notes
Supply Refrigerant Temperature	Analog_Value	34	4632	RD	
Supply Refrig Temp Set Point	Analog_Value	35	4981	RW	

Supply Refrig Over Temp Threshold	Analog_Value	36	4633	RW	

Pump/Inverter - Pump

Data Label	Object Type	Instance	Object Name	Access	Notes
Pump 1 Hours	Analog_Value	47	5298	RW	
Pump 1 Hours Threshold	Analog_Value	48	5299	RW	

System

Data Label	Object Type	Instance	Object Name	Access	Notes
Auto Restart Delay	Analog_Value	59	4710	RW	
Calculated Next Maintenance Month	Analog_Value	60	4868	RD	
Calculated Next Maintenance Year	Analog_Value	61	4869	RD	
Maintenance Ramp	Analog_Value	62	4870	RD	

Time

Data Label	Object Type	Instance	Object Name	Access	Notes
System Date and Time	Analog_Value	73	4293	RW	

Multistate Data

External Air

Data Label	Object Type	Instance	Object Name	Access	Notes
Ext Air Sensor A Over Temp - Event Control	MultiState_Value	1	4602	RW	1 = disabled 2 = enabled
Ext Air Sensor A Over Temp - Event Type	MultiState_Value	2	4603	RW	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor B Over Temp - Event Control	MultiState_Value	3	4605	RW	1 = disabled 2 = enabled
Ext Air Sensor B Over Temp - Event Type	MultiState_Value	4	4606	RW	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor A Under Temp - Event Control	MultiState_Value	5	4609	RW	1 = disabled 2 = enabled
Ext Air Sensor A Under Temp - Event Type	MultiState_Value	6	4610	RW	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor B Under Temp - Event Control	MultiState_Value	7	4612	RW	1 = disabled 2 = enabled

Ext Air Sensor B Under Temp - Event Type	MultiState_Value	8	4613	RW	1 = Message 2 = Warning 3 = Alarm
Ext Dew Point Over Temp - Event Control	MultiState_Value	9	4616	RW	1 = disabled 2 = enabled
Ext Dew Point Over Temp - Event Type	MultiState_Value	10	4617	RW	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor A Issue - Event Control	MultiState_Value	11	4619	RD	1 = disabled 2 = enabled
Ext Air Sensor A Issue - Event Type	MultiState_Value	12	4620	RW	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor B Issue - Event Control	MultiState_Value	13	4622	RD	1 = disabled 2 = enabled
Ext Air Sensor B Issue - Event Type	MultiState_Value	14	4623	RW	1 = Message 2 = Warning 3 = Alarm

Chilled Water

Data Label	Object Type	Instance	Object Name	Access	Notes
Supply CW Over Temp - Event Control	MultiState_Value	25	4627	RD	1 = disabled 2 = enabled
Supply CW Over Temp - Event Type	MultiState_Value	26	4628	RW	1 = Message 2 = Warning 3 = Alarm
Supply CW Temp Sensor Issue - Event Control	MultiState_Value	27	4630	RD	1 = disabled 2 = enabled
Supply CW Temp Sensor Issue - Event Type	MultiState_Value	28	4631	RW	1 = Message 2 = Warning 3 = Alarm
Chilled Water Cntrl Valve Pos - Event Control	MultiState_Value	29	4704	RW	1 = disabled 2 = enabled
Chilled Water Cntrl Valve Pos - Event Type	MultiState_Value	30	4705	RW	1 = Message 2 = Warning 3 = Alarm

Refrigerant

Data Label	Object Type	Instance	Object Name	Access	Notes
Supply Refrig Over Temp - Event Control	MultiState_Value	41	4635	RD	1 = disabled 2 = enabled

Supply Refrig Over Temp - Event Type	MultiState_Value	42	4636	RW	1 = Message 2 = Warning 3 = Alarm
Supply Refrig Under Temp - Event Control	MultiState_Value	43	4638	RD	1 = disabled 2 = enabled
Supply Refrig Under Temp - Event Type	MultiState_Value	44	4639	RW	1 = Message 2 = Warning 3 = Alarm
Supply Refrig Temp Sensor Issue - Event Control	MultiState_Value	45	4641	RD	1 = disabled 2 = enabled
Supply Refrig Temp Sensor Issue - Event Type	MultiState_Value	46	4642	RW	1 = Message 2 = Warning 3 = Alarm

Pump/Inverter

Data Label	Object Type	Instance	Object Name	Access	Notes
Pump Short Cycle - Event Control	MultiState_Value	57	4663	RD	1 = disabled 2 = enabled
Pump Short Cycle - Event Type	MultiState_Value	58	4664	RW	1 = Message 2 = Warning 3 = Alarm

Pump/Inverter - Inverter

Data Label	Object Type	Instance	Object Name	Access	Notes
Inverter 1 Short Cycle - Event Control	MultiState_Value	69	4997	RW	1 = disabled 2 = enabled
Inverter 1 Short Cycle - Event Type	MultiState_Value	70	4998	RW	1 = Message 2 = Warning 3 = Alarm

Pump/Inverter - Pump

Data Label	Object Type	Instance	Object Name	Access	Notes
Pump 1 State	MultiState_Value	81	4654	RD	1 = off 2 = on
Pump 1 Loss of Flow - Event Control	MultiState_Value	82	4657	RW	1 = disabled 2 = enabled
Pump 1 Loss of Flow - Event Type	MultiState_Value	83	4658	RW	1 = Message 2 = Warning 3 = Alarm

System

Data Label	Object Type	Instance	Object Name	Access	Notes
System Event Acknowledge/Reset	MultiState_Value	94	4717	WO	1 = Reset 2 = Acknowledge
System Status	MultiState_Value	95	4123	RD	1 = Normal Operation 2 = StartUp 3 = Normal with Warning 4 = Normal with Alarm 5 = Abnormal Operation
System Operating State	MultiState_Value	96	4706	RD	1 = off 2 = on 3 = standby
System Control Mode	MultiState_Value	97	4707	RD	1 = Internal (Auto) 2 = External (Manual)
System On/Off Control	MultiState_Value	98	5143	RW	1 = off 2 = on
Customer Input 1 - Event Control	MultiState_Value	99	4718	RW	1 = disabled 2 = enabled
Customer Input 1 - Event Type	MultiState_Value	100	4719	RW	1 = Message 2 = Warning 3 = Alarm
System Condensation Detected - Event Control	MultiState_Value	101	4712	RD	1 = disabled 2 = enabled
System Condensation Detected - Event Type	MultiState_Value	102	4713	RW	1 = Message 2 = Warning 3 = Alarm
Shutdown - Loss Of Power - Event Control	MultiState_Value	103	4715	RD	1 = disabled 2 = enabled
Shutdown - Loss Of Power - Event Type	MultiState_Value	104	4716	RW	1 = Message 2 = Warning 3 = Alarm
Smoke Detected - Event Control	MultiState_Value	105	4721	RW	1 = disabled 2 = enabled
Smoke Detected - Event Type	MultiState_Value	106	4722	RW	1 = Message 2 = Warning 3 = Alarm
Water Under Floor - Event Control	MultiState_Value	107	4724	RW	1 = disabled 2 = enabled
Water Under Floor - Event Type	MultiState_Value	108	4725	RW	1 = Message 2 = Warning 3 = Alarm

Service Required - Event Control	MultiState_Value	109	4727	RW	1 = disabled 2 = enabled
Service Required - Event Type	MultiState_Value	110	4728	RW	1 = Message 2 = Warning 3 = Alarm
Fan Issue - Event Control	MultiState_Value	111	4730	RW	1 = disabled 2 = enabled
Fan Issue - Event Type	MultiState_Value	112	4731	RW	1 = Message 2 = Warning 3 = Alarm

Glossary

Data Label	Data Description
Auto Restart Delay	If power is lost, the control will delay this amount of time after power is restored before restarting the unit.
Calculated Next Maintenance Month	Calculated month of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Year].
Calculated Next Maintenance Year	Calculated year of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Month].
Chilled Water Cntrl Valve Pos - Event Control	Enable/disable the activation of the [Chilled Water Control Valve Position] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Chilled Water Cntrl Valve Pos - Event Type	The event type for the [Chilled Water Control Valve Position] event.
Chilled Water Control Valve Position	Chilled water valve out of position. Chilled water control valve position does not match expected value.
Customer Input 1 - Event Control	Enable/disable the activation of the [Customer Input 1] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 1 - Event Type	The event type for the [Customer Input 1] event.
Customer Input 1	Customer input 1.
Dew Point Temperature	Dew point temperature, using the highest reading from all sensors.
Ext Air Over Temp Threshold	Threshold value used in the ([Ext Air Sensor A Over Temperature], [Ext Air Sensor B Over Temperature]...) events.
Ext Air Sensor A Dew Point Temp	Dew point temperature as measured by external air sensor A.
Ext Air Sensor A Humidity	Relative humidity as measured by external air sensor A.
Ext Air Sensor A Issue - Event Control	Enable/disable the activation of the [Ext Air Sensor A Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Issue - Event Type	The event type for the [Ext Air Sensor A Issue] event.
Ext Air Sensor A Issue	The external air sensor A is disconnected or the signal is out of range.
Ext Air Sensor A Over Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor A Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Over Temp - Event Type	The event type for the [Ext Air Sensor A Over Temperature] event.

Ext Air Sensor A Over Temperature	[Ext Air Sensor A Temperature] has exceeded [Ext Air Over Temp Threshold].
Ext Air Sensor A Temperature	Air temperature as measured by external air sensor A.
Ext Air Sensor A Under Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor A Under Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Under Temp - Event Type	The event type for the [Ext Air Sensor A Under Temperature] event.
Ext Air Sensor A Under Temperature	[Ext Air Sensor A Temperature] has dropped below [Ext Air Under Temp Threshold].
Ext Air Sensor B Dew Point Temp	Dew point temperature as measured by external air sensor B.
Ext Air Sensor B Humidity	Relative humidity as measured by external air sensor B.
Ext Air Sensor B Issue - Event Control	Enable/disable the activation of the [Ext Air Sensor B Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor B Issue - Event Type	The event type for the [Ext Air Sensor B Issue] event.
Ext Air Sensor B Issue	The external air sensor B is disconnected or the signal is out of range.
Ext Air Sensor B Over Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor B Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor B Over Temp - Event Type	The event type for the [Ext Air Sensor B Over Temperature] event.
Ext Air Sensor B Over Temperature	[Ext Air Sensor B Temperature] has exceeded [Ext Air Over Temp Threshold].
Ext Air Sensor B Temperature	Air temperature as measured by external air sensor B.
Ext Air Sensor B Under Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor B Under Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor B Under Temp - Event Type	The event type for the [Ext Air Sensor B Under Temperature] event.
Ext Air Sensor B Under Temperature	[Ext Air Sensor B Temperature] has dropped below [Ext Air Under Temp Threshold].
Ext Air Under Temp Threshold	Threshold value used in the ([Ext Air Sensor A Under Temperature], [Ext Air Sensor B Under Temperature]...) events.
Ext Dew Point Over Temp - Event Control	Enable/disable the activation of the [Ext Dew Point Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Dew Point Over Temp - Event Type	The event type for the [Ext Dew Point Over Temperature] event.
Ext Dew Point Over Temp Threshold	Threshold value used in the [Ext Dew Point Over Temperature] event.
Ext Dew Point Over Temperature	At least one dew point temperature reading ([Ext Air Sensor A Dew Point Temp], [Ext Air Sensor B Dew Point Temp]...) has exceeded [Ext Dew Point Over Temp Threshold].
Fan Issue - Event Control	Enable/disable the activation of the [Fan Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Fan Issue - Event Type	The event type for the [Fan Issue] event.
Fan Issue	One or more fans are not operating within their operational parameters.
Inverter 1 Short Cycle - Event Control	Enable/disable the activation of the [Inverter 1 Short Cycle] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Inverter 1 Short Cycle - Event Type	The event type for the [Inverter 1 Short Cycle] event.

Inverter 1 Short Cycle	Inverter for pump 1 has short cycled and is temporarily locked out from further operation to protect from thermal overload. A short cycle is defined as powering on and off a number of times over a set time period.
Maintenance Ramp	The ratio of operations performed to the calculated operations available between maintenance intervals.
Minimum Room Temperature Set Point	Minimum desired room air temperature. If the room air temperature falls below this set point, the unit will reduce the cooling.
Pump 1 Hours Exceeded	[Pump 1 Hours] has exceeded [Pump 1 Hours Threshold].
Pump 1 Hours Threshold	Threshold value used in the [Pump 1 Hours Exceeded] event.
Pump 1 Hours	Operating hours for pump 1 since last reset of this value.
Pump 1 Loss of Flow - Event Control	Enable/disable the activation of the [Pump 1 Loss of Flow] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Pump 1 Loss of Flow - Event Type	The event type for the [Pump 1 Loss of Flow] event.
Pump 1 Loss of Flow	Loss of flow is detected in pump 1. The loss of flow condition occurs when no differential pressure is detected across the pump.
Pump 1 State	Pump 1 operational state.
Pump Short Cycle - Event Control	Enable/disable the activation of the [Pump Short Cycle] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Pump Short Cycle - Event Type	The event type for the [Pump Short Cycle] event.
Pump Short Cycle	Pumps have short cycled. A short cycle is defined as turning on and off a number of times over a set time period.
Service Required - Event Control	Enable/disable the activation of the [Service Required] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Service Required - Event Type	The event type for the [Service Required] event.
Service Required	Unit requires servicing.
Shutdown - Loss Of Power - Event Control	Enable/disable the activation of the [Shutdown - Loss Of Power] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Shutdown - Loss Of Power - Event Type	The event type for the [Shutdown - Loss Of Power] event.
Shutdown - Loss Of Power	System lost power. This event becomes active when the unit is powered on following an unexpected loss of power.
Smoke Detected - Event Control	Enable/disable the activation of the [Smoke Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Smoke Detected - Event Type	The event type for the [Smoke Detected] event.
Smoke Detected	Smoke detected.
Supply Chilled Water Loss of Flow	Supply chilled water flow is too low.
Supply Chilled Water Over Temp Threshold	Threshold value used in the [Supply Chilled Water Over Temp] event.
Supply Chilled Water Over Temp	[Supply Chilled Water Temperature] has exceeded [Supply Chilled Water Over Temp Threshold].
Supply Chilled Water Temp Sensor Issue	The supply chilled water temperature sensor is disconnected or the signal is out of range.

Supply Chilled Water Temperature	Supply chilled water temperature.
Supply CW Over Temp - Event Control	Enable/disable the activation of the [Supply Chilled Water Over Temp] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply CW Over Temp - Event Type	The event type for the [Supply Chilled Water Over Temp] event.
Supply CW Temp Sensor Issue - Event Control	Enable/disable the activation of the [Supply Chilled Water Temp Sensor Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply CW Temp Sensor Issue - Event Type	The event type for the [Supply Chilled Water Temp Sensor Issue] event.
Supply Refrig Over Temp - Event Control	Enable/disable the activation of the [Supply Refrigerant Over Temp] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply Refrig Over Temp - Event Type	The event type for the [Supply Refrigerant Over Temp] event.
Supply Refrig Over Temp Threshold	Threshold value used in the [Supply Refrigerant Over Temp] event.
Supply Refrig Temp Sensor Issue - Event Control	Enable/disable the activation of the [Supply Refrigerant Temp Sensor Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply Refrig Temp Sensor Issue - Event Type	The event type for the [Supply Refrigerant Temp Sensor Issue] event.
Supply Refrig Temp Set Point	Desired supply refrigerant temperature.
Supply Refrig Under Temp - Event Control	Enable/disable the activation of the [Supply Refrigerant Under Temp] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply Refrig Under Temp - Event Type	The event type for the [Supply Refrigerant Under Temp] event.
Supply Refrigerant Over Temp	Event that is activated when [Supply Refrigerant Temperature] exceeds [Supply Refrig Over Temp Threshold]. The event is deactivated when the temperature drops below the threshold.
Supply Refrigerant Temp Sensor Issue	The supply refrigeramt temperature sensor is disconnected or the signal is out of range.
Supply Refrigerant Temperature	Supply refrigerant temperature.
Supply Refrigerant Under Temp	[Supply Refrigerant Temperature] has dropped below a specified threshold.
System Condensation Detected - Event Control	Enable/disable the activation of the [System Condensation Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
System Condensation Detected - Event Type	The event type for the [System Condensation Detected] event.
System Condensation Detected	System condensation detected.
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	Current operating state of the system.
System Status	The operating status for the system
Water Under Floor - Event Control	Enable/disable the activation of the [Water Under Floor] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.

Water Under Floor - Event Type	The event type for the [Water Under Floor] event.
Water Under Floor	Water under the floor is detected.