



# Liebert<sup>®</sup> SiteScan<sup>™</sup> Web

## Reference Guide

LonWorks, Modbus and BACnet Protocols

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### **Technical Support Site**

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

Visit <https://www.vertiv.com/en-us/support/> for additional assistance.

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# 1 Using the Reference Library Tables

This document explains how to use the tables for various Vertiv™ Liebert® units. Each table's title contains the name of the Liebert Controller used, such as *iCOM-DS* for a Vertiv™ Liebert® DS Thermal Management unit with a Vertiv™ Liebert® iCOM™ control, or *PMP* for a Liebert Power Monitoring Panel for Power Center.

Each documented unit lists the description of available points in Vertiv™ Liebert® SiteScan™. The additional columns list points available for third-party use through either Modbus or BACnet protocols. A dash (—) in either of these columns means that point is not available to the third-party using that protocol. Additional information, such as data formatting, scaling, etc., may be found in the Notes column.

The first section, Hardware Applicability, indicates the equipment associated with this particular controller as follows: :

**Table 1.1 Hardware applicability**

Liebert Units	Indicates the Thermal Management, Power, UPS or monitoring module by model name that uses this controller.
Interface Modules	Indicates which Vertiv™ Liebert® SiteScan™ hardware modules can be used with the controller. Take special note of this box when adding new units to an existing Vertiv™ Liebert® SiteScan™ system, because some new controllers are compatible only with the new hardware (Liebert™ SiteLink).

The next section, Point Availability, contains three categories providing the following information:

**Table 1.2 Available points**

Status Points (View)	Status information available in Vertiv™ Liebert® SiteScan™ or third-party protocols
Alarm Points	Alarms that are available to Vertiv™ Liebert® SiteScan™ or third-party protocols
Control Points (Set)	Setpoints that can be changed with Vertiv™ Liebert® SiteScan™ or third-party protocols

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## 2 Open Communications

### 2.1 Default Mapping for Modbus and BACnet Objects

This model represents the standard configuration for a Vertiv™ Liebert® SiteLink-12E module. Consecutive register/object mapping is utilized, regardless of the Vertiv™ Liebert® SiteLink-12E population. All ports that do not have a Liebert IGM attached will be assigned null values (or zeroes) for their corresponding registers. The default Slave ID or Device ID follows the CMNet address of the unit. The address can be checked by looking at the address DIP switch or rotary switch settings. However, the address may be changed in software to suit specific needs.

Vertiv™ Liebert® SiteLink™ hardware limits the number of Modbus registers available, meaning that more data points are available using BACnet than using Modbus.

### 2.2 Using This Table

The unit-specific or model-specific reference sheets assume that the unit is attached to Port 1 of the Vertiv™ Liebert® SiteLink module. If the unit is attached to a different port, the table below indicates the starting register or object number for the unit.

For example: The register for *Temperature* for an L00-type unit attached to Port 1 is identified as 40001. If an additional L00-type unit were attached to Port 2, the *Temperature* value would be in register 40025. The same type unit attached to Port 3 = 40049, etc.

#### Modbus Notes

Modbus registers start at 40001. All registers are unsigned integers.

#### BACnet Notes

BACnet Objects start at 1. All *Status* and *Alarm* objects are *AI*'s (analog inputs). The *Control* objects are *AO*'s (analog outputs)

**Table 2.1 Register offsets and port assignments**

Register Offset	Object Type	Port Assignment	Register Offset	Object Type	Port Assignment
1-24	Status	1	324-328	Alarms	8
25-48	Status	2	329-333	Alarms	9
49-72	Status	3	334-338	Alarms	10
73-96	Status	4	339-343	Alarms	11
97-120	Status	5	344-348	Alarms	12
121-144	Status	6	349-351	Control	1
145-168	Status	7	352-354	Control	2
169-192	Status	8	355-357	Control	3
193-216	Status	9	358-360	Control	4
217-240	Status	10	361-363	Control	5
241-264	Status	11	364-366	Control	6
265-288	Status	12	367-369	Control	7

**Table 2.1 Register offsets and port assignments (continued)**

Register Offset	Object Type	Port Assignment	Register Offset	Object Type	Port Assignment
289-293	Alarms	1	370-372	Control	8
294-298	Alarms	2	373-375	Control	9
299-303	Alarms	3	376-378	Control	10
304-308	Alarms	4	379-381	Control	11
309-313	Alarms	5	382-384	Control	12
314-318	Alarms	6			
319-323	Alarms	7			



## 3 Modbus Communications

### 3.1 Connectivity to Vertiv™ Liebert® SiteLink Modules Using Modbus

This design specification describes the Modbus communications protocol as supported by the Vertiv™ Liebert® SiteLink module. It includes information on how to pass information to and from the Vertiv™ Liebert® SiteLink module via Modbus. It is also intended to facilitate answering questions regarding supported types, frame format, function code support, etc.

#### 3.1.1 Implementation Basics

Protocol controls the language structure or message format between devices, the rules for communication. The rules for communication include how master and slave devices initiate communication, as well as unit identification, message handling and error checking. Modbus protocol refers to the control of the query and response cycles between master and slave devices.

The Vertiv™ Liebert® SiteLink module is configured to act as a slave device on a common network. The common network can be point-to-point over EIA-232, where one master device communicates with one slave device or, in a multi-drop configuration over EIA-485, where multiple slave devices reside on a common wire or loop.

Documented write points may cause read errors if an attempt is made to read a write-only point. For example: an LAM air unit has separate Setpoint View and Setpoint Set registers; reading a write-to register is likely to cause a Modbus exception response. Do not include Setpoint Set registers in batch read commands because one point read error will cause an exception response for the entire batch read.

#### 3.1.2 Transmission Format

The Vertiv™ Liebert® SiteLink module supports both Modbus RTU (Remote Terminal Unit) and ASCII (American Standard Code for Information Interchange) transmission modes. The SiteLink module has a choice of transmission: medium, baud rate, character parity and number of stop bits. See [Transmission format—SiteLink module](#) below .

**Table 3.1 Transmission format—SiteLink module**

Physical Port	Transmission Mode	Baud Rate	Data Bits	Parity Bits	Stop Bits	Default
EIA-232 – DB9 DCE	RTU	9600	8	None	1	Yes
EIA-232 – DB9 DCE	ASCII	1200 – 38.4kbaud (19.2kbaud omit)	Configurable	Configurable	Configurable	No
EIA-485 – 2 or 4 wire	RTU or ASCII	1200 – 38.4kbaud (19.2kbaud omit)	Configurable	Configurable	Configurable	No

**Table 3.2 Transmission format—SiteLink-E module**

Physical Port	Transmission Mode	Baud Rate	Data Bits	Parity Bits	Stop Bits	Default
EIA-232	RTU or ASCII	Various	Configurable	Configurable	Configurable	No
EIA-485 – 2 or 4 wire	RTU or ASCII	Various	Configurable	Configurable	Configurable	No

## 3.2 Modbus Specification

The Vertiv™ Liebert® SiteLink module supports Modbus function codes 03, 06 and 16 as defined by the current Modicon Modbus specification using Modbus ASCII or RTU serial line transmissions via RS-232 or RS-485 two- or four-wire.

- Device Address
- Function Code
- Data Field
- Error Check Field

## 4 BACnet Communications

BACnet Protocol Implementation Conformance Statement Rev. 2.1

- Vendor Name: Vertiv™ Corporation
- Product Name: Vertiv™ Liebert® SiteLink Module
- Product Model Number: Vertiv™ Liebert® SiteLink (All)

### 4.1 Point Documentation

The points in this document are listed by object reference name and each exposed BACnet point has information in the description field detailing what the point is. Both of these BACnet properties can be read and discovered remotely in addition to the points present value property. This document does not define specific object instance numbers because they are dynamically assigned when the programming for the module is created and will vary. A report detailing reference name, description and object instance number can be requested from the start-up engineer when the modules are commissioned.

If changes are made or new programs are added after start-up, the dynamically built AV/BV points list will shift for all points.

### 4.2 Product Description

The Vertiv™ Liebert® SiteLink module provides a BACnet point-to-point communication exchange between proprietary Liebert Thermal Management, Power and UPS units to other BACnet-compliant devices. The connection to the Vertiv™ Liebert® SiteLink module is via EIA-232, 9600 baud, no parity, 8 data bits, 1 stop bit (9600,N,8,1 default.) The Vertiv™ Liebert® SiteLink modules are available in 12-port, four-port and two-port configurations (one port per Liebert unit, 12 Liebert units per Vertiv™ Liebert® SiteLink 12, 12E module maximum.)

**Table 4.1 Supported BACnet conformance class**

Class 1	—	Class 4
Class 2	—	Class 5
Class 3	X	Class 6

**Table 4.2 Supported BACnet functional groups**

Clock	—	Files
HHWS	—	Reinitialize
PCWS	—	Virtual Operator Interface
Event Initialization	—	Virtual Terminal
Event Response	—	Device Communication
COV Event Initiation	—	Time Master
COV Event Response	—	—

**Table 4.3 Supported BACnet standard application services**

Application Service	Initiate Requests	Execute Requests
AcknowledgeAlarm	—	—
ConfirmedCOVNotification	—	—
ConfirmedEventNotification	—	—
GetAlarmSummary	—	—
GetEnrollmentSummary	—	—
SubscribeCOV	—	—
UnconfirmedCOVNotification	—	—
UnconfirmedEventNotification	—	—
AtomicReadFile	—	—
AtomicWriteFile	—	—
AddListElement	—	—
RemoveListElement	—	—
CreateObject	—	—
DeleteObject	—	—
ReadProperty	X	X
ReadPropertyConditional	—	—
ReadPropertyMultiple	—	X
WriteProperty	X	X
WritePropertyMultiple	—	X
DeviceCommunicationControl	—	—
ConfirmedPrivateTransfer	—	—
UnconfirmedPrivateTransfer	—	—
ReinitializeDevice	—	—
ConfirmedTextMessage	—	—
TimeSynchronization	—	—
Who-Has	—	X
I-Have	X	—
Who-Is	—	X
I-Am	X	—
VT-Open	—	—
VT-Closed	—	—
VT-Data	—	—
Authenticate	—	—
Request Key	—	—

**Table 4.4 Additional supported BACnet standard application services**

Type	Supported	Dynamically Creatable	Dynamically Deleteable	Optional Properties	Writable Properties
Analog Input	X	—	—	—	None
Analog Output	X	—	—	—	Present Value
Analog Value	—	—	—	—	—
Binary Input	—	—	—	—	—
Binary Output	—	—	—	—	—
Binary Value	—	—	—	—	—
Calendar	—	—	—	—	—
Command	—	—	—	—	—
Device	—	—	—	—	—
Event Enrollment	—	—	—	—	—
File	—	—	—	—	—
Group	—	—	—	—	—
Loop	—	—	—	—	—
Multi-State Input	—	—	—	—	—
Multi-State Output	—	—	—	—	—
Notification Class	—	—	—	—	—
Program	—	—	—	—	—
Schedule	—	—	—	—	—

**Data Link Layer:** Point-to-Point, EIA-232, baud rates: 9600 & 38,400

**Character Set Supported:** ANSI X3.4

**Table 4.5 Special functionality**

Segmented Requests Supported	No
Segmented Responses Supported	No
Router	No

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## 5 LonWorks Points List

The LonWorks points list is a standardized SNVT table that corresponds to the factory-generated XIF file. The Network Variable definitions are:

- Name: See [LonWorks points list](#) below
- Method: Implicit
- SNVT: Type 9
- Polled: Yes
- Input: See [LonWorks points list](#) below .

Refer to the Modbus Reference in [LonWorks points list](#) below for point specific descriptions and match the Modbus point descriptions with the specific unit tables for each unit type.

**NOTE: Alarm points are bit-packed. See specific unit table for alarm bit mapping.**

**Table 5.1 LonWorks points list**

SNVT Name	Object Type	Port Assignment	Modbus Reference	Input
nvou1ps1 to nvou1ps24	Status	1	40001-40024	No
nvou2ps1 to nvou2ps24	Status	2		
nvou3ps1 to nvou3ps24	Status	3		
nvou4ps1 to nvou4ps24	Status	4		
nvou5ps1 to nvou5ps24	Status	5		
nvou6ps1 to nvou6ps24	Status	6		
nvou7ps1 to nvou7ps24	Status	7		
nvou8ps1 to nvou8ps24	Status	8		
nvou9ps1 to nvou9ps24	Status	9		
nvou10ps1 to nvou10ps24	Status	10		
nvou11ps1 to nvou11ps24	Status	11		
nvou12ps1 to nvou12ps24	Status	12		

**Table 5.1 LonWorks points list (continued)**

SNVT Name	Object Type	Port Assignment	Modbus Reference	Input
nvou1pa1 to nvou1pa5	Alarms	1	40289-40293	No
nvou2pa1 to nvou2pa5	Alarms	2		
nvou3pa1 to nvou3pa5	Alarms	3		
nvou4pa1 to nvou4pa5	Alarms	4		
nvou5pa1 to nvou5pa5	Alarms	5		
nvou6pa1 to nvou6pa5	Alarms	6		
nvou7pa1 to nvou7pa5	Alarms	7		
nvou8pa1 to nvou8pa5	Alarms	8		
nvou9pa1 to nvou9pa5	Alarms	9		
nvou10pa1 to nvou10pa5	Alarms	10		
nvou11pa1 to nvou11pa5	Alarms	11		
nvou12pa1 to nvou12pa5	Alarms	12		
nviu1pc1 to nviu1pc3	Control	1	40349-40351	Yes
nviu2pc1 to nviu2pc3	Control	2		
nviu3pc1 to nviu3pc3	Control	3		
nviu4pc1 to nviu4pc3	Control	4		
nviu5pc1 to nviu5pc3	Control	5		
nviu6pc1 to nviu6pc3	Control	6		
nviu7pc1 to nviu7pc3	Control	7		
nviu8pc1 to nviu8pc3	Control	8		
nviu9pc1 to nviu9pc3	Control	9		
nviu10pc1 to nviu10pc3	Control	10		
nviu11pc1 to nviu11pc3	Control	11		
nviu12pc1 to nviu12pc3	Control	12		



## 6 Liebert Monitoring Units

### 6.1 Auto Changeover Panel – 8 Unit

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® AC8
Controller Firmware:	Monitoring Unit Auto Changeover Panel - 8 Unit Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	ac8 (2mb) / w-ac8 (16mb)

**Table 6.1 Available Points: Auto Changeover Panel – 8 Unit**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Output 1 Status	40001	bs8_x	1=Off 2=On 3=Forced Off 4=Forced On 5=Hardware Manual 6=Not Connected
Output 2 Status	40002	bs9_x	
Output 3 Status	40003	bsa_x	
Output 4 Status	40004	bsb_x	
Output 5 Status	40005	bsc_x	
Output 6 Status	40006	bsd_x	
Output 7 Status	40007	bse_x	
Output 8 Status	40008	bsf_x	
Device 1 Status	40009	bs10_x	30=Not Used 31=Operating 32=Standby 33=Pending 34=Force On 35=Force Off 36=HW Force On 37=Alarm 38=Event

**Table 6.1 Available Points: Auto Changeover Panel – 8 Unit (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Device 2 Status	40010	bs11_x	
Device 3 Status	40011	bs12_x	
Device 4 Status	40012	bs13_x	
Device 5 Status	40013	bs14_x	
Device 6 Status	40014	bs15_x	
Device 7 Status	40015	bs16_x	
Device 8 Status	40016	bs17_x	
Sensor 1 Reading	40017	bs21_x	Modbus Format – read as Signed Integer
Sensor 2 Reading	40018	bs24_x	
Sensor 3 Reading	40019	bs27_x	
Sensor 4 Reading	40020	bs2a_x	
Common Alarm	-	stat_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communication	bit0	comm_x	
Input 1 Alarm	bit1	ba1_x	
Input 2 Alarm	bit2	ba2_x	
Input 3 Alarm	bit3	ba3_x	
Input 4 Alarm	bit4	ba4_x	
Input 5 Alarm	bit5	ba5_x	
Input 6 Alarm	bit6	ba6_x	
Input 7 Alarm	bit7	ba7_x	
Input 8 Alarm	bit8	ba8_x	
Sensor 1 High Alarm	bit9	ba9_x	
Sensor 1 Low Alarm	bit10	baa_x	
Sensor 2 High Alarm	bit11	bab_x	
Sensor 2 Low Alarm	bit12	bac_x	
Sensor 3 High Alarm	bit13	bad_x	
Sensor 3 Low Alarm	bit14	bae_x	
Sensor 4 High Alarm	bit15	baf_x	
<b>Alarm 2 (Word)</b>	40290		
Sensor 4 Low Alarm	bit0	ba10_x	
Loss of Power	bit1	ba11_x	

**Table 6.1 Available Points: Auto Changeover Panel – 8 Unit (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Emergency Power Operation	bit2	ba12_x	
Low Battery	bit3	ba13_x	
Battery Unplugged	bit4	ba14_x	
Check Battery	bit5	ba15_x	
Configuration Changed	bit6	ba16_x	
<b>Control Points (Write)</b>			
Time Sync Time Of Day	-	pc88_1_x	1-23 hours
Enable Time Sync	-	pc88_2_x	Enable, Disable
Output State	-	pc80_1_x	0=Off 1=On 2=Normal
Output Number	-	pc80_2_x	1-8

## 6.2 Battery Monitoring – Alber

Hardware Applicability	
Product Supported:	Alber™ BDS
Controller Firmware:	Monitoring Unit Battery Monitoring – Alber Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Modbus)
Vertiv™ Liebert® SiteScan™ Equipment:	w-bds

**Table 6.2 Available Points: Battery Monitoring – Alber**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
String Voltage	-	bs1_x	
Temp 1	-	bs2_x	
Temp 2	-	bs3_x	
Current 1	-	bs12_x	
Float Current 1	-	bs16_x	
String ID	-	bs20_x	
Firmware Version	-	bs21_x	
System Status	-	bs22_x	See bit descriptions below
		bit0	Hardware Problem
		bit1	Calibration in Progress
		bit2	Memory Test Finished
		bit3	Spare
		bit4	Warning
		bit5	Resistance Values Logged
		bit6	Resistance Test in Progress
		bit7	Discharge Report Logged
		bit8	Discharge In Progress
		bit9	Discharge Disabled
		bit10	Historical Alarm Logged
		bit11	DCM Comm. Error
		bit12	Logging Discharge Data
		bit13	Maintenance Alarm
		bit14	Critical Alarm
		bit15	Alarm Disabled
Common Alarm	-	stat_x	

**Table 6.2 Available Points: Battery Monitoring – Alber (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm Points</b>			
Loss of Communication	-	comm_x	
High Cell Voltage	-	ba1_x	
Low Cell Voltage	-	ba2_x	
High Resistance	-	ba3_x	
High Intercell Resistance	-	ba4_x	
High Overall Voltage	-	ba5_x	
Low Overall Voltage	-	ba6_x	
High Float Current	-	ba7_x	
Warning	-	ba8_x	
High Temperature	-	ba9_x	
Low Temperature	-	ba10_x	
High Intertier Resistance	-	ba11_x	
Discharge	-	ba12_x	
Memory Full	-	ba13_x	

## 6.3 Battery Monitoring - Alber with Vertiv™ Liebert® Unity Card

Hardware Applicability	
Product Supported:	Alber™ BDS
Controller Firmware:	Monitoring Unit Battery Monitoring - Alber with Unity Card Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Modbus)
Vertiv™ Liebert® SiteScan™ Equipment:	w-bdsu

**Table 6.3 Available Points: Battery Monitoring - Alber with Vertiv™ Liebert® Unity Card**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
System Status	-	bs1_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
String Ambient Temperature 1 (Deg C)	-	bs6_x	
String Ambient Temperature 2 (Deg C)	-	bs7_x	
String Ambient Temperature 1 (Deg F)	-	bs8_x	
String Ambient Temperature 2 (Deg F)	-	bs9_x	
String Voltage	-	bs10_x	
String Current	-	bs11_x	
String Float Current (mA)	-	bs12_x	
String Ripple Current (A AC)	-	bs13_x	
Total String Active Alarms	-	bs14_x	
Battery String Discharge Time (Sec)	-	bs16_x	
Battery String Time-To-Go (Min)	-	bs17_x	
Amp-Hours Remaining	-	bs18_x	
Maximum Discharge Time (Min)	-	bs19_x	
String Position	-	bs20_x	
Common Alarm	-	stat_x	
<b>Alarm Points</b>			
Loss of Communications	-	comm_x	
High Temperature Sensor 1	-	ba2_x	
Low Temperature Sensor 1	-	ba3_x	
Low Temperature Sensor 2	-	ba4_x	
High Temperature Sensor 2	-	ba5_x	
Low Overall Voltage	-	ba6_x	

**Table 6.3 Available Points: Battery Monitoring - Alber with Vertiv™ Liebert® Unity Card (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
High Overall Voltage	-	ba7_x	
High Battery String Current	-	ba8_x	
Low Battery String Float Current	-	ba9_x	
High Battery String Float Current	-	ba10_x	
High Battery String Ripple Current	-	ba11_x	
Battery String Discharge Detected	-	ba12_x	
Maximum Discharge Time Exceeded	-	ba13_x	
Low Overall Voltage	-	ba14_x	
High Battery String Current	-	ba16_x	
Excessive Cell to Cell Temperature Deviation	-	ba17_x	
Excessive Cell to Ambient Temperature Deviation	-	ba18_x	
Thermal Runaway Detected	-	ba19_x	
Battery String Equalize	-	ba20_x	
Battery String Offline	-	ba21_x	
Thermal Runaway Cell to Ambient Temperature Event	-	ba22_x	
Thermal Runaway Cell to Cell Temperature Event	-	ba23_x	
Thermal Runaway Charger Current Level One Event	-	ba24_x	
Thermal Runaway Charger Current Level Two Event	-	ba25_x	
Ground Fault Detected	-	ba26_x	

## 6.4 Universal Monitor

Hardware Applicability	
Product Supported:	Liebert® Universal Monitor
Controller Firmware:	Monitoring Unit Universal Monitor Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	uvm (2mb)/w-uvm (16mb)

**Table 6.4 Available Points: Universal Monitor**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
I/O Card	40001	bs0_x	>0 = Present
Sensor 1	40002	bs41_x	
Sensor 2	40003	bs42_x	
Sensor 3	40004	bs43_x	
Sensor 4	40005	bs44_x	
Sensor 1 High Threshold	40006	bva_x	
Sensor 1 Low Threshold	40007	bvd_x	
Sensor 2 High Threshold	40008	bv10_x	
Sensor 2 Low Threshold	40009	bv13_x	
Sensor 3 High Threshold	40010	bv16_x	
Sensor 3 Low Threshold	40011	bv19_x	
Sensor 4 High Threshold	40012	bv1c_x	
Sensor 4 Low Threshold	40013	bv20_x	



**Table 6.4 Available Points: Universal Monitor (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input Contact 1	-	bs1_x	1=Normal 2=Alarm 3=Event 4=Not Connected
Input Contact 2	-	bs2_x	
Input Contact 3	-	bs3_x	
Input Contact 4	-	bs4_x	
Input Contact 5	-	bs5_x	
Input Contact 6	-	bs6_x	
Input Contact 7	-	bs7_x	
Input Contact 8	-	bs8_x	
Input Contact 9	-	bs9_x	
Input Contact 10	-	bs10_x	
Input Contact 11	-	bs11_x	
Input Contact 12	-	bs12_x	
Input Contact 13	-	bs13_x	
Input Contact 14	-	bs14_x	
Input Contact 15	-	bs15_x	
Input Contact 16	-	bs16_x	
Input Contact 17	-	bs17_x	
Input Contact 18	-	bs18_x	
Input Contact 19	-	bs19_x	
Input Contact 20	-	bs20_x	
Input Contact 21	-	bs21_x	
Input Contact 22	-	bs22_x	
Input Contact 23	-	bs23_x	
Input Contact 24	-	bs24_x	

**Table 6.4 Available Points: Universal Monitor (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Contact 1	-	bs25_x	1=Off 2=On 3=Forced Off 4=Forced On 5=Hardware Manual 6=Not Connected
Output Contact 2	-	bs26_x	
Output Contact 3	-	bs27_x	
Output Contact 4	-	bs28_x	
Output Contact 5	-	bs29_x	
Output Contact 6	-	bs30_x	
Output Contact 7	-	bs31_x	
Output Contact 8	-	bs32_x	
Output Contact 9	-	bs33_x	
Output Contact 10	-	bs34_x	
Output Contact 11	-	bs35_x	
Output Contact 12	-	bs36_x	
Output Contact 13	-	bs37_x	
Output Contact 14	-	bs38_x	
Output Contact 15	-	bs39_x	
Output Contact 16	-	bs40_x	
Sensor 1 High Contact	-	bs45_x	1=Normal 2=Alarm 3=Event 4=Not Connected
Sensor 1 Low Contact	-	bs46_x	
Sensor 2 High Contact	-	bs47_x	
Sensor 2 Low Contact	-	bs48_x	
Sensor 3 High Contact	-	bs49_x	
Sensor 3 Low Contact	-	bs50_x	
Sensor 4 High Contact	-	bs51_x	
Sensor 4 Low Contact	-	bs52_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Input 1	bit0	ba01_x	
Input 2	bit1	ba02_x	
Input 3	bit2	ba03_x	
Input 4	bit3	ba04_x	
Input 5	bit4	ba05_x	
Input 6	bit5	ba06_x	
Input 7	bit6	ba07_x	
Input 8	bit7	ba08_x	
Input 9	bit8	ba09_x	

**Table 6.4 Available Points: Universal Monitor (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input 10	bit9	ba10_x	
Input 11	bit10	ba11_x	
<b>Alarm 2 (Word)</b>	40290		
Input 12	bit0	ba12_x	
Input 13	bit1	ba13_x	
Input 14	bit2	ba14_x	
Input 15	bit3	ba15_x	
Input 16	bit4	ba16_x	
Input 17	bit5	ba17_x	
Input 18	bit6	ba18_x	
Input 19	bit7	ba19_x	
Input 20	bit8	ba20_x	
Input 21	bit9	ba21_x	
Input 22	bit10	ba22_x	
<b>Alarm 3 (Word)</b>	40291		
Input 23	bit0	ba24_x	
Input 24	bit1	ba41_x	
Sensor 1 High	bit2	ba42_x	
Sensor 1 Low	bit3	ba43_x	
Sensor 2 High	bit4	ba44_x	
Sensor 2 Low	bit5	ba45_x	
Sensor 3 High	bit6	ba46_x	
Sensor 3 Low	bit7	ba47_x	
Sensor 4 High	bit8	ba48_x	
Sensor 4 Low	bit9	ba49_x	
Loss Of Power	bit10	ba24_x	
<b>Alarm 4 (Word)</b>	40292		
Low Battery	bit0	ba27_x	
Battery Unplugged	bit1	ba25_x	
Check Battery	bit2	ba28_x	
Expansion Board Loss OF Comm	bit3	ba26_x	
Configuration Changed	bit4	ma29_x	
Loss Of Comm	bit5	comm_x	

## 6.5 Water Detection LDS-5000

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Liqui-tect
Controller Firmware:	Monitoring Unit Water Detection LDS-5000 Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	wd5 (2mb)/w- wd5 (16mb)

**Table 6.5 Available Points: Water Detection LDS-5000**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Installed Cable Footage 1	40001	bs0_x	
Installed Cable Footage 2	40002	bs2_x	
Not Used - Spare	40003	-	
Not Used - Spare	40004	-	
Leak Det Footage Cable 1	40005	bs8_x	
Leak Det Footage Cable 2	40006	bsa_x	
Not Used - Spare	40007	-	
Not Used - Spare	40008	-	
Leakage Current Cable 1	40009	bs10_x	
Leakage Current Cable 2	40010	bs12_x	
Not Used - Spare	40011	-	
Not Used - Spare	40012	-	
Feet / Meters	40013	bv18_x	
<b>Alarm 1 (Word)</b>	40289		
Communications	bit0	comm_x	
Leak Detected Cable 1	bit1	ba1_x	
Cable Fault Cable 1	bit2	ba2_x	
Leak Detected Cable 2	bit3	ba3_x	
Cable Fault Cable 2	bit4	ba4_x	
Not Used - Spare	bit5	-	
Not Used - Spare	bit6	-	
Not Used - Spare	bit7	-	
Not Used - Spare	bit8	-	
<b>Control/Setpoints (Write)</b>			
Alarm Silence	-	p501_x	
Alarm Reset	-	p401_x	

## 6.6 Water/Liquid Detection LP-3000 System

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Liqui-tect
Controller Firmware:	Monitoring Water/Liquid Detection LP-3000 System PA Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E / TPI-E Modules (Modbus)
Vertiv™ Liebert® SiteScan™ Equipment:	w-lp3000

**Table 6.6 Available Points: Water/Liquid Detection LP-3000 System**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Cable Location	-	bs01_x	
Display Units	-	bs02_x	
Cable Leak Current	-	bs03_x	
Installed Cable Length	-	bs04_x	
Loop 1 Resistance	-	bs05_x	
Loop 2 Resistance	-	bs06_x	
Resistance Per Foot	-	bs07_x	
<b>Alarm Points</b>			
Loss of Communications	-	comm_x	
Leak Alarm	-	ba1_x	
Cable Break	-	ba2_x	
Cable Contamination	-	ba3_x	
Alarm - Zone 1	-	ba4_x	
Alarm - Zone 2	-	ba5_x	
Alarm - Zone 3	-	ba6_x	
Alarm - Zone 4	-	ba7_x	
Alarm - Zone 5	-	ba8_x	
Alarm - Zone 6	-	ba9_x	
Alarm - Zone 7	-	ba10_x	
Alarm - Zone 8	-	ba11_x	
Alarm - Zone 9	-	ba12_x	
Alarm - Zone 10	-	ba13_x	
Alarm - Zone 11	-	ba14_x	
Alarm - Zone 12	-	ba15_x	
Alarm - Zone 13	-	ba16_x	

**Table 6.6 Available Points: Water/Liquid Detection LP-3000 System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Alarm - Zone 14	-	ba17_x	
Alarm - Zone 15	-	ba18_x	
Alarm - Zone 16	-	ba19_x	

## 6.7 Water/Liquid Detection LP-6000 System

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Liqui-tect
Controller Firmware:	Monitoring Water/Liquid Detection LP-6000 System PA Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E / TPI-E Modules (Modbus)
Vertiv™ Liebert® SiteScan™ Equipment:	w-lp6000

**Table 6.7 Available Points: Water/Liquid Detection LP-6000 System**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Cable Location	-	bs01_x	
Display Units	-	bs02_x	
Cable Leak Current	-	bs03_x	
Installed Cable Length	-	bs04_x	
Loop 1 Resistance	-	bs05_x	
Loop 2 Resistance	-	bs06_x	
Resistance Per Foot	-	bs07_x	
<b>Alarm Points</b>			
Loss of Communications	-	comm_x	
Leak Alarm	-	ba1_x	
Cable Break	-	ba2_x	
Cable Contamination	-	ba3_x	
Alarm - Zone 1	-	ba4_x	
Alarm - Zone 2	-	ba5_x	
Alarm - Zone 3	-	ba6_x	
Alarm - Zone 4	-	ba7_x	
Alarm - Zone 5	-	ba8_x	
Alarm - Zone 6	-	ba9_x	
Alarm - Zone 7	-	ba10_x	
Alarm - Zone 8	-	ba11_x	
Alarm - Zone 9	-	ba12_x	
Alarm - Zone 10	-	ba13_x	
Alarm - Zone 11	-	ba14_x	
Alarm - Zone 12	-	ba15_x	
Alarm - Zone 13	-	ba16_x	
Alarm - Zone 14	-	ba17_x	

**Table 6.7 Available Points: Water/Liquid Detection LP-6000 System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Alarm - Zone 15	-	ba18_x	
Alarm - Zone 16	-	ba19_x	
Alarm - Zone 17	-	ba20_x	
Alarm - Zone 18	-	ba21_x	
Alarm - Zone 19	-	ba22_x	
Alarm - Zone 20	-	ba23_x	
Alarm - Zone 21	-	ba24_x	
Alarm - Zone 22	-	ba25_x	
Alarm - Zone 23	-	ba26_x	
Alarm - Zone 24	-	ba27_x	
Alarm - Zone 25	-	ba28_x	
Alarm - Zone 26	-	ba29_x	
Alarm - Zone 27	-	ba30_x	
Alarm - Zone 28	-	ba31_x	
Alarm - Zone 29	-	ba32_x	
Alarm - Zone 30	-	ba33_x	
Alarm - Zone 31	-	ba34_x	
Alarm - Zone 32	-	ba35_x	



## 7 Liebert Power Protection Units

### 7.1 Vertiv™ Liebert® APM (US), Vertiv™ Liebert® NX-R (OTHER)

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® APM, Vertiv™ Liebert® NX-R
Controller Firmware:	UPS Unit APM (US), NX-R (OTHER) (FDM Version: 870) Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-apm

**Table 7.1 Available Points: Vertiv™ Liebert® APM (US), Vertiv™ Liebert® NX-R (OTHER)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
System Input RMS A-B	40001	bs01_x	
System Input RMS B-C	40002	bs02_x	
System Input RMS C-A	40003	bs03_x	
System Input RMS Current Phase A	40004	bs04_x	
System Input RMS Current Phase B	40005	bs05_x	
System Input RMS Current Phase C	40006	bs06_x	
System Input Frequency	40007	bs07_x	Scale *.10 (Modbus and LonWorks)
Battery Time Remaining	40008	bs08_x	
System Output Voltage RMS A-B	40009	bs09_x	
System Output Voltage RMS B-C	40010	bs10_x	
System Output Voltage RMS C-A	40011	bs11_x	
System Output RMS Current Phase A	40012	bs12_x	
System Output RMS Current Phase B	40013	bs13_x	
System Output RMS Current Phase C	40014	bs14_x	
System Output Frequency	40015	bs15_x	Scale *.10 (Modbus and LonWorks)
System Output Power kW	40016	bs16_x	
System Output Power kVA	40017	bs17_x	
System Input RMS A-N	40018	bs18_x	
System Input RMS B-N	40019	bs19_x	
System Input RMS C-N	40020	bs20_x	
Bypass Input RMS A-B	40021	bs21_x	
Bypass Input RMS B-C	40022	bs22_x	
Bypass Input RMS C-A	40023	bs23_x	
Bypass Input Frequency	40024	bs24_x	Scale *.10 (Modbus and LonWorks)

**Table 7.1 Available Points: Vertiv™ Liebert® APM (US), Vertiv™ Liebert® NX-R (OTHER) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Input Power Factor Phase A	-	bs25_x	
System Input Power Factor Phase B	-	bs26_x	
System Input Power Factor Phase C	-	bs27_x	
Battery Volts For Cabinet	-	bs28_x	
Battery Temperature for Cabinet	-	bs29_x	
Inlet Air Temperature	-	bs30_x	
DC Bus Current	-	bs31_x	
UPS Battery Status	-	bs32_x	1=Unknown 2=Normal 3=Low 4=Depleted
System Output Voltage RMS A-N	-	bs33_x	
System Output Voltage RMS B-N	-	bs34_x	
System Output Voltage RMS C-N	-	bs35_x	
System Output Power Factor Phase A	-	bs36_x	
System Output Power Factor Phase B	-	bs37_x	
System Output Power Factor Phase C	-	bs38_x	
System Output Capacity Phase A %	-	bs39_x	
System Output Capacity Phase B %	-	bs40_x	
System Output Capacity Phase C %	-	bs41_x	
Inverter On/Off	-	bs42_x	1=Off 2=On
Maintenance Bypass Breaker (MBB)	-	bs43_x	1=Open 2=Closed 3=Not Installed
Output Source	-	bs44_x	1=Other 2=Off 3=Normal 4=Bypass 5=Battery 6=Booster 7=Reducer

**Table 7.1 Available Points: Vertiv™ Liebert® APM (US), Vertiv™ Liebert® NX-R (OTHER) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Status	-	bs45_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Input Power Problem	bit0	a401_x	
Rectifier Failure	bit1	a402_x	
Inverter Failure	bit2	a403_x	
Bypass Not Available	bit3	a404_x	
Low Battery	bit4	a405_x	
Load Bus Sync Inhibited	bit5	a406_x	
Redundant Fan Failure	bit6	a407_x	
Equipment Over Temperature	bit7	a408_x	
EPO Shutdown	bit8	a409_x	
Bypass Static Switch Unavailable	bit9	a410_x	
Bypass - Excess Auto Retransfers	bit10	a411_x	
Parallel Comms Warning	bit11	a412_x	
Power Supply Failure	bit12	a413_x	
Battery Over Temperature	bit13	a414_x	
Input Phase Rotation Error	bit14	a415_x	
Fuse Failure	bit15	a416_x	
<b>Alarm 2 (Word)</b>	40290		
Inverter Overload Phase A	bit0	a417_x	
Inverter Overload Phase B	bit1	a418_x	
Inverter Overload Phase C	bit2	a419_x	
MMS Overload	bit3	a420_x	
Inverter Overload Shutdown	bit4	a421_x	
System Output Fault	bit5	a422_x	
Internal Comms Fail	bit6	a423_x	
Battery Not Charging Properly	bit7	a424_x	
Input Current Imbalance	bit8	a425_x	
Battery Main Disconnect Open	bit9	a426_x	
Inverter Static Switch SCR Shorted	bit10	a427_x	

**Table 7.1 Available Points: Vertiv™ Liebert® APM (US), Vertiv™ Liebert® NX-R (OTHER) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Not Qualified	bit11	a428_x	
Battery Terminals Reversed	bit12	a429_x	
Battery Converter Fail	bit13	a430_x	
Inverter SCR Open	bit14	a431_x	
Load Sharing Fault	bit15	a432_x	
<b>Alarm 3 (Word)</b>	40291		
DC Bus Abnormal	bit0	a433_x	
Mains Input Neutral Lost	bit1	a434_x	
Load Impact Transfer	bit2	a435_x	
User Operation Invalid	bit3	a436_x	
Power Sub Module Fault	bit4	a437_x	
Battery Discharging	bit5	a438_x	
UPS On Bypass	bit6	a439_x	
Load On Maintenance Bypass	bit7	a440_x	
Battery Capacity Low	bit8	a441_x	
UPS On Battery	bit9	a442_x	
Loss Of Communication	bit10	a701_x	
Common Alarm	bit11	stat_x	
Null	bit12	-	
Null	bit13	-	
Null	bit14	-	
Null	bit15	-	
Bypass Not Available	bit3	a404_x	
Low Battery	bit4	a405_x	
Load Bus Sync Inhibited	bit5	a406_x	
Redundant Fan Failure	bit6	a407_x	
Equipment Over Temperature	bit7	a408_x	
EPO Shutdown	bit8	a409_x	
Bypass Static Switch Unavailable	bit9	a410_x	
Bypass - Excess Auto Retransfers	bit10	a411_x	
Parallel Comms Warning	bit11	a412_x	
Power Supply Failure	bit12	a413_x	
Battery Over Temperature	bit13	a414_x	
Input Phase Rotation Error	bit14	a415_x	
Fuse Failure	bit15	a416_x	

**Table 7.1 Available Points: Vertiv™ Liebert® APM (US), Vertiv™ Liebert® NX-R (OTHER) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 2 (Word)</b>	40290		
Inverter Overload Phase A	bit0	a417_x	
Inverter Overload Phase B	bit1	a418_x	
Inverter Overload Phase C	bit2	a419_x	
MMS Overload	bit3	a420_x	
Inverter Overload Shutdown	bit4	a421_x	
System Output Fault	bit5	a422_x	
Internal Comms Fail	bit6	a423_x	
Battery Not Charging Properly	bit7	a424_x	
Input Current Imbalance	bit8	a425_x	
Battery Main Disconnect Open	bit9	a426_x	
Inverter Static Switch SCR Shorted	bit10	a427_x	
Battery Not Qualified	bit11	a428_x	
Battery Terminals Reversed	bit12	a429_x	
Battery Converter Fail	bit13	a430_x	
Inverter SCR Open	bit14	a431_x	
Load Sharing Fault	bit15	a432_x	
<b>Alarm 3 (Word)</b>	40291		
DC Bus Abnormal	bit0	a433_x	
Mains Input Neutral Lost	bit1	a434_x	
Load Impact Transfer	bit2	a435_x	
User Operation Invalid	bit3	a436_x	
Power Sub Module Fault	bit4	a437_x	
Battery Discharging	bit5	a438_x	
UPS On Bypass	bit6	a439_x	
Load On Maintenance Bypass	bit7	a440_x	
Battery Capacity Low	bit8	a441_x	
UPS On Battery	bit9	a442_x	
Loss Of Communication	bit10	a701_x	
Common Alarm	bit11	stat_x	
Null	bit12	-	
Null	bit13	-	
Null	bit14	-	
Null	bit15	-	

## 7.2 Vertiv™ Liebert® EXL Single Module UPS

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® EXL
Controller Firmware:	UPS Unit EXL Single Module (FDM Version: 1065) Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-exl_sms

**Table 7.2 Available Points: Vertiv™ Liebert® EXL Single Module UPS**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
System Input RMS A-B	40001	bs1_x	
System Input RMS B-C	40002	bs2_x	
System Input RMS C-A	40003	bs3_x	
System Input RMS Current Phase A	40004	bs4_x	
System Input RMS Current Phase B	40005	bs5_x	
System Input RMS Current Phase C	40006	bs6_x	
System Input Frequency	40007	bs7_x	
Battery Time Remaining	40008	bs8_x	
System Output Voltage RMS A-B	40009	bs9_x	
System Output Voltage RMS B-C	40010	bs10_x	
System Output Voltage RMS C-A	40011	bs11_x	
System Output RMS Current Phs A	40012	bs12_x	
System Output RMS Current Phs B	40013	bs13_x	
System Output RMS Current Phs C	40014	bs14_x	
System Output Frequency	40015	bs15_x	
System Output Power kW	40016	bs16_x	
System Output Power kVA	40017	bs17_x	
System Output Capacity Phase A %vA	40018	bs18_x	
System Output Capacity Phase B %vA	40019	bs19_x	
System Output Capacity Phase C %vA	40020	bs20_x	
Bypass Volts A-B	40021	bs21_x	
Bypass Volts B-C	40022	bs22_x	
Bypass Volts C-A	40023	bs23_x	
Bypass Frequency	40024	bs24_x	
Input Qualification	-	bs101_x	
Bypass Sync Phase Difference	-	bs102_x	

**Table 7.2 Available Points: Vertiv™ Liebert® EXL Single Module UPS (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Bypass Overload Time Remaining	-	bs103_x	
Bypass Static Switch	-	bs104_x	
Bypass Qualification	-	bs105_x	
Auto Retransfer Time Remaining	-	bs106_x	
Battery Total Discharge Time	-	bs107_x	
Battery Charge %	-	bs108_x	
Battery Volts for Cabinet #1	-	bs110_x	
Battery Volts for Cabinet #2	-	bs111_x	
Battery Volts for Cabinet #3	-	bs112_x	
Battery Volts for Cabinet #4	-	bs113_x	
Battery Volts for Cabinet #5	-	bs114_x	
Battery Volts for Cabinet #6	-	bs115_x	
Battery Volts for Cabinet #7	-	bs116_x	
Battery Volts for Cabinet #8	-	bs117_x	
Battery Temp for Cabinet #1	-	bs118_x	
Battery Temp for Cabinet #2	-	bs119_x	
Battery Temp for Cabinet #3	-	bs120_x	
Battery Temp for Cabinet #4	-	bs121_x	
Battery Temp for Cabinet #5	-	bs122_x	
Battery Temp for Cabinet #6	-	bs123_x	
Battery Temp for Cabinet #7	-	bs124_x	
Battery Temp for Cabinet #8	-	bs125_x	
Battery Amp Hrs Used This Disch	-	bs126_x	
Battery Discharge Time	-	bs127_x	
Battery Discharge Power (Watts)	-	bs128_x	
DC Bus Voltage	-	bs132_x	
DC Bus Current	-	bs133_x	
DC Bus Qualification	-	bs134_x	
System Output Power Factor Phase A	-	bs138_x	
System Output Power Factor Phase B	-	bs139_x	
System Output Power Factor Phase C	-	bs140_x	
System Output Capacity Phase A %	-	bs141_x	
System Output Capacity Phase B %	-	bs142_x	
System Output Capacity Phase C %	-	bs143_x	

**Table 7.2 Available Points: Vertiv™ Liebert® EXL Single Module UPS (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Qualification	-	bs144_x	
Inverter Overload Time Remaining	-	bs145_x	
Inverter Qualification	-	bs146_x	
Inverter On/Off	-	bs147_x	
Inlet Air Temperature	-	bs148_x	
Total System Operating Time (Hrs)	-	bs149_x	
Total kWh Saved	-	bs150_x	
Rectifier On/Off	-	bs151_x	
Output Source	-	bs152_x	
Input Source	-	bs153_x	
System Status	-	bs154_x	
Module kWh	-	bs157_x	
Output Peak kW Demand	-	bs158_x	
Output Peak kW Demand Hist	-	bs159_x	
Peak kW Demand Period	-	bs160_x	
Backfeed Breaker	-	bs161_x	
Input Breaker (CB1)	-	bs162_x	
Output Breaker (CB2)	-	bs164_x	
Bypass Isolation Breaker (BIB)	-	bs165_x	
Rectifier Feed Breaker (RFB)	-	bs166_x	
Maintenance Bypass Breaker (MBB)	-	bs167_x	
Maintenance Isolation Breaker (MIB)	-	bs168_x	
ECO Mode Operation State	-	bs230_x	
Continuous Operation - ECO Mode	-	bs231_x	
Max Auto Suspensions - ECO Mode	-	bs232_x	
Restart Delay - ECO Mode	-	bs233_x	
Time Remaining - ECO Mode	-	bs234_x	
Manual Transfer Bypass Volts Hi Limit	-	bs251_x	
Manual Transfer Bypass Volts Lo Limit	-	bs252_x	
Battery Recharge Method	-	bs253_x	
Battery Recharge Voltage	-	bs254_x	
Battery Float Voltage	-	bs255_x	
DC Converter Status	-	bs272_x	
Regeneration Time Remaining	-	bs280_x	



**Table 7.2 Available Points: Vertiv™ Liebert® EXL Single Module UPS (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Precharge Contactor	-	bs281_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
System Input Not Available	bit0	a101_x	
System Input Current Limit	bit1	a102_x	
System Input Current Imbalance	bit2	a103_x	
Bypass Not Available	bit3	a105_x	
Bypass Overload Phase A	bit4	a106_x	Modbus Bit 4 – Bypass Overload
Bypass Overload Phase B	-	a107_x	
Bypass Overload Phase C	-	a108_x	
Bypass Auto Retransfer Failed	bit5	a109_x	
Bypass - Excess Auto Retransfers	-	a110_x	
Bypass Static Switch Overload	bit6	a111_x	
Bypass Static Switch Unavailable	bit7	a112_x	
Bypass Excessive Pulse Parallel	-	a113_x	
Bypass Auto Transfer Failed	bit8	a114_x	
Bypass - Manual Rexfr Inhibited	bit9	a116_x	
Bypass - Manual Xfr Inhibited	bit10	a117_x	
Battery Test Inhibited	bit11	a118_x	
Battery Capacity Low	bit12	a120_x	
Battery Discharging	bit13	a121_x	
Battery Temperature Imbalance	bit14	a122_x	
Battery Equalize	-	a123_x	
Battery Self Test	-	a124_x	
Main Battery Disconnect Open	bit15	a125_x	
<b>Alarm 2 (Word)</b>	40290		
Battery Low	bit0	a126_x	
Battery Temperature Sensor Fault	bit1	a127_x	
Battery Circuit Breaker 1 Open	bit2	a129_x	Modbus Bit 2 – Battery CB Open
Battery Circuit Breaker 2 Open	-	a130_x	
Battery Circuit Breaker 3 Open	-	a131_x	
Battery Circuit Breaker 4 Open	-	a132_x	
Battery Circuit Breaker 5 Open	-	a133_x	
Battery Circuit Breaker 6 Open	-	a134_x	

**Table 7.2 Available Points: Vertiv™ Liebert® EXL Single Module UPS (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Circuit Breaker 7 Open	-	a135_x	
Battery Circuit Breaker 8 Open	-	a136_x	
Battery - External Monitor 1	-	a137_x	
Battery - External Monitor 2	-	a138_x	
Battery Low Shutdown	bit3	a140_x	
Battery Test Failed	bit4	a142_x	
System Shutdown - EPO	bit5	a146_x	
System Output Low Power Factor	bit6	a147_x	
Output Amp Over User Limit-Phs A	bit7	a148_x	Modbus Bit 7 – Output Overcurrent
Output Amp Over User Limit-Phs B	-	a149_x	
Output Amp Over User Limit-Phs C	-	a150_x	
System Output Fault	bit8	a151_x	
Output Of/Uf	bit9	a152_x	
Inverter Failure	bit10	a153_x	
Inverter Overload Phase A	bit11	a154_x	Modbus Bit 11 – Inverter Overload
Inverter Overload Phase B	-	a155_x	
Inverter Overload Phase C	-	a156_x	
Inverter Shutdown - Overload	bit12	a158_x	
Inlet Air Over Temperature	bit13	a159_x	
Outlet Air Overtemperature Limit	bit14	a160_x	
Equipment Temperature Sensor Fail	bit15	a161_x	
<b>Alarm 3 (Word)</b>	40291		
Input Contact 01	bit0	a163_x	
Input Contact 02	-	a164_x	
Input Contact 03	-	a165_x	
Input Contact 04	-	a166_x	
Input Contact 05	-	a167_x	
Input Contact 06	-	a168_x	
Input Contact 07	-	a169_x	
Input Contact 08	-	a170_x	
Rectifier Failure	bit1	a179_x	
System Fan Failure - Redundant	bit2	a180_x	
Multiple Fan Failure	bit3	a181_x	
Internal Communications Failure	bit4	a182_x	

**Table 7.2 Available Points: Vertiv™ Liebert® EXL Single Module UPS (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
UPS Output on Bypass	bit5	a183_x	
Output Load on Maint. Bypass	bit6	a184_x	
Backfeed Breaker Open	bit7	a185_x	
Auto Restart In Progress	bit8	a186_x	
Power Supply Failure	bit9	a187_x	
On Generator	bit10	a188_x	
Auto Restart Inhibited - Ext	bit11	a189_x	
Automatic Restart Failed	bit12	a190_x	
Main Controller Fault	bit13	a191_x	
Fuse Failure	bit14	a192_x	
System Controller Error	bit15	a193_x	
<b>Alarm 4 (Word)</b>	40292		
System Breaker(s) Open Failure	bit0	a194_x	
System Breaker(s) Close Failure	bit1	a195_x	
Emergency Module Off Command	bit2	a197_x	
Service Code Active	bit3	a198_x	
LBS Inhibited	bit4	a199_x	
Regeneration Active	bit5	a200_x	
Regeneration Operation Terminated	bit6	a201_x	
Regeneration Operation Failure	bit7	a202_x	
Controls Reset Required	bit8	a204_x	
LBS Active - Master	-	a205_x	
LBS Active - Slave	-	a206_x	
Continuous Power Tie Active	bit9	a207_x	
User kWh Reset	bit10	a208_x	
Peak kW Reset	bit11	a209_x	
ECO Mode Active	bit12	a221_x	
ECO Mode Suspended	bit13	a222_x	
Excess ECO Suspends	bit14	a223_x	
Service Reminder	bit15	a224_x	
<b>Alarm 5 (Word)</b>	40293		
Rectifier Isolation Breaker (RFB) Open	bit0	a250_x	
Input Undervoltage Warning	bit1	a251_x	
Bypass Auto Retransfer Primed	-	a252_x	

**Table 7.2 Available Points: Vertiv™ Liebert® EXL Single Module UPS (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Bypass Breaker (SBB) Open	bit2	a253_x	
Bypass Isolation Breaker (BIB) Open	bit3	a254_x	
Bypass Undervoltage Warning	bit4	a255_x	
Battery Overtemp Warning	bit5	a257_x	
Battery Over Temperature Limit	bit6	a258_x	
Inverter Output Breaker Open	bit7	a259_x	
Equipment Over Temp Warning	bit8	a260_x	
Equipment Overtemperature Limit	bit9	a261_x	
Rectifier Input Breaker Open	bit10	a262_x	
UPSC Communication Failure	bit11	a264_x	
Parallel Cable Failure	bit12	a265_x	
Core-2-Core Fuse Failure	bit13	a266_x	
Common Alarm	bit14	ALRM_x	
Loss of Communication	bit15	a701_x	

## 7.3 Vertiv™ Liebert® EXM Single Module

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® EXM, Vertiv™ Liebert® NXC
Controller Firmware:	UPS Unit EXM Single Module (FDM Version: 36/37) Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-exm

**Table 7.3 Available Points: Vertiv™ Liebert® EXM Single Module**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
System Input RMS A-B	40001	bs1_x	
System Input RMS B-C	40002	bs2_x	
System Input RMS C-A	40003	bs3_x	
System Input RMS Current Phase A	40004	bs4_x	
System Input RMS Current Phase B	40005	bs5_x	
System Input RMS Current Phase C	40006	bs6_x	
System Input Frequency	40007	bs7_x	
Battery Time Remaining	40008	bs8_x	Minutes
System Output Voltage RMS A-B	40009	bs9_x	
System Output Voltage RMS B-C	40010	bs10_x	
System Output Voltage RMS C-A	40011	bs11_x	
System Output RMS Current Phase A	40012	bs12_x	
System Output RMS Current Phase B	40013	bs13_x	
System Output RMS Current Phase C	40014	bs14_x	
System Output Frequency	40015	bs15_x	
System Output Power kW	40016	bs16_x	
System Output Power kVA	40017	bs17_x	
System Output Capacity Phase A %	40018	bs18_x	
System Output Capacity Phase B %	40019	bs19_x	
System Output Capacity Phase C %	40020	bs20_x	
Bypass Volts A-B	40021	bs21_x	
Bypass Volts B-C	40022	bs22_x	
Bypass Volts C-A	40023	bs23_x	
Bypass Frequency	40024	bs24_x	
System Input RMS A-B	-	bs101_x	
System Input RMS B-C	-	bs102_x	

**Table 7.3 Available Points: Vertiv™ Liebert® EXM Single Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Input RMS C-A	-	bs103_x	
System Input Power Factor Phase A	-	bs104_x	
System Input Power Factor Phase B	-	bs105_x	
System Input Power Factor Phase C	-	bs106_x	
Bypass Volts A-N	-	bs107_x	
Bypass Volts B-N	-	bs108_x	
Bypass Volts C-N	-	bs109_x	
Battery Volts for Cabinet	-	bs110_x	
Battery Temp for Cabinet	-	bs118_x	
Battery Status	-	bs130_x	1=unknown 2=normal 3=low 4=depleted
DC Bus Current	-	bs133_x	
System Output Voltage RMS A-N	-	bs135_x	
System Output Voltage RMS B-N	-	bs136_x	
System Output Voltage RMS C-N	-	bs137_x	
System Output Power Factor Phase A	-	bs138_x	
System Output Power Factor Phase B	-	bs139_x	
System Output Power Factor Phase C	-	bs140_x	
Inverter On/Off State	-	bs147_x	1=off 2=On
System Status	-	bs154_x	1=normal 2=start 3=warning 4=alarm 5=abnormal
UPS Output Source	-	bs155_x	1=other 2=off 3=normal 4=bypass 5=battery
Input Breaker	-	bs162_x	1=Open 2=Closed 3=not installed

**Table 7.3 Available Points: Vertiv™ Liebert® EXM Single Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Breaker	-	bs164_x	1=Open 2=Closed 3=not installed
Maintenance Bypass Breaker (MBB)	-	bs167_x	1=Open 2=Closed 3=not installed
MMS Output Power kW	-	bs180_x	
MMS Output Power kVA	-	bs181_x	
System Output Power kW Phase A	-	bs185_x	
System Output Power kW Phase B	-	bs186_x	
System Output Power kW Phase C	-	bs187_x	
System Output kVA Phase A	-	bs188_x	
System Output kVA Phase B	-	bs189_x	
System Output kVA Phase C	-	bs190_x	
MMS UPS Output Source	-	bs214_x	1=other 2=off 3=normal 4=bypass 5=battery
Intelligent Parallel Operation State	-	bs225_x	1=disabled 2=enabled
ECO Mode Operation State	-	bs230_x	1=disabled 2=enabled
Output Current Crest Factor Phase A	-	bs235_x	
Output Current Crest Factor Phase B	-	bs236_x	
Output Current Crest Factor Phase C	-	bs237_x	
Internal Bypass Breaker	-	bs238_x	
UPS Application Mode	-	bs239_x	1=UPS mode 2= Frequency converter mode
Advanced Efficiency Mode	-	bs240_x	1=unknown 2=ECO 3=Intelligent 4=Active Inverter
Total Operating Hours	-	bs241_x	
System Average Efficiency	-	bs242_x	
Inlet Air Temp	-	bs243_x	

**Table 7.3 Available Points: Vertiv™ Liebert® EXM Single Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
System Input Power Problem	bit0	a101_x	
System Input Current Limit	bit1	a103_x	
System Input Current Imbalance	bit2	a104_x	
Bypass Not Available	bit3	a105_x	
Bypass - Excess Auto Retransfers	bit4	a110_x	
Bypass Static Switch Unavailable	bit5	a112_x	
Battery Capacity Low	bit6	a120_x	
Battery Discharging	bit7	a121_x	
Battery Equalize	bit8	a123_x	
Battery Self Test	bit9	a124_x	
Main Battery Disconnect Open	bit10	a125_x	
Battery Low	bit11	a126_x	
Battery Circuit Breaker 1 Open	bit12	a129_x	
Battery Circuit Breaker 2 Open	bit13	a130_x	
Battery Circuit Breaker 3 Open	bit14	a131_x	
Battery Circuit Breaker 4 Open	bit15	a132_x	
<b>Alarm 2 (Word)</b>	40290		
System Shutdown - EPO	bit0	a146_x	
System Output Fault	bit1	a151_x	
Inverter Failure	bit2	a153_x	
Inverter Shutdown - Overload	bit3	a158_x	
Rectifier Failure	bit4	a179_x	
Internal Communications Failure	bit5	a182_x	
UPS Output on Bypass	bit6	a183_x	
Output Load on Maint. Bypass	bit7	a184_x	
Power Supply Failure	bit8	a187_x	
On Generator	bit9	a188_x	
Fuse Failure	bit10	a192_x	
LBS Inhibited	bit11	a199_x	
Parallel Comm Warning	bit12	a210_x	
Loss of Redundancy	bit13	a212_x	
MMS Overload	bit14	a215_x	
MMS On Battery	bit15	a216_x	



**Table 7.3 Available Points: Vertiv™ Liebert® EXM Single Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 3 (Word)</b>	40291		
Excess ECO Suspends	bit0	a223_x	
Parallel Cable Failure	bit1	a265_x	
Battery Charging Inhibited	bit2	a268_x	
System Fan Failure – Redundant	bit3	a269_x	
Equipment Over Temperature	bit4	a270_x	
Battery Over Temperature	bit5	a271_x	
System Input Phase Rotation Error	bit6	a272_x	
Inverter Overload	bit7	a273_x	
Battery Charging Error	bit8	a274_x	
Battery Not Qualified	bit9	a275_x	
Battery Terminals Reversed	bit10	a276_x	
Battery Converter Failure	bit11	a277_x	
Load Sharing Fault	bit12	a278_x	
DC Bus Abnormal	bit13	a279_x	
Mains Input Neutral Lost	bit14	a280_x	
Load Impact Transfer	bit15	a281_x	
<b>Alarm 4 (Word)</b>	40292		
User Operation Invalid	bit0	a282_x	
Top Outlet Fan Fault	bit1	a283_x	
MMS Over Capacity	bit2	a284_x	
Bypass Input Voltage Fault	bit3	a285_x	
Power Module Over Temperature	bit4	a286_x	
Battery Ground Fault	bit5	a287_x	
Inverter Relay Fault	bit6	a288_x	
Transfer to Bypass - System Overload	bit7	a289_x	
Input Source Backfeed	bit8	a290_x	
Loss of Synchronization	bit9	a291_x	
Battery Converter Current Limit	bit10	a292_x	
LBS Cable Failure	bit11	a293_x	
Battery Charge Equalization Timeout	bit12	a294_x	
Battery Fault	bit13	a295_x	
Battery Room Alarm	bit14	a296_x	
Battery Breaker 1 Open Failure	bit15	a297_x	

**Table 7.3 Available Points: Vertiv™ Liebert® EXM Single Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 5 (Word)</b>	40293		
Battery Breaker 2 Open Failure	bit0	a298_x	
Battery Breaker 3 Open Failure	bit1	a299_x	
Battery Breaker 4 Open Failure	bit2	a300_x	
Bypass Backfeed Detected	bit3	a301_x	
Common Alarm	bit4	stat_x	
Loss of Communication	bit5	a701_x	
Output Overload	bit6	a302_x	Applies to NXC Only

## 7.4 Vertiv™ Liebert® GXT2 500VA-3000VA

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® GXT2
Controller Firmware:	UPS Unit Liebert GXT2 500VA-3000VA Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™n Equipment:	gxt2 (2mb)/w-gxt2 (16mb)

**Table 7.4 Available Points: Vertiv™ Liebert® GXT2 500VA-3000VA**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Load VA	40001	bs0_x	
Load Watt	40002	bs4_x	
Load %	40003	bs8_x	
Input Frequency	40004	bsa_x	
Output Frequency	40005	bsc_x	
Bypass Frequency	40006	bse_x	
Load On Inverter	40007	bs14_x	
Load On Bypass	40008	bs115_x	
Replace Battery	40009	bs24_x	
Battery Voltage	40010	bs28_x	
Battery Charge %	40011	bs2c_x	
Battery Time Remaining	40012	bs2e_x	
Ambient Temperature	40013	bs34_x	
Input Voltage	40014	bs4e_x	
Bypass Voltage	40015	bs58_x	
Output Voltage	40016	bs60_x	
Output Current	40017	bs62_x	
Black Out Count	40018	bsf8_x	
Brown Out Count	40019	bsfa_x	
Nominal VA	40020	bv14_x	
Nominal Input Voltage	40021	bv20_x	
Nominal Input Current	40022	bs22_x	
Nominal Input Frequency	40023	bv28_x	
Low Battery Alarm	40024	bv40_x	
Common Alarm	-	stat_x	
Time In Maintenance Mode	-	counter_x	

**Table 7.4 Available Points: Vertiv™ Liebert® GXT2 500VA-3000VA (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Maintenance Mode Time Expired	-	n898_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss Of Comm.	bit0	comm_x	
On Battery	bit1	ba10_x	
Reserved	bit2	ba11_x	
UPS Overload	bit3	ba1e_x	
Shutdown Pending	bit4	ba20_x	
Battery Shutdown	bit5	ba21_x	
Over Temperature	bit6	ba43_x	
Battery Over Temperature	bit7	ba44_x	
Input Power Fail	bit8	ba51_x	
Input Over Voltage	bit9	ba52_x	
Input Under Voltage	bit10	ba53_x	
Input Frequency Deviation	bit11	ba55_x	
Bypass Fault	bit12	ba68_x	
Output Under Voltage	bit13	ba71_x	
Output Over Voltage	bit14	ba72_x	
Over Temperature Shutdown	bit15	baf0_x	
<b>Alarm 2 (Word)</b>	40290		
Overload Shutdown	bit0	baf1_x	
DC Bus Over Voltage Shutdown	bit1	baf2_x	
Output Shorted Shutdown	bit2	baf3_x	
L-N Swapped Shutdown	bit3	baf4_x	
Low Battery Shutdown	bit4	baf6_x	
Remote Shutdown	bit5	baf7_x	
Under Voltage Startup Shutdown	bit6	baf8_x	
PFC Startup Shutdown	bit7	baf9_x	
External Signal Shutdown (EPO)	bit8	bafa_x	
Load On Bypass	bit9	bafb_x	derived from bypass status bs115 above

## 7.5 Vertiv™ Liebert® PM4-LDMF

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® RX, Vertiv™ Liebert® PPC, Vertiv™ Liebert® FPC
Controller Firmware:	Power Unit PM4-LDMF (FDM Version: 367) PA Firmware: V05_001_00
Interface Module:	Vertiv™ Liebert® SiteLink-2E Module (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	See Section notes.

**Table 7.5 Available Points: Vertiv™ Liebert® PM4-LDMF**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Branch Status Points</b>			SiteScan Equipment: w-pm4_ldmf-branch
Pole Location	-	bs421_x	
Panel Location	-	bs422_x	
Current 1	-	bs423_x	
Current 2	-	bs424_x	
Current 3	-	bs425_x	
Watts	-	bs426_x	
kW Hours	-	bs428_x	
Load %	-	Load1_x	
Pole Count		pcount_x	
<b>Branch Alarm Points</b>			
Tripped	-	ba1_x	
Over Current Warning	-	ba3_x	
Over Current Critical	-	ba4_x	
Under Current Warning	-	ba6_x	
Common Alarm	-	STAT_x	
<b>Panel Status Points</b>			SiteScan Equipment: w-pm4_ldmf-panel
Panel ID	-	bs521_x	
Panel Type	-	bs522_x	
Branch Count	-	bs523_x	
Voltage A-B	-	bs524_x	
Voltage B-C-	-	bs525_x	
Voltage C-A	-	bs526_x	
Voltage A-N	-	bs527_x	
Voltage B-N	-	bs528_x	
Voltage C-N	-	bs529_x	
Current A	-	bs52a_x	

**Table 7.5 Available Points: Vertiv™ Liebert® PM4-LDMF (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Current B	-	bs52b_x	
Current C	-	bs52c_x	
Neutral Current	-	bs52d_x	
Ground Current	-	bs52e_x	
kVA	-	bs52f_x	
kW	-	bs530_x	
kWH	-	bs532_x	
Power Factor	-	bs534_x	
Load %	-	bs535_x	
THD Voltage A	-	bs536_x	
THD Voltage B	-	bs537_x	
THD Voltage C	-	bs538_x	
THD Current A	-	bs539_x	
THD Current B	-	bs53a_x	
THD Current C	-	bs53b_x	
Crest Fact A	-	bs53c_x	
Crest Fact B	-	bs53d_x	
Crest Fact C	-	bs53e_x	
<b>Panel Alarm Points</b>			
Panel Alarm - Warning	-	ba2_x	
Panel Alarm - Critical	-	ba3_x	
Main Over Voltage	-	ba6_x	
Phase Over Current	-	ba9_x	
Neutral Over Current	-	ba12_x	
Ground Over Current	-	ba15_x	
Main Under Voltage	-	ba18_x	
Common Alarm	-	STAT_x	
Loss of Communication	-	COMM_x	
<b>PCD Status Points</b>			SiteScan Equipment: w-pm4_ldmf-pcd
Input PCD ID	-	bs921_x	
Voltage A-B	-	bs922_x	
Voltage B-C	-	bs923_x	
Voltage C-A	-	bs924_x	
Output PCD ID	-	bsa21_x	

**Table 7.5 Available Points: Vertiv™ Liebert® PM4-LDMF (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Voltage A-B	-	bsa22_x	
Output Voltage B-C	-	bsa23_x	
Output Voltage C-A	-	bsa24_x	
Output Voltage A-N	-	bsa25_x	
Output Voltage B-N	-	bsa26_x	
Output Voltage C-N	-	bsa27_x	
Output Current A	-	bsa28_x	
Output Current B	-	bsa29_x	
Output Current C	-	bsa2a_x	
Output Neutral Current	-	bsa2b_x	
Ground Current	-	bsa2c_x	
Output Frequency	-	bsa2d_x	
kVA	-	bsa2e_x	
kW	-	bsa2f_x	
kWH	-	bsa30_x	
Power Factor	-	bsa32_x	
Load %	-	bsa33_x	
Output THD Voltage A	-	bsa34_x	
Output THD Voltage B	-	bsa35_x	
Output THD Voltage C	-	bsa36_x	
THD Current A	-	bsa37_x	
THD Current B	-	bsa38_x	
THD Current C	-	bsa39_x	
Crest Fact A	-	bsa3d_x	
Crest Fact B	-	bsa3e_x	
Crest Fact C	-	bsa3f_x	
<b>PCD Alarm Points</b>			
Input Power Problem	-	ba3_x	
Input Phase Rotation Error	-	ba6_x	
Output Over Voltage	-	ba9_x	
Output Under Voltage	-	ba12_x	
Output Over Current	-	ba15_x	
Neutral Over Current	-	ba18_x	
Ground Over Current	-	ba21_x	

**Table 7.5 Available Points: Vertiv™ Liebert® PM4-LDMF (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Voltage THD	-	ba24_x	
Frequency Deviation	-	ba27_x	
Xfmr Over Temp Pwr Off	-	ba30_x	
Xfmr Over Temp	-	ba33_x	
Xfmr Over Temp Sens Fail	-	ba36_x	
Loss Of Communications	-	COMM_x	
Common Alarm	-	STAT_x	
<b>Subfeed Status</b>			SiteScan Equipment: w-pm4_ldmf-subfeed
Subfeed ID	-	bs621_x	
Current A	-	bs622_x	
Current B	-	bs623_x	
Current C	-	bs624_x	
Neutral Current	-	bs625_x	
Ground Current	-	bs626_x	
kVA	-	bs627_x	
kW	-	bs628_x	
kWH	-	bs62a_x	
Power Factor	-	bs62c_x	
Load %	-	bs62d_x	
Current A THD	-	bs62e_x	
Current B THD	-	bs62f_x	
Current C THD	-	bs630_x	
Current A Crest Factor	-	bs631_x	
Current B Crest Factor	-	bs632_x	
Current C Crest Factor	-	bs633_x	
<b>Subfeed Alarm Points</b>			
Phase Overcurrent - Warning	-	ba2_x	
Phase Overcurrent - Critical	-	ba3_x	
Neutral Over Current	-	ba6_x	
Ground Over Current	-	ba9_x	
Loss of Communication	-	COMM_x	
Common Alarm	-	STAT_x	
<b>System Status Points</b>			SiteScan Equipment: w-pm4_ldmf-system



**Table 7.5 Available Points: Vertiv™ Liebert® PM4-LDMF (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Status	-	bs71_x	1=Normal 2=Start 3=Warning 4=Alarm 5=Abnormal
<b>System Alarm Points</b>			
Customer 1	-	ba3_x	
Customer 2	-	ba6_x	
Customer 3	-	ba9_x	
Customer 4	-	ba12_x	
Customer 5	-	ba15_x	
System Shutdown - EPO	-	ba33_x	
System Shutdown - REPO	-	ba36_x	
Transformer Overtemperature Shutdown	-	ba39_x	
Transformer Overtemperature	-	ba42_x	
Equipment Temperature Sensor Fail	-	ba45_x	
Loss Of Communications	-	COMM_x	
Common Alarm	-	STAT_x	

## 7.6 Vertiv™ Liebert® Npower Single Module UPS Npower

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Npower
Controller Firmware:	UPS Unit Liebert Single Module UPS Npower Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	Imp (2mb) / w-imp (16mb)

**Table 7.6 Available Points: Vertiv™ Liebert® Npower Single Module UPS Npower**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Voltage Input Line A-B	40001	bs0_x	
Voltage Input Line B-C	40002	bs2_x	
Voltage Input Line C-A	40003	bs4_x	
Voltage Bypass Line A-B	40004	bs26_x	
Voltage Bypass Line B-C	40005	bs28_x	
Voltage Bypass Line C-A	40006	bs2a_x	
Battery Voltage	40007	bs3e_x	
Battery Current	40008	bs40_x	
Battery Temperature	40009	bs42_x	
Output Voltage Line A-B	40010	bs48_x	
Output Voltage Line B-C	40011	bs4a_x	
Output Voltage Line C-A	40012	bs4c_x	
Current Output Line A	40013	bs54_x	
Current Output Line B	40014	bs56_x	
Current Output Line C	40015	bs58_x	
Output kVA Line A	40016	bs5a_x	
Output kVA Line B	40017	bs5c_x	
Output kVA Line C	40018	bs5e_x	
Output kW Line A	40019	bs60_x	
Output kW Line B	40020	bs62_x	
Output kW Line C	40021	bs64_x	
Output Frequency	40022	bs66_x	
Percent Rated kVA	40023	bs68_x	
Percent Rated kW	40024	bs6a_x	
Battery Time Remaining	-	bs44_x	
Bypass Frequency	-	bs32_x	

**Table 7.6 Available Points: Vertiv™ Liebert® Npower Single Module UPS Npower (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Common Alarm	-	stat_x	
Input Frequency	-	bs12_x	
Time In Maintenance Mode	-	counter_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss Of Comm.	bit0	comm_x	
Battery Fuse Fail	bit1	ba1_x	
Rectifier Fuse Fail	bit2	ba5_x	
Trap Fuse Fail	bit3	ba8_x	
Battery Overcharged	bit4	baa_x	
Bypass Overload Shutdown	bit5	ba11_x	
Inverter Overload Transfer	bit6	ba15_x	
Inverter Fuse Fail	bit7	ba16_x	
Output Overvoltage Transfer	bit8	ba17_x	
Output Undervoltage Transfer	bit9	ba18_x	
Inverter Current Limit Transfer	bit10	ba1b_x	
EPO Shutdown	bit11	ba24_x	
Rectifier Failed	bit12	ba2d_x	
Inverter Failed	bit13	ba2e_x	
Hardware Shutdown	bit14	ba41_x	
UPS On Battery	bit15	ba50_x	
<b>Alarm 2 (Word)</b>	40290		
Input Current Limit	bit0	ba57_x	
Battery CB Open	bit1	ba58_x	
Battery Discharging	bit2	ba5a_x	
SBS Overload Phase A	bit3	ba63_x	
SBS Overload Phase B	bit4	ba64_x	
SBS Overload Phase C	bit5	ba65_x	
Inverter Current Limit	bit6	ba66_x	
Inverter OVLD Phase A	bit7	ba68_x	
Inverter OVLD Phase B	bit8	ba69_x	
Inverter OVLD Phase C	bit9	ba6a_x	
Low PF Warning	bit10	ba6b_x	
Battery Ground Fault	bit11	ba73_x	

**Table 7.6 Available Points: Vertiv™ Liebert® Npower Single Module UPS Npower (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
EPO Latched	bit12	ba80_x	
SBS Unable	bit13	ba81_x	
Inverter Off By User	bit14	ba90_x	
Low Battery Warning	bit15	ba91_x	
<b>Alarm 3 (Word)</b>	40291		
Battery Test Failed	bit0	ba92_x	
User Shutdown	bit1	ba9a_x	
Battery Not Charged	bit2	ba9c_x	
Load On Bypass	bit3	baa6_x	
Customer Alarm 1	bit4	bab8_x	
Customer Alarm 2	bit5	bab9_x	
Customer Alarm 3	bit6	baba_x	
Customer Alarm 4	bit7	babb_x	
Customer Alarm 5	bit8	babc_x	
Customer Alarm 6	bit9	babd_x	
Customer Alarm 7	bit10	babe_x	
Customer Alarm 8	bit11	babf_x	
Input Phase Loss	bit12	ba54_x	added 7/27/12, Fixed 6/16/15
Input Undervoltage	bit13	ba55_x	added 7/27/12, Fixed 6/16/15
Bypass Sync Error	bit14	ba60_x	added 7/27/12, Fixed 6/16/15
Bypass Voltage Out of Tolerance	bit15	ba61_x	added 7/27/12, Fixed 6/16/15

## 7.7 Vertiv™ Liebert® NX (A or B models)

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NXA, Vertiv™ Liebert® NXB
Controller Firmware:	UPS Unit Liebert NX (A or B models) Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	nx (2mb) / w-nx (16mb)

**Table 7.7 Available Points: Vertiv™ Liebert® NX (A or B models)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Output Frequency	40001	bs1_x	
Battery Voltage	40002	bs2_x	
Battery Current	40003	bs3_x	
Battery Temperature	40004	bs4_x	
Input Voltage A	40005	bs5_x	L-L or L-N depending on model or display select
Input Voltage B	40006	bs6_x	
Input Voltage C	40007	bs7_x	
Bypass Voltage A	40008	bs8_x	
Bypass Voltage B	40009	bs9_x	
Bypass Voltage C	40010	bs10_x	
Output Voltage A	40011	bs11_x	
Output Voltage B	40012	bs12_x	
Output Voltage C	40013	bs13_x	
Output Current A	40014	bs14_x	
Output Current B	40015	bs15_x	
Output Current C	40016	bs16_x	
Output % Average	40017	bs17_x	
Output kVA Phase A	40018	bs18_x	
Output kVA Phase B	40019	bs19_x	
Output kVA Phase C	40020	bs20_x	
Output Watts A	40021	bs21_x	
Output Watts B	40022	bs22_x	
Output Watts C	40023	bs23_x	
Battery Charge %		bs25_x	
Battery Time Remaining		bs26_x	
Bypass Frequency		bs27_x	

**Table 7.7 Available Points: Vertiv™ Liebert® NX (A or B models) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Common Alarm Status		stat_x	
Nominal VA Rating	40024	bs24_x	
Generator Input Disconnected		bs29_x	
Input Frequency		bs30_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>			
	40289		
Loss Of Communication	bit0	comm_x	
Input Switch Open	bit1	ba3_x	
Reserved	bit2	-	
Main Neutral Lost	bit3	ba9_x	
On Battery	bit4	ba10_x	
Reserved	bit5	ba11_x	
Load On Joint Mode	bit6	ba12_x	
Load On Bypass	bit7	ba13_x	
Load Has No Power	bit8	ba14_x	
UPS Overload Bypass	bit9	ba15_x	
Max Xfer Bypass	bit10	ba1a_x	
False Operation	bit11	ba1b_x	
UPS Overload	bit12	ba1e_x	
Battery Shutdown	bit13	ba21_x	
Inverter Non-Sync	bit14	ba24_x	
DC Under Voltage Shutdown	bit15	ba26_x	
<b>Alarm 2 (Word)</b>			
	40290		
Inverter Fault	bit0	ba27_x	
DC Offset Overrun	bit1	ba28_x	
Inverter Contactor Fail	bit2	ba29_x	
Inverter Overcurrent	bit3	ba2a_x	
Inverter Comm Fail	bit4	ba2b_x	
Rectifier Fuse Blown	bit5	ba30_x	
Rectifier Start Fail	bit6	ba31_x	
Rectifier Fault	bit7	ba32_x	
Rectifier Over Current	bit8	ba33_x	
Rectifier Communication Fail	bit9	ba34_x	
Control Power Fail	bit10	ba40_x	

**Table 7.7 Available Points: Vertiv™ Liebert® NX (A or B models) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Fan Fail	bit11	ba41_x	
Battery Over Temperature	bit12	ba44_x	
Ambient Over Temperature	bit13	ba45_x	
Rectifier Over Temperature	bit14	ba46_x	
Rectifier Inductor OverTemp	bit15	ba47_x	
<b>Alarm 3 (Word)</b>	40291		
Inverter Over Temperature	bit0	ba48_x	
Inverter Inductor OverTemp	bit1	ba49_x	
Battery Converter OverTemp	bit2	ba4b_x	
Battery Balancer OverTemp	bit3	ba4c_x	
Input Power Failure	bit4	ba51_x	
Input Brownout	bit5	ba54_x	
Frequency Deviation	bit6	ba55_x	
Phase Rotation	bit7	ba56_x	
Bypass SBS Unable	bit8	ba60_x	
Bypass Input Fault	bit9	ba68_x	
Output Over Voltage	bit10	ba72_x	
Battery Converter Fail	bit14	ba84_x	
Battery Converter Over Current	bit15	ba85_x	
Charger Fail	bit11	ba80_x	
Battery Fault	bit12	ba81_x	
Battery Contactor Fail	bit13	ba83_x	
<b>Alarm 4 (Word)</b>	40292		
Battery Balancer Fault	bit0	ba86_x	
Battery Balancer Over Current	bit1	ba87_x	
System Low Battery	bit2	baa0_x	
Load Share Fault	bit3	baa1_x	
Parallel System Fault	bit4	baa2_x	
Parallel Connection Error	bit5	baa3_x	
Parallel System Overload	bit6	baa4_x	
Transfer to Bypass	bit7	baa5_x	
Parallel Communication Fail	bit8	baa6_x	

## 7.8 Vertiv™ Liebert® NX (Night Flight)

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NX NFT
Controller Firmware:	UPS Unit NX (Night Flight) (FDM Version: 104) PA Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-nx_nft

**Table 7.8 Available Points: Vertiv™ Liebert® NX (Night Flight)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
System Input RMS A-B	40001	bs101_x	
System Input RMS B-C	40002	bs102_x	
System Input RMS C-A	40003	bs103_x	
System Input RMS Current Phase A	40004	bs104_x	
System Input RMS Current Phase B	40005	bs105_x	
System Input RMS Current Phase C	40006	bs106_x	
System Input Frequency	40007	bs107_x	
Rectifier Status	-	bs108_x	
Module 1 Phase A Rectifier Temp	-	bs109_x	
Module 1 Phase B Rectifier Temp	-	bs110_x	
Module 1 Phase C Rectifier Temp	-	bs111_x	
Module 2 Phase A Rectifier Temp	-	bs112_x	
Module 2 Phase B Rectifier Temp	-	bs113_x	
Module 2 Phase C Rectifier Temp	-	bs114_x	
Module 3 Phase A Rectifier Temp	-	bs115_x	
Module 3 Phase B Rectifier Temp	-	bs116_x	
Module 3 Phase C Rectifier Temp	-	bs117_x	
Module 4 Phase A Rectifier Temp	-	bs118_x	
Module 4 Phase B Rectifier Temp	-	bs119_x	
Module 4 Phase C Rectifier Temp	-	bs120_x	
Bypass Volts A-B	-	bs121_x	
Bypass Volts B-C	-	bs122_x	
Bypass Volts C-A	-	bs123_x	
Bypass Frequency	-	bs124_x	
Bypass Static Switch	-	bs125_x	
Bypass Qualification	-	bs126_x	



**Table 7.8 Available Points: Vertiv™ Liebert® NX (Night Flight) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
DC Bus Voltage	-	bs127_x	
Battery Volts for Cabinet	-	bs128_x	
DC Bus Current	-	bs129_x	
Battery Time Remaining	-	bs130_x	
Battery Charge %	-	bs131_x	
Battery Temp for Cabinet	-	bs132_x	
DC Bus Qualification	-	bs133_x	
Battery Status	40008	bs134_x	
System Output Voltage RMS A-B	40009	bs135_x	
System Output Voltage RMS B-C	40010	bs136_x	
System Output Voltage RMS C-A	40011	bs137_x	
System Output RMS Current Phase A	40012	bs138_x	
System Output RMS Current Phase B	40013	bs139_x	
System Output RMS Current Phase C	40014	bs140_x	
System Output Frequency	-	bs141_x	
System Output Power kVA	-	bs142_x	
System Output Power kW	-	bs143_x	
System Output VA Phase A	40018	bs144_x	
System Output VA Phase B	40019	bs145_x	
System Output VA Phase C	40020	bs146_x	
System Output Power Phase A (W)	-	bs147_x	
System Output Power Phase B (W)	-	bs148_x	
System Output Power Phase C (W)	-	bs149_x	
System Output Capacity Phase A %	40021	bs150_x	
System Output Capacity Phase B %	40022	bs151_x	
System Output Capacity Phase C %	40023	bs152_x	
Output Percent Load	40024	bs153_x	
Temperature	-	bs154_x	
Output Source	-	bs155_x	
Load Power Source	-	bs156_x	
Inverter Overload Time Remaining	-	bs157_x	
Inverter On/Off	-	bs158_x	
Inverter Sync Source	-	bs159_x	
Module 1 Phase A Inverter Temp	-	bs160_x	

**Table 7.8 Available Points: Vertiv™ Liebert® NX (Night Flight) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Module 1 Phase B Inverter Temp	-	bs161_x	
Module 1 Phase C Inverter Temp	-	bs162_x	
Module 2 Phase A Inverter Temp	-	bs163_x	
Module 2 Phase B Inverter Temp	-	bs164_x	
Module 2 Phase C Inverter Temp	-	bs165_x	
Module 3 Phase A Inverter Temp	-	bs166_x	
Module 3 Phase B Inverter Temp	-	bs167_x	
Module 3 Phase C Inverter Temp	-	bs168_x	
Module 4 Phase A Inverter Temp	-	bs169_x	
Module 4 Phase B Inverter Temp	-	bs170_x	
Module 4 Phase C Inverter Temp	-	bs171_x	
Battery Recharge Voltage	-	bs172_x	
Max Charge Current	-	bs173_x	
Booster On/Off State	-	bs174_x	
Charger On/Off State	-	bs175_x	
Module 1 Booster-Charger Temp	-	bs176_x	
Module 2 Booster-Charger Temp	-	bs177_x	
Module 3 Booster-Charger Temp	-	bs178_x	
Module 4 Booster-Charger Temp	-	bs179_x	
System Status	-	bs180_x	
UPS Operating Mode	-	bs181_x	
ECO Mode Operation State	-	bs182_x	
Common Alarm	-	stat_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communication	bit0	a701_x	
Rectifier Failure	bit1	a101_x	
System Input Phs Rotation Error	bit2	a102_x	
System Input Current Limit	bit3	a103_x	
System Input Power Problem	bit4	a104_x	
Bypass Static Switch Unavailable	bit5	a105_x	
Bypass Input Voltage Fault	bit6	a106_x	
Bypass Not Available	bit7	a107_x	
Bypass Overload	bit8	a108_x	

**Table 7.8 Available Points: Vertiv™ Liebert® NX (Night Flight) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Test Failed	bit9	a109_x	
Battery Test Passed	bit10	a110_x	
Battery Terminals Reversed	bit11	a111_x	
Battery Over Voltage	bit12	a112_x	
Battery Temperature Out Of Range	bit13	a113_x	
Battery Low	bit14	a114_x	
Battery Over Temperature	bit15	a115_x	
<b>Alarm 2 (Word)</b>	40290		
Battery Discharging	bit0	a116_x	
Battery Auto Test In Progress	bit1	a117_x	
Battery Manual Test In Progress	bit2	a118_x	
Battery Ground Fault	bit3	a119_x	
DC Bus Abnormal	bit4	a120_x	
System Output Off	bit5	a121_x	
Output Load on Maint. Bypass	bit6	a122_x	
UPS Output on Bypass	bit7	a123_x	
Not Used	bit8	-	
Inverter Failure	bit9	a125_x	
Inverter Overload	bit10	a126_x	
System Output Fault	bit11	a127_x	
Inverter Overload Phase C	bit12	a128_x	
Inverter Inhibit - External	bit13	a129_x	
Inverter Desaturation	bit14	a130_x	
Booster Failure	bit15	a131_x	
<b>Alarm 3 (Word)</b>	40291		
Charger Failure	bit0	a132_x	
System Shutdown - EPO	bit1	a133_x	
Generic DIC Fault	bit2	a134_x	
Inlet Air Over Temperature	bit3	a135_x	
Generic Test Event	bit4	a136_x	
Fan Hours Exceeded	bit5	a137_x	
Unit Shutdown	bit6	a138_x	
Main Controller Fault	bit7	a139_x	
Equipment Over Temperature	bit8	a140_x	

**Table 7.8 Available Points: Vertiv™ Liebert® NX (Night Flight) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Fuse Failure	bit9	a141_x	
Maximum Load Alarm	bit10	a142_x	
Bypass Breaker Closed	bit11	a144_2	
Input Breaker Open	bit12	a145_2	
Output Breaker Open	bit13	a146_2	
Maintenance Bypass Breaker Closed	bit14	a147_2	
Battery Breaker Open	bit15	a148_2	

## 7.9 Vertiv™ Liebert® NXL Multi-Module System

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NXL
Controller Firmware:	UPS Unit NXL Multi-Module System (FDM Version: <2300) Firmware: <4.4
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-nxl_mms

**Table 7.9 Available Points: Vertiv™ Liebert® NXL Multi-Module System**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Input RMS A-B	40001	bs01_x	
Input RMS B-C	40002	bs02_x	
Input RMS C-A	40003	bs03_x	
Input RMS Current Phase A	40004	bs04_x	
Input RMS Current Phase B	40005	bs05_x	
Input RMS Current Phase C	40006	bs06_x	
Input Frequency	40007	bs07_x	Scale *.10 (Modbus Only)
Battery Charge %	40008	g202_x	
Output Voltage RMS A-B	40009	bs09_x	
Output Voltage RMS B-C	40010	bs10_x	
Output Voltage RMS C-A	40011	bs11_x	
Output RMS Current Phs A	40012	bs12_x	
Output RMS Current Phs B	40013	bs13_x	
Output RMS Current Phs C	40014	bs14_x	
Output Frequency	40015	bs15_x	Scale *.10 (Modbus Only)
Output Power kW	40016	bs16_x	
Output Power kVA	40017	bs17_x	
Output Power Factor Phase A	40018	g413_x	
Output Power Factor Phase B	40019	g414_x	
Output Power Factor Phase C	40020	g415_x	
Battery Volts - Main Disconnect	40021	g203_x	
DC Bus Voltage	40022	g301_x	
DC Bus Current	40023	g302_x	
Battery Amp Hrs - This Discharge	-	g220_x	
Battery Amp Hrs Consumed	-	g256_x	
Battery Commission Date	-	g226_x	

**Table 7.9 Available Points: Vertiv™ Liebert® NXL Multi-Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Discharge Date	-	g224_x	
Battery Discharge Time	-	g222_x	
Battery Discharge Watts	-	g223_x	
Battery Temp for Cabinet #1	-	g212_x	
Battery Temp for Cabinet #2	-	g213_x	
Battery Temp for Cabinet #3	-	g214_x	
Battery Temp for Cabinet #4	-	g215_x	
Battery Temp for Cabinet #5	-	g216_x	
Battery Temp for Cabinet #6	-	g217_x	
Battery Temp for Cabinet #7	-	g218_x	
Battery Temp for Cabinet #8	-	g219_x	
Battery Time Remaining	-	bs08_x	
Battery Total Discharge Time	-	g201_x	
Battery Volts for Cabinet #1	-	g204_x	
Battery Volts for Cabinet #2	-	g205_x	
Battery Volts for Cabinet #3	-	g206_x	
Battery Volts for Cabinet #4	-	g207_x	
Battery Volts for Cabinet #5	-	g208_x	
Battery Volts for Cabinet #6	-	g209_x	
Battery Volts for Cabinet #7	-	g210_x	
Battery Volts for Cabinet #8	-	g211_x	
DC Bus Qualification	-	g305_x	1=Failed 2=Marginal Low 3=Normal 4=Marginal High
Inlet Air Temperature	-	bs23_x	
Input Breaker (CB1)	-	g141_4_x	1=Open 2=Closed 3=Not Installed
Input Qualification	-	g012_x	
Input Source	-	gb14_x	1=None 2=Utility(Mains) 3=Generator
Inverter On/Off	-	g511_x	1=Off 2=On

**Table 7.9 Available Points: Vertiv™ Liebert® NXL Multi-Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Inverter OverId Time Remaining	-	bs21_x	
Inverter Qualification	-	bs22_x	1=Failed 2=Marginal Low 3=Normal 4=Marginal High
Module Batt. Time Remaining	-	g1610_x	
Output Qualification	-	g430_x	
Output Breaker (CB2)	-	g141_8_x	1=Open 2=Closed 3=Not Installed
Output Capacity Phase A %	-	g416_x	
Output Capacity Phase A %vA	-	bs18_x	
Output Capacity Phase B %	-	g417_x	
Output Capacity Phase B %vA	-	bs19_x	
Output Capacity Phase C %	-	g418_x	
Output Capacity Phase C %vA	-	bs20_x	
Output Voltage RMS A-N	-	g404_x	
Output Voltage RMS B-N	-	g405_x	
Output Voltage RMS C-N	-	g406_x	
Rectifier On/Off	-	ga04_x	1=Off 2=On
SCC Event Summary	-	g15102_x	1=None 2=Alarm 3=Fault
System Status	-	gb34_x	1=Normal 2=Startup 3=Normal+Warning 4=Normal+Alarm 5=Abnormal Op 6=Getting Stat..
Total Operating Time (Hrs)	-	bs24_x	
Trap Filter Disconnect	-	g141_6_x	1=Open 2=Closed 3=Not Installed
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		

**Table 7.9 Available Points: Vertiv™ Liebert® NXL Multi-Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input Power Problem	bit0	a008_x	
Input Phase Rotation Error	Note 1	a009_x	Note 1 - Read as common "Input Power Problem" alarm on bit0
Input Current Limit	Note 1	a010_x	
Input Current Imbalance	Note 1	a011_x	
Battery Auto Test Inhibited	Note 2	a229_x	Note 2 - Read on Common Alarm bit
Battery Charging Reduced	Note 3	a230_x	Note 3 - Read as common "Battery Charging Problem" alarm on bit1
Battery Capacity Low	bit2	a231_x	
Battery Discharging	bit3	a232_x	
Battery Temp Imbalance	bit6	a233_x	
Battery Equalize	Note 2	a234_x	
Battery Self Test	Note 2	a235_x	
Battery Main Disconnect Open	bit4	a236_x	
Low Battery	bit5	a237_x	
Battery Temp Sensor Fault	Note 4	a238_x	Note 4 - Read as common "Battery Temp Problem" alarm on bit6
Battery Charging Inhibit	Note 3	a239_x	
Battery Circuit Breaker 1 Open	Note 5	a240_x	Note 5 - Read as common "Battery Disconnected" alarm on bit4
Battery Circuit Breaker 2 Open	Note 5	a241_x	
Battery Circuit Breaker 3 Open	Note 5	a242_x	
Battery Circuit Breaker 4 Open	Note 5	a243_x	
Battery Circuit Breaker 5 Open	Note 5	a244_x	
Battery Circuit Breaker 6 Open	Note 5	a245_x	
Battery Circuit Breaker 7 Open	Note 5	a246_x	
Battery Circuit Breaker 8 Open	Note 5	a247_x	
Battery External Monitor 1	Note 2	a249_x	
Battery External Monitor 2	Note 2	a250_x	
Battery Ground Fault	bit7	a251_x	
Battery Low Shutdown	bit8	a253_x	
Battery Over Temp	Note 4	a254_x	
Battery Test Failed	bit9	a255_x	
DC Bus Ground Fault - Positive	bit10	a303_x	Note 6 - Read as common "DC Bus Ground Fault" alarm on bit10
DC Bus Ground Fault - Negative	Note 6	a304_x	
EPO Shutdown	bit11	a422_x	
REPO Shutdown	bit12	a423_x	
Output Low Power Factor	bit14	a425_x	



**Table 7.9 Available Points: Vertiv™ Liebert® NXL Multi-Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 2 (Word)</b>	40290		
Inverter Failure	bit3	a502_x	
Inverter Overload Phase A	bit4	a503_x	
Inverter Overload Phase B	bit5	a504_x	
Inverter Overload Phase C	bit6	a505_x	
Inverter External Inhibit	bit7	a506_x	
Inverter Overload Shutdown	bit8	a507_x	
Inlet Overtemperature	bit11	a706_x	
Outlet Overtemperature Limit	bit14	a709_x	
<b>Alarm 3 (Word)</b>	40291		
Equipment Temp Sensor Fail	bit0	a711_x	
Equipment Overtemperature	bit1	a712_x	
Input Contact 01	bit2	a901_x	
Input Contact 02	bit3	a902_x	
Input Contact 03	bit4	a903_x	
Input Contact 04	bit5	a904_x	
Input Contact 05	bit6	a905_x	
Input Contact 06	bit7	a906_x	
Input Contact 07	bit8	a907_x	
Input Contact 08	bit9	a908_x	
Input Contact 09	bit10	a909_x	
Input Contact 10	bit11	a910_x	
Input Contact 11	bit12	a911_x	
Input Contact 12	bit13	a912_x	
Input Contact 13	bit14	a913_x	
Input Contact 14	bit15	a914_x	
<b>Alarm 4 (Word)</b>	40292		
Power Supply Failure	bit0	ab15_x	
Input Contact 16	bit1	a916_x	
Rectifier Failure	bit2	aa02_x	
Redundant Fan Failure	bit4	ab02_x	
Multiple Fan Failure	Note 7	ab04_x	Note 7 - Read as common "Fan Failure" alarm on bit4
Internal Comms Fail	bit5	ab09_x	
On Generator	bit8	ab16_x	

**Table 7.9 Available Points: Vertiv™ Liebert® NXL Multi-Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Main Controller Fault	bit11	ab19_x	
Fuse Failure	bit12	ab20_x	
System Controller Error	Note 9	ab21_x	Note 9 - Read as common "Controls Problem" alarm on bit11
System Breaker(s) Open Failure	bit13	ab22_x	
System Breaker(s) Close Failure	Note 10	ab23_x	Note 10 - Read as common "Breaker Open/Close Problem" alarm on bit13
Input Filter Cycle Lock	Note 2	ab24_x	
EMO Shutdown	bit14	ab25_x	
Service Code Active	Note 2	ab26_x	
<b>Alarm 5 (Word)</b>	40293		
Leading Power Factor	Note 2	ab32_x	
Controls Reset Required	Note 9	ab33_x	
Loss Of Comm	bit2	a701_x	
Common Alarm	bit3	stat_x	Note 2 - Read on Common Alarm bit
Parallel Comms. Bus Warning	bit4	a1523_x	
System Comms. Fail	bit5	a1524_x	
Output Over/Under Frequency	bit7	a431_x	

## 7.10 Vertiv™ Liebert® NXL Multi-Module System v2300

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NXL
Controller Firmware:	UPS Unit NXL Multi-Module System v2300 (FDM Version: 2300>) Firmware: 4.4>
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-nxl_mms_v2300

**Table 7.10 Available Points: Vertiv™ Liebert® NXL Multi-Module System v2300**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Input RMS A-B	40001	bs01_x	
Input RMS B-C	40002	bs02_x	
Input RMS C-A	40003	bs03_x	
Input RMS Current Phase A	40004	bs04_x	
Input RMS Current Phase B	40005	bs05_x	
Input RMS Current Phase C	40006	bs06_x	
Input Frequency	40007	bs07_x	Scale *.10 (Modbus Only)
Battery Charge %	40008	bs08_x	
Output Voltage RMS A-B	40009	bs09_x	
Output Voltage RMS B-C	40010	bs10_x	
Output Voltage RMS C-A	40011	bs11_x	
Output RMS Current Phs A	40012	bs12_x	
Output RMS Current Phs B	40013	bs13_x	
Output RMS Current Phs C	40014	bs14_x	
Output Frequency	40015	bs15_x	Scale *.10 (Modbus Only)
Output Power kW	40016	bs16_x	
Output Power kVA	40017	bs17_x	
Output Capacity Phase A %vA	40018	bs18_x	
Output Capacity Phase B %vA	40019	bs19_x	
Output Capacity Phase C %vA	40020	bs20_x	
Battery Volts - Main Disconnect	40021	bs21_x	
DC Bus Voltage	40022	bs22_x	
DC Bus Current	40023	bs23_x	
Battery Time Remaining	40024	bs24_x	

**Table 7.10 Available Points: Vertiv™ Liebert® NXL Multi-Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input Qualification	-	bs101_x	0=Fail 1=Low 2=Normal 3=High
Batt Total Discharge Time		bs107_x	
Battery Volts for Cabinet #1	-	bs110_x	
Battery Volts for Cabinet #2	-	bs111_x	
Battery Volts for Cabinet #3	-	bs112_x	
Battery Volts for Cabinet #4	-	bs113_x	
Battery Volts for Cabinet #5	-	bs114_x	
Battery Volts for Cabinet #6	-	bs115_x	
Battery Volts for Cabinet #7	-	bs116_x	
Battery Volts for Cabinet #8	-	bs117_x	
Battery Temp for Cabinet #1	-	bs118_x	
Battery Temp for Cabinet #2	-	bs119_x	
Battery Temp for Cabinet #3	-	bs120_x	
Battery Temp for Cabinet #4	-	bs121_x	
Battery Temp for Cabinet #5	-	bs122_x	
Battery Temp for Cabinet #6	-	bs123_x	
Battery Temp for Cabinet #7	-	bs124_x	
Battery Temp for Cabinet #8	-	bs125_x	
Battery Amp-Hrs This Disch	-	bs126_x	
Battery Total Discharge Time	-	bs127_x	
Battery Discharge Watts	-	bs128_x	
UPS Battery Status	-	bs130_x	1=unknown 2=normal 3=low 4=depleted
DC Bus Qualification	-	bs134_x	0=Fail 1=Low 2=Normal 3=High
Output Voltage RMS A-N	-	bs135_x	
Output Voltage RMS B-N	-	bs136_x	
Output Voltage RMS C-N	-	bs137_x	
Output Power Factor Phase A	-	bs138_x	

**Table 7.10 Available Points: Vertiv™ Liebert® NXL Multi-Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Power Factor Phase B	-	bs139_x	
Output Power Factor Phase C	-	bs140_x	
Output % Power Phase A	-	bs141_x	
Output % Power Phase B	-	bs142_x	
Output % Power Phase C	-	bs143_x	
Inverter On/Off	-	bs147_x	
Inlet Air Temperature	-	bs148_x	
Total Operating Time (Hrs)	-	bs149_x	
Output Qualification	-	bs144_x	0=Fail 1=Low 2=Normal 3=High
Inverter Overload Time Remaining	-	bs145_x	
Inverter Qualification	-	bs146_x	0=Fail 1=Low 2=Normal 3=High
Total kW Hours Saved	-	bs150_x	
Rectifier On/Off	-	bs151_x	0=off 1=on
System Input Power Source	-	bs153_x	
System Status	-	bs154_x	
UPS Output Source	-	bs155_x	0=none 1=utility 2=generator
System Accumulated Energy	-	bs156_x	kWh
Module Accumulated Energy	-	bs157_x	kWh
Output Peak demand	-	bs158_x	kW
Output Peak demand History	-	bs159_x	kW
Peak Demand Period	-	bs160_x	1=hourly 2=daily 3=weekly 4=monthly 5=yearly

**Table 7.10 Available Points: Vertiv™ Liebert® NXL Multi-Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input Breaker (CB1/RIB)	-	bs162_x	1=open 2=closed 3=not installed
Trap Filter Disconnect	-	bs163_x	1=open 2=closed 3=not installed
Output Bkr (CB2/IOB)	-	bs164_x	1=open 2=closed 3=not installed
Intelligent Parallel Operation State	-	bs225_x	1=on 0=off
Intelligent Parallel Mode	-	bs226_x	1=idle 2=disconnect 3=Off
Intelligent Paralleling Shutdown Delay	-	bs227_x	Minutes
Intelligent Parallel Min. Redundancy	-	bs228_x	Number redundant Modules 1-8
Int. Parallel Max Time in Standby	-	bs229_x	days
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Input Power Problem	bit0	a101_x	
Input Phase Rotation Error	bit1	a102_x	
Input Current Limit	bit2	a103_x	
Input Current Imbalance	bit3	a104_x	
Battery Auto Test Inhibited	bit4	a118_x	
Battery Charging Reduced	bit5	a119_x	
Battery Capacity Low	bit6	a120_x	
Battery Discharging	bit7	a121_x	
Battery Temp Imbalance	bit8	a122_x	
Battery Equalize	bit9	a123_x	
Battery Self Test	bit10	a124_x	
Battery Main Disconnect Open	bit11	a125_x	
Low Battery	bit12	a126_x	
Battery Temp Sensor Fault	bit13	a127_x	
Battery Charging Inhibit	bit14	a128_x	
Battery CB 1 Open	bit15	a129_x	
<b>Alarm 2 (Word)</b>	40290		

**Table 7.10 Available Points: Vertiv™ Liebert® NXL Multi-Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery CB 2 Open	bit0	a130_x	
Battery CB 3 Open	bit1	a131_x	
Battery CB 4 Open	bit2	a132_x	
Battery CB 5 Open	bit3	a133_x	
Battery CB 6 Open	bit4	a134_x	
Battery CB 7 Open	bit5	a135_x	
Battery CB 8 Open	bit6	a136_x	
Battery External Monitor 1	bit7	a137_x	
Battery External Monitor 2	bit8	a138_x	
Battery Ground Fault	bit9	a139_x	
Battery Low Shutdown	bit10	a140_x	
Battery Over Temp	bit11	a141_x	
Battery Test Failed	bit12	a142_x	
DC Bus Ground Fault - Positive	bit13	a143_x	
DC Bus Ground Fault - Negative	bit14	a144_x	
EPO Shutdown	bit15	a145_x	
<b>Alarm 3 (Word)</b>	40291		
REPO Shutdown	bit0	a146_x	
Output Low Power Factor	bit1	a147_x	
Output Over Under Frequency	bit2	a152_x	
Inverter Failure	bit3	a153_x	
Inverter Overload Phase A	bit4	a154_x	
Inverter Overload Phase B	bit5	a155_x	
Inverter Overload Phase C	bit6	a156_x	
Inverter External Inhibit	bit7	a157_x	
Inverter Overload Shutdown	bit8	a158_x	
Inlet Overtemperature	bit9	a159_x	
Outlet Overtemperature Limit	bit10	a160_x	
Equipment Temp Sensor Fail	bit11	a161_x	
Equipment Overtemperature	bit12	a162_x	
Input Contact 01	bit13	a163_x	
Input Contact 02	bit14	a164_x	
Input Contact 03	bit15	a165_x	
<b>Alarm 4 (Word)</b>	40292		
Input Contact 04	bit0	a166_x	

**Table 7.10 Available Points: Vertiv™ Liebert® NXL Multi-Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input Contact 05	bit1	a167_x	
Input Contact 06	bit2	a168_x	
Input Contact 07	bit3	a169_x	
Input Contact 08	bit4	a170_x	
Input Contact 09	-	a171_x	
Input Contact 10	-	a172_x	
Input Contact 11	-	a173_x	
Input Contact 12	-	a174_x	
Input Contact 13	-	a175_x	
Input Contact 14	-	a176_x	
Input Contact 15	-	a177_x	
Input Contact 16	-	a178_x	
Rectifier Failure	bit5	a179_x	
Redundant Fan Failure	bit6	a180_x	
Multiple Fan Failure	bit7	a181_x	
Internal Comms Fail	bit8	a182_x	
Power Supply Failure	bit9	a187_x	
On Generator	bit10	a188_x	
Main Controller Fault	bit11	a191_x	
Fuse Failure	bit12	a192_x	
System Controller Error	bit13	a193_x	
System Breaker(s) Open Failure	bit14	a194_x	
System Breaker(s) Close Failure	bit15	a195_x	
<b>Alarm 5 (Word)</b>	40293		
Input Filter Cycle Lock	bit0	a196_x	
EMO Shutdown	bit1	a197_x	
Service Code Active	bit2	a198_x	
Leading Power Factor	bit3	a203_x	
Controls Reset Required	bit4	a204_x	
Power Tie Active	bit5	a207_x	
kWh Reset	bit6	a208_x	
Peak kW Reset	bit7	a209_x	
Parallel Comm Warning	bit8	a210_x	
System Comm Fail	bit9	a211_x	



**Table 7.10 Available Points: Vertiv™ Liebert® NXL Multi-Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Module In Standby (Intelligent Para)	bit10	a220_x	
ECO Mode Active	bit11	a221_x	
ECO Mode Suspended	bit12	a222_x	
ECO Mode Excessive Suspends	bit13	a223_x	
Service Required	bit14	a224_x	
Loss Of Comm	bit15	a701_x	

## 7.11 Vertiv™ Liebert® NXL 1+N (One Redundant Module + N)

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NXL 1+N
Controller Firmware:	UPS Unit NXL 1+N (One Redundant Module + N) (FDM Version: <2300) PA Firmware: <4.4
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-nxl_1_n

**Table 7.11 Available Points:Vertiv™ Liebert® NXL 1+N (One Redundant Module + N)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Maintenance Bypass Breaker (MBB)	40001	bs1_x	1=Open 2=Closed 3=Not Installed Modbus - bits0-1
Maintenance Isolation Breaker (MIB)	40001	bs2_x	1=Open 2=Closed 3=Not Installed Modbus - bits2-3
System Output Volts A-B	40002	bs3_x	
System Output Volts B-C	40003	bs4_x	
System Output Volts C-A	40004	bs5_x	
Output Volts A-N	40005	bs6_x	
Output Volts B-N	40006	bs7_x	
Output Volts C-N	40007	bs8_x	
Output Current A	40008	bs9_x	
Output Current B	40009	bs10_x	
Output Current C	40010	bs11_x	
Output Frequency	40011	bs12_x	Scale *.10 (Modbus Only)
Output Power kW	40012	bs13_x	
Output Power kVA	40013	bs14_x	
Number Of Redundant Modules	40014	bs24_x	
Number Of System Modules	40015	bs26_x	
Not used	40016	-	
MMS Output Pct Power Phase A	40017	bs18_x	
MMS Output Pct Power Phase B	40018	bs19_x	
MMS Output Pct Power Phase C	40019	bs20_x	
MMS Output % kVA Phase A	40020	bs21_x	

**Table 7.11 Available Points:Vertiv™ Liebert® NXL 1+N (One Redundant Module + N) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
MMS Output % kVA Phase B	40021	bs22_x	
Module Output Breaker #1	40023	bs27_x	1=Open 2=Closed 3=Not Installed Modbus - bits0-1
Module Output Breaker #2	40023	bs28_x	1=Open 2=Closed 3=Not Installed Modbus - bits2-3
Module Output Breaker #3	40023	bs29_x	1=Open 2=Closed 3=Not Installed Modbus - bits4-5
Module Output Breaker #4	40023	bs30_x	1=Open 2=Closed 3=Not Installed Modbus - bits6-7
Module Output Breaker #5	40023	bs31_x	1=Open 2=Closed 3=Not Installed Modbus - bits8-9
Module Output Breaker #6	40023	bs32_x	1=Open 2=Closed 3=Not Installed Modbus - bits10-11
Module Output Breaker #7	40023	bs33_x	1=Open 2=Closed 3=Not Installed Modbus - bits12-13
Module Output Breaker #8	40023	bs34_x	1=Open 2=Closed 3=Not Installed Modbus - bits14-15
Bypass Isolation Breaker Module #1	40024	bs35_x	1=Open 2=Closed 3=Not Installed Modbus - bits0-1

**Table 7.11 Available Points:Vertiv™ Liebert® NXL 1+N (One Redundant Module + N) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Bypass Isolation Breaker Module #2	40024	bs36_x	1=Open 2=Closed 3=Not Installed Modbus - bits2-3
MMS Output % kVA Phase C	40022	bs23_x	
Bypass Isolation Breaker Module #3	40024	bs37_x	1=Open 2=Closed 3=Not Installed Modbus - bits4-5
Bypass Isolation Breaker Module #4	40024	bs38_x	1=Open 2=Closed 3=Not Installed Modbus - bits6-7
Bypass Isolation Breaker Module #5	40024	bs39_x	1=Open 2=Closed 3=Not Installed Modbus - bits8-9
Bypass Isolation Breaker Module #6	40024	bs40_x	1=Open 2=Closed 3=Not Installed Modbus - bits10-11
Bypass Isolation Breaker Module #7	40024	bs41_x	1=Open 2=Closed 3=Not Installed Modbus - bits12-13
Bypass Isolation Breaker Module #8	40024	bs42_x	1=Open 2=Closed 3=Not Installed Modbus - bits14-15
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Parallel Comms Warning	bit0	ba01_x	
System Comms. Fail	bit1	ba02_x	
Loss Of Redundancy	bit2	ba03_x	
Bypass Static Switch Startup Inhibit	bit3	ba04_x	
MMS Transfer Inhibit	bit4	ba05_x	

**Table 7.11 Available Points:Vertiv™ Liebert® NXL 1+N (One Redundant Module + N) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
MMS Re-Transfer Inhibit	bit5	ba06_x	
MMS Loss of Sync Pulse	bit6	ba07_x	
UPS On Battery	bit7	ba08_x	
Low Battery	bit8	ba09_x	
MMS Power Sharing	bit9	ba10_x	
Common Alarm	bit15	stat_x	

## 7.12 Vertiv™ Liebert® NXL 1+N (One Redundant Module + N) v2300

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NXL 1+N
Controller Firmware:	UPS Unit NXL 1+N (One Redundant Module + N) v2300 (FDM Version: 2300>) Firmware: 4.4>
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-nxl_sys_v2300

**Table 7.12 Available Points: Vertiv™ Liebert® NXL 1+N (One Redundant Module + N) v2300**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Maintenance Bypass Breaker (MBB)	40001	bs1_x	1=Open 2=Closed 3=Not Installed
Maintenance Isolation Breaker (MIB)	40002	bs2_x	1=Open 2=Closed 3=Not Installed
System Output Volts A-B	40003	bs3_x	
System Output Volts B-C	40004	bs4_x	
System Output Volts C-A	40005	bs5_x	
Output Volts A-N	40006	bs6_x	
Output Volts B-N	40007	bs7_x	
Output Volts C-N	40008	bs8_x	
Output Current A	40009	bs9_x	
Output Current B	40010	bs10_x	
Output Current C	40011	bs11_x	
Output Frequency	40012	bs12_x	Scale *.10 (Modbus Only)
Output Power kW	40013	bs13_x	
Output Power kVA	40014	bs14_x	
Number Of Redundant Modules	40015	bs15_x	
Number Of System Modules	40016	bs16_x	
Output Sourc	40017	bs17_x	1=other 2=off 3=normal 4=bypass 5=battery
System Output % Power Phase A	40018	bs18_x	
System Output % Power Phase B	40019	bs19_x	

**Table 7.12 Available Points: Vertiv™ Liebert® NXL 1+N (One Redundant Module + N) v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Output % Power Phase C	40020	bs20_x	
System Output % kVA Phase A	40021	bs21_x	
System Output % kVA Phase B	40022	bs22_x	
System Output % kVA Phase C	40023	bs23_x	
Output Voltage Stat Module 1	-	bs218-1_x	1=Fail 2=Marginal Low 3=Normal 4=Marginal High
Output Voltage Stat Module 2	-	bs218-2_x	
Output Voltage Stat Module 3	-	bs218-3_x	
Output Voltage Stat Module 4	-	bs218-4_x	
Output Voltage Stat Module 5	-	bs218-5_x	
Output Voltage Stat Module 6	-	bs218-6_x	
Output Voltage Stat Module 7	-	bs218-7_x	
Output Voltage Stat Module 8	-	bs218-8_x	
Output Source Module 1	-	bs219-1_x	1=Off 2=Normal 3=Bypass 4=Maintenance Bypass
Output Source Module 2	-	bs219-2_x	
Output Source Module 3	-	bs219-3_x	
Output Source Module 4	-	bs219-4_x	
Output Source Module 5	-	bs219-5_x	
Output Source Module 6	-	bs219-6_x	
Output Source Module 7	-	bs219-7_x	
Output Source Module 8	-	bs219-8_x	
Intelligent Parallel Operation State	-	bs225_x	0=disabled 1=enabled
Intelligent Parallel Mode	-	bs226_x	
ECO Mode Operation State	-	bs230_x	
ECO Mode – Continuous Operation	-	bs231_x	
Module Output Breakers Points	40024		
MOB #1	bit0	bs193_x	
MOB #2	bit1	bs194_x	
MOB #3	bit2	bs195_x	

**Table 7.12 Available Points: Vertiv™ Liebert® NXL 1+N (One Redundant Module + N) v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
MOB #4	bit3	bs196_x	
MOB #5	bit4	bs197_x	
MOB #6	bit5	bs198_x	
MOB #7	bit6	bs199_x	
MOB #8	bit7	bs200_x	
<b>Alarm 1 (Word)</b>	40289		
Parallel Comms Warning	bit0	a210_x	
System Comms. Fail	bit1	a211_x	
Loss Of Redundancy	bit2	a212_x	
Transfer Inhibit	bit3	a213_x	
Re-Transfer Inhibit	bit4	a214_x	
UPS On Battery	bit5	a216_x	
Low Battery	bit6	a217_x	
Intelligent Parallel Module Standby	bit7	a220_x	
ECO Mode Active	bit8	a221_x	
ECO Mode Suspended	bit9	a222_x	
Excess ECO Suspends	bit10	a223_x	
Loss Of Comm	bit11	a701_x	



## 7.13 Vertiv™ Liebert® NXL System Control Cab

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NXL
Controller Firmware:	UPS Unit NXL System Control Cab (FDM Version: <2300) Firmware: <4.4
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-nxl_scc

**Table 7.13 Available Points: Vertiv™ Liebert® NXL System Control Cab**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Bypass Volts A-B	40001	bs01_x	
Bypass Volts B-C	40002	bs02_x	
Bypass Volts C-A	40003	bs03_x	
Bypass Frequency	40004	bs04_x	Scale *.10 (Modbus Only)
Byp. SS Overload Time Remain	40005	bs05_x	
Bypass Qualification Status	40006	bs06_x	1=Fail 2=Marginal Low 3=Normal 4=Marginal High
Output Source	40007	bs07_x	1=Off 2=Normal 3=Bypass 4=Maint. Bypass
System Status	40008	bs08_x	1=Normal 2=Startup 3=Normal+Warning 4=Normal+Alarm 5=Abnormal Op
System Output Volts A-B	40009	bs09_x	
System Output Volts B-C	40010	bs10_x	
System Output Volts C-A	40011	bs11_x	
Output Volts A-N	40012	bs12_x	
Output Volts B-N	40013	bs13_x	
Output Volts C-N	40014	bs14_x	
Output Current A	40015	bs15_x	
Output Current B	40016	bs16_x	
Output Current C	40017	bs17_x	

**Table 7.13 Available Points: Vertiv™ Liebert® NXL System Control Cab (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Frequency	40018	bs18_x	Scale *.10 (Modbus Only)
Output Power kW	40019	bs19_x	
Output Power kVA	40020	bs20_x	
Output Power Factor Phase A	40021	bs21_x	
Output Power Factor Phase B	40022	bs22_x	
Output Power Factor Phase C	40023	bs23_x	
Number Of Redundant Modules	-	bs24_x	
Bypass Sync Phase Difference	-	g105_x	
Static Bypass Switch	-	g121_x	1=Off 2=On
Bypass Re-xfer Time Remaining	-	g123_x	
Back Feed Breaker	-	g141_0_x	
Internal Bypass Breaker (CB3)	-	g141_10_x	
Maint. Bypass Breaker (MBB)	-	g142_4_x	
Maint. Isolation Breaker (MIB)	-	g142_6_x	
System Output Breaker	-	g15101_0_x	1=Open 2=Closed 3=Not Installed
Load Bank Breaker	-	g15101_2_x	
Isolation Output Breaker	-	g15101_4_x	
Module Number	-	g1529_x	
Number Of System Modules	-	g1596_x	
Inter-Module Comms Status	-	g1601_x	
Multi-Module Event Summary	-	g1602_x	
Output Voltage Stat Module 1	-	g1604-1_x	
Output Voltage Stat Module 2	-	g1604-2_x	
Output Voltage Stat Module 3	-	g1604-3_x	1=Fail
Output Voltage Stat Module 4	-	g1604-4_x	2=Marginal Low
Output Voltage Stat Module 5	-	g1604-5_x	3=Normal
Output Voltage Stat Module 6	-	g1604-6_x	4=Marginal High
Output Voltage Stat Module 7	-	g1604-7_x	
Output Voltage Stat Module 8	-	g1604-8_x	
Module Inverter Status	-	g1603_x	
Module Total kW Output	-	g1606_x	

**Table 7.13 Available Points: Vertiv™ Liebert® NXL System Control Cab (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Module Total kVA Output	-	g1607_x	
Module DC Bus Voltage	-	g1608_x	
Module Battery Current	-	g1609_x	
Module Batt. Time Remaining	-	g1610_x	
Output Source Module 1	-	g1605-1_x	1=Off 2=Normal 3=Bypass 4=Maintenance Bypass
Output Source Module 2	-	g1605-2_x	
Output Source Module 3	-	g1605-3_x	
Output Source Module 4	-	g1605-4_x	
Output Source Module 5	-	g1605-5_x	
Output Source Module 6	-	g1605-6_x	
Output Source Module 7	-	g1605-7_x	
Output Source Module 8	-	g1605-8_x	
Total System Operating (Hrs)	-	g702_x	
Module Output Breakers Points	40024		1=Open 2=Closed 3=Not Installed
Module Output Breaker #1	bit0	g1599_0_x	
Module Output Breaker #2	bit1	g1599_2_x	
Module Output Breaker #3	bit2	g1599_4_x	
Module Output Breaker #4	bit3	g1599_6_x	
Module Output Breaker #5	bit4	g1599_8_x	
Module Output Breaker #6	bit5	g1599_10_x	
Module Output Breaker #7	bit6	g1599_12_x	
Module Output Breaker #8	bit7	g1599_14_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Bypass Not available	bit0	a107_x	
Bypass Overload Phase A	bit1	a108_x	
Bypass Overload Phase B	bit2	a109_x	
Bypass Overload Phase C	bit3	a110_x	
Bypass Auto Retransfer Fail	bit4	a111_x	
Byp - Excess Auto Retransfers	bit5	a112_x	
Bypass Static Switch Overload	bit6	a113_x	
Byp. Static Switch Unavailable	bit7	a114_x	
Bypass Excessive Pulse Parallel	bit8	a115_x	

**Table 7.13 Available Points: Vertiv™ Liebert® NXL System Control Cab (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Bypass Auto Transfer Failed	bit9	a116_x	
Bypass Frequency Error	bit10	a117_x	
Byp. - Manual Xfr Inhibited	bit11	a118_x	
Byp. - Manual Rexfr Inhibited	bit12	a119_x	
Byp. Static Switch External Off	bit13	a120_x	
Equipment Temp Sensor Fail	bit14	a711_x	
Equipment Overtemperature	bit15	a712_x	
<b>Alarm 2 (Word)</b>	40290		
Input Contact 01	bit0	a901_x	
Input Contact 02	bit1	a902_x	
Input Contact 03	bit2	a903_x	
Input Contact 04	bit3	a904_x	
Input Contact 05	bit4	a905_x	
Input Contact 06	bit5	a906_x	
Input Contact 07	bit6	a907_x	
Input Contact 08	bit7	a908_x	
Input Contact 09	bit8	a909_x	
Input Contact 10	bit9	a910_x	
Input Contact 11	bit10	a911_x	
Input Contact 12	bit11	a912_x	
Input Contact 13	bit12	a913_x	
Input Contact 14	bit13	a914_x	
Input Contact 15	bit14	a915_x	
Input Contact 16	bit15	a916_x	
<b>Alarm 3 (Word)</b>	40291		
Redundant Fan Failure	bit0	ab02_x	
Multiple Fan Failure	bit1	ab04_x	
Internal Comms Fail	bit2	ab09_x	
Load On Bypass	bit3	ab10_x	
Load On Maintenance Bypass	bit4	ab11_x	
Backfeed Breaker Open	bit5	ab12_x	
Auto-Restart In Progress	bit6	ab13_x	
Power Supply Failure	bit7	ab15_x	
Auto-Restart External Inhibit	bit8	ab17_x	

**Table 7.13 Available Points: Vertiv™ Liebert® NXL System Control Cab (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Auto-Restart Failure	bit9	ab18_x	
Fuse Failure	bit10	ab20_x	
System Controller Error	bit11	ab21_x	
System Breaker(s) Open Failure	bit12	ab22_x	
System Breaker(s) Close Failure	bit13	ab23_x	
Emergency Module Off	bit14	ab25_x	
Load Bus Sync Active	bit15	ab27_x	
<b>Alarm 4 (Word)</b>	40292		
Load Bus Sync Inhibited	bit0	ab28_x	
Regeneration Active	bit1	ab29_x	
Regeneration Terminated	bit2	ab30_x	
Regeneration Failure	bit3	ab31_x	
Controls Reset Required	bit4	ab33_x	
Parallel Comms Warning	bit5	a1523_x	
System Comms. Fail	bit6	a1524_x	
Loss Of Redundancy	bit7	a1525_x	
Byp. Static Sw. Startup Inhibit	bit8	a1526_x	
MMS Transfer Inhibit	bit9	a1527_x	
MMS Re-Transfer Inhibit	bit10	a1528_x	
Loss Of Sync Pulse	bit11	a1530_x	
MMS Overload	bit12	a1531_x	
UPS On Battery	bit13	a1597_x	
Low Battery	bit14	a1598_x	
Loss Of Comm	bit15	a701_x	
<b>Alarm 5 (Word)</b>	40293		
Common Alarm	bit0	stat_x	
Module Alarm Active	bit1	a15105_x	

## 7.14 Vertiv™ Liebert® NXL System Control Cab v2300

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NXL
Controller Firmware:	UPS Unit NXL System Control Cab v2300 (FDM Version: 2300>) Firmware: 4.4>
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-nxl_scc_v2300

**Table 7.14 Available Points: Vertiv™ Liebert® NXL System Control Cab v2300**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Bypass Volts A-B	40001	bs01_x	
Bypass Volts B-C	40002	bs02_x	
Bypass Volts C-A	40003	bs03_x	
Bypass Frequency	40004	bs04_x	Scale *.10 (Modbus Only)
Byp. SS Overload Time Remain	40005	bs05_x	
Bypass Qualification Status	40006	bs06_x	1=Fail 2=Marginal Low 3=Normal 4=Marginal High
System Output Source	40007	bs07_x	1=other 2=off 3=normal 4=bypass 5=batt 6=boost 7=reducer
System Status	40008	bs08_x	1=Normal 2=Start 3=1+Warning 4=1+Alarm, 5=Abnormal
System Output Volts A-B	40009	bs09_x	
System Output Volts B-C	40010	bs10_x	
System Output Volts C-A	40011	bs11_x	
Output Volts A-N	40012	bs12_x	
Output Volts B-N	40013	bs13_x	
Output Volts C-N	40014	bs14_x	
Output Current A	40015	bs15_x	

**Table 7.14 Available Points: Vertiv™ Liebert® NXL System Control Cab v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Current B	40016	bs16_x	
Output Current C	40017	bs17_x	
Output Frequency	40018	bs18_x	Scale *.10 (Modbus Only)
Output Power kW	40019	bs19_x	
Output Power kVA	40020	bs20_x	
Output Power Factor Phase A	40021	bs21_x	
Output Power Factor Phase B	40022	bs22_x	
Output Power Factor Phase C	40023	bs23_x	
Module Output Breakers:	40024		
MOB #1	bit0	bs193_x	BACnet; 1=open,2-closed,3-not installed Modbus; bit hi=closed
MOB #2	bit1	bs194_x	
MOB #3	bit2	bs195_x	
MOB #4	bit3	bs196_x	
MOB #5	bit4	bs197_x	
MOB #6	bit5	bs198_x	
MOB #7	bit6	bs199_x	
MOB #8	bit7	bs200_x	
Bypass Sync Phase Difference	-	bs102_x	
Static Bypass Switch	-	bs104_x	1=Off 2=On
Bypass Re-xfer Time Remaining	-	bs106_x	
Inlet Air Temp	-	bs148_x	
Total System Operating Time	-	bs149_x	
Total kW Hours Saved	-	bs150_x	
System Input Source	-	bs153_x	1=None 2=Mains 3=generator
Back Feed Breaker	-	bs161_x	
Internal Bypass Breaker (CB3)	-	bs235_x	
Maint. Bypass Breaker (MBB)	-	bs167_x	1=Open 2=Closed
Maint. Isolation Breaker (MIB)	-	bs168_x	3=Not Installed
Module Output Breaker (MOB)	-	bs169_x	

**Table 7.14 Available Points: Vertiv™ Liebert® NXL System Control Cab v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Module 1 Output Breaker	-	bs193_x	1=Open 2=Closed 3=Not Installed
Module 2 Output Breaker	-	bs194_x	
Module 3 Output Breaker	-	bs195_x	
Module 4 Output Breaker	-	bs196_x	
Module 5 Output Breaker	-	bs197_x	
Module 6 Output Breaker	-	bs198_x	
Module 7 Output Breaker	-	bs199_x	
Module 8 Output Breaker	-	bs200_x	
System Output Breaker (UOB)	-	bs209_x	
System Load Bank Breaker (LBB)	-	bs210_x	
System Isolation Breaker (IOB)	-	bs211_x	3=Not Installed
Output % kW Phase A	-	bs185_x	
Output % kW Phase B	-	bs186_x	
Output % kW Phase C	-	bs187_x	
Output % kVA Phase A	-	bs188_x	
Output % kVA Phase B	-	bs189_x	
Output % kVA Phase C	-	bs190_x	
Number Of Redundant Modules	-	bs191_x	
Number Of System Modules	-	bs192_x	
SCC Event Summary	-	bs212_x	1=None 2=Alarm 3=Fault
Output Voltage Stat Module 1	-	bs218-1_x	1=Fail 2=Marginal Low 3=Normal 4=Marginal High
Output Voltage Stat Module 2	-	bs218-2_x	
Output Voltage Stat Module 3	-	bs218-3_x	
Output Voltage Stat Module 4	-	bs218-4_x	
Output Voltage Stat Module 5	-	bs218-5_x	
Output Voltage Stat Module 6	-	bs218-6_x	
Output Voltage Stat Module 7	-	bs218-7_x	
Output Voltage Stat Module 8	-	bs218-8_x	



**Table 7.14 Available Points: Vertiv™ Liebert® NXL System Control Cab v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Source Module 1	-	bs219-1_x	1=Off 2=Normal 3=Bypass 4=Maintenance Bypass  0=disabled, 1=enabled
Output Source Module 2	-	bs219-2_x	
Output Source Module 3	-	bs219-3_x	
Output Source Module 4	-	bs219-4_x	
Output Source Module 5	-	bs219-5_x	
Output Source Module 6	-	bs219-6_x	
Output Source Module 7	-	bs219-7_x	
Output Source Module 8	-	bs219-8_x	
Intelligent Parallel Operation State	-	bs225_x	
Intelligent Parallel Mode	-	bs226_x	
ECO Mode Operation State	-	bs230_x	
ECO Mode – Continuous Operation	-	bs231_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Bypass Not available	bit0	a105_x	
Bypass Overload Phase A	bit1	a106_x	
Bypass Overload Phase B	bit2	a107_x	
Bypass Overload Phase C	bit3	a108_x	
Bypass Auto Retransfer Fail	bit4	a109_x	
Byp - Excess Auto Retransfers	bit5	a110_x	
Bypass Static Switch Overload	bit6	a111_x	
Byp. Static Switch Unavailable	bit7	a112_x	
Bypass Excessive Pulse Parallel	bit8	a113_x	
Bypass Auto Transfer Failed	bit9	a114_x	
Bypass Frequency Error	bit10	a115_x	
Byp. - Manual ReXfr Inhibited	bit11	a116_x	
Byp. - Manual Xxfr Inhibited	bit12	a117_x	
Equipment Temp Sensor Fail	bit13	a161_x	
Equipment Overtemperature	bit14	a162_x	
Not used	bit15	-	
<b>Alarm 2 (Word)</b>	40290		
Input Contact 01	bit0	a163_x	
Input Contact 02	bit1	a164_x	
Input Contact 03	bit2	a165_x	

**Table 7.14 Available Points: Vertiv™ Liebert® NXL System Control Cab v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input Contact 04	bit3	a166_x	
Input Contact 05	bit4	a167_x	
Input Contact 06	bit5	a168_x	
Input Contact 07	bit6	a169_x	
Input Contact 08	bit7	a170_x	
Input Contact 09	bit8	a171_x	
Input Contact 10	bit9	a172_x	
Input Contact 11	bit10	a173_x	
Input Contact 12	bit11	a174_x	
Input Contact 13	bit12	a175_x	
Input Contact 14	bit13	a176_x	
Input Contact 15	bit14	a177_x	
Input Contact 16	bit15	a178_x	
<b>Alarm 3 (Word)</b>	40291		
Redundant Fan Failure	bit0	a180_x	
Multiple Fan Failure	bit1	a181_x	
Internal Comms Fail	bit2	a182_x	
Load On Bypass	bit3	a183_x	
Load On Maintenance Bypass	bit4	a184_x	
Backfeed Breaker Open	bit5	a185_x	
Fuse Failure	bit6	a192_x	
System Breaker(s) Open Failure	bit7	a194_x	
System Breaker(s) Close Failure	bit8	a195_x	
Emergency Module Off (EMO Shutdn)	bit9	a197_x	
LBS Inhibited	bit10	a199_x	
Controls Reset Required	bit11	a204_x	
LBS Active – Master	bit12	a205_x	
LBS Active – Slave	bit13	a206_x	
Continuous Power Tie Active	bit14	a207_x	
User kWh Reset	bit15	a208_x	
<b>Alarm 4 (Word)</b>	40292		
Peak kW Reset	bit0	a209_x	
Parallel Comm Warning	bit1	a210_x	
System Comm Fail	bit2	a211_x	

**Table 7.14 Available Points: Vertiv™ Liebert® NXL System Control Cab v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Loss of Redundancy	bit3	a212_x	
MMS Transfer Inhibit	bit4	a213_x	
MMS Retransfer Inhibit	bit5	a214_x	
MMS Overload	bit6	a215_x	
MMS On Battery	bit7	a216_x	
MMS Low Battery Warning	bit8	a217_x	
MMS Module Alarm Active	bit9	a218_x	
MMS Sharing Calibration Active	bit10	a219_x	
ECO Mode Active	bit11	a221_x	
ECO Mode Suspended	bit12	a222_x	
Excess ECO Suspends	bit13	a223_x	
Service Required	bit14	a224_x	
Loss Of Comms.	bit15	a701_x	

## 7.15 Vertiv™ Liebert® NXL Single Module System

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NXL
Controller Firmware:	UPS Unit NXL Single Module System (FDM Version: <2300) Firmware: <4.4
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-nxl_sms

**Table 7.15 Available Points: Vertiv™ Liebert® NXL Single Module System**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Input RMS A-B	40001	bs01_x	
Input RMS B-C	40002	bs02_x	
Input RMS C-A	40003	bs03_x	
Input RMS Current Phase A	40004	bs04_x	
Input RMS Current Phase B	40005	bs05_x	
Input RMS Current Phase C	40006	bs06_x	
Input Frequency	40007	bs07_x	Scale *.10 (Modbus Only)
Battery Time Remaining	40008	bs08_x	
Output Voltage RMS A-B	40009	bs09_x	
Output Voltage RMS B-C	40010	bs10_x	
Output Voltage RMS C-A	40011	bs11_x	
Output RMS Current Phs A	40012	bs12_x	
Output RMS Current Phs B	40013	bs13_x	
Output RMS Current Phs C	40014	bs14_x	
Output Frequency	40015	bs15_x	Scale *.10 (Modbus Only)
Output Power kW	40016	bs16_x	
Output Power kVA	40017	bs17_x	
Output Capacity Phase A %vA	40018	bs18_x	
Output Capacity Phase B %vA	40019	bs19_x	
Output Capacity Phase C %vA	40020	bs20_x	
Bypass Volts A-B	40021	bs21_x	
Bypass Volts B-C	40022	bs22_x	
Bypass Volts C-A	40023	bs23_x	
Bypass Frequency	40024	bs24_x	

**Table 7.15 Available Points: Vertiv™ Liebert® NXL Single Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input Qualification	-	g012_x	1=Failed 2=Marginal Low 3=Normal 4=Marginal High
Byp Overload Time Remaining	-	g106_x	
Static Bypass Switch	-	g121_x	1=Off 2=On
Bypass Qualification	-	g122_x	1=Failed 2=Marginal Low 3=Normal 4=Marginal High
Byp Retransfer Time Remaining	-	g123_x	
Backfeed Breaker	-	g141_0_x	
Internal Bypass Breaker (CB3)	-	g141_10_x	
SBS Load Disconnect	-	g141_2_x	
Input Breaker (CB1)	-	g141_4_x	
Trap Filter Disconnect	-	g141_6_x	
Output Breaker (CB2)	-	g141_8_x	1=Open 2=Closed
Bypass Isolation Breaker (BIB)	-	g142_0_x	3=Not Installed
Module Output Breaker (MOB)	-	g142_10_x	
Rectifier Isolation Breaker (RIB)	-	g142_2_x	
Maint. Bypass Breaker (MBB)	-	g142_4_x	
Maint. Isolation Breaker (MIB)	-	g142_6_x	
Output Series Static Switch	-	g142_8_x	
Battery Total Discharge Time	-	g201_x	
Battery Charge %	-	g202_x	
Battery Volts - Main Disconnect	-	g203_x	
Battery Volts for Cabinet #1	-	g204_x	
Battery Volts for Cabinet #2	-	g205_x	
Battery Volts for Cabinet #3	-	g206_x	
Battery Volts for Cabinet #4	-	g207_x	
Battery Volts for Cabinet #5	-	g208_x	
Battery Volts for Cabinet #6	-	g209_x	
Battery Volts for Cabinet #7	-	g210_x	

**Table 7.15 Available Points: Vertiv™ Liebert® NXL Single Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Volts for Cabinet #8	-	g211_x	
Battery Temp for Cabinet #1	-	g212_x	
Battery Temp for Cabinet #2	-	g213_x	
Battery Temp for Cabinet #3	-	g214_x	
Battery Temp for Cabinet #4	-	g215_x	
Battery Temp for Cabinet #5	-	g216_x	
Battery Temp for Cabinet #6	-	g217_x	
Battery Temp for Cabinet #7	-	g218_x	
Battery Temp for Cabinet #8	-	g219_x	
Battery Ah Used This Discharge	-	g220_x	
Battery Discharge Time	-	g222_x	
Battery Discharge -Watts	-	g223_x	
Battery Discharge Date	-	g224_x	
Battery Commission Date	-	g226_x	
Battery Amp Hrs Consumed	-	g256_x	
DC Bus Voltage	-	g301_x	
DC Bus Current	-	g302_x	
DC Bus Qualification	-	g305_x	1=Failed 2=Marginal Low 3=Normal 4=Marginal High
Output Voltage RMS A-N	-	g404_x	
Output Voltage RMS B-N	-	g405_x	
Output Voltage RMS C-N	-	g406_x	
Output Power Factor Phase A	-	g413_x	
Output Power Factor Phase B	-	g414_x	
Output Power Factor Phase C	-	g415_x	
Output Capacity Phase A %	-	g416_x	
Output Capacity Phase B %	-	g417_x	
Output Capacity Phase C %	-	g418_x	
Output Qualification	-	g430_x	1=Failed 2=Marginal Low 3=Normal 4=Marginal High
Inverter Overload Time	-	g501_x	

**Table 7.15 Available Points: Vertiv™ Liebert® NXL Single Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remaining			
Inverter Qualification	-	g510_x	
Inverter On/Off	-	g511_x	1=Off 2=On
Inlet Air Temperature	-	g701_x	
Total Operating Time (Hrs)	-	g702_x	
Rectifier On/Off	-	ga04_x	1=Off 2=On
Output Source	-	gb08_x	1=Off 2=Normal 3=Bypass 4=Maint. Bypass
Input Source	-	gb14_x	1=None 2=Utility(mains) 3=Generator
System Status	-	gb34_x	1=Normal 2=Startup 3=Normal+Warning 4=Normal+Alarm 5=Abnormal Op 6=Getting Stat..
ECO State	-	bs191_x	
ECO Mode Operation State	-	bs192_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Input Power Problem	bit0	a008_x	
Input Phase Rotation Error	Note 1	a009_x	Note 1 – Read as common “Input Power Problem” alarm on bit0
Input Current Limit	Note 1	a010_x	
Input Current Imbalance	Note 1	a011_x	
Excessive Current THD	Note 1	a013_x	
Battery Charging Error	bit1	a228_x	
Battery Auto Test Inhibited	Note 2	a229_x	Note 2 - Read on Common Alarm bit
Battery Charging Reduced	Note 3	a230_x	Note 3 – Read as common “Battery Charging Problem” alarm on bit1
Battery Capacity Low	bit2	a231_x	
Battery Discharging	bit3	a232_x	

**Table 7.15 Available Points: Vertiv™ Liebert® NXL Single Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Temp Imbalance	bit6	a233_x	
Battery Equalize	Note 2	a234_x	
Battery Self Test	Note 2	a235_x	
Battery Main Disconnect Open	bit4	a236_x	
Battery Temp Sensor Fault	Note 4	a238_x	
Battery Charging Inhibit	Note 3	a239_x	
Battery Circuit Breaker 1 Open	Note 5	a240_x	Note 5 – Read as common “Battery Disconnected” alarm on bit4
Battery Circuit Breaker 2 Open	Note 5	a241_x	
Battery Circuit Breaker 3 Open	Note 5	a242_x	
Battery Circuit Breaker 4 Open	Note 5	a243_x	
Battery Circuit Breaker 5 Open	Note 5	a244_x	
Battery Circuit Breaker 6 Open	Note 5	a245_x	
Battery Circuit Breaker 7 Open	Note 5	a246_x	
Battery Circuit Breaker 8 Open	Note 5	a247_x	
Battery Overtemperature	Note 4	a248_x	Note 4 – Read as common “Battery Temperature” alarm on bit6
Battery External Monitor 1	Note 2	a249_x	
Battery External Monitor 2	Note 2	a250_x	
Battery Ground Fault	bit7	a251_x	
Battery Overtemp Limit	Note 4	a252_x	
Battery Low Shutdown	bit8	a253_x	
Battery Over Temp	Note 4	a254_x	
Battery Test Failed	bit9	a255_x	
DC Bus Ground Fault - Positive	bit10	a303_x	
DC Bus Ground Fault - Negative	Note 6	-	Note 6 – Read as common “DC Bus Ground Fault” alarm on bit10
EPO Shutdown	bit11	a422_x	
REPO Shutdown	bit12	a423_x	
System Output Off	bit13	a424_x	
Output Low Power Factor	bit14	a425_x	
Output Overcurrent Phase A	bit15	a426_x	
<b>Alarm 2 (Word)</b>	40290		
Output Overcurrent Phase B	bit0	a427_x	
Output Overcurrent Phase C	bit1	a428_x	
System Output Fault	bit2	a429_x	
Output Over/Under Freq.	Note 12	a431_x	Note 12 – Read as common “Output Power Problem” alarm on bit2



**Table 7.15 Available Points: Vertiv™ Liebert® NXL Single Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Inverter Failure	bit3	a502_x	
Inverter Overload Phase A	bit4	a503_x	
Inverter Overload Phase B	bit5	a504_x	
Inverter Overload Phase C	bit6	a505_x	
Inverter External Inhibit	bit7	a506_x	
Inverter Overload Shutdown	bit8	a507_x	
Inverter External Off	bit9	a508_x	
Inverter Static Sw SCR Shorted	bit10	a509_x	
Inlet Overtemperature	bit11	a706_x	
Equipment Overtemp Warning	bit12	a707_x	
Equipment Overtemp Limit	bit13	a708_x	
Outlet Overtemperature Limit	bit14	a709_x	
Unused	bit15	-	
<b>Alarm 3 (Word)</b>	40291		
Equipment Temp Sensor Fail	bit0	a711_x	
Equipment Overtemperature	bit1	a712_x	
Input Contact 01	bit2	a901_x	
Input Contact 02	bit3	a902_x	
Input Contact 03	bit4	a903_x	
Input Contact 04	bit5	a904_x	
Input Contact 05	bit6	a905_x	
Input Contact 06	bit7	a906_x	
Input Contact 07	bit8	a907_x	
Input Contact 08	bit9	a908_x	
Input Contact 09	bit10	a909_x	
Input Contact 10	bit11	a910_x	
Input Contact 11	bit12	a911_x	
Input Contact 12	bit13	a912_x	
Input Contact 13	bit14	a913_x	
Input Contact 14	bit15	a914_x	
<b>Alarm 4 (Word)</b>	40292		
Input Contact 15	bit0	a915_x	
Input Contact 16	bit1	a916_x	
Rectifier Failure	bit2	aa02_x	

**Table 7.15 Available Points: Vertiv™ Liebert® NXL Single Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Rectifier Operation Inhibit-Ext	bit3	aa03_x	
Redundant Fan Failure	bit4	ab02_x	
Multiple Fan Failure	Note 7	ab04_x	Note 7 – Read as common “Fan Failure” alarm on bit4
Internal Comms Fail	bit5	ab09_x	
Load On Bypass	bit6	ab10_x	
Load On Maintenance Bypass	Note 8	ab11_x	Note 8 – Read as common “On Bypass” alarm on bit6
Backfeed Breaker Open	bit7	ab12_x	
Auto-Restart In Progress	Note 2	ab13_x	
Power Supply Failure	Note 2	ab15_x	
On Generator	bit8	ab16_x	
Auto-Restart External Inhibit	bit9	ab17_x	
Auto-Restart Failure	bit10	ab18_x	
Main Controller Fault	bit11	ab19_x	
Fuse Failure	bit12	ab20_x	
System Controller Error	Note 9	ab21_x	Note 9 – Read as common “Controls Problem” alarm on bit11
System Breaker(s) Open Failure	bit13	ab22_x	
System Breaker(s) Close Failure	Note 10	ab23_x	Note 10 – Read as common “Breaker Open/Close Problem” alarm on bit13
Input Filter Cycle Lock	Note 2	ab24_x	
EMO Shutdown	bit14	ab25_x	
Service Code Active	Note 2	ab26_x	
Load Bus Sync Active	bit15	ab27_x	
<b>Alarm 5 (Word)</b>	40293		
Load Bus Sync Inhibited	bit0	ab28_x	
Regeneration Active	bit1	ab29_x	
Regeneration Terminated	Note 11	ab30_x	Note 11 – Read as common “Regeneration Problem” alarm on bit1
Regeneration Failure	Note 11	ab31_x	
Leading Power Factor	Note 2	ab32_x	
Controls Reset Required	Note 9	ab33_x	
Loss Of Comm	bit2	a701_x	Note 2 - Read on Common Alarm bit
Common Alarm	bit3	stat_x	
Bypass Not available	bit4	a107_x	
Bypass Overload Phase A	bit5	a108_x	
Bypass Auto Retransfer Fail	bit6	a111_x	

**Table 7.15 Available Points: Vertiv™ Liebert® NXL Single Module System (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Byp - Excess Auto Retransfers	bit7	a112_x	
Bypass Static Switch Overload	bit8	a113_x	
Byp. Static Switch Unavailable	bit9	a114_x	
Bypass Excessive Pulse Parallel	bit10	a115_x	
Bypass Auto Transfer Failed	bit11	a116_x	
Bypass Frequency Error	bit12	a117_x	
Bypass - Manual Xfr Inhibited	bit13	a118_x	
Bypass - Manual Rexfr Inhibited	bit14	a119_x	
Byp. Static Switch External Off	bit15	a120_x	
ECO Mode Active	-	ab34_x	
ECO Mode Suspended	-	ab35_x	
Excess ECO Suspends	-	ab36_x	

## 7.16 Vertiv™ Liebert® NXL Single Module System v2300

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® NXL
Controller Firmware:	UPS Unit NXL Single Module System v2300 (FDM Version: 2300>) Firmware: 4.4>
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-nxl_sms_v2300

**Table 7.16 Available Points: Vertiv™ Liebert® NXL Single Module System v2300**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Input RMS A-B	40001	bs01_x	
Input RMS B-C	40002	bs02_x	
Input RMS C-A	40003	bs03_x	
Input RMS Current Phase A	40004	bs04_x	
Input RMS Current Phase B	40005	bs05_x	
Input RMS Current Phase C	40006	bs06_x	
Input Frequency	40007	bs07_x	Scale *.10 (Modbus Only)
Battery Time Remaining	40008	bs08_x	
Output Voltage RMS A-B	40009	bs09_x	
Output Voltage RMS B-C	40010	bs10_x	
Output Voltage RMS C-A	40011	bs11_x	
Output RMS Current Phs A	40012	bs12_x	
Output RMS Current Phs B	40013	bs13_x	
Output RMS Current Phs C	40014	bs14_x	
Output Frequency	40015	bs15_x	Scale *.10 (Modbus Only)
Output Power kW	40016	bs16_x	
Output Power kVA	40017	bs17_x	
Output Capacity Phase A %vA	40018	bs18_x	
Output Capacity Phase B %vA	40019	bs19_x	
Output Capacity Phase C %vA	40020	bs20_x	
Bypass Volts A-B	40021	bs21_x	
Bypass Volts B-C	40022	bs22_x	
Bypass Volts C-A	40023	bs23_x	
Bypass Frequency	40024	bs24_x	

**Table 7.16 Available Points: Vertiv™ Liebert® NXL Single Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input Qualification	-	bs101_x	0=Fail 1=Low 2=Normal 3=High
Bypass Sync Phase Difference	-	bs102_x	
Bypass Overload Time Remaining	-	bs103_x	
Static Bypass Switch	-	bs104_x	1=Off 2=On
Bypass Qualification	-	bs105_x	0=Fail 1=Low 2=Normal 3=High
Bypass Retransfer Time Remaining	-	bs106_x	
Battery Total Discharge Time	-	bs107_x	
Battery Charge %	-	bs108_x	
Battery Volts - Main Disconnect	-	bs109_x	
Battery Volts for Cabinet #1	-	bs110_x	
Battery Volts for Cabinet #2	-	bs111_x	
Battery Volts for Cabinet #3	-	bs112_x	
Battery Volts for Cabinet #4	-	bs113_x	
Battery Volts for Cabinet #5	-	bs114_x	
Battery Volts for Cabinet #6	-	bs115_x	
Battery Volts for Cabinet #7	-	bs116_x	
Battery Volts for Cabinet #8	-	bs117_x	
Battery Temp for Cabinet #1	-	bs118_x	
Battery Temp for Cabinet #2	-	bs119_x	
Battery Temp for Cabinet #3	-	bs120_x	
Battery Temp for Cabinet #4	-	bs121_x	
Battery Temp for Cabinet #5	-	bs122_x	
Battery Temp for Cabinet #6	-	bs123_x	
Battery Temp for Cabinet #7	-	bs124_x	
Battery Temp for Cabinet #8	-	bs125_x	
Battery Ah Used This Discharge	-	bs126_x	
Battery Discharge Time	-	bs127_x	
Battery Discharge -Watts	-	bs128_x	

**Table 7.16 Available Points: Vertiv™ Liebert® NXL Single Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Amp Hrs Consumed		bs129_x	
Battery Status		bs130_x	1=unknown 2=normal 3=low 4=depleted
Output Voltage RMS A-N	-	bs135_x	
Output Voltage RMS B-N	-	bs136_x	
Output Voltage RMS C-N	-	bs137_x	
Output Power Factor Phase A	-	bs138_x	
Output Power Factor Phase B	-	bs139_x	
Output Power Factor Phase C	-	bs140_x	
Output Capacity Phase A %	-	bs141_x	
Output Capacity Phase B %	-	bs142_x	
Output Capacity Phase C %	-	bs143_x	
Total Number of Battery Discharges		bs131_x	
DC Bus Voltage	-	bs132_x	
DC Bus Current	-	bs133_x	
DC Bus Qualification	-	bs134_x	0=Fail 1=Low 2=Normal 3=High
Output Qualification	-	bs144_x	0=Fail 1=Low 2=Normal 3=High
Inverter Overload Time Remaining	-	bs145_x	
Inverter Qualification	-	bs146_x	0=Fail 1=Low 2=Normal 3=High
Inverter On/Off	-	bs147_x	1=Off 2=On
Inlet Air Temperature	-	bs148_x	
Total System Operating Time (Hrs)	-	bs149_x	
Total kWh Saved	-	bs150_x	

**Table 7.16 Available Points: Vertiv™ Liebert® NXL Single Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Rectifier On/Off	-	bs151_x	1=Off 2=On
Output Source	-	bs152_x	1=Off 2=Normal 2=Bypass 4=Maint. Bypass
Input Source	-	bs153_x	1=None 2=Utility (mains) 3=Generator
System Status	-	bs154_x	1=Normal 2=Start 3=warning 4=Alarm 5=Abnormal
Module kWh	-	bs157_x	
Output Peak kW Demand	-	bs158_x	
Output Peak kW Demand History	-	bs159_x	
Peak kW Demand Period	-	bs160_x	
Backfeed Breaker	-	bs161_x	
Input Breaker (CB1)	-	bs162_x	
Trap Filter Disconnect	-	bs163_x	
Output Breaker (CB2)	-	bs164_x	
Bypass Isolation Breaker (BIB)	-	bs165_x	
Rectifier Input Breaker (RIB)	-	bs166_x	
Maint. Bypass Breaker (MBB)	-	bs167_x	
Maint. Isolation Breaker (MIB)	-	bs168_x	
ECO Mode State	-	bs230_x	0=disabled 1=enabled
ECO Mode Continuous Operation	-	bs231_x	0=disabled 1=enabled
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Input Power Problem	bit0	a101_x	
Input Phase Rotation Error	bit1	a102_x	
Input Current Limit	bit2	a103_x	

**Table 7.16 Available Points: Vertiv™ Liebert® NXL Single Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input Current Imbalance	bit3	a104_x	
Battery Auto Test Inhibited	bit4	a118_x	
Battery Charging Reduced	bit5	a119_x	
Battery Capacity Low	bit6	a120_x	
Battery Discharging	bit7	a121_x	
Battery Temp Imbalance	bit8	a122_x	
Battery Equalize	bit9	a123_x	
Battery Self Test	bit10	a124_x	
Battery Main Disconnect Open	bit11	a125_x	
Low Battery	bit12	a126_x	
Battery Temp Sensor Fault	bit13	a127_x	
Battery Charging Inhibit	bit14	a128_x	
Battery CB 1 Open	bit15	a129_x	Modbus bit15=All Batt CBs 0-closed, 1-open
Battery CB 2 Open	-	a130_x	
Battery CB 3 Open	-	a131_x	
Battery CB 4 Open	-	a132_x	
Battery CB 5 Open	-	a133_x	
Battery CB 6 Open	-	a134_x	
Battery CB 7 Open	-	a135_x	
Battery CB 8 Open	-	a136_x	
<b>Alarm 2 (Word)</b>	40290		
Bypass Not available	bit0	a105_x	
Bypass Overload Phase A	bit1	a106_x	
Bypass Overload Phase B	bit2	a107_x	
Bypass Overload Phase C	bit3	a108_x	
Bypass Auto Retransfer Fail	bit4	a109_x	
Byp - Excess Auto Retransfers	bit5	a110_x	
Bypass Static Switch Overload	bit6	a111_x	
Battery External Monitor 1	bit7	a137_x	
Battery External Monitor 2	bit8	a138_x	
Battery Ground Fault	bit9	a139_x	
Battery Low Shutdown	bit10	a140_x	
Battery Over Temp	bit11	a141_x	
Battery Test Failed	bit12	a142_x	
DC Bus Ground Fault - Positive	bit13	a143_x	



**Table 7.16 Available Points: Vertiv™ Liebert® NXL Single Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
DC Bus Ground Fault - Negative	bit14	a144_x	
EPO Shutdown	bit15	a145_x	
<b>Alarm 3 (Word)</b>	40291		
REPO Shutdown	bit0	a146_x	
Output Low Power Factor	bit1	a147_x	
Output Over Under Frequency	bit2	a152_x	
Inverter Failure	bit3	a153_x	
Inverter Overload Phase A	bit4	a154_x	
Inverter Overload Phase B	bit5	a155_x	
Inverter Overload Phase C	bit6	a156_x	
Inverter External Inhibit	bit7	a157_x	
Inverter Overload Shutdown	bit8	a158_x	
Inlet Overtemperature	bit9	a159_x	
Outlet Overtemperature Limit	bit10	a160_x	
Equipment Temp Sensor Fail	bit11	a161_x	
Equipment Overtemperature	bit12	a162_x	
Input Contact 01	bit13	a163_x	
Input Contact 02	bit14	a164_x	
Input Contact 03	bit15	a165_x	
<b>Alarm 4 (Word)</b>	40292		
Input Contact 04	bit0	a166_x	
Input Contact 05	bit1	a167_x	
Byp. Static Switch Unavailable	bit2	a112_x	
Bypass Excessive Pulse Parallel	bit3	a113_x	
Bypass Auto Transfer Failed	bit4	a114_x	
Rectifier Failure	bit5	a179_x	
Redundant Fan Failure	bit6	a180_x	
Multiple Fan Failure	bit7	a181_x	
Internal Comms Fail	bit8	a182_x	
Power Supply Failure	bit9	a187_x	
On Generator	bit10	a188_x	
Main Controller Fault	bit11	a191_x	
Fuse Failure	bit12	a192_x	
System Controller Error	bit13	a193_x	

**Table 7.16 Available Points: Vertiv™ Liebert® NXL Single Module System v2300 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Breaker(s) Open Failure	bit14	a194_x	
System Breaker(s) Close Failure	bit15	a195_x	
<b>Alarm 5 (Word)</b>	40293		
Input Filter Cycle Lock	bit0	a196_x	
EMO Shutdown	bit1	a197_x	
Service Code Active	bit2	a198_x	
Leading Power Factor	bit3	a203_x	
Controls Reset Required	bit4	a204_x	
Power Tie Active	bit5	a207_x	
kWh Reset	bit6	a208_x	
Peak kW Reset	bit7	a209_x	
Bypass Frequency Error	bit8	a115_x	
Byp. - Manual ReXfr Inhibited	bit9	a116_x	
Byp. - Manual Xxfr Inhibited	bit10	a117_x	
ECO Mode Active	bit11	a221_x	
ECO Mode Suspended	bit12	a222_x	
Excess ECO Suspends	bit13	a223_x	
Service Required	bit14	a224_x	
Loss Of Comms.	bit15	a701_x	

## 7.17 Power Monitoring Extended Protocol

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® PM2
Controller Firmware:	Power Unit Power Monitoring Extended Protocol Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	pm2 (2mb) / w-pm2 (16mb)

**Table 7.17 Available Points: Power Monitoring Extended Protocol**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Input Voltage A-B	40001	bs1_x	
Input Voltage B-C	40002	bs3_x	
Input Voltage C-A	40003	bs5_x	
Output Voltage A-B	40004	bs7_x	
Output Voltage B-C	40005	bs9_x	
Output Voltage A-C	40006	bsb_x	
Output Voltage A-N	40007	bsd_x	
Output Voltage B-N	40008	bsf_x	
Output Voltage C-N	40009	bs11_x	
Output Current A	40010	bs14_x	
Output Current B	40011	bs16_x	
Output Current C	40012	bs18_x	
Ground Current	40013	bs19_x	
Neutral Current	40014	bs1c_x	
kVA	40015	bs1e_x	
kW	40016	bs20_x	
Frequency	40017	bs27_x	
Percent Capacity A	40018	bs29_x	
Percent Capacity B	40019	bs2b_x	
Percent Capacity C	40020	bs2d_x	
Power Factor	40021	bs21_x	
Common Alarm Status	-	stat_x	
Crest Factor I A	-	bs41_x	
Crest Factor I B	-	bs43_x	
Crest Factor I C	-	bs45_x	
K Factor I A	-	bs3b_x	

**Table 7.17 Available Points: Power Monitoring Extended Protocol (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
K Factor I B	-	bs3d_x	
K Factor I C	-	bs3f_x	
THD Current A	-	bs35_x	
THD Current B	-	bs37_x	
THD Current C	-	bs39_x	
THD Voltage A	-	bs2f_x	
THD Voltage B	-	bs31_x	
THD Voltage C	-	bs33_x	
Watt Hours	-	bs23_1_x	See scale below:
Watt Hour Scale	-	bs23_2_x	0=kilowatts 1=megawatts
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Comm	bit0	comm_x	
Output Under Voltage	bit1	ba1_x	
Output Over Voltage	bit2	ba2_x	
Output Over Current	bit3	ba3_x	
Frequency Deviation	bit4	ba4_x	
Ground Over Current	bit5	ba5_x	
Transformer Over Temperature	bit6	ba6_x	
Ground Fault	bit7	ba7_x	
Ground Failure	bit8	ba8_x	
Liquid Detected	bit9	ba9_x	
Security Alarm	bit10	baa_x	
<b>Alarm 2 (Word)</b>	40290		
Phase Rotation Loss	bit0	bab_x	
Datawave Over Temperature	bit1	bac_x	
Emergency Power Off	bit2	bad_x	
Load On Bypass	bit3	bae_x	
Local Alarm 1	bit4	baf_x	
Local Alarm 2	bit5	ba10_x	
Output Voltage THD	bit6	ba11_x	
Customer Alarm 1	bit7	ba40_x	
Customer Alarm 2	bit8	ba41_x	

## 7.18 Vertiv™ Liebert® PM4-LDMF PMP Local Display

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® RX, Vertiv™ Liebert® PPC, Vertiv™ Liebert® FPC
Controller Firmware:	Power Unit PM4-LDMF PMP Local Display (FDM Version: 367) PA Firmware: V05_001_00
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-pm4

**Table 7.18 Available Points: Vertiv™ Liebert® PM4-LDMF PMP Local Display**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Input Voltage A-B	40001	bs922_x	
Input Voltage B-C	40002	bs923_x	
Input Voltage C-A	40003	bs924_x	
Output Voltage A-B	40004	bsa22_x	
Output Voltage B-C	40005	bsa23_x	
Output Voltage C-A	40006	bsa24_x	
Output Voltage A-N	40007	bsa25_x	
Output Voltage B-N	40008	bsa26_x	
Output Voltage C-N	40009	bsa27_x	
Output Current A	40010	bsa28_x	
Output Current B	40011	bsa29_x	
Output Current C	40012	bsa2a_x	
Ground Current	40013	bsa2c_x	
Neutral Current	40014	bsa2b_x	
kVA	40015	bsa2e_x	
kW	40016	bsa2f_x	
Frequency	40017	bsa2d_x	
Load %	40018	bsa33_x	
Power Factor	40021	bsa32_x	
Common Alarm Status	-	stat_x	
Crest Factor I A	-	bsa3d_x	
Crest Factor I B	-	bsa3e_x	
Crest Factor I C	-	bsa3f_x	
THD Current A	-	bsa37_x	
THD Current B	-	bsa38_x	
THD Current C	-	bsa39_x	

**Table 7.18 Available Points: Vertiv™ Liebert® PM4-LDMF PMP Local Display (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
THD Voltage A	-	bsa34_x	
THD Voltage B	-	bsa35_x	
THD Voltage C	-	bsa36_x	
kWH	-	bsa30_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Input Power Problem	bit0	ba3_x	
Input Phase Rotation Error	bit1	ba6_x	
Output Over Voltage	bit2	ba9_x	
Output Under Voltage	bit3	ba12_x	
Output Over Current	bit4	ba15_x	
Neutral Over Current	bit5	Ba18_x	
Ground Over Current	bit6	ba21_x	
Output Voltage THD	bit7	ba24_x	
Frequency Deviation	bit8	ba27_x	
Transformer Over Temperature Power Off	bit9	ba30_x	
Transformer Over Temperature	bit10	ba33_x	
Transformer Over Temp Sensor Fail	bit11	ba36_x	
Customer 1	bit12	ba39_x	
Customer 2	bit13	ba42_x	
Customer 3	bit14	ba45_x	
Customer 4	bit15	ba48_x	
<b>Alarm 2 (Word)</b>	40290		
Customer 5	bit0	ba51_x	
Loss Of Communications	bit1	comm_x	

## 7.19 Vertiv™ Liebert® Series 610 Multi-Module

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® S610
Controller Firmware:	UPS Unit Series 610 Multi-Module Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	mm4 (2mb)/w-mm4 (16mb)

**Table 7.19 Available Points: Vertiv™ Liebert® Series 610 Multi-Module**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Voltage Input Line A-B	40001	bs1_x	
Voltage Input Line B-C	40002	bs3_x	
Voltage Input Line C-A	40003	bs5_x	
Voltage Output Line A-B	40004	bs7_x	
Voltage Output Line B-C	40005	bs9_x	
Voltage Output Line C-A	40006	bsb_x	
Current Output Line A	40007	bs13_x	
Current Output Line B	40008	bs15_x	
Current Output Line C	40009	bs17_x	
DC Bus Voltage	40010	bs19_x	
DC Bus Current	40011	bs1b_x	
kVA	40012	bs1d_x	
kW	40013	bs1f_x	
Critical Frequency	40014	bs27_x	
%Capacity Line A	40015	bs29_x	%kVA total - firmware version 3.12 or higher
%Capacity Line B	40016	bs2b_x	%kW total - firmware version 3.12 or higher
%Capacity Line C	40017	bs2d_x	N/A - firmware version 3.12 or higher
Current Input Line A	40018	bs35_x	
Current Input Line B	40019	bs37_x	
Current Input Line C	40020	bs39_x	
Accumulated Battery Amp/Hrs	-	bs4c_x	
Accumulated Battery kWhrs	-	bs4e_x	
Accumulated Battery Time	-	bs4a_x	
Battery Charge Percent	-	bs4f_x	
Battery Temperature	-	bs53_x	
Battery Time Remaining	-	bs51_x	

**Table 7.19 Available Points: Vertiv™ Liebert® Series 610 Multi-Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Daily Operating Hours	-	bs42_2_x	
Module Number	-	bs45_x	
Output Frequency	-	-	
Total Battery Discharge	-	bs47_x	
Total Operating Hours	-	bs42_1_x	
Voltage Output Line A-Neutral	-	bsd_x	
Voltage Output Line B-Neutral	-	bsf_x	
Voltage Output Line C-Neutral	-	bs11_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss Of Comm	bit0	comm_x	
Battery Discharging	bit1	ba3_x	
Input Fail	bit2	ba5_x	
Hardware Shutdown	bit3	ba6_x	
DC Ground Fault	bit4	ba7_x	
Input CB Open	bit5	ba9_x	
Output CB Open	bit6	bab_x	
DC Cap Fuse Blown	bit7	bae_x	
Low Battery	bit8	baf_x	
Output Overload	bit9	ba10_x	
Rectifier Fuse Blown	bit10	ba11_x	
<b>Alarm 2 (Word)</b>	40290		
Emergency Power Off	bit0	ba13_x	
Ambient Over Temperature	bit1	ba14_x	
Battery Disconnected	bit2	ba18_x	
Control Power Fail	bit3	ba1a_x	
Overload Shutdown	bit4	ba1b_x	
Inverter Fault	bit5	ba23_x	
Input Current Unbalance	bit6	ba24_x	
Inverter Out of Sync	bit7	ba25_x	
Reverse Power	bit8	ba2d_x	
Low Battery Shutdown	bit9	ba35_x	
DC Over Voltage Shutdown	bit10	ba36_x	
<b>Alarm 3 (Word)</b>	40291		



**Table 7.19 Available Points: Vertiv™ Liebert® Series 610 Multi-Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Cycle Buffer Full	bit0	ba37_x	OR "V Out Sense Failure" – Firmware v3.12 or higher
Equipment Over Temperature	bit1	ba38_x	
Blower Fan Failure	bit2	ba39_x	
Over Temperature Shutdown	bit3	ba3a_x	
Battery Over Temperature	bit4	ba49_x	
Battery Test Running	bit5	ba4a_x	
Overload Transfer	bit6	ba2c_x	
V out Sense Fail	bit7	ba4d_x	

## 7.20 Vertiv™ Liebert® Series 610 System Control Cabinet

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® S610
Controller Firmware:	UPS Unit Series 610 System Control Cabinet Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	sc4 (2mb)/w-sc4 (16mb)

**Table 7.20 Available Points: Vertiv™ Liebert® Series 610 System Control Cabinet**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Voltage Input Line A-B	40001	bs1_x	
Voltage Input Line B-C	40002	bs3_x	
Voltage Input Line C-A	40003	bs5_x	
Voltage Output Line A-B	40004	bs7_x	
Voltage Output Line B-C	40005	bs9_x	
Voltage Output Line C-A	40006	bsb_x	
Current Output Line A	40007	bs13_x	
Current Output Line B	40008	bs15_x	
Current Output Line C	40009	bs17_x	
kVA	40010	bs1d_x	
kW	40011	bs1f_x	
Critical Frequency	40012	bs27_x	Scale * .10 (Modbus Only)
%Capacity A	40013	bs29_x	N/A - firmware version 3.12 or higher
%Capacity B	40014	bs2b_x	N/A - firmware version 3.12 or higher
%Capacity C	40015	bs2d_x	N/A - firmware version 3.12 or higher
Voltage Bypass Line A-B	40016	bs2f_x	
Voltage Bypass Line B-C	40017	bs31_x	
Voltage Bypass Line C-A	40018	bs33_x	
Output Frequency	40019	bs3b_x	Scale * .10 (Modbus Only)
Bypass Frequency	40020	bs3d_x	Scale * .10 (Modbus Only)
Daily Operating Hours	-	bs40_x	
Modules/System Number	-	bs45_x	
Number Of Modules In System	-	bs43_x	
Total Operating Hours	-	bs42_x	
Voltage Output Line A-Neutral	-	bsd_x	
Voltage Output Line B-Neutral	-	bsf_x	

**Table 7.20 Available Points: Vertiv™ Liebert® Series 610 System Control Cabinet (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Voltage Output Line C-Neutral	-	bs11_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss Of Comm	bit0	comm_x	
Output Under Voltage	bit1	ba1_x	
Output Over Voltage	bit2	ba2_x	
Frequency Deviation	bit3	ba4_x	
Bypass CB Closed	bit4	baa_x	
Output CB Open	bit5	bab_x	
Static Switch Disconnected	bit6	bac_x	
Output Overload	bit7	ba10_x	
Emergency Power Off	bit8	ba13_x	
Load On Bypass	bit9	ba15_x	
Static Switch Disabled	bit10	ba16_x	
<b>Alarm 2 (Word)</b>	40290		
Control Power Fail	bit0	ba1a_x	
Module 1 Summary	bit1	ba1d_x	
Module 2 Summary	bit2	ba1e_x	
Module 3 Summary	bit3	ba1f_x	
Module 4 Summary	bit4	ba20_x	
Module 5 Summary	bit5	ba21_x	
Module 6 Summary	bit6	ba22_x	
Bypass Not Available	bit7	ba26_x	
Not Ok to Transfer	bit8	ba27_x	
Bypass Phase Rotation Error	bit9	ba28_x	
Manual Reset/Transfer	bit10	ba29_x	
<b>Alarm 3 (Word)</b>	40291		
Auto Retransfer Primed	bit0	ba2b_x	
Overload Transfer	bit1	ba2c_x	
Module 1 Offline	bit2	ba2e_x	
Module 2 Offline	bit3	ba2f_x	
Module 3 Offline	bit4	ba30_x	
Module 4 Offline	bit5	ba31_x	
Module 5 Offline	bit6	ba32_x	

**Table 7.20 Available Points: Vertiv™ Liebert® Series 610 System Control Cabinet (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Module 6 Offline	bit7	ba33_x	
Customer Alarm 1	bit8	ba40_x	
Customer Alarm 2	bit9	ba41_x	
Customer Alarm 3	bit10	ba42_x	
<b>Alarm 4 (Word)</b>	40292		
Customer Alarm 4	bit0	ba43_x	
Customer Alarm 5	bit1	ba44_x	
Customer Alarm 6	bit2	ba45_x	
Customer Alarm 7	bit3	ba46_x	
Customer Alarm 8	bit4	ba47_x	

## 7.21 Vertiv™ Liebert® Series 610 Single-Module

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® S610
Controller Firmware:	UPS Unit Series 610 Single-Module Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	sc4 (2mb)/w-sc4 (16mb)

**Table 7.21 Available Points: Vertiv™ Liebert® Series 610 Single-Module**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Voltage Input Line A-B	40001	bs1_x	
Voltage Input Line B-C	40002	bs3_x	
Voltage Input Line C-A	40003	bs5_x	
Voltage Output Line A-B	40004	bs7_x	
Voltage Output Line B-C	40005	bs9_x	
Voltage Output Line C-A	40006	bsb_x	
Current Output A	40007	bs13_x	
Current Output B	40008	bs15_x	
Current Output C	40009	bs17_x	
DC Bus Voltage	40010	bs19_x	
DC Bus Current	40011	bs1b_x	
kVA	40012	bs1d_x	
kW	40013	bs1f_x	
Critical Frequency	40014	bs27_x	
%Capacity Line A	40015	bs29_x	%kVA total - firmware version 3.12 or higher
%Capacity Line B	40016	bs2b_x	%kW total - firmware version 3.12 or higher
%Capacity Line C	40017	bs2d_x	N/A - firmware version 3.12 or higher
Voltage Bypass Line A-B	40018	bs2f_x	
Voltage Bypass Line B-C	40019	bs31_x	
Voltage Bypass Line C-A	40020	bs33_x	
Current Input A	40021	bs35_x	
Current Input B	40022	bs37_x	
Current Input C	40023	bs39_x	
Bypass Frequency	40024	bs3d_x	
Accumulated Battery Amp/Hrs	-	bs4c_x	
Accumulated Battery kWh	-	bs4e_x	

**Table 7.21 Available Points: Vertiv™ Liebert® Series 610 Single-Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Accumulated Battery Time	-	bs4a_x	
Batt. Shutdn Alarm 1 Setpoint	-	bv8_x	
Batt. Shutdn Alarm 2 Setpoint	-	bva_x	
Battery Charge %	-	bs4f_x	
Battery Discharge Setpoint	-	bv4_x	
Battery Time Remain	-	bs51_x	
Common Alarm Status	-	stat_x	
Daily Operating Hours	-	bs42_2_x	
DC Overvoltage Alarm Setpoint	-	bv2_x	
Low Battery Alarm Setpoint	-	bv6_x	
Output Frequency	-	bs3b_x	
Overload Alarm Setpoint	-	bv0_x	
Total Battery Discharge	-	bs47_x	
Total Operating Hours	-	bs42_1_x	
Voltage Output Line A-Neutral	-	bsd_x	
Voltage Output Line B-Neutral	-	bsf_x	
Voltage Output Line C-Neutral	-	bs11_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communication	bit0	comm_x	
Output Under Voltage	bit1	ba1_x	
Output Over Voltage	bit2	ba2_x	
Battery Discharging	bit3	ba3_x	
Frequency Deviation	bit4	ba4_x	
Input Fail	bit5	ba5_x	
Hardware Shutdown	bit6	ba6_x	
DC Ground Fault	bit7	ba7_x	
Input CB Open	bit8	ba9_x	
Bypass CB Closed	bit9	baa_x	
Output CB Open	bit10	bab_x	
<b>Alarm 2 (Word)</b>	40290		
Static Switch Disconnected	bit0	bac_x	
DC Cap Fuse Blown	bit1	bae_x	
Low Battery Shutdown	bit2	baf_x	

**Table 7.21 Available Points: Vertiv™ Liebert® Series 610 Single-Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Overload	bit3	ba10_x	
Rectifier Fuse Blown	bit4	ba11_x	
Emergency Power Off	bit5	ba13_x	
Ambient Over Temperature	bit6	ba14_x	
Load On Bypass	bit7	ba15_x	
Static Switch Disabled	bit8	ba16_x	
Battery Disconnected	bit9	ba18_x	
Control Power Fail	bit10	ba1a_x	
<b>Alarm 3 (Word)</b>	40291		
Inverter Fault	bit0	ba23_x	
Input Current Unbalance	bit1	ba24_x	
Bypass Not Available	bit2	ba26_x	
Not Ok to Transfer	bit3	ba27_x	
Bypass Phase Rotation Error	bit4	ba28_x	
Manual Reset/Transfer	bit5	ba29_x	
Auto Retransfer Primed	bit6	ba2b_x	
Overload Transfer	bit7	ba2c_x	
Reverse Power	bit8	ba2d_x	
Low Battery Shutdown	bit9	ba35_x	
DC Over Voltage Shutdown	bit10	ba36_x	
<b>Alarm 4 (Word)</b>	40292		
Battery Cycle Buffer Full	bit0	ba37_x	
Equipment Over Temperature	bit1	ba38_x	
Blower/Fan Fail	bit2	ba39_x	
Over Temperature Shutdown	bit3	ba3a_x	
Customer Alarm 1	bit4	ba40_x	
Customer Alarm 2	bit5	ba41_x	
Customer Alarm 3	bit6	ba42_x	
Customer Alarm 4	bit7	ba43_x	
Customer Alarm 5	bit8	ba44_x	
Customer Alarm 6	bit9	ba45_x	
Customer Alarm 7	bit10	ba46_x	
<b>Alarm 5 (Word)</b>	40293		
Customer Alarm 8	bit0	ba47_x	

**Table 7.21 Available Points: Vertiv™ Liebert® Series 610 Single-Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Rm Over Temperature	bit1	ba49_x	
Battery Test Running	bit2	ba4a_x	
Auto Restart Initiated	bit3	ba4b_x	
Auto Restart Failed	bit4	ba4c_x	



## 7.22 Vertiv™ Liebert® Series 600 Single Module

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® S600
Controller Firmware:	UPS Unit Series 600 Single Module Firmware: ALL
Interface Module:	Vertiv™ Liebert® Site Link, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	sms (2mb)/w-sms (16mb)

**Table 7.22 Available Points: Vertiv™ Liebert® Series 600 Single Module**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Voltage Input Line A-B	40001	bs1_x	
Voltage Input Line B-C	40002	bs3_x	
Voltage Input Line C-A	40003	bs5_x	
Voltage Output Line A-B	40004	bs7_x	
Voltage Output Line B-C	40005	bs9_x	
Voltage Output Line C-A	40006	bsb_x	
Voltage Output Line A-Neutral	40007	bsd_x	
Voltage Output Line B-Neutral	40008	bsf_x	
Voltage Output Line C-Neutral	40009	bs11_x	
Current Output A	40010	bs13_x	
Current Output B	40011	bs13_x	
Current Output C	40012	bs17_x	
DC Bus Voltage	40013	bs19_x	
DC Bus Current	40014	bs1b_x	
kVA	40015	bs1d_x	Modbus = scaled by 10
kW	40016	bs1f_x	Modbus = scaled by 10
Frequency	40017	bs27_x	Modbus = scaled by 10
% Capacity A	40018	bs29_x	
% Capacity B	40019	bs2b_x	
% Capacity C	40020	bs2d_x	
Common Alarm Status	-	stat_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communication	bit0	comm_x	
Battery Discharging	bit1	ba3_x	
Low Battery Reserve	bit2	baf_x	

**Table 7.22 Available Points: Vertiv™ Liebert® Series 600 Single Module (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Output Overload	bit3	ba10_x	
Fuse Cleared	bit4	ba12_x	
Emergency Power Off	bit5	ba13_x	
Ambient Over Temperature	bit6	ba14_x	
Load On Bypass	bit7	ba15_x	
Static Switch Disabled	bit8	ba16_x	
Battery Disconnected	bit9	ba18_x	
Module Cooling Failure	bit10	ba19_x	
<b>Alarm 2 (Word)</b>	40290		
Control Power Failure	bit0	ba1a_x	
Overload Shutdown	bit1	ba1b_x	

## 7.23 Static Switch - Dual Output Breaker

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® STS2
Controller Firmware:	Power Unit Static Switch - Dual Output Breaker Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	st2 (2mb)/w- st2 (16mb)

**Table 7.23 Available Points: Static Switch - Dual Output Breaker**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Xfer Count	40001	bs64_x	
Preferred Source	40002	bs73_x	
Active Source	40003	bs72_x	
Source 1 Voltage Line A-B	40004	bs48_x	
Source 1 Voltage Line B-C	40005	bs4a_x	
Source 1 Voltage Line C-A	40006	bs4c_x	
Source 1 Current A	40007	bs4e_x	
Source 1 Current B	40008	bs50_x	
Source 1 Current C	40009	bs52_x	
Source 1 Frequency	40010	bs54_x	
Source 2 Voltage Line A-B	40011	bs56_x	
Source 2 Voltage Line B-C	40012	bs58_x	
Source 2 Voltage Line C-A	40013	bs5a_x	
Source 2 Current A	40014	bs5c_x	
Source 2 Current B	40015	bs5e_x	
Source 2 Current C	40016	bs60_x	
Source 2 Frequency	40017	bs62_x	
Output kW	40018	bs8_x	
Output kVA	40019	bsc_x	
% Load	40020	bsa_x	
STS2 Voltage Rating	40021	bv2_x	
Nominal Current Rating	40022	bv4_x	
Frequency Deviation Trip Point	40023	bv51_x	
Output kW Hours	-	bs28_x	
Has Dual Output Breakers?	-	bv2e_x	0=No 1=Yes

**Table 7.23 Available Points: Static Switch - Dual Output Breaker (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Max Xfer Phase Angle	-	bv4f_x	
Re-transfer Delay	-	bv53_x	
Breaker Status (Word)	40024	bs7c_x	
CB2 Status	bit0	bit0	0=Open 1=Closed
CB2 Status	bit1	bit1	
CB3 Status	bit2	bit2	
CB3A Status	bit3	bit3	
CB4 Status	bit4	bit4	
CB5 Status	bit5	bit5	
<b>Alarm Points</b>			
Common Alarm	-	m493_x	1=active 0=no alarms
<b>Alarm 1 (Word)</b>	40289		
Communications Lost	bit0	comm_x	
S1 SCR Short	bit1	ba1_x	
S2 SCR Short	bit2	ba2_x	
S1 SCR Open	bit3	ba3_x	
S2 SCR Open	bit4	ba4_x	
Primary Fan Fail	bit5	ba5_x	
Control Module Fail	bit6	ba6_x	
PWR Supply DC A Fail	bit7	ba7_x	
PWR Supply DC B Fail	bit8	ba8_x	
PWR Supply SRC 1 AC Fail	bit9	ba9_x	
PWR Supply SRC 2 AC Fail	bit10	baa_x	
PWR Supply Logic Fail	bit11	bab_x	
Output Voltage Sense Fail	bit12	bac_x	
S1 Voltage Sense Fail	bit13	bad_x	
S2 Voltage Sense Fail	bit14	bae_x	
S1 SCR Sense Fail	bit15	baf_x	
<b>Alarm 2 (Word)</b>	40290		
S2 SCR Sense Fail	bit0	ba10_x	
S1 Current Sense Fail	bit1	ba11_x	

**Table 7.23 Available Points: Static Switch - Dual Output Breaker (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
S2 Current Sense Fail	bit2	ba12_x	
S1 Gate Drive Fail	bit3	ba13_x	
S2 Gate Drive Fail	bit4	ba14_x	
Internal Comm Fail	bit5	ba15_x	
External Comm Fail	bit6	ba16_x	
CB1 Shunt Trip Fail	bit7	ba17_x	
CB2 Shunt Trip Fail	bit8	ba18_x	
Common Alarm	bit9	-	Ref BACnet object name m493
Not used	bit10	-	
Heatsink Overtemp	bit11	ba40_x	
Equipment Overtemp	bit12	ba41_x	
Input 1 Overvoltage	bit13	ba60_x	
Source 1 Under Voltage	bit14	ba43_x	
Source 1 Under Voltage (RMS)	bit15	ba44_x	
<b>Alarm 3 (Word)</b>	40291		
Source 1 Over Voltage	bit0	ba45_x	
Source 1 Over/Under Freq	bit1	ba46_x	
Source 1 Fail	bit2	ba47_x	
Source 2 Under Voltage	bit3	ba48_x	
Source 2 Under Voltage (RMS)	bit4	ba49_x	
Source 2 Over Voltage	bit5	ba4a_x	
Source 2 Over/Under Frequency	bit6	ba4b_x	
Source 2 Fail	bit7	ba4c_x	
Source 1 Overcurrent	bit8	ba4d_x	
Source 2 Overcurrent	bit9	ba4e_x	
Source 1 Current Peak	bit10	ba4f_x	
Source 2 Current Peak	bit11	ba50_x	
Sources Out of Sync	bit12	ba51_x	
Load On Alternate Source	bit13	ba52_x	
Auto Retransfer Inhibit	bit14	ba53_x	
Input 1 Under Voltage	bit15	ba61_x	
<b>Alarm 4 (Word)</b>	40292		
CB1 (S1) Open	bit0	ba54_x	
CB2 (S2) Open	bit1	ba55_x	
CB4 (S1 Bypass) Closed	bit2	ba56_x	

**Table 7.23 Available Points: Static Switch - Dual Output Breaker (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
CB5 (S2 Bypass) Closed	bit3	ba57_x	
Output Breaker CB3 Open	bit4	ba58_x	
Output Breaker CB3A Open	bit5	ba59_x	
S1 Phase Rotation Error	bit6	ba5a_x	
S2 Phase Rotation Error	bit7	ba5b_x	
Transfer Inhibited	bit8	ba5c_x	
Output Undervoltage	bit9	ba5d_x	
History Logs Full	bit10	ba5e_x	
Input Contact #1	bit11	ba78_x	
Input Contact #2	bit12	ba79_x	
Input Contact #3	bit13	ba7a_x	
Input Contact #4	bit14	ba7b_x	
Input 2 Over Voltage	bit15	ba62_x	
<b>Alarm 5 (Word)</b>	40293		
Input Contact #5	bit0	ba7c_x	
Input Contact #6	bit1	ba7d_x	
Input Contact #7	bit2	ba7e_x	
Input Contact #8	bit3	ba7f_x	
Equipment Fan Fail	bit4	ba1b_x	
Input 1 Surge Fail	bit5	ba1c_x	
Input 2 Surge Fail	bit6	ba1d_x	
Input 2 Undervoltage	bit7	ba63_x	
Load Overcurrent	bit8	ba64_x	
Ground Overcurrent	bit9	ba65_x	
Neutral Overcurrent	bit10	ba66_x	
Load Voltage THD	bit11	ba67_x	
Input 1 Cb6 Open	bit12	ba68_x	
Input 2 Cb7 Open	bit13	ba69_x	
Input 1 Frequency Deviation	bit14	ba6a_x	
Input 2 Frequency Deviation	bit15	ba6b_x	

## 7.24 Static Switch - Dual Output Breaker & PDU

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® STS2
Controller Firmware:	Power Unit Static Switch - Dual Output Breaker & PDU Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	st2_pdu (2mb)/w- st2_pdu (16mb)

**Table 7.24 Available Points: Static Switch - Dual Output Breaker and PDU**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Xfer Count	40001	bs64_x	
Preferred Source	40002	bs73_x	
Active Source	40003	bs72_x	
Source 1 Voltage Line A-B	40004	bs48_x	
Source 1 Voltage Line B-C	40005	bs4a_x	
Source 1 Voltage Line C-A	40006	bs4c_x	
Source 1 Current A	40007	bs4e_x	
Source 1 Current B	40008	bs50_x	
Source 1 Current C	40009	bs52_x	
Source 1 Frequency	40010	bs54_x	
Source 2 Voltage Line A-B	40011	bs56_x	
Source 2 Voltage Line B-C	40012	bs58_x	
Source 2 Voltage Line C-A	40013	bs5a_x	
Source 2 Current A	40014	bs5c_x	
Source 2 Current B	40015	bs5e_x	
Source 2 Current C	40016	bs60_x	
Source 2 Frequency	40017	bs62_x	
Output kW	40018	bs8_x	
Output kVA	40019	bsc_x	
% Load	40020	bsa_x	
STS2 Voltage Rating	40021	bv2_x	
Nominal Current Rating	40022	bv4_x	
Frequency Deviation Trip Point	40023	bv51_x	
Breaker Status (Word)	40024	bs7c_x	
CB2 Status	bit0	bit0	0=Open 1=Closed

**Table 7.24 Available Points: Static Switch - Dual Output Breaker and PDU (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
CB2 Status	bit1	bit1	
CB3 Status	bit2	bit2	
CB3A Status	bit3	bit3	
CB4 Status	bit4	bit4	
CB5 Status	bit5	bit5	
CB7 Status	bit6	bit6	
CB8 Status	bit7	bit7	
Output kW Hours	-	bs28_x	
Has Dual Output Breakers?	-	bv2e_x	0=No 1=Yes
Has PDU Option?	-	bv2f_x	0=No 1=Yes
Max Xfer Phase Angle	-	bv4f_x	
Re-transfer Delay	-	bv53_x	
<b>Status Points (PDU)</b>			
Heat Sink 1 Temperature	-	bse_x	
Heat Sink 2 Temperature	-	bs10_x	
Heat Sink 3 Temperature	-	bs31_x	
Ground Current	-	bs18_x	
Neutral Current	-	bs16_x	
Output Current %THD Phase A	-	bs32_x	
Output Current %THD Phase B	-	bs34_x	
Output Current %THD Phase C	-	bs36_x	
Output Current Crest Factor Phase A	-	bs42_x	
Output Current Crest Factor Phase B	-	bs44_x	
Output Current Crest Factor Phase C	-	bs46_x	
Output Current K-Factor Phase A	-	bs3c_x	
Output Current K-Factor Phase B	-	bs3e_x	
Output Current K-Factor Phase C	-	bs40_x	
Output Voltage %THD Phase A	-	bs2c_x	
Output Voltage %THD Phase B	-	bs2e_x	
Output Voltage %THD Phase C	-	bs30_x	
PDU Source 1 Voltage Line A-B	-	bs00_x	
PDU Source 1 Voltage Line B-C	-	bs2_x	



**Table 7.24 Available Points: Static Switch - Dual Output Breaker and PDU (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
PDU Source 1 Voltage Line C-A	-	bs4_x	
PDU Source 1 Frequency	-	bs6_x	
PDU Source 2 Frequency	-	bs20_x	
PDU Source 2 Voltage Line A-B	-	bs1a_x	
PDU Source 2 Voltage Line B-C	-	bs1c_x	
PDU Source 2 Voltage Line C-A	-	bs1e_x	
Power Factor A	-	bs22_x	
Power Factor B	-	bs24_x	
Power Factor C	-	bs26_x	
<b>Alarm Points</b>			
Common Alarm	-	m493_x	1=active, 0=no alarms
<b>Alarm 1 (Word)</b>	40289		
Communications Lost	bit0	comm_x	
S1 SCR Short	bit1	ba1_x	
S2 SCR Short	bit2	ba2_x	
S1 SCR Open	bit3	ba3_x	
S2 SCR Open	bit4	ba4_x	
Primary Fan Fail	bit5	ba5_x	
Control Module Fail	bit6	ba6_x	
PWR Supply DC A Fail	bit7	ba7_x	
PWR Supply DC B Fail	bit8	ba8_x	
PWR Supply SRC 1 AC Fail	bit9	ba9_x	
PWR Supply SRC 2 AC Fail	bit10	baa_x	
PWR Supply Logic Fail	bit11	bab_x	
Output Voltage Sense Fail	bit12	bac_x	
S1 Voltage Sense Fail	bit13	bad_x	
S2 Voltage Sense Fail	bit14	bae_x	
S1 SCR Sense Fail	bit15	baf_x	
<b>Alarm 2 (Word)</b>	40290		
S2 SCR Sense Fail	bit0	ba10_x	
S1 Current Sense Fail	bit1	ba11_x	
S2 Current Sense Fail	bit2	ba12_x	
S1 Gate Drive Fail	bit3	ba13_x	
S2 Gate Drive Fail	bit4	ba14_x	
Internal Comm Fail	bit5	ba15_x	

**Table 7.24 Available Points: Static Switch - Dual Output Breaker and PDU (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
External Comm Fail	bit6	ba16_x	
CB1 Shunt Trip Fail	bit7	ba17_x	
CB2 Shunt Trip Fail	bit8	ba18_x	
Common Alarm	bit9	-	
Not used	bit10	-	
Heatsink Overtemp	bit11	ba40_x	
Equipment Overtemp	bit12	ba41_x	
Input 1 Overvoltage	bit13	ba60_x	
Source 1 Under Voltage	bit14	ba43_x	
Source 1 Under Voltage (RMS)	bit15	ba44_x	
<b>Alarm 3 (Word)</b>	40291		
Source 1 Over Voltage	bit0	ba45_x	
Source 1 Over/Under Freq	bit1	ba46_x	
Source 1 Fail	bit2	ba47_x	
Source 2 Under Voltage	bit3	ba48_x	
Source 2 Under Voltage (RMS)	bit4	ba49_x	
Source 2 Over Voltage	bit5	ba4a_x	
Source 2 Over/Under Frequency	bit6	ba4b_x	
Source 2 Fail	bit7	ba4c_x	
Source 1 Overcurrent	bit8	ba4d_x	
Source 2 Overcurrent	bit9	ba4e_x	
Source 1 Current Peak	bit10	ba4f_x	
Source 2 Current Peak	bit11	ba50_x	
Sources Out of Sync	bit12	ba51_x	
Load On Alternate Source	bit13	ba52_x	
Auto Retransfer Inhibit	bit14	ba53_x	
Input 1 Under Voltage	bit15	ba61_x	
<b>Alarm 4 (Word)</b>	40292		
CB1 (S1) Open	bit0	ba54_x	
CB2 (S2) Open	bit1	ba55_x	
CB4 (S1 Bypass) Closed	bit2	ba56_x	
CB5 (S2 Bypass) Closed	bit3	ba57_x	
Output Breaker CB3 Open	bit4	ba58_x	
Output Breaker CB3A Open	bit5	ba59_x	

**Table 7.24 Available Points: Static Switch - Dual Output Breaker and PDU (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
S1 Phase Rotation Error	bit6	ba5a_x	
S2 Phase Rotation Error	bit7	ba5b_x	
Transfer Inhibited	bit8	ba5c_x	
Output Undervoltage	bit9	ba5d_x	
History Logs Full	bit10	ba5e_x	
Input Contact #1	bit11	ba78_x	
Input Contact #2	bit12	ba79_x	
Input Contact #3	bit13	ba7a_x	
Input Contact #4	bit14	ba7b_x	
Input 2 Over Voltage	bit15	ba62_x	
<b>Alarm 5 (Word)</b>	40293		
Input Contact #5	bit0	ba7c_x	
Input Contact #6	bit1	ba7d_x	
Input Contact #7	bit2	ba7e_x	
Input Contact #8	bit3	ba7f_x	
Equipment Fan Fail	bit4	ba1b_x	
Input 1 Surge Fail	bit5	ba1c_x	
Input 2 Surge Fail	bit6	ba1d_x	
Input 2 Undervoltage	bit7	ba63_x	
Load Overcurrent	bit8	ba64_x	
Ground Overcurrent	bit9	ba65_x	
Neutral Overcurrent	bit10	ba66_x	
Load Voltage THD	bit11	ba67_x	
Input 1 Cb6 Open	bit12	ba68_x	
Input 2 Cb7 Open	bit13	ba69_x	
Input 1 Frequency Deviation	bit14	ba6a_x	
Input 2 Frequency Deviation	bit15	ba6b_x	

## 7.25 Vertiv™ Liebert® DataWave Voltage/Current Monitoring Panel

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Datawave
Controller Firmware:	Power Unit DataWave Voltage/Current Monitoring Panel Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink, Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	vcm (2mb)/w-vcm (16mb)

**Table 7.25 Available Points: Vertiv™ Liebert® DataWave Voltage/Current Monitoring Panel**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Output Voltage A-B	40001	bs0_x	
Output Voltage B-C	40002	bs3_x	
Output Voltage A-C	40003	bs6_x	
Output Voltage A-N	40004	bs9_x	
Output Voltage B-N	40005	bsc_x	
Output Voltage C-N	40006	bsf_x	
Output Current A	40007	bs12_x	
Output Current B	40008	bs15_x	
Output Current C	40009	bs18_x	
Ground Current	40010	bs1b_x	
Neutral Current	40011	bs1e_x	
kVA	40012	bs21_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Comm	bit0	comm_x	
Output Under Voltage	bit1	ba1_x	
Output Over Voltage	bit2	ba2_x	
Transformer Over Temperature	bit3	ba6_x	
Local Alarm 1	bit4	baf_x	
Local Alarm 2	bit5	ba10_x	

## 7.26 Vertiv™ Liebert® EXM-MSR (Medium Scalable Redundant)

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® EXM
Controller Firmware:	UPS Unit EXM MSR (Medium Scalable Redundant) (FDM Version: 15) Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-exm_msr

**Table 7.26 Available Points: Vertiv™ Liebert® EXM-MSR (Medium Scalable Redundant)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
System Input RMS A-B	40001	bs101_x	
System Input RMS B-C	40002	bs102_x	
System Input RMS C-A	40003	bs103_x	
System Input RMS Current Phase A	40004	bs104_x	
System Input RMS Current Phase B	40005	bs105_x	
System Input RMS Current Phase C	40006	bs106_x	
System Input Frequency	40007	bs107_x	
System Nominal Input Voltage	-	bs108_x	
System Nominal Input Frequency	-	bs109_x	
System Nominal Input Current	-	bs110_x	
System Input Power Factor Phs A	-	bs111_x	
System Input Power Factor Phs B	-	bs112_x	
System Input Power Factor Phs C	-	bs113_x	
System Input Power Ph A (kW)	-	bs114_x	
System Input Power Ph B (kW)	-	bs115_x	
System Input Power Ph C (kW)	-	bs116_x	
System Input App Power Ph A (kVA)	-	bs117_x	
System Input App Power Ph B (kVA)	-	bs118_x	
System Input App Power Ph C (kVA)	-	bs119_x	
System Input Brownout Count	-	bs120_x	
System Input Blackout Count	-	bs121_x	
System Input Breaker	-	bs122_x	1=Open 2=Closed 3=not installed
Bypass Volts A-B	40021	bs123_x	
Bypass Volts B-C	40022	bs124_x	

**Table 7.26 Available Points: Vertiv™ Liebert® EXM-MSR (Medium Scalable Redundant) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Bypass Volts C-A	40023	bs125_x	
Bypass Frequency	40024	bs126_x	
Bypass Input Power Ph A (kW)	-	bs127_x	
Bypass Input Power Ph B (kW)	-	bs128_x	
Bypass Input Power Ph C (kW)	-	bs129_x	
Bypass Input App Power Ph A (kVA)	-	bs130_x	
Bypass Input App Power Ph B (kVA)	-	bs131_x	
Bypass Volts C-A	-	bs125_x	
Bypass Frequency	-	bs126_x	
Bypass Input Power Ph A (kW)	-	bs127_x	
Bypass Input Power Ph B (kW)	-	bs128_x	
Bypass Input Power Ph C (kW)	-	bs129_x	
Bypass Input App Power Ph A (kVA)	-	bs130_x	
Bypass Input App Power Ph B (kVA)	-	bs131_x	
Bypass Input App Power Ph C (kVA)	-	bs132_x	
External Bypass Breaker	-	bs133_x	1=Open 2=Closed 3=not installed
Bypass Nominal Input Voltage	-	bs134_x	
DC Bus Voltage	-	bs135_x	
Battery Time Remaining	40008	bs136_x	
Battery Temperature	-	bs137_x	
DC Bus Current	-	bs138_x	
Time Until Next Battery Test (Min)	-	bs139_x	
Battery Charge Percent	-	bs140_x	
Battery Total Number of Discharges	-	bs141_x	
Batt Accumulated discharge Time (Hrs)	-	bs142_x	
Low Battery Warning Time (Min)	-	bs143_x	
Battery Status	-	bs144_x	1=unknown 2=normal 3=low 4=depleted

**Table 7.26 Available Points: Vertiv™ Liebert® EXM-MSR (Medium Scalable Redundant) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Charge Status	-	bs145_x	1=Fully Charged 2=Charging 3=Discharging 4=Charger Off
Battery Auto-test Enabled	-	bs146_x	
Battery Self Test Cycle Time (Days)	-	bs147_x	
Inverter On/Off State	-	bs148_x	1=off 2=on
Output Breaker	-	bs149_x	1=Open 2=Closed 3=not installed
System Output Voltage RMS A-N	-	bs150_x	
System Output Voltage RMS B-N	-	bs151_x	
System Output Voltage RMS C-N	-	bs152_x	
System Output RMS Current Phs A	40012	bs153_x	
System Output RMS Current Phs B	40013	bs154_x	
System Output RMS Current Phs C	40014	bs155_x	
System Output Frequency	40015	bs156_x	
System Output Voltage RMS A-B	40009	bs157_x	
System Output Voltage RMS B-C	40010	bs158_x	
System Output Voltage RMS C-A	40011	bs159_x	
System Output Power Factor Phase A	-	bs160_x	
System Output Power Factor Phase B	-	bs161_x	
System Output Power Factor Phase C	-	bs162_x	
System Output Capacity Phase A %	40018	bs163_x	
System Output Capacity Phase B %	40019	bs164_x	
System Output Capacity Phase C %	40020	bs165_x	
MMS Output Power kVA	-	bs166_x	
MMS Output Power kW	-	bs167_x	
Output Current Crest Factor Phase A	-	bs168_x	
Output Current Crest Factor Phase B	-	bs169_x	
Output Current Crest Factor Phase C	-	bs170_x	
System Output Power kW Phase A	-	bs171_x	
System Output Power kW Phase B	-	bs172_x	
System Output Power kW Phase C	-	bs173_x	

**Table 7.26 Available Points: Vertiv™ Liebert® EXM-MSR (Medium Scalable Redundant) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Output kVA Phase A	-	bs174_x	
System Output kVA Phase B	-	bs175_x	
System Output kVA Phase C	-	bs176_x	
System Output Power kW	40016	bs177_x	
System Output Power kVA	40017	bs178_x	
System Output Pct Pwr (VA) Phs C	-	bs179_x	
System Output Pct Pwr (VA) Phs B	-	bs180_x	
System Output Pct Pwr (VA) Phs A	-	bs181_x	
ECO Suspended Time (Sec.)	-	bs182_x	
System Nominal Output Voltage	-	bs183_x	
System Nominal Output Frequency	-	bs184_x	
Bypass Input Voltage RMS A-N	-	bs185_x	
Bypass Input Voltage RMS B-N	-	bs186_x	
Bypass Input Voltage RMS C-N	-	bs187_x	
Bypass Control Module Frequency	-	bs188_x	
Bypass Ctrl Mod Input Voltage RMS A-N	-	bs189_x	
Bypass Ctrl Mod Input Voltage RMS B-N	-	bs190_x	
Bypass Ctrl Mod Input Voltage RMS C-N	-	bs191_x	
UPS Output Source	-	bs195_x	1=Other 2=Off 3=Normal 4=Bypass 5=Battery 6=Booster 7=Reducer
Redundant Mode	-	bs196_x	1=no redundancy 2=redundancy
Maintenance Bypass Breaker (MBB)	-	bs197_x	1=Open 2=Closed 3=not installed
ECO Mode Operation State	-	bs198_x	1=disabled 2=enabled
UPS Application Mode	-	bs199_x	1=UPS mode 2=Frequency converter



**Table 7.26 Available Points: Vertiv™ Liebert® EXM-MSR (Medium Scalable Redundant) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Intelligent Parallel Operation State	-	bs200_x	1=disabled 2=enabled
ECO Mode	-	bs201_x	1=disabled 2=enabled
Number of Active Power Modules	-	bs202_x	
Number of Installed Power Modules	-	bs203_x	
Inlet Air Temperature	-	bs204_x	
System Status	-	bs206_x	1=Normal 2=Startup 3=Normal+Warning 4=Normal+Alarm 5=Abnormal Op
Bypass Control Module Input Volts A-B	-	bs192_x	
Bypass Control Module Input Volts B-C	-	bs193_x	
Bypass Control Module Input Volts C-A	-	bs194_x	
Average system efficiency %	-	bs205_x	
Battery Volts for Cabinet #1	-	bs234_x	
Battery Volts for Cabinet #2	-	bs235_x	
Battery Volts for Cabinet #3	-	bs236_x	
Battery Volts for Cabinet #4	-	bs237_x	
Battery Volts for Cabinet #5	-	bs238_x	
Battery Volts for Cabinet #6	-	bs239_x	
Battery Volts for Cabinet #7	-	bs240_x	
Battery Volts for Cabinet #8	-	bs241_x	
Battery Temp for Cabinet #1	-	bs242_x	
Battery Temp for Cabinet #2	-	bs243_x	
Battery Temp for Cabinet #3	-	bs244_x	
Battery Temp for Cabinet #4	-	bs245_x	
Battery Temp for Cabinet #5	-	bs246_x	
Battery Temp for Cabinet #6	-	bs247_x	
Battery Temp for Cabinet #7	-	bs248_x	
Battery Temp for Cabinet #8	-	bs249_x	
Common Alarm	-	stat_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289	bs222_x	

**Table 7.26 Available Points: Vertiv™ Liebert® EXM-MSR (Medium Scalable Redundant) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Mains Input Neutral Lost	bit0	a101_x	
System Input Phs Rotation Error	bit1	a102_x	
System Input Power Problem	bit2	a103_x	
Input Source Backfeed	bit3	a104_x	
Bypass Not Available	bit4	a105_x	
Bypass Static Switch Unavailable	bit5	a106_x	
Bypass - Excess Auto Retrangers	bit6	a107_x	
UPS Output on Bypass	bit7	a108_x	
Output Load on Maint. Bypass	bit8	a109_x	
Bypass Input Voltage Fault	bit9	a110_x	
Bypass Backfeed Detected	bit10	a111_x	
Main Battery Disconnect Open	bit11	a112_x	
Battery Circuit Breaker 4 Open	bit12	a113_x	
Battery Circuit Breaker 3 Open	bit13	a114_x	
Battery Circuit Breaker 2 Open	bit14	a115_x	
Battery Circuit Breaker 1 Open	bit15	a116_x	
<b>Alarm 2 (Word)</b>	40290	BS223_x	
Battery Charging External Inhibit	bit0	a117_x	
Battery Discharging	bit1	a118_x	
Battery Test Fail	bit2	a119_x	
Battery Overtemp	bit3	a120_x	
Battery Low	bit4	a121_x	
Battery Ground Fault	bit5	a122_x	
Battery Not Qualified	bit6	a123_x	
Battery Terminals Reversed	bit7	a124_x	
Battery Capacity Low	bit8	a125_x	
Battery Converter Current Limit	bit9	a126_x	
Battery Charge Equalization Timeout	bit10	a127_x	
Battery Room Alarm	bit11	a128_x	
Battery Breaker 1 Open Failure	bit12	a129_x	
Battery Breaker 2 Open Failure	bit13	a130_x	
Battery Breaker 3 Open Failure	bit14	a131_x	
Battery Breaker 4 Open Failure	bit15	a132_x	
<b>Alarm 3 (Word)</b>	40290	bs224_x	

**Table 7.26 Available Points: Vertiv™ Liebert® EXM-MSR (Medium Scalable Redundant) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Battery Equalize	bit0	a133_x	
Inverter Loss of Synchronization	bit1	a134_x	
Output Overload	bit2	a135_x	
System Output Fault	bit3	a136_x	
Loss of Redundancy	bit4	a137_x	
Power Hardware Mismatch	bit5	a138_x	
Parallel Cable Failure	bit6	a139_x	
LBS Cable Failure	bit7	a140_x	
Transfer to Bypass - System Overload	bit8	a141_x	
Excess ECO Suspends	bit9	a142_x	
User Operation Invalid	bit10	a143_x	
Load Impact Transfer	bit11	a144_x	
Alarm 3 (continued)			
Internal Communications Failure	bit12	a145_x	
MMS Overload	bit13	a146_x	
Parallel Comm Warning	bit14	a147_x	
Equipment Over Temperature	bit15	a148_x	
<b>Alarm 4 (Word)</b>	40292	bs225_x	
LBS Inhibited	bit0	a149_x	
On Generator	bit1	a150_x	
LBS Active	bit2	a151_x	
System Shutdown - EPO	bit3	a152_x	
Top Outlet Fan Fault	bit4	a153_x	
Power Module #1	bit5	a155_x	
Power Module #2	bit6	a156_x	
Power Module #3	bit7	a157_x	
Power Module #4	bit8	a158_x	
Power Module #5	bit9	a159_x	
Power Module #6	bit10	a160_x	
Power Module #7	bit11	a161_x	
Power Module #8	bit12	a162_x	
Power Module #9	bit13	a163_x	
Power Module #10	bit14	a164_x	
Power Module #11	bit15	a165_x	

**Table 7.26 Available Points: Vertiv™ Liebert® EXM-MSR (Medium Scalable Redundant) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 5 (Word)</b>	40293	bs226_x	
Power Module #12	bit0	a166_x	
Power Module #13	bit1	a167_x	
Power Module #14	bit2	a168_x	
Power Module #15	bit3	a169_x	
Power Module #16	bit4	a170_x	
Power Module #17	bit5	a171_x	
Power Module #18	bit6	a172_x	
Power Module #19	bit7	a173_x	
Power Module #20	bit8	a174_x	
Loss of Communication	bit15	a701_1	

## 7.27 Vertiv™ Liebert® Trinergy™ Cube UPS Protocol

Hardware Applicability	
Liebert Unit:	Vertiv™ Liebert® Trinergy™ Cube (t_cube) – FDM v11
Interface Module:	Vertiv™ Liebert® SiteLink-E module

**Table 7.27 Available Points: Vertiv™ Liebert® Trinergy™ Cube Points List**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
System Input A-B	40001	bs101_x	
System Input B-C	40002	bs102_x	
System Input C-A	40003	bs103_x	
System Input Current Phase A	40004	bs104_x	
System Input Current Phase B	40005	bs105_x	
System Input Current Phase C	40006	bs106_x	
System Input Frequency	40007	bs107_x	
Battery Time Remaining	40008	bs130_x	
System Output V A-B	40009	bs135_x	
System Output V B-C	40010	bs136_x	
System Output V C-A	40011	bs137_x	
System Output Current Phs A	40012	bs138_x	
System Output Current Phs B	40013	bs139_x	
System Output Current Phs C	40014	bs140_x	
System Output Frequency	40015	bs141_x	
System Total Output Power kW	40016	bs143_x	
System Output Total Power kVA	40017	bs142_x	
System Output Capacity Phase A %vA	40018	bs150_x	
System Output Capacity Phase B %vA	40019	bs151_x	
System Output Capacity Phase C %vA	40020	bs152_x	
Bypass Volts A-B	40021	bs121_x	
Bypass Volts B-C	40022	bs122_x	
Bypass Volts C-A	40023	bs123_x	
Bypass Frequency	40024	bs124_x	
Input Volts A-N	-	bs09_x	
Input Volts B-N	-	bs10_x	
Input Volts C-N	-	bs11_x	

**Table 7.27 Available Points: Vertiv™ Liebert® Trinergy™ Cube Points List (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Input kW Phase A	-	bs18_x	
Input kW Phase B	-	bs19_x	
Input kW Phase C	-	bs20_x	
UPS Total Input kW	-	bs22_x	
UPS Total Input kVA	-	bs23_x	
DC Input Voltage	-	bs21_x	
Bypass Volts A-N	-	bs24_x	
Bypass Volts B-N	-	bs25_x	
Bypass Volts C-N	-	bs26_x	
Bypass Current Phase A	-	bs27_x	
Bypass Current Phase B	-	bs28_x	
Bypass Current Phase C	-	bs29_x	
Bypass Power Factor Phase A	-	bs30_x	
Bypass Power Factor Phase B	-	bs31_x	
Bypass Power Factor Phase C	-	bs32_x	
Bypass Power Phase A kW	-	bs33_x	
Bypass Power Phase B kW	-	bs34_x	
Bypass Power Phase C kW	-	bs35_x	
Battery Discharge Time (Sec)	-	bs36_x	
System Output Power Factor Phase A	-	bs37_x	
System Output Power Factor Phase B	-	bs38_x	
System Output Power Factor Phase C	-	bs39_x	
System Output Volts A-N	-	bs40_x	
System Output Volts B-N	-	bs41_x	
System Output Volts C-N	-	bs42_x	
Battery Volts for Cabinet	-	bs128_x	
DC Bus Current	-	bs129_x	
Battery Time Remaining (Min)	-	bs130_x	
Battery Charge %	-	bs131_x	
Battery Temp for Cabinet	-	bs132_x	
System Output kVA Phase A	-	bs144_x	
System Output kVA Phase B	-	bs145_x	
System Output kVA Phase C	-	bs146_x	
System Output Power Phase A (kW)	-	bs147_x	
System Output Power Phase B (kW)	-	bs148_x	

**Table 7.27 Available Points: Vertiv™ Liebert® Trinergy™ Cube Points List (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Output Power Phase C (kW)	-	bs149_x	
Bypass Static Switch	-	bs125_x	0=off, 1=on
Bypass Qualification	-	bs126_x	0=Fail, 1=Marginal Low, 2=Normal, 3=Marg High
UPS Output Source	-	bs155_x	2=off, 3=normal, 4=byp, 5=batt, 6=booster, 7=reducer
Inverter On/Off	-	bs158_x	1=off, 3=on, 4=stopped, 5=standby, 7=not ready
Booster On/Off State	-	bs174_x	0=off, 1=on
Charger On/Off State	-	bs175_x	0=off, 1=on
Bypass Status	-	bs176_x	1=not present, 2=on, 3=off, 4=fault, 5=not ready
Rectifier Status	-	bs177_x	1=off, 2=turning on, 3=on, 4=fault
Charger Status	-	bs178_x	1=standby, 2=on, 3=off, 4=forced on, 5=fault
System Status	-	bs180_x	1=Normal, 2=StartUp, 3=Warning, 4=Alarm, 5=Abnormal
UPS Operating Mode	-	bs181_x	1=idle, 2=double conv, 3=interact, 4=stby, 5=CR, 6=ECO
Maintenance Isolation Breaker (MIB)	-	bs168_x	1=open, 2=closed, 3=not installed
System Load Bank Breaker	-	bs169_x	1=open, 2=closed, 3=not installed
Bypass Static Switch	-	bs170_x	1=on, 2=off, 3=not installed
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	<b>40289</b>		
Backfeed Breaker Open	bit0	a101_x	
Input Breaker Open	bit1	a102_x	
Output Breaker Open	bit2	a103_x	
Battery Breaker Open	bit3	a104_x	
Maintenance Bypass Breaker Closed	bit4	a105_x	
Bypass Breaker Closed	bit5	a106_x	
Bypass Breaker (SBB) Open	bit6	a107_x	
General Fault	bit7	a110_x	
General Warning	bit8	a111_x	
System Output Off	bit9	a112_x	
UPS Output on Bypass	bit10	a113_x	
Output off Pending	bit11	a114_x	
System Restart Pending	bit12	a115_x	
Bypass out of sync	bit13	a116_x	
System Output Fault	bit14	a117_x	
System Shutdown - EPO	bit15	a118_x	
<b>Alarm 2 (Word)</b>	<b>40290</b>		

**Table 7.27 Available Points: Vertiv™ Liebert® Trinergy™ Cube Points List (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Ground Fault	bit0	a119_x	
System Input Power Problem	bit1	a120_x	
Bypass Input Voltage Fault	bit2	a121_x	
Bypass Overload	bit3	a122_x	
Inverter Overload	bit4	a123_x	
Bypass Not Available	bit5	a124_x	
Bypass Static Switch Unavailable	bit6	a125_x	
Rectifier Failure	bit7	a126_x	
Inverter Failure	bit8	a127_x	
Charger Fail	bit9	a128_x	
Booster Failure	bit10	a129_x	
DC Bus Abnormal	bit11	a130_x	
Battery Ground Fault	bit12	a131_x	
Battery Discharging	bit13	a132_x	
Battery Charging	bit14	a133_x	
Battery Low	bit15	a134_x	
<b>Alarm 3 (Word)</b>	<b>40291</b>		
Battery Test Failed	bit0	a134_x	
Battery Test Passed	bit1	a135_x	
Battery Auto Test In Progress	bit2	a136_x	
Battery Manual Test In Progress	bit3	a137_x	
System Fan Failure - Redundant	bit4	a138_x	
Fuse Failure	bit5	a139_x	
Equipment Over Temperature	bit6	a140_x	
Battery Over Volts	bit7	a141_x	
Battery Circuit Open	bit8	a142_x	
On Generator	bit9	a143_x	
Null	bit10	-	
Null	bit11	-	
Null	bit12	-	
Null	bit13	-	
Null	bit14	-	
Loss of Comm	bit15	a701_x	



## 8 Liebert Thermal Management Units

### 8.1 Vertiv™ Liebert® iCOM™ CRV Row-based Cooling with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® CRV with Vertiv™ Liebert® iCOM™
Controller Firmware:	Air Unit iCOM-CRV (FDM Version: 501) PA Firmware: CR2.01.xxR
Interface Module:	SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_crv

**Table 8.1 Available Points: Vertiv™ Liebert® iCOM™ CRV Row-based Cooling with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Supply Temperature	40001	bs1_x	
Supply Humidity	40002	bs2_x	
Return Temperature	40003	bs3_x	
Return Humidity	40004	bs4_x	
Return Dew Point	40005	bs5_x	
Supply Chilled Water Temperature	40006	bs6_x	
Compressor Ramp %	40007	bs7_x	Valve % Open in CW based units
Dehumidification Ramp %	40008	bs8_x	
Reheat Ramp %	40009	bs9_x	
Humidification Ramp %	40010	bs10_x	
System Status	40011	bs11_x	1=Normal 2=Startup 3=Normal+Warning, 4=Normal+Alarm 5=Abnormal Op
Operating State	40012	bs12_x	1= Off 2=On 3=Standby
Operating Efficiency %	40013	bs13_x	
Fan Speed %	40014	bs14_x	
Control Mode	40015	bs15_x	
Maintenance Ramp %	40016	bs16_x	
Air Temperature Setpoint	40017	bs17_x	

**Table 8.1 Available Points: Vertiv™ Liebert® iCOM™ CRV Row-based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Cooling Proportional Band Setpoint	40018	bs18_x	
Supply Air Overtemp Setpoint	40019	bs19_x	
Supply Air Undertemp Setpoint	40020	bs20_x	
Return Air Overtemp Setpoint	40021	bs21_x	
High Return Humidity Setpoint	40022	bs22_x	
Low Return Humidity Setpoint	40023	bs23_x	
Chilled Water Overtemp Setpoint	40024	bs24_x	
Auto Restart Delay (Sec)	-	bs540_x	
BMS Timeout Period	-	bs539_x	
Control Coupled Mode	-	bs308_x	Not available in IS485L Card
Cooling Proportional Band Setpoint	-	bs108_x	
Dehumidification Prop Band Setpoint	-	bs205_x	
Fan Control Mode	-	bs301_x	1=Auto 2=Manual
Fan Speed Maximum Setpoint	-	bs304_x	
Fan Speed Minimum Setpoint	-	bs305_x	
Fan Speed Proportional Band Setpoint	-	bs302_x	
Fan Speed Setpoint	-	bs303_x	
Heating Proportional Band Setpoint	-	bs109_x	
Humidity Dead Band Setpoint	-	bs206_x	
Humidity Proportional Band Setpoint	-	bs204_x	
Humidity Setpoint	-	bs203_x	
Remote Sensor Avg Temp	-	bs106_x	
Remote Sensor Max Temp	-	bs105_x	
Remote Sensor Min Temp	-	bs104_x	
Remote Sensor Temp Calculation	-	bs112_x	1=Average 2=Maximum
Remote Temperature Sensor 1	-	bs418-1_x	
Remote Temperature Sensor 2	-	bs418-2_x	
Remote Temperature Sensor 3	-	bs418-3_x	
Remote Temperature Sensor 4	-	bs418-4_x	
Remote Temperature Sensor 5	-	bs418-5_x	
Remote Temperature Sensor 6	-	bs418-6_x	

**Table 8.1 Available Points: Vertiv™ Liebert® iCOM™ CRV Row-based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Temperature Sensor 7	-	bs418-7_x	
Remote Temperature Sensor 8	-	bs418-8_x	
Remote Temperature Sensor 9	-	bs418-9_x	
Remote Temperature Sensor 10	-	bs418-10_x	
System On/Off Status	-	bs610_x	1=System On 2=System Off
Temperature Control Sensor	-	bs111_x	1=Supply 2=Remote 3=Return
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Supply Air Overtemperature	bit0	ba100_x	
Supply Air Undertemperature	bit1	ba101_x	
Return Air Overtemperature	bit2	ba102_x	
Supply Sensor Issue	bit3	ba103_x	
High Return Humidity	bit4	ba104_x	
Low Return Humidity	bit5	ba105_x	
Humidifier Hours Exceeded	bit6	ba106_x	
Dehumidifier Hours Exceeded	bit7	ba107_x	
Humidifier Undercurrent	bit8	ba108_x	
Humidifier Overcurrent	bit9	ba109_x	
Humidifier Low Water	bit10	ba110_x	
Humidifier Cylinder Worn	bit11	ba111_x	
Humidifier Issue	bit12	ba112_x	
Humidifier Lockout	bit13	ba113_x	
Control Board Lockout	bit14	ba114_x	
Humidity Out Of Proportional Band	bit15	ba115_x	
<b>Alarm 2 (Word)</b>	40290		
Loss Of Air Flow	bit0	ba200_x	
Fan Hours Exceeded	bit1	ba201_x	
Top Fan Issue	bit2	ba202_x	
Bottom Fan Issue	bit3	ba203_x	
Remote Sensor Issue 1	bit4	ba204_x	
Remote Sensor Issue 2	bit5	ba205_x	

**Table 8.1 Available Points: Vertiv™ Liebert® iCOM™ CRV Row-based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor Issue 3	bit6	ba206_x	
Remote Sensor Issue 4	bit7	ba207_x	
Remote Sensor Issue 5	bit8	ba208_x	
Remote Sensor Issue 6	bit9	ba209_x	
Remote Sensor Issue 7	bit10	ba210_x	
Remote Sensor Issue 8	bit11	ba211_x	
Remote Sensor Issue 9	bit12	ba212_x	
Remote Sensor Issue 10	bit13	ba213_x	
Comp 1 High Head Pressure	bit14	ba214_x	
Comp 1 Low Suction Pressure	bit15	ba215_x	
<b>Alarm 3 (Word)</b>	40291		
Comp 1 Hours Exceeded	bit0	ba300_x	
Digi Scroll Comp 1 Temp Sensor Issue	bit1	ba301_x	
Digi Scroll Comp 1 Over Temp	bit2	ba302_x	
Comp 1 Low Pressure Transducer Issue	bit3	ba303_x	
Comp External Lockout	bit4	ba304_x	
Comp Short Cycle	bit5	ba305_x	
Reheater Over Temperature	bit6	ba306_x	
Reheater Hours Exceeded	bit7	ba307_x	
External Reheat Lockout	bit8	ba308_x	
Condenser 1 Issue	bit9	ba309_x	
Condenser VFD Issue	bit10	ba310_x	
Condenser TVSS Issue	bit11	ba311_x	
Chilled Water Overtemp	bit12	ba312_x	
Chilled Water Control Valve Position	bit13	ba313_x	
Chilled Water Loss Of Flow	bit14	ba314_x	
Customer Input 1	bit15	ba315_x	
<b>Alarm 4 (Word)</b>	40292		
Customer Input 2	bit0	ba400_x	
Customer Input 3	bit1	ba401_x	
Customer Input 4	bit2	ba402_x	
Smoke Detected	bit3	ba403_x	
Water Under Floor	bit4	ba404_x	

**Table 8.1 Available Points: Vertiv™ Liebert® iCOM™ CRV Row-based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Service Required	bit5	ba405_x	
Loss Of Power Shutdown	bit6	ba406_x	
External Overtemp	bit7	ba407_x	
External Loss Of Flow	bit8	ba408_x	
External Condenser Pump High Water	bit9	ba409_x	
External Standby Glycol Pump On	bit10	ba410_x	
External Fire Detected	bit11	ba411_x	
Unit On	bit12	ba412_x	
Unit Off	bit13	ba413_x	
Unit Standby	bit14	ba414_x	
Unit Partial Shutdown	bit15	ba415_x	
<b>Alarm 5 (Word)</b>	40293		
Unit Shutdown	bit0	ba500_x	
Water Leakage Sensor Issue	bit1	ba501_x	
BMS Communications Timeout	bit2	ba502_x	
Maintenance Due	bit3	ba503_x	
Maintenance Complete	bit4	ba504_x	
Clogged Filter	bit5	ba505_x	
Ram Battery	bit6	ba506_x	
Master Unit Comms Lost	bit7	ba507_x	
High Power Shutdown	bit8	ba508_x	
Supply Fluid Temp Sensor Issue	bit9	ba509_x	
Low Memory	bit10	ba510_x	Not available in IS485L Card
Comp 1 High Pressure Transducer Issue	bit11	m047_x	
Comp Pump Down Issue	bit12	m070_x	
Compressor Capacity Reduced	bit13	m071_x	Not available in IS485L Card
Return Sensor Issue	bit14	ba514_x	
Loss of Communicaton	bit15	a701x	
<b>Control/Setpoints Points (Write)</b>			
System On/Off	40349	bc1_x	1=System On 2=System Off
Air Temp Setpoint	40350	bc2_x	
Humidity Setpoint	40351	bc3_x	

**Table 8.1 Available Points: Vertiv™ Liebert® iCOM™ CRV Row-based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Cooling Proportional Band Setpoint	-	p108_x	
Heating Proportional Band Setpoint	-	p109_x	
Temperature Dead Band Setpoint	-	p110_x	
Temperature Control Sensor	-	p111_x	1=Supply 2=Remote 3=Return
Remote Sensor Temp Calculation	-	p112_x	1=Average 2=Maximum
Supply Overtemp Threshold Setpoint	-	p119_x	
Supply Undertemp Threshold Setpoint	-	p115_x	
Return Overtemp Threshold Setpoint	-	p117_x	
Humidification Prop Band Setpoint	-	p204_x	
Dehumidification Prop Band Setpoint	-	p205_x	
Humidity Dead Band Setpoint	-	p206_x	
High Return Humidity Setpoint	-	p222_x	
Low Return Humidity Setpoint	-	p223_x	
Fan Control Mode	-	p301_x	1=Auto 2=Manual
Fan Speed Proportional Band Setpoint	-	p302_x	
Fan Speed Setpoint	-	p303_x	
Fan Speed Maximum Setpoint	-	p304_x	
Fan Speed Minimum Setpoint	-	p305_x	
Chilled Water Overtemp Setpoint	-	p424_x	
BMS Timeout Period (Min)	-	p539_x	
Auto Restart Delay (Sec)	-	p540_x	

## 8.2 Vertiv™ Liebert® CSU 3000 Chiller

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® CSU 3000
Controller Firmware:	Monitoring Chiller Unit - CSU 3000 Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	csu (2mb) / w- csu (16mb)

**Table 8.2 Available Points: Vertiv™ Liebert® CSU 3000 Chiller**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
System Econocycle	40001	bs0_x	1=ON / 0=OFF
Number of Modules	40002	bs1_x	1-3
Module 1 Start	40003	bs3_x	1=START / 0=STOP
Module 1 Pump	40004	bs4_x	1=ON / 0=OFF
Module 1 Cool	40005	bs5_x	1=ON / 0=OFF
Module 2 Start	40006	bs6_x	1=START / 0=STOP
Module 2 Pump	40007	bs7_x	1=ON / 0=OFF
Module 2 Cool	40008	bs8_x	1=ON / 0=OFF
Module 3 Start	40009	bs9_x	1=START / 0=STOP
Module 3 Pump	40010	bsa_x	1=ON / 0=OFF
Module 3 Cool	40011	bsb_x	1=ON / 0=OFF
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289	ba01_x	
Communications	bit0	comm_x	
Local Alarm 1	bit1	ba18_x	
Local Alarm 2	bit2	ba19_x	
Mod 1 High Head Pressure	bit3	ba1a_1	
Mod 2 High Head Pressure	bit4	ba1b_x	
Mod 3 High Head Pressure	bit5	ba1c_x	
Module 1 No Water Flow	bit6	ba1d_x	
Module 2 No Water Flow	bit7	ba1e_x	
Module 3 No Water Flow	bit8	ba1f_x	
Module 1 High Water Temp.	bit9	ba20_x	
Module 2 High Water Temp.	bit10	ba21_x	
<b>Alarm 2 (Word)</b>	40290	ba02_x	
Module 3 High Water Temp.	bit0	ba22_x	

**Table 8.2 Available Points: Vertiv™ Liebert® CSU 3000 Chiller (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Module 1 Low Water Temp.	bit1	ba23_x	
Module 2 Low Water Temp.	bit2	ba24_x	
Module 3 Low Water Temp.	bit3	ba25_x	
Module 1 No Power	bit4	ba26_x	
Module 2 No Power	bit5	ba27_x	
Module 3 No Power	bit6	ba28_x	
Module 1 Liquid Detected	bit7	ba29_x	
Module 2 Liquid Detected	bit8	ba2a_x	
Module 3 Liquid Detected	bit9	ba2b_x	
Common Alarm	-	stat_x	



## 8.3 Vertiv™ Liebert® iCOM™-DS Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Challenger 3000, Vertiv™ Liebert® Challenger ITR, Vertiv™ Liebert® CW, Vertiv™ Liebert® Deluxe System/3, Vertiv™ Liebert® DS
Controller Firmware:	Air Unit iCOM Velocity v3 using LBDS card
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	icom_ds (2mb)/w-icom_ds (16mb)

**Table 8.3 Available Points: Vertiv™ Liebert® iCOM™-DS Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs05_x	
Heating Ramp %	40008	bs07_x	
Return Temp	40009	bs0b_x	
Return Humidity	40010	bs21_x	
Conditioner Run Hours	40011	bs26_x	
Compressor 1 Run Hrs	40012	bs28_x	
Compressor 2 Run Hrs	40013	bs2a_x	
Humidifier Run Hrs	40014	bs2c_x	
Humidity Lockout Active	40015	bs15_x	
Reheat Lockout Active	40016	bs16_x	
Temperature Setpoint	40017	bv1c_x	
Temp Prop. Band Setpoint	40018	bv1e_x	
Humidity Setpoint	40019	bv23_x	
Humidity Prop. Band Setpoint	40020	bv24_x	
High Temp Alarm Setpoint	40021	bv36_x	
Low Temp Alarm Setpoint	40022	bv38_x	
High Humidity Alarm Setpoint	40023	bv3e_x	
Low Humidity Alarm Setpoint	40024	bv3f_x	

**Table 8.3 Available Points: Vertiv™ Liebert® iCOM™-DS Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Auto-restart Delay Setpoint	-	bv27_x	
# Of Present Events	-	bs13_x	
Comp 1 Temp	-	bs1d_x	
Comp 2 Temp	-	bs1f_x	
Daily High Humidity	-	bs42_x	
Daily High Temperature	-	bs3a_x	
Daily Low Humidity	-	bs45_x	
Daily Low Temperature	-	bs3e_x	
De-humidification Ramp %	-	bs09_x	
Dehumidifier Run Hrs	-	bs2e_x	
Electric Heater #1 Run Hrs	-	bs32_x	
Electric Heater #2 Run Hrs	-	bs34_x	
Electric Heater #3 Run Hrs	-	bs36_x	
Fan Ramp %	-	bs04_x	
Fan State	-	bs03b0_x	
FC Fluid Temp	-	bs0x15_x	
Free Cooling Ramp %	-	bs06_x	
Free Cooling State	-	bs03b2_x	
Free Cooling Status	-	bs0a_x	
FreeCool Run Hrs	-	bs30_x	
Hot Water State	-	bs03b3_x	
Hot Water/Hot Gas Run Hrs	-	bs38_x	
Humidification Ramp %	-	bs08_x	
Humidity Dead Band Setpoint	-	bv26_x	
IR Flush Rate % Setpoint	-	bv34_x	
Return Humidity Setpoint	-	bs22_x	
Return Temp Set-point	-	bs0d_x	
Sensor A High Humd Alarm Sp	-	bv40_x	
Sensor A High Temp Alarm Sp	-	bv3a_x	
Sensor A Humidity	-	bs23_x	
Sensor A Low Humd Alarm Sp	-	bv41_x	
Sensor A Low Temp Alarm Sp	-	bv3c_x	
Sensor A Temp	-	bs17_x	

**Table 8.3 Available Points: Vertiv™ Liebert® iCOM™-DS Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Sensor B Humidity	-	bs24_x	
Sensor B Temp	-	bs19_x	
Sensor C Humidity	-	bs25_x	
Sensor C Temp	-	bs1b_x	
Supply Temp	-	bs0f_x	
Supply Temp SP	-	bs11_x	
Temp Deadband Setpoint	-	bv20_x	
Temperature Scale	-	bv09_x	
VFD Control Mode	-	bs87_x	
VFD Fan Speed Setpoint %	-	bs86_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Comm	bit0	comm_x	
Unused	bit1	-	
Main Fan Overload	bit2	ba2_x	
Loss Of Airflow	bit3	ba3_x	
Loss Of Waterflow	bit4	ba4_x	
Compressor 1 High Pressure	bit5	ba5_x	
Compressor 2 High Pressure	-	ba9_x	Ored with bit5 (Modbus register 40289)
Compressor 1 Low Pressure	bit6	ba6_x	
Compressor 2 Low Pressure	-	baa_x	Ored with bit6 (Modbus register 40289)
Compressor 1 Overload	bit7	ba7_x	
Compressor 2 Overload	-	bab_x	Ored with bit7 (Modbus register 40289)
Compressor 1 Pumpdown Fail	bit8	ba8_x	
Compressor 2 Pumpdown Fail	-	bac_x	Ored with bit8 (Modbus register 40289)
Digiscroll 1 High Temp	bit9	bad_x	
Digiscroll 2 High Temp	-	bae_x	Ored with bit9 (Modbus register 40289)
Smoke Detected	bit10	baf_x	
Water Detected	bit11	ba10_x	
Humidifier Problem	bit12	ba11_x	
Standby Glycol Pump On	bit13	ba12_x	
Standby Glycol Unit On	bit14	ba13_x	
Condenser Pump High Water	bit15	ba14_x	

**Table 8.3 Available Points: Vertiv™ Liebert® iCOM™-DS Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 2 (Word)</b>	40290		
Room Sensor Fail	bit0	ba15_x	
Compressor Loss Of Power	bit1	ba16_x	
Blower Fail	bit2	ba17_x	
Emergency Damper Fail	bit3	ba18_x	
Internal High Temperature	bit4	ba19_x	
Humidifier Water Low	bit5	ba1a_x	
Humidifier High Current	bit6	ba1b_x	
User High Temperature	bit7	ba1c_x	
Loss Of Power	bit8	ba1d_x	
High Chilled Water Temp	bit9	ba20_x	
High Electric Heater Temp	bit10	ba21_x	
High Room Temp	bit11	ba22_x	
Low Room Temp	bit12	ba23_x	
High Room Humidity	bit13	ba24_x	
Low Room Humidity	bit14	ba25_x	
Sensor A High Temp	bit15	ba26_x	
<b>Alarm 3 (Word)</b>	40291		
Sensor A Low Temp	bit0	ba27_x	
Sensor A High Humidity	bit1	ba28_x	
Sensor A Low Humidity	bit2	ba29_x	
Loss Of Chilled Water Flow	bit3	ba2a_x	
Clogged Air Filters	bit4	ba2b_x	
Internal Low Temp	bit5	ba2c_x	
High External Dewpoint	bit6	ba2d_x	
Supply Sensor Fail	bit7	ba30_x	
Glycol Sensor Fail	bit8	ba31_x	
Sensor A Fail	bit9	ba32_x	
Digital Scroll 1 Sensor Fail	bit10	ba36_x	
Digital Scroll 2 Sensor Fail	bit11	ba37_x	
User Input Alarm #1	bit12	ba38_x	
User Input Alarm #2	-	ba39_x	Ored with bit12 (Modbus register 40291)
User Input Alarm #3	-	ba3a_x	Ored with bit12 (Modbus register 40291)

**Table 8.3 Available Points: Vertiv™ Liebert® iCOM™-DS Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
User Input Alarm #4	-	ba3b_x	Ored with bit12 (Modbus register 40291)
Unit Working Hours Exceeded	bit13	ba40_x	
Comp1 Working Hours Exceeded	bit14	ba41_x	
Comp2 Working Hours Exceeded	bit15	ba42_x	
<b>Alarm 4 (Word)</b>	40292		
Free Cool Hours Exceeded	bit0	ba43_x	
Electrical Heater 1 Hours Exceeded	bit1	ba44_x	
Electrical Heater 2 Hours Exceeded	bit2	ba45_x	
Electrical Heater 3 Hours Exceeded	bit3	ba46_x	
Hot Water or Hot Gas Hours Exceeded	bit4	ba47_x	
Humidifier Hours Exceeded	bit5	ba48_x	
De-humidifier Hours Exceeded	bit6	ba49_x	
Unit On/Off Key Disabled	bit7	ba4a_x	
P2P Network Fail	bit8	ba4f_x	
Master Station - P2P Network	bit9	ba50_x	
Unit(s) Disconnected - P2P Network	bit10	ba51_x	
P2P Network Unit Code Missing	bit11	ba52_x	
P2P Network Unit Code Mismatch	bit12	ba53_x	
Service Required	bit13	ba60_x	
Control Board Memory Low	bit14	ba61_x	
Memory Backup Battery Voltage Low	bit15	ba62_x	
<b>Alarm 5 (Word)</b>	40293		
Humidity Ctrl Board Not Connected	bit0	ba63_x	
Parallel Flash Memory Test Fail	bit1	ba64_x	
Serial Flash Memory Test Fail	bit2	ba65_x	
Unit Front Access Open	bit3	ba66_x	
Unit Rear Access Open	bit4	ba67_x	
Unit Disabled By Alarm	bit5	ba70_x	
Unit Shutdown By Alarm	bit6	ba71_x	
Unit Synchronization	bit7	ba72_x	
Compressor 1 Short Cycle	bit8	ba73_x	
Unit On	-	ba74_x	
Unit Off	-	ba75_x	

**Table 8.3 Available Points: Vertiv™ Liebert® iCOM™-DS Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Timer Off	bit9	ba76_x	
Power On	-	ba77_x	
Standby Mode	bit10	ba78_x	
Power Off	bit11	ba79_x	
Reheat Lockout	bit12	ba7a_x	
Humidifier Lockout	bit13	ba7b_x	
Compressor Lockout	bit14	ba7c_x	
Compressor 2 Short Cycle	bit15	ba7d_x	
<b>Setpoints Points (Write)</b>			
Unit On/Off	40349	bc01_x	Modbus - Set bit0=off, bit1=on
Humidifier Lockout	40349	bc01_2_x	Modbus - Set bit4=off, bit5=on
Reheat Lockout	40349	bc01_3_x	Modbus - Set bit2=off, bit3=on
VFD Control Mode	40349	bp87_x	Modbus - Set bit6=auto, bit7=manual
VFD Control Speed	40349	bp86_x	Modbus - Set bits8-15=speed 50-100%
Temp Setpoint	40350	bp1c_x	
Temp Proportional Band	40350	bp1e_x	Scale *1000 (Modbus Only)
Humidity Setpoint	40351	bp23_x	
Humidity Proportional Band	40351	bp24_x	Scale *1000 (Modbus Only)
Temperature DeadBand	-	bp20_x	
Humidity Dead Band	-	bp26_x	
Auto-restart Delay Seconds	-	bp27_x	
IR Flush Rate %	-	bp34_x	
High Temp Setpoint	-	bp36_x	
Low Temp Setpoint	-	bp38_x	
High Temp Setpoint Sensor A	-	bp3a_x	
Low Temp Setpoint Sensor A	-	bp3c_x	
High Humidity Setpoint	-	bp3e_x	
Low Humidity Setpoint	-	bp3f_x	
High Humidity Setpoint Sens A	-	bp40_x	
Low Humidity Setpoint Sens A	-	bp41_x	

## 8.4 Vertiv™ Liebert® DS Unit Level AM (Advanced Micro) Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Deluxe System/3
Controller Firmware:	Air DS Unit Level AM (Advanced Micro) Controls Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	icom_ds (2mb)/w-icom_ds (16mb)

**Table 8.4 Available Points: Vertiv™ Liebert® DS Unit Level AM (Advanced Micro) Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Temperature	40001	bs5_x	
Humidity	40002	bs8_x	
Cooling (On/Off)	40003	bsd_1_x	
Heating (On/Off)	40004	bsd_2_x	
Humidification (On/Off)	40005	bs3_x	
De-humidification (On/Off)	40006	bs4_x	
Econ-O-Cycle (On/Off)	40007	bs1_x	
Stages	40008	bsd_x	
% Capacity	40009	bsa_x	
Temperature Setpoint	40010	bv0_x	
Temperature Tolerance Setpoint	40011	bv2_x	
Humidity Setpoint	40012	bv4_x	
Humidity Tolerance Setpoint	40013	bv6_x	
High Temperature Setpoint	40014	bv9_x	
Low Temperature Setpoint	40015	bvb_x	
High Humidity Setpoint	40016	bvd_x	
Low Humidity Setpoint	40017	bvf_x	
Unit Run (On/Off)	40018	bve_x	
Compressor 1 Run Hrs	40019	bs20_x	
Compressor 2 Run Hrs	40020	bs25_x	
Fan Run Hrs	40021	bs2f_x	
Humidifier Run Hrs	40022	bs214_x	
Chilled Water Run Hrs	-	bs228_x	
Free Cool Run Hrs	-	bs2a_x	
Reheat 1 Run Hrs	-	bs219_x	
Reheat 2 Run Hrs	-	bs21e_x	

**Table 8.4 Available Points: Vertiv™ Liebert® DS Unit Level AM (Advanced Micro) Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Reheat 3 Run Hrs	-	bs223_x	
Common Alarm	-	stat_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Communications	bit0	comm_x	
Local Off	bit1	ba800_x	
Remote Off	bit2	ba801_x	
High Head Pressure 1	bit3	ba1_x	
High Head Pressure 2	bit4	ba2_x	
Loss of Airflow	bit5	ba3_x	
Standby Glycol Unit On	bit6	ba4_x	
Water Under Floor	bit7	ba5_x	
Change Filters	bit8	ba6_x	
High Temperature	bit9	ba7_x	
Low Temperature	bit10	ba8_x	
<b>Alarm 2 (Word)</b>	40290		
High Humidity	bit0	ba9_x	
Low Humidity	bit1	baa_x	
Humidifier Problem	bit2	bab_x	
No Water in Humidifier Pan	bit3	bac_x	
Compressor 1 Overload	bit4	bad_x	
Compressor 2 Overload	bit5	bae_x	
Main Fan Overload	bit6	baf_x	
Manual Override	bit7	ba10_x	
Smoke Detected	bit8	ba11_x	
Loss of Water Flow	bit9	ba12_x	
Standby Unit On	bit10	ba13_x	
<b>Alarm 3 (Word)</b>	40291		
Low Suction Pressure	bit0	ba14_x	
Short Cycle	bit1	ba15_x	
Loss of Power	bit2	ba16_x	
Inverter on Bypass	bit3	ba17_x	
Standby Fan On	bit4	ba2c_x	
Loss of Emergency Power	bit5	ba2d_x	



**Table 8.4 Available Points: Vertiv™ Liebert® DS Unit Level AM (Advanced Micro) Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Local Alarm 1	bit6	ba40_x	
Local Alarm 2	bit7	ba41_x	
Off By Remote Shutdown	bit8	ba802_x	
<b>Setpoints (Write)</b>			
Unit On/Off	40349	bc1_1_x	Set bit0=off, bit1=on
Reheat Lockout	40349	bc1_1_x	Set bit2=off, bit3=on
Humidifier Lockout	40349	bc1_1_x	Set bit4=off, bit5=on
Temperature Setpoint	40350	bc2_x	
Temperature Tolerance Setpoint	40350	bc2_x	Scale *1000
Humidity Setpoint	40351	bc3_x	
Humidity Tolerance Setpoint	40351	bc3_x	Scale *1000
High Temperature Setpoint	-	-	
Low Temperature Setpoint	-	-	
High Humidity Setpoint	-	-	
Low Humidity Setpoint	-	-	
Auto-Restart Delay	-	-	

## 8.5 Vertiv™ Liebert® MiniMate-2

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Mini-Mate2, Vertiv™ Liebert® DataMate
Controller Firmware:	Air Unit MiniMate-2 Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	mm2 (2mb) / w-mm2 (16mb)

**Table 8.5 Available Points: Vertiv™ Liebert® MiniMate-2**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Temperature	40001	bs5_x	
Humidity	40002	bs8_x	
Cooling (On/Off)	40003	bsd_1_x	0=off 1=on
Heating (On/Off)	40004	bsd_2_x	0=off 1=on
Humidification (On/Off)	40005	bs3_x	0=off 1=on
De-humidification (On/Off)	40006	bs4_x	0=off 1=on
Econ-O-Cycle (On/Off)	40007	bs1_x	0=off 1=on
Stages	40008	bsd_x	
% Capacity	40009	bsa_x	
Temperature Setpoint	40010	bv0_x	
Temperature Tolerance Setpoint	40011	bv2_x	Scale by /10
Humidity Setpoint	40012	bv4_x	
Humidity Tolerance Setpoint	40013	bv6_x	Scale by /10
High Temperature Setpoint	40014	bv9_x	
Low Temperature Setpoint	40015	bvb_x	
High Humidity Setpoint	40016	bvd_x	
Low Humidity Setpoint	40017	bvf_x	
Unit Run (On/Off)	40018	bve_x	0=off 1=on
Compressor 1 Run Hrs	40019	bs20_x	
Fan Run Hrs	40020	bs2f_x	
Humidity Run Hrs	40021	bs14_x	

**Table 8.5 Available Points: Vertiv™ Liebert® MiniMate-2 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Electrical Heaters 1 Run Hours	-	bs19_x	
Electrical Heaters 2 Run Hours	-	bs1e_x	
Electrical Heaters 3 Run Hours	-	bs23_x	
Chilled Water Run Hours	-	bs28_x	
Setpoint Control Status	-	cntr_x	
Common Alarm	-	stat_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>			
	40289		
Loss of Communication	bit0	comm_x	
Local Off	bit1	ba800_x	
Remote Off	bit2	ba801_x	
High Head Pressure 1	bit3	ba1_x	
Loss of Airflow	bit5	ba3_x	
Standby Glycool Pump On	bit6	ba4_x	
Change Filters	bit7	ba6_x	
High Temperature	bit8	ba7_x	
Low Temperature	bit9	ba8_x	
<b>Alarm 2 (Word)</b>			
	40290		
High Humidity	bit0	ba9_x	
Low Humidity	bit1	baa_x	
Humidifier Problem	bit2	bab_x	
Smoke Detected	bit8	ba11_x	
Loss Of Water Flow	bit9	ba12_x	
Standby Unit On	bit10	ba13_x	
<b>Alarm 3 (Word)</b>			
	40291		
Short Cycle	bit1	ba15_x	
Loss of Power	bit2	ba16_x	
Local Alarm 1	bit6	ba40_x	
Local Alarm 2	bit7	ba41_x	
Humidifier Pan - High Water	bit8	ba42_x	
Local Alarm 4	bit9	ba43_x	
<b>Control/Setpoints Points (Write)</b>			
BACnet On/Off Control	40349	bc01_x	Set bit0=off, bit1=on
Reheat Lockout	40349	bc01_x	Set bit2=off, bit3=on
Humidity Lockout	40349	bc01_x	Set bit4=off, bit5=on

**Table 8.5 Available Points: Vertiv™ Liebert® MiniMate-2 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Temperature Setpoint	40350	bc02_x	
Temperature Tolerance Setpoint	40350	bc02_x	Scale *1000
Humidity Setpoint	40351	bc03_x	
Humidity Tolerance Setpoint	40351	bc03_x	Scale *1000
High Temperature Setpoint	-	-	
Low Temperature Setpoint	-	-	
High Humidity Setpoint	-	-	
Low Humidity Setpoint	-	-	
Auto-Restart Delay	-	-	

## 8.6 Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Mini-Mate Variable Capacity
Controller Firmware:	Air Unit iCOM-MM3_412 (FDM Version: 412) PA Firmware: iCOM PA2.05.31.01R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_mm3_412

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	
Actual Air Temp Set Point	-	bs158_x	

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Actual Auxiliary Air Temperature	-	bs218_x	
Actual Humidity Set Point	-	bs159_x	
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
Chilled Water Valve Hours	-	m2213_x	
Circuit #1 Cooling Load kW	-	bs182_x	
Circuit #2 Cooling Load kW	-	bs183_x	
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Compressor Lockout	-	bs243_x	
Condenser 1 Fan Reversal Requested	-	bs148_x	
Condenser 1 Refrigerant Pressure	-	bs150_x	
Condenser 1 Supply Refrigerant Temperature	-	bs151_x	
Condenser 2 Fan Reversal Requested	-	bs149_x	

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs		m958_x	
Dew Point Deadband Setpoint		bs185_x	
Dew Point Proportional Band Setpoint		bs184_x	
Dew Point Set Point	-	bs134_x	
Digital Scroll Comp 1 %Utilization	-	m1913_x	
Digital Scroll Comp 2 %Utilization	-	m1915_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Ext Air Sensor A Dew Point Temp	-	m1662_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4>manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Fluid Flow Rate #1 (l/min)	-	bs177_x	
Fluid Flow Rate #2 (l/min)	-	bs178_x	
Fluid Input Temperature #1	-	bs173_x	
Fluid Input Temperature #2	-	bs174_x	
Fluid Output Temperature #1	-	bs175_x	
Fluid Output Temperature #2	-	bs176_x	

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Free Cooling Internal Control Mode	-	m1572_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1569_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Threshold	-	m1579_x	
Free Cooling Valve Run Hrs	-	m1578_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Hot Water/Hot Gas Valve Run Hrs	-	m965_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1840_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Dead Band Setpoint	-	m980_x	
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
IR Flush Rate % Setpoint	-	m902_x	
Local Cooling Override	-	bs161_x	
Local Dehumidifier Override	-	bs164_x	
Local Fan Override	-	bs160_x	
Local Heating Override	-	bs162_x	
Local Humidifier Override	-	bs163_x	
Low Temp Alarm Setpoint	-	bs138_x	
Main Chilled Water Valve	-	m1432_x	1=Valve1 2=Valve2
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1577_x	



**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Min. Chilled Water Temp Set Point Enable	-	m1576_x	
Outside Air Temp	-	m1719_x	
Raw Auxiliary Air Temp	-	bs217_x	
Reheater Lockout	-	m1835_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Return Dew Point	-	bs133_x	
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Static Pressure Setpoint	-	bs107_x	
Super Saver Call For Cooling %	-	bs219_x	
Supply High Temp Alarm Setpoint	-	bs137_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Operating State Reason	-	bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
System Static Pressure (pa)	-	bs109_x	
System Status	-	m1288_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
Temperature Deadband Setpoint	-	m978_x	
Temperature Scale	-	m976_x	
Unit Static Pressure (pa)	-	bs108_x	
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
Common Alarm	-	stat_x	
Tandem 'B' Compressor #1 State	-	m5354_x	On/Off
Tandem 'B' Compressor #1 Run Hours	-	m5357_x	
Tandem 'B' Compressor #1 State	-	m5358_x	On/Off
Tandem 'B' Compressor #1 Run Hours	-	m5360_x	
Unit Calculated Airflow (m3/h)	-	m5365_x	cubic meters per hr.
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Supply NTC Air Sensor Issue	-	m5492_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Sensor B Issue	-	m5495_x	
Sensor C Issue	-	m5498_x	
Sensor D Issue	-	m5501_1	
Sensor E Issue	-	m5504_1	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Failure 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Air Economizer Emergency Override	-	ba108_x	
Air Economizer Reduced Airflow	-	ba109_x	
Static Pressure Sensor Issue	-	ba11_x	
High Static Pressure	-	ba12_x	
Low Static Pressure	-	ba13_x	
Static Pressure Sensor Out of Range	-	ba14_x	
Fluid Temperature Sensor #1 Issue	-	ba142_x	
Fluid Temperature Sensor #2 Issue	-	ba143_x	
Fluid Flow Sensor #1 Issue	-	ba144_x	
Fluid Flow Sensor #2 Issue	-	ba145_x	
iCOM DO Board #1	-	ba155_x	
iCOM DO Board #2	-	ba156_x	
iCOM DO Board #3	-	ba157_x	
Aux Air Temp Device Communication Lost	-	ba217_x	
High Capacity	-	bahc_x	
Dew Point Over Temperature	-	m1575_x	
Dew Point Under Temperature	-	m1659_x	
Remote Sensor Average Over Temperature	-	m1671_x	
Remote Sensor Average Under Temperature	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temperature	-	m1675_x	
Remote Sensor 2 Over Temperature	-	m1676_x	
Remote Sensor 3 Over Temperature	-	m1677_x	
Remote Sensor 4 Over Temperature	-	m1678_x	
Remote Sensor 5 Over Temperature	-	m1679_x	
Remote Sensor 6 Over Temperature	-	m1680_x	
Remote Sensor 7 Over Temperature	-	m1681_x	
Remote Sensor 8 Over Temperature	-	m1682_x	
Remote Sensor 9 Over Temperature	-	m1683_x	
Remote Sensor 10 Over Temperature	-	m1684_x	
Remote Sensor 1 Under Temperature	-	m1685_x	

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 2 Under Temperature	-	m1686_x	
Remote Sensor 3 Under Temperature	-	m1687_x	
Remote Sensor 4 Under Temperature	-	m1688_x	
Remote Sensor 5 Under Temperature	-	m1689_x	
Remote Sensor 6 Under Temperature	-	m1690_x	
Remote Sensor 7 Under Temperature	-	m1691_x	
Remote Sensor 8 Under Temperature	-	m1692_x	
Remote Sensor 9 Under Temperature	-	m1693_x	
Remote Sensor 10 Under Temperature	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Return Humidity Sensor Issue	-	m1910_x	
Compressor 1 Low Differential Pressure Lockout	-	m1918_x	
Compressor 2 Low Differential Pressure Lockout	-	m1927_x	
Unspecified General Event	-	m1930_x	
Temperature Control Sensor Issue	-	m1933_x	
Airflow Sensor Issue	-	m1936_x	
Ext Air Damper Position Issue	-	m1939_x	
Ext Power Source A Failure	-	m1942_x	
Ext Power Source B Failure	-	m1945_x	
Mixed Mode Lockout	-	m1948_x	
Compressor 1 Superheat Over Threshold	-	m2168_x	
Compressor 2 Superheat Over Threshold	-	m2171_x	
Digital Scroll 2 Sensor Fail	-	m603_x	

**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Chilled Water Control Valve Failure 2	-	m884_x	
Compressor 1 Freeze Protection	-	m5353_x	
Compressor 2 Freeze Protection	-	m5364	
<b>Control/Setpoints (Write)</b>			
Air Economizer Control Source	-	bp34_x	
Air Temp Control Integration Time Setting	-	bp41_x	
Compressor 1 Hours Threshold Setting	-	bp24_x	
Compressor 2 Hours Threshold Setting	-	m1089_x	
Dehumidifier Hours Threshold Setting	-	bp138_x	
Dew Point DeadBand Setting	-	m2203_x	
Dew Point Proportional Band Setting	-	bp1256_x	
Dew Point Set Point	-	bp1257_x	
Electric Reheat 1 Hours Threshold Setting	-	bp21_x	
Electric Reheat 2 Hours Threshold Setting	-	bp22_x	
Electric Reheat 3 Hours Threshold Setting	-	bp27_x	
Ext Dew Point Over Temp Threshold	-	bp137_x	
Ext Dew Point Under Temp Threshold	-	m1012_x	
Fan Control Sensor Setting	-	m1919_x	1=valve1 2=valve2
Fan Hours Threshold Setting	-	m1956_x	
Fan Speed Setting	-	bp1393_x	
Fan Speed Temperature Set Point	-	m1014_x	
Free Cooling Internal Temp Delta Setting	-	m1157_x	
Free Cooling Valve Hours Threshold Setting	-	m1186_x	
High Humidity Setpoint Sensor A Setting	-	m1363_x	
High Humidity Setpoint Setting	-	bp180_x	
High Temp Setpoint Sensor A Setting	-	bp179_x	
HW / Hot Gas Valve Hours Threshold Setting	-	bp117_x	
Humd Control Type	-	m1468_x	
Humidifier Hours Threshold Setting	-	m1498_x	
Humidity Call %	-	m1518_x	
Humidity Dead Band Setting	-	bp140_x	
Humidity Proportional Band Setting	-	bp141_x	
Humidity Prop Control Int. Time Setting	-	bp87_x	



**Table 8.6 Available Points: Vertiv™ Liebert® MiniMate-3 System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Humidity Setpoint Setting	-	m1390_x	
IR Flush Rate % Parameter Setting	-	bp86_x	
Low Humidity Setpoint Sensor A Setting	-	bp136_x	
Low Return Humidity Setpoint Setting	-	m2195_x	
Low Temp Setpoint Setting	-	m2206_x	
Main Chilled Water Valve	-	bp40_x	
Min Chilled Water Temp Set Point Setting	-	bp23_x	
Pa or WC	-	bp108_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint Setting	-	bp21_x	
Return Low Temp Setpoint Setting	-	bp22_x	
Single Unit Auto-restart Delay Setting	-	bp27_x	
Static Pressure Setpoint	-	bp107_x	
Supply High Temp Setpoint Setting	-	bp137_x	
Temp Call %	-	bp192_x	
Temp Control Type	-	bp191_x	
Temp Proportional Band Setting	-	bp18_x	
Temp Setpoint Setting	-	bp17_x	
Thermal Control Override	-	bp190_x	
Humidifier Lockout	-	bc01_2_x	
Reheater Lockout	-	bc01_3_x	
System On/Off Control	-	bc1_x	
High Pump Hours Event Threshold Setting	-	m5367_x	

## 8.7 Vertiv™ Liebert® iCOM™ PCW/PDX

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® PDX/PCW
Controller Firmware:	Air Unit iCOM PCW/PDX (EMEA) (FDM version: 1008) IPA Firmware: A9HB-1.04.18-R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pcw

**Table 8.7 Available Points: Vertiv™ Liebert® iCOM™ PCW/PDX**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Return Temp	40001	bs1	
Return Humidity	40002	bs2	
Cooling State	40003	bs3	
Electrical Heater State	40004	bs4	
Humidifier State	40005	bs5	
Dehumidifier State	40006	bs6	
Free Cooling State	40007	bs7	
Heating Ramp %	40008	bs8	
Cooling Ramp %	40009	bs9	
Temperature Setpoint	40010	bs10	
Temperature Prop Band Setpoint	40011	bs11	
Humidity Setpoint	40012	bs12	
Humidity Proportional Band Setpoint	40013	bs13	
Return High Temp Alarm Setpoint	40014	bs14	
Return Low Temp Alarm Setpoint	40015	bs15	
High Return Humidity Threshold	40016	bs16	
Low Humidity Alarm Setpoint	40017	bs17	
Unit On/Off	40018	bs18	
Compressor 1 Run Hrs	40019	bs19	
Compressor 2 Run Hrs	40020	bs20	
Fan Run Hours	40021	bs21	
Humidifier Run Hrs	40022	bs22	
Free Cooling Valve Run Hrs	40023	bs23	
Fan Speed %	40024	bs24	
Air Temperature Control Type		bs101	
Temperature Deadband Setpoint		bs102	

**Table 8.7 Available Points: Vertiv™ Liebert® iCOM™ PCW/PDX (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Air Temp Control Integration Time		bs103	
Supply Temp		bs104	
Supply Air Temperature Set Point		bs105	
Air Temperature Control Type		bs106	
Actual Return Air Temp Set Point		bs107	
Sensor A Temp		bs108	
Sensor B Temp		bs109	
Sensor C Temp		bs110	
Sensor A High Temp Alarm Setpoint		bs111	
Sensor A Low Temp Alarm Setpoint		bs112	
Actual Return Humidity Set Point		bs113	
Humidity Proportional Control Type		bs114	
Humidity Dead Band Setpoint		bs115	
Humidity Prop Ctrl Integration Time		bs116	
Sensor A Humidity		bs117	
Sensor B Humidity		bs118	
Sensor C Humidity		bs119	
Sensor A High Humd Alarm Setpoint		bs120	
Sensor A Low Humidity Alarm Setpoint		bs121	
Compressor 1 State		bs122	
Compressor 1 Capacity Control State		bs123	
Compressor 1 Hours Threshold		bs124	
Dig Scroll Comp1 Discharge Temp		bs125	
Compressor 2 State		bs126	
Compressor 2 Capacity Control State		bs127	
Compressor 2 Hours Threshold		bs128	
Comp 2 Temp		bs129	
Free Cooling Status		bs130	
Free Cooling Internal Temp Delta		bs131	
Free Cooling Internal Control Mode		bs132	
FC Fluid Temp		bs133	
Min Chilled Water Temp SP Enable		bs134	
Min Chilled Water Temp Set Point		bs135	
Free Cooling Valve Hours Threshold		bs136	

**Table 8.7 Available Points: Vertiv™ Liebert® iCOM™ PCW/PDX (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Hot Water/Hot Gas Valve Run Hrs		bs137	
Hot Water/Hot Gas Valve Hrs Threshold		bs138	
Electric Heater #1 Run Hrs		bs139	
Electric Reheat 1Hours Threshold		bs140	
Electric Heater #2 Run Hrs		bs141	
Electric Reheat 2 Hours Threshold		bs142	
Electric Heater #3 Run Hrs		bs143	
Electric Reheat 3 Hours Threshold		bs144	
Humidifier Hours Threshold		bs145	
IR Flush Rate % Setpoint		bs146	
Dehumidifier Run Hrs		bs147	
Dehumidifier Hours Threshold		bs148	
Fan Control Mode		bs149	
Maximum Fan Speed Setpoint %		bs150	
Fan Hours Threshold		bs151	
Analog Input 1 (Raw Value)		bs152	
Analog Input 2 (Raw Value)		bs153	
Analog Input 3 (Raw Value)		bs154	
Analog Input 4 (Raw Value)		bs155	
System Status		bs156	
Unit Standby		bs157	
System Control Mode		bs158	
System Operating State Reason		bs159	
Unit Status		bs160	
Teamwork Mode		bs161	
BMS Timeout Period		bs162	
Single Unit Auto-restart Delay Setpoint		bs163	
Free Cooling Ramp %		bs165	
Maintenance Ramp %		bs166	
Maintenance Month		bs167	
Maintenance Year		bs168	
Hot Water/Hot Gas Valve %		bs169	
Humidification Ramp %		bs170	
De-humidification Ramp %		bs171	

**Table 8.7 Available Points: Vertiv™ Liebert® iCOM™ PCW/PDX (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Fan State		bs172	
Maintenance Tracking State		bs173	
Hot Water/Hot Gas State		bs174	
Adjusted Humidity		bs175	
Expected Condenser Unit Count		bs176	
Condenser 1 Fan Reversal Requested		bs177	
Condenser 2 Fan Reversal Requested		bs178	
Condenser 1 Refrigerant Pressure		bs179	
Condenser 1 Supply Refrigerant Temp		bs180	
Condenser 2 Refrigerant Pressure		bs181	
Condenser 2 Supply Refrigerant Temp		bs182	
Cold Aisle Humidity Calc Method		bs183	
Cold Aisle Temp Calc Method		bs184	
Cold Aisle Control Enable		bs185	
Cold Aisle Force Max Fan - Ext Control		bs186	
Static Pressure Control Enable		bs187	
Chilled Water Valve Reset Enable		bs188	
Damper Status		bs189	
Actual Cold Aisle Humidity		bs190	
Cold Aisle Sensor 1 Humidity		bs191	
Cold Aisle Sensor 2 Humidity		bs192	
Cold Aisle Sensor 3 Humidity		bs193	
Actual Cold Aisle Temperature		bs194	
Cold Aisle Sensor 1 Temperature		bs195	
Cold Aisle Sensor 2 Temperature		bs196	
Cold Aisle Sensor 3 Temperature		bs197	
Cold Aisle Cascade Fan Speed Max Spt.		bs198	
Cold Aisle Fan Speed Min Set Point		bs199	
Cold Aisle Fan Speed Max Set Point		bs200	
Humidification Fan Speed Min Spt.		bs201	
Heating Fan Speed Min Set Point		bs202	
Dehumidification Fan Speed Min Spt.		bs203	
Back Draft Control Fan Speed		bs204	
Underflow Static Pressure		bs205	

**Table 8.7 Available Points: Vertiv™ Liebert® iCOM™ PCW/PDX (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Underflow Static Pressure		bs206	
System Input RMS A-B		bs208	
System Input RMS A-N		bs209	
System Input RMS Current Phase A		bs210	
System Input RMS B-C		bs211	
System Input Volts B-N		bs212	
System Input RMS Current Phase B		bs213	
System Input RMS C-A		bs214	
System Input RMS C-N		bs215	
System Input RMS Current Phase C		bs216	
Energy Consumption (kWh)		bs217	
Instantaneous Power (W)		bs218	
SuperSaver Request		bs219	
SuperSaver call for cooling		bs220	
Fluid Input Temperature #1		bs221	
Fluid Input Temperature #2		bs222	
Fluid Output Temperature #1		bs223	
Fluid Output Temperature #2		bs224	
<b>Alarm Points</b>			All Modbus alarms are bit packed holding registers
<b>Alarm 1 (Word)</b>	289		
Loss Of Communications	bit0	a701	
Supply Air Overtemp	bit1	a101	
Supply Air Undertemp	bit2	a102	
Supply Air Sensor Issue	bit3	a103	
Return Air Overtemp	bit4	a104	
Return Air Undertemp	bit5	a105	
Return Air Sensor Issue	bit6	a106	
Sensor A Overtemp	bit7	a107	
Sensor A Undertemp	bit8	a108	
Sensor A Issue	bit9	a109	
Ambient Sensor Issue	bit10	a110	
High Return Humidity	bit11	a111	
Low Return Humidity	bit12	a112	
Sensor A High Humidity	bit13	a113	

**Table 8.7 Available Points: Vertiv™ Liebert® iCOM™ PCW/PDX (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Sensor A Low Humidity	bit14	a114	
Compressor Lockout	bit15	a115	
<b>Alarm 2 (Word)</b>	290		
Compressor Capacity Reduced	bit0	a116	
Compressor 1 Hours Exceeded	bit1	a117	
Compressor 1 High Head Pressure		a118	
Compressor 1 Low Suction Pressure		a119	
Compressor 1 Short Cycle		a120	
Compressor 1 Pumpdown Fail		a121	
Compressor 1 Thermal Overload		a122	
Digital Scroll 1 Sensor Fail		a123	
Digiscroll 1 Overtemp		a124	
Comp 1 Low Pressure Xducer Issue		a125	
Comp 1 High Pressure Xducer Issue		a126	
Compressor 2 Hours Exceeded	bit2	a127	
Compressor 2 High Head Pressure		a128	
Compressor 2 Low Suction Pressure		a129	
Compressor 2 Short Cycle		a130	
Compressor 2 Pumpdown Fail		a131	
Compressor 2 Thermal Overload		a132	
Digital Scroll 2 Sensor Fail		a133	
Digiscroll 2 Overtemp		a134	
Compressor 2 Low Pressure Transducer Issue		a135	
Compressor 2 High Pressure Transducer Issue		a136	
Free Cooling Valve Hours Exceeded	bit3	a137	
Ext Free Cooling Lockout	bit4	a138	
Free Cooling Temp Sensor Issue	bit5	a139	
Hot Water/ Hot Gas Working Hours Exceeded	bit6	a140	
Reheater Overtemp	bit7	a141	
Reheat Lockout		a142	
Electric Reheater 1 Hours Exceeded		a143	
Electric Reheater 2 Hours Exceeded		a144	
Electric Reheater 3 Hours Exceeded		a145	
Humidifier Hours Exceeded	bit8	a146	

**Table 8.7 Available Points: Vertiv™ Liebert® iCOM™ PCW/PDX (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Humidifier Lockout		a147	
Humidifier Control Board Not Detected		a148	
Humidifier Cylinder Worn		a149	
Humidifier Issue		a150	
Humidifier Low Water		a151	
Humidifier Overcurrent		a152	
Humidifier Undercurrent		a153	
Dehumidifier Hours Exceeded	bit9	a154	
Fan Hours Exceeded	bit10	a155	
Main Fan Overload	bit11	a156	
EC Fan Fault	bit12	a157	
Condenser TVSS Issue	bit13	a158	
Condenser VFD Issue	bit14	a159	
Condenser Pump High Water	bit15	a160	
<b>Alarm 3 (Word)</b>	291		
Condenser 1 Issue	bit0	a161	
Condenser 2 Issue	bit1	a162	
Customer Input 1	bit2	a163	
Customer Input 2		a164	
Customer Input 3		a165	
Customer Input 4		a166	
Ext Loss of Air Blower	bit3	a167	
Ext Loss of Flow	bit4	a168	
Ext Standby Glycol Pump On	bit5	a169	
BMS Communications Timeout	bit6	a170	
Ext Standby Unit On	bit7	a171	
Clogged Air Filter	bit8	a172	
Loss of Air Flow	bit9	a173	
Low Memory	bit10	a174	
Service Required	bit11	a175	
Master Unit Communication Lost	bit12	a176	
RAM Battery Issue	bit13	a177	
Shutdown - Loss Of Power	bit14	a178	
High Power Shutdown	bit15	a179	



**Table 8.7 Available Points: Vertiv™ Liebert® iCOM™ PCW/PDX (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 4 (Word)</b>	292		
Smoke Detected	bit0	a180	
Supply Chilled Water Loss of Flow	bit1	a181	
Supply Chilled Water Over Temp	bit2	a182	
Unit Code Missing	bit3	a183	
Unit Communication Lost	bit4	a184	
Water Leakage Detector Sensor Issue	bit5	a185	
Water Under Floor	bit6	a186	
Ext Over Temperature	bit7	a187	
External Fire Detected	bit8	a188	
Air Economizer Reduced Airflow	bit9	a189	
Condenser 1 TVSS Issue	bit10	a190	
Condenser 1 Outside Air Hi/Low		a191	
Condenser 1 Control Board Issue		a192	
Condenser 1 Outside Air Temp Sensor Issue		a193	
Condenser 1 Communication Lost		a194	
Condenser 1 Remote Shutdown		a195	
Condenser 2 TVSS Issue	bit11	a196	
Condenser 2 Outside Air Hi/Low		a197	
Condenser 2 Control Board Issue		a198	
Condenser 2 Outside Air Temp Sensor Issue		a199	
Condenser 2 Communication Lost		a200	
Condenser 2 Remote Shutdown		a201	
Condenser 1 Refrigerant Pressure Sens Issue	bit10	a202	
Condenser 1 Refrigerant Underpressure		a203	
Condenser 1 Refrigerant Overpressure		a204	
Condenser 1 Temp Sensor Issue		a205	
Condenser 1 Supply Refrigerant Under Temp		a206	
Condenser 1 Supply Refrigerant Over Temp		a207	
Condenser 1 Max Fan Speed Override		a208	
Condenser 2 Refrigerant Pressure Sens Issue	bit11	a209	
Condenser 2 Refrigerant Underpressure		a210	
Condenser 2 Refrigerant Overpressure		a211	
Condenser 2 Temp Sensor Issue		a212	

**Table 8.7 Available Points: Vertiv™ Liebert® iCOM™ PCW/PDX (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 2 Supply Refrigerant Under Temp		a213	
Condenser 2 Supply Refrigerant Over Temp		a214	
Condenser 2 Max Fan Speed Override		a215	
Condenser Fan 1 Issue	bit12	a216	
Condenser Fan 2 Issue		a217	
Condenser Fan 3 Issue		a218	
Condenser Fan 4 Issue		a219	
Condenser Fan 5 Issue		a220	
Condenser Fan 6 Issue		a221	
Condenser Fan 7 Issue		a222	
Condenser Fan 8 Issue		a223	
Compressor 1B Thermal Overload	bit13	a224	
Compressor 1B Hours Exceeded	bit14	a225	
Compressor 2B Thermal Overload	bit15	a226	
<b>Alarm 5 (Word)</b>	293		
Compressor 2B Hours Exceeded	bit0	a227	
Wrong Damper Position	bit1	a228	
Team Static Pressure Failure	bit2	a229	

## 8.8 Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Challenger 3000, Vertiv™ Liebert® Challenger ITR, Vertiv™ Liebert® CW, Vertiv™ Liebert® Deluxe System/3, Vertiv™ Liebert® DS, Vertiv™ Liebert® HPM, Vertiv™ Liebert® PeX
Controller Firmware:	Air Unit iCOM-PAV4 (FDM version: 35) PA Firmware: iCOM PA1.04.033.STD and PA1.04.042.STD
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pav4

**Table 8.8 Available Points: Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Hours	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	Rev 1 was Humd Lockout
Free Cooling Status	40016	bs16_x	Rev 1 was Reheat Lockout
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	

**Table 8.8 Available Points: Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Air Temp Control Integration Time	-	m1013_x	
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Disable Notifications	-	mme_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Free Cooling Internal Temp Delta	-	m1331_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling State	-	m936_x	
Free Cooling Valve Hours Status	-	m959_x	
Free Cooling Valve Hours Threshold	-	m1432_x	

**Table 8.8 Available Points: Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Hot Water / Hot Gas Valve Hours	-	m965_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidity Dead Band Setpoint	-	m980_x	
Humidity Proportional Control Integration Time	-	m1108_x	
IR Flush Rate % Setpoint	-	m902_x	
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1429_x	
Minimum Chilled Water Temp Set Point Enable	-	m1423_x	
Return Humidity Set Point	-	m1094_x	
Return Temp Setpoint	-	m942_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	
Supply Temp	-	m947_x	
Supply Temperature Setpoint	-	m977_x	
System Control Mode	-	m1520_x	
Temperature Dead Band Setpoint	-	m978_x	

**Table 8.8 Available Points: Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Temperature Scale	-	m976_x	
Today's High Air Temperature Time	-	m967_x	
Today's High Humidity Time	-	m972_x	
Today's High Temperature	-	m966_x	
Today's Low Air Temperature Time	-	m970_x	
Today's Low Humidity	-	m974_x	
Today's Low Humidity Time	-	m975_x	
Today's Low Temperature	-	m969_x	
Unit Maintenance Mode Time Expired	-	n898_x	
Air Temperature Control Type	-	m1010_x	1=Proportional 2=Prop+Integral 3=Intelligent
Fan Control Mode	-	m1380_x	1=Auto 2=Manual 3=Economy 4=Delta
Free Cooling Internal Control Mode	-	m1418_x	1=Disabled 2=Contact 3=Value
Humidity Proportional Control Type	-	m1104_x	1=Relative 2=Compensated 3=Predictive
Operating State Reason	-	m1523_x	1=Unknown 2=Network Display 3=Alarm 4=Schedule 5=Remote System 6=External Input 7=Local Display
Supply Air Temperature Sensor Control	-	m1043_x	1=Disabled 2=Limit 3=Control 4=Temp Only

**Table 8.8 Available Points: Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Status	-	m1288_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	

**Table 8.8 Available Points: Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water or Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	



**Table 8.8 Available Points: Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
<b>Alarm 5 (Word)</b>	40293		
Loss of Air Flow	bit15	m821_x	
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss of Power	bit5	m836_x	
High Power Shutdown	bit6	m839_x	
Smoke Detected	bit7	m842_x	
Supply Chilled Water Loss of Flow	bit8	m845_x	
Supply Chilled Water Over Temp	bit9	m848_x	
Unit Code Missing	bit10	m861_x	
Unit Communication Lost	bit11	m864_x	
Water Leakage Detector Sensor Issue	bit12	m867_x	
Water Under Floor	bit13	m870_x	
Ext Over Temperature	bit14	m873_x	
External Fire Detected	bit15	m876_x	

**Table 8.8 Available Points: Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Chilled Water Control Valve Position 1	-	m879_x	
Chilled Water Control Valve Position 2	-	m884_x	
Unit In Maintenance Mode	-	maint_x	
Notifications Disabled	-	notify_x	
<b>Control/Setpoints Points (Write)</b>			
Unit On/Off	40349	bc1_x	Modbus - Set bit0=off, bit1=on
Fan Control Mode	40349	bp87_x	Modbus - Set bit6=auto, bit7=manual
Fan Speed	40349	bp86_x	Modbus - Set bits8-15=speed 50-100%
Temp Proportional Band	40350	bp18_x	Scale *1000 (Modbus Only)
Temp Setpoint	40350	bp17_x	
Humidity Proportional Band	40351	bp20_x	Scale *1000 (Modbus Only)
Humidity Setpoint	40351	bp19_x	
Air Temp Control Integration Time	-	m1014_x	
Compressor 1 Hours Threshold	-	m1157_x	
Compressor 2 Hours Threshold	-	m1186_x	
Dehumidifier Hours Threshold	-	m1363_x	
Electric Reheat 1 Hours Threshold	-	m1468_x	
Electric Reheat 2 Hours Threshold	-	m1498_x	
Electric Reheat 3 Hours Threshold	-	m1518_x	
Fan Hours Threshold	-	m1390_x	
Free Cooling Internal Temp Delta	-	m1332_x	
Free Cooling Valve Hours Threshold	-	m1433_x	
High Humidity Setpoint Sensor A	-	bp40_x	
High Humidity Setpoint	-	bp23_x	
High Temp Setpoint Sensor A	-	m1088_x	
High Temp Setpoint	-	bp21_x	
Hot Water / Hot Gas Valve Hours	-	m1406_x	
Hot Water/Gas Valve Hours Threshold	-	m1416_x	
Humidifier Hours Parameter	-	bp14_x	
Humidifier Hours Threshold	-	m1353_x	
Humidity Dead Band	-	m1106_x	
Humidity Prop Control Int. Time	-	m1109_x	
IR Flush Rate % Parameter	-	bp34_x	

**Table 8.8 Available Points: Vertiv™ Liebert® iCOM™-PAV4 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Low Humidity Setpoint Sensor A	-	bp41_x	
Low Return Humidity Setpoint	-	bp24_x	
Low Temp Setpoint Sensor A	-	m1089_x	
Low Temp Setpoint	-	bp22_x	
Min Chilled Water Temp Set Point	-	m1430_x	
Return Humidity Setpoint	-	m1095_x	
Single Unit Auto-restart Delay	-	bp27_x	
Supply Temp Setpoint	-	m1016_x	
Temperature Dead Band	-	m1012_x	

## 8.9 Vertiv™ Liebert® DS Unit Level 10 Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Deluxe System/3
Controller Firmware:	Air DS Unit Level 10 Controls Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	I10 (2mb) / w-I10 (16mb)

**Table 8.9 Available Points: Vertiv™ Liebert® DS Unit Level 10 Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Temperature	40001	bs5_x	
Humidity	40002	bs8_x	
Cooling (On/Off)	40003	bsd_1_x	
Heating (On/Off)	40004	bsd_2_x	
Humidification (On/Off)	40005	bs3_x	
De-humidification (On/Off)	40006	bs4_x	
Econ-O-Cycle (On/Off)	40007	bs1_x	
Stages	40008	bsd_x	
% Capacity	40009	bsa_x	
Temperature Setpoint	40010	bv0_x	
Temperature Tolerance Setpoint	40011	bv2_x	
Humidity Setpoint	40012	bv4_x	
Humidity Tolerance Setpoint	40013	bv6_x	
High Temperature Setpoint	40014	bv9_x	
Low Temperature Setpoint	40015	bvb_x	
High Humidity Setpoint	40016	bvd_x	
Low Humidity Setpoint	40017	bvf_x	
Common Alarm	-	stat_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Communications	bit0	comm_x	
High Head Pressure 1	bit1	ba1_x	
High Head Pressure 2	bit2	ba2_x	
Loss of Airflow	bit3	ba3_x	
Standby Glycol Unit On	bit4	ba4_x	
Water Under Floor	bit5	ba5_x	

**Table 8.9 Available Points: Vertiv™ Liebert® DS Unit Level 10 Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Change Filters	bit6	ba6_x	
High Temperature	bit7	ba7_x	
Low Temperature	bit8	ba8_x	
High Humidity	bit9	ba9_x	
Low Humidity	bit10	baa_x	
<b>Alarm 2 (Word)</b>	40290		
Humidifier Problem	bit0	bab_x	
No Water in Humidifier Pan	bit1	bac_x	
Compressor 1 Overload	bit2	bad_x	
Compressor 2 Overload	bit3	bae_x	
Main Fan Overload	bit4	baf_x	
Manual Override	bit5	ba10_x	
Smoke Detected	bit6	ba11_x	
Loss of Water Flow	bit7	ba12_x	
Standby Unit On	bit8	ba13_x	
Low Suction Pressure	bit9	ba14_x	
Short Cycle	bit10	ba15_x	
<b>Alarm 3 (Word)</b>	40291		
Loss of Power	bit0	ba16_x	
Inverter on Bypass	bit1	ba17_x	
Standby Fan On	bit2	ba2c_x	
Loss of Emergency Power	bit3	ba2d_x	
Local Alarm 1	bit4	ba40_x	
Local Alarm 2	bit5	ba41_x	
<b>Setpoints Points (Write)</b>			
Temperature Setpoint	40350	bc02_x	
Temperature Tolerance Setpoint	40350	bc02_x	Scale *1000
Humidity Setpoint	40351	bc03_x	
Humidity Tolerance Setpoint	40351	bc03_x	Scale *1000
High Temperature Setpoint	-	-	
Low Temperature Setpoint	-	-	
High Humidity Setpoint	-	-	
Low Humidity Setpoint	-	-	
Auto-Restart Delay	-	-	

## 8.10 Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Challenger 3000, Vertiv™ Liebert® Challenger ITR, Vertiv™ Liebert® CW, Vertiv™ Liebert® Deluxe System/3, Vertiv™ Liebert® DS, Vertiv™ Liebert® HPM, Vertiv™ Liebert® PeX
Controller Firmware:	Air Unit iCOM-PA_71 (FDM Version: 71) PA Firmware: iCOM PA2.00.11R (USA) iCOM PA2.00.12R (Japan)
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_71

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Set Point	-	bs134_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Electric Reheat 3 Hours Threshold	-	m1510_x	
Ext Air Sensor A Dew Point Temp	-	m2971_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Free Cooling Internal Control Mode	-	m1418_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1331_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Threshold	-	m1432_x	
Hot Water / Hot Gas Valve Hours	-	m965_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1749_x	
Humidifier Run Hrs	-	bs14_x	
Humidity Dead Band Setpoint	-	m980_x	
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
IR Flush Rate % Setpoint	-	m902_x	
Low Temp Alarm Setpoint	-	bs138_x	



**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Maintenance Mode Time Expired	-	m510_x	
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1429_x	
Min. Chilled Water Temp Set Point Enable	-	m1423_x	
Reheater Lockout	-	m1760_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1665_x	
Remote Sensor 3 Temperature	-	m1642_x	
Remote Sensor 4 Temperature	-	m1645_x	
Remote Sensor 5 Temperature	-	m1648_x	
Remote Sensor 6 Temperature	-	m1651_x	
Remote Sensor 7 Temperature	-	m1654_x	
Remote Sensor 8 Temperature	-	m1657_x	
Remote Sensor 9 Temperature	-	m1661_x	
Remote Sensor 10 Temperature	-	m1664_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m2607_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m2608_x	
Return Dew Point	-	bs133_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
System Operating State Reason	-	bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
System Status	-	m1527_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
Supply High Temp Alarm Setpoint	-	bs137_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
Temperature Deadband Setpoint	-	m978_x	
Temperature Scale	-	m976_x	
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Position 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Display Off	-	a108_x	
Monitoring Off	-	a109_x	
Remote Off	-	a110_x	
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Chilled Water Control Valve Position 2	-	m884_x	Modbus – Alarm 5 bit15
Chilled Water Control Valve Position 1	-	m879_x	
Chilled Water Control Valve Position 2	-	m884_x	
Remote Sensor Average Over Temp	-	m1671_x	
Remote Sensor Average Under Temp	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temp	-	m1675_x	
Remote Sensor 2 Over Temp	-	m1676_x	
Remote Sensor 3 Over Temp	-	m1677_x	
Remote Sensor 4 Over Temp	-	m1678_x	
Remote Sensor 5 Over Temp	-	m1679_x	
Remote Sensor 6 Over Temp	-	m1680_x	
Remote Sensor 7 Over Temp	-	m1681_x	
Remote Sensor 8 Over Temp	-	m1682_x	
Remote Sensor 9 Over Temp	-	m1683_x	
Remote Sensor 10 Over Temp	-	m1684_x	
Remote Sensor 1 Under Temp	-	m1685_x	
Remote Sensor 2 Under Temp	-	m1686_x	
Remote Sensor 3 Under Temp	-	m1687_x	
Remote Sensor 4 Under Temp	-	m1688_x	
Remote Sensor 5 Under Temp	-	m1689_x	
Remote Sensor 6 Under Temp	-	m1690_x	
Remote Sensor 7 Under Temp	-	m1691_x	
Remote Sensor 8 Under Temp	-	m1692_x	
Remote Sensor 9 Under Temp	-	m1693_x	
Remote Sensor 10 Under Temp	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Air Economizer Emergency Override	-	m1705_x	
Air Economizer Reduced Airflow	-	m1706_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Dew Point Over Temperature	-	m2966_x	
Dew Point Under Temperature	-	m2969_x	
<b>Control/Setpoints Points (Write)</b>			
System On/Off Control	40349	bc1_x	Modbus - Set bit0=off, bit1=on
Humidifier Lockout	-	bc01_2_x	1=Lockout 0=Normal
Reheater Lockout	-	bc01_3_x	1=Lockout 0=Normal
Fan Control Sensor Setting	-	bp87_x	1=Supply 2=Remote 3=Return 4=Manual
Fan Speed	40349	bp86_x	Modbus - Set bits8-15=speed 50-100%
Temp Proportional Band	40350	bp18_x	Scale *1000 (Modbus Only)
Temp Setpoint	40350	bp17_x	
Humidity Proportional Band	40351	bp20_x	Scale *1000 (Modbus Only)
Humidity Setpoint	40351	bp19_x	
Air Economizer Control Source	-	bp1393_x	
Air Temperature Control Integration Time	-	m1014_x	
Compressor 1 Hours Threshold	-	m1157_x	
Compressor 2 Hours Threshold	-	m1186_x	
Dehumidifier Hours Threshold	-	m1363_x	
Dew Point Set Point	-	bp117_x	
Electric Reheat 1 Hours Threshold	-	m1468_x	

**Table 8.10 Available Points: Vertiv™ Liebert® iCOM™-PA\_71 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Electric Reheat 2 Hours Threshold	-	m1498_x	
Electric Reheat 3 Hours Threshold	-	m1518_x	
Ext Dew Point Over Temp Threshold	-	bp140_x	
Ext Dew Point Under Temp Threshold	-	bp141_x	
Fan Speed Temperature Set Point	-	bp136_x	
Free Cooling Internal Temperature Delta	-	m1332_x	
Free Cooling Valve Hours Threshold	-	m1433_x	
High Humidity Setpoint Sensor A	-	bp40_x	
High Humidity Setpoint	-	bp23_x	
High Temp Setpoint Sensor A	-	m1088_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1416_x	
Humidifier Hours Threshold	-	m1353_x	
Humidity Dead Band	-	m1106_x	
Humidity Proportional Control Int. Time	-	m1109_x	
IR Flush Rate % Parameter	-	bp34_x	
Low Humidity Setpoint Sensor A	-	bp41_x	
Low Return Humidity Setpoint	-	bp24_x	
Low Temp Setpoint Sensor A	-	m1089_x	
Low Temp Setpoint	-	bp138_x	
Minimum Chilled Water Temp Set Point	-	m1430_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint	-	bp21_x	
Return Low Temp Setpoint	-	bp22_x	
Single Unit Auto-restart Delay	-	bp27_x	
Supply High Temp Setpoint	-	bp137_x	
Temperature Dead Band	-	m1012_x	



## 8.11 Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Challenger 3000, Vertiv™ Liebert® Challenger ITR, Vertiv™ Liebert® CW, Vertiv™ Liebert® Deluxe System/3, Vertiv™ Liebert® DS, Vertiv™ Liebert® DSE, Vertiv™ Liebert® HPM, Vertiv™ Liebert® PeX
Controller Firmware:	Air Unit iCOM-PA_156 (FDM Version: 156) PA Firmware: iCOM PA2.01.29.xxR
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_v156

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Set Point	-	bs134_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Ext Air Sensor A Dew Point Temp	-	m2971_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Free Cooling Internal Control Mode	-	m1418_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1331_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Status	-	m959_x	
Free Cooling Valve Hours Threshold	-	m1432_x	
Hot Water / Hot Gas Valve Hours	-	m965_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1749_x	
Humidifier Run Hrs	-	bs14_x	
Humidity Dead Band Setpoint	-	m980_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
IR Flush Rate % Setpoint	-	m902_x	
Low Temp Alarm Setpoint	-	bs138_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Maintenance Mode Time Expired	-	m510_x	
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1429_x	
Min. Chilled Water Temp Set Point Enable	-	m1423_x	
Outside Air Temp	-	m1719_x	
Reheater Lockout	-	m1760_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1665_x	
Remote Sensor 3 Temperature	-	m1642_x	
Remote Sensor 4 Temperature	-	m1645_x	
Remote Sensor 5 Temperature	-	m1648_x	
Remote Sensor 6 Temperature	-	m1651_x	
Remote Sensor 7 Temperature	-	m1654_x	
Remote Sensor 8 Temperature	-	m1657_x	
Remote Sensor 9 Temperature	-	m1661_x	
Remote Sensor 10 Temperature	-	m1664_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m2607_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m2608_x	
Return Dew Point	-	bs133_x	
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
System Control Mode	-	m1520_x	set=external not set=internal(auto)
System Operating State Reason	-	bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
Static Pressure Setpoint	-	bs107	
Temperature Scale	-	m976_x	
Temperature Deadband Setpoint	-	m978_x	
System Status	-	m1527_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
Unit Static Pressure	-	bs108	
System Static Pressure	-	bs109	
Condenser 1 Outside Air Temp		bs115_x	
Condenser 2 Outside Air Temp		bs116_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser Fan #1 Speed		bs117_x	%
Condenser Fan #2 Speed		bs118_x	%
Condenser Fan #3 Speed		bs119_x	%
Condenser Fan #4 Speed		bs120_x	%
Condenser Fan #5 Speed		bs121_x	%
Condenser Fan #6 Speed		bs122_x	%
Condenser Fan #7 Speed		bs123_x	%
Condenser Fan #8 Speed		bs124_x	%
Condenser Fan #1 Power		bs125_x	kW
Condenser Fan #2 Power		bs126_x	kW
Condenser Fan #3 Power		bs127_x	kW
Condenser Fan #4 Power		bs128_x	kW
Condenser Fan #5 Power		bs129_x	kW
Condenser Fan #6 Power		bs130_x	kW
Condenser Fan #7 Power		bs131_x	kW
Condenser Fan #8 Power		bs132_x	kW
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	



**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Position 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Display Off	-	a108_x	
Monitoring Off	-	a109_x	
Remote Off	-	a110_x	
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Chilled Water Control Valve Position 2	-	m884_x	Modbus – Alarm 5 bit15
Chilled Water Control Valve Position 1	-	m879_x	
Chilled Water Control Valve Position 2	-	m884_x	
Remote Sensor Average Over Temp	-	m1671_x	
Remote Sensor Average Under Temp	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Static Pressure Sensor Issue	-	ba11_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
High Static Pressure	-	ba12_x	
Low Static Pressure	-	ba13_x	
Remote Sensor 1 Over Temp	-	m1675_x	
Remote Sensor 2 Over Temp	-	m1676_x	
Remote Sensor 3 Over Temp	-	m1677_x	
Remote Sensor 4 Over Temp	-	m1678_x	
Remote Sensor 5 Over Temp	-	m1679_x	
Remote Sensor 6 Over Temp	-	m1680_x	
Remote Sensor 7 Over Temp	-	m1681_x	
Remote Sensor 8 Over Temp	-	m1682_x	
Remote Sensor 9 Over Temp	-	m1683_x	
Remote Sensor 10 Over Temp	-	m1684_x	
Remote Sensor 1 Under Temp	-	m1685_x	
Remote Sensor 2 Under Temp	-	m1686_x	
Remote Sensor 3 Under Temp	-	m1687_x	
Remote Sensor 4 Under Temp	-	m1688_x	
Remote Sensor 5 Under Temp	-	m1689_x	
Remote Sensor 6 Under Temp	-	m1690_x	
Remote Sensor 7 Under Temp	-	m1691_x	
Remote Sensor 8 Under Temp	-	m1692_x	
Remote Sensor 9 Under Temp	-	m1693_x	
Remote Sensor 10 Under Temp	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Air Economizer Emergency Override	-	ba108_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Air Economizer Reduced Airflow	-	ba109_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Dew Point Over Temperature	-	m2966_x	
Dew Point Under Temperature	-	m2969_x	
EE Valve Unspecified Event	-	ba110_x	
Condenser Unit Unspecified General Event	-	ba112_x	
Condenser Circuit Unspecified General Event	-	ba113_x	
<b>Control/Setpoints Points (Write)</b>			
System On/Off Control	40349	bc1_x	Modbus - Set bit0=off, bit1=on
Humidifier Lockout	-	bc01_2_x	1=Lockout, 0=Normal
Reheater Lockout	-	bc01_3_x	1=Lockout, 0=Normal
Fan Control Sensor Setting	-	bp87_x	1=Supply 2=Remote 3=Return 4=Manual
Fan Speed	40349	bp86_x	Modbus - Set bits8-15=speed 50-100%
Temp Proportional Band	40350	bp18_x	Scale *1000 (Modbus Only)
Temp Setpoint	40350	bp17_x	
Humidity Proportional Band	40351	bp20_x	Scale *1000 (Modbus Only)
Humidity Setpoint	40351	bp19_x	
Static Pressure Setpoint (Pa)	-	m1529	
Air Economizer Control Source	-	bp1393_x	
Air Temperature Control Integration Time	-	m1014_x	
Compressor 1 Hours Threshold	-	m1157_x	
Compressor 2 Hours Threshold	-	m1186_x	
Dehumidifier Hours Threshold	-	m1363_x	
Dew Point Set Point	-	bp117_x	
Electric Reheat 1 Hours Threshold	-	m1468_x	
Electric Reheat 2 Hours Threshold	-	m1498_x	
Electric Reheat 3 Hours Threshold	-	m1518_x	
Ext Dew Point Over Temp Threshold	-	bp140_x	
Ext Dew Point Under Temp Threshold	-	bp141_x	
Fan Hours Threshold	-	m1390_x	
Fan Speed Temperature Set Point	-	bp136_x	
Free Cooling Internal Temperature Delta	-	m1332_x	

**Table 8.11 Available Points: Vertiv™ Liebert® iCOM™-156 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Free Cooling Valve Hours	-	m1334_x	
Free Cooling Valve Hours Threshold	-	m1433_x	
High Humidity Setpoint Sensor A	-	bp40_x	
High Humidity Setpoint	-	bp23_x	
High Temp Setpoint Sensor A	-	m1088_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1416_x	
Humidifier Hours Threshold	-	m1353_x	
Humidity Dead Band	-	m1106_x	
Humidity Proportional Control Int. Time	-	m1109_x	
IR Flush Rate % Parameter	-	bp34_x	
Low Humidity Setpoint Sensor A	-	bp41_x	
Low Return Humidity Setpoint	-	bp24_x	
Low Temp Setpoint Sensor A	-	m1089_x	
Low Temp Setpoint	-	bp138_x	
Minimum Chilled Water Temp Set Point	-	m1430_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint	-	bp21_x	
Return Low Temp Setpoint	-	bp22_x	
Single Unit Auto-restart Delay	-	bp27_x	
Supply High Temp Setpoint	-	bp137_x	
Temperature Dead Band	-	m1012_x	

## 8.12 Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Challenger 3000, Vertiv™ Liebert® Challenger ITR, Vertiv™ Liebert® CW, Vertiv™ Liebert® Deluxe System/3, Vertiv™ Liebert® DS, Vertiv™ Liebert® HPM, Vertiv™ Liebert® PeX
Controller Firmware:	Air Unit iCOM-PA_180 (FDM version: 180) PA Firmware: iCOM PA2.01.37R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_v180

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	1=Off 2= On(available) 3=Unsupported see M1310
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Low Humidity Alarm Setpoint	40024	bs24_x	
Actual Air Temperature Set Point	-	bs158_x	
Actual Auxiliary Air Temp Set Point	-	bs218_x	
Actual Humidity Setpoint	-	bs159_x	
Adjusted Humidity	-	bs210_x	
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Chilled water Valve Hours	-	m1913_x	
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 2 Outside Air Temp	-	bs116_x	
Compressor Lockout	-	bs243_x	1=disabled 2=enabled
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 2 Outside Air Temp	-	bs116_x	
Condenser Fan #1 Speed	-	bs117_x	%
Condenser Fan #2 Speed	-	bs118_x	%
Condenser Fan #3 Speed	-	bs119_x	%
Condenser Fan #4 Speed	-	bs120_x	%
Condenser Fan #5 Speed	-	bs121_x	%
Condenser Fan #6 Speed	-	bs122_x	%
Condenser Fan #7 Speed	-	bs123_x	%

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser Fan #8 Speed	-	bs124_x	%
Condenser Fan #1 Power	-	bs125_x	kW
Condenser Fan #2 Power	-	bs126_x	kW
Condenser Fan #3 Power	-	bs127_x	kW
Condenser Fan #4 Power	-	bs128_x	kW
Condenser Fan #5 Power	-	bs129_x	kW
Condenser Fan #6 Power	-	bs130_x	kW
Condenser Fan #7 Power	-	bs131_x	kW
Condenser Fan #8 Power	-	bs132_x	kW
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Set Point	-	bs134_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Energy Consumption (kWH)	-	bs171_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4>manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Fluid Flow Rate #1	-	bs177_x	L/min

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Fluid Flow Rate #2	-	bs178_x	L/min
Fluid Input Temperature #1	-	bs173_x	
Fluid Input Temperature #2	-	bs174_x	
Fluid Output Temperature #1	-	bs175_x	
Fluid Output Temperature #2	-	bs176_x	
Free Cooling Internal Control Mode	-	m1418_x	1=disabled 2=contact 3=value
Free Cooling Internal Temp Delta	-	m1331_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	Free Cooling is >0% See bs16
Free Cooling Valve Run Hrs	-	m959_x	
Free Cooling Valve Hours Threshold	-	m1432_x	
Hot Water/Gas Valve Hrs Threshold	-	m1408_x	
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Hot Water / Hot Gas Valve Hours	-	m965_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1749_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Dead Band Setpoint	-	m980_x	
Humidity Prop Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
IR Flush Rate % Setpoint	-	m902_x	
Instantaneous Power	-	bs172_x	watts
Low Temp Alarm Setpoint	-	bs138_x	
Main Chilled Water Valve	-	m1910_x	1=Valve 1 2=Valve 2
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	



**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1429_x	
Min. Chilled Water Temp Set Point Enable	-	m1423_x	
Outside Air Temp	-	m1719_x	
Raw Auxiliary Air Temp	-	bs217_x	
Reheater Lockout	-	m1764_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor 10 Temperature	-	m1665_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Return Dew Point	-	bs133_x	
Remote Sensor Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Static Pressure Setpoint	-	bs107_x	
Supply High Temp Alarm Setpoint	-	bs137_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
System Input RMS A-B	-	bs162_x	
System Input RMS A-N	-	bs163_x	
System Input RMS Current Phase A	-	bs164_x	
System Input RMS B-C	-	bs165_x	
System Input RMS B-N	-	bs166_x	
System Input RMS Current Phase B	-	bs167_x	
System Input RMS C-A	-	bs168_x	
System Input RMS C-N	-	bs169_x	
System Input RMS Current Phase C	-	bs170_x	
Unit Static Pressure	-	bs108	
System Static Pressure	-	bs109	
System Status	-	m1288_x	
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
Temperature Deadband Setpoint	-	m978_x	
Temperature Scale	-	m976_x	
Unit Cooling Load	-	bs160_x	(kW)
Unit Status	-	bs139_x	Off=Alarm, Local, Display, Remote, BMS, or Unit On
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Position 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Unit Local/Display Off	-	a108_x	
Unit Off By Remote System	-	a109_x	
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Input Undervoltage	-	ba108_x	
Modbus Power Meter Communication Lost	-	ba109_x	
Static Pressure Sensor Issue	-	ba11_x	

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Fluid Temperature Sensor #1 Issue		ba110_x	
Fluid Temperature Sensor #2 Issue	-	ba111_x	
Fluid Flow Sensor #1 Issue	-	ba112_x	
Fluid Flow Sensor #2 Issue	-	ba113_x	
High Static Pressure	-	ba12_x	
Low Static Pressure	-	ba13_x	
Static Pressure Sensor Out of Range	-	ba14_x	
Aux Air Temp Device Communication Lost	-	ba217_x	
High Capacity	-	bahc_x	
Dew Point Over Temperature	-	m1575_x	
Dew Point Under Temperature	-	m1659_x	
Remote Sensor Average Over Temperature	-	m1671_x	
Remote Sensor Average Under Temperature	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temperature	-	m1675_x	
Remote Sensor 2 Over Temperature	-	m1676_x	
Remote Sensor 3 Over Temperature	-	m1677_x	
Remote Sensor 4 Over Temperature	-	m1678_x	
Remote Sensor 5 Over Temperature	-	m1679_x	
Remote Sensor 6 Over Temperature	-	m1680_x	
Remote Sensor 7 Over Temperature	-	m1681_x	
Remote Sensor 8 Over Temperature	-	m1682_x	
Remote Sensor 9 Over Temperature	-	m1683_x	
Remote Sensor 10 Over Temperature	-	m1684_x	
Remote Sensor 1 Under Temperature	-	m1685_x	
Remote Sensor 2 Under Temperature	-	m1686_x	
Remote Sensor 3 Under Temperature	-	m1687_x	
Remote Sensor 4 Under Temperature	-	m1688_x	
Remote Sensor 5 Under Temperature	-	m1689_x	
Remote Sensor 6 Under Temperature	-	m1690_x	
Remote Sensor 7 Under Temperature	-	m1691_x	
Remote Sensor 8 Under Temperature	-	m1692_x	

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 9 Under Temperature	-	m1693_x	
Remote Sensor 10 Under Temperature	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue		m1697_x	
Remote Sensor 4 Issue		m1698_x	
Remote Sensor 5 Issue		m1699_x	
Remote Sensor 6 Issue		m1700_x	
Remote Sensor 7 Issue		m1701_x	
Remote Sensor 8 Issue		m1702_x	
Remote Sensor 9 Issue		m1703_x	
Remote Sensor 10 Issue		m1704_x	
Ext Dew Point Over Temperature		m1730_x	
Ext Dew Point Under Temperature		m1735_x	
Condenser Unit Unspecified General Event		m1818_x	
Condenser Circuit Unspecified General Event		m1821_x	
Return Humidity Sensor Issue		m1895_x	
Compressor 1 Superheat Over Threshold		m1905_x	
Compressor 2 Superheat Over Threshold		m1908_x	
Unspecified General Event		m1991_x	
Temperature Control Sensor Issue		m1994_x	
Airflow Sensor Issue		m1997_x	
Ext Air Damper Position Issue		m2000_x	
Ext Power Source A Failure		m2003_x	
Ext Power Source B Failure		m2006_x	
<b>Control/Setpoints Points (Write)</b>			
System On/Off Control	40349	bc1_x	Modbus - Set bit0=off, bit1=on
Humidifier Lockout	-	bc01_2_x	1=Lockout 0=Normal
Fan Speed	40349	bp86_x	Modbus - Set bits8-15=speed 50-100%
Reheater Lockout	-	bc01_3_x	1=Lockout 0=Normal

**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Fan Control Sensor Setting	-	bp87_x	1=Supply 2=Remote 3=Return 4=Manual
Temp Proportional Band	40350	bp18_x	Scale *1000 (Modbus Only)
Temp Setpoint	40350	bp17_x	
Humidity Proportional Band	40351	bp20_x	Scale *1000 (Modbus Only)
Humidity Setpoint	40351	bp19_x	
Static Pressure Setpoint (Pa)	-	m1529	
Air Temperature Control Integration Time	-	m1014_x	
Compressor 1 Hours Threshold	-	m1157_x	
Compressor 2 Hours Threshold	-	m1186_x	
Dehumidifier Hours Threshold	-	m1363_x	
Dew Point Set Point	-	bp117_x	
Electric Reheat 1 Hours Threshold	-	m1468_x	
Electric Reheat 2 Hours Threshold	-	m1498_x	
Electric Reheat 3 Hours Threshold	-	m1518_x	
Ext Dew Point Over Temp Threshold	-	bp140_x	
Ext Dew Point Under Temp Threshold	-	bp141_x	
Fan Hours Threshold Setting	-	m1390_x	
Fan Speed Temperature Set Point	-	bp136_x	
Free Cooling Internal Temperature Delta	-	m1332_x	
Free Cooling Valve Hours Threshold	-	m1433_x	
High Humidity Setpoint Sensor A	-	bp40_x	
High Humidity Setpoint	-	bp23_x	
High Temp Setpoint Sensor A	-	m1088_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1416_x	
Humidifier Hours Threshold	-	m1353_x	
Humidity Control Sensor	-	bs242_x	
Humidity Dead Band	-	m1106_x	
Humidity Proportional Control Int. Time	-	m1109_x	
IR Flush Rate % Parameter	-	bp34_x	
Low Humidity Setpoint Sensor A	-	bp41_x	
Low Return Humidity Setpoint	-	bp24_x	



**Table 8.12 Available Points: Vertiv™ Liebert® iCOM™-PA\_180 Deluxe/CW System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Low Temp Setpoint Sensor A	-	m1089_x	
Low Temp Setpoint	-	bp138_x	
Minimum Chilled Water Temp Set Point	-	m1430_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint	-	bp21_x	
Return Low Temp Setpoint	-	bp22_x	
Single Unit Auto-restart Delay	-	bp27_x	
Static Pressure Setpoint (Pa)	-	m1529_x	(Pa)
Supply High Temp Setpoint	-	bp137_x	
Temperature Dead Band	-	m1012_x	

## 8.13 Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® Challenger 3000, Vertiv™ Liebert® Challenger ITR, Vertiv™ Liebert® CW, Vertiv™ Liebert® Deluxe System/3, Vertiv™ Liebert® DS, Vertiv™ Liebert® HPM, Vertiv™ Liebert® PeX
Controller Firmware:	Air Unit iCOM-PA_188 (FDM version: 188) PA Firmware: iCOM PA2.01.45R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_v188

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	1=Off 2= On(available) 3=Unsupported see M1310
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	
Static Pressure Setpoint	-	bs107_x	
Unit Static Pressure	-	bs108_x	
System Static Pressure	-	bs109_x	Pa or WC
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 2 Outside Air Temp	-	bs116_x	
Condenser Fan #1 Speed	-	bs117_x	%
Condenser Fan #2 Speed	-	bs118_x	%
Condenser Fan #3 Speed	-	bs119_x	%
Condenser Fan #4 Speed	-	bs120_x	%
Condenser Fan #5 Speed	-	bs121_x	%
Condenser Fan #6 Speed	-	bs122_x	%
Condenser Fan #7 Speed	-	bs123_x	%
Condenser Fan #8 Speed	-	bs124_x	%
Condenser Fan #1 Power	-	bs125_x	kW
Condenser Fan #2 Power	-	bs126_x	kW
Condenser Fan #3 Power	-	bs127_x	kW
Condenser Fan #4 Power	-	bs128_x	kW
Condenser Fan #5 Power	-	bs129_x	kW
Condenser Fan #6 Power	-	bs130_x	kW
Condenser Fan #7 Power	-	bs131_x	kW
Condenser Fan #8 Power	-	bs132_x	kW
Return Dew Point	-	bs133_x	
Dew Point Set Point	-	bs134_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Supply High Temp Alarm Setpoint	-	bs137_x	
Low Temp Alarm Setpoint	-	bs138_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Cooling Control Temperature	-	bs143_x	
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
Condenser 1 Fan Reversal Requested	-	bs148_x	
Condenser 2 Fan Reversal Requested	-	bs149_x	
Condenser 1 Refrigerant Pressure	-	bs150_x	
Condenser 1 Supply Refrigerant Temperature	-	bs151_x	
Condenser 2 Refrigerant Pressure	-	bs152_x	
Condenser 2 Supply Refrigerant Temperature	-	bs153_x	
Actual Air Temperature Set Point	-	bs158_x	
Actual Humidity Set Point	-	bs159_x	
Unit Cooling Load (kW)	-	bs160_x	(kW)
Fluid Input Temperature #1	-	bs173_x	
Fluid Input Temperature #2	-	bs174_x	
Fluid Output Temperature #1	-	bs175_x	
Fluid Output Temperature #2	-	bs176_x	
Fluid Flow Rate #1 (l/min)	-	bs177_x	L/min
Fluid Flow Rate #2 (l/min)	-	bs178_x	L/min
Adjusted Humidity	-	bs210_x	
Raw Auxiliary Air Temp	-	bs217_x	
Actual Auxiliary Air Temperature	-	bs218_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Compressor Lockout	-	bs243_x	
Air Temperature Control Type	-	m1010_x	1=proportional 2=prop+integral 3=intelligent
Air Temperature Control Integration Time	-	m1013_x	Minutes
Humidity Proportional Control Type	-	m1104_x	1=relative 2=compensated 3=predictive 4=DewPnt
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Compressor 1 State	-	m1127_x	On/Off
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 2 Hours Threshold	-	m1196_x	
Comp 2 Temp	-	m1199_x	
Compressor 2 State	-	m1201_x	On/Off
Compressor 2 Capacity Control State	-	m1203_x	
System Status	-	m1288_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Month	-	m1305_x	
Maintenance Year	-	m1307_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Free Cooling State	-	m1310_x	Free Cooling is >0% See bs16
Maintenance Tracking State	-	m1312_x	
Free Cooling Internal Temperature Delta	-	m1331_x	
Humidifier Hours Threshold	-	m1361_x	
Dehumidifier Hours Threshold	-	m1371_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	
Free Cooling Internal Control Mode	-	m1418_x	1=disabled 2=contact 3=value
Min Chilled Water Temp Set Point Enable	-	m1423_x	
Minimum Chilled Water Temp Set Point	-	m1429_x	
Free Cooling Valve Hours Threshold	-	m1432_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Rmt Sensor Avg Temp	-	m1627_x	1=Valve 1 2=Valve 2
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Maximum Temp	-	m1636_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Ext Air Sensor A Dew Point Temp	-	m1662_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor 10 Temperature	-	m1665_x	
Outside Air Temp	-	m1719_x	
Reheater Lockout	-	m1764_x	
Humidifier Lockout	-	m1778_x	
Main Chilled Water Valve	-	m1910_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Chilled Water Valve Hours	-	m1913_x	
Maintenance Mode Time Expired	-	m510_x	
IR Flush Rate % Setpoint	-	m902_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Fan State	-	m935_x	
Hot Water/Hot Gas State	-	m937_x	
Fan Ramp %	-	m938_x	
Free Cooling Ramp %	-	m939_x	
Humidification Ramp %	-	m940_x	
De-humidification Ramp %	-	m941_x	
FC Fluid Temp	-	m949_x	
Sensor A Temp	-	m950_x	
Sensor B Temp	-	m951_x	
Sensor C Temp	-	m952_x	
Comp 1 Temp	-	m953_x	
Sensor A Humidity	-	m955_x	
Sensor B Humidity	-	m956_x	
Sensor C Humidity	-	m957_x	
Dehumidifier Run Hrs	-	m958_x	
Free Cooling Valve Run Hrs	-	m959_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Hot Water/Hot Gas Valve Run Hrs	-	m965_x	
Temperature Scale	-	m976_x	
Temperature Deadband Setpoint	-	m978_x	
Humidity Dead Band Setpoint	-	m980_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
<b>Alarm Points</b>			

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)



**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Fail 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Unit Local/Display Off	-	a108_x	
Unit Off By Remote System	-	a109_x	
Unit Off	-	ba101_x	
Unit On	-	ba102_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Static Pressure Sensor Issue	-	ba11_x	
Fluid Temperature Sensor #1 Issue	-	ba110_x	
Fluid Temperature Sensor #2 Issue	-	ba111_x	
Fluid Flow Sensor #1 Issue	-	ba112_x	
Fluid Flow Sensor #2 Issue	-	ba113_x	
Condenser 1 TVSS Issue	-	ba114_x	
Condenser 2 TVSS Issue	-	ba115_x	
Condenser 1 Outside Air Hi/Low	-	ba116_x	
Condenser 2 Outside Air Hi/Low	-	ba117_x	
Condenser 1 Control Board Issue	-	ba118_x	
Condenser 2 Control Board Issue	-	ba119_x	
High Static Pressure	-	ba12_x	
Cond 1 Outside Air Temp Sensor Issue	-	ba120_x	
Cond 2 Outside Air Temp Sensor Issue	-	ba121_x	
Condenser 1 Communication Lost	-	ba122_x	
Condenser 2 Communication Lost	-	ba123_x	
Condenser 1 Remote Shutdown	-	ba124_x	
Condenser 2 Remote Shutdown	-	ba125_x	
Condenser 1 Refrig Pressure Sensor Issue	-	ba126_x	
Condenser 1 Refrigerant Underpressure	-	ba127_x	
Condenser 1 Refrigerant Overpressure	-	ba128_x	
Condenser 1 Temp Sensor Issue	-	ba129_x	
Low Static Pressure	-	ba13_x	
Condenser 1 Supply Refrig Under Temp	-	ba130_x	
Condenser 1 Supply Refrig Over Temp	-	ba131_x	
Condenser 1 Max Fan Speed Override	-	ba132_x	
Condenser 2 Refrig Pressure Sensor Issue	-	ba133_x	
Condenser 2 Refrigerant Underpressure	-	ba134_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 2 Refrigerant Overpressure	-	ba135_x	
Condenser 2 Temp Sensor Issue	-	ba136_x	
Condenser 2 Supply Refrig Under Temp	-	ba137_x	
Condenser 2 Supply Refrig Over Temp	-	ba138_x	
Condenser 2 Max Fan Speed Override	-	ba139_x	
Static Pressure Sensor Out of Range	-	ba14_x	
Aux Air Temp Device Comm Lost	-	ba217_x	
Dew Point Over Temperature	-	m1575_x	
Dew Point Under Temperature	-	m1659_x	
Remote Sensor Average Over Temperature	-	m1671_x	
Remote Sensor Average Under Temperature	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temperature	-	m1675_x	
Remote Sensor 2 Over Temperature	-	m1676_x	
Remote Sensor 3 Over Temperature	-	m1677_x	
Remote Sensor 4 Over Temperature	-	m1678_x	
Remote Sensor 5 Over Temperature	-	m1679_x	
Remote Sensor 6 Over Temperature	-	m1680_x	
Remote Sensor 7 Over Temperature	-	m1681_x	
Remote Sensor 8 Over Temperature	-	m1682_x	
Remote Sensor 9 Over Temperature	-	m1683_x	
Remote Sensor 10 Over Temperature	-	m1684_x	
Remote Sensor 1 Under Temperature	-	m1685_x	
Remote Sensor 2 Under Temperature	-	m1686_x	
Remote Sensor 3 Under Temperature	-	m1687_x	
Remote Sensor 4 Under Temperature	-	m1688_x	
Remote Sensor 5 Under Temperature	-	m1689_x	
Remote Sensor 6 Under Temperature	-	m1690_x	
Remote Sensor 7 Under Temperature	-	m1691_x	
Remote Sensor 8 Under Temperature	-	m1692_x	
Remote Sensor 9 Under Temperature	-	m1693_x	
Remote Sensor 10 Under Temperature	-	m1694_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Condenser Fan 1 Issue	-	m1751_x	
Condenser Fan 4 Issue	-	m1818_x	
Condenser Fan 2 Issue	-	m1820_x	
Condenser Fan 3 Issue	-	m1848_x	
Condenser Fan 5 Issue	-	m1852_x	
Condenser Fan 6 Issue	-	m1861_x	
Condenser Fan 7 Issue	-	m1864_x	
Condenser Fan 8 Issue	-	m1867_x	
Return Humidity Sensor Issue	-	m1895_x	
Compressor 1 Superheat Over Threshold	-	m1905_x	
Compressor 2 Superheat Over Threshold	-	m1908_x	
Unspecified General Event	-	m1991_x	
Temperature Control Sensor Issue	-	m1994_x	
Airflow Sensor Issue	-	m1997_x	
Ext Air Damper Position Issue	-	m2000_x	
Ext Power Source A Failure		m2003_x	
Ext Power Source B Failure		m2006_x	
Digital Scroll 2 Sensor Fail		m603_x	
Supply Air Undertemp		m605_x	
Supply Air Sensor Issue		m633_x	
<b>Control/Setpoints Points (Write)</b>			

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System On/Off Control	40349	bc1_x	Modbus - Set bit0=off, bit1=on
Humidifier Lockout	-	bc01_2_x	1=Lockout 0=Normal
Reheater Lockout	-	bc01_3_x	1=Lockout 0=Normal
Fan Control Sensor Setting	-	bp87_x	1=Supply 2=Remote 3=Return 4=Manual
Fan Speed	40349	bp86_x	Modbus - Set bits8-15=speed 50-100%
Temp Proportional Band	40350	bp18_x	Scale *1000 (Modbus Only)
Temp Setpoint	40350	bp17_x	
Humidity Proportional Band	40351	bp20_x	Scale *1000 (Modbus Only)
Humidity Setpoint	40351	bp19_x	
Static Pressure Setpoint	-	bp107_x	
Pa or WC	-	bp108_x	
Dew Point Set Point	-	bp117_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Fan Speed Temperature Set Point	-	bp136_x	
Supply High Temp Setpoint	-	bp137_x	
Low Temp Setpoint	-	bp138_x	
Ext Dew Point Over Temp Threshold	-	bp140_x	
Ext Dew Point Under Temp Threshold	-	bp141_x	
Return High Temp Setpoint	-	bp21_x	
Return Low Temp Setpoint	-	bp22_x	
High Humidity Setpoint	-	bp23_x	
Low Return Humidity Setpoint	-	bp24_x	
Single Unit Auto-restart Delay	-	bp27_x	
IR Flush Rate % Parameter	-	bp34_x	
High Humidity Setpoint Sensor A	-	bp40_x	
Low Humidity Setpoint Sensor A	-	bp41_x	
Temperature DeadBand	-	m1012_x	
Air Temp Control Integration Time	-	m1014_x	

**Table 8.13 Available Points: Vertiv™ Liebert® iCOM™-PA\_188 Deluxe/CW System with Vertiv™ Liebert® iCOM™ (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
High Temp Setpoint Sensor A	-	m1088_x	
Low Temp Setpoint Sensor A	-	m1089_x	
Humidity Dead Band	-	m1106_x	
Humidity Proportional Control Int. Time	-	m1109_x	
Compressor 1 Hours Threshold	-	m1157_x	
Free Cooling Internal Temp Delta	-	m1332_x	
Humidifier Hours Threshold	-	m1353_x	
Dehumidifier Hours Threshold	-	m1363_x	
Fan Hours Threshold	-	m1390_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1416_x	
Minimum Chilled Water Temp Set Point	-	m1430_x	
Free Cooling Valve Hours Threshold	-	m1433_x	
Electric Reheat 1 Hours Threshold	-	m1468_x	
Electric Reheat 2 Hours Threshold	-	m1498_x	
Electric Reheat 3 Hours Threshold	-	m1518_x	
Main Chilled Water Valve	-	m1919_x	

## 8.14 Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® DSE
Controller Firmware:	Air Unit iCOM-PA_203 (FDM Version: 203/205) PA Firmware: iCOM PA2.02.21R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_203

**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	
Adjusted Humidity	-	bs210_x	



**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Set Point	-	bs134_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Ext Air Sensor A Dew Point Temp	-	m2971_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	

**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Free Cooling Internal Control Mode	-	m1418_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1331_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Status	-	m959_x	
Free Cooling Valve Hours Threshold	-	m1432_x	
Hot Water / Hot Gas Valve Hours	-	m965_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1749_x	
Humidifier Run Hrs	-	bs14_x	
Humidity Dead Band Setpoint	-	m980_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
IR Flush Rate % Setpoint	-	m902_x	
Low Temp Alarm Setpoint	-	bs138_x	
Maintenance Mode Time Expired	-	m510_x	

**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1429_x	
Min. Chilled Water Temp Set Point Enable	-	m1423_x	
Outside Air Temp	-	m1719_x	
Reheater Lockout	-	m1760_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1665_x	
Remote Sensor 3 Temperature	-	m1642_x	
Remote Sensor 4 Temperature	-	m1645_x	
Remote Sensor 5 Temperature	-	m1648_x	
Remote Sensor 6 Temperature	-	m1651_x	
Remote Sensor 7 Temperature	-	m1654_x	
Remote Sensor 8 Temperature	-	m1657_x	
Remote Sensor 9 Temperature	-	m1661_x	
Remote Sensor 10 Temperature	-	m1664_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m2607_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m2608_x	
Return Dew Point	-	bs133_x	
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On

**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
System Operating State Reason	-	bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
System Status	-	m1527_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Supply High Temp Alarm Setpoint	-	bs137_x	
Temperature Deadband Setpoint	-	m978_x	
Temperature Scale	-	m976_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		

**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	

**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	

**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Position 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Display Off	-	a108_x	
Monitoring Off	-	a109_x	
Remote Off	-	a110_x	
Unit Off	-	ba101_x	
Unit On	-	ba102_x	

**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Chilled Water Control Valve Position 2	-	m884_x	Modbus – Alarm 5 bit15
Chilled Water Control Valve Position 1	-	m879_x	
Chilled Water Control Valve Position 2	-	m884_x	
Remote Sensor Average Over Temp	-	m1671_x	
Remote Sensor Average Under Temp	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temp	-	m1675_x	
Remote Sensor 2 Over Temp	-	m1676_x	
Remote Sensor 3 Over Temp	-	m1677_x	
Remote Sensor 4 Over Temp	-	m1678_x	
Remote Sensor 5 Over Temp	-	m1679_x	
Remote Sensor 6 Over Temp	-	m1680_x	
Remote Sensor 7 Over Temp	-	m1681_x	
Remote Sensor 8 Over Temp	-	m1682_x	
Remote Sensor 9 Over Temp	-	m1683_x	
Remote Sensor 10 Over Temp	-	m1684_x	
Remote Sensor 1 Under Temp	-	m1685_x	
Remote Sensor 2 Under Temp	-	m1686_x	
Remote Sensor 3 Under Temp	-	m1687_x	
Remote Sensor 4 Under Temp	-	m1688_x	
Remote Sensor 5 Under Temp	-	m1689_x	
Remote Sensor 6 Under Temp	-	m1690_x	
Remote Sensor 7 Under Temp	-	m1691_x	
Remote Sensor 8 Under Temp	-	m1692_x	
Remote Sensor 9 Under Temp	-	m1693_x	
Remote Sensor 10 Under Temp	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	



**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Air Economizer Emergency Override	-	ba108_x	
Air Economizer Reduced Airflow	-	ba109_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Dew Point Over Temperature	-	m2966_x	
Dew Point Under Temperature	-	m2969_x	
EE Valve Unspecified Event	-	ba110_x	
Pump Unspecified General Event	-	ba111_x	
Condenser Unit Unspecified General Event	-	ba112_x	
Condenser Circuit Unspecified General Event	-	ba113_x	
<b>Control/Setpoints Points (Write)</b>			
System On/Off Control	40349	bc1_x	Modbus - Set bit0=off, bit1=on
Humidifier Lockout	-	bc01_2_x	1=Lockout 0=Normal
Reheater Lockout	-	bc01_3_x	1=Lockout 0=Normal
Fan Control Sensor Setting	-	bp87_x	1=Supply 2=Remote 3=Return 4=Manual
Fan Speed	40349	bp86_x	Modbus - Set bits8-15=speed 50-100%
Temp Proportional Band	40350	bp18_x	Scale *1000 (Modbus Only)
Temp Setpoint	40350	bp17_x	
Humidity Proportional Band	40351	bp20_x	Scale *1000 (Modbus Only)
Humidity Setpoint	40351	bp19_x	

**Table 8.14 Available Points: Vertiv™ Liebert® iCOM™-PA\_203 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Air Economizer Control Source	-	bp1393_x	
Air Temperature Control Integration Time	-	m1014_x	
Compressor 1 Hours Threshold	-	m1157_x	
Compressor 2 Hours Threshold	-	m1186_x	
Dehumidifier Hours Threshold	-	m1363_x	
Dew Point Set Point	-	bp117_x	
Electric Reheat 1 Hours Threshold	-	m1468_x	
Electric Reheat 2 Hours Threshold	-	m1498_x	
Electric Reheat 3 Hours Threshold	-	m1518_x	
Ext Dew Point Over Temp Threshold	-	bp140_x	
Ext Dew Point Under Temp Threshold	-	bp141_x	
Fan Hours Threshold	-	m1390_x	
Fan Speed Temperature Set Point	-	bp136_x	
Free Cooling Internal Temperature Delta	-	m1332_x	
Free Cooling Valve Hours Threshold	-	m1433_x	
High Humidity Setpoint Sensor A	-	bp40_x	
High Humidity Setpoint	-	bp23_x	
High Temp Setpoint Sensor A	-	m1088_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1416_x	
Humidifier Hours Threshold	-	m1353_x	
Humidity Dead Band	-	m1106_x	
Humidity Proportional Control Int. Time	-	m1109_x	
IR Flush Rate % Parameter	-	bp34_x	
Low Humidity Setpoint Sensor A	-	bp41_x	
Low Return Humidity Setpoint	-	bp24_x	
Low Temp Setpoint Sensor A	-	m1089_x	
Low Temp Setpoint	-	bp138_x	
Minimum Chilled Water Temp Set Point	-	m1430_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint	-	bp21_x	
Return Low Temp Setpoint	-	bp22_x	
Single Unit Auto-restart Delay	-	bp27_x	
Supply High Temp Setpoint	-	bp137_x	

## 8.15 Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® DSE
Controller Firmware:	Air Unit iCOM-PA_257 (FDM Version: 257) PA Firmware: iCOM PA2.03.33R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_257

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm	40022	bs22_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Setpoint			
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	
Actual Air Temp Set Point	-	bs158_x	
Actual Air Humidity Set Point	-	bs159_x	
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2=prop+integral 3=intelligent
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
Chilled Water Valve Hours	-	m2213_x	
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Compressor 1 Run Hrs	-	bs12_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 Run Hrs	-	bs13_x	
Compressor 2 State	-	m1201_x	
Compressor Lockout	-	bs243_x	
Condenser 1 Fan Reversal Requested	-	bs148_x	
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 1 Refrigerant Pressure	-	bs150_x	
Condenser 1 Supply Refrigerant Temperature	-	bs151_x	
Condenser 2 Fan Reversal Requested	-	bs149_x	
Condenser 2 Outside Air Temp	-	bs116_x	
Condenser 2 Refrigerant Pressure	-	bs152_x	
Condenser 2 Supply Refrigerant Temperature	-	bs153_x	
Condenser Fan #1 Power	-	bs125_x	
Condenser Fan #1 Speed	-	bs117_x	
Condenser Fan #2 Power	-	bs126_x	
Condenser Fan #2 Speed	-	bs118_x	
Condenser Fan #3 Power	-	bs127_x	
Condenser Fan #3 Speed	-	bs119_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser Fan #4 Power	-	bs128_x	
Condenser Fan #4 Speed	-	bs120_x	
Condenser Fan #5 Power	-	bs129_x	
Condenser Fan #5 Speed	-	bs121_x	
Condenser Fan #6 Power	-	bs130_x	
Condenser Fan #6 Speed	-	bs122_x	
Condenser Fan #7 Power	-	bs131_x	
Condenser Fan #7 Speed	-	bs123_x	
Condenser Fan #8 Power	-	bs132_x	
Condenser Fan #8 Speed	-	bs124_x	
Condenser Refrigerant Type	-	bs147_x	
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Set Point	-	bs134_x	
Digital Scroll Comp 1 %Utilization	-	m1913_x	
Digital Scroll Comp 2 %Utilization	-	m1915_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat	-	m1455_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
1Hours Threshold			
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Expected Condenser Unit Count	-	bs146_x	
Ext Air Sensor A Dew Point Temp	-	m1662_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Free Cooling Internal Control Mode	-	m1418_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1331_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Threshold	-	m1579_x	
Free Cooling Valve Run Hrs	-	m1578_x	
Hot Water / Hot Gas Valve Hours	-	m1408_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Threshold			
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Hot Water/Hot Gas Valve Run Hrs	-	m965_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1840_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Dead Band Setpoint	-	m980_x	
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
IR Flush Rate % Setpoint	-	m902_x	
Low Temp Alarm Setpoint	-	bs138_x	
Main Chilled Water Valve	-	m1432_x	1=Valve1 2=Valve2
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1577_x	
Min. Chilled Water Temp Set Point Enable	-	m1576_x	
Outside Air Temp	-	m1719_x	
Pump #1 Run Hours	-	bs104_x	
Pump #1 Status	-	bs105_x	



**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Pump #2 Run Hours	-	bs110_x	
Pump #2 Status	-	bs106_x	
Reheater Lockout	-	m1835_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor 10 Temperature	-	m1665_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Return Dew Point	-	bs133_x	
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Static Pressure Setpoint		bs107_1	
Supply High Temp Alarm Setpoint	-	bs137_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
System Operating State Reason	-	bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
System Static Pressure (pa)	-	bs109_x	
System Status	-	m1288_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
Temperature Deadband Setpoint	-	m978_x	
Temperature Scale	-	m976_x	
Unit Static Pressure (pa)	-	bs108_x	
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
Electronic Expansion Valve #2 Open Position	-	bs101_x	%
Electronic Expansion Valve #2 Open Position	-	bs102_x	%
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low	bit9	m694_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Pressure Transducer Issue			
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier	bit11	m756_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Undercurrent			
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Failure 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Display Off	-	a108_x	
Monitoring Off	--	a109_x	
Remote Off	-	a110_x	
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Chilled Water Control Valve Failure 2	-	m884_x	Modbus – Alarm 5 bit15
Remote Sensor Average Over Temp	-	m1671_x	
Remote Sensor Average Under Temp	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 1 Over Temp	-	m1675_x	
Remote Sensor 2 Over Temp	-	m1676_x	
Remote Sensor 3 Over Temp	-	m1677_x	
Remote Sensor 4 Over Temp	-	m1678_x	
Remote Sensor 5 Over Temp	-	m1679_x	
Remote Sensor 6 Over Temp	-	m1680_x	
Remote Sensor 7 Over Temp	-	m1681_x	
Remote Sensor 8 Over Temp	-	m1682_x	
Remote Sensor 9 Over Temp	-	m1683_x	
Remote Sensor 10 Over Temp	-	m1684_x	
Remote Sensor 1 Under Temp	-	m1685_x	
Remote Sensor 2 Under Temp	-	m1686_x	
Remote Sensor 3 Under Temp	-	m1687_x	
Remote Sensor 4 Under Temp	-	m1688_x	
Remote Sensor 5 Under Temp	-	m1689_x	
Remote Sensor 6 Under Temp	-	m1690_x	
Remote Sensor 7 Under Temp	-	m1691_x	
Remote Sensor 8 Under Temp	-	m1692_x	
Remote Sensor 9 Under Temp	-	m1693_x	
Remote Sensor 10 Under Temp	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	



**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Air Economizer Emergency Override	-	ba108_x	
Air Economizer Reduced Airflow	-	ba109_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Dew Point Over Temperature	-	m1575_x	
Dew Point Under Temperature	-	m1569_x	
EE Valve Unspecified Event	-	ba110_x	
Pump Unspecified General Event	-	ba111_x	
Condenser Unit Unspecified General Event	-	ba112_x	
Condenser Circuit Unspecified General Event	-	ba113_x	
Airflow Sensor Issue		m1936_x	Start of additional v257 alarms
Compressor 1 Low		m1918_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Differential Pressure Lockout			
Compressor 1 Superheat Over Threshold		m2168_x	
Compressor 2 Low Differential Pressure Lockout		m1927_x	
Compressor 2 Superheat Over Threshold		m2171_x	
Condenser 1 Communication Lost		ba122_x	
Condenser 1 Control Board Issue		ba118_x	
Condenser 1 Max Fan Speed Override		ba132_x	
Condenser 1 Outside Air Hi/Low		ba116_x	
Condenser 1 Outside Air Temp Sensor Issue		ba120_x	
Condenser 1 Refrigerant Overpressure		ba128_x	
Condenser 1 Refrigerant Pressure Sensor Issue		ba126_x	
Condenser 1 Refrigerant Underpressure		ba127_x	
Condenser 1 Remote Shutdown		ba124_x	
Condenser 1 Supply Refrigerant Over Temp		ba131_x	
Condenser 1 Supply Refrigerant Under Temp		ba130_x	
Condenser 1 Temp Sensor Issue		ba129_x	
Condenser 1 TVSS Issue		ba114_x	
Condenser 2		ba123_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Communication Lost			
Condenser 2 Control Board Issue		ba119_x	
Condenser 2 Max Fan Speed Override		ba139_x	
Condenser 2 Outside Air Hi/Low		ba117_x	
Condenser 2 Outside Air Temp Sensor Issue		ba121_x	
Condenser 2 Refrigerant Overpressure		ba135_x	
Condenser 2 Refrigerant Pressure Sensor Issue		ba133_x	
Condenser 2 Refrigerant Underpressure		ba134_x	
Condenser 2 Remote Shutdown		ba125_x	
Condenser 2 Supply Refrigerant Over Temp		ba138_x	
Condenser 2 Supply Refrigerant Under Temp		ba137_x	
Condenser 2 Temp Sensor Issue		ba136_x	
Condenser 2 TVSS Issue		ba115_x	
Ext Air Damper Position Issue		m1939_x	
Ext Power Source A Failure		m1942_x	
Ext Power Source B Failure		m1945_x	
Free Cooling Temp Sensor Issue		m712_x	
High Capacity		bahc_x	
High Static Pressure		ba12_x	
Low Static Pressure		ba13_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Mixed Mode Lockout		m1948_x	
Return Humidity Sensor Issue		m1910_x	
Static Pressure Sensor Issue		ba11_x	
Static Pressure Sensor Out of Range		ba14_x	
Temperature Control Sensor Issue		m1933_x	
Unspecified General Event		m1930_x	
<b>Control/Setpoints Points (Write)</b>			
System On/Off Control		bc1_x	
Humidifier Lockout		bc01_2_x	
Reheater Lockout		bc01_3_x	
Fan Control Sensor Setting		bp87_x	
Fan Speed		bp86_x	
Temp Proportional Band		bp18_x	
Temp Setpoint		bp17_x	
Humidity Proportional Band		bp20_x	
Humidity Setpoint		bp19_x	
Air Economizer Control Source	-	bp1393_x	
Air Temperature Control Integration Time	-	m1014_x	
Compressor 1 Hours Threshold	-	m1157_x	
Compressor 2 Hours Threshold	-	m1186_x	
Dehumidifier Hours Threshold	-	m1363_x	
Dew Point Set Point	-	bp117_x	
Electric Reheat 1 Hours Threshold	-	m1468_x	
Electric Reheat 2	-	m1498_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls  
(continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Hours Threshold			
Electric Reheat 3 Hours Threshold	-	m1518_x	
Ext Dew Point Over Temp Threshold	-	bp140_x	
Ext Dew Point Under Temp Threshold	-	bp141_x	
Fan Hours Threshold	-	m1390_x	
Fan Speed Temperature Set Point	-	bp136_x	
Free Cooling Internal Temperature Delta	-	m2195_x	
Free Cooling Valve Hours Threshold	-	m2206_x	
High Humidity Setpoint Sensor A	-	bp40_x	
High Humidity Setpoint	-	bp23_x	
High Temp Setpoint Sensor A	-	m1088_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1416_x	
Humidifier Hours Threshold	-	m1353_x	
Humidity Dead Band	-	m1106_x	
Humidity Proportional Control Int. Time	-	m1109_x	
IR Flush Rate % Parameter	-	bp34_x	
Low Humidity Setpoint Sensor A	-	bp41_x	
Low Return Humidity Setpoint	-	bp24_x	
Low Temp Setpoint Sensor A	-	m1089_x	
Low Temp Setpoint	-	bp138_x	
Minimum Chilled Water Temp Set Point	-	m2203_x	
Remote Sensor Over	-	bp1256_x	

**Table 8.15 Available Points: Vertiv™ Liebert® iCOM™-PA\_257 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Temp Setpoint			
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint	-	bp21_x	
Return Low Temp Setpoint	-	bp22_x	
Single Unit Auto-restart Delay	-	bp27_x	
Supply High Temp Setpoint	-	bp137_x	
Temperature Dead Band	-	m1012_x	
Main Chilled Water Valve	-	m1919_x	1=valve1 2=valve2
Static Pressure Setpoint (Pa)	-	m1956_x	

## 8.16 Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® DSE, Vertiv™ Liebert® PDX/PCW
Controller Firmware:	Air Unit iCOM-PA_313 (FDM Version: 313) PA Firmware: iCOM PA2.04.04R-PA2.04.25R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_313

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in chilled water units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Actual Air Temp Set Point	-	bs158_x	
Actual Air Humidity Set Point	-	bs159_x	
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
Chilled Water Valve Hours	-	m2213_x	
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Compressor Lockout	-	bs243_x	
Condenser 1 Fan Reversal Requested	-	bs148_x	
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 1 Refrigerant Pressure	-	bs150_x	
Condenser 1 Supply Refrigerant Temperature	-	bs151_x	
Condenser 2 Fan Reversal Requested	-	bs149_x	



**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 2 Outside Air Temp	-	bs116_x	
Condenser 2 Refrigerant Pressure	-	bs152_x	
Condenser 2 Supply Refrigerant Temperature	-	bs153_x	
Condenser Fan #1 Power	-	bs125_x	
Condenser Fan #1 Speed	-	bs117_x	
Condenser Fan #2 Power	-	bs126_x	
Condenser Fan #2 Speed	-	bs118_x	
Condenser Fan #3 Power	-	bs127_x	
Condenser Fan #3 Speed	-	bs119_x	
Condenser Fan #4 Power	-	bs128_x	
Condenser Fan #4 Speed	-	bs120_x	
Condenser Fan #5 Power	-	bs129_x	
Condenser Fan #5 Speed	-	bs121_x	
Condenser Fan #6 Power	-	bs130_x	
Condenser Fan #6 Speed	-	bs122_x	
Condenser Fan #7 Power	-	bs131_x	
Condenser Fan #7 Speed	-	bs123_x	
Condenser Fan #8 Power	-	bs132_x	
Condenser Fan #8 Speed	-	bs124_x	
Condenser Refrigerant Type	-	bs147_x	
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Set Point	-	bs134_x	
Digital Scroll Comp 1 %Utilization	-	m1913_x	
Digital Scroll Comp 2 %Utilization	-	m1915_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Expected Condenser Unit Count	-	bs146_x	
Ext Air Sensor A Dew Point Temp	-	m1662_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Free Cooling Internal Control Mode	-	m1572_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1569_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Threshold	-	m1579_x	
Free Cooling Valve Run Hrs	-	m1578_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Hot Water/Hot Gas Valve Run Hrs	-	m965_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1840_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Dead Band Setpoint	-	m980_x	
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
IR Flush Rate % Setpoint	-	m902_x	
Low Temp Alarm Setpoint	-	bs138_x	
Main Chilled Water Valve	-	m1432_x	1=Valve1 2=Valve2
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1577_x	
Min. Chilled Water Temp Set Point Enable	-	m1576_x	
Outside Air Temp	-	m1719_x	
Pump #1 Run Hours	-	bs104_x	
Pump #1 Status	-	bs105_x	
Pump #2 Run Hours	-	bs110_x	
Pump #2 Status	-	bs106_x	
Reheater Lockout	-	m1835_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor 10 Temperature	-	m1665_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Return Dew Point	-	bs133_x	
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Static Pressure Setpoint		bs107_1	
Supply High Temp Alarm Setpoint	-	bs137_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
System Operating State Reason	-	bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
System Static Pressure (pa)	-	bs109_x	
System Status	-	m1288_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
Temperature Deadband Setpoint	-	m978_x	
Temperature Scale	-	m976_x	
Unit Static Pressure (pa)	-	bs108_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
Electronic Expansion Valve #2 Open Position	-	bs101_x	%
Electronic Expansion Valve #2 Open Position	-	bs102_x	%
Actual Auxiliary Air Temperature	-	bs218_x	
Circuit #1 Cooling Load kW	-	bs182_x	
Circuit #2 Cooling Load kW	-	bs183_x	
Common Alarm	-	stat_x	
Cooling Load kW	-	bs154_x	
Energy Consumption (kWh)	-	bs171_x	
Fluid Flow Rate #1 (l/min)	-	bs177_x	
Fluid Flow Rate #2 (l/min)	-	bs178_x	
Fluid Input Temperature #1	-	bs173_x	
Fluid Input Temperature #2	-	bs174_x	
Fluid Output Temperature #1	-	bs175_x	
Fluid Output Temperature #2	-	bs176_x	
Instantaneous Power (W)	-	bs172_x	
Local Cooling Override	-	bs161_x	
Local Dehumidifier Override	-	bs164_x	
Local Fan Override	-	bs160_x	
Local Heating Override	-	bs162_x	
Local Humidifier Override	-	bs163_x	
System Input RMS A-B	-	bs179_x	
System Input RMS B-C	-	bs165_x	
System Input RMS C-A	-	bs168_x	
System Input RMS A-N	-	bs180_x	
System Input RMS B-N	-	bs166_x	
System Input RMS C-N	-	bs169_x	
System Input RMS Current Phase A	-	bs181_x	
System Input RMS Current Phase B	-	bs167_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Input RMS Current Phase C	-	bs170_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Failure 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Display Off	-	a108_x	
Monitoring Off	-	a109_x	



**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
EEV Unspecified event (See Unit display)	-	a110_x	
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Chilled Water Control Valve Failure 2	-	m884_x	Modbus – Alarm 5 bit15
Remote Sensor Average Over Temp	-	m1671_x	
Remote Sensor Average Under Temp	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temp	-	m1675_x	
Remote Sensor 2 Over Temp	-	m1676_x	
Remote Sensor 3 Over Temp	-	m1677_x	
Remote Sensor 4 Over Temp	-	m1678_x	
Remote Sensor 5 Over Temp	-	m1679_x	
Remote Sensor 6 Over Temp	-	m1680_x	
Remote Sensor 7 Over Temp	-	m1681_x	
Remote Sensor 8 Over Temp	-	m1682_x	
Remote Sensor 9 Over Temp	-	m1683_x	
Remote Sensor 10 Over Temp	-	m1684_x	
Remote Sensor 1 Under Temp	-	m1685_x	
Remote Sensor 2 Under Temp	-	m1686_x	
Remote Sensor 3 Under Temp	-	m1687_x	
Remote Sensor 4 Under Temp	-	m1688_x	
Remote Sensor 5 Under Temp	-	m1689_x	
Remote Sensor 6 Under Temp	-	m1690_x	
Remote Sensor 7 Under Temp	-	m1691_x	
Remote Sensor 8 Under Temp	-	m1692_x	
Remote Sensor 9 Under Temp	-	m1693_x	
Remote Sensor 10 Under Temp	-	m1694_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Air Economizer Emergency Override	-	ba108_x	
Air Economizer Reduced Airflow	-	ba109_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Dew Point Over Temperature	-	m1575_x	
Dew Point Under Temperature	-	m1569_x	
EE Valve Unspecified Event	-	ba110_x	
Pump Unspecified General Event	-	ba111_x	
Condenser Unit Unspecified General Event	-	ba112_x	
Condenser Circuit Unspecified General Event	-	ba113_x	
Airflow Sensor Issue	-	m1936_x	Start of additional v257 alarms
Compressor 1 Low Differential Pressure Lockout	-	m1918_x	
Compressor 1 Superheat Over Threshold	-	m2168_x	
Compressor 2 Low Differential Pressure Lockout	-	m1927_x	
Compressor 2 Superheat Over Threshold	-	m2171_x	
Condenser 1 Communication Lost	-	ba122_x	
Condenser 1 Control Board Issue	-	ba118_x	
Condenser 1 Max Fan Speed Override	-	ba132_x	
Condenser 1 Outside Air Hi/Low	-	ba116_x	
Condenser 1 Outside Air Temp Sensor Issue	-	ba120_x	
Condenser 1 Refrigerant Overpressure	-	ba128_x	
Condenser 1 Refrigerant Pressure Sensor Issue	-	ba126_x	
Condenser 1 Refrigerant Underpressure	-	ba127_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 1 Remote Shutdown	-	ba124_x	
Condenser 1 Supply Refrigerant Over Temp	-	ba131_x	
Condenser 1 Supply Refrigerant Under Temp	-	ba130_x	
Condenser 1 Temp Sensor Issue	-	ba129_x	
Condenser 1 TVSS Issue	-	ba114_x	
Condenser 2 Communication Lost	-	ba123_x	
Condenser 2 Control Board Issue	-	ba119_x	
Condenser 2 Max Fan Speed Override	-	ba139_x	
Condenser 2 Outside Air Hi/Low	-	ba117_x	
Condenser 2 Outside Air Temp Sensor Issue	-	ba121_x	
Condenser 2 Refrigerant Overpressure	-	ba135_x	
Condenser 2 Refrigerant Pressure Sensor Issue	-	ba133_x	
Condenser 2 Refrigerant Underpressure	-	ba134_x	
Condenser 2 Remote Shutdown	-	ba125_x	
Condenser 2 Supply Refrigerant Over Temp	-	ba138_x	
Condenser 2 Supply Refrigerant Under Temp	-	ba137_x	
Condenser 2 Temp Sensor Issue	-	ba136_x	
Condenser 2 TVSS Issue	-	ba115_x	
Ext Air Damper Position Issue	-	m1939_x	
Ext Power Source A Failure	-	m1942_x	
Ext Power Source B Failure	-	m1945_x	
Free Cooling Temp Sensor Issue	-	m712_x	
High Capacity	-	bahc_x	
High Static Pressure	-	ba12_x	
Low Static Pressure	-	ba13_x	
Mixed Mode Lockout	-	m1948_x	
Return Humidity Sensor Issue	-	m1910_x	
Static Pressure Sensor Issue	-	ba11_x	
Static Pressure Sensor Out of Range	-	ba14_x	
Temperature Control Sensor Issue	-	m1933_x	
Unspecified General Event	-	m1930_x	
<b>Control/Setpoints Points (Write)</b>			
System On/Off Control		bc1_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Humidifier Lockout		bc01_2_x	
Reheater Lockout		bc01_3_x	
Fan Control Sensor Setting		bp87_x	
Fan Speed		bp86_x	
Temp Proportional Band		bp18_x	
Temp Setpoint		bp17_x	
Humidity Proportional Band		bp20_x	
Humidity Setpoint		bp19_x	
Air Economizer Control Source	-	bp1393_x	
Air Temperature Control Integration Time	-	m1014_x	
Compressor 1 Hours Threshold	-	m1157_x	
Compressor 2 Hours Threshold	-	m1186_x	
Dehumidifier Hours Threshold	-	m1363_x	
Dew Point Set Point	-	bp117_x	
Electric Reheat 1 Hours Threshold	-	m1468_x	
Electric Reheat 2 Hours Threshold	-	m1498_x	
Electric Reheat 3 Hours Threshold	-	m1518_x	
Ext Dew Point Over Temp Threshold	-	bp140_x	
Ext Dew Point Under Temp Threshold	-	bp141_x	
Fan Hours Threshold	-	m1390_x	
Fan Speed Temperature Set Point	-	bp136_x	
Free Cooling Internal Temperature Delta	-	m2195_x	
Free Cooling Valve Hours Threshold	-	m2206_x	
High Humidity Setpoint Sensor A	-	bp40_x	
High Humidity Setpoint	-	bp23_x	
High Temp Setpoint Sensor A	-	m1088_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1416_x	
Humidifier Hours Threshold	-	m2327_x	
Humidity Dead Band	-	m1106_x	
Humidity Proportional Control Int. Time	-	m1109_x	
IR Flush Rate % Parameter	-	bp34_x	
Low Humidity Setpoint Sensor A	-	bp41_x	
Low Return Humidity Setpoint	-	bp24_x	

**Table 8.16 Available Points: Vertiv™ Liebert® iCOM™-PA\_313 Deluxe System units with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Low Temp Setpoint Sensor A	-	m1089_x	
Low Temp Setpoint	-	bp138_x	
Minimum Chilled Water Temp Set Point	-	m2203_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint	-	bp21_x	
Return Low Temp Setpoint	-	bp22_x	
Single Unit Auto-restart Delay	-	bp27_x	
Supply High Temp Setpoint	-	bp137_x	
Temperature Dead Band	-	m1012_x	
Main Chilled Water Valve	-	m1919_x	1=valve 1 2=valve 2
Static Pressure Setpoint (Pa)	-	m1956_x	

## 8.17 Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® DSE, Vertiv™ Liebert® PDX/PCW
Controller Firmware:	Air Unit iCOM-PA_317 (FDM version: 317) PA Firmware: iCOM PA2.04.32R-PA2.04.35R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_317

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in PCW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	
Actual Air Temp Set Point	-	bs158_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Actual Air Humidity Set Point	-	bs159_x	
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
Chilled Water Valve Hours	-	m2213_x	
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Compressor Lockout	-	bs243_x	
Condenser 1 Fan Reversal Requested	-	bs148_x	
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 1 Refrigerant Pressure	-	bs150_x	
Condenser 1 Supply Refrigerant Temperature	-	bs151_x	
Condenser 2 Fan Reversal Requested	-	bs149_x	
Condenser 2 Outside Air Temp	-	bs116_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 2 Refrigerant Pressure	-	bs152_x	
Condenser 2 Supply Refrigerant Temperature	-	bs153_x	
Condenser Fan #1 Power	-	bs125_x	
Condenser Fan #1 Speed	-	bs117_x	
Condenser Fan #2 Power	-	bs126_x	
Condenser Fan #2 Speed	-	bs118_x	
Condenser Fan #3 Power	-	bs127_x	
Condenser Fan #3 Speed	-	bs119_x	
Condenser Fan #4 Power	-	bs128_x	
Condenser Fan #4 Speed	-	bs120_x	
Condenser Fan #5 Power	-	bs129_x	
Condenser Fan #5 Speed	-	bs121_x	
Condenser Fan #6 Power	-	bs130_x	
Condenser Fan #6 Speed	-	bs122_x	
Condenser Fan #7 Power	-	bs131_x	
Condenser Fan #7 Speed	-	bs123_x	
Condenser Fan #8 Power	-	bs132_x	
Condenser Fan #8 Speed	-	bs124_x	
Condenser Refrigerant Type	-	bs147_x	
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Set Point	-	bs134_x	
Digital Scroll Comp 1 %Utilization	-	m1913_x	
Digital Scroll Comp 2 %Utilization	-	m1915_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Expected Condenser Unit Count	-	bs146_x	



**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Ext Air Sensor A Dew Point Temp	-	m1662_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Free Cooling Internal Control Mode	-	m1572_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1569_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Threshold	-	m1579_x	
Free Cooling Valve Run Hrs	-	m1578_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Hot Water/Hot Gas Valve Run Hrs	-	m965_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1840_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Dead Band Setpoint	-	m980_x	
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
IR Flush Rate % Setpoint	-	m902_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Low Temp Alarm Setpoint	-	bs138_x	
Main Chilled Water Valve	-	m1432_x	1=Valve1 2=Valve2
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1577_x	
Min. Chilled Water Temp Set Point Enable	-	m1576_x	
Outside Air Temp	-	m1719_x	
Pump #1 Run Hours	-	bs104_x	
Pump #1 Status	-	bs105_x	
Pump #2 Run Hours	-	bs110_x	
Pump #2 Status	-	bs106_x	
Reheater Lockout	-	m1835_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor 10 Temperature	-	m1665_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Return Dew Point	-	bs133_x	
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Static Pressure Setpoint		bs107_1	
Supply High Temp Alarm Setpoint	-	bs137_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
System Operating State Reason	-	bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
System Static Pressure (pa)	-	bs109_x	
System Status	-	m1288_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
Temperature Deadband Setpoint	-	m978_x	
Temperature Scale	-	m976_x	
Unit Static Pressure (pa)	-	bs108_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
Electronic Expansion Valve #2 Open Position	-	bs101_x	%
Electronic Expansion Valve #2 Open Position	-	bs102_x	%
Actual Auxiliary Air Temperature	-	bs218_x	Start v313 status
Circuit #1 Cooling Load kW	-	bs182_x	
Circuit #2 Cooling Load kW	-	bs183_x	
Common Alarm	-	stat_x	
Cooling Load kW	-	bs154_x	
Energy Consumption (kWh)	-	bs171_x	
Fluid Flow Rate #1 (l/min)	-	bs177_x	
Fluid Flow Rate #2 (l/min)	-	bs178_x	
Fluid Input Temperature #1	-	bs173_x	
Fluid Input Temperature #2	-	bs174_x	
Fluid Output Temperature #1	-	bs175_x	
Fluid Output Temperature #2	-	bs176_x	
Instantaneous Power (W)	-	bs172_x	
Local Cooling Override	-	bs161_x	
Local Dehumidifier Override	-	bs164_x	
Local Fan Override	-	bs160_x	
Local Heating Override	-	bs162_x	
Local Humidifier Override	-	bs163_x	
System Input RMS A-B	-	bs179_x	
System Input RMS B-C	-	bs165_x	
System Input RMS C-A	-	bs168_x	
System Input RMS A-N	-	bs180_x	
System Input RMS B-N	-	bs166_x	
System Input RMS C-N	-	bs169_x	
System Input RMS Current Phase A	-	bs181_x	
System Input RMS Current Phase B	-	bs167_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Input RMS Current Phase C	-	bs170_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Failure 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Display Off	-	a108_x	
Monitoring Off	-	a109_x	
EEV Unspecified event (See Unit display)	-	a110_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Chilled Water Control Valve Failure 2	-	m884_x	Modbus – Alarm 5 bit15
Remote Sensor Average Over Temp	-	m1671_x	
Remote Sensor Average Under Temp	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temp	-	m1675_x	
Remote Sensor 2 Over Temp	-	m1676_x	
Remote Sensor 3 Over Temp	-	m1677_x	
Remote Sensor 4 Over Temp	-	m1678_x	
Remote Sensor 5 Over Temp	-	m1679_x	
Remote Sensor 6 Over Temp	-	m1680_x	
Remote Sensor 7 Over Temp	-	m1681_x	
Remote Sensor 8 Over Temp	-	m1682_x	
Remote Sensor 9 Over Temp	-	m1683_x	
Remote Sensor 10 Over Temp	-	m1684_x	
Remote Sensor 1 Under Temp	-	m1685_x	
Remote Sensor 2 Under Temp	-	m1686_x	
Remote Sensor 3 Under Temp	-	m1687_x	
Remote Sensor 4 Under Temp	-	m1688_x	
Remote Sensor 5 Under Temp	-	m1689_x	
Remote Sensor 6 Under Temp	-	m1690_x	
Remote Sensor 7 Under Temp	-	m1691_x	
Remote Sensor 8 Under Temp	-	m1692_x	
Remote Sensor 9 Under Temp	-	m1693_x	
Remote Sensor 10 Under Temp	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	



**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Air Economizer Emergency Override	-	ba108_x	
Air Economizer Reduced Airflow	-	ba109_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Dew Point Over Temperature	-	m1575_x	
Dew Point Under Temperature	-	m1569_x	
EE Valve Unspecified Event	-	ba110_x	
Pump Unspecified General Event	-	ba111_x	
Condenser Unit Unspecified General Event	-	ba112_x	
Condenser Circuit Unspecified General Event	-	ba113_x	
Airflow Sensor Issue	-	m1936_x	Start of additional v257 alarms
Compressor 1 Low Differential Pressure Lockout	-	m1918_x	
Compressor 1 Superheat Over Threshold	-	m2168_x	
Compressor 2 Low Differential Pressure Lockout	-	m1927_x	
Compressor 2 Superheat Over Threshold	-	m2171_x	
Condenser 1 Communication Lost	-	ba122_x	
Condenser 1 Control Board Issue	-	ba118_x	
Condenser 1 Max Fan Speed Override	-	ba132_x	
Condenser 1 Outside Air Hi/Low	-	ba116_x	
Condenser 1 Outside Air Temp Sensor Issue	-	ba120_x	
Condenser 1 Refrigerant Overpressure	-	ba128_x	
Condenser 1 Refrigerant Pressure Sensor Issue	-	ba126_x	
Condenser 1 Refrigerant Underpressure	-	ba127_x	
Condenser 1 Remote Shutdown	-	ba124_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 1 Supply Refrigerant Over Temp	-	ba131_x	
Condenser 1 Supply Refrigerant Under Temp	-	ba130_x	
Condenser 1 Temp Sensor Issue	-	ba129_x	
Condenser 1 TVSS Issue	-	ba114_x	
Condenser 2 Communication Lost	-	ba123_x	
Condenser 2 Control Board Issue	-	ba119_x	
Condenser 2 Max Fan Speed Override	-	ba139_x	
Condenser 2 Outside Air Hi/Low	-	ba117_x	
Condenser 2 Outside Air Temp Sensor Issue	-	ba121_x	
Condenser 2 Refrigerant Overpressure	-	ba135_x	
Condenser 2 Refrigerant Pressure Sensor Issue	-	ba133_x	
Condenser 2 Refrigerant Underpressure	-	ba134_x	
Condenser 2 Remote Shutdown	-	ba125_x	
Condenser 2 Supply Refrigerant Over Temp	-	ba138_x	
Condenser 2 Supply Refrigerant Under Temp	-	ba137_x	
Condenser 2 Temp Sensor Issue	-	ba136_x	
Condenser 2 TVSS Issue	-	ba115_x	
Ext Air Damper Position Issue	-	m1939_x	
Ext Power Source A Failure	-	m1942_x	
Ext Power Source B Failure	-	m1945_x	
Free Cooling Temp Sensor Issue	-	m712_x	
High Capacity	-	bahc_x	
High Static Pressure	-	ba12_x	
Low Static Pressure	-	ba13_x	
Mixed Mode Lockout	-	m1948_x	
Return Humidity Sensor Issue	-	m1910_x	
Static Pressure Sensor Issue	-	ba11_x	
Static Pressure Sensor Out of Range	-	ba14_x	
Temperature Control Sensor Issue	-	m1933_x	
Unspecified General Event	-	m1930_x	
<b>Control/Setpoints Points (Write)</b>			
System On/Off Control		bc1_x	
Humidifier Lockout		bc01_2_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Reheater Lockout		bc01_3_x	
Fan Control Sensor Setting		bp87_x	
Fan Speed		bp86_x	
Temp Proportional Band		bp18_x	
Temp Setpoint		bp17_x	
Humidity Proportional Band		bp20_x	
Humidity Setpoint		bp19_x	
Air Economizer Control Source	-	bp1393_x	
Air Temperature Control Integration Time	-	m1014_x	
Compressor 1 Hours Threshold	-	m1157_x	
Compressor 2 Hours Threshold	-	m1186_x	
Dehumidifier Hours Threshold	-	m1363_x	
Dew Point Set Point	-	bp117_x	
Electric Reheat 1 Hours Threshold	-	m1468_x	
Electric Reheat 2 Hours Threshold	-	m1498_x	
Electric Reheat 3 Hours Threshold	-	m1518_x	
Ext Dew Point Over Temp Threshold	-	bp140_x	
Ext Dew Point Under Temp Threshold	-	bp141_x	
Fan Hours Threshold	-	m1390_x	
Fan Speed Temperature Set Point	-	bp136_x	
Free Cooling Internal Temperature Delta	-	m2195_x	
Free Cooling Valve Hours Threshold	-	m2206_x	
High Humidity Setpoint Sensor A	-	bp40_x	
High Humidity Setpoint	-	bp23_x	
High Temp Setpoint Sensor A	-	m1088_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1416_x	
Humidifier Hours Threshold	-	m2327_x	
Humidity Dead Band	-	m1106_x	
Humidity Proportional Control Int. Time	-	m1109_x	
IR Flush Rate % Parameter	-	bp34_x	
Low Humidity Setpoint Sensor A	-	bp41_x	
Low Return Humidity Setpoint	-	bp24_x	
Low Temp Setpoint Sensor A	-	m1089_x	

**Table 8.17 Available Points: Vertiv™ Liebert® iCOM™-PA\_317 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Low Temp Setpoint	-	bp138_x	
Minimum Chilled Water Temp Set Point	-	m2203_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint	-	bp21_x	
Return Low Temp Setpoint	-	bp22_x	
Single Unit Auto-restart Delay	-	bp27_x	
Supply High Temp Setpoint	-	bp137_x	
Temperature Dead Band	-	m1012_x	
Main Chilled Water Valve	-	m1919_x	1=valve 1 2=valve 2
Static Pressure Setpoint (Pa)	-	m1956_x	

## 8.18 Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® DSE, Vertiv™ Liebert® PDX/PCW
Controller Firmware:	Air Unit iCOM-PA_407 (FDM version: 407) PA Firmware: iCOM PA2.05.14R-18R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_407

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in PCW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	
Actual Air Temp Set Point	-	bs158_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Actual Auxiliary Air Temperature	-	bs218_x	
Actual Humidity Set Point	-	bs159_x	
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
Chilled Water Valve Hours	-	m2213_x	
Circuit #1 Cooling Load kW	-	bs182_x	
Circuit #2 Cooling Load kW	-	bs183_x	
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Compressor Lockout	-	bs243_x	
Condenser 1 Fan Reversal Requested	-	bs148_x	
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 1 Refrigerant Pressure	-	bs150_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 1 Supply Refrigerant Temperature	-	bs151_x	
Condenser 2 Fan Reversal Requested	-	bs149_x	
Condenser 2 Outside Air Temp	-	bs116_x	
Condenser 2 Refrigerant Pressure	-	bs152_x	
Condenser 2 Supply Refrigerant Temperature	-	bs153_x	
Condenser Fan #1 Power	-	bs125_x	
Condenser Fan #1 Speed	-	bs117_x	
Condenser Fan #2 Power	-	bs126_x	
Condenser Fan #2 Speed	-	bs118_x	
Condenser Fan #3 Power	-	bs127_x	
Condenser Fan #3 Speed	-	bs119_x	
Condenser Fan #4 Power	-	bs128_x	
Condenser Fan #4 Speed	-	bs120_x	
Condenser Fan #5 Power	-	bs129_x	
Condenser Fan #5 Speed	-	bs121_x	
Condenser Fan #6 Power	-	bs130_x	
Condenser Fan #6 Speed	-	bs122_x	
Condenser Fan #7 Power	-	bs131_x	
Condenser Fan #7 Speed	-	bs123_x	
Condenser Fan #8 Power	-	bs132_x	
Condenser Fan #8 Speed	-	bs124_x	
Condenser Refrigerant Type	-	bs147_x	
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Deadband Setpoint	-	bs185_x	
Dew Point Proportional Band Setpoint	-	bs184_x	
Dew Point Set Point	-	bs134_x	
Digital Scroll Comp 1 %Utilization	-	m1913_x	
Digital Scroll Comp 2 %Utilization	-	m1915_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Energy Consumption (kWH)	-	bs171_x	
Expected Condenser Unit Count	-	bs146_x	
Ext Air Sensor A Dew Point Temp	-	m1662_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Fluid Flow Rate #1 (l/min)	-	bs177_x	
Fluid Flow Rate #2 (l/min)	-	bs178_x	
Fluid Input Temperature #1	-	bs173_x	
Fluid Input Temperature #2	-	bs174_x	
Fluid Output Temperature #1	-	bs175_x	
Fluid Output Temperature #2	-	bs176_x	
Free Cooling Internal Control Mode	-	m1572_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1569_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Threshold	-	m1579_x	
Free Cooling Valve Run Hrs	-	m1578_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	



**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Hot Water/Hot Gas Valve Run Hrs	-	m965_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1840_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Dead Band Setpoint	-	m980_x	
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
Instantaneous Power (W)	-	bs172_x	
IR Flush Rate % Setpoint	-	m902_x	
Local Cooling Override	-	bs161_x	
Local Dehumidifier Override	-	bs164_x	
Local Fan Override	-	bs160_x	
Local Heating Override	-	bs162_x	
Local Humidifier Override	-	bs163_x	
Low Noise State	-	bs220_x	
Low Temp Alarm Setpoint	-	bs138_x	
Main Chilled Water Valve	-	m1432_x	1=Valve 1 2=Valve 2
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1577_x	
Min. Chilled Water Temp Set Point Enable	-	m1576_x	
Outside Air Temp	-	m1719_x	
Pump #1 Run Hours	-	bs104_x	
Pump #1 Status	-	bs105_x	
Pump #2 Run Hours	-	bs110_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Pump #2 Status	-	bs106_x	
Raw Auxiliary Air Temp	-	bs217_x	
Reheater Lockout	-	m1835_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor 10 Temperature	-	m1665_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Return Dew Point	-	bs133_x	
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Static Pressure Setpoint	-	bs107_x	
Super Saver Call For Cooling %	-	bs219_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Supply High Temp Alarm Setpoint	-	bs137_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
System Input Current Phase A	-	bs181_x	
System Input Current Phase B	-	bs167_x	
System Input Current Phase C	-	bs170_x	
System Input Volts A-B	-	bs179_x	
System Input Volts A-N	-	bs180_x	
System Input Volts B-C	-	bs165_x	
System Input Volts B-N	-	bs166_x	
System Input Volts C-A	-	bs168_x	
System Input Volts C-N	-	bs169_x	
Temperature Deadband Setpoint	-	m978_x	
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
System Operating State Reason	-	bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
System Status	-	m1288_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
System Static Pressure (pa)	-	bs109_x	
Temperature Scale	-	m976_x	
Unit Static Pressure (pa)	-	bs108_x	
Common Alarm - stat_x			
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Chilled Water Control Valve Failure 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Air Economizer Emergency Override	-	ba108_x	
Air Economizer Reduced Airflow	-	ba109_x	
Static Pressure Sensor Issue	-	ba11_x	
EEV Unspecified event (See Unit display)	-	ba110_x	
Pump Unspecified General Event	-	ba111_x	
Condenser Unit Unspecified General Event	-	ba112_x	
Condenser Circuit Unspecified General Event	-	ba113_x	
Condenser 1 TVSS Issue	-	ba114_x	
Condenser 2 TVSS Issue	-	ba115_x	
Condenser 1 Outside Air Hi/Low	-	ba116_x	
Condenser 2 Outside Air Hi/Low	-	ba117_x	
Condenser 1 Control Board Issue	-	ba118_x	
Condenser 2 Control Board Issue	-	ba119_x	
High Static Pressure	-	ba12_x	
Condenser 1 Outside Air Temp Sensor Issue	-	ba120_x	
Condenser 2 Outside Air Temp Sensor Issue	-	ba121_x	
Condenser 1 Communication Lost	-	ba122_x	
Condenser 2 Communication Lost	-	ba123_x	
Condenser 1 Remote Shutdown	-	ba124_x	
Condenser 2 Remote Shutdown	-	ba125_x	
Condenser 1 Ref Pressure Sensor Issue	-	ba126_x	
Condenser 1 Refrigerant Underpressure	-	ba127_x	
Condenser 1 Refrigerant Overpressure	-	ba128_x	
Condenser 1 Temp Sensor Issue	-	ba129_x	
Low Static Pressure	-	ba13_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 1 Supply Refrigerant Under Temp	-	ba130_x	
Condenser 1 Supply Refrigerant Over Temp	-	ba131_x	
Condenser 1 Max Fan Speed Override	-	ba132_x	
Condenser 2 Ref Pressure Sensor Issue	-	ba133_x	
Condenser 2 Refrigerant Underpressure	-	ba134_x	
Condenser 2 Refrigerant Overpressure	-	ba135_x	
Condenser 2 Temp Sensor Issue	-	ba136_x	
Condenser 2 Supply Refrigerant Under Temp	-	ba137_x	
Condenser 2 Supply Refrigerant Over Temp	-	ba138_x	
Condenser 2 Max Fan Speed Override	-	ba139_x	
Static Pressure Sensor Out of Range	-	ba14_x	
Input Undervoltage	-	ba140_x	
Modbus Power Meter Communication Lost		ba141_x	
Fluid Temperature Sensor #1 Issue		ba142_x	
Fluid Temperature Sensor #2 Issue		ba143_x	
Fluid Flow Sensor #1 Issue		ba144_x	
Fluid Flow Sensor #2 Issue		ba145_x	
iCOM DO Board #1		ba155_x	
iCOM DO Board #2	-	ba156_x	
iCOM DO Board #3	-	ba157_x	
Aux Air Temp Device Communication Lost	-	ba217_x	
High Capacity	-	bahc_x	
Dew Point Over Temperature	-	m1575_x	
Dew Point Under Temperature	-	m1659_x	
Remote Sensor Average Over Temperature	-	m1671_x	
Remote Sensor Average Under Temperature	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temperature	-	m1675_x	
Remote Sensor 2 Over Temperature	-	m1676_x	
Remote Sensor 3 Over Temperature	-	m1677_x	
Remote Sensor 4 Over Temperature	-	m1678_x	
Remote Sensor 5 Over Temperature	-	m1679_x	



**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 6 Over Temperature	-	m1680_x	
Remote Sensor 7 Over Temperature	-	m1681_x	
Remote Sensor 8 Over Temperature	-	m1682_x	
Remote Sensor 9 Over Temperature	-	m1683_x	
Remote Sensor 10 Over Temperature	-	m1684_x	
Remote Sensor 1 Under Temperature	-	m1685_x	
Remote Sensor 2 Under Temperature	-	m1686_x	
Remote Sensor 3 Under Temperature	-	m1687_x	
Remote Sensor 4 Under Temperature	-	m1688_x	
Remote Sensor 5 Under Temperature	-	m1689_x	
Remote Sensor 6 Under Temperature	-	m1690_x	
Remote Sensor 7 Under Temperature	-	m1691_x	
Remote Sensor 8 Under Temperature	-	m1692_x	
Remote Sensor 9 Under Temperature	-	m1693_x	
Remote Sensor 10 Under Temperature	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Return Humidity Sensor Issue	-	m1910_x	
Compressor 1 Low Differential Pressure Lockout	-	m1918_x	
Compressor 2 Low Differential Pressure Lockout	-	m1927_x	
Unspecified General Event	-	m1930_x	
Temperature Control Sensor Issue	-	m1933_x	
Airflow Sensor Issue	-	m1936_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Ext Air Damper Position Issue	-	m1939_x	
Ext Power Source A Failure	-	m1942_x	
Ext Power Source B Failure	-	m1945_x	
Mixed Mode Lockout	-	m1948_x	
Compressor 1 Superheat Over Threshold	-	m2168_x	
Compressor 2 Superheat Over Threshold	-	m2171_x	
Digital Scroll 2 Sensor Fail	-	m603_x	
Chilled Water Control Valve Failure 2	-	m884_x	
<b>Control/Setpoints</b>			
Air Economizer Control Source	-	bp34_x	
Air Temp Control Integration Time Setting	-	bp41_x	
Compressor 1 Hours Threshold Setting	-	bp24_x	
Compressor 2 Hours Threshold Setting	-	m1089_x	
Dehumidifier Hours Threshold Setting	-	bp138_x	
Dew Point DeadBand Setting	-	m2203_x	
Dew Point Proportional Band Setting	-	bp1256_x	
Dew Point Set Point	-	bp1257_x	
Electric Reheat 1 Hours Threshold Setting	-	bp21_x	
Electric Reheat 2 Hours Threshold Setting	-	bp22_x	
Electric Reheat 3 Hours Threshold Setting	-	bp27_x	
Ext Dew Point Over Temp Threshold	-	bp137_x	
Ext Dew Point Under Temp Threshold	-	m1012_x	
Fan Control Sensor Setting	-	m1919_x	1=valve 1 2=valve 2
Fan Hours Threshold Setting	-	m1956_x	
Fan Speed Setting	-	bp1393_x	
Fan Speed Temperature Set Point	-	m1014_x	
Free Cooling Internal Temp Delta Setting	-	m1157_x	
Free Cooling Valve Hours Threshold Setting	-	m1186_x	
High Humidity Setpoint Sensor A Setting	-	m1363_x	
High Humidity Setpoint Setting	-	bp180_x	
High Temp Setpoint Sensor A Setting	-	bp179_x	
HW / Hot Gas Valve Hours Threshold Setting	-	bp117_x	

**Table 8.18 Available Points: Vertiv™ Liebert® iCOM™-PA\_407 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Humd Control Type	-	m1468_x	
Humidifier Hours Threshold Setting	-	m1498_x	
Humidity Call %	-	m1518_x	
Humidity Dead Band Setting	-	bp140_x	
Humidity Proportional Band Setting	-	bp141_x	
Humidity Prop Control Int. Time Setting	-	bp87_x	
Humidity Setpoint Setting	-	m1390_x	
IR Flush Rate % Parameter Setting	-	bp86_x	
Low Humidity Setpoint Sensor A Setting	-	bp136_x	
Low Return Humidity Setpoint Setting	-	m2195_x	
Low Temp Setpoint Setting	-	m2206_x	
Main Chilled Water Valve	-	bp40_x	
Min Chilled Water Temp Set Point Setting	-	bp23_x	
Pa or WC	-	bp108_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint Setting	-	bp21_x	
Return Low Temp Setpoint Setting	-	bp22_x	
Single Unit Auto-restart Delay Setting	-	bp27_x	
Static Pressure Setpoint	-	bp107_x	
Supply High Temp Setpoint Setting	-	bp137_x	
Temp Call %	-	bp192_x	
Temp Control Type	-	bp191_x	
Temp Proportional Band Setting	-	bp18_x	
Temp Setpoint Setting	-	bp17_x	
Thermal Control Override	-	bp190_x	
Humidifier Lockout	-	bc01_2_x	
Reheater Lockout	-	bc01_3_x	
System On/Off Control	-	bc1_x	

## 8.19 Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® DSE, Vertiv™ Liebert® PDX/PCW
Controller Firmware:	Air Unit iCOM-PA_410 (FDM Version: 410) PA Firmware: iCOM PA2.05.26R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_410

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in PCW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	
Actual Air Temp Set Point	-	bs158_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Actual Auxiliary Air Temperature	-	bs218_x	
Actual Humidity Set Point	-	bs159_x	
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
Chilled Water Valve Hours	-	m2213_x	
Circuit #1 Cooling Load kW	-	bs182_x	
Circuit #2 Cooling Load kW	-	bs183_x	
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Compressor Lockout	-	bs243_x	
Condenser 1 Fan Reversal Requested	-	bs148_x	
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 1 Refrigerant Pressure	-	bs150_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 1 Supply Refrigerant Temperature	-	bs151_x	
Condenser 2 Fan Reversal Requested	-	bs149_x	
Condenser 2 Outside Air Temp	-	bs116_x	
Condenser 2 Refrigerant Pressure	-	bs152_x	
Condenser 2 Supply Refrigerant Temperature	-	bs153_x	
Condenser Fan #1 Power	-	bs125_x	
Condenser Fan #1 Speed	-	bs117_x	
Condenser Fan #2 Power	-	bs126_x	
Condenser Fan #2 Speed	-	bs118_x	
Condenser Fan #3 Power	-	bs127_x	
Condenser Fan #3 Speed	-	bs119_x	
Condenser Fan #4 Power	-	bs128_x	
Condenser Fan #4 Speed	-	bs120_x	
Condenser Fan #5 Power	-	bs129_x	
Condenser Fan #5 Speed	-	bs121_x	
Condenser Fan #6 Power	-	bs130_x	
Condenser Fan #6 Speed	-	bs122_x	
Condenser Fan #7 Power	-	bs131_x	
Condenser Fan #7 Speed	-	bs123_x	
Condenser Fan #8 Power	-	bs132_x	
Condenser Fan #8 Speed	-	bs124_x	
Condenser Refrigerant Type	-	bs147_x	
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Deadband Setpoint	-	bs185_x	
Dew Point Proportional Band Setpoint	-	bs184_x	
Dew Point Set Point	-	bs134_x	
Digital Scroll Comp 1 %Utilization	-	m1913_x	
Digital Scroll Comp 2 %Utilization	-	m1915_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Energy Consumption (kWH)	-	bs171_x	
Expected Condenser Unit Count	-	bs146_x	
Ext Air Sensor A Dew Point Temp	-	m1662_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Fluid Flow Rate #1 (l/min)	-	bs177_x	
Fluid Flow Rate #2 (l/min)	-	bs178_x	
Fluid Input Temperature #1	-	bs173_x	
Fluid Input Temperature #2	-	bs174_x	
Fluid Output Temperature #1	-	bs175_x	
Fluid Output Temperature #2	-	bs176_x	
Free Cooling Internal Control Mode	-	m1572_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1569_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Threshold	-	m1579_x	
Free Cooling Valve Run Hrs	-	m1578_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Hot Water/Hot Gas Valve Run Hrs	-	m965_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1840_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Dead Band Setpoint	-	m980_x	
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
Instantaneous Power (W)	-	bs172_x	
IR Flush Rate % Setpoint	-	m902_x	
Local Cooling Override	-	bs161_x	
Local Dehumidifier Override	-	bs164_x	
Local Fan Override	-	bs160_x	
Local Heating Override	-	bs162_x	
Local Humidifier Override	-	bs163_x	
Low Noise State	-	bs220_x	
Low Temp Alarm Setpoint	-	bs138_x	
Main Chilled Water Valve	-	m1432_x	1=Valve 1 2=Valve 2
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1577_x	
Min. Chilled Water Temp Set Point Enable	-	m1576_x	
Outside Air Temp	-	m1719_x	
Pump #1 Run Hours	-	bs104_x	
Pump #1 Status	-	bs105_x	
Pump #2 Run Hours	-	bs110_x	



**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Pump #2 Status	-	bs106_x	
Raw Auxiliary Air Temp	-	bs217_x	
Reheater Lockout	-	m1835_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor 10 Temperature	-	m1665_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Return Dew Point	-	bs133_x	
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Static Pressure Setpoint	-	bs107_x	
Super Saver Call For Cooling %	-	bs219_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Supply High Temp Alarm Setpoint	-	bs137_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
System Input Current Phase A	-	bs181_x	
System Input Current Phase B	-	bs167_x	
System Input Current Phase C	-	bs170_x	
System Input Volts A-B	-	bs179_x	
System Input Volts A-N	-	bs180_x	
System Input Volts B-C	-	bs165_x	
System Input Volts B-N	-	bs166_x	
System Input Volts C-A	-	bs168_x	
System Input Volts C-N	-	bs169_x	
System Operating State Reason	-	bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
System Static Pressure (pa)	-	bs109_x	
System Status	-	m1288_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle
Temperature Deadband Setpoint	-	m978_x	
Temperature Scale	-	m976_x	
Unit Static Pressure (pa)	-	bs108_x	
Common Alarm	-	stat_x	
Tandem 'B' Compressor #1 State	-	m5354_x	On/Off

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
Tandem 'B' Compressor #1 Run Hours	-	m5357_x	
Tandem 'B' Compressor #1 State	-	m5358_x	On/Off
Tandem 'B' Compressor #1 Run Hours	-	m5360_x	
Unit Calculated Airflow (m3/h)	-	m5365_x	cubic meters per hr.
High Pump Hours Event Threshold	-	m6368_x	
Pump #1 Pre-Operational Mode	-	bs205_x	1=boot 2=Idle 3=Manual 4=Auto 5=Test
Pump #1 Speed %	-	m5453_x	
Pump #1 Inlet Refrigerant Temperature	-	bs204_x	
Pump #1 Outlet Refrigerant Temperature	-	bs206_x	
Pump #2 Pre-Operational Mode	-	bs207_x	1=boot 2=Idle 3=Manual 4=Auto 5=Test
Pump #2 Speed %	-	m5466_x	
Pump #2 Inlet Refrigerant Temperature	-	bs208_x	
Pump #2 Outlet Refrigerant Temperature	-	bs209_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Failure 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Air Economizer Emergency Override	-	ba108_x	
Air Economizer Reduced Airflow	-	ba109_x	
Static Pressure Sensor Issue	-	ba11_x	
EEV Unspecified event (See Unit display)	-	ba110_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Pump Unspecified General Event	-	ba111_x	
Condenser Unit Unspecified General Event	-	ba112_x	
Condenser Circuit Unspecified General Event	-	ba113_x	
Condenser 1 TVSS Issue	-	ba114_x	
Condenser 2 TVSS Issue	-	ba115_x	
Condenser 1 Outside Air Hi/Low	-	ba116_x	
Condenser 2 Outside Air Hi/Low	-	ba117_x	
Condenser 1 Control Board Issue	-	ba118_x	
Condenser 2 Control Board Issue	-	ba119_x	
High Static Pressure	-	ba12_x	
Condenser 1 Outside Air Temp Sensor Issue	-	ba120_x	
Condenser 2 Outside Air Temp Sensor Issue	-	ba121_x	
Condenser 1 Communication Lost	-	ba122_x	
Condenser 2 Communication Lost	-	ba123_x	
Condenser 1 Remote Shutdown	-	ba124_x	
Condenser 2 Remote Shutdown	-	ba125_x	
Condenser 1 Ref Pressure Sensor Issue	-	ba126_x	
Condenser 1 Refrigerant Underpressure	-	ba127_x	
Condenser 1 Refrigerant Overpressure	-	ba128_x	
Condenser 1 Temp Sensor Issue	-	ba129_x	
Low Static Pressure	-	ba13_x	
Condenser 1 Supply Refrigerant Under Temp	-	ba130_x	
Condenser 1 Supply Refrigerant Over Temp	-	ba131_x	
Condenser 1 Max Fan Speed Override	-	ba132_x	
Condenser 2 Ref Pressure Sensor Issue	-	ba133_x	
Condenser 2 Refrigerant Underpressure	-	ba134_x	
Condenser 2 Refrigerant Overpressure	-	ba135_x	
Condenser 2 Temp Sensor Issue	-	ba136_x	
Condenser 2 Supply Refrigerant Under Temp	-	ba137_x	
Condenser 2 Supply Refrigerant Over Temp	-	ba138_x	
Condenser 2 Max Fan Speed Override	-	ba139_x	
Static Pressure Sensor Out of Range	-	ba14_x	
Input Undervoltage	-	ba140_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Modbus Power Meter Communication Lost		ba141_x	
Fluid Temperature Sensor #1 Issue		ba142_x	
Fluid Temperature Sensor #2 Issue		ba143_x	
Fluid Flow Sensor #1 Issue		ba144_x	
Fluid Flow Sensor #2 Issue		ba145_x	
iCOM DO Board #1		ba155_x	
iCOM DO Board #2	-	ba156_x	
iCOM DO Board #3	-	ba157_x	
Aux Air Temp Device Communication Lost	-	ba217_x	
High Capacity	-	bahc_x	
Dew Point Over Temperature	-	m1575_x	
Dew Point Under Temperature	-	m1659_x	
Remote Sensor Average Over Temperature	-	m1671_x	
Remote Sensor Average Under Temperature	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temperature	-	m1675_x	
Remote Sensor 2 Over Temperature	-	m1676_x	
Remote Sensor 3 Over Temperature	-	m1677_x	
Remote Sensor 4 Over Temperature	-	m1678_x	
Remote Sensor 5 Over Temperature	-	m1679_x	
Remote Sensor 6 Over Temperature	-	m1680_x	
Remote Sensor 7 Over Temperature	-	m1681_x	
Remote Sensor 8 Over Temperature	-	m1682_x	
Remote Sensor 9 Over Temperature	-	m1683_x	
Remote Sensor 10 Over Temperature	-	m1684_x	
Remote Sensor 1 Under Temperature	-	m1685_x	
Remote Sensor 2 Under Temperature	-	m1686_x	
Remote Sensor 3 Under Temperature	-	m1687_x	
Remote Sensor 4 Under Temperature	-	m1688_x	
Remote Sensor 5 Under Temperature	-	m1689_x	
Remote Sensor 6 Under Temperature	-	m1690_x	
Remote Sensor 7 Under Temperature	-	m1691_x	



**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 8 Under Temperature	-	m1692_x	
Remote Sensor 9 Under Temperature	-	m1693_x	
Remote Sensor 10 Under Temperature	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Return Humidity Sensor Issue	-	m1910_x	
Compressor 1 Low Differential Pressure Lockout	-	m1918_x	
Compressor 2 Low Differential Pressure Lockout	-	m1927_x	
Unspecified General Event	-	m1930_x	
Temperature Control Sensor Issue	-	m1933_x	
Airflow Sensor Issue	-	m1936_x	
Ext Air Damper Position Issue	-	m1939_x	
Ext Power Source A Failure	-	m1942_x	
Ext Power Source B Failure	-	m1945_x	
Mixed Mode Lockout	-	m1948_x	
Compressor 1 Superheat Over Threshold	-	m2168_x	
Compressor 2 Superheat Over Threshold	-	m2171_x	
Digital Scroll 2 Sensor Fail	-	m603_x	
Chilled Water Control Valve Failure 2	-	m884_x	
Compressor 1 Freeze Protection	-	m5353_x	
Compressor 2 Freeze Protection	-	m5364	
<b>Control/Setpoints Points</b>			
Air Economizer Control Source	-	bp34_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Air Temp Control Integration Time Setting	-	bp41_x	
Compressor 1 Hours Threshold Setting	-	bp24_x	
Compressor 2 Hours Threshold Setting	-	m1089_x	
Dehumidifier Hours Threshold Setting	-	bp138_x	
Dew Point DeadBand Setting	-	m2203_x	
Dew Point Proportional Band Setting	-	bp1256_x	
Dew Point Set Point	-	bp1257_x	
Electric Reheat 1 Hours Threshold Setting	-	bp21_x	
Electric Reheat 2 Hours Threshold Setting	-	bp22_x	
Electric Reheat 3 Hours Threshold Setting	-	bp27_x	
Ext Dew Point Over Temp Threshold	-	bp137_x	
Ext Dew Point Under Temp Threshold	-	m1012_x	
Fan Control Sensor Setting	-	m1919_x	1=valve 1 2=valve 2
Fan Hours Threshold Setting	-	m1956_x	
Fan Speed Setting	-	bp1393_x	
Fan Speed Temperature Set Point	-	m1014_x	
Free Cooling Internal Temp Delta Setting	-	m1157_x	
Free Cooling Valve Hours Threshold Setting	-	m1186_x	
High Humidity Setpoint Sensor A Setting	-	m1363_x	
High Humidity Setpoint Setting	-	bp180_x	
High Temp Setpoint Sensor A Setting	-	bp179_x	
HW / Hot Gas Valve Hours Threshold Setting	-	bp117_x	
Humd Control Type	-	m1468_x	
Humidifier Hours Threshold Setting	-	m1498_x	
Humidity Call %	-	m1518_x	
Humidity Dead Band Setting	-	bp140_x	
Humidity Proportional Band Setting	-	bp141_x	
Humidity Prop Control Int. Time Setting	-	bp87_x	
Humidity Setpoint Setting	-	m1390_x	
IR Flush Rate % Parameter Setting	-	bp86_x	
Low Humidity Setpoint Sensor A Setting	-	bp136_x	
Low Return Humidity Setpoint Setting	-	m2195_x	

**Table 8.19 Available Points: Vertiv™ Liebert® iCOM™-PA\_410 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Low Temp Setpoint Setting	-	m2206_x	
Main Chilled Water Valve	-	bp40_x	
Min Chilled Water Temp Set Point Setting	-	bp23_x	
Pa or WC	-	bp108_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint Setting	-	bp21_x	
Return Low Temp Setpoint Setting	-	bp22_x	
Single Unit Auto-restart Delay Setting	-	bp27_x	
Static Pressure Setpoint	-	bp107_x	
Supply High Temp Setpoint Setting	-	bp137_x	
Temp Call %	-	bp192_x	
Temp Control Type	-	bp191_x	
Temp Proportional Band Setting	-	bp18_x	
Temp Setpoint Setting	-	bp17_x	
Thermal Control Override	-	bp190_x	
Humidifier Lockout	-	bc01_2_x	
Reheater Lockout	-	bc01_3_x	
System On/Off Control	-	bc1_x	
High Pump Hours Event Threshold Setting	-	m5367_x	

## 8.20 Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® DSE, Vertiv™ Liebert® PDX/PCW
Controller Firmware:	Air Unit iCOM-PA_412 (FDM Version: 412) PA Firmware: iCOM PA2.05.31.01R
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_pa_412

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	
Low Humidity Alarm Setpoint	40024	bs24_x	
Actual Air Temp Set Point	-	bs158_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Actual Auxiliary Air Temperature	-	bs218_x	
Actual Humidity Set Point	-	bs159_x	
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
Chilled Water Valve Hours	-	m2213_x	
Circuit #1 Cooling Load kW	-	bs182_x	
Circuit #2 Cooling Load kW	-	bs183_x	
Comp 1 Temp	-	m953_x	
Comp 2 Temp	-	m1199_x	
Compressor 1 Capacity Control State	-	m1138_x	
Compressor 1 Hours Threshold	-	m1165_x	
Compressor 1 State	-	m1127_x	
Compressor 2 Capacity Control State	-	m1203_x	
Compressor 2 Hours Threshold	-	m1196_x	
Compressor 2 State	-	m1201_x	
Compressor Lockout	-	bs243_x	
Condenser 1 Fan Reversal Requested	-	bs148_x	
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 1 Refrigerant Pressure	-	bs150_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 1 Supply Refrigerant Temperature	-	bs151_x	
Condenser 2 Fan Reversal Requested	-	bs149_x	
Condenser 2 Outside Air Temp	-	bs116_x	
Condenser 2 Refrigerant Pressure	-	bs152_x	
Condenser 2 Supply Refrigerant Temperature	-	bs153_x	
Condenser Fan #1 Power	-	bs125_x	
Condenser Fan #1 Speed	-	bs117_x	
Condenser Fan #2 Power	-	bs126_x	
Condenser Fan #2 Speed	-	bs118_x	
Condenser Fan #3 Power	-	bs127_x	
Condenser Fan #3 Speed	-	bs119_x	
Condenser Fan #4 Power	-	bs128_x	
Condenser Fan #4 Speed	-	bs120_x	
Condenser Fan #5 Power	-	bs129_x	
Condenser Fan #5 Speed	-	bs121_x	
Condenser Fan #6 Power	-	bs130_x	
Condenser Fan #6 Speed	-	bs122_x	
Condenser Fan #7 Power	-	bs131_x	
Condenser Fan #7 Speed	-	bs123_x	
Condenser Fan #8 Power	-	bs132_x	
Condenser Fan #8 Speed	-	bs124_x	
Condenser Refrigerant Type	-	bs147_x	
Cooling Control Temperature	-	bs143_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Deadband Setpoint	-	bs185_x	
Dew Point Proportional Band Setpoint	-	bs184_x	
Dew Point Set Point	-	bs134_x	
Digital Scroll Comp 1 %Utilization	-	m1913_x	
Digital Scroll Comp 2 %Utilization	-	m1915_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Energy Consumption (kWH)	-	bs171_x	
Expected Condenser Unit Count	-	bs146_x	
Ext Air Sensor A Dew Point Temp	-	m1662_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Fan Control Sensor	-	m1380_x	1=supply 2=remote 3=return 4=manual
Fan Hours Threshold	-	m1398_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
Fluid Flow Rate #1 (l/min)	-	bs177_x	
Fluid Flow Rate #2 (l/min)	-	bs178_x	
Fluid Input Temperature #1	-	bs173_x	
Fluid Input Temperature #2	-	bs174_x	
Fluid Output Temperature #1	-	bs175_x	
Fluid Output Temperature #2	-	bs176_x	
Free Cooling Internal Control Mode	-	m1572_x	1=disabled 2=contact 3=value
Free Cooling Internal Temperature Delta	-	m1569_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Threshold	-	m1579_x	
Free Cooling Valve Run Hrs	-	m1578_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Hot Water/Hot Gas Valve Run Hrs	-	m965_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Lockout	-	m1840_x	
Humidity Control Sensor	-	bs242_x	1=remote 2=return
Humidity Dead Band Setpoint	-	m980_x	
Humidity Proportional Cntrl Integration Time	-	m1108_x	Minutes
Humidity Proportional Control Type	-	m1104_x	
Instantaneous Power (W)	-	bs172_x	
IR Flush Rate % Setpoint	-	m902_x	
Local Cooling Override	-	bs161_x	
Local Dehumidifier Override	-	bs164_x	
Local Fan Override	-	bs160_x	
Local Heating Override	-	bs162_x	
Local Humidifier Override	-	bs163_x	
Low Noise State	-	bs220_x	
Low Temp Alarm Setpoint	-	bs138_x	
Main Chilled Water Valve	-	m1432_x	1=Valve 1 2=Valve 2
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1577_x	
Min. Chilled Water Temp Set Point Enable	-	m1576_x	
Outside Air Temp	-	m1719_x	
Pump #1 Run Hours	-	bs104_x	
Pump #1 Status	-	bs105_x	
Pump #2 Run Hours	-	bs110_x	



**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Pump #2 Status	-	bs106_x	
Raw Auxiliary Air Temp	-	bs217_x	
Reheater Lockout	-	m1835_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor 10 Temperature	-	m1665_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Return Dew Point	-	bs133_x	
Remote Average Temperature	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	Seconds
Static Pressure Setpoint	-	bs107_x	
Super Saver Call For Cooling %	-	bs219_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Supply High Temp Alarm Setpoint	-	bs137_x	
System Control Mode	-	m1520_x	set=external not set=internal(auto)
System Operating State Reason		bs145_x	1=unknown 2=net display 3=alarm 4=schedule 5=remote 6=external 7=local display
System Input Current Phase A	-	bs181_x	
System Input Current Phase B	-	bs167_x	
System Input Current Phase C	-	bs170_x	
System Input Volts A-B	-	bs179_x	
System Input Volts A-N	-	bs180_x	
System Input Volts B-C	-	bs165_x	
System Input Volts B-N	-	bs166_x	
System Input Volts C-A	-	bs168_x	
System Static Pressure (pa)	-	bs109_x	
System Input Volts C-N	-	bs169_x	
Temperature Deadband Setpoint	-	m978_x	
Temperature Scale	-	m976_x	
Unit Static Pressure (pa)	-	bs108_x	
Common Alarm	-	stat_x	
System Status	-	m1288_x	1=Normal 2=Startup 3=Warning 4=Alarm 5=Abnormal
Teamwork Mode	-	bs144_x	1=None 2=Parallel 3=Independent 4=Smart Aisle

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Status	-	bs139_x	1=Alarm Off 2=Local Off 3=Display Off 4=Remote Off 5=BMS Off 6=Unit On
Tandem 'B' Compressor #1 State	-	m5354_x	On/Off
Tandem 'B' Compressor #1 Run Hours	-	m5357_x	
Tandem 'B' Compressor #1 State	-	m5358_x	On/Off
Tandem 'B' Compressor #1 Run Hours	-	m5360_x	
Unit Calculated Airflow (m3/h)	-	m5365_x	cubic meters per hr.
High Pump Hours Event Threshold	-	m6368_x	
Pump #1 Pre-Operational Mode	-	bs205_x	1=boot 2=Idle 3=Manual 4=Auto 5=Test
Pump #1 Speed %	-	m5453_x	
Pump #1 Inlet Refrigerant Temperature	-	bs204_x	
Pump #1 Outlet Refrigerant Temperature	-	bs206_x	
Pump #2 Pre-Operational Mode	-	bs207_x	1=boot 2=Idle 3=Manual 4=Auto 5=Test
Pump #2 Speed %	-	m5466_x	
Pump #2 Inlet Refrigerant Temperature	-	bs208_x	
Pump #2 Outlet Refrigerant Temperature	-	bs209_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Supply NTC Air Sensor Issue	-	m5492_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Sensor B Issue	-	m5495_x	
Sensor C Issue	-	m5498_x	
Sensor D Issue	-	m5501_1	
Sensor E Issue	-	m5504_1	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	40290		
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	40291		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	40292		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	40293		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Failure 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Air Economizer Emergency Override	-	ba108_x	
Air Economizer Reduced Airflow	-	ba109_x	
Static Pressure Sensor Issue	-	ba11_x	
EEV Unspecified event (See Unit display)	-	ba110_x	
Pump Unspecified General Event	-	ba111_x	
Condenser Unit Unspecified General Event	-	ba112_x	
Condenser Circuit Unspecified General Event	-	ba113_x	
Condenser 1 TVSS Issue	-	ba114_x	
Condenser 2 TVSS Issue	-	ba115_x	
Condenser 1 Outside Air Hi/Low	-	ba116_x	
Condenser 2 Outside Air Hi/Low	-	ba117_x	
Condenser 1 Control Board Issue	-	ba118_x	
Condenser 2 Control Board Issue	-	ba119_x	
High Static Pressure	-	ba12_x	
Condenser 1 Outside Air Temp Sensor Issue	-	ba120_x	
Condenser 2 Outside Air Temp Sensor Issue	-	ba121_x	
Condenser 1 Communication Lost	-	ba122_x	
Condenser 2 Communication Lost	-	ba123_x	
Condenser 1 Remote Shutdown	-	ba124_x	
Condenser 2 Remote Shutdown	-	ba125_x	
Condenser 1 Ref Pressure Sensor Issue	-	ba126_x	
Condenser 1 Refrigerant Underpressure	-	ba127_x	
Condenser 1 Refrigerant Overpressure	-	ba128_x	
Condenser 1 Temp Sensor Issue	-	ba129_x	
Low Static Pressure	-	ba13_x	
Condenser 1 Supply Refrigerant Under Temp	-	ba130_x	
Condenser 1 Supply Refrigerant Over Temp	-	ba131_x	
Condenser 1 Max Fan Speed Override	-	ba132_x	
Condenser 2 Ref Pressure Sensor Issue	-	ba133_x	
Condenser 2 Refrigerant Underpressure	-	ba134_x	
Condenser 2 Refrigerant Overpressure	-	ba135_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 2 Temp Sensor Issue	-	ba136_x	
Condenser 2 Supply Refrigerant Under Temp	-	ba137_x	
Condenser 2 Supply Refrigerant Over Temp	-	ba138_x	
Condenser 2 Max Fan Speed Override	-	ba139_x	
Static Pressure Sensor Out of Range	-	ba14_x	
Input Undervoltage	-	ba140_x	
Modbus Power Meter Communication Lost		ba141_x	
Fluid Temperature Sensor #1 Issue		ba142_x	
Fluid Temperature Sensor #2 Issue		ba143_x	
Fluid Flow Sensor #1 Issue		ba144_x	
Fluid Flow Sensor #2 Issue		ba145_x	
iCOM DO Board #1		ba155_x	
iCOM DO Board #2	-	ba156_x	
iCOM DO Board #3	-	ba157_x	
Aux Air Temp Device Communication Lost	-	ba217_x	
High Capacity	-	bahc_x	
Dew Point Over Temperature	-	m1575_x	
Dew Point Under Temperature	-	m1659_x	
Remote Sensor Average Over Temperature	-	m1671_x	
Remote Sensor Average Under Temperature	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temperature	-	m1675_x	
Remote Sensor 2 Over Temperature	-	m1676_x	
Remote Sensor 3 Over Temperature	-	m1677_x	
Remote Sensor 4 Over Temperature	-	m1678_x	
Remote Sensor 5 Over Temperature	-	m1679_x	
Remote Sensor 6 Over Temperature	-	m1680_x	
Remote Sensor 7 Over Temperature	-	m1681_x	
Remote Sensor 8 Over Temperature	-	m1682_x	
Remote Sensor 9 Over Temperature	-	m1683_x	
Remote Sensor 10 Over Temperature	-	m1684_x	
Remote Sensor 1 Under Temperature	-	m1685_x	



**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor 2 Under Temperature	-	m1686_x	
Remote Sensor 3 Under Temperature	-	m1687_x	
Remote Sensor 4 Under Temperature	-	m1688_x	
Remote Sensor 5 Under Temperature	-	m1689_x	
Remote Sensor 6 Under Temperature	-	m1690_x	
Remote Sensor 7 Under Temperature	-	m1691_x	
Remote Sensor 8 Under Temperature	-	m1692_x	
Remote Sensor 9 Under Temperature	-	m1693_x	
Remote Sensor 10 Under Temperature	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Return Humidity Sensor Issue	-	m1910_x	
Compressor 1 Low Differential Pressure Lockout	-	m1918_x	
Compressor 2 Low Differential Pressure Lockout	-	m1927_x	
Unspecified General Event	-	m1930_x	
Temperature Control Sensor Issue	-	m1933_x	
Airflow Sensor Issue	-	m1936_x	
Ext Air Damper Position Issue	-	m1939_x	
Ext Power Source A Failure	-	m1942_x	
Ext Power Source B Failure	-	m1945_x	
Mixed Mode Lockout	-	m1948_x	
Compressor 1 Superheat Over Threshold	-	m2168_x	
Compressor 2 Superheat Over Threshold	-	m2171_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Digital Scroll 2 Sensor Fail	-	m603_x	
Chilled Water Control Valve Failure 2	-	m884_x	
Compressor 1 Freeze Protection	-	m5353_x	
Compressor 2 Freeze Protection	-	m5364	
<b>Control/Setpoints Points</b>			
Air Economizer Control Source	-	bp34_x	
Air Temp Control Integration Time Setting	-	bp41_x	
Compressor 1 Hours Threshold Setting	-	bp24_x	
Compressor 2 Hours Threshold Setting	-	m1089_x	
Dehumidifier Hours Threshold Setting	-	bp138_x	
Dew Point DeadBand Setting	-	m2203_x	
Dew Point Proportional Band Setting	-	bp1256_x	
Dew Point Set Point	-	bp1257_x	
Electric Reheat 1 Hours Threshold Setting	-	bp21_x	
Electric Reheat 2 Hours Threshold Setting	-	bp22_x	
Electric Reheat 3 Hours Threshold Setting	-	bp27_x	
Ext Dew Point Over Temp Threshold	-	bp137_x	
Ext Dew Point Under Temp Threshold	-	m1012_x	
Fan Control Sensor Setting	-	m1919_x	1=valve 1 2=valve 2
Fan Hours Threshold Setting	-	m1956_x	
Fan Speed Setting	-	bp1393_x	
Fan Speed Temperature Set Point	-	m1014_x	
Free Cooling Internal Temp Delta Setting	-	m1157_x	
Free Cooling Valve Hours Threshold Setting	-	m1186_x	
High Humidity Setpoint Sensor A Setting	-	m1363_x	
High Humidity Setpoint Setting	-	bp180_x	
High Temp Setpoint Sensor A Setting	-	bp179_x	
HW / Hot Gas Valve Hours Threshold Setting	-	bp117_x	
Humd Control Type	-	m1468_x	
Humidifier Hours Threshold Setting	-	m1498_x	
Humidity Call %	-	m1518_x	
Humidity Dead Band Setting	-	bp140_x	

**Table 8.20 Available Points: Vertiv™ Liebert® iCOM™-PA\_412 Deluxe System with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Humidity Proportional Band Setting	-	bp141_x	
Humidity Prop Control Int. Time Setting	-	bp87_x	
Humidity Setpoint Setting	-	m1390_x	
IR Flush Rate % Parameter Setting	-	bp86_x	
Low Humidity Setpoint Sensor A Setting	-	bp136_x	
Low Return Humidity Setpoint Setting	-	m2195_x	
Low Temp Setpoint Setting	-	m2206_x	
Main Chilled Water Valve	-	bp40_x	
Min Chilled Water Temp Set Point Setting	-	bp23_x	
Pa or WC	-	bp108_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint Setting	-	bp21_x	
Return Low Temp Setpoint Setting	-	bp22_x	
Single Unit Auto-restart Delay Setting	-	bp27_x	
Static Pressure Setpoint	-	bp107_x	
Supply High Temp Setpoint Setting	-	bp137_x	
Temp Call %	-	bp192_x	
Temp Control Type	-	bp191_x	
Temp Proportional Band Setting	-	bp18_x	
Temp Setpoint Setting	-	bp17_x	
Thermal Control Override	-	bp190_x	
Humidifier Lockout	-	bc01_2_x	
Reheater Lockout	-	bc01_3_x	
System On/Off Control	-	bc1_x	
High Pump Hours Event Threshold Setting	-	m5367_x	

## 8.21 Vertiv™ Liebert® iCOM™-PA\_juliet Protocol

Hardware Applicability	
Liebert Unit:	Air Unit Vertiv™ Liebert® iCOM™-PA_juliet Deluxe System with Vertiv™ Liebert® iCOM™ Controls (PA Firmware PA2.06.xxR, FDM version 605-667)
Interface Module:	Vertiv™ Liebert® SiteLink-E module

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List**

Point Availability			
SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Unit On/Off	40001	bs1_x	
Unit Standby	40002	bs2_x	
Cooling State	40003	bs3_x	
Electrical Heater State	40004	bs4_x	
Humidifier State	40005	bs5_x	
Dehumidifier State	40006	bs6_x	
Cooling Ramp %	40007	bs7_x	Valve % Open in CW based units
Heating Ramp %	40008	bs8_x	
Return Temp	40009	bs9_x	
Return Humidity	40010	bs10_x	
Fan Run Hours	40011	bs11_x	
Compressor 1 Run Hrs	40012	bs12_x	
Compressor 2 Run Hrs	40013	bs13_x	
Humidifier Run Hrs	40014	bs14_x	
Supply Temp	40015	bs15_x	
Free Cooling Status	40016	bs16_x	
Temperature Setpoint	40017	bs17_x	
Temp Proportional Band Setpoint	40018	bs18_x	
Humidity Setpoint	40019	bs19_x	
Humidity Proportional Band Setpoint	40020	bs20_x	
High Temp Alarm Setpoint	40021	bs21_x	
Low Temp Alarm Setpoint	40022	bs22_x	
High Return Humidity Threshold	40023	bs23_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

Point Availability			
SiteScan	Modbus Register	BACnet Object Name	Notes:
Low Humidity Alarm Setpoint	40024	bs24_x	
Actual Air Temp Set Point	-	bs158_x	
Actual Auxiliary Air Temperature	-	bs218_x	
Actual Humidity Set Point	-	bs159_x	
Adjusted Humidity	-	bs210_x	
Air Economizer Availability	-	m1668_x	1=not available 2=available
Air Economizer Control Source	-	m1624_x	1=disabled 2=internal 3=external
Air Temperature Control Integration Time	-	m1013_x	Minutes
Air Temperature Control Sensor	-	bs142_x	1=supply 2=remote 3=return
Air Temperature Control Type	-	m1010_x	1=proportional 2= prop+integral 3=intelligent
Analog Input 1	-	m1274_x	
Analog Input 2	-	m1275_x	
Analog Input 3	-	m1276_x	
Analog Input 4	-	m1277_x	
ATS - Active Power Supply	-	bs227_x	
ATS - Power Supply 1	-	bs228_x	
ATS - Power Supply 2	-	bs229_x	
Chilled Water Valve Hours	-	m2213_x	
Circuit #1 Cooling Load kW	-	bs182_x	
Circuit #2 Cooling Load kW	-	bs183_x	
Common Alarm	-	stat_x	
Compressor #1 % Utilization	-	m1913_x	
Compressor #1 Capacity Control State	-	m1138_x	
Compressor #1 Discharge Temp	-	m953_x	
Compressor #1 Run Hours Threshold	-	m1165_x	
Compressor #1 State	-	m1127_x	
Compressor #2 % Utilization	-	m1915_x	
Compressor #2 Capacity Control State	-	m1203_x	
Compressor #2 Discharge Temp	-	m1199_x	
Compressor #2 Run Hours Threshold	-	m1196_x	
Compressor #2 Run Hrs	-	m254_x	
Compressor #2 State	-	m1201_x	
Compressor #3 % Utilization	-	m282_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Compressor #3 % Utilization	-	m359_x	
Compressor #3 Capacity Control State	-	m271_x	
Compressor #3 Discharge Temp	-	m269_x	
Compressor #3 Run Hours Threshold	-	m5519_x	
Compressor #3 State	-	m270_x	
Compressor #4 Capacity Control State	-	m348_x	
Compressor #4 Discharge Temp	-	m346_x	
Compressor #4 Run Hours Threshold	-	m345_x	
Compressor #4 Run Hrs	-	m5531_x	
Compressor #4 State	-	m347_x	
Compressor 1 Hours Threshold Setting	-	m1157_x	
Compressor 2 Hours Threshold Setting	-	m1186_x	
Compressor 3 Hours Threshold Setting	-	m5516_x	
Compressor 4 Hours Threshold Setting	-	m344_x	
Compressor Lockout	-	bs243_x	
Condenser 1 Fan Reversal Requested	-	bs148_x	
Condenser 1 Outside Air Temp	-	bs115_x	
Condenser 1 Refrigerant Pressure	-	bs150_x	
Condenser 1 Supply Refrigerant Temperature	-	bs151_x	
Condenser 2 Fan Reversal Requested	-	bs149_x	
Condenser 2 Outside Air Temp	-	bs116_x	
Condenser 2 Refrigerant Pressure	-	bs152_x	
Condenser 2 Supply Refrigerant Temperature	-	bs153_x	
Condenser 3 Refrigerant Pressure	-	bs186_x	
Condenser 3 Supply Refrigerant Temperature	-	bs187_x	
Condenser 4 Refrigerant Pressure	-	bs188_x	
Condenser 4 Supply Refrigerant Temperature	-	bs189_x	
Condenser Fan Amps #1	-	bs252_x	
Condenser Fan Amps #10	-	bs261_x	
Condenser Fan Amps #11	-	bs262_x	
Condenser Fan Amps #12	-	bs263_x	
Condenser Fan Amps #13	-	bs264_x	
Condenser Fan Amps #14	-	bs265_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Condenser Fan Amps #15	-	bs266_x	
Condenser Fan Amps #16	-	bs267_x	
Condenser Fan Amps #2	-	bs253_x	
Condenser Fan Amps #3	-	bs254_x	
Condenser Fan Amps #4	-	bs255_x	
Condenser Fan Amps #5	-	bs256_x	
Condenser Fan Amps #6	-	bs257_x	
Condenser Fan Amps #7	-	bs258_x	
Condenser Fan Amps #8	-	bs259_x	
Condenser Fan Amps #9	-	bs260_x	
Condenser Fan Power #1	-	bs125_x	
Condenser Fan Power #10	-	bs245_x	
Condenser Fan Power #11	-	bs246_x	
Condenser Fan Power #12	-	bs247_x	
Condenser Fan Power #13	-	bs248_x	
Condenser Fan Power #14	-	bs249_x	
Condenser Fan Power #15	-	bs250_x	
Condenser Fan Power #16	-	bs251_x	
Condenser Fan Power #2	-	bs126_x	
Condenser Fan Power #3	-	bs127_x	
Condenser Fan Power #4	-	bs128_x	
Condenser Fan Power #5	-	bs129_x	
Condenser Fan Power #6	-	bs130_x	
Condenser Fan Power #7	-	bs131_x	
Condenser Fan Power #8	-	bs132_x	
Condenser Fan Power #9	-	bs244_x	
Condenser Fan Speed % #1	-	bs117_x	
Condenser Fan Speed % #10	-	bs233_x	
Condenser Fan Speed % #11	-	bs234_x	
Condenser Fan Speed % #12	-	bs235_x	
Condenser Fan Speed % #13	-	bs236_x	
Condenser Fan Speed % #14	-	bs237_x	
Condenser Fan Speed % #15	-	bs238_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

Point Availability			
SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser Fan Speed % #16	-	bs239_x	
Condenser Fan Speed % #2	-	bs118_x	
Condenser Fan Speed % #3	-	bs119_x	
Condenser Fan Speed % #4	-	bs120_x	
Condenser Fan Speed % #5	-	bs121_x	
Condenser Fan Speed % #6	-	bs122_x	
Condenser Fan Speed % #7	-	bs123_x	
Condenser Fan Speed % #8	-	bs124_x	
Condenser Fan Speed % #9	-	bs232_x	
Condenser Refrigerant Type	-	bs147_x	
Cooling Control Temperature	-	bs143_x	
Cooling Load kW	-	bs154_x	
Dehum Reheat Low Limit 1	-	bs213_x	
Dehum Reheat Low Limit 2	-	bs214_x	
Dehum Reheat Low Limit Sensor	-	bs211_x	
Dehum Reheat Low Limit Set Point	-	bs212_x	
Dehum Reheat Proportional Band	-	bs215_x	
Dehum Reheat Proportional Band	-	bs225_x	
De-humidification Ramp %	-	m941_x	
Dehumidifier Hours Threshold	-	m1371_x	
Dehumidifier Hours Threshold Setting	-	m1363_x	
Dehumidifier Run Hrs	-	m958_x	
Dew Point Deadband Setpoint	-	bs185_x	
Dew Point Over Temp Threshold	-	bs201_x	
Dew Point Proportional Band Setpoint	-	bs184_x	
Dew Point Set Point	-	bs134_x	
EconoPhase Proportional Band Switchover %	-	bs278_x	
Electric Heater #1 Run Hrs	-	m960_x	
Electric Heater #2 Run Hrs	-	m961_x	
Electric Heater #3 Run Hrs	-	m963_x	
Electric Reheat 1 Hours Threshold Setting	-	m1468_x	
Electric Reheat 1Hours Threshold	-	m1455_x	
Electric Reheat 2 Hours Threshold	-	m1485_x	



**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Electric Reheat 2 Hours Threshold Setting	-	m1498_x	
Electric Reheat 3 Hours Threshold	-	m1510_x	
Electric Reheat 3 Hours Threshold Setting	-	m1518_x	
Energy Consumption (kWH)	-	bs171_x	
Expected Condenser Unit Count	-	bs146_x	
Ext Air Sensor A Dew Point Temp	-	m1662_x	
Ext Dew Point Over Temp Threshold	-	bs140_x	
Ext Dew Point Under Temp Threshold	-	bs141_x	
Ext Dew Point Under Temp Threshold	-	bs202_x	
Fan Back Draft Control Enable	-	bs226_x	
Fan Back Draft Operation	-	m5764_x	
Fan Control Sensor	-	m1380_x	
Fan Hours Threshold	-	m1398_x	
Fan Hours Threshold Setting	-	m1390_x	
Fan Ramp %	-	m938_x	
Fan Speed Control Temperature	-	bs135_x	
Fan Speed Temp Control Integration Time	-	bs240_x	
Fan Speed Temp Control Proportional Band	-	bs231_x	
Fan Speed Temp Control Type	-	bs230_x	
Fan Speed Temperature Dead Band	-	bs241_x	
Fan Speed Temperature Set Point	-	bs136_x	
Fan State	-	m935_x	
FC Fluid Temp	-	m949_x	
FC Lockout Temp	-	bs272_x	
Fluid Flow Rate #1 (l/min)	-	bs177_x	
Fluid Flow Rate #2 (l/min)	-	bs178_x	
Fluid Input Temperature #1	-	bs173_x	
Fluid Input Temperature #2	-	bs174_x	
Fluid Output Temperature #1	-	bs175_x	
Fluid Output Temperature #2	-	bs176_x	
Fluid Source #1 Temp	-	bs281_x	
Fluid Source #2 Temp	-	bs282_x	
Free Cooling Internal Control Mode	-	m1572_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Free Cooling Internal Temperature Delta	-	m1569_x	
Free Cooling Internal Temp Delta Setting	-	m2195_x	
Free Cooling Ramp %	-	m939_x	
Free Cooling State	-	m1310_x	
Free Cooling Valve Hours Threshold	-	m1579_x	
Free Cooling Valve Hours Threshold Setting	-	m2206_x	
Free Cooling Valve Run Hrs	-	m1578_x	
Group Independent Operation Enable	-	bs270_x	
Group Independent Operation Enable	-	bs271_x	
High Pump Hours Event Threshold	-	m5368_x	
High Pump Hours Event Threshold Setting	-	m5367_x	
High Temp Setpoint Sensor A Setting	-	m1088_x	
Hot Water / Hot Gas Valve Hours Threshold	-	m1408_x	
Hot Water / Hot Gas Valve Hours Setting	-	m1416_x	
Hot Water/Hot Gas State	-	m937_x	
Hot Water/Hot Gas Valve %	-	m1308_x	
Hot Water/Hot Gas Valve Run Hrs	-	m965_x	
Humidification Ramp %	-	m940_x	
Humidifier Hours Threshold	-	m1361_x	
Humidifier Hours Threshold Setting	-	m2327_x	
Humidifier Lockout	-	m1840_x	
Humidity Control Sensor	-	bs242_x	
Humidity Dead Band Setpoint	-	m980_x	
Humidity Dead Band Setting	-	m1106_x	
Humidity Proportional Control Int. Time Setting	-	m1109_x	
Humidity Proportional Control Integration Time	-	m1108_x	
Humidity Proportional Control Type	-	m1104_x	
Instantaneous Power (W)	-	bs172_x	
IR Flush Rate % Setpoint	-	m902_x	
Local Cooling Override	-	bs161_x	
Local Dehumidifier Override	-	bs164_x	
Local Fan Override	-	bs160_x	
Local Heating Override	-	bs162_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

Point Availability			
SiteScan	Modbus Register	BACnet Object Name	Notes:
Local Humidifier Override	-	bs163_x	
Low Noise State	-	bs220_x	
Low Temp Alarm Setpoint	-	bs138_x	
Low Temp Setpoint Sensor A Setting	-	m1089_x	
Main Chilled Water Valve	-	m1432_x	
Main Chilled Water Valve	-	m1919_x	
Maintenance Month	-	m1305_x	
Maintenance Ramp %	-	m1298_x	
Maintenance Tracking State	-	m1312_x	
Maintenance Year	-	m1307_x	
Maximum Fan Speed Setpoint %	-	m907_x	
Minimum Chilled Water Temp Set Point	-	m1577_x	
Minimum Chilled Water Temp Set Point Enable	-	m1576_x	
Minimum Chilled Water Temp Set Point Setting	-	m2203_x	
Outside Air Temp	-	m1719_x	
Primary Cooling Fluid Source	-	bs280_x	
Primary Cooling Source	-	bs268_x	
Pump #1 Inlet Refrigerant Temperature	-	bs204_x	
Pump #1 Outlet Refrigerant Temperature	-	bs206_x	
Pump #1 Pre-Operational Mode	-	bs205_x	
Pump #1 Run Hours	-	bs104_x	
Pump #1 Speed %	-	m5453_x	
Pump #1 Status	-	bs105_x	
Pump #2 Inlet Refrigerant Temperature	-	bs208_x	
Pump #2 Outlet Refrigerant Temperature	-	bs209_x	
Pump #2 Pre-Operational Mode	-	bs207_x	
Pump #2 Run Hours	-	bs110_x	
Pump #2 Speed %	-	m5466_x	
Pump #2 Status	-	bs106_x	
Pump #3 Inlet Refrigerant Temperature	-	bs193_x	
Pump #3 Outlet Refrigerant Temperature	-	bs194_x	
Pump #3 Pre-Operational Mode	-	bs192_x	
Pump #3 Run Hours	-	bs190_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Pump #3 Speed %	-	m049_x	
Pump #3 Status	-	bs191_x	
Pump #4 Inlet Refrigerant Temperature	-	bs199_x	
Pump #4 Outlet Refrigerant Temperature	-	bs200_x	
Pump #4 Pre-Operational Mode	-	bs197_x	
Pump #4 Run Hours	-	bs195_x	
Pump #4 Speed %	-	bs198_x	
Pump #4 Status	-	bs196_x	
Raw Auxiliary Air Temp	-	bs217_x	
Reheater Lockout	-	m1835_x	
Remote Sensor 1 Temperature	-	m1639_x	
Remote Sensor 10 Temperature	-	m1665_x	
Remote Sensor 2 Temperature	-	m1642_x	
Remote Sensor 3 Temperature	-	m1645_x	
Remote Sensor 4 Temperature	-	m1648_x	
Remote Sensor 5 Temperature	-	m1651_x	
Remote Sensor 6 Temperature	-	m1654_x	
Remote Sensor 7 Temperature	-	m1657_x	
Remote Sensor 8 Temperature	-	m1661_x	
Remote Sensor 9 Temperature	-	m1664_x	
Remote Sensor Maximum Temperature	-	m1630_x	
Remote Sensor Over Temp Setpoint	-	m1556_x	
Remote Sensor System Average Temperature	-	m1633_x	
Remote Sensor System Max Temperature	-	m1636_x	
Remote Sensor Under Temp Setpoint	-	m1557_x	
Return Dew Point	-	bs133_x	
Return Sensor Events Initial Delay	-	bs274_x	
Return Temp Threshold for Humidifier Disable	-	bs216_x	
Rmt Sensor Avg Temp	-	m1627_x	
Sensor A High Humidity Alarm Setpoint	-	m905_x	
Sensor A High Temp Alarm Setpoint	-	m903_x	
Sensor A Humidity	-	m955_x	
Sensor A Low Humidity Alarm Setpoint	-	m906_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Sensor A Low Temp Alarm Setpoint	-	m904_x	
Sensor A Temp	-	m950_x	
Sensor B Humidity	-	m956_x	
Sensor B Temp	-	m951_x	
Sensor C Humidity	-	m957_x	
Sensor C Temp	-	m952_x	
Single Unit Auto-restart Delay Setpoint	-	m981_x	
Standby Units	-	bs275_x	
Static Pressure Setpoint	-	bs107_x	
Super Saver Call For Cooling %	-	bs219_x	
Supply High Temp Alarm Setpoint	-	bs137_x	
Supply Sensor Events Initial Delay	-	bs273_x	
System Control Mode	-	m1520_x	
System Input RMS A-B	-	bs179_x	
System Input RMS A-N	-	bs180_x	
System Input RMS B-C	-	bs165_x	
System Input RMS C-A	-	bs168_x	
System Input RMS C-N	-	bs169_x	
System Input RMS Current Phase A	-	bs181_x	
System Input RMS Current Phase B	-	bs167_x	
System Input RMS Current Phase C	-	bs170_x	
System Input Volts B-N	-	bs166_x	
System Operating State Reason	-	bs145_x	
System Static Pressure	-	bs109_x	
System Status	-	m1288_x	
Tandem 'B' Compressor #1 Run Hours	-	m5357_x	
Tandem 'B' Compressor #1 State	-	m5354_x	
Tandem 'B' Compressor #2 Run Hours	-	m5360_x	
Tandem 'B' Compressor #2 State	-	m5358_x	
Tandem 'B' Compressor #3 Run Hours	-	m328_x	
Tandem 'B' Compressor #3 State	-	m326_x	
Tandem 'B' Compressor #4 Run Hours	-	m405_x	
Tandem 'B' Compressor #4 State	-	m403_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Teamwork Mode	-	bs144_x	
Temperature Deadband Setpoint	-	m978_x	
Temperature DeadBand Setting	-	m1012_x	
Temperature Scale	-	m976_x	
Unit Calculated Airflow (m3/h)	-	m5365_x	
Unit Static Pressure	-	bs108_x	
Unit Status	--	bs139_x	
Unit to Unit Address		bs277_x	
Unit to Unit Group	-	bs276_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	<b>40289</b>		
Loss of Communications	bit0	m634_x	
Supply Air Overtemp	bit1	m635_x	
Supply Air Undertemp	bit2	m605_x	
Supply Air Sensor Issue	bit3	m633_x	
Supply NTC Air Sensor Issue	-	m5492_x	
Return Air Overtemp	bit4	m636_x	
Return Air Undertemp	bit5	m637_x	
Return Air Sensor Issue	bit6	m638_x	
Sensor A Overtemp	bit7	m639_x	
Sensor A Undertemp	bit8	m640_x	
Sensor A Issue	bit9	m641_x	
Sensor B Issue	-	m5495_x	
Sensor C Issue	-	m5498_x	
Sensor D Issue	-	m5501_1	
Sensor E Issue	-	m5504_1	
Ambient Sensor Issue	bit10	m642_x	
High Return Humidity	bit11	m658_x	
Low Return Humidity	bit12	m660_x	
Sensor A High Humidity	bit13	m666_x	
Sensor A Low Humidity	bit14	m667_x	
Compressor Lockout	bit15	m668_x	
<b>Alarm 2 (Word)</b>	<b>40290</b>		

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Compressor Capacity Reduced	bit0	m669_x	
Compressor 1 Hours Exceeded	bit1	m684_x	
Compressor 2 Hours Exceeded	-	m703_x	Ored with bit1 (Modbus register 40290)
Compressor 1 High Head Pressure	bit2	m674_x	
Compressor 2 High Head Pressure	-	m697_x	Ored with bit2 (Modbus register 40290)
Compressor 1 Low Suction Pressure	bit3	m676_x	
Compressor 2 Low Suction Pressure	-	m699_x	Ored with bit3 (Modbus register 40290)
Compressor 1 Short Cycle	bit4	m672_x	
Compressor 2 Short Cycle	-	m696_x	Ored with bit4 (Modbus register 40290)
Compressor 1 Pumpdown Fail	bit5	m677_x	
Compressor 2 Pumpdown Fail	-	m700_x	Ored with bit5 (Modbus register 40290)
Compressor 1 Thermal Overload	bit6	m680_x	
Compressor 2 Thermal Overload	-	m701_x	Ored with bit6 (Modbus register 40290)
Digital Scroll 1 Sensor Fail	bit7	m670_x	
Digital Scroll 2 Sensor Fail	-	m603_x	Ored with bit7 (Modbus register 40290)
Digiscroll 1 Overtemp	bit8	m691_x	
Digiscroll 2 Overtemp	-	m706_x	Ored with bit8 (Modbus register 40290)
Compressor 1 Low Pressure Transducer Issue	bit9	m694_x	
Compressor 2 Low Pressure Transducer Issue	-	m707_x	Ored with bit9 (Modbus register 40290)
Compressor 1 High Pressure Transducer Issue	bit10	m695_x	
Compressor 2 High Pressure Transducer Issue	-	m708_x	Ored with bit10 (Modbus register 40290)
Free Cooling Valve Hours Exceeded	bit11	m709_x	
Ext Free Cooling Lockout	bit12	m711_x	
Free Cooling Temp Sensor Issue	bit13	m712_x	
Hot Water/Hot Gas Working Hours Exceeded	bit14	m714_x	
Reheater Overtemp	bit15	m717_x	
<b>Alarm 3 (Word)</b>	<b>40291</b>		
Reheat Lockout	bit0	m715_x	
Electric Reheater 1 Hours Exceeded	bit1	m722_x	
Electric Reheater 2 Hours Exceeded	bit2	m726_x	
Electric Reheater 3 Hours Exceeded	bit3	m731_x	
Humidifier Hours Exceeded	bit4	m734_x	
Humidifier Lockout	bit5	m737_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Humidifier Control Board Not Detected	bit6	m740_x	
Humidifier Cylinder Worn	bit7	m744_x	
Humidifier Issue	bit8	m747_x	
Humidifier Low Water	bit9	m750_x	
Humidifier Overcurrent	bit10	m753_x	
Humidifier Undercurrent	bit11	m756_x	
Dehumidifier Hours Exceeded	bit12	m759_x	
Fan Hours Exceeded	bit13	m762_x	
Main Fan Overload	bit14	m765_x	
Fan Issue	bit15	m769_x	
<b>Alarm 4 (Word)</b>	<b>40292</b>		
Condenser TVSS Issue	bit0	m772_x	
Condenser VFD Issue	bit1	m776_x	
Condenser Pump High Water	bit2	m779_x	
Condenser 1 Issue	bit3	m782_x	
Condenser 2 Issue	bit4	m785_x	
Customer Input 1	bit5	m788_x	
Customer Input 2	bit6	m792_x	
Customer Input 3	bit7	m796_x	
Customer Input 4	bit8	m799_x	
Ext Loss of Air Blower	bit9	m802_x	
Ext Loss of Flow	bit10	m805_x	
Ext Standby Glycol Pump On	bit11	m808_x	
BMS Communications Timeout	bit12	m811_x	
Ext Standby Unit On	bit13	m814_x	
Clogged Air Filter	bit14	m817_x	
Loss of Air Flow	bit15	m821_x	
<b>Alarm 5 (Word)</b>	<b>40293</b>		
Low Memory	bit0	m824_x	
Service Required	bit1	m827_x	
Master Unit Communication Lost	bit2	m830_x	
RAM Battery Issue	bit3	m833_x	
Shutdown - Loss Of Power	bit4	m836_x	



**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

Point Availability			
SiteScan	Modbus Register	BACnet Object Name	Notes:
High Power Shutdown	bit5	m839_x	
Smoke Detected	bit6	m842_x	
Supply Chilled Water Loss of Flow	bit7	m845_x	
Supply Chilled Water Over Temp	bit8	m848_x	
Unit Code Missing	bit9	m861_x	
Unit Communication Lost	bit10	m864_x	
Water Leakage Detector Sensor Issue	bit11	m867_x	
Water Under Floor	bit12	m870_x	
Ext Over Temperature	bit13	m873_x	
External Fire Detected	bit14	m876_x	
Chilled Water Control Valve Failure 1	bit15	m879_x	Modbus alarm = valve 1 or 2
Unit Off	-	ba101_x	
Unit On	-	ba102_x	
Unit Partial Shutdown	-	ba103_x	
Unit Shutdown	-	ba104_x	
Unit Standby	-	ba105_x	
Unit Maintenance Due	-	ba106_x	
Unit Maintenance Completed	-	ba107_x	
Air Economizer Emergency Override	-	ba108_x	
Air Economizer Reduced Airflow	-	ba109_x	
Static Pressure Sensor Issue	-	ba11_x	
EEV Unspecified event (See Unit display)	-	ba110_x	
Pump Unspecified General Event	-	ba111_x	
Condenser Unit Unspecified General Event	-	ba112_x	
Condenser Circuit Unspecified General Event	-	ba113_x	
Condenser 1 TVSS Issue	-	ba114_x	
Condenser 2 TVSS Issue	-	ba115_x	
Condenser 1 Outside Air Hi/Low	-	ba116_x	
Condenser 2 Outside Air Hi/Low	-	ba117_x	
Condenser 1 Control Board Issue	-	ba118_x	
Condenser 2 Control Board Issue	-	ba119_x	
High Static Pressure	-	ba12_x	
Condenser 1 Outside Air Temp Sensor Issue	-	ba120_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

Point Availability			
SiteScan	Modbus Register	BACnet Object Name	Notes:
Condenser 2 Outside Air Temp Sensor Issue	-	ba121_x	
Condenser 1 Communication Lost	-	ba122_x	
Condenser 2 Communication Lost	-	ba123_x	
Condenser 1 Remote Shutdown	-	ba124_x	
Condenser 2 Remote Shutdown	-	ba125_x	
Condenser 1 Ref Pressure Sensor Issue	-	ba126_x	
Condenser 1 Refrigerant Underpressure	-	ba127_x	
Condenser 1 Refrigerant Overpressure	-	ba128_x	
Condenser 1 Temp Sensor Issue	-	ba129_x	
Low Static Pressure	-	ba13_x	
Condenser 1 Supply Refrigerant Under Temp	-	ba130_x	
Condenser 1 Supply Refrigerant Over Temp	-	ba131_x	
Condenser 1 Max Fan Speed Override	-	ba132_x	
Condenser 2 Ref Pressure Sensor Issue	-	ba133_x	
Condenser 2 Refrigerant Underpressure	-	ba134_x	
Condenser 2 Refrigerant Overpressure	-	ba135_x	
Condenser 2 Temp Sensor Issue	-	ba136_x	
Condenser 2 Supply Refrigerant Under Temp	-	ba137_x	
Condenser 2 Supply Refrigerant Over Temp	-	ba138_x	
Condenser 2 Max Fan Speed Override	-	ba139_x	
Static Pressure Sensor Out of Range	-	ba14_x	
Input Undervoltage	-	ba140_x	
Modbus Power Meter Communication Lost	-	ba141_x	
Fluid Temperature Sensor #1 Issue	-	ba142_x	
Fluid Temperature Sensor #2 Issue	-	ba143_x	
Fluid Flow Sensor #1 Issue	-	ba144_x	
Fluid Flow Sensor #2 Issue	-	ba145_x	
iCOM DO Board #1	-	ba155_x	
iCOM DO Board #2	-	ba156_x	
iCOM DO Board #3	-	ba157_x	
Aux Air Temp Device Communication Lost	-	ba217_x	
High Capacity	-	bahc_x	
Dew Point Over Temperature	-	m1575_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Dew Point Under Temperature	-	m1659_x	
Remote Sensor Average Over Temperature	-	m1671_x	
Remote Sensor Average Under Temperature	-	m1672_x	
Remote Sensor System Average Over Temp	-	m1673_x	
Remote Sensor System Average Under Temp	-	m1674_x	
Remote Sensor 1 Over Temperature	-	m1675_x	
Remote Sensor 2 Over Temperature	-	m1676_x	
Remote Sensor 3 Over Temperature	-	m1677_x	
Remote Sensor 4 Over Temperature	-	m1678_x	
Remote Sensor 5 Over Temperature	-	m1679_x	
Remote Sensor 6 Over Temperature	-	m1680_x	
Remote Sensor 7 Over Temperature	-	m1681_x	
Remote Sensor 8 Over Temperature	-	m1682_x	
Remote Sensor 9 Over Temperature	-	m1683_x	
Remote Sensor 10 Over Temperature	-	m1684_x	
Remote Sensor 1 Under Temperature	-	m1685_x	
Remote Sensor 2 Under Temperature	-	m1686_x	
Remote Sensor 3 Under Temperature	-	m1687_x	
Remote Sensor 4 Under Temperature	-	m1688_x	
Remote Sensor 5 Under Temperature	-	m1689_x	
Remote Sensor 6 Under Temperature	-	m1690_x	
Remote Sensor 7 Under Temperature	-	m1691_x	
Remote Sensor 8 Under Temperature	-	m1692_x	
Remote Sensor 9 Under Temperature	-	m1693_x	
Remote Sensor 10 Under Temperature	-	m1694_x	
Remote Sensor 1 Issue	-	m1695_x	
Remote Sensor 2 Issue	-	m1696_x	
Remote Sensor 3 Issue	-	m1697_x	
Remote Sensor 4 Issue	-	m1698_x	
Remote Sensor 5 Issue	-	m1699_x	
Remote Sensor 6 Issue	-	m1700_x	
Remote Sensor 7 Issue	-	m1701_x	
Remote Sensor 8 Issue	-	m1702_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Remote Sensor 9 Issue	-	m1703_x	
Remote Sensor 10 Issue	-	m1704_x	
Ext Dew Point Over Temperature	-	m1730_x	
Ext Dew Point Under Temperature	-	m1735_x	
Return Humidity Sensor Issue	-	m1910_x	
Compressor 1 Low Differential Pressure Lockout	-	m1918_x	
Compressor 2 Low Differential Pressure Lockout	-	m1927_x	
Unspecified General Event	-	m1930_x	
Temperature Control Sensor Issue	-	m1933_x	
Airflow Sensor Issue	-	m1936_x	
Ext Air Damper Position Issue	-	m1939_x	
Ext Power Source A Failure	-	m1942_x	
Ext Power Source B Failure	-	m1945_x	
Mixed Mode Lockout	-	m1948_x	
Compressor 1 Superheat Over Threshold	-	m2168_x	
Compressor 2 Superheat Over Threshold	-	m2171_x	
Digital Scroll 2 Sensor Fail	-	m603_x	
Chilled Water Control Valve Failure 2	-	m884_x	
Compressor 1 Freeze Protection	-	m5353_x	
Compressor 2 Freeze Protection	-	m5364_x	
Condenser 3 Refrigerant Pressure Sensor Issue	-	ba146_x	
Condenser 3 Refrigerant Underpressure	-	ba147_x	
Condenser 3 Refrigerant Overpressure	-	ba148_x	
Condenser 3 Temp Sensor Issue	-	ba149_x	
SSA Control Input Issue	-	ba15_x	
Condenser 3 Supply Refrigerant Under Temp	-	ba150_x	
Condenser 3 Supply Refrigerant Over Temp	-	ba151_x	
Condenser 3 Max Fan Speed Override	-	ba152_x	
Condenser 4 Refrigerant Pressure Sensor Issue	-	ba158_x	
Condenser 4 Refrigerant Underpressure	-	ba159_x	
Chilled Water Valve Hours Exceeded	-	ba16_x	
Condenser 4 Refrigerant Overpressure	-	ba160_x	
Condenser 4 Temp Sensor Issue	-	ba161_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Condenser 4 Supply Refrigerant Under Temp	-	ba162_x	
Condenser 4 Supply Refrigerant Over Temp	-	ba163_x	
Condenser 4 Max Fan Speed Override	-	ba164_x	
FSA Control Input Issue	-	ba17_x	
Group Independent On	-	ba170_x	
Group Independent Off	-	ba171_x	
External Supply Fluid High Temperature #1	-	ba172_x	
External Supply Fluid High Temperature #2	-	ba173_x	
External Supply Fluid Temp Sensor Issue #1	-	ba174_x	
Fluid Flow Sensor #2 Issue	-	ba175_x	
External Supply Fluid Flow Sensor #1 Issue	-	ba176_x	
External Supply Fluid Flow Sensor #2 Issue	-	ba177_x	
Auto Tune License Expiring	-	ba18_x	
Auto Tune License Expired	-	ba19_x	
Unit In Standby Due To Cooling Loss	-	ba20_x	
Aux Air Temp Device Communication Lost	-	ba217_x	
Condenser Fan Issue #1	-	ba230_x	
Condenser Fan Issue #2	-	ba231_x	
Condenser Fan Issue #3	-	ba232_x	
Condenser Fan Issue #4	-	ba233_x	
Condenser Fan Issue #5	-	ba234_x	
Condenser Fan Issue #6	-	ba235_x	
<b>Point Availability</b>			
Condenser Fan Issue #7	-	ba236_x	
Condenser Fan Issue #8	-	ba237_x	
Condenser Fan Issue #9	-	ba238_x	
Condenser Fan Issue #10	-	ba239_x	
Condenser Fan Issue #11	-	ba240_x	
Condenser Fan Issue #12	-	ba241_x	
Condenser Fan Issue #13	-	ba242_x	
Condenser Fan Issue #14	-	ba243_x	
Condenser Fan Issue #15	-	ba244_x	
Condenser Fan Issue #16	-	ba245_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Compressor 3 Low Suction Pressure	-	m307_x	
Compressor 3 Pumpdown Fail	-	m308_x	
Compressor 3 Thermal Overload	-	m309_x	
Compressor 3 Hours Exceeded	-	m310_x	
Digiscroll 3 Overtemp	-	m311_x	
Compressor 3 Low Pressure Tranducer Issue	-	m312_x	
Compressor 3 High Pressure Tranducer Issue	-	m313_x	
Compressor 3 Freeze Protection	-	m332_x	
Compressor 4 Low Differential Pressure Lockout	-	m379_x	
Digital Scroll 4 Sensor Fail	-	m381_x	
Compressor 4 Short Cycle	-	m382_x	
Compressor 4 High Head Pressure	-	m383_x	
Compressor 4 Low Suction Pressure	-	m384_x	
Compressor 4 Pumpdown Fail	-	m385_x	
Compressor 4 Thermal Overload	-	m386_x	
Digiscroll 4 Overtemp	-	m388_x	
Compressor 4 Low Pressure Tranducer Issue	-	m389_x	
Compressor 4 High Pressure Tranducer Issue	-	m390_x	
TSA Control Input Issue	-	m5507_x	
Compressor 3 Low Differential Pressure Lockout	-	m5526_x	
Compressor 3 Superheat Over Threshold	-	m5527_x	
Digital Scroll 3 Sensor Fail	-	m5528_x	
Compressor 3 Short Cycle	-	m5529_x	
Compressor 3 High Head Pressure	-	m5530_x	
Compressor 4 Superheat Over Threshold	-	m5534_x	
Compressor 4 Hours Exceeded	-	m5535_x	
Compressor 4 Freeze Protection	-	m5540_x	
Digital Scroll 2 Sensor Fail	-	m603_x	
Supply Air Undertemp	-	m605_x	
Supply Air Sensor Issue	-	m633_x	
Loss of Communications	-	m634_x	
Unit In Maintenance Mode	-	maint_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
<b>Control/Setpoints</b>			
Air Economizer Control Source	-	bp1393_x	
Air Temp Control Integration Time Setting	-	m1014_x	
Compressor 1 Hours Threshold Setting	-	m1157_x	
Compressor 2 Hours Threshold Setting	-	m1186_x	
Compressor 3 Hours Threshold Setting	-	m5516_x	
Compressor 4 Hours Threshold Setting	-	m344_x	
Dehum Reheat Low Limit	-	bp213_x	
Dehum Reheat Low Limit 2	-	bp214_x	
Dehum Reheat Low Limit Set Point	-	bp212_x	
Dehum Reheat Proportional Band	-	bp215_x	
Dehum Reheat Proportional Band	-	bp225_x	
Dehumidifier Hours Threshold Setting	-	m1363_x	
Dew Point DeadBand Setting	-	bp180_x	
Dew Point Over Temp Threshold	-	bp201_x	
Dew Point Proportional Band Setting	-	bp179_x	
Dew Point Set Point	-	bp117_x	
Dew Point Under Temp Threshold	-	bp202_x	
EconoPhase Proportional Band Switchover	-	bp278_x	
Electric Reheat 1 Hours Threshold Setting	-	m1468_x	
Electric Reheat 2 Hours Threshold Setting	-	m1498_x	
Electric Reheat 3 Hours Threshold Setting	-	m1518_x	
Ext Dew Point Over Temp Threshold	-	bp140_x	
Ext Dew Point Under Temp Threshold	-	bp141_x	
Fan Control Sensor Setting	-	bp87_x	
Fan Hours Threshold Setting	-	m1390_x	
Fan Speed Setting	-	bp86_x	
Fan Speed Temp Control Integration Time	-	bp240_x	
Fan Speed Temp Control Proportional Band	-	bp231_x	
Fan Speed Temperature Dead Band	-	bp241_x	
Fan Speed Temperature Set Point	-	bp136_x	
FC Lockout Temp	-	bp272_x	
Free Cooling Internal Temp Delta Setting	-	m2195_x	

**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

Point Availability			
SiteScan	Modbus Register	BACnet Object Name	Notes:
Free Cooling Valve Hours Threshold Setting	-	m2206_x	
Group Independent Operation	-	bp271_x	
Group Independent Operation Enable	-	bp270_x	
High Humidity Setpoint Sensor A Setting	-	bp40_x	
High Humidity Setpoint Setting	-	bp23_x	
High Pump Hours Event Threshold Setting	-	m5367_x	
High Temp Setpoint Sensor A Setting	-	m1088_x	
Hot Water/Hot Gas Valve Hours Threshold Setting	-	m1416_x	
Humd Control Type	-	bp193_x	
Humidifier Hours Threshold Setting	-	m2327_x	
Humidifier Lockout	-	bc01_2_x	
Humidity Call %	-	bp194_x	
Humidity Dead Band Setting	-	m1106_x	
Humidity Proportional Band Setting	-	bp20_x	
Humidity Proportional Control Int. Time Setting	-	m1109_x	
Humidity Setpoint Setting	-	bp19_x	
IR Flush Rate % Parameter Setting	-	bp34_x	
Group Independent Operation	-	bp271_x	
Low Humidity Setpoint Sensor A Setting	-	bp41_x	
Low Return Humidity Setpoint Setting	-	bp24_x	
Low Temp Setpoint Sensor A Setting	-	m1089_x	
Low Temp Setpoint Setting	-	bp138_x	
Minimum Chilled Water Temp Set Point Setting	-	m2203_x	
Pa or WC	-	bp108_x	
pc1 On/Off Control	-	pc1_x	
pc2 TempModSp	-	pc2_x	
pc3 HumdModSp	-	pc3_x	
Primary Cooling Fluid Source	-	bp280_x	
Primary Cooling Source	-	bp268_x	
Reheater Lockout	-	bc01_3_x	
Remote Sensor Over Temp Setpoint	-	bp1256_x	
Remote Sensor Under Temp Setpoint	-	bp1257_x	
Return High Temp Setpoint Setting	-	bp21_x	



**Table 8.21 Point Availability -Vertiv™ Liebert® iCOM™-PA\_juliet Points List (continued)**

<b>Point Availability</b>			
<b>SiteScan</b>	<b>Modbus Register</b>	<b>BACnet Object Name</b>	<b>Notes:</b>
Return Low Temp Setpoint Setting	-	bp22_x	
Return Sensor Events Initial Delay	-	bp274_x	
Return Temp Threshold for Humidifier Disable	-	bp216_x	
Single Unit Auto-restart Delay Setting	-	bp27_x	
Static Pressure Setpoint	-	bp107_x	
Supply High Temp Setpoint Setting	-	bp137_x	
Supply Sensor Events Initial Delay	-	bp273_x	
System On/Off Control	-	bc1_x	
Temp Call %	-	bp192_x	
Temp Control Type	-	bp191_x	
Temp Proportional Band Setting	-	bp18_x	
Temp Setpoint Setting	-	bp17_x	
Temperature DeadBand Setting	-	m1012_x	
Thermal Control Override	-	bp190_x	

## 8.22 Vertiv™ Liebert® iCOM™-CRV507 Row-Based Cooling with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® CRV with Vertiv™ Liebert® iCOM™
Controller Firmware:	Air Unit iCOM-CRV507 (FDM Version: 507) PA Firmware: CR2.03.xxR
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_crv507

**Table 8.22 Available Points: Vertiv™ Liebert® iCOM™-CRV507 Row-Based Cooling with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Supply Temperature	40001	bs1_x	
Supply Humidity	40002	bs2_x	
Return Temperature	40003	bs3_x	
Return Humidity	40004	bs4_x	
Return Dew Point	40005	bs5_x	
Supply Chilled Water Temperature	40006	bs6_x	
Compressor Ramp %	40007	bs7_x	Valve % Open in CW based units
Dehumidification Ramp %	40008	bs8_x	
Reheat Ramp %	40009	bs9_x	
Humidification Ramp %	40010	bs10_x	
System Status	40011	bs11_x	1=Normal 2=Startup 3=Normal+Warning, 4=Normal+Alarm 5=Abnormal Op
Operating State	40012	bs12_x	1= Off 2=On 3=Standby
Operating Efficiency %	40013	bs13_x	
Fan Speed %	40014	bs14_x	
Control Mode	40015	bs15_x	
Maintenance Ramp %	40016	bs16_x	
Air Temperature Setpoint	40017	bs17_x	
Cooling Proportional Band Setpoint	40018	bs18_x	
Supply Air Overtemp Setpoint	40019	bs19_x	

**Table 8.22 Available Points: Vertiv™ Liebert® iCOM™-CRV507 Row-Based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Supply Air Undertemp Setpoint	40020	bs20_x	
Return Air Overtemp Setpoint	40021	bs21_x	
High Return Humidity Setpoint	40022	bs22_x	
Low Return Humidity Setpoint	40023	bs23_x	
Chilled Water Overtemp Setpoint	40024	bs24_x	
Auto Restart Delay (Sec)	-	bs540_x	
BMS Timeout Period	-	bs539_x	
Control Coupled Mode	-	bs308_x	Not available in IS485L Card
Cooling Proportional Band Setpoint	-	bs108_x	
Dehumidification Prop Band Setpoint	-	bs205_x	
Fan Control Mode	-	bs301_x	1=Auto 2=Manual
Fan Speed Maximum Setpoint	-	bs304_x	
Fan Speed Minimum Setpoint	-	bs305_x	
Fan Speed Proportional Band Setpoint	-	bs302_x	
Fan Speed Setpoint	-	bs303_x	
Heating Proportional Band Setpoint	-	bs109_x	
Humidity Dead Band Setpoint	-	bs206_x	
Humidity Proportional Band Setpoint	-	bs204_x	
Humidity Setpoint	-	bs203_x	
System On/Off Status	-	bs610_x	1=System On 2=System Off
Temperature Control Sensor	-	bs111_x	1=Supply 2=Remote 3=Return
Remote Sensor Avg Temp	-	bs106_x	
Remote Sensor Max Temp	-	bs105_x	
Remote Sensor Function 1	-	bs419-1_x	1=disable 2=reference 3=control
Remote Sensor Function 2	-	bs419-2_x	1=disable 2=reference 3=control

**Table 8.22 Available Points: Vertiv™ Liebert® iCOM™-CRV507 Row-Based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Sensor Function 3	-	bs419-3_x	1=disable 2=reference 3=control
Remote Sensor Function 4	-	bs419-4_x	1=disable 2=reference 3=control
Remote Sensor Function 5	-	bs419-5_x	1=disable 2=reference 3=control
Remote Sensor Function 6	-	bs419-6_x	1=disable 2=reference 3=control
Remote Sensor Function 7	-	bs419-7_x	1=disable 2=reference 3=control
Remote Sensor Function 8	-	bs419-8_x	1=disable 2=reference 3=control
Remote Sensor Function 9	-	bs419-9_x	1=disable 2=reference 3=control
Remote Sensor Function 10	-	bs419-10_x	1=disable 2=reference 3=control
Remote Sensor Min Temp	-	bs104_x	
Remote Sensor Temp Calculation	-	bs112_x	1=Average 2=Maximum
Remote Temperature Sensor 1	-	bs418-1_x	
Remote Temperature Sensor 2	-	bs418-2_x	
Remote Temperature Sensor 3	-	bs418-3_x	
Remote Temperature Sensor 4	-	bs418-4_x	
Remote Temperature Sensor 5	-	bs418-5_x	
Remote Temperature Sensor 6	-	bs418-6_x	
Remote Temperature Sensor 7	-	bs418-7_x	
Remote Temperature Sensor 8	-	bs418-8_x	
Remote Temperature Sensor 9	-	bs418-9_x	

**Table 8.22 Available Points: Vertiv™ Liebert® iCOM™-CRV507 Row-Based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Remote Temperature Sensor 10	-	bs418-10_x	
Condenser Low Noise state	-	bs220_x	
Super Saver Cooling %	-	bs219_x	
<b>Alarm 1 (Word)</b>	40289		
Supply Air Overtemperature	bit0	ba100_x	
Supply Air Under-temperature	bit1	ba101_x	
Return Air Overtemperature	bit2	ba102_x	
Supply Sensor Issue	bit3	ba103_x	
High Return Humidity	bit4	ba104_x	
Low Return Humidity	bit5	ba105_x	
Humidifier Hours Exceeded	bit6	ba106_x	
Dehumidifier Hours Exceeded	bit7	ba107_x	
Humidifier Low Water	bit10	ba110_x	
Humidifier Cylinder Worn	bit11	ba111_x	
Humidifier Issue	bit12	ba112_x	
Humidifier Lockout	bit13	ba113_x	
Control Board Lockout	bit14	ba114_x	
Humidity Out Of Proportional Band	bit15	ba115_x	
<b>Alarm 2 (Word)</b>	40290		
Loss Of Air Flow	bit0	ba200_x	
Fan Hours Exceeded	bit1	ba201_x	
Top Fan Issue	bit2	ba202_x	
Bottom Fan Issue	bit3	ba203_x	
Remote Sensor Issue 1	bit4	ba204_x	
Remote Sensor Issue 2	bit5	ba205_x	
Remote Sensor Issue 3	bit6	ba206_x	
Remote Sensor Issue 4	bit7	ba207_x	
Remote Sensor Issue 5	bit8	ba208_x	
Remote Sensor Issue 6	bit9	ba209_x	
Remote Sensor Issue 7	bit10	ba210_x	
Remote Sensor Issue 8	bit11	ba211_x	
Remote Sensor Issue 9	bit12	ba212_x	
Remote Sensor Issue 10	bit13	ba213_x	

**Table 8.22 Available Points: Vertiv™ Liebert® iCOM™-CRV507 Row-Based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Comp 1 High Head Pressure	bit14	ba214_x	
Comp 1 Low Suction Pressure	bit15	ba215_x	
<b>Alarm 3 (Word)</b>	40291		
Comp 1 Hours Exceeded	bit0	ba300_x	
Digi Scroll Comp 1 Temp Sensor Issue	bit1	ba301_x	
Digi Scroll Comp 1 Over Temp	bit2	ba302_x	
Comp 1 Low Pressure Transducer Issue	bit3	ba303_x	
Comp External Lockout	bit4	ba304_x	
Comp Short Cycle	bit5	ba305_x	
Reheater Over Temperature	bit6	ba306_x	
Reheater Hours Exceeded	bit7	ba307_x	
External Reheat Lockout	bit8	ba308_x	
Condenser 1 Issue	bit9	ba309_x	
Condenser VFD Issue	bit10	ba310_x	
Condenser TVSS Issue	bit11	ba311_x	
Chilled Water Overtemp	bit12	ba312_x	
Chilled Water Control Valve Position	bit13	ba313_x	
Chilled Water Loss Of Flow	bit14	ba314_x	
Customer Input 1	bit15	ba315_x	
<b>Alarm 4 (Word)</b>	40292		
Customer Input 2	bit0	ba400_x	
Customer Input 3	bit1	ba401_x	
Customer Input 4	bit2	ba402_x	
Smoke Detected	bit3	ba403_x	
Water Under Floor	bit4	ba404_x	
Service Required	bit5	ba405_x	
Loss Of Power Shutdown	bit6	ba406_x	
External Overtemp	bit7	ba407_x	
External Loss Of Flow	bit8	ba408_x	
External Condenser Pump High Water	bit9	ba409_x	
External Standby Glycol Pump On	bit10	ba410_x	
External Fire Detected	bit11	ba411_x	
Unit On	bit12	ba412_x	

**Table 8.22 Available Points: Vertiv™ Liebert® iCOM™-CRV507 Row-Based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Off	bit13	ba413_x	
Unit Standby	bit14	ba414_x	
Unit Partial Shutdown	bit15	ba415_x	
<b>Alarm 5 (Word)</b>	40293		
Unit Shutdown	bit0	ba500_x	
Water Leakage Sensor Issue	bit1	ba501_x	
BMS Communications Timeout	bit2	ba502_x	
Maintenance Due	bit3	ba503_x	
Maintenance Complete	bit4	ba504_x	
Clogged Filter	bit5	ba505_x	
Ram Battery	bit6	ba506_x	
Master Unit Comms Lost	bit7	ba507_x	
High Power Shutdown	bit8	ba508_x	
Supply Fluid Temp Sensor Issue	bit9	ba509_x	
Low Memory	bit10	ba510_x	Not available in IS485L Card
Comp 1 Hi Pressure Transducer Issue	bit11	m047_x	
Comp Pump Down Issue	bit12	m070_x	
Compressor Capacity Reduced	bit13	m071_x	Not available in IS485L Card
Return Sensor Issue	bit14	ba514_x	
Loss of Communication	bit15	a701x	
<b>Alarms Points</b>			
Cond. Unit Unspecified General Event	-	ba116_x	
Cond. Circuit Unspecified Gen Event	-	ba117_x	
Unspecified General Event	-	ba515_x	
<b>Control/Setpoints Points (Write)</b>			
System On/Off	40349	bc1_x	1=System On 2=System Off
Air Temp Setpoint	40350	bc2_x	
Humidity Setpoint	40351	bc3_x	
Cooling Proportional Band Setpoint	-	p108_x	
Heating Proportional Band Setpoint	-	p109_x	
Temperature Dead Band Setpoint	-	p110_x	

**Table 8.22 Available Points: Vertiv™ Liebert® iCOM™-CRV507 Row-Based Cooling with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Temperature Control Sensor	-	p111_x	1=Supply 2=Remote 3=Return
Remote Sensor Temp Calculation	-	p112_x	1=Average 2=Maximum
Supply Overtemp Threshold Setpoint	-	p119_x	
Supply Undertemp Threshold Setpoint	-	p115_x	
Control/Setpoints Points (Write Cont.)			
Return Overtemp Threshold Setpoint	-	p117_x	
Humidification Prop Band Setpoint	-	p204_x	
Dehumidification Prop Band Setpoint	-	p205_x	
Humidity Dead Band Setpoint	-	p206_x	
High Return Humidity Setpoint	-	p222_x	
Low Return Humidity Setpoint	-	p223_x	
Fan Control Mode	-	p301_x	1=Auto 2=Manual
Fan Speed Proportional Band Setpoint	-	p302_x	
Fan Speed Setpoint	-	p303_x	
Fan Speed Maximum Setpoint	-	p304_x	
Fan Speed Minimum Setpoint	-	p305_x	
Chilled Water Overtemp Setpoint	-	p424_x	
BMS Timeout Period (Min)	-	p539_x	
Auto Restart Delay (Sec)	-	p540_x	



## 8.23 Vertiv™ Liebert® Extreme Density Refrigerant Pumping Cray

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® XDP
Controller Firmware:	Air Unit Extreme Density Refrigerant Pumping Cray (FDM Version: Cray) Firmware: SFA
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	Custom

**Table 8.23 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping Cray**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Dew Point Temperature	40001	BS1	
Ext Air Sensor A Temperature	40003	BS3	
Ext Air Sensor A Humidity	40004	BS4	
Ext Air Sensor A Dew Point Temp	40005	BS5	
Ext Air Sensor B Temperature	40006	BS6	
Ext Air Sensor B Humidity	40007	BS7	
Ext Air Sensor B Dew Point Temp	40008	BS8	
Supply Chilled Water Temperature	40012	BS12	
Supply Refrigerant Temperature	40014	BS14	
Pump 1 Status	40016:0	BS16-1	
Inverter/Pump 1 Operational State	40016:1	BS16-2	
System Status	40017	BS17	
System Operating State	40018	BS18	
System Control Mode	40019	BS19	
Next Maintenance Month	40021	BS21	
Next Maintenance Year	40022	BS22	
Maintenance Ramp	40023	BS23	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Ext Air Sensor A Over Temperature	bit0	BA1:0	
Ext Air Sensor B Over Temperature	bit1	BA1:1	
Ext Air Sensor A Under Temperature	bit2	BA1:2	
Ext Air Sensor B Under Temperature	bit3	BA1:3	
Ext Dew Point Over Temperature	bit4	BA1:4	
Ext Air Sensor A Issue	bit5	BA1:5	
Ext Air Sensor B Issue	bit6	BA1:6	

**Table 8.23 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping Cray (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Supply Chilled Water Over Temp	bit7	BA1:7	
Supply Chilled Water Temp Sensor Issue	bit8	BA1:8	
Chilled Water Control Valve Position	bit9	BA1:9	
Supply Refrigerant Over Temp	bit10	BA1:10	
Supply Refrigerant Under Temp	bit11	BA1:11	
Supply Refrigerant Temp Sensor Issue	bit12	BA1:12	
Pump 1 Loss of Flow	bit13	BA1:13	
Inverter 1 Short Cycle	bit14	BA1:14	
Pump Short Cycle	bit15	BA1:15	
<b>Alarm 2 (Word)</b>	40290		
Customer Input 1	bit0	BA2:0	
System Condensation Detected	bit1	BA2:1	
Shutdown - Loss Of Power	bit2	BA2:2	
Smoke Detected	bit3	BA2:3	
Water Under Floor	bit4	BA2:4	
Service Required	bit5	BA2:5	
Fan Issue	bit6	BA2:6	
Loss Of Comm	bit7	A701	SiteLink to Unit Comms.
Common Alarm	bit8	STAT	SiteLink Driver Generated
Supply Chilled Water Loss of Flow	bit9	BA2:9	
<b>Setpoints (View)</b>			
Minimum Room Temperature Set Point	40002	BS2	
Ext Air Over Temp Threshold	40009	BS9	
Ext Air Under Temp Threshold	40010	BS10	
Ext Dew Point Over Temp Threshold	40011	BS11	
Supply Chilled Water Over Temp Threshold	40013	BS13	
Supply Refrigerant Temperature Setpoint	40024	BS24	
Supply Refrigerant Over Temp Threshold	40015	BS15	
Autorestart Delay Setpoint	40020	BS20	
<b>Setpoints (Write)</b>			
Minimum Room Temperature Set Point	40350	BC2	
Ext Air Over Temp Threshold	-	BP4600	
Ext Air Under Temp Threshold	-	BP4607	
Ext Dew Point Over Temp Threshold	40351	BC3	

**Table 8.23 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping Cray (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Supply Chilled Water Over Temp Threshold	-	BP4625	
Supply Refrigerant Temperature Setpoint	-	BP4981	
Supply Refrigerant Over Temp Threshold	-	BP4633	
System On/Off	40349	BC1	

## 8.24 Vertiv™ Liebert® XD Family Fan v207

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® XDA, Vertiv™ Liebert® XDC, Vertiv™ Liebert® XDH, Vertiv™ Liebert® XDO, Vertiv™ Liebert® XDV
Controller Firmware:	Air Unit XD Family Fan v207 (FDM Version: 207 ) PA Firmware:
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-xd_system-v207

**Table 8.24 Available Points: Vertiv™ Liebert® XD Family Fan v207**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
CAN Node ID	-	bs1_x	
Communication Status	-	bs2_x	
Primary Fan Group State	-	bs3_x	
Configuration Model	-	bs4_x	
Cooling Capacity %	-	bs5_x	
Cooling Capacity kW	-	bs6_x	
Fan Status	-	bs7_x	
Hot Aisle Overtemp Setpoint	-	bs8_x	
Hot Aisle Undertemp Setting	-	bs9_x	
Cold Aisle Overtemp Setpoint	-	bs10_x	
Cold Aisle Undertemp Setting	-	bs11_x	
Remote Temperature Sensor #1	-	bs12_x	
Remote Temperature Sensor #2	-	bs13_x	
Remote Temperature Sensor #3	-	bs14_x	
Remote Temperature Sensor #4	-	bs15_x	
Temperature Scale	-	m976_x	0=C 1=F
<b>Alarm Points</b>			
External Condensation Detected	-	ba1_x	
External Fan Issue	-	ba2_x	
Sensor Issue	-	ba3_x	
External Remote Shutdown	-	ba4_x	
Hot Isle Out Of Range	-	ba5_x	
Cold Isle Out Of Range	-	ba6_x	
<b>Control/Set Points</b>			

**Table 8.24 Available Points: Vertiv™ Liebert® XD Family Fan v207 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Fan On/Off	-	bc1_x	1 or true = on 0 or false = off
Hot Aisle Overtemp Setting	-	bp1_x	
Hot Aisle Undertemp Setting	-	bp2_x	
Cold Aisle Overtemp Setting	-	bp3_x	
Cold Aisle Undertemp Setting	-	bp4_x	
Temp Scale	-	m088_x	0=C 1=F

## 8.25 Vertiv™ Liebert® Extreme Density Chiller v207

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® XDA, Vertiv™ Liebert® XDC, Vertiv™ Liebert® XDH, Vertiv™ Liebert® XDO, Vertiv™ Liebert® XDV
Controller Firmware:	Air Unit Extreme Density Chiller v207 (FDM Version: 207) Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_xdc4

**Table 8.25 Available Points: Vertiv™ Liebert® Extreme Density Chiller v207**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Dew Point Temperature	40001	bs1_x	
Minimum Room Temperature Set Point	40002	bs2_x	
Air Sensor A Temperature	40003	bs3_x	
Air Sensor A Humidity	40004	bs4_x	
Air Sensor A Dew Point Temp	40005	bs5_x	
Air Sensor B Temperature	40006	bs6_x	
Air Sensor B Humidity	40007	bs7_x	
Air Sensor B Dew Point Temp	40008	bs8_x	
Room Over Temp Threshold	40009	bs9_x	
Room Under Temp Threshold	40010	bs10_x	
Dew Point Over Temp Threshold	40011	bs11_x	
Hot Gas Valve 1 Open Position %	40012	bs30_x	
Hot Gas Valve 2 Open Position %	40013	bs31_x	
Supply Refrigerant Temperature	40014	bs14_x	
Supply Refrigerant Over Temp Threshold	40015	bs15_x	
Pump Run Hours	40016	bs16_x	
System Status	40017	bs17_x	1=Normal 2=Startup 3=Normal+Warning 4=Normal+Alarm
System Operating State	40018	bs18_x	1=Off 2=On 3=Standby
System Control Mode	40019	bs19_x	1=Auto 2=Manual
Auto-restart Delay Setpoint	40020	bs20_x	
Maintenance Ramp %	40021	bs21_x	

**Table 8.25 Available Points: Vertiv™ Liebert® Extreme Density Chiller v207 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Next Maintenance Month	40022	bs22_x	
Next Maintenance Year	40023	bs23_x	
Pump, Compressor, Hot Gas Status	40024	bs24_x	
Pump 1 Status	bit0	bs16-0_x	Modbus - bit0; 0=off, 1=on
Pump 2 Status	bit1	bs16-1_x	Modbus - bit1; 0=off, 1=on
Compressor 1A State	bit2	bs9-0_x	Modbus - bit2; 0=off, 1=on
Compressor 1B State	bit3	bs9-1_x	Modbus - bit3; 0=off, 1=on
Compressor 2A State	bit4	bs9-2_x	Modbus - bit4; 0=off, 1=on
Compressor 2B State	bit5	bs9-3_x	Modbus - bit5; 0=off, 1=on
Hot Gas Solenoid Valve 1 Position	bit6	bs32_x	Modbus - bit6; 0=open, 1=closed
Hot Gas Solenoid Valve 2 Position	bit7	bs33_x	Modbus - bit7; 0=open, 1=closed
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Sensor A Over Temperature	bit0	a401_x	
Sensor B Over Temperature	bit1	a402_x	
Sensor A Under Temperature	bit2	a403_x	
Sensor B Under Temperature	bit3	a404_x	
Dew Point Over Temperature	bit4	a405_x	
Sensor A Issue	bit5	a406_x	
Sensor B Issue	bit6	a407_x	
Not used	bit7	-	
Not used	bit8	-	
Not used	bit9	-	
Refrigerant Overtemp	bit10	a411_x	
Refrigerant Undertemp	bit11	a412_x	
Refrigerant Temp Sensor Issue	bit12	a413_x	
Not used	bit13	-	
Not used	bit14	-	
Not used	bit15	-	
<b>Alarm 2 (Word)</b>	40290		
Pump 1 Loss Of Flow	bit0	a417_x	
Pump 2 Loss Of Flow	bit1	a418_x	
Pump Short Cycle	bit2	a419_x	
Compressor 1A High Head Pressure	bit3	a420_x	
Compressor 1B High Head Pressure	bit4	a421_x	

**Table 8.25 Available Points: Vertiv™ Liebert® Extreme Density Chiller v207 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Compressor 2A High Head Pressure	bit5	a422_x	
Compressor 2B High Head Pressure	bit6	a423_x	
Compressor 1A Short Cycle	bit7	a424_x	
Compressor 1B Short Cycle	bit8	a425_x	
Compressor 2A Short Cycle	bit9	a426_x	
Compressor 2B Short Cycle	bit10	a427_x	
Circuit 1 Low Suction Pressure	bit11	a428_x	
Circuit 2 Low Suction Pressure	bit12	a429_x	
Customer Alarm 1	bit13	a430_x	
Condensation Detected	bit14	a431_x	
Loss Of Power	bit15	a432_x	
<b>Alarm 3 (Word)</b>	40291		
Smoke Detected	bit0	a433_x	
Water Under Floor	bit1	a434_x	
Service Required	bit2	a435_x	
Fan Issue	bit3	a436_x	
Pump Hours Exceeded	bit4	a443_x	Pumps 1 or 2
Loss of Comm	bit10	a701_x	
Common Alarm	bit11	stat_x	
Not used	bit14	-	
Not used	bit15	-	
<b>Control Points (Set)</b>			
System On/Off Control	40349	bc1_x	Modbus - bit0; 0=off, 1=on
Minimum Room Temp Set Point	40350	bc2_x	
Dew Point Over Temp Threshold	40351	bc3_x	
Overtemp Setpoint	-	bc4_x	
Undertemp Setpoint	-	bc5_x	



## 8.26 Vertiv™ Liebert® Extreme Density Refrigerant Pumping v207

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® XDP
Controller Firmware:	Air Unit Extreme Density Refrigerant Pumping v207 (FDM Version: 207) Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_xdp4

**Table 8.26 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping v207**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Dew Point Temperature	40001	bs1_x	
Minimum Room Temperature Set Point	40002	bs2_x	
Air Sensor A Temperature	40003	bs3_x	
Air Sensor A Humidity	40004	bs4_x	
Air Sensor A Dew Point Temp	40005	bs5_x	
Air Sensor B Temperature	40006	bs6_x	
Air Sensor B Humidity	40007	bs7_x	
Air Sensor B Dew Point Temp	40008	bs8_x	
Room Over Temp Setpoint	40009	bs9_x	
Room Under Temp Setpoint	40010	bs10_x	
Dew Point Over Temp Threshold	40011	bs11_x	
Chilled Water Temperature	40012	bs30_x	
Chilled Water Overtemp Threshold	40013	bs31_x	
Supply Refrigerant Temperature	40014	bs14_x	
Supply Refrigerant Over Temp Threshold	40015	bs15_x	
Pump Run Hours	40016	bs16_x	
System Status	40017	bs17_x	1=Normal 2=Startup 3=Normal+Warning 4=Normal+Alarm 5=Abnormal Op
System Operating State	40018	bs18_x	1=Off 2=On 3=Standby
System Control Mode	40019	bs19_x	1=Auto 2=Manual
Auto Restart Delay	40020	bs20_x	

**Table 8.26 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping v207 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Maintenance Ramp %	40021	bs21_x	
Next Maintenance Month	40022	bs22_x	
Next Maintenance Year	40023	bs23_x	
Pump, Compressor, Hot Gas Status	40024	bs24_x	
Pump 1 Status	bit0	bs16-0_x	Modbus - bit0; 0=off, 1=on
Pump 2 Status	bit1	bs16-1_x	Modbus - bit1; 0=off, 1=on
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>			
	40289		
Sensor A Over Temperature	bit0	a401_x	
Sensor B Over Temperature	bit1	a402_x	
Sensor A Under Temperature	bit2	a403_x	
Sensor B Under Temperature	bit3	a404_x	
Dew Point Over Temperature	bit4	a405_x	
Sensor A Issue	bit5	a406_x	
Sensor B Issue	bit6	a407_x	
Chilled Water Over Temp	bit7	a408_x	
Chilled Water Temp Sensor Issue	bit8	a409_x	
Chilled Water Valve Position	bit9	a410_x	
Refrigerant Overtemp	bit10	a411_x	
Refrigerant Undertemp	bit11	a412_x	
Refrigerant Temp Sensor Issue	bit12	a413_x	
Not used	bit13	-	
Not used	bit14	-	
Not used	bit15	-	
<b>Alarm 2 (Word)</b>			
	40290		
Pump 1 Loss Of Flow	bit0	a417_x	
Pump 2 Loss Of Flow	bit1	a418_x	
Pump Short Cycle	bit2	a419_x	
Not used	bit3	-	
Not used	bit4	-	
Not used	bit5	-	
Not used	bit6	-	
Not used	bit7	-	
Not used	bit8	-	

**Table 8.26 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping v207 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Not used	bit9	-	
Not used	bit10	-	
Not used	bit11	-	
Not used	bit12	-	
Customer Alarm 1	bit13	a430_x	
Condensation Detected	bit14	a431_x	
Loss Of Power	bit15	a432_x	
<b>Alarm 3 (Word)</b>	40291		
Smoke Detected	bit0	a433_x	
Water Under Floor	bit1	a434_x	
Service Required	bit2	a435_x	
Fan Issue	bit3	a436_x	
Pump Hours Exceeded	bit4	a443_x	
Not used	bit5	-	
Not used	bit6	-	
Not used	bit7	-	
Not used	bit8	-	
Not used	bit9	-	
Loss of Comm	bit10	a701_x	
Common Alarm	bit11	stat_x	
Not used	bit12	-	
Not used	bit13	-	
Not used	bit14	-	
Not used	bit15	-	
<b>Control/Setpoints Points (Write)</b>			
System On/Off Control	40349	bc1_x	Modbus - bit0; 0=off, 1=on
Alarm Reset	40349	bc1_x	Modbus - bit0 and bit1 on = reset
Minimum Room Temperature Set Point	40350	bc2_x	
Dew Point Over Temp Threshold	40351	bc3_x	

## 8.27 Vertiv™ Liebert® iCOM™ XD Pumping Unit (IGM Only)

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® XDP (IGM)
Controller Firmware:	Air - iCOM XD Pumping Unit Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink / Vertiv™ Liebert® SiteLink-E Modules (IGM)
Vertiv™ Liebert® SiteScan™ Equipment:	icom_xdp (2mb) / w- icom_xdp (16mb)

**Table 8.27 Available Points: Vertiv™ Liebert® iCOM™ XD Pumping Unit (IGM Only)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Valve % Open	40001	bs1_x	
Pump 1 Status	40002	bs2_x	Active=On (Modbus 1=On, 0=Off)
Pump 2 Status	40003	bs3_x	Active=On (Modbus 1=On, 0=Off)
Refrigerant Supply Temp	40004	bs4_x	
Chilled Water Temp	40005	bs5_x	
Unit Status	40006	bs6_x	1=Remote Off 2=On 3=Local Off 4=Restart Delayed 5=Off by Remote Shutdn Device
Scale F or C	40007	bs7_x	
Sensor A Temperature	40008	bs8_x	
Sensor A Humidity	40009	bs9_x	
Sensor A Dewpoint	40010	bs10_x	
Sensor B Temperature	40011	bs11_x	
Sensor B Humidity	40012	bs12_x	
Sensor B Dewpoint	40013	bs13_x	
Pump 1 Run Hours	40014	bs14_x	
Pump 2 Run Hours	40015	bs15_x	
Minimum Room Temp Setpoint	40016	bs16_x	
High Room Temp Alarm Setpoint	40017	bs17_x	
Low Room Temp Alarm Setpoint	40018	bs18_x	
High Dewpoint Alarm Setpoint	40019	bs19_x	
High Refrigerant Temp Alarm Setpoint	40020	bs20_x	
High Chilled Water Temp Alarm Setpt.	40021	bs21_x	
Dewpoint Margin Setpoint	40022	bs22_x	
Auto Restart Delay	40023	bs23_x	

**Table 8.27 Available Points: Vertiv™ Liebert® iCOM™ XD Pumping Unit (IGM Only) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Loss Of Communications	bit0	comm_x	
P1 Loss of Flow	bit1	ba1_x	
P2 Loss of Flow	bit2	ba2_x	
Fan Fail	bit3	ba9_x	
Condensation	bit4	ba10_x	
Customer Alarm	bit5	ba11_x	
High Chilled Water Temp	bit6	ba12_x	
Chilled Water Sensor Fail	bit7	ba13_x	
High Refrigerant Temp	bit8	ba14_x	
Low Refrigerant Temp	bit9	ba15_x	
Refrigerant Sensor Fail	bit10	ba18_x	
High Temperature Sensor A	bit11	ba21_x	
Low Temperature Sensor A	bit12	ba22_x	
Sensor A Fail	bit13	ba23_x	
High Temperature Sensor B	bit14	ba24_x	
Low Temperature Sensor B	bit15	ba25_x	
<b>Alarm 2 (Word)</b>	40290		
Sensor B Fail	bit0	ba26_3	
High Dewpoint	bit1	ba31_3	
Pump Short Cycle	bit2	ba32_3	
Control Valve Fail	bit3	ba33_3	
Loss Of Power	bit4	ba40_3	
Local Off	-	ba800_x	
Remote Off	-	ba801_x	
<b>Control/Set Points</b>			
Unit Run	40349	bp10_x	1=On, 0=Off (Modbus 2=On, 1=Off)
Minimum Room Temp Setpoint	40350	bp01_x	
High Dewpoint Alarm Setpoint	40351	bc03_x	
High Room Temp Alarm Setpoint	-	bp02_x	
Low Room Temp Alarm Setpoint	-	bp03_x	
High Refrigerant Temp Alarm Setpoint	-	bp05_x	

**Table 8.27 Available Points: Vertiv™ Liebert® iCOM™ XD Pumping Unit (IGM Only) (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
High Chilled Water Temp Alarm Setpt.	-	bp06_x	
Scale Select F/C	-	bp08_x	1=C, 0=F
Auto Restart Delay	-	bp09_x	Min.

## 8.28 Vertiv™ Liebert® iCOM™ DCL with Vertiv™ Liebert® iCOM™ Controls

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® CRV
Controller Firmware:	Air Unit iCOM-DCL Row-Based Knurr Cooling 7 (FDM Version: N/A) PA Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_crv

**Table 8.28 Available Points: Vertiv™ Liebert® iCOM™ DCL with Vertiv™ Liebert® iCOM™ Controls**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Supply Temp	40001	bs101_x	
Return Temperature	40002	bs102_x	
Return Dewpoint Temp	40003	bs103_x	
Remote Sensor Min Temp	40004	bs104_x	
Remote Sensor Max Temp	40005	bs105_x	
Remote Sensor Avg Temp	40006	bs106_x	
Top Return Sensor Temp	-	bs107_x	
Middle Return Sensor Temp	-	bs108_x	
Bottom Return Sensor Temp	-	bs109_x	
Top Supply Sensor Temp	-	bs110_x	
Middle Supply Sensor 1 Temp	-	bs111_x	
Middle Supply Sensor 2 Temp	-	bs112_x	
Bottom Supply Sensor Temp	-	bs113_x	
Supply Humidity	40009	bs114_x	
Return Humidity	40010	bs115_x	
Top Return Sensor Humidity	-	bs116_x	
Middle Return Sensor Humidity	-	bs117_x	
Bottom Return Sensor Humidity	-	bs118_x	
Control Coupled Mode	-	bs119_x	1=Decoupled 2=Coupled
Remote Temp Sensor 1	-	bs120_x	
Remote Temp Sensor 2	-	bs121_x	
Remote Temp Sensor 3	-	bs122_x	
Remote Temp Sensor 4	-	bs123_x	
Chilled Water Outlet Temperature 1	40014	bs124_x	

**Table 8.28 Available Points: Vertiv™ Liebert® iCOM™ DCL with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Chilled Water Outlet Temperature 2	40015	bs125_x	
Chilled Water Inlet Temperature 1	40016	bs126_x	
Chilled Water Inlet Temperature 2	40017	bs127_x	
System Status	40018	bs128_x	1=Normal 2=Startup 3=Warn 4=Alarm 5=Abnormal
Unit Standby	40019	bs130_x	1=unit on 2=unit stby (Modbus only)
System Control Mode	-	bs131_x	
System Operating State Reason	-	bs132_x	
Unit Status	-	bs133_x	
BMS Timeout Period	-	bs134_x	
Cooling Capacity %	40021	bs135_x	
Fan Speed %	40022	bs136_x	
Dehumidifier Utilization %	40023	bs137_x	
Calculated Next Maintenance Month	-	bs138_x	
Calculated Next Maintenance Year	-	bs139_x	
Maintenance Ramp %	40024	bs140_x	
System Input RMS A-N	-	bs141_x	
System Input Volts B-N	-	bs142_x	
System Input RMS C-N	-	bs143_x	
System Input RMS Current Phase A	-	bs144_x	
System Input RMS Current Phase B	-	bs145_x	
System Input RMS Current Phase C	-	bs146_x	
Energy Consumption (kWh)	-	bs147_x	
Instantaneous Power (W)	-	bs148_x	
System Input RMS A-B	-	bs149_x	
System Input RMS B-C	-	bs150_x	
System Input RMS C-A	-	bs151_x	
Temperature Dead Band Setpoint	-	bs203_x	
Supply Air Overtemp Setpoint	-	bs206_x	
Air Temp Setpoint	40007	bs201_x	
Cooling Proportional Band Setpoint	40008	bs202_x	



**Table 8.28 Available Points: Vertiv™ Liebert® iCOM™ DCL with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Supply Air Undertemp Setpoint	-	bs209_x	
Temperature Control Sensor	-	bs204_x	1=Supply 2=Remote 3=Return
Remote Sensor Temp Calculation	-	bs205_x	1=Average 2=Maximum
Return Temp/Hum Sensor Ctrl Type	-	bs207_x	1=Avg. 2=Max. 3=Top 4=Middle 5=Bottom
Supply Temp Sensor Ctrl Type	-	bs208_x	1=Avg. 2=Max. 3=Top 4= Middle 1 5= Middle 2 6=Bottom
Return Air Overtemp Setpoint	-	bs210_x	
Humidity Setpoint	40011	bs215_x	
High Return Humidity Setpoint	40012	bs216_x	
Low Return Humidity Setpoint	40013	bs217_x	
Dehumidifier State	-	bs218_x	
Fan Control Mode	-	bs225_x	1=Auto 2=Manual
Fan Speed Proportional Band Setpoint	-	bs226_x	
Fan Speed Setpoint	-	bs227_x	
Fan Speed Maximum Setpoint	-	bs228_x	
Fan Speed Minimum Setpoint	-	bs229_x	
Fan Control Sensor	-	bs230_x	1=Supply 2=Remote 3=Return 6=Pipe Sensor
Fan Temperature Set Point Delta	-	bs231_x	
Pipe Temp Setpoint	-	bs232_x	
Pipe Temp Deadband Setpoint	-	bs233_x	
High Supply Fluid Temp Setpoint	-	bs238_x	

**Table 8.28 Available Points: Vertiv™ Liebert® iCOM™ DCL with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Chilled Water Valve Control	-	bs239_x	1=single 2=parallel 3=alternate 4=cascade
Chilled Water Main Valve	-	bs240_x	1=1 2=2
Chilled Water Auto Valve Rotation	-	bs241_x	1=disabled 2=enabled
Chilled Water Valve Rotation Hour	-	bs242_x	
Chilled Water Inlet Temp Control	-	bs243_x	1=disabled 2=enabled
Chilled Water Inlet High Temp Stpt	-	bs244_x	
Chilled Water Valve Open Position	40020	bs245_x	
Chilled Water Inlet Temp Hysteresis	-	bs246_x	
Single Unit Auto-restart Delay Setpoint	-	bs247_x	
Unit On/Off	40019	bs248_x	1=unit on 2=unit stby (Modbus only)
Rack Door Open High Spply Air Temp	-	bs249_x	
Rack Door Open Sensor Selection	-	bs250_x	
Common Alarm	-	stat_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Supply Air Overtemperature	bit0	a125_x	
Supply Air Undertemperature	bit1	a126_x	
Return Air Overtemperature	bit2	a127_x	
Supply Sensor Issue	bit3	a128_x	
Return Sensor Issue	bit4	a129_x	
Top Return Air Sensor Failure	bit5	a130_x	
Middle Return Air Sensor Failure	bit6	a131_x	
Bottom Return Air Sensor Failure	bit7	a132_x	
Top Supply Air Sensor Failure	bit8	a133_x	
Middle First Supply Air Sensor Failure	bit9	a134_x	
Middle Second Sply Air Sensor Failure	bit10	a135_x	
Bottom Supply Air Sensor Failure	bit11	a136_x	
Pipe Temperature Sensor Failure	bit12	a137_x	

**Table 8.28 Available Points: Vertiv™ Liebert® iCOM™ DCL with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
High Return Humidity	bit13	a138_x	
Low Return Humidity	bit14	a139_x	
Dehumidifier Hours Exceeded	bit15	a140_x	
<b>Alarm 2 (Word)</b>	40290		
Dehumidifier Disabled	bit0	a141_x	
Dehumidifier 12 Hour Lockout	bit1	a142_x	
Dehumidifier Enabled	bit2	a143_x	
Loss Of Air Flow	bit3	a144_x	
Fan Hours Exceeded	bit4	a145_x	
Top Fan Issue	bit5	a146_x	
Bottom Fan Issue	bit6	a147_x	
Remote Sensor Issue 1	bit7	a148_x	
Remote Sensor Issue 2	bit8	a149_x	
Remote Sensor Issue 3	bit9	a150_x	
Remote Sensor Issue 4	bit10	a151_x	
Chilled Water Control Valve Failure	bit11	a152_x	
Supply Chilled Water Loss of Flow	bit12	a153_x	
Chilled Water Cntrl Active (Bad Water)	bit13	a154_x	
Modbus 0-10V Module Comm Failure	bit14	a155_x	
Chilled Water Flow Xducer 1 Failure	bit15	a156_x	
<b>Alarm 3 (Word)</b>	40291		
Chilled Water Flow Xducer 2 Failure	bit0	a157_x	
Chilled Water Inlet Temp Sensor 1 Fail	bit1	a158_x	
Chilled Water Inlet Temp Sensor 2 Fail	bit2	a159_x	
Chilled Water High Inlet Temp 1	bit3	a160_x	
Chilled Water High Inlet Temp 2	bit4	a161_x	
Customer Input 1	bit5	a162_x	
Customer Input 2	bit6	a163_x	
Customer Input 3	bit7	a164_x	
Customer Input 4	bit8	a165_x	
Smoke Detected	bit9	a166_x	
Water Under Floor	bit10	a167_x	
Service Required	bit11	a168_x	
External Overtemp	bit12	a169_x	

**Table 8.28 Available Points: Vertiv™ Liebert® iCOM™ DCL with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
External Loss Of Flow	bit13	a170_x	
External Condenser Pump High Water	bit14	a171_x	
External Standby Glycol Pump On	bit15	a172_x	
<b>Alarm 4 (Word)</b>	40292		
External Fire Detected	bit0	a173_x	
Unit On	bit1	a174_x	
Unit Off	bit2	a175_x	
Unit Partial Shutdown	bit3	a176_x	
Unit Shutdown	bit4	a177_x	
Water Leakage Sensor Issue	bit5	a178_x	
BMS Communications Timeout	bit6	a179_x	
Maintenance Due	bit7	a180_x	
Maintenance Complete	bit8	a181_x	
Ram Battery	bit9	a182_x	
Low Memory	bit10	a183_x	
High Power Shutdown	bit11	a184_x	
Unspecified General Event	bit12	a185_x	
Rack Doors Open	bit13	a186_x	
Loss of Communications	bit14	a701_x	
<b>Setpoints/Control Points</b>			
Air Temp Setpoint	40350	bp201_x	
Cooling Proportional Band Setpoint	40350	bp202_x	Scale *1000 (Modbus Only)
Temperature Dead Band Setpoint	-	bp203_x	
Temperature Control Sensor	-	bp204_x	
Remote Sensor Temp Calculation	-	bp205_x	
Supply Air Overtemp Setpoint	-	bp206_x	
Return Temp/Hum Sensor Ctrl Type	-	bp207_x	
Supply Temp Sensor Ctrl Type	-	bp208_x	
Supply Air Undertemp Setpoint	-	bp209_x	
Return Air Overtemp Setpoint	-	bp210_x	
Humidity Setpoint	40351	bp215_x	
High Return Humidity Setpoint	-	bp216_x	
Low Return Humidity Setpoint	-	bp217_x	
Fan Control Mode	-	bp225_x	

**Table 8.28 Available Points: Vertiv™ Liebert® iCOM™ DCL with Vertiv™ Liebert® iCOM™ Controls (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Fan Speed Proportional Band Setpoint	-	bp226_x	
Fan Speed Setpoint	-	bp227_x	
Fan Speed Maximum Setpoint	-	bp228_x	
Fan Speed Minimum Setpoint	-	bp229_x	
Fan Control Sensor Setting	-	bp230_x	
Fan Temperature Set Point Delta	-	bp231_x	
Pipe Temp Setpoint	-	bp232_x	
Pipe Temp Deadband Setpoint	-	bp233_x	
High Supply Fluid Temp Setpoint	-	bp238_x	
Chilled Water Valve Control	-	bp239_x	
Chilled Water Main Valve	-	bp240_x	
Chilled Water Auto Valve Rotation	-	bp241_x	
Chilled Water Valve Rotation Hour	-	bp242_x	
Chilled Water Inlet Temp Control	-	bp243_x	
CW Inlet High Temp Setpoint	-	bp244_x	
Chilled Water Valve Open Position	-	bp245_x	
Chilled Water Inlet Temp Hysteresis	-	bp246_x	
Single Unit Auto-restart Delay Setting	-	bp247_x	
System On/Off Control	40349	bp248_x	Modbus - Set bit0=off, bit1=on
Rack Door Open High Supply Air Temp	-	bp249_x	
Rack Door Open Sensor Selection	-	bp250_x	

## 8.29 Vertiv™ Liebert® Extreme Density Refrigerant Pumping v220

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® XDP
Controller Firmware:	Air Unit Extreme Density Refrigerant Pumping v220 (FDM Version: 220) Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_xdp_v220

**Table 8.29 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping v220**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Dew Point Temperature	40001	bs1_x	
Minimum Room Temperature Set Point	40002	bs2_x	
Air Sensor A Temperature	40003	bs3_x	
Air Sensor A Humidity	40004	bs4_x	
Air Sensor A Dew Point Temp	40005	bs5_x	
Air Sensor B Temperature	40006	bs6_x	
Air Sensor B Humidity	40007	bs7_x	
Air Sensor B Dew Point Temp	40008	bs8_x	
Room Over Temp Setpoint	40009	bs9_x	
Room Under Temp Setpoint	40010	bs10_x	
Dew Point Over Temp Threshold	40011	bs11_x	
Chilled Water Temperature	40012	bs30_x	
Chilled Water Overtemp Threshold	40013	bs31_x	
Supply Refrigerant Temperature	40014	bs14_x	
Supply Refrigerant Over Temp Threshold	40015	bs15_x	
Pump Run Hours	40016	bs16_x	
System Status	40017	bs17_x	1=Normal 2=Startup 3=Normal+Warning 4=Normal+Alarm 5=Abnormal Op
System Operating State	40018	bs18_x	1=Off 2=On 3=Standby
System Control Mode	40019	bs19_x	1=Auto 2=Manual
Auto Restart Delay	40020	bs20_x	

**Table 8.29 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping v220 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Chilled Water Valve % open	40021	bs113_x	
Maintenance Ramp %	-	bs21_x	
Next Maintenance Month	40022	bs22_x	
Next Maintenance Year	40023	bs23_x	
Pump, Compressor, Hot Gas Status	40024	bs24_x	
Pump 1 Status	bit0	bs16-0_x	Modbus - bit0; 0=off, 1=on
Pump 2 Status	bit1	bs16-1_x	Modbus - bit1; 0=off, 1=on
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>			
	40289		
Sensor A Over Temperature	bit0	a401_x	
Sensor B Over Temperature	bit1	a402_x	
Sensor A Under Temperature	bit2	a403_x	
Sensor B Under Temperature	bit3	a404_x	
Dew Point Over Temperature	bit4	a405_x	
Sensor A Issue	bit5	a406_x	
Sensor B Issue	bit6	a407_x	
Chilled Water Over Temp	bit7	a408_x	
Chilled Water Temp Sensor Issue	bit8	a409_x	
Chilled Water Valve Position	bit9	a410_x	
Refrigerant Overtemp	bit10	a411_x	
Refrigerant Undertemp	bit11	a412_x	
Refrigerant Temp Sensor Issue	bit12	a413_x	
Not used	bit13	-	
Not used	bit14	-	
Not used	bit15	-	
<b>Alarm 2 (Word)</b>			
	40290		
Pump 1 Loss Of Flow	bit0	a417_x	
Pump 2 Loss Of Flow	bit1	a418_x	
Pump Short Cycle	bit2	a419_x	
Not used	bit3	-	
Not used	bit4	-	
Not used	bit5	-	
Not used	bit6	-	
Not used	bit7	-	

**Table 8.29 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping v220 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Not used	bit8	-	
Not used	bit9	-	
Not used	bit10	-	
Not used	bit11	-	
Not used	bit12	-	
Customer Alarm 1	bit13	a430_x	
Condensation Detected	bit14	a431_x	
Loss Of Power	bit15	a432_x	
<b>Alarm 3 (Word)</b>	40291		
Smoke Detected	bit0	a433_x	
Water Under Floor	bit1	a434_x	
Service Required	bit2	a435_x	
Fan Issue	bit3	a436_x	
Pump Hours Exceeded	bit4	a443_x	
Not used	bit5	-	
Not used	bit6	-	
Not used	bit7	-	
Not used	bit8	-	
Not used	bit9	-	
Loss of Comm	bit10	a701_x	
Common Alarm	bit11	stat_x	
Not used	bit12	-	
Not used	bit13	-	
Not used	bit14	-	
Not used	bit15	-	
<b>Alarm 4 (Word)</b>	40291		
Unit Communication Lost	bit0	a437_x	
RAM Battery Issue	bit1	a438_x	
Master Unit Communication Lost	bit2	a439_x	
Remote Shutdown	bit3	a440_x	
Unit Code Missing	bit4	a441_x	
Low Memory	bit5	a442_x	
Unit On	bit6	a444_x	
Unit Off	bit7	a445_x	



**Table 8.29 Available Points: Vertiv™ Liebert® Extreme Density Refrigerant Pumping v220 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Unit Standby	bit8	a446_x	
Unit Partial Shutdown	bit9	a447_x	
Unit Shutdown	bit10	a448_x	
Maintenance Due	bit11	a449_x	
Maintenance Completed	bit12	a450_x	
Not used	bit13	-	
Not used	bit14	-	
Not used	bit15	-	
<b>Control/Setpoints Points (Write)</b>			
System On/Off Control	40349	bc1_x	Modbus - bit0; 0=off, 1=on
Alarm Reset	40349	bc1_x	Modbus - bit0 and bit1 on = reset
Minimum Room Temperature Set Point	40350	bc2_x	
Dew Point Over Temp Threshold	40351	bc3_x	

## 8.30 Vertiv™ Liebert® Extreme Density Chiller v220

Hardware Applicability	
Product Supported:	Vertiv™ Liebert® XDA, Vertiv™ Liebert® XDC, Vertiv™ Liebert® XDH, Vertiv™ Liebert® XDO, Vertiv™ Liebert® XDV
Controller Firmware:	Air Unit Extreme Density Chiller v220 (FDM Version: 220) Firmware: ALL
Interface Module:	Vertiv™ Liebert® SiteLink-E Modules (Velocity)
Vertiv™ Liebert® SiteScan™ Equipment:	w-icom_xdc4-v220

**Table 8.30 Available Points: Vertiv™ Liebert® Extreme Density Chiller v220**

SiteScan	Modbus Register	BACnet Object Name	Notes:
<b>Status Points</b>			
Dew Point Temperature	40001	bs1_x	
Minimum Room Temperature Set Point	40002	bs2_x	
Air Sensor A Temperature	40003	bs3_x	
Air Sensor A Humidity	40004	bs4_x	
Air Sensor A Dew Point Temp	40005	bs5_x	
Air Sensor B Temperature	40006	bs6_x	
Air Sensor B Humidity	40007	bs7_x	
Air Sensor B Dew Point Temp	40008	bs8_x	
Room Over Temp Threshold	40009	bs9_x	
Room Under Temp Threshold	40010	bs10_x	
Dew Point Over Temp Threshold	40011	bs11_x	
Hot Gas Valve 1 Open Position %	40012	bs30_x	
Hot Gas Valve 2 Open Position %	40013	bs31_x	
Supply Refrigerant Temperature	40014	bs14_x	
Supply Refrigerant Over Temp Threshold	40015	bs15_x	
Pump Run Hours	40016	bs16_x	
System Status	40017	bs17_x	1=Normal 2=Startup 3=Normal+Warning 4=Normal+Alarm
System Operating State	40018	bs18_x	1=Off 2=On 3=Standby
System Control Mode	40019	bs19_x	1=Auto 2=Manual
Auto-restart Delay Setpoint	40020	bs20_x	
Maintenance Ramp %	40021	bs21_x	

**Table 8.30 Available Points: Vertiv™ Liebert® Extreme Density Chiller v220 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Next Maintenance Month	40022	bs22_x	
Next Maintenance Year	40023	bs23_x	
Pump, Compressor, Hot Gas Status	40024	bs24_x	
Pump 1 Status	bit0	bs16-0_x	Modbus - bit0; 0=off, 1=on
Pump 2 Status	bit1	bs16-1_x	Modbus - bit1; 0=off, 1=on
Compressor 1A State	bit2	bs9-0_x	Modbus - bit2; 0=off, 1=on
Compressor 1B State	bit3	bs9-1_x	Modbus - bit3; 0=off, 1=on
Compressor 2A State	bit4	bs9-2_x	Modbus - bit4; 0=off, 1=on
Compressor 2B State	bit5	bs9-3_x	Modbus - bit5; 0=off, 1=on
Hot Gas Solenoid Valve 1 Position	bit6	bs32_x	Modbus - bit6; 0=open, 1=closed
Hot Gas Solenoid Valve 2 Position	bit7	bs33_x	Modbus - bit7; 0=open, 1=closed
Compressor 1 Run Hours	-	bs34_x	
Compressor 2 Run Hours	-	bs35_x	
Compressor 3 Run Hours	-	bs36_x	
Compressor 4 Run Hours	-	bs37_x	
<b>Alarm Points</b>			
<b>Alarm 1 (Word)</b>	40289		
Sensor A Over Temperature	bit0	a401_x	
Sensor B Over Temperature	bit1	a402_x	
Sensor A Under Temperature	bit2	a403_x	
Sensor B Under Temperature	bit3	a404_x	
Dew Point Over Temperature	bit4	a405_x	
Sensor A Issue	bit5	a406_x	
Sensor B Issue	bit6	a407_x	
Not used	bit7	-	
Not used	bit8	-	
Not used	bit9	-	
Refrigerant Overtemp	bit10	a411_x	
Refrigerant Undertemp	bit11	a412_x	
Refrigerant Temp Sensor Issue	bit12	a413_x	
Not used	bit13	-	
Not used	bit14	-	
Not used	bit15	-	
<b>Alarm 2 (Word)</b>	40290		
Pump 1 Loss Of Flow	bit0	a417_x	

**Table 8.30 Available Points: Vertiv™ Liebert® Extreme Density Chiller v220 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Pump 2 Loss Of Flow	bit1	a418_x	
Pump Short Cycle	bit2	a419_x	
Compressor 1A High Head Pressure	bit3	a420_x	
Compressor 1B High Head Pressure	bit4	a421_x	
Compressor 2A High Head Pressure	bit5	a422_x	
Compressor 2B High Head Pressure	bit6	a423_x	
Compressor 1A Short Cycle	bit7	a424_x	
Compressor 1B Short Cycle	bit8	a425_x	
Compressor 2A Short Cycle	bit9	a426_x	
Compressor 2B Short Cycle	bit10	a427_x	
Circuit 1 Low Suction Pressure	bit11	a428_x	
Circuit 2 Low Suction Pressure	bit12	a429_x	
Customer Alarm 1	bit13	a430_x	
Condensation Detected	bit14	a431_x	
Loss Of Power	bit15	a432_x	
<b>Alarm 3 (Word)</b>	40291		
Smoke Detected	bit0	a433_x	
Water Under Floor	bit1	a434_x	
Service Required	bit2	a435_x	
Fan Issue	bit3	a436_x	
Pump Hours Exceeded	bit4	a443_x	Pumps 1 or 2
External Comp Lockout	bit5	ba437_x	
Comp 1 Run Hrs Exceeded	bit6	ba438_x	
Comp 2 Run Hrs Exceeded	bit7	ba439_x	
Comp 3 Run Hrs Exceeded	bit8	ba440_x	
Comp 4 Run Hrs Exceeded	bit9	ba441_x	
Loss of Comm	bit10	a701_x	
Common Alarm	bit11	stat_x	
Tandem Comp1 Pump Down Issue	bit12	ba442_x	
Tandem Comp2 Pump Down Issue	bit13	ba444_x	
Not used	bit14	-	
Not used	bit15	-	
<b>Control Points (Set)</b>			
System On/Off Control	40349	bc1_x	Modbus - bit0; 0=off, 1=on

**Table 8.30 Available Points: Vertiv™ Liebert® Extreme Density Chiller v220 (continued)**

SiteScan	Modbus Register	BACnet Object Name	Notes:
Minimum Room Temp Set Point	40350	bc2_x	
Dew Point Over Temp Threshold	40351	bc3_x	
Overtemp Setpoint	-	bc4_x	
Undertemp Setpoint	-	bc5_x	

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