Infrastructure Management & Monitoring
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Liebert® IntelliSlot® 485

Modbus Reference Guide

EMERSON
Network Power

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1.0 MODBUS COMMUNICATIONS

1.1 Connectivity to Liebert IntelliSlot 485 Using Modbus

This publication describes using the Modbus communications protocol with the Liebert IntelliSlot 485 interface card, as well as with the Liebert OpenComms™ 485 Card and Liebert OpenComms NIC485 Card. It includes information on using Modbus to pass information to and from the Liebert IntelliSlot 485 card via Modbus. It also offers information about supported types, frame format, function code support and similar subjects.

1.2 Compatibility with Liebert Equipment

Table 1 shows the type of Liebert IntelliSlot 485 card required for selected Liebert products.

Table 1 Liebert Equipment and Compatible Liebert IntelliSlot 485 Cards

Product Supported	Compatible Card Part Number	
	Liebert IntelliSlot 485 Card	Liebert IntelliSlot Web/485 Card
Liebert CRV	IS-485L	—
Liebert DS	OC485-LBDS	—
Liebert PEX	OC485-LBDS	—
Liebert XDF	OC485-LBDS	—
Liebert XDP with Liebert iCOM	IS-485L	—
Liebert Challenger 3000	OC485-ADPT	OCWEB-ADPT
Liebert Deluxe System/3	OC485-ADPT	OCWEB-ADPT
Liebert ICS	OC485-ADPT	OCWEB-ADPT
Liebert Himod	OC485-ADPT	OCWEB-ADPT
Liebert DataMate L0B	OC485-ADPT	OCWEB-ADPT
Liebert Mini-Mate or Mini-Mate Plus L0B	OC485-ADPT	OCWEB-ADPT
Liebert DataMate MM2	OC485-ADPT	OCWEB-ADPT
Liebert Mini-Mate 2 MM2	OC485-ADPT	OCWEB-ADPT
Liebert Mini-Mate 8 Ton	OC485-ADPT	OCWEB-ADPT
Liebert Atlas Air	OC485-ADPT	OCWEB-ADPT
Liebert Atlas PEC	OC485-ADPT	OCWEB-ADPT
Liebert LECS 15	OC485-ADPT	OCWEB-ADPT
Liebert CEMS 100	OC485-ADPT	OCWEB-ADPT
Liebert Datawave	OC485-ADPT	OCWEB-ADPT
Liebert FPC	OC485-ADPT	OCWEB-ADPT
Liebert PPC	OC485-ADPT	OCWEB-ADPT
Liebert STS or STS/PDU	OC485-ADPT	OCWEB-ADPT
Liebert STS2 or STS2/PDU	OC485-ADPT	OCWEB-ADPT
Liebert Nfinity	OC-485	—
Liebert NX	OC-485	—
Liebert NXL with Liebert iCOM Single Module (SMS)	IS-485NXL	—
Liebert PowerSure	OC-485	—
Liebert GXT2	OC-485	—
Liebert HiNet	OC-485	—
Liebert Series 600 UPS	OC485-ADPT	OCWEB-ADPT
Liebert Series 610 SCC	OC485-ADPT	OCWEB-ADPT
Liebert Series 300 UPS	OC485-ADPT	OCWEB-ADPT
Liebert SICE 7200 / Liebert HiPulse SMM/SSM	OC485-ADPT	OCWEB-ADPT
Liebert SICE 7200 SSC	OC485-ADPT	OCWEB-ADPT
Liebert Npower	OC485-ADPT	OCWEB-ADPT

1.3 Implementation Basics

Modbus protocol provides control and data acquisition, through query and response, between master and slave devices. This protocol comprises the rules for communication, controlling the message format between devices, how master and slave devices initiate communications, as well as unit identification, message-handling and error-checking.

The Liebert IntelliSlot 485 card acts as a slave device on a network. This network can be a multidrop configuration over EIA-485, where multiple slaves reside on a common wire or loop.

1.4 Transmission Format

The Liebert IntelliSlot 485 interface card supports Modbus Remote Terminal Unit (RTU) transmission modes. See **Table 2** below.

Table 2 Modbus Remote Transmission Unit settings for Liebert IntelliSlot 485 interface card

Physical Port	Transmission Mode	Baud Rate	Data Bits	Parity Bits	Stop Bits	Start Bits
EIA-485/422 2 wire	RTU	9600, 19200 or 38400	8	None	1	1

1.5 Modbus Packet Format

Each Modbus packet consists of these fields:

- Device Address
- Function Code
- Data Field(s)
- Error Check Field

1.5.1 Device Address

The address field immediately follows the beginning of the frame and consists of 8-bits (RTU). This bit indicates the user-assigned address of the slave device that is to receive the message from the attached master device.

Each slave must be assigned a unique address. Only the addressed slave will respond to a query that contains its address.

1.5.2 Function Code

The function code field tells the addressed slaves what function to perform. Function codes are designed to invoke a specific action by the slave device. The function code ranges from 1 to 127.

Liebert IntelliSlot 485 Modbus server supports the following Modbus function codes.

Table 3 Supported Modbus function codes

Code	Function	Description
01	Read Coils	Read from 1 to 2000 contiguous status of coils managed by the server. Coils in the response message are packed as one per bit of a byte, 1=On and 0=Off. If the requested quantity of coils is not a multiple of 8, zeros are padded in the final byte.
02	Read Discrete Inputs	Read from 1 to 2000 contiguous input status managed by the server. Discrete inputs in the response message are packed as one per bit of a byte, 1=On and 0=Off. If the requested number of inputs is not a multiple of 8, zeros are padded in the final byte.
03	Read Holding Registers	Read the contents of contiguous block of 1 to 127 holding registers. Data are packed as two bytes per register; the first byte contains the high order bits.
04	Read Input Registers	Read the contents of contiguous block of 1 to 127 Input registers. Data are packed as two bytes per register; the first byte contains the high order bits.
05	Write Single Coil	Write a single output to either On (1) or Off (0) mapped in coil section.
06	Write Single Register	Write a value into a single holding register;
15	Write Multiple Coils	Force each coil in a sequence of coils to either On or Off.
16	Write Multiple Registers	Write values into a block of contiguous registers (1 to 120)

1.5.3 Data Fields

The data field length varies, depending on whether the message is a request or a response to a packet. This field typically contains information required by the slave device to perform the command specified or to the response to a data request from the master device.

1.5.4 Error Check Field

The Error Check Field consists of a 16-bit (2 byte) Cyclical Redundancy Check (CRC16). It allows the receiving device to detect a packet that has been corrupted by transmission errors.

1.6 RTU Framing

The example below shows a typical query and response from a Liebert IntelliSlot 485 interface card. The master device initiates a query asking **Slave Device**, with address 2, for **holding registers** starting at **holding register 40051** (offset 50) and including next **2 registers** (3 total).

Table 4 Query sample

Slave Address	Function Code	Starting Register		Number of Registers		CRC16	CRC16
		Hi Byte	Lo Byte	Hi Byte	Lo Byte	Hi Byte	Lo Byte
02	03	00	32	00	03	E5	FA

Table 5 Response sample

Slave Address	Function Code	Count: Bytes of Data	Register						CRC16	
			40051 Data		40052 Data		40053 Data			
			Hi	Lo	Hi	Lo	Hi	Lo	Hi Byte	Lo Byte
02	03	6	1	58	00	FA	00	54	1B	0D

Slave Device, with address 2, responds to Function Code 3 with 6 bytes of hexadecimal data and ends with CRC16 checksum.

Register values: 40051 = 158(hex) = 344 (decimal)
40052 = FA (hex) = 250 (decimal)
40053 = 54 (hex) = 84 (decimal)

2.0 PRECISION COOLING PRODUCTS

Table 6 Liebert CRV™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Supply Air Over Temperature	10001	-	1	Active on Alarm
Supply Air Under Temperature	10002	-	1	Active on Alarm
Return Air Over Temperature	10003	-	1	Active on Alarm
Supply Air Sensor Issue	10004	-	1	Active on Alarm
High Return Humidity	10005	-	1	Active on Alarm
Low Return Humidity	10006	-	1	Active on Alarm
Humidifier Hours Exceeded	10007	-	1	Active on Alarm
Dehumidifier Hours Exceeded	10008	-	1	Active on Alarm
Humidifier Under Current	10009	-	1	Active on Alarm
Humidifier Over Current	10010	-	1	Active on Alarm
Humidifier Low Water	10011	-	1	Active on Alarm
Humidifier Cylinder Worn	10012	-	1	Active on Alarm
Humidifier Issue	10013	-	1	Active on Alarm
Ext Humidifier Lockout	10014	-	1	Active on Alarm
Humidifier Control Board Not Detected	10015	-	1	Active on Alarm
Return Humidity Out Of Proportional Band	10016	-	1	Active on Alarm
Loss of Air Flow	10017	-	1	Active on Alarm
Fan Hours Exceeded	10018	-	1	Active on Alarm
Top Fan Issue	10019	-	1	Active on Alarm
Bottom Fan Issue	10020	-	1	Active on Alarm
Remote Sensor Issue Module Index 1	10021	-	1	Active on Alarm
Remote Sensor Issue Module Index 2	10022	-	1	Active on Alarm
Remote Sensor Issue Module Index 3	10023	-	1	Active on Alarm
Remote Sensor Issue Module Index 4	10024	-	1	Active on Alarm
Remote Sensor Issue Module Index 5	10025	-	1	Active on Alarm
Remote Sensor Issue Module Index 6	10026	-	1	Active on Alarm
Remote Sensor Issue Module Index 7	10027	-	1	Active on Alarm
Remote Sensor Issue Module Index 8	10028	-	1	Active on Alarm
Remote Sensor Issue Module Index 9	10029	-	1	Active on Alarm
Remote Sensor Issue Module Index 10	10030	-	1	Active on Alarm
Compressor 1 High Head Pressure	10031	-	1	Active on Alarm

Table 6 Liebert CRV™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Compressor 1 Low Suction Pressure	10032	-	1	Active on Alarm
Compressor 1 Hours Exceeded	10033	-	1	Active on Alarm
Dig Scroll Comp 1 Temp Sensor Issue	10034	-	1	Active on Alarm
Dig Scroll Comp 1 Over Temp	10035	-	1	Active on Alarm
Compressor 1 Low Pressure Transducer Issue	10036	-	1	Active on Alarm
Ext Compressor Lockout	10037	-	1	Active on Alarm
Compressor 1 Short Cycle	10038	-	1	Active on Alarm
Compressor 1 High Pressure Transducer Issue	10039	-	1	Active on Alarm
Compressor 1 Pump Down Issue	10040	-	1	Active on Alarm
Reheater Over Temperature	10041	-	1	Active on Alarm
Electric Reheater 1 Hours Exceeded	10042	-	1	Active on Alarm
Ext Reheat Lockout	10043	-	1	Active on Alarm
Condenser 1 Issue	10044	-	1	Active on Alarm
Condenser VFD Issue	10045	-	1	Active on Alarm
Condenser TVSS Issue	10046	-	1	Active on Alarm
Supply Chilled Water Over Temp	10047	-	1	Active on Alarm
Chilled Water Control Valve Position	10048	-	1	Active on Alarm
Supply Chilled Water Loss of Flow	10049	-	1	Active on Alarm
Supply Fluid Temp Sensor Issue	10050	-	1	Active on Alarm
Customer Input 1	10051	-	1	Active on Alarm
Customer Input 2	10052	-	1	Active on Alarm
Customer Input 3	10053	-	1	Active on Alarm
Customer Input 4	10054	-	1	Active on Alarm
Smoke Detected	10055	-	1	Active on Alarm
Water Under Floor	10056	-	1	Active on Alarm
Service Required	10057	-	1	Active on Alarm
Shutdown - Loss Of Power	10058	-	1	Active on Alarm
Ext Over Temperature	10059	-	1	Active on Alarm
Ext Loss of Flow	10060	-	1	Active on Alarm
Ext Condenser Pump High Water	10061	-	1	Active on Alarm
Ext Standby Glycol Pump On	10062	-	1	Active on Alarm
External Fire Detected	10063	-	1	Active on Alarm
Unit On	10064	-	1	Active on Alarm
Unit Off	10065	-	1	Active on Alarm
Unit Standby	10066	-	1	Active on Alarm
Unit Partial Shutdown	10067	-	1	Active on Alarm
Unit Shutdown	10068	-	1	Active on Alarm

Table 6 Liebert CRV™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Water Leakage Detector Sensor Issue	10069	-	1	Active on Alarm
BMS Communications Timeout	10070	-	1	Active on Alarm
Maintenance Due	10071	-	1	Active on Alarm
Maintenance Completed	10072	-	1	Active on Alarm
Clogged Air Filter	10073	-	1	Active on Alarm
RAM Battery Issue	10074	-	1	Active on Alarm
Master Unit Communication Lost	10075	-	1	Active on Alarm
High Power Shutdown	10076	-	1	Active on Alarm
Return Air Sensor Issue	10077	-	1	Active on Alarm

Table 7 Liebert CRV - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Supply Air Temperature	30385	-	1	0.1	deg C
Supply Air Temperature	30386	-	1	0.1	deg F
Return Air Temperature	30387	-	1	0.1	deg C
Return Air Temperature	30388	-	1	0.1	deg F
Return Dew Point	30389	-	1	0.1	deg C
Return Dew Point	30390	-	1	0.1	deg F
Remote Sensor Minimum Temperature	30391	-	1	0.1	deg C
Remote Sensor Minimum Temperature	30392	-	1	0.1	deg F
Remote Sensor Maximum Temperature	30393	-	1	0.1	deg C
Remote Sensor Maximum Temperature	30394	-	1	0.1	deg F
Remote Sensor Average Temperature	30395	-	1	0.1	deg C
Remote Sensor Average Temperature	30396	-	1	0.1	deg F
Air Temperature Set Point	30397	40397	1	0.1	deg C
Air Temperature Set Point	30398	40398	1	0.1	deg F
Cooling Proportional Band	30399	40399	1	0.1	deg C
Cooling Proportional Band	30400	40400	1	0.1	deg F
Heating Proportional Band	30401	40401	1	0.1	deg C
Heating Proportional Band	30402	40402	1	0.1	deg F
Air Temperature Dead Band	30403	40403	1	0.1	deg C
Air Temperature Dead Band	30404	40404	1	0.1	deg F
Supply Air Over Temp Threshold	30405	40405	1	0.1	deg C
Supply Air Over Temp Threshold	30406	40406	1	0.1	deg F
Supply Air Under Temp Threshold	30407	40407	1	0.1	deg C
Supply Air Under Temp Threshold	30408	40408	1	0.1	deg F
Return Air Over Temp Threshold	30409	40409	1	0.1	deg C
Return Air Over Temp Threshold	30410	40410	1	0.1	deg F
Supply Humidity	30411	-	1	0.1	% RH
Return Humidity	30412	-	1	0.1	% RH
Humidity Set Point	30413	40413	1	-	% RH
Humidification Proportional Band	30414	40414	1	-	% RH
Dehumidification Proportional Band	30415	40415	1	-	% RH
Humidity Dead Band	30416	40416	1	-	% RH
High Return Humidity Threshold	30417	40417	1	0.1	% RH
Low Return Humidity Threshold	30418	40418	1	0.1	% RH
Fan Speed Proportional Band	30419	40419	1	0.1	deg C

Table 7 Liebert CRV - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Fan Speed Proportional Band	30420	40420	1	0.1	deg F
Fan Speed Manual Set Point	30421	40421	1	-	%
Fan Speed Maximum Set Point	30422	40422	1	-	%
Fan Speed Minimum Set Point	30423	40423	1	-	%
Remote Sensor Temperature Module Index 1	30424	-	1	0.1	deg C
Remote Sensor Temperature Module Index 2	30425	-	1	0.1	deg C
Remote Sensor Temperature Module Index 3	30426	-	1	0.1	deg C
Remote Sensor Temperature Module Index 4	30427	-	1	0.1	deg C
Remote Sensor Temperature Module Index 5	30428	-	1	0.1	deg C
Remote Sensor Temperature Module Index 6	30429	-	1	0.1	deg C
Remote Sensor Temperature Module Index 7	30430	-	1	0.1	deg C
Remote Sensor Temperature Module Index 8	30431	-	1	0.1	deg C
Remote Sensor Temperature Module Index 9	30432	-	1	0.1	deg C
Remote Sensor Temperature Module Index 10	30433	-	1	0.1	deg C
Remote Sensor Temperature Module Index 1	30434	-	1	0.1	deg F
Remote Sensor Temperature Module Index 2	30435	-	1	0.1	deg F
Remote Sensor Temperature Module Index 3	30436	-	1	0.1	deg F
Remote Sensor Temperature Module Index 4	30437	-	1	0.1	deg F
Remote Sensor Temperature Module Index 5	30438	-	1	0.1	deg F
Remote Sensor Temperature Module Index 6	30439	-	1	0.1	deg F
Remote Sensor Temperature Module Index 7	30440	-	1	0.1	deg F
Remote Sensor Temperature Module Index 8	30441	-	1	0.1	deg F
Remote Sensor Temperature Module Index 9	30442	-	1	0.1	deg F
Remote Sensor Temperature Module Index 10	30443	-	1	0.1	deg F
Supply Chilled Water Temperature	30444	-	1	0.1	deg C
Supply Chilled Water Temperature	30445	-	1	0.1	deg F
Supply Chilled Water Over Temp Threshold	30446	40446	1	0.1	deg C

Table 7 Liebert CRV - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Supply Chilled Water Over Temp Threshold	30447	40447	1	0.1	deg F
BMS Timeout Period	30448	40448	1	-	Minutes
Auto Restart Delay	30449	40449	1	-	Seconds
Operating Efficiency	30450	-	1	-	%
Fan Speed	30451	-	1	-	%
Compressor Utilization	30452	-	1	-	%
Dehumidifier Utilization	30453	-	1	-	%
Reheat Utilization	30454	-	1	-	%
Humidifier Utilization	30455	-	1	-	%
Calculated Next Maintenance Month	30456	-	1	-	-
Calculated Next Maintenance Year	30457	-	1	-	-
Maintenance Ramp	30458	-	1	-	%
Server Class	30459	-	1	-	1=UPS 2=AIR 3=PMP 4=PDU
Air Temperature Control Sensor	30460	40460	1	-	0=Supply 1=Remote 2=Return
Remote Sensor Temperature Calculation	30461	40461	1	-	0=Average 1=Maximum
Fan Control Mode	30462	40462	1	-	0=Internal (Auto) 1=External (Manual)
Fan Control Sensor	30463	40463	1	-	0=Supply 1=Remote 2=Return
Remote Sensor Function Module Index 1	30464	40464	1	-	0=Disable 1=Reference 2=Control
Remote Sensor Function Module Index 2	30465	40465	1	-	0=Disable 1=Reference 2=Control
Remote Sensor Function Module Index 3	30466	40466	1	-	0=Disable 1=Reference 2=Control
Remote Sensor Function Module Index 4	30467	40467	1	-	0=Disable 1=Reference 2=Control
Remote Sensor Function Module Index 5	30468	40468	1	-	0=Disable 1=Reference 2=Control
Remote Sensor Function Module Index 6	30469	40469	1	-	0=Disable 1=Reference 2=Control
Remote Sensor Function Module Index 7	30470	40470	1	-	0=Disable 1=Reference 2=Control

Table 7 Liebert CRV - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Remote Sensor Function Module Index 8	30471	40471	1	-	0=Disable 1=Reference 2=Control
Remote Sensor Function Module Index 9	30472	40472	1	-	0=Disable 1=Reference 2=Control
Remote Sensor Function Module Index 10	30473	40473	1	-	0=Disable 1=Reference 2=Control
System Status	30474	-	1	-	1=Normal Operation 2=Startup 8=Normal with Warning 16=Normal with Alarm 32=Abnormal Operation
System Operating State	30475	-	1	-	0=Off 1=On 2=Standby
System Control Mode	30476	-	1	-	0=Internal (Auto) 1=External (Manual)
System Operating State Reason	30477	-	1	-	0=Reason Unknown 1=Network Display 2=Alarm 3=Schedule 4=Remote System 5=External Input 6=Local Display
System On/Off Control	30478	40478	1	-	0=Off 1=On
System Event Acknowledge/Reset	-	40479	1	-	2=Reset 4=Acknowledge

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 8 Liebert DS™ and Liebert PEX™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Sleep on Monday	10001	1	1	-
Sleep on Tuesday	10002	2	1	-
Sleep on Wednesday	10003	3	1	-
Sleep on Thursday	10004	4	1	-
Sleep on Friday	10005	5	1	-
Sleep on Saturday	10006	6	1	-
Sleep on Sunday	10007	7	1	-
Supply Limit Enable	10008	8	1	-
Reheat Lockout	10009	9	1	-
Humidifier Lockout	10010	10	1	-
Temperature Indication [1]	10011	11	1	-
Timer Mode Type	10012	12	1	-
Minimum Chilled Water Temp Enable	10013	13	1	-
Std. Sensor Alarms Enable	10019	19	1	-
Sensor A Alarms Enable	10020	20	1	-
Compressor Lockout	10021	21	1	-
VSD Fan speed	10022	22	1	-
Unit Control	-	25	1	-
Reset Alarm	-	26	1	-
Acknowledge Alarm	-	27	1	-
Reset Total Run Hours Fan Motor	-	28	1	-
Reset Comp1Run Hour	-	29	1	-
Reset Comp2Run Hour	-	30	1	-
Reset Humidifier Run Hour	-	31	1	-
Reset Dehumidifier Run Hour	-	32	1	-
Reset CW/FC Run Hour	-	33	1	-
Reset E-Heater1RunHour	-	34	1	-
Reset E-heater2RunHour	-	35	1	-
Reset E-heater3 Run Hour	-	36	1	-
Reset HG/HW Run Hour	-	37	1	-
Fan On	10025	-	1	-
Cool On	10026	-	1	-
Free Cool On	10027	-	1	-
Hot Water On	10028	-	1	-
Electrical Heater On	10029	-	1	-
Humidification On	10030	-	1	-
Dehumidification On	10031	-	1	-
Audible Alarm On	10032	-	1	-

Table 8 Liebert DS™ and Liebert PEX™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Reserved	10033	-	1	-
Main Fan Overload	10034	-	1	-
Loss of Airflow	10035	-	1	-
Loss of Flow	10036	-	1	-
Comp 1 High Pressure	10037	-	1	-
Comp 1 Low Pressure	10038	-	1	-
Comp 1 Overload	10039	-	1	-
Comp 1 Pumpdown Fail	10040	-	1	-
Comp 2 High Pressure	10041	-	1	-
Comp 2 Low Pressure	10042	-	1	-
Comp 2 Overload	10043	-	1	-
Comp 2 Pumpdown Fail	10044	-	1	-
Digital Scroll Compressor 1 High Temperature	10045	-	1	-
Digital Scroll Compressor 2 High Temperature	10046	-	1	-
Smoke Detected	10047	-	1	-
Water Under Floor	10048	-	1	-
Humidifier Problem	10049	-	1	-
Stby Glycol Pump On	10050	-	1	-
Standby Unit On	10051	-	1	-
Cond Pump-high Water	10052	-	1	-
Room Sensor Failure	10053	-	1	-
Loss Compressor Power	10054	-	1	-
Loss of Air Blower 1	10055	-	1	-
Humidifier Low Water	10058	-	1	-
Humidifier High Amps	10059	-	1	-
High Temperature	10060	-	1	-
Loss of Power	10061	-	1	-
Unspecified Event(s) [1]	10064	-	1	-
High CW Temp	10065	-	1	-
Reserved	10066	-	1	-
High Room Temp	10067	-	1	-
Low Room Temp	10068	-	1	-
High Room Hum	10069	-	1	-
Low Room Hum	10070	-	1	-
High Temp Sensor A	10071	-	1	-
Low Temp Sensor A	10072	-	1	-
High Hum Sensor A	10073	-	1	-
Low Hum Sensor A	10074	-	1	-
Loss of CW Flow	10075	-	1	-

Table 8 Liebert DS™ and Liebert PEX™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Clogged Filters	10076	-	1	-
Supply Sensor Failure	10077	-	1	-
Freecool Temp Sensor	10078	-	1	-
Sensor A Failure	10079	-	1	-
Unit Hrs Exceeded	10080	-	1	-
Comp 1 Hrs Exceeded	10081	-	1	-
Comp 2 Hrs Exceeded	10082	-	1	-
FC Hrs Exceeded	10083	-	1	-
El Heat1 Hrs Exceeded	10084	-	1	-
El Heat2 Hrs Exceeded	10085	-	1	-
El Heat3 Hrs Exceeded	10086	-	1	-
HW/HG Hrs Exceeded	10087	-	1	-
Hum Hrs Exceeded	10088	-	1	-
Dehum Hrs Exceeded	10089	-	1	-
Network Failure	10091	-	1	-
No Connection W/Unit	10092	-	1	-
Unit(s) Disconnected	10093	-	1	-
Unit Code Missing	10094	-	-	-
Unit Code Mismatch	10095	-	-	-
Call Service	10096	-	-	-
Low Memory 1	10097	-	-	-
RAM / Battery Failure	10098	-	-	-
HCB not connected	10099	-	-	-
(Parallel Flash) Memory 1 Fail	10100	-	-	-
(Serial Flash) Memory 2 Fail	10101	-	-	-
Customer Input 1	10104	-	-	-
Customer Input 2	10105	-	-	-
Customer Input 3	10106	-	-	-
Customer Input 4	10107	-	-	-
Digital Scroll Compressor 1 Sensor Fail	10108	-	-	-
Digital Scroll Compressor 2 Sensor Fail	10109	-	-	-
Low Int Temperature	10110	-	-	-
High Ext Dewpoint	10111	-	-	-
Cabinet Temp Sensor Fail	10112	-	-	-
Cabinet Humidity Sensor Fail	10113	-	-	-
Ambient Temp Sensor Fail	10114	-	-	-
Comp 1 Short Cycle	10132	-	-	-
Comp 2 Short Cycle	10133	-	-	-

Table 8 Liebert DS™ and Liebert PEX™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Reheat Lockout	10140	-	-	-
Humidifier Lockout	10141	-	-	-
Compressor(s) Lockout	10142	-	-	-
Fire Alarm	10148	-	-	-
Heaters Overheated	10149	-	-	-
Condenser 1 Failure	10150	-	-	-
Condenser 2 Failure	10151	-	-	-
Humidifier Cylinder Worn	10152	-	-	-
Heat Rej VFD	10153	-	-	-
Heat Rej TVSS	10154	-	-	-
Humidifier Low Amps	10155	-	-	-
FC Lockout	10156	-	-	-
Water Leak Sensor Fail	10157	-	-	-

Reference Document: ST100I&C PA Parameters and Events, Version 18.0

1. Any non-recognized alarm code by current firmware received from the DS control will trigger this event.

Table 9 Liebert DS and Liebert PEX - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Note
Vendor ID	30001	40001	1	-	-
Device ID	30002	40002	1	-	-
Version Number	30003	40003	1	-	-
UPS/Env/Pwr	30004	40004	1	-	-
Timer Mode [1]	30016	40016	1	-	-
Type of DT Room-FC [2]	30017	40017	1	-	-
Humidity Control [3]	30018	40018	1	-	-
VSD Setpoint	30019	40019	1	-	% (HP)
Supply Temperature Limit	30020	40020	1	10	deg C
DT between Room and FC	30021	40021	1	10	deg C
Minimum CW Temperature	30022	40022	1	10	deg C
Temperature Setpoint	30023	40023	1	10	deg C
Temperature Proportional Band	30024	40024	1	10	deg C
Temperature Deadband	30025	40025	1	10	deg C
Temperature Integration Time	30026	40026	1	-	Minutes
Humidity Setpoint	30027	40027	1	-	%
Humidity Proportional Band	30028	40028	1	-	%
Humidity Integration Time	30029	40029	1	-	Minutes
Humidity Deadband	30030	40030	1	-	%
Single Unit Auto-Restart Delay	30031	40031	1	-	Seconds
Infrared Flush Rate	30032	40032	1	-	%
Temp Control Type [4]	30033	40033	1	-	-
Sleep Interval 1 Start Time Hour: Minute	30040	40040	1	-	LSB:Min
Sleep Interval 1 End Time Hour: Minute	30041	40041	1	-	LSB:Min
Sleep Interval 2 Start Time Hour: Minute	30042	40042	1	-	LSB:Min
Sleep Interval 2 End Time Hour: Minute	30043	40043	1	-	LSB:Min
Timer Deadband	30044	40044	1	10	deg C
Manual VSD Timer/Counter [5]	30045	40045	1	-	-
High Temperature	30050	40050	1	10	deg C
Low Temperature	30051	40051	1	10	deg C
High Temperature Sensor A	30052	40052	1	10	deg C
Low Temperature Sensor A	30053	40053	1	10	deg C
High Humidity	30054	40054	1	-	%
Low Humidity	30055	40055	1	-	%
High Humidity Sensor A	30056	40056	1	-	%
Low Humidity Sensor A	30057	40057	1	-	%
Fan Run Hour Threshold	30070	40070	-	-	Hours
Compressor 1 Run Hour Threshold	30071	40071	-	-	Hours
Compressor 2 Run Hour Threshold	30072	40072	-	-	Hours

Table 9 Liebert DS and Liebert PEX - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Note
Humidifier Run Hours Threshold	30073	40073	-	-	Hours
Dehumidification Run Hours Threshold	30074	40074	-	-	Hours
CW/FC Run Hours Threshold	30075	40075	-	-	Hours
Electrical Heaters #1 Run Hours Threshold	30076	40076	-	-	Hours
Electrical Heaters #2 Run Hours Threshold	30077	40077	-	-	Hours
Electrical Heaters #3 Run Hours Threshold	30078	40078	-	-	Hours
Hot Water / Hot Gas Run Hours Threshold	30079	40079	-	-	Hours
Operating State [6]	30100	-	-	-	-
Number of Active Events/Alarm	30101	-	-	-	-
Summary Alarm Status [7]	30102	-	-	-	-
Fan Ramp	30103	-	-	-	%
Cooling Ramp	30104	-	-	-	%
Free Cooling Ramp	30105	-	-	-	%
Heating Ramp	30106	-	-	-	%
Humidification Ramp	30107	-	-	-	%
Dehumidifier Ramp	30108	-	-	-	%
FreeCooling Status [8]	30109	-	-	-	%
Return Temperature	30110	-	-	10	deg C
Actual Temperature SP	30111	-	-	10	deg C
Supply Temperature	30112	-	-	10	deg C
Actual Supply Temperature SP	30113	-	-	10	deg C
FC Temperature	30115	-	-	10	deg C
Sensor A Temperature	30116	-	-	10	deg C
Sensor B Temperature	30117	-	-	10	deg C
Sensor C Temperature	30118	-	-	10	deg C
Digital Scroll Compressor 1 High Temperature	30119	-	-	10	deg C
Digital Scroll Compressor 2 High Temperature	30120	-	-	10	deg C
Return Humidity	30130	-	-	-	%
Actual Humidity SP	30131	-	-	-	%
Sensor A Humidity	30132	-	-	-	%
Sensor B Humidity	30133	-	-	-	%
Sensor C Humidity	30134	-	-	-	%
Fan Run Hour	30141	-	-	-	Hours
Compressor 1 Run Hour	30142	-	-	-	Hours
Compressor 2 Run Hour	30143	-	-	-	Hours

Table 9 Liebert DS and Liebert PEX - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Note
Humidifier Run Hours	30144	-	-	-	Hours
Dehumidification Run Hours	30145	-	-	-	Hours
Free cooling Run Hours	30146	-	-	-	Hours
Electrical Heaters #1 Run Hours	30147	-	-	-	Hours
Electrical Heaters #2 Run Hours	30148	-	-	-	Hours
Electrical Heaters #3 Run Hours	30149	-	-	-	Hours
Hot Water / Hot Gas Run Hours	30150	-	-	-	Hours
Daily High Temperature	30151	-	-	10	deg C
Daily High Temp Time	30152	-	-	-	Hh:mm
Daily Low Temperature	30153	-	-	10	deg C
Daily Low Temp Time	30154	-	-	-	Hh:mm
Daily High Humidity	30155	-	-	-	%RH
Daily High Hum Time	30156	-	-	-	Hh:mm
Daily Low Humidity	30157	-	-	-	%RH
Daily Low Hum Time	30158	-	-	-	Hh:mm

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Reference Document: ST100I&C PA Parameters and Events, Version 18.0

1. Timer mode: 0 = no, 1 = yes
2. Type of DT Room-Glycol: 0 = no, 1 = contact, 2 = value
3. Predictive Hum Control: 0 = relative, 1 = compensated, 2 = predictive
4. Temp Control Algorithm: 0 = proportional, 1 = PD, 2 = PDI; 3 = intelligent
5. When VFD is set to manual mode (coil 22), the host can control the VFD by the value of register 40019. The Manual VSD Timer will start to count down. Once it reaches 0, the VFD control mode will switch to auto. The host will need to periodically reset this timer in order to maintain the manual mode. Consult factory for BMS timer information.
6. Operating state:
   - Bit 0-1: 00 unit off, 01 unit on, 10 unit standby
   - Bit 2-3: 00 auto, 01 manual
   - Bit 4-7: 0000 none
     0001 local user
     0010 alarm
     0011 schedule
     0100 remote user
     0101 external device
     0110 local display
7. Alarm state bit map:
   - Bit 0 = Reset state
   - Bit 1 = Active state
   - Bit 2 = Acknowledge state
   - Bit 3-7 = Alarm Type
     00000: Message
     00001: Warning
     00010: Alarm
8. Free-cool state: 0 = Off, 1 = Start, 2 = On

Table 10 Liebert XDF™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Temperature Indication [1]	10011	11	1	-
Unit Control	-	25	1	-
Reset Alarm	-	26	1	-
Acknowledge Alarm	-	27	1	-
Cabinet Sensor Alarm Enable	10023	23	1	-
Fan On	10025	-	1	-
Cool On	10026	-	1	-
Compressor 1 High Pressure	10037	-	1	-
Compressor 1 Low Pressure	10038	-	1	-
Cond Pump-High Water	10052	-	1	-
Loss Compressor Power	10054	-	1	-
Emergency Damper Fail	10056	-	1	-
High Internal Temperature	10057	-	1	-
Loss of Power	10061	-	1	-
Remote Shutdown	10062	-	1	-
Unspecified Event(s) [1]	10064	-	1	-
Unit Hrs Exceeded	10080	-	1	-
Comp 1 Hrs Exceeded	10081	-	1	-
Network Failure	10091	-	1	-
No Connection W/Unit 1	10092	-	1	-
Unit(s) Disconnected	10093	-	1	-
Unit Code Missing	10094	-	-	-
Unit Code Mismatch	10095	-	-	-
Low Memory 1	10097	-	-	-
Ram / Battery Failure	10098	-	-	-
(Parallel Flash) MEMORY 1 FAIL	10100	-	-	-
(Serial Flash) MEMORY 2 FAIL	10101	-	-	-
Front Door Open	10102	-	-	-
Rear Door Open	10103	-	-	-
Digital Scroll Compressor 1 Sensor Fail	10108	-	-	-
Low Int Temperature	10110	-	-	-
High Ext Dewpoint	10111	-	-	-
Cabinet Temp Sensor Fail	10112	-	-	-
Cabinet Humidity Sensor Fail	10113	-	-	-
Ambient Temp Sensor Fail	10114	-	-	-
Comp 1 Short Cycle	10132	-	-	-
Reheat Lockout	10140	-	-	-
Humidifier Lockout	10141	-	-	-

Table 10 Liebert XDF™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Compressor(s) Lockout	10142	-	-	-
Backup Ventilation	10143	-	-	-
Door Open	10144	-	-	-
Device Load	10146	-	-	-
Alarm Status	10147	-	-	-

Reference Document: ST100I&C PA Parameters and Events, Version 18.0

1. Any non-recognized alarm code by current firmware received from the XDF control will trigger this event.

Table 11 Liebert XDF - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Note
Vendor ID	30001	40001	1	-	-
Device ID	30002	40002	1	-	-
Version number	30003	40003	1	-	-
UPS/Env/Pwr	30004	40004	1	-	-
Temperature Setpoint	30023	40023	1	10	deg C
Delay after safe Temp has been reached	30034	40034	-	-	Minutes
Allowable deviation between internal temp sensors	30035	40035	-	-	deg C
High Cabinet Temperature Setpoint	30058	40058	-	10	deg C
Low Cabinet Temperature Setpoint	30059	40059	-	10	deg C
Fan Run Hour Threshold	30070	40070	-	-	Hours
Compressor 1 Run Hour Threshold	30071	40071	-	-	Hours
Service Ramp	30099	-	-	-	%
Operating State [6]	30100	-	-	-	-
Number of Active Events/Alarm	30101	-	-	-	-
Summary Alarm Status [7]	30102	-	-	-	-
Fan Ramp	30103	-	-	-	%
Cooling Ramp	30104	-	-	-	%
Digital Scroll Compressor 1 High Temperature	30119	-	-	10	deg C
Sensor 1 Temp	30121	-	-	10	deg C
Sensor 2 Temp	30122	-	-	10	deg C
Sensor 3 Temp	30123	-	-	10	deg C
Sensor 4 Temp	30124	-	-	10	deg C
Ambient Temp	30125	-	-	10	deg C
Ambient Humidity	30126	-	-	-	%
Dew Point Temp	30127	-	-	-	deg C
Adjusted Setpoint Temp	30128	-	-	10	deg C
Cabinet Temperature	30129	-	-	10	deg C
Service Due Year	30135	-	-	-	-
Service Due Month	30136	-	-	-	-
Device kW Load	30137	-	-	-	kW
Fan Run Hour	30141	-	-	-	Hours
Compressor 1 Run Hour	30142	-	-	-	Hours

Table 11 Liebert XDF - Input and Holding Registers

NOTES

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Reference Document: ST100I&C PA Parameters and Events, Version 18.0

1. Timer mode: 0 = no, 1 = yes
2. Type of DT Room-Glycol: 0 = no, 1 = contact, 2 = value
3. Predictive Hum Control: 0 = relative, 1 = compensated, 2 = predictive
4. Temp Control Algorithm: 0 = proportional, 1 = PD, 2 = PDI; 3 = intelligent
5. When VFD is set to manual mode (coil 22), the host can control the VFD by the value of register 40019. The Manual VSD Timer will start to count down. Once it reaches 0, the VFD control mode will switch to auto. The host will need to periodically reset this timer in order to maintain the manual mode. Consult factory for BMS timer information.
6. Operating state:
   - Bit 0-1: 00 unit off, 01 unit on, 10 unit standby
   - Bit 2-3: 00 auto, 01 manual
   - Bit 4-7: 0000 none
     0001 local user
     0010 alarm
     0011 schedule
     0100 remote user
     0101 external device
     0110 local display
7. Alarm state bit map:
   - Bit 0 = Reset state
   - Bit 1 = Active state
   - Bit 2 = Acknowledge state
   - Bit 3-7 = Alarm Type
     00000: Message
     00001: Warning
     00010: Alarm
8. Free-cool state: 0 = Off, 1 = Start, 2 = On

Table 12 Liebert XDP™ with Liebert iCOM® - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Pump 1 Loss of Flow	10001	-	1	Active on Alarm
Pump 2 Loss of Flow	10002	-	1	Active on Alarm
Fan Issue	10003	-	1	Active on Alarm
System Condensation Detected	10004	-	1	Active on Alarm
Customer Input 1	10005	-	1	Active on Alarm
Supply Chilled Water Over Temp	10006	-	1	Active on Alarm
Supply Chilled Water Temp Sensor Issue	10007	-	1	Active on Alarm
Supply Refrigerant Over Temp	10008	-	1	Active on Alarm
Supply Refrigerant Under Temp	10009	-	1	Active on Alarm
Supply Refrigerant Temp Sensor Issue	10010	-	1	Active on Alarm
Ext Air Sensor A Over Temperature	10011	-	1	Active on Alarm
Ext Air Sensor A Under Temperature	10012	-	1	Active on Alarm
Ext Air Sensor A Issue	10013	-	1	Active on Alarm
Ext Air Sensor B Over Temperature	10014	-	1	Active on Alarm
Ext Air Sensor B Under Temperature	10015	-	1	Active on Alarm
Ext Air Sensor B Issue	10016	-	1	Active on Alarm
Ext Dew Point Over Temperature	10017	-	1	Active on Alarm
Chilled Water Control Valve Position	10018	-	1	Active on Alarm
Shutdown - Loss Of Power	10019	-	1	Active on Alarm
Pump Short Cycle	10020	-	1	Active on Alarm
Water Under Floor	10021	-	1	Active on Alarm
Smoke Detected	10022	-	1	Active on Alarm
Service Required	10023	-	1	Active on Alarm

Table 13 Liebert XDP with Liebert iCOM - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Pump 1 State	30385	-	1	-	0=Off / 1=On
Pump 2 State	30386	-	1	-	0=Off / 1=On
Supply Refrigerant Temperature	30387	-	1	0.1	deg C
Supply Refrigerant Temperature	30388	-	1	0.1	deg F
Supply Chilled Water Temperature	30389	-	1	0.1	deg C
Supply Chilled Water Temperature	30390	-	1	0.1	deg F
System Status	30391	-	1	-	1=Normal Operation 2=Startup 8=Normal with Warning 16=Normal with Alarm 32=Abnormal Operation
System Operating State	30392	-	1	-	0=Off / 1=On 2=Standby
Ext Air Sensor A Temperature	30393	-	1	0.1	deg C
Ext Air Sensor A Temperature	30394	-	1	0.1	deg F
Ext Air Sensor A Humidity	30395	-	1	0.1	% RH
Ext Air Sensor A Dew Point Temp	30396	-	1	0.1	deg C
Ext Air Sensor A Dew Point Temp	30397	-	1	0.1	deg F
Ext Air Sensor B Temperature	30398	-	1	0.1	deg C
Ext Air Sensor B Temperature	30399	-	1	0.1	deg F
Ext Air Sensor B Humidity	30400	-	1	0.1	% RH
Ext Air Sensor B Dew Point Temp	30401	-	1	0.1	deg C
Ext Air Sensor B Dew Point Temp	30402	-	1	0.1	deg F
Minimum Room Temperature Set Point	30403	40403	1	-	deg C
Minimum Room Temperature Set Point	30404	40404	1	-	deg F
Ext Air Over Temp Threshold	30405	40405	1	-	deg C
Ext Air Over Temp Threshold	30406	40406	1	-	deg F
Ext Air Under Temp Threshold	30407	40407	1	-	deg C
Ext Air Under Temp Threshold	30408	40408	1	-	deg F
Ext Dew Point Over Temp Threshold	30409	40409	1	-	deg C
Ext Dew Point Over Temp Threshold	30410	40410	1	-	deg F
Supply Refrig Over Temp Threshold	30411	40411	1	-	deg C
Supply Refrig Over Temp Threshold	30412	40412	1	-	deg F

Table 13 Liebert XDP with Liebert iCOM - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Supply Chilled Water Over Temp Threshold	30413	40413	1	-	deg C
Supply Chilled Water Over Temp Threshold	30414	40414	1	-	deg F
Dew Point Temperature	30415	-	1	0.1	deg C
Dew Point Temperature	30416	-	1	0.1	deg F
Auto Restart Delay	30417	40417	1	-	Seconds
System Control Mode	30418	-	1	-	0=Internal (Auto) 1=External (Manual)
Maintenance Ramp	30419	-	1	-	%
Calculated Next Maintenance Month	30420	-	1	-	-
Calculated Next Maintenance Year	30421	-	1	-	-
System On/Off Control	30422	40422	1	-	0=Off / 1=On
System Event Acknowledge/Reset	-	40423	1	-	2=Reset 4=Acknowledge

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 14 Liebert Challenger 3000™, Liebert Deluxe System/3™, Liebert ICS™, Liebert Himod™ - Input and Holding Registers - LAM

Controller	Advanced Microprocessor - LAM				
Liebert Products	Liebert Challenger 3000 Liebert Deluxe System/3 Liebert ICS Liebert Himod (LNA version - Using Sitescan)				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Temperature	-	40001	1	-	-
Humidity	-	40002	1	-	-
Cooling	-	40003	1	-	1=On / 0=Off
Heating	-	40004	1	-	1=On / 0=Off
Humidification	-	40005	1	-	1=On / 0=Off
De-humidification	-	40006	1	-	1=On / 0=Off
Econ-O-Cycle	-	40007	1	-	1=On / 0=Off
Stages	-	40008	1	-	-
% Capacity	-	40009	1	-	-
Unit Status (On / Off)	-	40018	1	-	1=On / 0=Off (R/W)
Analog input 1	-	40023	1	-	A/D raw value w/ slope =1 and offset = 0
Analog input 2	-	40024	1	-	A/D raw value w/ slope =1 and offset = 0
Analog input 3	-	40025	1	-	A/D raw value w/ slope =1 and offset = 0
Analog input 4	-	40026	1	-	A/D raw value w/ slope =1 and offset = 0
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications	-	40289	1	-	Bit 0
Local Off	-	40289	1	-	Bit 1
Remote Off	-	40289	1	-	Bit 2
High Head Pressure 1	-	40289	1	-	Bit 3
High Head Pressure 2	-	40289	1	-	Bit 4
Loss of Airflow	-	40289	1	-	Bit 5
Standby Glycol Unit On	-	40289	1	-	Bit 6
Liquid Detected	-	40289	1	-	Bit 7
Change Filters	-	40289	1	-	Bit 8
High Temperature	-	40289	1	-	Bit 9
Low Temperature	-	40289	1	-	Bit 10
High Humidity	-	40290	1	-	Bit 0

Table 14 Liebert Challenger 3000™, Liebert Deluxe System/3™, Liebert ICS™, Liebert Himod™ - Input and Holding Registers - LAM

Controller	Advanced Microprocessor - LAM
Liebert Products	Liebert Challenger 3000 Liebert Deluxe System/3 Liebert ICS Liebert Himod (LNA version - Using Sitescan)

Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Low Humidity	-	40290	1	-	Bit 1
Humidifier Problem	-	40290	1	-	Bit 2
No Water in Humidifier Pan	-	40290	1	-	Bit 3
Compressor 1 Overload	-	40290	1	-	Bit 4
Compressor 2 Overload	-	40290	1	-	Bit 5
Main Fan Overload	-	40290	1	-	Bit 6
Manual Override	-	40290	1	-	Bit 7
Smoke Detected	-	40290	1	-	Bit 8
Loss of Water	-	40290	1	-	Bit 9
Standby Unit On	-	40290	1	-	Bit 10
Low Suction	-	40291	1	-	Bit 0
Short Cycle	-	40291	1	-	Bit 1
Loss of Power	-	40291	1	-	Bit 2
Inverter on Bypass	-	40291	1	-	Bit 3
Standby Fan On	-	40291	1	-	Bit 4
Loss of Emergency Power	-	40291	1	-	Bit 5
Local Alarm 1	-	40291	1	-	Bit 6
Local Alarm 2	-	40291	1	-	Bit 7
Off by Remote Shutdown	-	40291	1	-	Bit 8
Local Alarm 3	-	40291	1	-	Bit 9
Local Alarm 4	-	40291	1	-	Bit 10
Compressor 1 Run Hours	-	40019	1	-	-
Compressor 2 Run Hours	-	40020	1	-	-
Fan Motor Run Hours	-	40021	1	-	-
Humidifier Run Hours	-	40022	1	-	-
Setpoints (View)					
Temperature Setpoint	-	40010	1	-	(R/W)
Temperature Tolerance	-	40011	1	-	(R/W)
Humidity Setpoint	-	40012	1	-	(R/W)
Humidity Tolerance	-	40013	1	-	(R/W)
High Temp Alarm Setpoint	-	40014	1	-	(R/W)
Low Temp Alarm Setpoint	-	40015	1	-	(R/W)

Table 14 Liebert Challenger 3000™, Liebert Deluxe System/3™, Liebert ICS™, Liebert Himod™ - Input and Holding Registers - LAM

Controller	Advanced Microprocessor - LAM
Liebert Products	Liebert Challenger 3000 Liebert Deluxe System/3 Liebert ICS Liebert Himod (LNA version - Using Sitescan)

Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
High Humd Alarm Setpoint	-	40016	1	-	(R/W)
Low Humidity Alarm Setpoint	-	40017	1	-	(R/W)
Winter Start Delay	-	40028	1	-	Minutes (R/W)
Auto Flush Rate	-	40029	1	-	% (R/W)
Chill Water Flush Rate	-	40030	1	-	Hours (R/W)
Auto Restart Delay	-	40031	1	-	0.1 minute (R/W)
Control Points (Set)					
Unit On / Off	-	40349	1	-	Bit 0 On=unit Off Bit 1 On=unit On
Temperature Setpoint	-	40350	1	-	-
Temperature Tolerance	-	40350	1	1000	-
Humidity Setpoint	-	40351	1	-	-
Humidity Tolerance	-	40351	1	1000	-
Reheat Lockout	-	40349	1	-	Bit 2 On=RH Off Bit 3 On=RH On
Humidifier Lockout	-	40349	1	-	Bit 4 On=HL Off Bit 5 On=HL On
Trendable Points (Set)					
Temperature	-	-	1	-	-
Humidity	-	-	1	-	-
Reports					
Trend	-	-	1	-	-
Status	-	-	1	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 15 Liebert DataMate™, Liebert Mini-Mate™, Liebert Mini-Mate Plus - Input and Holding Registers - L0B

Controller	Small Systems - L0B				
Liebert Products	Liebert DataMate Liebert Mini-Mate Liebert Mini-Mate Plus				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Temperature	-	40001	1	-	-
Humidity	-	40002	1	-	-
Cooling	-	40003	1	-	1=On / 0=Off
Heating	-	40004	1	-	1=On / 0=Off
Humidification	-	40005	1	-	1=On / 0=Off
Dehumidification	-	40006	1	-	1=On / 0=Off
Econ-o-Cycle	-	40007	1	-	1=On / 0=Off
Stages	-	40008	1	-	-
% Capacity	-	40009	1	-	-
Alarm Points					
Communications	-	40289	1	-	Bit 0
Local Off	-	40289	1	-	Bit 1
Remote Off	-	40289	1	-	Bit 2
High Temperature	-	40289	1	-	Bit 3
Low Temperature	-	40289	1	-	Bit 4
High Humidity	-	40289	1	-	Bit 5
Low Humidity	-	40289	1	-	Bit 6
Setpoints (View)					
None	-		1	-	-
Control Points (Set)					
Unit On/Off	-	40011	1	-	1=On / 0=Off (R/W)
Remote On/Off	-	40349	1	-	Bit 0 On=unit Off Bit 1 On=unit On (W)
Trendable Points (Set)					
Temperature	-		1	-	-
Humidity	-		1	-	-
Reports					
Trend	-		1	-	-
Status	-		1	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 16 Liebert Mini-Mate 2, Liebert DataMate - Input and Holding Registers - MM2

Controller	MM2				
Liebert Products	Liebert Mini-Mate 2 Liebert DataMate				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Temperature	-	40001	1	-	-
Humidity	-	40002	1	-	-
Cooling	-	40003	1	-	1=On / 0=Off
Heating	-	40004	1	-	1=On / 0=Off
Humidification	-	40005	1	-	1=On / 0=Off
Dehumidification	-	40006	1	-	1=On / 0=Off
Econ-o-Cycle	-	40007	1	-	1=On / 0=Off
Stages	-	40008	1	-	-
% Capacity	-	40009	1	-	-
Alarm Points					
Communications	-	40289	1	-	Bit 0
Local Off	-	40289	1	-	Bit 1
Remote Off	-	40289	1	-	Bit 2
High Head Pressure 1	-	40289	1	-	Bit 3
Loss of Airflow	-	40289	1	-	Bit 5
Standby Glycol Unit On	-	40289	1	-	Bit 6
Change Filters	-	40289	1	-	Bit 8
High Temperature	-	40289	1	-	Bit 9
Low Temperature	-	40289	1	-	Bit 10
High Humidity	-	40290	1	-	Bit 0
Low Humidity	-	40290	1	-	Bit 1
Humidifier Problem	-	40290	1	-	Bit 2
Smoke Detected	-	40290	1	-	Bit 8
Loss of Water Flow	-	40290	1	-	Bit 9
Standby Unit On	-	40290	1	-	Bit 10
Short Cycle	-	40291	1	-	Bit 1
Loss of Power	-	40291	1	-	Bit 2
Local Alarm 1	-	40291	1	-	Bit 6
Local Alarm 2	-	40291	1	-	Bit 7
Local Alarm 3	-	40291	1	-	Bit 9
Local Alarm 4	-	40291	1	-	Bit 10

Table 16 Liebert Mini-Mate 2, Liebert DataMate - Input and Holding Registers - MM2

Controller	MM2				
Liebert Products	Liebert Mini-Mate 2 Liebert DataMate				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Run Hours (View)					
Compressor 1	-	40019	1	-	-
Fan Motor	-	40020	1	-	-
Humidifier	-	40021	1	-	-
Setpoints (View)					-
Temperature	-	40010	1	-	-
Temp Tolerance	-	40011	1	-	-
Humidity	-	40012	1	-	-
Humidity Tolerance	-	40013	1	-	-
High Temperature Alarm	-	40014	1	-	-
Low Temperature Alarm	-	40015	1	-	-
High Humidity Alarm	-	40016	1	-	-
Low Humidity Alarm	-	40017	1	-	-
Chill Water Flush Rate	-	40025	1	-	Hours (R/W)
Auto Restart Delay	-	40026	1	-	0.1 minute (R/W)
Control Points (Set)					
Unit On/Off	-	40018	1	-	1=On / 0=Off (R/W)
Remote On/Off	-	40349	1	-	Bit 0 On=unit Off Bit 1 On=unit On (W)
Temperature Setpoint	-	40350	1	-	(W)
Temperature Tolerance	-	40350	1	1000	Multiply desired value by 1000 (Modbus only) 0=No Change (W)
Humidity Setpoint	-	40351	1	-	(W)
Humidity Tolerance	-	40351	1	1000	Multiply desired value by 1000 (Modbus only) 0=No Change (W)
Trendable Points (Set)					
Temperature	-		1	-	-
Humidity	-		1	-	-
Reports					
Trend	-		1	-	-
Status	-		1	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 17 Liebert Mini-Mate 8 Ton - Input and Holding Registers - L8T

Controller	L8T				
Liebert Products	Liebert Mini-Mate 8 Ton				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Temperature	-	40001	1	-	-
Humidity	-	40002	1	-	-
Cooling	-	40003	1	-	1=On / 0=Off
Heating	-	40004	1	-	1=On / 0=Off
Humidification	-	40005	1	-	1=On / 0=Off
De-humidification	-	40006	1	-	1=On / 0=Off
Econ-O-Cycle	-	40007	1	-	1=On / 0=Off
Stages	-	40008	1	-	-
% Capacity	-	40009	1	-	-
Analog input 1	-	40023	1	-	A/D raw value w/ slope =1 and offset = 0
Analog input 2	-	40024	1	-	A/D raw value w/ slope =1 and offset = 0
Analog input 3	-	40025	1	-	A/D raw value w/ slope =1 and offset = 0
Analog input 4	-	40026	1	-	A/D raw value w/ slope =1 and offset = 0
Alarm Points					
Communications	-	40289	1	-	Bit 0
Local Off	-	40289	1	-	Bit 1
Remote Off	-	40289	1	-	Bit 2
High Head Pressure 1	-	40289	1	-	Bit 3
High Head Pressure 2	-	40289	1	-	Bit 4
Loss of Airflow	-	40289	1	-	Bit 5
Standby Glycol Unit On	-	40289	1	-	Bit 6
Not Used	-	40289	1	-	Bit 7
Change Filters	-	40289	1	-	Bit 8
High Temperature	-	40289	1	-	Bit 9
Low Temperature	-	40289	1	-	Bit 10
High Humidity	-	40290	1	-	Bit 0
Low Humidity	-	40290	1	-	Bit 1
Humidifier Problem	-	40290	1	-	Bit 2
Smoke Detected	-	40290	1	-	Bit 8
Loss of Water	-	40290	1	-	Bit 9
Standby Unit On	-	40290	1	-	Bit 10

Table 17 Liebert Mini-Mate 8 Ton - Input and Holding Registers - L8T

Controller	L8T				
Liebert Products	Liebert Mini-Mate 8 Ton				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Not Used	-	40291	1	-	Bit 0
Short Cycle	-	40291	1	-	Bit 1
Loss of Power	-	40291	1	-	Bit 2
Local Alarm 1	-	40291	1	-	Bit 6
Local Alarm 2	-	40291	1	-	Bit 7
EPO Shutdown	-	40291	1	-	Bit 8
Local Alarm 3	-	43291	1	-	Bit 9
Local Alarm 4	-	40291	1	-	Bit 10
Run Times (View)					
Compressor 1 Run Hours	-	40019	1	-	-
Compressor 2 Run Hours	-	40020	1	-	-
Glycol Run Hours	-		1	-	-
Fan Motor Run Hours	-	40021	1	-	-
Humidifier Run Hours	-	40022	1	-	-
Reheat 1 Run Hours	-		1	-	-
Reheat 2 Run Hours	-		1	-	-
Reheat 3 Run Hours	-		1	-	-
Chilled H2O Valve Run Hours	-		1	-	-
Setpoints (View)					
Temperature Setpoint	-	40010	1	-	(R/W)
Temperature Tolerance	-	40011	1	-	(R/W)
Humidity Setpoint	-	40012	1	-	(R/W)
Humidity Tolerance	-	40013	1	-	(R/W)
High Temperature Alarm Setpoint	-	40014	1	-	(R/W)
Low Temp Alarm Setpoint	-	40015	1	-	(R/W)
High Humidity Alarm Setpoint	-	40016	1	-	(R/W)
Low Humidity Alarm Setpoint	-	40017	1	-	(R/W)
Winter Start Delay	-	40028	1	-	Minutes (R/W)
Auto Flush Rate	-	40029	1	-	% (R/W)
Chill Water Flush Rate	-	40030	1	-	Hours (R/W)
Auto Restart Delay	-	40031	1	-	0.1 minute (R/W)
Control Points (Set)				-	
Unit Status (On / Off)	-	40018	1	-	1=On / 0=Off (R/W)
Unit On / Off	-	40349	1	-	Bit 0 On=unit Off Bit 1 On=unit On (W)

Table 17 Liebert Mini-Mate 8 Ton - Input and Holding Registers - L8T

Controller	L8T				
Liebert Products	Liebert Mini-Mate 8 Ton				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Temperature Setpoint	-	40350	1	-	(W)
Temperature Tolerance	-	40350	1	1000	(W)
Humidity Setpoint	-	40351	1	-	(W)
Humidity Tolerance	-	40351	1	1000	(W)
Reheat Lockout	-	40349	1	-	Bit 2 On=RH Off Bit 3 On=RH On
Humidifier Lockout	-	40349	1	-	Bit 4 On=HL Off Bit 5 On=HL On

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 18 Liebert Atlas Air™, Liebert Atlas PEC™, Liebert LECS 15™ - Input and Holding Registers - C10 2-step

Controller	C10				
Liebert Products	Liebert Atlas Air Liebert Atlas PEC Liebert LECS 15				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Unit Number	-	40001	1	-	1-99
Average Return Air Temp.	-	40002	1	10	deg C
Average Return Air Humidity	-	40003	1	10	%
Average Supply Air Temp.	-	40004	1	10	deg C
Average Supply Air Humidity	-	40005	1	10	%
Fan Status	-	40007	1	-	1=On / 0=Off
Cool 1 Status	-	40008	1	-	1=On / 0=Off
Cool 2 Status	-	40009	1	-	1=On / 0=Off
Heat 1 Status	-	40010	1	-	1=On / 0=Off
Heat 2 Status	-	40011	1	-	1=On / 0=Off
Humidifier Status	-	40012	1	-	-
De-humidifier Status	-	40013	1	-	-
Cooling Capacity	-	40014	1	-	%
Heating Capacity	-	40015	1	-	%
Temperature Control Status	-	40019	1	-	0=Return / 1=Supply
Battery Voltage Level	-	40020	1	10	V
Remote Shutdown Status	-	40021	1	-	1=Enabled / 0=Disabled
Temperature Control Select	-	40024	1	-	0=Return / 1=Supply 2=Remote / 3=Auto
Alarm Points				-	
Communications	-	40289	1	-	Bit 0
Faulty Sensor	-	40289	1	-	Bit 1
High Temperature	-	40289	1	-	Bit 2
Low Temperature	-	40289	1	-	Bit 3
High Humidity	-	40289	1	-	Bit 4
Low Humidity	-	40289	1	-	Bit 5
Loss of Airflow	-	40289	1	-	Bit 6
Water Under Floor	-	40289	1	-	Bit 7
Cool 1 Low Pressure Alarm	-	40289	1	-	Bit 8
Cool 2 Low Pressure Alarm	-	40289	1	-	Bit 9
Cool 1 High Pressure Alarm	-	40289	1	-	Bit 10
Cool 2 High Pressure Alarm	-	40290	1	-	Bit 0
Cool Service	-	40290	1	-	Bit 1

Table 18 Liebert Atlas Air™, Liebert Atlas PEC™, Liebert LECS 15™ - Input and Holding Registers - C10 2-step

Controller	C10				
Liebert Products	Liebert Atlas Air Liebert Atlas PEC Liebert LECS 15				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Humidifier Service	-	40290	1	-	Bit 2
Filter Service	-	40290	1	-	Bit 3
Humidity Low Level	-	40290	1	-	Bit 4
Battery Level Low	-	40290	1	-	Bit 5
Loss of Power	-	40290	1	-	Bit 6
Local Alarm 1	-	40290	1	-	Bit 7
Local Alarm 2	-	40290	1	-	Bit 8
Setpoints (View)					
Return Air Temperature	-	40016	1	10	deg C (R/W)
Return Air Humidity	-	40017	1	10	deg C (R/W)
Supply Air Temperature	-	40018	1	10	deg C (R/W)
High Temp Alarm	-	40025	1	10	deg C (R/W)
Low Temp Alarm	-	40026	1	10	deg C (R/W)
High Hum Alarm	-	40027	1	10	% (R/W)
Low Hum Alarm	-	40028	1	10	% (R/W)
Restart Delay	-	40029	1	-	Seconds (R/W)
Control Points (Set)					
Activation Mode	-	40006	1	-	1=On / 0=Off (R/W)
General Alarm Status	-	40022	1	-	1=On / 0=Off; write 0 to reset alarm
Audible Alarm Status	-	40023	1	-	1=On / 0=Off; write 0 to ack alarm
Return Air Temperature	-	40349	1	10	deg C (R/W)
Return Air Humidity	-	40350	1	10	deg C (R/W)
Supply Air Temperature	-	40351	1	10	deg C (R/W)

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 19 Liebert Atlas Air, Liebert Atlas PEC, Liebert CEMS 100™ - Input and Holding Registers - C100 4-step

Controller	CEMS 100				
Liebert Products	Liebert Atlas Air Liebert Atlas PEC Liebert CEMS 100				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Unit Number	-	40001	1	-	1-99
Average Return Air Temp.	-	40002	1	10	deg C
Average Return Air Humidity	-	40003	1	10	%
Average Supply Air Temp.	-	40004	1	10	deg C
Average Supply Air Humidity	-	40005	1	10	%
Fan Status	-	40007	1	-	1=On / 0=Off
Cool 1 Status	-	40008:0	1	-	1=On / 0=Off
Cool 2 Status	-	40009:0	1	-	1=On / 0=Off
Cool 3 Status	-	40008:4	1	-	1=On / 0=Off
Cool 4 Status	-	40009:4	1	-	1=On / 0=Off
Heat 1 Status	-	40010	1	-	1=On / 0=Off
Heat 2 Status	-	40011	1	-	1=On / 0=Off
Humidifier Status	-	40012	1	-	-
De-humidifier Status	-	40013	1	-	-
Cooling Capacity	-	40014	1	-	%
Heating Capacity	-	40015	1	-	%
Temperature Control Status	-	40019	1	-	0=Return / 1=Supply
Battery Voltage Level	-	40020	1	100	V
Remote Shutdown Status	-	40021	1	-	1=Enabled / 0=Disabled
Temperature Control Select	-	40024	1	-	0=Return / 1=Supply 2=Remote / 3=Auto
Alarm Points				-	
Communications	-	40289	1	-	Bit 0
Faulty Sensor	-	40289	1	-	Bit 1
High Temperature	-	40289	1	-	Bit 2
Low Temperature	-	40289	1	-	Bit 3
High Humidity	-	40289	1	-	Bit 4
Low Humidity	-	40289	1	-	Bit 5
Loss of Airflow	-	40289	1	-	Bit 6
Water Under Floor	-	40289	1	-	Bit 7
Cool 1 Low Pressure Alarm	-	40289	1	-	Bit 8
Cool 2 Low Pressure Alarm	-	40289	1	-	Bit 9
Cool 1 High Pressure Alarm	-	40289	1	-	Bit 10

Table 19 Liebert Atlas Air, Liebert Atlas PEC, Liebert CEMS 100™ - Input and Holding Registers - C100 4-step

Controller	CEMS 100
Liebert Products	Liebert Atlas Air Liebert Atlas PEC Liebert CEMS 100

Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Cool 2 High Pressure Alarm	-	40290	1	-	Bit 0
Cool Service	-	40290	1	-	Bit 1
Humidifier Service	-	40290	1	-	Bit 2
Filter Service	-	40290	1	-	Bit 3
Humidity Low Level	-	40290	1	-	Bit 4
Battery Level Low	-	40290	1	-	Bit 5
Loss of Power	-	40290	1	-	Bit 6
Local Alarm 1	-	40290	1	-	Bit 7
Local Alarm 2	-	40290	1	-	Bit 8
Cool 3 Low Pressure	-	40290	1	-	Bit 9
Cool 4 Low Pressure	-	40290	1	-	Bit 10
Cool 3 High Pressure	-	40290	1	-	Bit 11
Cool 4 High Pressure	-	40290	1	-	Bit 12
Air Flow 2 Loss	-	40290	1	-	Bit 13
Setpoints (View)					
Return Air Temperature	-	40016	1	10	deg C (R/W)
Return Air Humidity	-	40017	1	10	deg C (R/W)
Supply Air Temperature	-	40018	1	10	deg C (R/W)
High Temp Alarm	-	40025	1	10	deg C (R/W)
Low Temp Alarm	-	40026	1	10	deg C (R/W)
High Hum Alarm	-	40027	1	10	% (R/W)
Low Hum Alarm	-	40028	1	10	% (R/W)
Restart Delay	-	40029	1	-	Seconds (R/W)
Control Points (Set)					
Activation Mode	-	40006	1	-	1=On / 0=Off (R/W)
General Alarm Status	-	40022	1	-	1=On / 0=Off; write 0 to reset alarm
Audible Alarm Status	-	40023	1	-	1=On / 0=Off; write 0 to ack alarm
Return Air Temperature	-	40349	1	10	deg C (R/W)
Return Air Humidity	-	40350	1	10	deg C (R/W)
Supply Air Temperature	-	40351	1	10	deg C (R/W)

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

3.0 POWER DISTRIBUTION AND POWER CONDITIONING PRODUCTS

Table 20 Liebert Datawave™, Liebert FPC™, Liebert PPC™ Precision Power Center - Input and Holding Registers - PMP, PM2 Options for Liebert FPC and Liebert PPC

Controller	Power Monitoring Panel - PMP, PM2 Options for Liebert FPC and Liebert PPC
Liebert Products	Liebert Datawave Liebert FPC Liebert PPC

Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Voltage In X-Y	-	40001	1	-	V
Voltage In Y-Z	-	40002	1	-	V
Voltage In Z-X	-	40003	1	-	V
Voltage Out A-B	-	40004	1	-	V
Voltage Out B-C	-	40005	1	-	V
Voltage Out C-A	-	40006	1	-	V
Voltage Out A-N	-	40007	1	-	V
Voltage Out B-N	-	40008	1	-	V
Voltage Out C-N	-	40009	1	-	V
Current Out A	-	40010	1	-	A
Current Out B	-	40011	1	-	A
Current Out C	-	40012	1	-	A
Ground Current	-	40013	1	10	A
Neutral Current	-	40014	1	-	A
kVA	-	40015	1	-	kVA
kW	-	40016	1	-	kW
Frequency	-	40017	1	10	Hz
% Capacity A	-	40018	1	-	%
% Capacity B	-	40019	1	-	%
% Capacity C	-	40020	1	-	%
Power Factor	-	40021	1	100	-
Kilowatt Hours	-		1	-	-
THD Voltage X	-		1	-	-
THD Voltage Y	-		1	-	-
THD Voltage Z	-		1	-	-
THD Current X	-		1	-	-
THD Current Y	-		1	-	-
THD Current Z	-		1	-	-
K Factor Current X	-		1	-	-
K Factor Current Y	-		1	-	-

Table 20 Liebert Datawave™, Liebert FPC™, Liebert PPC™ Precision Power Center - Input and Holding Registers - PMP, PM2 Options for Liebert FPC and Liebert PPC

Controller	Power Monitoring Panel - PMP, PM2 Options for Liebert FPC and Liebert PPC
Liebert Products	Liebert Datawave Liebert FPC Liebert PPC

Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
K Factor Current Z	-		1	-	-
CREST Factor Current X	-		1	-	-
CREST Factor Current Y	-		1	-	-
CREST Factor Current Z	-		1	-	-
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications	-	40289	1	-	Bit 0
Output Undervoltage	-	40289	1	-	Bit 1
Output Overvoltage	-	40289	1	-	Bit 2
Output Overcurrent	-	40289	1	-	Bit 3
Frequency Deviation	-	40289	1	-	Bit 4
Ground Overcurrent	-	40289	1	-	Bit 5
Transformer Overtemp	-	40289	1	-	Bit 6
Ground Fault	-	40289	1	-	Bit 7
Ground Failure	-	40289	1	-	Bit 8
Liquid Detected	-	40289	1	-	Bit 9
Security Alarm	-	40289	1	-	Bit 10
Phase Rotation/Loss	-	40290	1	-	Bit 0
Datawave Overtemperature	-	40290	1	-	Bit 1
Emergency Shutdown	-	40290	1	-	Bit 2
Load On Bypass	-	40290	1	-	Bit 3
Local Alarm #1	-	40290	1	-	Bit 4
Local Alarm #2	-	40290	1	-	Bit 5
Output Voltage THD	-	40290	1	-	Bit 6
Custom Alarm #1	-	40290	1	-	Bit 7
Custom Alarm #2	-	40290	1	-	Bit 8
Setpoints (View)					
None	-		1	-	-
Control Points (Set)					
None	-		1	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 21 Liebert Datawave, Liebert FPC, Liebert PPC Precision Power Center - Input and Holding Registers - PMP Option for Liebert FPC and Liebert PPC

Controller	Power Monitoring Panel - PMP Option for Liebert FPC and Liebert PPC
Liebert Products	Liebert Datawave Liebert FPC Liebert PPC

Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Voltage In X-Y	-	40001	1	-	V
Voltage In Y-Z	-	40002	1	-	V
Voltage In Z-X	-	40003	1	-	V
Voltage Out A-B	-	40004	1	-	V
Voltage Out B-C	-	40005	1	-	V
Voltage Out C-A	-	40006	1	-	V
Voltage Out A-N	-	40007	1	-	V
Voltage Out B-N	-	40008	1	-	V
Voltage Out C-N	-	40009	1	-	V
Current Out A	-	40010	1	-	A
Current Out B	-	40011	1	-	A
Current Out C	-	40012	1	-	A
Ground Current	-	40013	1	10	A
Neutral Current	-	40014	1	-	A
kVA	-	40015	1	-	kVA
kW	-	40016	1	-	kW
Frequency	-	40017	1	10	Hz
% Capacity A	-	40018	1	-	%
% Capacity B	-	40019	1	-	%
% Capacity C	-	40020	1	-	%
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications	-	40289	1	-	Bit 0
Output Undervoltage	-	40289	1	-	Bit 1
Output Overvoltage	-	40289	1	-	Bit 2
Output Overcurrent	-	40289	1	-	Bit 3
Frequency Deviation	-	40289	1	-	Bit 4
Ground Overcurrent	-	40289	1	-	Bit 5
Transformer Overtemp	-	40289	1	-	Bit 6
Ground Fault	-	40289	1	-	Bit 7
Ground Failure	-	40289	1	-	Bit 8

Table 21 Liebert Datawave, Liebert FPC, Liebert PPC Precision Power Center - Input and Holding Registers - PMP Option for Liebert FPC and Liebert PPC

Controller	Power Monitoring Panel - PMP Option for Liebert FPC and Liebert PPC
Liebert Products	Liebert Datawave Liebert FPC Liebert PPC

Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Liquid Detected	-	40289	1	-	Bit 9
Security Alarm	-	40289	1	-	Bit 10
Phase Rotation/Loss	-	40290	1	-	Bit 0
Datawave Overtemperature	-	40290	1	-	Bit 1
Emergency Shutdown	-	40290	1	-	Bit 2
Load On Bypass	-	40290	1	-	Bit 3
Local Alarm	-	40290	1	-	Bit 4
Custom Alarm #1	-	40290	1	-	Bit 5
Custom Alarm #2	-	40290	1	-	Bit 6
Setpoints (View)					
None	-		1	-	-
Control Points (Set)					
None	-		1	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 22 Liebert STS™, Liebert STS/PDU™ - Input and Holding Registers - STS

Controller	STS				
Liebert Products	Liebert STS Liebert STS/PDU				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Transfer Count	-	40001	1	-	-
Preferred Source	-	40002	1	-	1=Source 1 / 2=Source 2
Load On Source	-	40003	1	-	1=Source 1 / 2=Source 2
Source 1 Voltage A-B	-	40004	1	-	V
Source 1 Voltage B-C	-	40005	1	-	V
Source 1 Voltage C-A	-	40006	1	-	V
Source 1 Current A	-	40007	1	-	A
Source 1 Current B	-	40008	1	-	A
Source 1 Current C	-	40009	1	-	A
Source 1 Frequency	-	40010	1	10	Hz
Source 2 Voltage A-B	-	40011	1	-	V
Source 2 Voltage B-C	-	40012	1	-	V
Source 2 Voltage C-A	-	40013	1	-	V
Source 2 Current A	-	40014	1	-	A
Source 2 Current B	-	40015	1	-	A
Source 2 Current C	-	40016	1	-	A
Source 2 Frequency	-	40017	1	10	Hz
kW	-	40018	1	-	kW
kVA	-	40019	1	-	kVA
Auto Transfer Timer	-	40020	1	-	Seconds
Nominal Voltage Deviation	-	40021	1	-	V
Phase Differential Limit	-	40022	1	-	Degree
Frequency Deviation	-	40023	1	10	Hz
Alarm Points					
Communications	-	40289	1	-	Bit 0
Logic Failure	-	40289	1	-	Bit 1
Equipment Overtemp	-	40289	1	-	Bit 2
Power Supply 1 Fault	-	40289	1	-	Bit 3
Source 1 Overvoltage	-	40289	1	-	Bit 4
Source 1 Undervoltage	-	40289	1	-	Bit 5
Source 2 Overvoltage	-	40289	1	-	Bit 6
Source 2 Undervoltage	-	40289	1	-	Bit 7
Source 1 Overload	-	40289	1	-	Bit 8

Table 22 Liebert STS™, Liebert STS/PDU™ - Input and Holding Registers - STS

Controller	STS				
Liebert Products	Liebert STS Liebert STS/PDU				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Shorted SCR1	-	40289	1	-	Bit 9
Shorted SCR2	-	40289	1	-	Bit 10
Open SCR1	-	40290	1	-	Bit 0
Open SCR2	-	40290	1	-	Bit 1
Fan Failure	-	40290	1	-	Bit 2
Source 2 Overload	-	40290	1	-	Bit 3
Power Supply 2 Fault	-	40290	1	-	Bit 4
Frequency Deviation	-	40290	1	-	Bit 5
Transfer Inhibit	-	40290	1	-	Bit 6
Auto Retransfer Primed	-	40290	1	-	Bit 7
Out of Synchronization	-	40290	1	-	Bit 8
Source 1 Failure	-	40290	1	-	Bit 9
Source 2 Failure	-	40290	1	-	Bit 10
Auto Retransfer Failed	-	40291	1	-	Bit 0
Overload	-	40291	1	-	Bit 1
Control Fuse 1 Blown	-	40291	1	-	Bit 2
Control Fuse 2 Blown	-	40291	1	-	Bit 3
Source 1 CB1 Open	-	40291	1	-	Bit 4
Source 2 CB2 Open	-	40291	1	-	Bit 5
Output CB3 Open	-	40291	1	-	Bit 6
Custom Alarm 1	-	40291	1	-	Bit 7
Custom Alarm 2	-	40291	1	-	Bit 8
Bypass CB4 Closed	-	40291	1	-	Bit 9
Bypass CB5 Closed	-	40291	1	-	Bit 10
Custom Alarm 3	-	40292	1	-	Bit 0
Custom Alarm 4	-	40292	1	-	Bit 1
Custom Alarm 5	-	40292	1	-	Bit 2
Custom Alarm 6	-	40292	1	-	Bit 3
Custom Alarm 7	-	40292	1	-	Bit 4
Custom Alarm 8	-	40292	1	-	Bit 5

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 23 Liebert STS2™, Liebert STS2/PDU™ - Input and Holding Registers - STS2

Controller	STS2				
Liebert Products	Liebert STS2 Liebert STS2/PDU				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Total Transfer Count	-	40001	1	-	-
Preferred Source	-	40002	1	-	1=Source 1, 2=Source 2
Active Source	-	40003	1	-	1=Source 1, 2=Source 2
Source 1 Volts A-B	-	40004	1	-	V
Source 1 Volts B-C	-	40005	1	-	V
Source 1 Volts C-A	-	40006	1	-	V
Source 1 Current A	-	40007	1	-	A
Source 1 Current B	-	40008	1	-	A
Source 1 Current C	-	40009	1	-	A
Source 1 Frequency	-	40010	1	10	Hz
Source 2 Volts A-B	-	40011	1	-	V
Source 2 Volts B-C	-	40012	1	-	V
Source 2 Volts C-A	-	40013	1	-	V
Source 2 Current A	-	40014	1	-	A
Source 2 Current B	-	40015	1	-	A
Source 2 Current C	-	40016	1	-	A
Source 2 Frequency	-	40017	1	10	Hz
Output kW	-	40018	1	-	kW
Output kVA	-	40019	1	-	kVA
CB 1 Status	-	40024	1	-	Bit 0
CB 2 Status	-	40024	1	-	Bit 1
CB 3 Status	-	40024	1	-	Bit 2
CB 3A Status	-	40024	1	-	Bit 3
CB 4 Status	-	40024	1	-	Bit 4
CB 5 Status	-	40024	1	-	Bit 5
CB Spare 1 Status	-	40024	1	-	Bit 6
CB Spare 2 Status	-	40024	1	-	Bit 7
CB 7 Status	-	40024	1	-	Bit 8
CB 8 Status	-	40024	1	-	Bit 9
Auto Xfer Enabled	-	40025	1	-	Bit 0
Has Dual Out Breakers	-	40025	1	-	Bit 1
Has PDU Equipped	-	40025	1	-	Bit 2
Has 4 pole Switch	-	40025	1	-	Bit 3
Has Shunt Trip	-	40025	1	-	Bit 4

Table 23 Liebert STS2™, Liebert STS2/PDU™ - Input and Holding Registers - STS2

Controller	STS2				
Liebert Products	Liebert STS2 Liebert STS2/PDU				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Has Wye Out Xfmr	-	40025	1	-	Bit 5
Has Rmt Sorce Sel	-	40025	1	-	Bit 6
Manual I peak Reset	-	40025	1	-	Bit 7
Auto Restart Enabled	-	40025	1	-	Bit 8
LoadKVA %	-	40026	1	-	%
Source 1 Volts A-N	-	40027	1	-	V (4 Pole only)
Source 1 Volts B-N	-	40028	1	-	V (4 Pole only)
Source 1 Volts C-N	-	40029	1	-	V (4 Pole only)
Source 2 Volts A-N	-	40030	1	-	V (4 Pole only)
Source 2 Volts B-N	-	40031	1	-	V (4 Pole only)
Source 2 Volts C-N	-	40032	1	-	V (4 Pole only)
Source 1 Neutral Current	-	40033	1	-	A (4 Pole only)
Source 2 Neutral Current	-	40034	1	-	A (4 Pole only)
Setpoints (View)					
Retransfer Delay	-	40020	1	-	Seconds
STS2 Voltage Rating	-	40021	1	-	V
Max Xfer Phase Angle	-	40022	1	-	Degree
Freq. Deviation Trip Point	-	40023	1	10	Hz
Source 1 Neutral Current Limit	-	40035	1	-	A (4 Pole only)
Source 2 Neutral Current Limit	-	40036	1	-	A (4 Pole only)
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications Lost	-	40289	1	-	Bit 0
S1 SCR Short	-	40289	1	-	Bit 1
S2 SCR Short	-	40289	1	-	Bit 2
S1 SCR Open	-	40289	1	-	Bit 3
S2 SCR Open	-	40289	1	-	Bit 4
Primary Fan Fail	-	40289	1	-	Bit 5
Control Module Fail	-	40289	1	-	Bit 6
PWR Supply DC A Fail	-	40289	1	-	Bit 7
PWR Supply DC B Fail	-	40289	1	-	Bit 8
PWR Supply SRC 1 AC Fail	-	40289	1	-	Bit 9
PWR Supply SRC 2 AC Fail	-	40289	1	-	Bit 10
PWR Supply Logic Fail	-	40289	1	-	Bit 11

Table 23 Liebert STS2™, Liebert STS2/PDU™ - Input and Holding Registers - STS2

Controller	STS2				
Liebert Products	Liebert STS2 Liebert STS2/PDU				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Output Voltage Sense Fail	-	40289	1	-	Bit 12
S1 Voltage Sense Fail	-	40289	1	-	Bit 13
S2 Voltage Sense Fail	-	40289	1	-	Bit 14
S1 SCR Sense Fail	-	40289	1	-	Bit 15
S2 SCR Sense Fail	-	40290	1	-	Bit 0
S1 Current Sense Fail	-	40290	1	-	Bit 1
S2 Current Sense Fail	-	40290	1	-	Bit 2
S1 Gate Drive Fail	-	40290	1	-	Bit 3
S2 Gate Drive Fail	-	40290	1	-	Bit 4
Internal Comm Fail	-	40290	1	-	Bit 5
External Comm Fail	-	40290	1	-	Bit 6
CB1 Shunt Trip Fail	-	40290	1	-	Bit 7
CB2 Shunt Trip Fail	-	40290	1	-	Bit 8
CB6 Neutral Open	-	40290	1	-	Bit 9 (N/A to 4P)
Contactor Neutral Fail	-	40290	1	-	Bit 10 (N/A to 4P)
Heatsink Overtemp	-	40290	1	-	Bit 11
Equipment Overtemp	-	40290	1	-	Bit 12 (N/A to 4P)
Ambient Overtemp	-	40290	1	-	Bit 13 (N/A to 4P)
S1 Undervolts	-	40290	1	-	Bit 14
S1 Undervolts (RMS)	-	40290	1	-	Bit 15
S1 Overvolts	-	40291	1	-	Bit 0
S1 Over/Under Freq	-	40291	1	-	Bit 1
S1 Fail	-	40291	1	-	Bit 2
S2 Undervolts	-	40291	1	-	Bit 3
S2 Undervolts (RMS)	-	40291	1	-	Bit 4
S2 Overvolts	-	40291	1	-	Bit 5
S2 Over/Under Frequency	-	40291	1	-	Bit 6
S2 Fail	-	40291	1	-	Bit 7
S1 Overcurrent	-	40291	1	-	Bit 8
S2 Overcurrent	-	40291	1	-	Bit 9
S1 I-Peak	-	40291	1	-	Bit 10
S2 I-Peak	-	40291	1	-	Bit 11
Sources Out of Sync	-	40291	1	-	Bit 12
Load On Alternate Source	-	40291	1	-	Bit 13

Table 23 Liebert STS2™, Liebert STS2/PDU™ - Input and Holding Registers - STS2

Controller	STS2				
Liebert Products	Liebert STS2 Liebert STS2/PDU				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Auto Retransfer Inhibit	-	40291	1	-	Bit 14
CB1 (S1) Open	-	40292	1	-	Bit 0
CB2 (S2) Open	-	40292	1	-	Bit 1
CB4 (S1 BYP) Closed	-	40292	1	-	Bit 2
CB5 (S2 BYP) Closed	-	40292	1	-	Bit 3
CB3 Output Bkr Open	-	40292	1	-	Bit 4
CB3A Output Bkr Open	-	40292	1	-	Bit 5
S1 Phase Rotation Error	-	40292	1	-	Bit 6
S2 Phase Rotation Error	-	40292	1	-	Bit 7
Transfer Inhibited	-	40292	1	-	Bit 8
Output Undervoltage	-	40292	1	-	Bit 9
History Logs Full	-	40292	1	-	Bit 10
Equipment Fan Fail	-	40292	1	-	Bit 11
Load Volt THD High	-	40292	1	-	Bit 12
Load Over-current	-	40292	1	-	Bit 13
Ground Over-current	-	40292	1	-	Bit 14
Neutral Over-current	-	40292	1	-	Bit 15
Customer Alarm #1	-	40293	1	-	Bit 0
Customer Alarm #2	-	40293	1	-	Bit 1
Customer Alarm #3	-	40293	1	-	Bit 2
Customer Alarm #4	-	40293	1	-	Bit 3
Customer Alarm #5	-	40293	1	-	Bit 4
Customer Alarm #6	-	40293	1	-	Bit 5
Customer Alarm #7	-	40293	1	-	Bit 6
Customer Alarm #8	-	40293	1	-	Bit 7
Neutral Current 1 Over Limit	-	40294	1	-	Bit 13 (4P Only)
Neutral Current 2 Over Limit	-	40294	1	-	Bit 14 (4P Only)
Neutral Snubber Fail	-	40294	1	-	Bit 15 (4P Only)
Neutral 1 SCR Short	-	40295	1	-	Bit 0 (4P Only)
Neutral 2 SCR Short	-	40295	1	-	Bit 1 (4P Only)
Neutral 1 SCR Open	-	40295	1	-	Bit 2 (4P Only)
Neutral 2 SCR Open	-	40295	1	-	Bit 3 (4P Only)

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

4.0 UPS SYSTEMS

Table 24 Liebert Nfinity® - Status and Coil

Data Point	Status	Coil	Number of Bits	Notes/Units
Automatic Battery Test Enabled	10003	3	1	-
Battery Charger On	10044	-	1	-
Inverter Ready	10047	-	1	-
Power Factor Correction State	10050	-	1	-
Load on Inverter	10073	-	1	-
Bypass Active	10074	-	1	-
Replace Battery	10081	-	1	-
Battery Under Test	10082	-	1	-
Load on Battery	10128	-	1	-
Load on Bypass	10129	-	1	-
Load on Manual Bypass	10132	-	1	-
Load Transferred to Bypass Due to UPS Fault	10134	-	1	-
Transfer Inhibit	10146	-	1	-
Output Off Pending	10151	-	1	-
Low Battery - Shutdown Imminent	10152	-	1	-
Output Overload	10154	-	1	-
UPS Overload	10155	-	1	-
Output Off	10158	-	1	-
Check Air Filter - Replace	10170	-	1	-
Transformer Over Temperature	10178	-	1	-
Input Power Supply Fail	10186	-	1	-
Internal Device Communication Failure	10284	-	1	-
Device Active Alarm	10290	-	1	-
Main Control Warning	10291	-	1	-
Redundant Control Warning	10292	-	1	-
Control Module Failure	10293	-	1	-
Redundant Control Module Failed	10294	-	1	-
User Interface Module Failed	10295	-	1	-
UPS Power Not Redundant	10296	-	1	-
Power Module Failure	10298	-	1	-
Battery Module Failure	10299	-	1	-
Power Module Warning	10300	-	1	-
Battery Module Warning	10301	-	1	-

Table 25 Liebert Nfinity - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes/Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of Power Mod.	30010	40010	1	-	-
Number of Battery Modules Installed	30011	40011	1	-	-
Device Maximum Frame Capacity	30023	40023	2	-	-
Device System Capacity	30025	40025	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Auto Restart Delay	30051	40051	1	-	Seconds
Device Auto Restart Percent Setpt	30052	40052	1	-	%
Device Low Battery Time	30053	40053	1	-	Minutes
Next Battery Auto Test Time	30057	40057	1	-	Minutes
Overload Alarm Limit	30067	40067	2	-	VA
Minimum Redundant Power Modules	30074	40074	1	-	-
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Battery Temperature	30117	-	1	-	deg C
Transformer Temperature	30121	-	1	-	deg C
Redundant Power Modules	30124	-	1	-	-
Active Power Module Count	30126	-	1	-	-

Table 25 Liebert Nfinity - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes/Units
Battery Module Active Count	30127	-	1	-	-
Battery Test Result	30130	-	1	-	-
Input Voltage L1	30153	-	1	-	V
Input Current L1	30154	-	1	-	A
Bypass Voltage L1	30159	-	1	-	V
Bypass Current L1	30160	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Power Module Failure Count	30304	-	1	-	-
Battery Module Failure Count	30305	-	1	-	-
Power Module Warning Count	30306	-	1	-	-
Battery Module Warning Count	30307	-	1	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 26 Liebert NX™ - Status and Coil

Data Point	Status	Coil	Number of Bits	Scale	Notes / Units
Economode	10005	5	-	-	-
DC-To-DC Converter On	10042	-	-	-	-
Battery Charge Compensation	10046	-	-	-	-
Inverter Ready	10047	-	-	-	-
Power Factor Correction State	10050	-	-	-	-
Battery Charge Mode	10051	-	-	-	-
Load On Inverter	10073	-	-	-	-
Bypass Active	10074	-	-	-	-
Battery Under Test	10082	-	-	-	-
Load On Battery	10128	-	-	-	-
Overload Transfer To Bypass	10131	-	-	-	-
Input Switch Open	10137	-	-	-	-
Generator Disconnected	10141	-	-	-	-
Bypass Transfer Count Block	10147	-	-	-	-
Static Bypass Switch Disabled	10148	-	-	-	-
Low Battery - Shutdown Imminent	10152	-	-	-	-
Output Overload	10154	-	-	-	-
UPS Load Joint Mode	10156	-	-	-	-
Output Off	10158	-	-	-	-
Inverter Unsynchronized	10160	-	-	-	-
Main Neutral Lost	10161	-	-	-	-
Fan Failure	10169	-	-	-	-
Ambient Over Temperature	10173	-	-	-	-
Rectifier Over Temperature	10174	-	-	-	-
Rectifier Inductor Over Temperature	10175	-	-	-	-
Inverter Over Temperature	10176	-	-	-	-
Inverter Inductor Over Temperature	10177	-	-	-	-
Battery Converter Over Temperature	10179	-	-	-	-
DC Bus Balancer Over Temperature	10180	-	-	-	-
Input Power Supply Fail	10186	-	-	-	-
Input BrownOut	10189	-	-	-	-
Bad Input Frequency	10190	-	-	-	-
Bypass Phase Rotation Error	10191	-	-	-	-
Bypass Phase Loss	10201	-	-	-	-
Bypass Input Voltage/Frequency Fault	10202	-	-	-	-
Output Fuse Blown	10217	-	-	-	-
Output Over Voltage	10219	-	-	-	-
Charger Failed	10234	-	-	-	-

Table 26 Liebert NX™ - Status and Coil

Data Point	Status	Coil	Number of Bits	Scale	Notes / Units
Battery Fault	10235	-	-	-	-
Battery Contact Fail	10236	-	-	-	-
Battery Converter Over Current	10237	-	-	-	-
Battery Converter Fail	10238	-	-	-	-
DC Bus Balancer Over Current	10239	-	-	-	-
DC Bus Balancer Fault	10240	-	-	-	-
DC Bus 1 Power Supply Fail	10251	-	-	-	-
Rectifier Fuse Fail	10257	-	-	-	-
Rectifier Startup Failure	10258	-	-	-	-
Rectifier Fault	10259	-	-	-	-
Rectifier Current Limit	10260	-	-	-	-
Inverter DC Voltage Low Shutdown	10262	-	-	-	-
Inverter Fault	10263	-	-	-	-
Inverter DC Offset Overload	10264	-	-	-	-
Inverter Contactor Fail	10265	-	-	-	-
Inverter Current Limit	10266	-	-	-	-
Parallel Low Battery Warning	10267	-	-	-	-
Load Share Fault	10268	-	-	-	-
Parallel System Fault	10269	-	-	-	-
Parallel Connection Error	10270	-	-	-	-
Parallel System Overload	10271	-	-	-	-
Parallel Transfer To Static Bypass Switch	10272	-	-	-	-
Inverter Communication Fail	10281	-	-	-	-
Rectifier Communication Failure	10282	-	-	-	-
Parallel Communication Fault	10283	-	-	-	-
Operation Fault	10289	-	-	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 27 Liebert NX - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Module Number	30014	40014	1	-	-
Device Module Count	30015	40015	1	-	-
Device Redundant Count	30016	40016	1	-	-
Device Module Mode	30017	40017	1	-	-
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal DC Bus #1 Voltage	30035	40035	1	-	V
Nominal DC Bus #2 Voltage	30036	40036	1	-	-
Nominal Battery Float Voltage	30038	40038	1	-	V
Load Bus Sync Mode	30040	40040	1	-	-
Auto Restart Delay	30051	40051	1	-	Seconds
Device Low Battery Time	30053	40053	1	-	Minutes
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Current (Charge/Discharge)	30114	-	1	-	A
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Battery Temperature	30117	-	1	-	C
Ambient Temperature	30119	-	1	-	C
Parallel Load Source	30128	-	1	-	-
Rotary Breaker	30129	-	1	-	-

Table 27 Liebert NX - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Battery Test Result	30130	-	1	-	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 6 - Inhibited
Input Voltage L1-L2	30151	-	1	-	V
Input Voltage L1	30153	-	1	-	V
Input Current L1	30154	-	1	-	A
Input Power Factor L1	30155	-	1	100	-
Bypass Voltage L1	30159	-	1	-	V
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Output Load L1	30165	-	1	-	-
Output Power Factor L1	30166	-	1	100	%
Apparent Output Power L1	30168	-	2	-	VA
Reactive Output Power L1	30170	-	2	-	VAR
Output Power L1	30172	-	2	-	W
Output Current Crest Factor L1	30186	-	1	-	%
Input Voltage L2-L3	30201	-	1	-	V
Input Voltage L2	30203	-	1	-	V
Input Current L2	30204	-	1	-	A
Input Power Factor L2	30205	-	1	100	-
Bypass Voltage L2	30209	-	1	-	V
Output Voltage L2	30213	-	1	-	V
Output Current L2	30214	-	1	-	A
Output Load L2	30215	-	1	-	%
Output Power Factor L2	30216	-	1	100	-
Apparent Output Power L2	30218	-	2	-	VA
Reactive Output Power L2	30220	-	2	-	VAR
Output Power L2	30222	-	2	-	W
Output Current Crest Factor L2	30236	-	1	-	%
Input Voltage L3-L1	30251	-	1	-	V
Input Voltage L3	30253	-	1	-	V
Input Current L3	30254	-	1	-	A
Input Power Factor L3	30255	-	1	100	-
Bypass Voltage L3	30259	-	1	-	V
Output Voltage L3	30263	-	1	-	V
Output Current L3	30264	-	1	-	A
Output Load L3	30265	-	1	-	%

Table 27 Liebert NX - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Output Power Factor L3	30266	-	1	100	-
Apparent Output Power L3	30268	-	2	-	VA
Reactive Output Power L3	30270	-	2	-	VAR
Output Power L3	30272	-	2	-	W
Output Current Crest Factor L3	30286	-	1	-	%

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 28 Liebert NXL™ with Liebert iCOM Single Module (SMS) - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Battery Self Test	10082	-	1	Active on Alarm
Battery Low Shutdown	10092	-	1	Active on Alarm
System Shutdown - REPO	10093	-	1	Active on Alarm
UPS Output on Bypass	10129	-	1	Active on Alarm
Output Load on Maint. Bypass	10132	-	1	Active on Alarm
Main Battery Disconnect Open	10136	-	1	Active on Alarm
Bypass - Excess Auto Retransfers	10147	-	1	Active on Alarm
Battery Low	10152	-	1	Active on Alarm
System Shutdown - EPO	10157	-	1	Active on Alarm
System Output Off	10158	-	1	Active on Alarm
Battery Over Temperature	10172	-	1	Active on Alarm
Inlet Air Over Temperature	10173	-	1	Active on Alarm
System Input Current Imbalance	10185	-	1	Active on Alarm
System Input Phs Rotation Error	10191	-	1	Active on Alarm
Rectifier Failure	10259	-	1	Active on Alarm
Inverter Failure	10263	-	1	Active on Alarm
Main Controller Fault	10293	-	1	Active on Alarm
Bypass Not Available	10321	-	1	Active on Alarm
Bypass Overload Phase A	10322	-	1	Active on Alarm
Bypass Overload Phase B	10323	-	1	Active on Alarm
Bypass Overload Phase C	10324	-	1	Active on Alarm
Bypass Auto Retransfer Failed	10325	-	1	Active on Alarm
Bypass Static Switch Unavailable	10326	-	1	Active on Alarm
Bypass Static Switch Overload	10327	-	1	Active on Alarm
Bypass Excessive Pulse Parallel	10328	-	1	Active on Alarm
Bypass Auto Transfer Failed	10329	-	1	Active on Alarm
Bypass Frequency Error	10330	-	1	Active on Alarm
Bypass - Manual Rexfr Inhibited	10331	-	1	Active on Alarm
Bypass - Manual Xfr Inhibited	10332	-	1	Active on Alarm
Bypass Static Switch Off Extrnl	10333	-	1	Active on Alarm
Battery Charging Reduced-Extrnl	10334	-	1	Active on Alarm
Battery Capacity Low	10335	-	1	Active on Alarm
Battery Discharging	10336	-	1	Active on Alarm
Battery Temperature Imbalance	10337	-	1	Active on Alarm
Battery Temperature Sensor Fault	10338	-	1	Active on Alarm
Battery Charging Inhibited	10339	-	1	Active on Alarm
Battery Circuit Breaker 1 Open	10340	-	1	Active on Alarm
Battery Circuit Breaker 2 Open	10341	-	1	Active on Alarm

Table 28 Liebert NXL™ with Liebert iCOM Single Module (SMS) - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Battery Circuit Breaker 3 Open	10342	-	1	Active on Alarm
Battery Circuit Breaker 4 Open	10343	-	1	Active on Alarm
Battery Circuit Breaker 5 Open	10344	-	1	Active on Alarm
Battery Circuit Breaker 6 Open	10345	-	1	Active on Alarm
Battery Circuit Breaker 7 Open	10346	-	1	Active on Alarm
Battery Circuit Breaker 8 Open	10347	-	1	Active on Alarm
Battery - External Monitor 1	10348	-	1	Active on Alarm
Battery - External Monitor 2	10349	-	1	Active on Alarm
Battery Over Temperature	10350	-	1	Active on Warning
DC Bus Ground Fault - Positive	10351	-	1	Active on Alarm
DC Bus Ground Fault - Negative	10352	-	1	Active on Alarm
System Output Low Power Factor	10353	-	1	Active on Alarm
Leading Power Factor	10354	-	1	Active on Alarm
Output Amp Over User Limit - Phs A	10355	-	1	Active on Alarm
Output Amp Over User Limit - Phs B	10356	-	1	Active on Alarm
Output Amp Over User Limit - Phs C	10357	-	1	Active on Alarm
System Output Fault	10358	-	1	Active on Alarm
Inverter Overload Phase A	10359	-	1	Active on Alarm
Inverter Overload Phase B	10360	-	1	Active on Alarm
Inverter Overload Phase C	10361	-	1	Active on Alarm
Inverter Inhibit - External	10362	-	1	Active on Alarm
Inverter Shutdown - Overload	10363	-	1	Active on Alarm
Inverter Off - External	10364	-	1	Active on Alarm
Inverter Static Switch SCR Short	10365	-	1	Active on Alarm
Equipment Over Temperature	10366	-	1	Active on Warning
Equipment Over Temperature	10367	-	1	Active on Alarm
Equipment Temperature Sensor Fail	10368	-	1	Active on Alarm
Input Contact 01	10369	-	1	Active on Alarm
Input Contact 02	10370	-	1	Active on Alarm
Input Contact 03	10371	-	1	Active on Alarm
Input Contact 04	10372	-	1	Active on Alarm
Input Contact 05	10373	-	1	Active on Alarm
Input Contact 06	10374	-	1	Active on Alarm
Input Contact 07	10375	-	1	Active on Alarm
Input Contact 08	10376	-	1	Active on Alarm
Input Contact 09	10377	-	1	Active on Alarm
Input Contact 10	10378	-	1	Active on Alarm

Table 28 Liebert NXL™ with Liebert iCOM Single Module (SMS) - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Input Contact 11	10379	-	1	Active on Alarm
Input Contact 12	10380	-	1	Active on Alarm
Input Contact 13	10381	-	1	Active on Alarm
Input Contact 14	10382	-	1	Active on Alarm
Input Contact 15	10383	-	1	Active on Alarm
Input Contact 16	10384	-	1	Active on Alarm
Rectifier Operation Inhibit-Ext	10385	-	1	Active on Alarm
System Fan Failure - Redundant	10386	-	1	Active on Alarm
Multiple Fan Failure	10387	-	1	Active on Alarm
Auto Restart In Progress	10388	-	1	Active on Alarm
Automatic Restart Failed	10389	-	1	Active on Alarm
Fuse Failure	10390	-	1	Active on Alarm
System Breaker(s) Open Failure	10391	-	1	Active on Alarm
System Breaker(s) Close Failure	10392	-	1	Active on Alarm
Input Filter Cycle Lock	10393	-	1	Active on Alarm
Service Code Active	10394	-	1	Active on Alarm
LBS Active	10395	-	1	Active on Alarm
LBS Inhibited	10396	-	1	Active on Alarm
Controls Reset Required	10397	-	1	Active on Alarm
Battery Test Failed	10398	-	1	Active on Alarm
Auto Restart Inhibited - Ext	10399	-	1	Active on Alarm
Battery Automatic Test Inhibited	10400	-	1	Active on Alarm
Battery Equalize	10401	-	1	Active on Alarm
Backfeed Breaker Open	10402	-	1	Active on Alarm
On Generator	10403	-	1	Active on Alarm
Power Supply Failure	10404	-	1	Active on Alarm
Battery Ground Fault	10405	-	1	Active on Alarm
Battery Charging Error	10406	-	1	Active on Alarm
System Input Power Problem	10407	-	1	Active on Alarm
System Input Current Limit	10408	-	1	Active on Alarm
Internal Communications Failure	10409	-	1	Active on Alarm
System Controller Error	10410	-	1	Active on Alarm

Table 29 Liebert NXL with Liebert iCOM Single Module (SMS) - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
System Date and Time	30005	-	2	-	Masks: Year 0xFFFF 0000 Mon 0x0000 FF00 Day 0x0000 00FF
System Date and Time	30007	-	2	-	Masks: Hour 0xFF00 0000 Min 0x00FF 0000 Sec 0x0000 FF00
Output Apparent Power Rating	30021	-	2	-	kVA
System Input Nominal Voltage	30027	-	1	-	VAC
System Output Nominal Voltage	30028	-	1	-	VAC
Bypass Nominal Voltage	30029	-	1	-	VAC
System Input Nominal Frequency	30031	-	1	0.1	Hz
System Output Nominal Frequency	30032	-	1	0.1	Hz
System Output Apparent Power	30102	-	2	-	kVA
System Output Power	30104	-	2	-	kW
System Input Frequency	30107	-	1	0.1	Hz
System Output Frequency	30108	-	1	0.1	Hz
Bypass Input Frequency	30109	-	1	0.1	Hz
Battery Volts at Main Disconnect	30113	-	1	-	VDC
Battery Time Remaining	30115	-	1	-	Minutes
Battery Percentage Charge	30116	-	1	-	
Inlet Air Temperature	30119	-	1	-	deg C
System Input RMS A-B	30151	-	1	-	VAC
System Input RMS Current Phase A	30154	-	1	-	A AC
Bypass Input Voltage RMS A-B	30157	-	1	-	VAC
System Output Voltage RMS A-B	30161	-	1	-	VAC
System Output Voltage RMS A-N	30162	-	1	-	VAC
System Output RMS Current Phs A	30164	-	1	-	A AC
System Output Pct Power Phase A	30165	-	1	-	%
System Output Power Factor Phs A	30166	-	1	0.1	-
System Input RMS B-C	30201	-	1	-	VAC
System Input RMS Current Phase B	30204	-	1	-	A AC
Bypass Input Voltage RMS B-C	30207	-	1	-	VAC
System Output Voltage RMS B-C	30211	-	1	-	VAC

Table 29 Liebert NXL with Liebert iCOM Single Module (SMS) - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
System Output Voltage RMS B-N	30212	-	1	-	VAC
System Output RMS Current Phs B	30214	-	1	-	A AC
System Output Pct Power Phase B	30215	-	1	-	%
System Output Power Factor Phs B	30216	-	1	0.1	-
System Input RMS C-A	30251	-	1	-	VAC
System Input RMS Current Phase C	30254	-	1	-	A AC
Bypass Input Voltage RMS C-A	30257	-	1	-	VAC
System Output Voltage RMS C-A	30261	-	1	-	VAC
System Output Voltage RMS C-N	30262	-	1	-	VAC
System Output RMS Current Phs C	30264	-	1	-	A AC
System Output Pct Power Phase C	30265	-	1	-	%
System Output Power Factor Phs C	30266	-	1	0.1	-
Battery Discharge Time	30309	-	1	-	Seconds
Battery Amp-Hours Consumed This Discharge	30310	-	1	-	AH
Input Qualification Status	30312	-	1	-	0=Fail 1=Marginal Low 2=Normal 3=Marginal High
Bypass Sync Phase Difference	30313	-	1	-	deg
Bypass SS Overload Time Remain	30314	-	1	-	Seconds
Bypass Qualification Status	30315	-	1	-	0=Fail 1=Marginal Low 2=Normal 3=Marginal High
Battery Total Discharge Time	30316	-	1	-	Hours
Battery Discharge Power	30317	-	1	-	W
Battery Last Discharge Date	30318	-	2	-	-
Battery Commission Date	30322	-	2	-	-
DC Bus Voltage	30326	-	1	-	VDC
DC Bus Current	30327	-	1	-	A DC
DC Bus Qualification Status	30328	-	1	-	0=Fail 1=Marginal Low 2=Normal 3=Marginal High

Table 29 Liebert NXL with Liebert iCOM Single Module (SMS) - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
System Output Pct Pwr (VA) Phs A	30329	-	1	-	%
System Output Pct Pwr (VA) Phs B	30330	-	1	-	%
System Output Pct Pwr (VA) Phs C	30331	-	1	-	%
Output Qualification Status	30332	-	1	-	0=Fail 1=Marginal Low 2=Normal 3=Marginal High
Inverter Overload Time Remaining	30333	-	1	-	Seconds
Inverter Output Qualification Status	30334	-	1	-	0=Fail 1=Marginal Low 2=Normal 3=Marginal High
Total System Operating Time	30335	-	2	-	Hours
Rectifier Pulse Count	30337	-	1	-	0=6 Pulse 1=12 Pulse 2=18 Pulse 3=24 Pulse
Rectifier Input Passive Filter	30338	-	1	-	0=Not Installed 1=Installed
Rectifier Passive Filter Switch	30339	-	1	-	0=Not Installed 1=Installed
Rectifier Active Filter	30340	-	1	-	0=Not Installed 1=Installed
Rectifier Status	30341	-	1	-	0=Off / 1=On
System Status	30342	-	1	-	1=Normal Operation 2=StartUp 8=Normal with Warning 16=Normal with Alarm 32=Abnormal Operation
UPS Module Type	30343	-	1	-	0=Single Module System 1=Module (1 + 1) 2=Module (1 + N) 3=Module (N + 1) 4=System Control Cabinet 5=Main Static Switch
Static Switch Type	30344	-	1	-	0=Not Applicable 1=Continuous Duty 2=Momentary Duty
System Input Power Source	30345	-	1	-	0=None 1=Utility (mains) 2=Generator
Output Real Power Rating	30346	-	2	-	kW
Input Isolation Transformer	30348	-	1	-	0=Not Installed 1=Installed
System Output Maximum Amp Rating	30350	-	1	-	A AC

Table 29 Liebert NXL with Liebert iCOM Single Module (SMS) - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Bypass Input Wire Configuration	30352	-	1	-	0=Two Wire (single phase + return) 1=Two Wire (2 phase, no neutral) 2=Three Wire (2 phase + neutral) 3=Three Wire (3 phase, no neutral) 4=Four Wire (3 phases + neutral)
Output Wire Configuration	30353	-	1	-	0=Two Wire (single phase + return) 1=Two Wire (2 phase, no neutral) 2=Three Wire (2 phase + neutral) 3=Three Wire (3 phase, no neutral) 4=Four Wire (3 phases + neutral)
Battery Cell Count - Lead Acid	30354	-	1	-	-
Battery Cell Count-Nickel Cadmium	30355	-	1	-	-
UPS System Output Source	30356	-	1	-	0=Off 1=Normal 2=Bypass 3=Maintenance Bypass
Static Bypass Switch	30357	-	1	-	0=Off / 1=On
Battery Volts for Cabinet Array Index 1	30358	-	1	-	VDC
Battery Volts for Cabinet Array Index 2	30359	-	1	-	VDC
Battery Volts for Cabinet Array Index 3	30360	-	1	-	VDC
Battery Volts for Cabinet Array Index 4	30361	-	1	-	VDC
Battery Volts for Cabinet Array Index 5	30362	-	1	-	VDC
Battery Volts for Cabinet Array Index 6	30363	-	1	-	VDC
Battery Volts for Cabinet Array Index 7	30364	-	1	-	VDC
Battery Volts for Cabinet Array Index 8	30365	-	1	-	VDC
Battery Temperature for Cabinet Array Index 1	30366	-	1	-	deg C
Battery Temperature for Cabinet Array Index 2	30367	-	1	-	deg C
Battery Temperature for Cabinet Array Index 3	30368	-	1	-	deg C

Table 29 Liebert NXL with Liebert iCOM Single Module (SMS) - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Battery Temperature for Cabinet Array Index 4	30369	-	1	-	deg C
Battery Temperature for Cabinet Array Index 5	30370	-	1	-	deg C
Battery Temperature for Cabinet Array Index 6	30371	-	1	-	deg C
Battery Temperature for Cabinet Array Index 7	30372	-	1	-	deg C
Battery Temperature for Cabinet Array Index 8	30373	-	1	-	deg C
Backfeed Breaker	30374	-	1	-	0=Open 1=Close 2=Not Installed
SBS Load Disconnect	30375	-	1	-	0=Open 1=Close 2=Not Installed
Input Breaker (CB1)	30376	-	1	-	0=Open 1=Close 2=Not Installed
Trap Filter Disconnect	30377	-	1	-	0=Open 1=Close 2=Not Installed
Output Breaker (CB2)	30378	-	1	-	0=Open 1=Close 2=Not Installed
Internal Bypass Breaker (CB3)	30379	-	1	-	0=Open 1=Close 2=Not Installed
Bypass Isolation Breaker (BIB)	30380	-	1	-	0=Open 1=Close 2=Not Installed
Rectifier Isolation Breaker (RIB)	30381	-	1	-	0=Open 1=Close 2=Not Installed
Maintenance Bypass Breaker (MBB)	30382	-	1	-	0=Open 1=Close 2=Not Installed
Maintenance Isolation Breaker (MIB)	30383	-	1	-	0=Open 1=Close 2=Not Installed
Output Series Static Switch	30384	-	1	-	0=Off / 1=On 2=Not Installed
Module Output Breaker (MOB)	30385	-	1	-	0=Open 1=Close 2=Not Installed
Battery Amp-Hours Consumed	30386	-	2	-	AH
Bypass Retransfer Time Remaining	30388	-	1	-	Seconds
Inverter On/Off State	30389	-	1	-	0=Off / 1=On

Table 29 Liebert NXL with Liebert iCOM Single Module (SMS) - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
UPS Battery Status	30390	-	1	-	1=Unknown 2=Normal 3=Low 4=Depleted
UPS Output Source	30391	-	1	-	1=Other 2=Off 3=Normal 4=Bypass 5=Battery 6=Booster 7=Reducer

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 30 Liebert PowerSure™ Interactive - Status and Coil

Data Point	Status	Coil	Number of Bits	Notes/Units
Audible Alarm Enabled	10002	2	1	-
Automatic Battery Test Enabled	10003	3	1	-
Battery Charge Compensation	10046	-	1	-
Inverter Ready	10047	-	1	-
Load Circuit 1 State	10057	-	1	-
Load Circuit 2 State	10058	-	1	-
Load Circuit 3 State	10059	-	1	-
Load Circuit 4 State	10060	-	1	-
Load Circuit 5 State	10061	-	1	-
Load Circuit 6 State	10062	-	1	-
Load Circuit 7 State	10063	-	1	-
Load Circuit 8 State	10064	-	1	-
Load Circuit 9 State	10065	-	1	-
Load Circuit 10 State	10066	-	1	-
Load Circuit 11 State	10067	-	1	-
Load Circuit 12 State	10068	-	1	-
Load Circuit 13 State	10069	-	1	-
Load Circuit 14 State	10070	-	1	-
Load Circuit 15 State	10071	-	1	-
Load Circuit 16 State	10072	-	1	-
Load On Inverter	10073	-	1	-
Boost Mode On	10075	-	1	-
Buck Mode On	10076	-	1	-
Battery Under Test	10082	-	1	-
Shutdown Reason - Over Temperature	10086	-	1	-
Shutdown Reason - Overload	10087	-	1	-
Shutdown - Output Short	10089	-	1	-
Shutdown Reason - Remote Shutdown	10093	-	1	-
Load On Battery	10128	-	1	-
Output Off Pending	10151	-	1	-
Low Battery - Shutdown Imminent	10152	-	1	-
Output Overload	10154	-	1	-
Over Temperature Warning	10171	-	1	-
Battery Over Temperature CB Trip	10172	-	1	-
Input Power Supply Fail	10186	-	1	-
Input Over Voltage	10187	-	1	-
Input Under Voltage	10188	-	1	-
Bad Input Frequency	10190	-	1	-
Output Under Voltage	10218	-	1	-
Output Over Voltage	10219	-	1	-

Table 31 Liebert PowerSure Interactive - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Load Circuit Present	30013	40013	1	-	There are 16 possible Load Circuits. Each bit represents 1 load circuit. Load Circuit 1 is bit 0, Load Circuit 2 is bit 1 and so on. If the bit is 1, then the Load Circuit is supported.
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Auto Restart Delay	30051	40051	1	-	Seconds
Device Low Battery Time	30053	40053	1	-	Minutes
Load (Apparent Power)	30102	-	2	-	VA
Load / Capacity	30106	-	1	-	%
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Battery Test Result	30130	-	1	-	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 7 - Inhibited
Input Voltage L1	30153	-	1	-	V
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Maximum Voltage L1	30180	-	1	-	V
Input Minimum Voltage L1	30181	-	1	-	V
Output Maximum Voltage L1	30182	-	1	-	V
Output Minimum Voltage L1	30183	-	1	-	V

Table 31 Liebert PowerSure Interactive - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Black Out Count	30301	-	1	-	-
Brown Out Count	30302	-	1	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 32 Liebert PowerSure Interactive 2 - Status and Coil

Applies only to PSI units manufactured before June 1, 2008 (Julian date 08153)

Data Point	Status	Coil	Number of Bits	Notes / Units
Audible Alarm Enabled	10002	2	1	-
Automatic Battery Test Enabled	10003	3	1	-
DC-To-DC Converter On	10042	-	1	-
Battery Charger On	10044	-	1	-
Load Circuit 1 State	10057	-	1	-
Load Circuit 2 State	10058	-	1	-
Load Circuit 3 State	10059	-	1	-
Load Circuit 4 State	10060	-	1	-
Load Circuit 5 State	10061	-	1	-
Load Circuit 6 State	10062	-	1	-
Load Circuit 7 State	10063	-	1	-
Load Circuit 9 State	10065	-	1	-
Load Circuit 10 State	10066	-	1	-
Load Circuit 11 State	10067	-	1	-
Load Circuit 12 State	10068	-	1	-
Load Circuit 13 State	10069	-	1	-
Load Circuit 14 State	10070	-	1	-
Load Circuit 15 State	10071	-	1	-
Load Circuit 16 State	10072	-	1	-
Load On Inverter	10073	-	1	-
Boost Mode On	10075	-	1	-
Buck Mode On	10076	-	1	-
Replace Battery	10081	-	1	-
Battery Under Test	10082	-	1	-
Shutdown Reason - Over Temperature	10086	-	1	-
Shutdown Reason - Overload	10087	-	1	-
Shutdown Reason - Output Short	10089	-	1	-
Shutdown Reason - Line Neutral Swap	10090	-	1	-
Shutdown Reason - Low Battery	10092	-	1	-
Shutdown Reason - Remote Shutdown	10093	-	1	-
Shutdown Reason - Input Under Voltage	10094	-	1	-
Shutdown Reason - Hardware	10096	-	1	-
Load On Battery	10128	-	1	-
Output Off Pending	10151	-	1	-
Low Battery - Shutdown Imminent	10152	-	1	-
Output Overload	10154	-	1	-
Over Temperature Warning	10171	-	1	-
Input Power Supply Fail	10186	-	1	-

Table 32 Liebert PowerSure Interactive 2 - Status and Coil

Applies only to PSI units manufactured before June 1, 2008 (Julian date 08153)

Data Point	Status	Coil	Number of Bits	Notes / Units
Input Over Voltage	10187	-	1	-
Input Under Voltage	10188	-	1	-
Input BrownOut	10189	-	1	-
Bad Input Frequency	10190	-	1	-
Output Under Voltage	10218	-	1	-
Output Over Voltage	10219	-	1	-
Charger Failed	10234	-	1	-
Battery Under Voltage	10241	-	1	-
Battery Over Voltage	10242	-	1	-

Table 33 Liebert PowerSure Interactive 2 - Input and Holding Registers

Applies only to PSI units manufactured before June 1, 2008 (Julian date 08153)

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Load Circuit Present	30013	40013	1	-	There are 16 possible Load Circuits. Each bit represents 1 load circuit. Load Circuit 1 is bit 0, Load Circuit 2 is bit 1 and so on. If the bit is 1, then the Load Circuit is supported.
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Nominal Battery Capacity	30037	40037	1	-	Minutes
Nominal Battery Float Voltage	30038	40038	1	-	V
Auto Restart Delay	30051	40051	1	-	Seconds
Device Low Battery Time	30053	40053	1	-	Minutes
Ambient Temperature Warning Point	30069	40069	1	-	deg C
Over Temperature Limit Point	30072	40072	1	-	deg C
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Ambient Temperature	30119	-	1	-	deg C
Battery Test Result	30130	-	1	-	-
Input Voltage L1	30153	-	1	-	V
Input Current L1	30154	-	1	-	A

Table 33 Liebert PowerSure Interactive 2 - Input and Holding Registers

Applies only to PSI units manufactured before June 1, 2008 (Julian date 08153)

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Maximum Voltage L1	30180	-	1	-	V
Input Minimum Voltage L1	30181	-	1	-	V
Output Maximum Voltage L1	30182	-	1	-	V
Output Minimum Voltage L1	30183	-	1	-	V
Black Out Count	30301	-	1	-	-
Brown Out Count	30302	-	1	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 34 Liebert GXT2™ - Status and Coil

Data Point	Status	Coil	Number of Bits	Notes / Units
Audible Alarm Enabled	10002	2	1	-
Automatic Battery Test Enabled	10003	3	1	-
DC-to-DC Converter On	10042	-	1	-
Battery Charge Compensation	10046	-	1	-
Inverter Ready	10047	-	1	-
Power Factor Correction State	10050	-	1	-
Load Circuit 1 State	10057	-	1	-
Load Circuit 2 State	10058	-	1	-
Load Circuit 3 State	10059	-	1	-
Load Circuit 4 State	10060	-	1	-
Load Circuit 5 State	10061	-	1	-
Load Circuit 6 State	10062	-	1	-
Load Circuit 7 State	10063	-	1	-
Load Circuit 8 State	10064	-	1	-
Load Circuit 9 State	10065	-	1	-
Load Circuit 10 State	10066	-	1	-
Load Circuit 11 State	10067	-	1	-
Load Circuit 12 State	10068	-	1	-
Load Circuit 13 State	10069	-	1	-
Load Circuit 14 State	10070	-	1	-
Load Circuit 15 State	10071	-	1	-
Load Circuit 16 State	10072	-	1	-
Load On Inverter	10073	-	1	-
Bypass Active	10074	-	1	-
Replace Battery	10081	-	1	-
Battery Under Test	10082	-	1	-
Shutdown Reason - Over Temperature	10086	-	1	-
Shutdown Reason - Overload	10087	-	1	-
Shutdown Reason - Link Over Voltage	10088	-	1	-
Shutdown Reason - Output Short	10089	-	1	-
Shutdown Reason - Line Neutral Swap	10090	-	1	-
Shutdown Reason - Low Battery	10092	-	1	-
Shutdown Reason - Remote Shutdown	10093	-	1	-
Shutdown Reason - Input Under Voltage	10094	-	1	-
Shutdown Reason - PFC Startup	10095	-	1	-
Shutdown Reason - Hardware	10096	-	1	-
Load on Battery	10128	-	1	-
Output Off Pending	10151	-	1	-
Low Battery - Shutdown Imminent	10152	-	1	-

Table 34 Liebert GXT2™ - Status and Coil

Data Point	Status	Coil	Number of Bits	Notes / Units
Output Overload	10154	-	1	-
Over Temperature Warning	10171	-	1	-
Battery Over Temperature CB Trip	10172	-	1	-
Input Power Supply Fail	10186	-	1	-
Input Over Voltage	10187	-	1	-
Input Under Voltage	10188	-	1	-
Bad Input Frequency	10190	-	1	-
Bypass Input Voltage/Frequency Fault	10202	-	1	-
Output Under Voltage	10218	-	1	-
Output Over Voltage	10219	-	1	-

Table 35 Liebert GXT2 - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Load Circuit Present	30013	40013	1	-	There are 16 possible Load Circuits. Each bit represents 1 Load Circuit. Load Circuit 1 is bit 0, Load Circuit 2 is bit 1 and so on. If the bit is 1, then the Load Circuit is supported.
Battery Cabinet Type	30018	40018	2	-	-
Battery Cabinet Number	30019	40019	1	-	-
Battery AmpHour	30020	40020	1	-	AH
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Auto Restart Delay	30051	40051	1	-	Seconds
Device Low Battery Time	30053	40053	1	-	Minutes
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Ambient Temperature	30119	-	1	-	deg C

Table 35 Liebert GXT2 - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Battery Test Result	30130	-	1	-	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 6 - Inhibited
Input Voltage L1	30153	-	1	-	V
Bypass Voltage L1	30159	-	1	-	V
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Maximum Voltage L1	30180	-	1	-	V
Input Minimum Voltage L1	30181	-	1	-	V
Output Maximum Voltage L1	30182	-	1	-	V
Output Minimum Voltage L1	30183	-	1	-	V
Black Out Count	30301	-	1	-	-
Brown Out Count	30302	-	1	-	-

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 36 Liebert HiNet™ - Status and Coil

Data Point	Status	Coil	Number of Bits	Notes / Units
DC-To-DC Converter On	10042	-	1	-
Load On Inverter	10073	-	1	-
Bypass Active	10074	-	1	-
Load On Battery	10128	-	1	-
Permanently On Bypass	10133	-	1	-
Bypass SCR Open Circuit	10149	-	1	-
Low Battery - Shutdown Imminent	10152	-	1	-
Output Overload	10154	-	1	-
Inverter Unsynchronized	10160	-	1	-
Input Power Supply Fail	10186	-	1	-
Bypass Input Voltage/Frequency Fault	10202	-	1	-

Table 37 Liebert HiNet - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Number of Battery Cells	30012	40012	1	-	-
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Battery Voltage	30113	-	1	-	V
Battery Current (Charge/Discharge)	30114	-	1	-	A
Battery Charge Percentage	30116	-	1	-	%
Ambient Temperature	30119	-	1	-	deg C
Input Voltage L1	30153	-	1	-	V
Input Current L1	30154	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Voltage L2	30203	-	1	-	V
Input Current L2	30204	-	1	-	A
Input Voltage L3	30253	-	1	-	V
Input Current L3	30254	-	1	-	A

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 38 Liebert Series 600™ UPS - Status and Coil

Data Point	Status	Coil	Number of Bits	Notes / Units
Auto Retransfer Primed	10049	-	1	-
Load On Inverter	10073	-	1	-
Load On Bypass	10074	-	1	-
Battery data Buffer Full	10084	-	1	-
Shutdown Reason - Hardware	10096	-	1	-
Load On Battery	10128	-	1	-
Load On Bypass	10129	-	1	-
Manual Reset Transfer	10130	-	1	-
Emergency Transfer	10134	-	1	-
Battery Switch Open	10136	-	1	-
Input Switch Open	10137	-	1	-
Output Switch open	10138	-	1	-
SBS Unable	10148	-	1	-
Low Battery - Shutdown Imminent	10152	-	1	-
Output Frequency Off	10153	-	1	-
Output Overload	10154	-	1	-
System Emergency Off	10157	-	1	-
Reverse Power	10159	-	1	-
Fan Fail	10169	-	1	-
Over Temperature Warning	10171	-	1	-
Ambient Over Temperature	10173	-	1	-
Input Power Supply Fail	10186	-	1	-
Input Phase Rotation Error	10191	-	1	-
Bypass Input Voltage Fail	10202	-	1	-
Output Under Voltage	10218	-	1	-
Output Over Voltage	10219	-	1	-
DC Ground Fault	10233	-	1	-
DC Cap Fuse Blown	10252	-	1	-
Rectifier Fuse Blown	10257	-	1	-
Inverter Fuse Blown	10261	-	1	-
Customer Alarm 1	10313	-	1	-
Customer Alarm 2	10314	-	1	-
Customer Alarm 3	10315	-	1	-
Customer Alarm 4	10316	-	1	-
Customer Alarm 5	10317	-	1	-
Customer Alarm 6	10318	-	1	-
Customer Alarm 7	10319	-	1	-
Customer Alarm 8	10320	-	1	-

Table 39 Liebert Series 600 UPS - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Silence Alarm	-	40101	1	-	-
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged
Battery Voltage	30113	-	1	-	V
Battery Current	30114	-	1	-	A
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Input Voltage L1	30153	-	1	-	V
Input Current L1	30154	-	1	-	A
Bypass Voltage L1	30159	-	1	-	V
Bypass Current L1	30160	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Voltage L2	30203	-	1	-	V
Input Current L2	30204	-	1	-	A
Bypass Voltage L2	30209	-	1	-	V
Bypass Current L2	30210	-	1	-	A
Output Voltage L2	30213	-	1	-	V
Output Current L2	30214	-	1	-	A
Input Voltage L3	30253	-	1	-	V
Input Current L3	30254	-	1	-	A

Table 39 Liebert Series 600 UPS - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Bypass Voltage L3	30259	-	1	-	V
Bypass Current L3	30260	-	1	-	A
Output Voltage L3	30263	-	1	-	V
Output Current L3	30264	-	1	-	A
Battery Discharge Count	30308	-	1	-	-
Battery Discharge duration	30309	-	1	-	Seconds
Battery Amp-Hour	30310	-	1	-	AH
Battery Watt-Hour	30311	-	2	-	WH

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 40 Liebert Series 610™ SCC UPS - Status and Coil

Data Point	Status	Coil	Number of Bits	Notes / Units
Auto Retransfer Primed	10049	-	1	-
Load On Inverter	10073	-	1	-
Load On Bypass	10074	-	1	-
Load On Bypass	10129	-	1	-
Manual Reset Transfer	10130	-	1	-
Emergency Transfer	10134	-	1	-
Output Switch open	10138	-	1	-
SBS Unable	10148	-	1	-
Output Frequency Off	10153	-	1	-
Output Overload	10154	-	1	-
System Emergency Off	10157	-	1	-
Input Power Supply Fail	10186	-	1	-
Input Phase Rotation Error	10191	-	1	-
Bypass Input Voltage Fail	10202	-	1	-
Output Under Voltage	10218	-	1	-
Output Over Voltage	10219	-	1	-
Module Alarm Active	10304	-	1	-
Customer Alarm 1	10313	-	1	-
Customer Alarm 2	10314	-	1	-
Customer Alarm 3	10315	-	1	-
Customer Alarm 4	10316	-	1	-
Customer Alarm 5	10317	-	1	-
Customer Alarm 6	10318	-	1	-
Customer Alarm 7	10319	-	1	-
Customer Alarm 8	10320	-	1	-

Table 41 Liebert Series 610 SCC UPS - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Silence Alarm	-	40101	1	-	-
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Input Voltage L1	30153	-	1	-	V
Bypass Voltage L1	30159	-	1	-	V
Bypass Current L1	30160	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Voltage L2	30203	-	1	-	V
Bypass Voltage L2	30209	-	1	-	V
Bypass Current L2	30210	-	1	-	A
Output Voltage L2	30213	-	1	-	V
Output Current L2	30214	-	1	-	A
Input Voltage L3	30253	-	1	-	V
Bypass Voltage L3	30259	-	1	-	V
Bypass Current L3	30260	-	1	-	A
Output Voltage L3	30263	-	1	-	V
Output Current L3	30264	-	1	-	A

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 42 Liebert Series 300™ UPS - Status and Coil

Data Point	Status	Coil	Number of Bits	Notes / Units
Automatic Restart Enabled	10001	1	1	-
Battery Charge Compensation	10046	-	1	-
Inverter Ready	10047	-	1	-
Load Circuit 1 State	10057	-	1	-
Load Circuit 2 State	10058	-	1	-
Load Circuit 3 State	10059	-	1	-
Load Circuit 4 State	10060	-	1	-
Load Circuit 5 State	10061	-	1	-
Load Circuit 6 State	10062	-	1	-
Load Circuit 7 State	10063	-	1	-
Load Circuit 8 State	10064	-	1	-
Load Circuit 9 State	10065	-	1	-
Load Circuit 10 State	10066	-	1	-
Load Circuit 11 State	10067	-	1	-
Load Circuit 12 State	10068	-	1	-
Load Circuit 13 State	10069	-	1	-
Load Circuit 14 State	10070	-	1	-
Load Circuit 15 State	10071	-	1	-
Load Circuit 16 State	10072	-	1	-
Load On Inverter	10073	-	1	-
Bypass Active	10074	-	1	-
Buck On	10076	-	1	-
Replace Battery	10081	-	1	-
Battery Under Test	10082	-	1	-
Load On Battery	10128	-	1	-
Low Battery - Shutdown Imminent	10152	-	1	-
Output Overload	10154	-	1	-
Over Temperature Warning	10171	-	1	-
Battery Over Temperature CB Trip	10172	-	1	-
Input Power Supply Fail	10186	-	1	-
Input Over Voltage	10187	-	1	-
Input Under Voltage	10188	-	1	-
Bad Input Frequency	10190	-	1	-
Bypass Input Voltage/Frequency Fault	10202	-	1	-
Output Under Voltage	10218	-	1	-
Output Over Voltage	10219	-	1	-
Battery Charger Fail	10234	-	1	-

Table 43 Liebert Series 300 UPS - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Load Circuit Present	30013	40013	1	-	There are 16 possible Load Circuits. Each bit represents 1 Load Circuit. Load Circuit 1 is bit 0, Load Circuit 2 is bit 1 and so on. If the bit is 1, then the Load Circuit is supported.
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Device Low Battery Time	30053	40053	1	-	Minutes
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged
Battery Voltage	30113	-	1	-	V
Battery Current	30114	-	1	-	A
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Battery Test Result	30130	-	1	-	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 6 - Inhibited
Input Voltage L1	30153	-	1	-	V
Input Current	30154	-	1	-	A
Bypass Voltage L1	30159	-	1	-	V
Bypass Current L1	30160	-	1	-	A

Table 43 Liebert Series 300 UPS - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Voltage L2	30203	-	1	-	V
Input Current L2	30204	-	1	-	A
Bypass Voltage L2	30209	-	1	-	V
Bypass Current L2	30210	-	1	-	A
Output Voltage L2	30213	-	1	-	V
Output Current L2	30214	-	1	-	A
Input Voltage L3	30253	-	1	-	V
Input Current L3	30254	-	1	-	A
Bypass Voltage L3	30259	-	1	-	V
Bypass Current L3	30260	-	1	-	A
Output Voltage L3	30263	-	1	-	V
Output Current L3	30264	-	1	-	A
Black Out Count	30301	-	1	-	-
Brown Out Count	30302	-	1	-	-
Transient Count	30301	-	1	-	-
Silent Audible Alarm	-	40101	-	-	Any value
Battery Start	-	40102	1	-	1=Start, 0=Abort
Open UPS Output Switch	-	40104	-	-	Delay time in Seconds, last digit will be ignored
Reboot UPS Output Switch	-	40105	1	-	Delay time in Seconds, last digit will be ignored
Close UPS Output Switch	-	40106	-	-	Delay time in Seconds, last digit will be ignored
Transfer Load to Bypass	-	40107	1	-	Any value
Transfer Load to Inverter	-	40108		-	Any value
Reset UPS Statistic data	-	40111	1	-	Any value
Turn UPS Outlets On	-	40112	1	-	Bitmap mask for Outlet 1-16. All bits set to 1 will be turned On
Turn UPS Outlets Off	-	40113	1	-	Bitmap mask for Outlet 1-16. All bits set to 1 will be turned Off

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 44 Liebert SICE 7200™, Liebert HiPulse™ - Input and Holding Registers - SMM/SSM

Controller	Multi Module Series - SMM				
Liebert Products	Liebert SICE 7200 Liebert HiPulse				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Output Voltage L1-L2	-	40001	1	-	V
Output Voltage L2-L3	-	40002	1	-	V
Output Voltage L3-L1	-	40003	1	-	V
Output Amps L1	-	40004	1	-	A
Output Amps L2	-	40005	1	-	A
Output Amps L3	-	40006	1	-	A
Power L1	-	40007	1	-	kW
Power L2	-	40008	1	-	kW
Power L3	-	40009	1	-	kW
Bypass Frequency	-	40010	1	10	Hz
Inverter Frequency	-	40011	1	10	Hz
Battery Voltage	-	40012	1	-	V
Battery Amperage	-	40013	1	-	A
Apparent Power L1	-	40014	1	-	kVA
Apparent Power L2	-	40015	1	-	kVA
Apparent Power L3	-	40016	1	-	kVA
% Load L1	-	40017	1	-	%
% Load L2	-	40018	1	-	%
% Load L3	-	40019	1	-	%
% Battery Charge	-	40020	1	-	-
Battery Temperature	-	40021	1	-	deg C
Battery Time Remaining	-	40022	1	-	Minutes
Alarm Points					
Communications	-	40289	1	-	Bit 0
Bypass Switch Open	-	40289	1	-	Bit 1
Output Switch Open	-	40289	1	-	Bit 2
Rectifier Switch Open	-	40289	1	-	Bit 3
Battery CB Open	-	40289	1	-	Bit 4
Manual Bypass Closed	-	40289	1	-	Bit 5
Bypass Absent	-	40289	1	-	Bit 6
Bypass Overvoltage	-	40289	1	-	Bit 7
Bypass Undervoltage	-	40289	1	-	Bit 8
Bypass Frequency Error	-	40289	1	-	Bit 9

Table 44 Liebert SICE 7200™, Liebert HiPulse™ - Input and Holding Registers - SMM/SSM

Controller	Multi Module Series - SMM				
Liebert Products	Liebert SICE 7200 Liebert HiPulse				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Byp Phase Rotation Error	-	40289	1	-	Bit 10
Bypass SCR Failure	-	40290	1	-	Bit 0
Bypass Off	-	40290	1	-	Bit 1
Bypass Off	-	40290	1	-	Bit 2
Load On Bypass	-	40290	1	-	Bit 3
Bypass Overtemperature	-	40290	1	-	Bit 4
Rectifier Under Voltage	-	40290	1	-	Bit 5
Rectifier Block	-	40290	1	-	Bit 6
Rectifier Block	-	40290	1	-	Bit 7
Rectifier Current Limit	-	40290	1	-	Bit 8
Rectifier Overtemperature	-	40290	1	-	Bit 9
Rectifier Fuse Failure	-	40290	1	-	Bit 10
Inverter Voltage Fault	-	40291	1	-	Bit 0
Inverter Disable	-	40291	1	-	Bit 1
Inverter Disable	-	40291	1	-	Bit 2
Inverter Current Limit	-	40291	1	-	Bit 3
Inverter Overtemperature	-	40291	1	-	Bit 4
Inverter Non Sync	-	40291	1	-	Bit 5
Inverter Overvoltage	-	40291	1	-	Bit 6
Inverter Undervoltage	-	40291	1	-	Bit 7
Inverter Fuse Failure	-	40291	1	-	Bit 8
Output Overvoltage	-	40291	1	-	Bit 9
Output Undervoltage	-	40291	1	-	Bit 10
Output Undervoltage	-	40292	1	-	Bit 0
Output Waveform Error	-	40292	1	-	Bit 1
Inverter Frequency Error	-	40292	1	-	Bit 2
Inverter Parallel Error	-	40292	1	-	Bit 3
Contactor Failure	-	40292	1	-	Bit 4
Battery Test	-	40292	1	-	Bit 5
Battery Test Failed	-	40292	1	-	Bit 6
Battery On Load	-	40292	1	-	Bit 7
Battery End of Discharge	-	40292	1	-	Bit 8
Boost Time Expired	-	40292	1	-	Bit 9

Table 44 Liebert SICE 7200™, Liebert HiPulse™ - Input and Holding Registers - SMM/SSM

Controller	Multi Module Series - SMM				
Liebert Products	Liebert SICE 7200 Liebert HiPulse				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
DC Overvoltage	-	40292	1	-	Bit 10
DC Undervoltage	-	40293	1	-	Bit 0
Battery Fuse Failure	-	40293	1	-	Bit 1
DC Overvoltage	-	40293	1	-	Bit 2
Transfer Count Block	-	40293	1	-	Bit 3
Overload Shutdown	-	40293	1	-	Bit 4
Overtemperature SD	-	40293	1	-	Bit 5
Emergency Stop	-	40293	1	-	Bit 6
Overload Present	-	40293	1	-	Bit 7
Overload Shutdown TO	-	40293	1	-	Bit 8
Display Error	-	40293	1	-	Bit 9
Display Error	-	40293	1	-	Bit 10
Inverter Over Capacity	-	40293	1	-	Bit 11
Bypass ECO Mode	-	40293	1	-	Bit 12
Fan Failure	-	40293	1	-	Bit 13

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 45 Liebert SICE 7200 - Input and Holding Registers - SSC

Controller	System Control Cabinet - SSC				
Liebert Products	Liebert SICE 7200				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Output Voltage L1-L2	-	40001	1	-	V
Output Voltage L2-L3	-	40002	1	-	V
Output Voltage L3-L1	-	40003	1	-	V
Output Amps L1	-	40004	1	-	A
Output Amps L2	-	40005	1	-	A
Output Amps L3	-	40006	1	-	A
Power L1	-	40007	1	-	kW
Power L2	-	40008	1	-	kW
Power L3	-	40009	1	-	kW
Bypass Frequency	-	40010	1	10	Hz
Battery Voltage	-	40012	1	-	V
Battery Amperage	-	40013	1	-	A
Apparent Power L1	-	40014	1	-	kVA
Apparent Power L2	-	40015	1	-	kVA
Apparent Power L3	-	40016	1	-	kVA
% Load L1	-	40017	1	-	%
% Load L2	-	40018	1	-	%
% Load L3	-	40019	1	-	%
% Battery Charge	-	40020	1	-	%
Battery Temperature	-	40021	1	-	deg C
Battery Time Remaining	-	40022	1	-	Minutes
Communications	-	40289	1	-	Bit 0
Bypass Switch Open	-	40289	1	-	Bit 1
Output Switch Open	-	40289	1	-	Bit 2
Battery CB Open	-	40289	1	-	Bit 3
Manual Bypass Closed	-	40289	1	-	Bit 4
Bypass Absent	-	40289	1	-	Bit 5
Bypass Overvoltage	-	40289	1	-	Bit 6
Bypass Undervoltage	-	40289	1	-	Bit 7
Bypass Frequency Error	-	40289	1	-	Bit 8
Bypass Ph Rotation Error	-	40289	1	-	Bit 9
Bypass SCR Failure	-	40289	1	-	Bit 10
Bypass Off	-	40290	1	-	Bit 0
Bypass Off	-	40290	1	-	Bit 1
Load On Bypass	-	40290	1	-	Bit 2

Table 45 Liebert SICE 7200 - Input and Holding Registers - SSC

Controller	System Control Cabinet - SSC				
Liebert Products	Liebert SICE 7200				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Bypass Overtemperature	-	40290	1	-	Bit 3
Inverter Non Sync	-	40290	1	-	Bit 4
Output Overvoltage	-	40290	1	-	Bit 5
Output Undervoltage	-	40290	1	-	Bit 6
Output Undervoltage	-	40290	1	-	Bit 7
Output Waveform Error	-	40290	1	-	Bit 8
Transfer Count Block	-	40290	1	-	Bit 9
Overload Shutdown	-	40290	1	-	Bit 10
Overtemperature Shutdown	-	40291	1	-	Bit 0
Emergency Stop	-	40291	1	-	Bit 1
Overload Present	-	40291	1	-	Bit 2
Overload Shutdown TO	-	40291	1	-	Bit 3
Display Error	-	40291	1	-	Bit 4
Display Error	-	40291	1	-	Bit 5
Invewrter Over Capacity	-	40291	1	-	Bit 6
Parallel Bus Open	-	40291	1	-	Bit 7
Battery Ground Fault	-	40291	1	-	Bit 8
Bypass Backfeed	-	40291	1	-	Bit 9
Bypass Sync Inhibited	-	40291	1	-	Bit 10
Bypass ECO Mode	-	40291	1	-	Bit 11
Fan Failure	-	40291	1	-	Bit 12

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

Table 46 Liebert NPower™ - Input and Holding Registers - IMP

Controller	Single Module Series - SMS				
Liebert Products	Liebert NPower - SMS				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Status Points (View)					
Input Voltage A-B	-	40001	1	-	V
Input Voltage B-C	-	40002	1	-	V
Input Voltage C-A	-	40003	1	-	V
Bypass Voltage A-B	-	40004	1	-	V
Bypass Voltage B-C	-	40005	1	-	V
Bypass Voltage C-A	-	40006	1	-	V
Battery Voltage	-	40007	1	-	V
Battery Current	-	40008	1	10	A
Battery Temperature	-	40009	1	-	deg C
Output Voltage A-B	-	40010	1	-	V
Output Voltage B-C	-	40011	1	-	V
Output Voltage C-A	-	40012	1	-	V
Output Current A	-	40013	1	10	A
Output Current B	-	40014	1	10	A
Output Current C	-	40015	1	10	A
Output kVA A	-	40016	1	-	kVA
Output kVA B	-	40017	1	-	kVA
Output kVA C	-	40018	1	-	kVA
Output kW A	-	40019	1	-	kW
Output kW B	-	40020	1	-	kW
Output kW C	-	40021	1	-	kW
Output Frequency	-	40022	1	10	Hz
Rated kVA Percentage	-	40023	1	-	%
Rated kW Percentage	-	40024	1	-	%
Alarm Points					
Communications Loss	-	40289	1	-	Bit 0
Battery Fuse Fail	-	40289	1	-	Bit 1
Battery Low Transfer	-	40289	1	-	Bit 2
DC Over Voltage Transient	-	40289	1	-	Bit 3
Input Phase Rotation Error	-	40289	1	-	Bit 4
Rectifier/Trap Fuse Fail	-	40289	1	-	Bit 5 Any of Rectifier / Trap Fuse
Bypass Frequency Error	-	40289	1	-	Bit 6
Bypass Overload Shutdown	-	40289	1	-	Bit 7

Table 46 Liebert NPower™ - Input and Holding Registers - IMP

Controller	Single Module Series - SMS				
Liebert Products	Liebert NPower - SMS				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Bypass Phase Rotation Error	-	40289	1	-	Bit 8
Inverter Over Voltage Transfer	-	40289	1	-	Bit 9
Inverter Fuse Fail	-	40289	1	-	Bit 10
Output Over Voltage Transfer	-	40289	1	-	Bit 11
Output Under Voltage Transfer	-	40289	1	-	Bit 12
SBS SCR Open	-	40289	1	-	Bit 13
SBS SCR Short	-	40289	1	-	Bit 14
Inverter Over Current Transfer	-	40289	1	-	Bit 15
Equipment Over Temperature	-	40290	1	-	Bit 0 Any of Battery / Heatsink / Ambient / Timeout Shutdown
Battery Ground Fault CB Trip	-	40290	1	-	Bit 1
Power Supply Fail	-	40290	1	-	Bit 2 Any of Input / Bypass / Output / F1 / SWGR / MM / Option / Aux / EPO / LBS Power Fail
EPO Shutdown	-	40290	1	-	Bit 3
Rectifier Fail	-	40290	1	-	Bit 4
Inverter Fail	-	40290	1	-	Bit 5
Hardware Shutdown	-	40290	1	-	Bit 6
Battery Discharge	-	40290	1	-	Bit 7
Input Current Imbalance	-	40290	1	-	Bit 8
Input Line fail	-	40290	1	-	Bit 9
Input Under Voltage	-	40290	1	-	Bit 10
Input Over Voltage	-	40290	1	-	Bit 11
Input Over Current	-	40290	1	-	Bit 12
Battery CB Open	-	40290	1	-	Bit 13
Battery Sync Error	-	40290	1	-	Bit 14
Bypass Voltage Out of Tolerance	-	40290	1	-	Bit 15
Bypass Line Fail	-	40291	1	-	Bit 0
Inverter Over Current	-	40291	1	-	Bit 1
Output OF/UF	-	40291	1	-	Bit 2
Inverter Overload	-	40291	1	-	Bit 3 Any of Inverter Phase A / B / C Overload
Excessive Auto Retransfer	-	40291	1	-	Bit 4

Table 46 Liebert NPower™ - Input and Holding Registers - IMP

Controller	Single Module Series - SMS				
Liebert Products	Liebert NPower - SMS				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Equipment Over Temperature Warning	-	40291	1	-	Bit 5 Any of Aux / Battery / Ambient / Heatsink / Inlet Over Temp Warning
Fan Fail	-	40291	1	-	Bit 6 Any of Power Pole Fan 1 / 2 / 3, Primary Fan 1 / 2 / 3 and System Fan Fail
SBS Unable	-	40291	1	-	Bit 7
Inverter Off By User	-	40291	1	-	Bit 8
Battery low Warning	-	40291	1	-	Bit 9
Battery Test Fail	-	40291	1	-	Bit 10
User Shutdown	-	40291	1	-	Bit 11
Load On Bypass	-	40291	1	-	Bit 12
Input Contact Alarms	-	40291	1	-	Bit 13 Any of Input Contact 1-8 Alarms
Generic Alarms	-	40291	1	-	Bit 14 Any other alarm conditions that are not mapped
Bypass Overload	-	40291	1	-	Bit 15 Any of Bypass A / B / C Overload

If the Scale column has a value for a data point, multiply the Modbus value by the value in the Scale column.

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