Monitoring
For *Business-Critical Continuity™*

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	Card Name & Part Number			
	IntelliSlot 485 Card OC-485	IntelliSlot 485 Card OC485-LBDS	IntelliSlot 485 Card With Adapter OC485-ADPT	IntelliSlot Web/485 Card With Adapter OCWEB-ADPT
Liebert DS	—	OC485-LBDS	—	—
Liebert PEX	—	OC485-LBDS	—	—
Liebert XDF	—	OC485-LBDS	—	—
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 Mini-Mate 2	—	—	OC485-ADPT	OCWEB-ADPT
Liebert DataMate	—	—	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
LECS 15	—	—	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 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	—	—	OC485-ADPT	OCWEB-ADPT
Liebert SICE 7200 SSC	—	—	OC485-ADPT	OCWEB-ADPT
Liebert SICE 7200 / Liebert HiPulse SSM	—	—	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 Byte	Lo Byte
			Hi	Lo	Hi	Lo	Hi	Lo		
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 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	-

Table 6 Liebert DS™ and Liebert PEX™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Audible Alarm On	10032	-	1	-
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	-

Table 6 Liebert DS™ and Liebert PEX™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Notes
Loss of CW Flow	10075	-	1	-
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	-	-	-

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 7 Liebert DS and Liebert PEX - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Note
Vendor ID	30001	40001	1	1	-
Device ID	30002	40002	1	1	-
Version Number	30003	40003	1	1	-
UPS/Env/Pwr	30004	40004	1	1	-
Timer Mode [1]	30016	40016	1	1	-
Type of DT Room-FC [2]	30017	40017	1	1	-
Humidity Control [3]	30018	40018	1	1	-
VSD Setpoint	30019	40019	1	1	% (HP)
Supply Temperature Limit	30020	40020	1	x10	C°
DT between Room and FC	30021	40021	1	x10	C°
Minimum CW Temperature	30022	40022	1	x10	C°
Temperature Setpoint	30023	40023	1	x10	C°
Temperature Proportional Band	30024	40024	1	x10	C°
Temperature Deadband	30025	40025	1	x10	C°
Temperature Integration Time	30026	40026	1	1	Min
Humidity Setpoint	30027	40027	1	1	%
Humidity Proportional Band	30028	40028	1	1	%
Humidity Integration Time	30029	40029	1	1	Min
Humidity Deadband	30030	40030	1	1	%
Single Unit Auto-Restart Delay	30031	40031	1	1	Sec
Infrared Flush Rate	30032	40032	1	1	%
Temp Control Type [4]	30033	40033	1	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	x10	C°
Manual VSD Timer/Counter [5]	30045	40045	1	-	-
High Temperature	30050	40050	1	x10	C°
Low Temperature	30051	40051	1	x10	C°
High Temperature Sensor A	30052	40052	1	x10	C°
Low Temperature Sensor A	30053	40053	1	x10	C°
High Humidity	30054	40054	1	1	%
Low Humidity	30055	40055	1	1	%
High Humidity Sensor A	30056	40056	1	1	%
Low Humidity Sensor A	30057	40057	1	1	%
Fan Run Hour Threshold	30070	40070	-	1	Hour
Compressor 1 Run Hour Threshold	30071	40071	-	1	Hour
Compressor 2 Run Hour Threshold	30072	40072	-	1	Hour

Table 7 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	-	1	Hour
Dehumidification Run Hours Threshold	30074	40074	-	1	Hour
CW/FC Run Hours Threshold	30075	40075	-	1	Hour
Electrical Heaters #1 Run Hours Threshold	30076	40076	-	1	Hour
Electrical Heaters #2 Run Hours Threshold	30077	40077	-	1	Hour
Electrical Heaters #3 Run Hours Threshold	30078	40078	-	1	Hour
Hot Water / Hot Gas Run Hours Threshold	30079	40079	-	1	Hour
Operating State [6]	30100	-	-	1	-
Number of Active Events/Alarm	30101	-	-	-	-
Summary Alarm Status [7]	30102	-	-	-	-
Fan Ramp	30103	-	-	1	%
Cooling Ramp	30104	-	-	1	%
Free Cooling Ramp	30105	-	-	1	%
Heating Ramp	30106	-	-	1	%
Humidification Ramp	30107	-	-	1	%
Dehumidifier Ramp	30108	-	-	1	%
FreeCooling Status [8]	30109	-	-	1	%
Return Temperature	30110	-	-	x10	C°
Actual Temperature SP	30111	-	-	x10	C°
Supply Temperature	30112	-	-	x10	C°
Actual Supply Temperature SP	30113	-	-	x10	C°
FC Temperature	30115	-	-	x10	C°
Sensor A Temperature	30116	-	-	x10	C°
Sensor B Temperature	30117	-	-	x10	C°
Sensor C Temperature	30118	-	-	x10	C°
Digital Scroll Compressor 1 High Temperature	30119	-	-	x10	C°
Digital Scroll Compressor 2 High Temperature	30120	-	-	x10	C°
Return Humidity	30130	-	-	1	%
Actual Humidity SP	30131	-	-	1	%
Sensor A Humidity	30132	-	-	1	%
Sensor B Humidity	30133	-	-	1	%
Sensor C Humidity	30134	-	-	1	%
Fan Run Hour	30141	-	-	1	Hour
Compressor 1 Run Hour	30142	-	-	1	Hour
Compressor 2 Run Hour	30143	-	-	1	Hour

Table 7 Liebert DS and Liebert PEX - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Note
Humidifier Run Hours	30144	-	-	1	Hour
Dehumidification Run Hours	30145	-	-	1	Hour
Free cooling Run Hours	30146	-	-	1	Hour
Electrical Heaters #1 Run Hours	30147	-	-	1	Hour
Electrical Heaters #2 Run Hours	30148	-	-	1	Hour
Electrical Heaters #3 Run Hours	30149	-	-	1	Hour
Hot Water / Hot Gas Run Hours	30150	-	-	1	Hour
Daily High Temperature	30151	-	-	x10	C°
Daily High Temp Time	30152	-	-	x1	Hh:mm
Daily Low Temperature	30153	-	-	x10	C°
Daily Low Temp Time	30154	-	-	x1	Hh:mm
Daily High Humidity	30155	-	-	x1	%RH
Daily High Hum Time	30156	-	-	x1	Hh:mm
Daily Low Humidity	30157	-	-	x1	%RH
Daily Low Hum Time	30158	-	-	x1	Hh:mm

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 8 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 8 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 9 Liebert XDF - Input and Holding Registers

Data Description	Input Register	Holding Register	# of Reg.	Scale	Note
Vendor ID	30001	40001	1	1	-
Device ID	30002	40002	1	1	-
Version number	30003	40003	1	1	-
UPS/Env/Pwr	30004	40004	1	1	-
Temperature Setpoint	30023	40023	1	x10	C°
Delay after safe Temp has been reached	30034	40034	-	-	Minute
Allowable deviation between internal temp sensors	30035	40035	-	-	C°
High Cabinet Temperature Setpoint	30058	40058	-	x10	C°
Low Cabinet Temperature Setpoint	30059	40059	-	x10	C°
Fan Run Hour Threshold	30070	40070	-	1	Hour
Compressor 1 Run Hour Threshold	30071	40071	-	1	Hour
Service Ramp	30099	-	-	1	%
Operating State [6]	30100	-	-	1	-
Number of Active Events/Alarm	30101	-	-	-	-
Summary Alarm Status [7]	30102	-	-	-	-
Fan Ramp	30103	-	-	1	%
Cooling Ramp	30104	-	-	1	%
Digital Scroll Compressor 1 High Temperature	30119	-	-	x10	C°
Sensor 1 Temp	30121	-	-	x10	C°
Sensor 2 Temp	30122	-	-	x10	C°
Sensor 3 Temp	30123	-	-	x10	C°
Sensor 4 Temp	30124	-	-	x10	C°
Ambient Temp	30125	-	-	x10	C°
Ambient Humidity	30126	-	-	-	%
Dew Point Temp	30127	-	-	-	C°
Adjusted Setpoint Temp	30128	-	-	x10	C°
Cabinet Temperature	30129	-	-	x10	C°
Service Due Year	30135	-	-	-	-
Service Due Month	30136	-	-	-	-
Device kW Load	30137	-	-	-	kW
Fan Run Hour	30141	-	-	1	Hour
Compressor 1 Run Hour	30142	-	-	1	Hour

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

Table 9 Liebert XDF - Input and Holding Registers

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 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	1	
Humidity		40002	1	1	
Cooling		40003	1	1	1=on / 0=off
Heating		40004	1	1	1=on / 0=off
Humidification		40005	1	1	1=on / 0=off
De-humidification		40006	1	1	1=on / 0=off
Econ-O-Cycle		40007	1	1	1=on / 0=off
Stages		40008	1	1	
% Capacity		40009	1	1	
Unit Status (On / Off)		40018	1	1	1=on / 0=off
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications		40289	1	1	Bit 0
Local Off		40289	1	1	Bit 1
Remote Off		40289	1	1	Bit 2
High Head Pressure 1		40289	1	1	Bit 3
High Head Pressure 2		40289	1	1	Bit 4
Loss of Airflow		40289	1	1	Bit 5
Standby Glycol Unit On		40289	1	1	Bit 6
Liquid Detected		40289	1	1	Bit 7
Change Filters		40289	1	1	Bit 8
High Temperature		40289	1	1	Bit 9
Low Temperature		40289	1	1	Bit 10
High Humidity		40290	1	1	Bit 0
Low Humidity		40290	1	1	Bit 1
Humidifier Problem		40290	1	1	Bit 2
No Water in Humidifier Pan		40290	1	1	Bit 3
Compressor 1 Overload		40290	1	1	Bit 4
Compressor 2 Overload		40290	1	1	Bit 5
Main Fan Overload		40290	1	1	Bit 6
Manual Override		40290	1	1	Bit 7

Table 10 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**
Smoke Detected		40290	1	1	Bit 8
Loss of Water		40290	1	1	Bit 9
Standby Unit On		40290	1	1	Bit 10
Low Suction		40291	1	1	Bit 0
Short Cycle		40291	1	1	Bit 1
Loss of Power		40291	1	1	Bit 2
Inverter on Bypass		40291	1	1	Bit 3
Standby Fan On		40291	1	1	Bit 4
Loss of Emergency Power		40291	1	1	Bit 5
Local Alarm 1		40291	1	1	Bit 6
Local Alarm 2		40291	1	1	Bit 7
Off by Remote Shutdown		40291	1	1	Bit 8
Runtimes (View)					Runtimes not available on iCOM control
Compressor 1 Run Hours		40019	1	1	
Compressor 2 Run Hours		40020	1	1	
Glycol Run Hours			1	1	
Fan Motor Run Hours		40021	1	1	
Humidifier Run Hours		40022	1	1	
Reheat 1 Run Hours			1	1	
Reheat 2 Run Hours			1	1	
Reheat 3 Run Hours			1	1	
Chilled Water Valve Run Hours			1	1	
Setpoints (View)					
Temperature Setpoint		40010	1	1	
Temperature Tolerance		40011	1	1	
Humidity Setpoint		40012	1	1	
Humidity Tolerance		40013	1	1	
High Temp Alarm Setpoint		40014	1	1	
Low Temp Alarm Setpoint		40015	1	1	
High Humd Alarm Setpoint		40016	1	1	
Low Humidity Alarm Setpoint		40017	1	1	

Table 10 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**
Control Points (Set)					
Unit On / Off		40349	1	1	Bit 0 on=unit off Bit 1 on=unit on
Temperature Setpoint		40350	1	1	
Temperature Tolerance		40350	1	1x 1000	Multiply desired value by 1000
Humidity Setpoint		40351	1	1	
Humidity Tolerance		40351	1	1x 1000	Multiply desired value by 1000
Reheat Lockout		40349	1	1	Bit 2 on=RH off Bit 3 on=RH on
Humidifier Lockout		40349	1	1	Bit 4 on=HL off Bit 5 on=HL on
Trendable Points (Set)					
Temperature			1	1	
Humidity			1	1	
Reports					
Trend			1	1	
Status			1	1	

Table 11 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	1	
Humidity		40002	1	1	
Cooling		40003	1	1	1=on / 0=off
Heating		40004	1	1	1=on / 0=off
Humidification		40005	1	1	1=on / 0=off
Dehumidification		40006	1	1	1=on / 0=off
Econ-o-Cycle		40007	1	1	1=on / 0=off
Stages		40008	1	1	
% Capacity		40009	1	1	
Unit On/Off		40011	1	1	1=on / 0=off
Alarm Points					
Communications		40289	1	1	Bit 0
Local Off		40289	1	1	Bit 1
Remote Off		40289	1	1	Bit 2
High Temperature		40289	1	1	Bit 3
Low Temperature		40289	1	1	Bit 4
High Humidity		40289	1	1	Bit 5
Low Humidity		40289	1	1	Bit 6
Setpoints (View)					
None			1	1	
Control Points (Set)					
Remote On/Off		40349	1	1	Bit 0 on=unit off Bit 1 on=unit on
Trendable Points (Set)					
Temperature			1	1	
Humidity			1	1	
Reports					
Trend			1	1	
Status			1	1	

Table 12 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	1	
Humidity		40002	1	1	
Cooling		40003	1	1	1=on / 0=off
Heating		40004	1	1	1=on / 0=off
Humidification		40005	1	1	1=on / 0=off
Dehumidification		40006	1	1	1=on / 0=off
Econ-o-Cycle		40007	1	1	1=on / 0=off
Stages		40008	1	1	
% Capacity		40009	1	1	
Unit On/Off		40018	1	1	1=on / 0=off
Alarm Points					
Communications		40289	1	1	Bit 0
Local Off		40289	1	1	Bit 1
Remote Off		40289	1	1	Bit 2
High Head Pressure 1		40289	1	1	Bit 3
Loss of Airflow		40289	1	1	Bit 5
Standby Glycol Unit On		40289	1	1	Bit 6
Change Filters		40289	1	1	Bit 7
High Temperature		40289	1	1	Bit 8
Low Temperature		40289	1	1	Bit 9
High Humidity		40290	1	1	Bit 0
Low Humidity		40290	1	1	Bit 1
Humidifier Problem		40290	1	1	Bit 2
Smoke Detected		40290	1	1	Bit 8
Loss of Water Flow		40290	1	1	Bit 9
Standby Unit On		40290	1	1	Bit 10
Short Cycle		40291	1	1	Bit 1
Loss of Power		40291	1	1	Bit 2
Local Alarm 1		40291	1	1	Bit 6
Run Hours (View)					
Compressor 1		40019	1	1	
Fan Motor		40020	1	1	
Humidifier		40021	1	1	

Table 12 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**
Reheat 1			1	1	
Reheat 2			1	1	
Reheat 3			1	1	
Chilled Water Valve			1	1	
Setpoints (View)					
Temperature		40010	1	1	
Temp Tolerance		40011	1	1	
Humidity		40012	1	1	
Humidity Tolerance		40013	1	1	
High Temperature Alarm		40014	1	1	
Low Temperature Alarm		40015	1	1	
High Humidity Alarm		40016	1	1	
Low Humidity Alarm		40017	1	1	
Control Points (Set)					
Remote On/Off		40349	1	1	Bit 0 on=unit off Bit 1 on=unit on
Temperature Setpoint		40350	1	1	
Temperature Tolerance		40350	1	1x 1000	Multiply desired value by 1000 (Modbus only) 0=No Change
Humidity Setpoint		40351	1	1	
Humidity Tolerance		40351	1	1x 1000	Multiply desired value by 1000 (Modbus only) 0=No Change
Trendable Points (Set)					
Temperature			1	1	
Humidity			1	1	
Reports					
Trend			1	1	
Status			1	1	

Table 13 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	1	
Humidity		40002	1	1	
Cooling		40003	1	1	1=on / 0=off
Heating		40004	1	1	1=on / 0=off
Humidification		40005	1	1	1=on / 0=off
De-humidification		40006	1	1	1=on / 0=off
Econ-O-Cycle		40007	1	1	1=on / 0=off
Stages		40008	1	1	
% Capacity		40009	1	1	
Unit Status (On / Off)		40018	1	1	1=on / 0=off
Alarm Points					
Communications		40289	1	1	Bit 0
Local Off		40289	1	1	Bit 1
Remote Off		40289	1	1	Bit 2
High Head Pressure 1		40289	1	1	Bit 3
High Head Pressure 2		40289	1	1	Bit 4
Loss of Airflow		40289	1	1	Bit 5
Standby Glycol Unit On		40289	1	1	Bit 6
Not Used		40289	1	1	Bit 7
Change Filters		40289	1	1	Bit 8
High Temperature		40289	1	1	Bit 9
Low Temperature		40289	1	1	Bit 10
High Humidity		40290	1	1	Bit 0
Low Humidity		40290	1	1	Bit 1
Humidifier Problem		40290	1	1	Bit 2
Not Used		40290	1	1	Bit 3
Not Used		40290	1	1	Bit 4
Not Used		40290	1	1	Bit 5
Not Used		40290	1	1	Bit 6
Not Used		40290	1	1	Bit 7
Smoke Detected		40290	1	1	Bit 8
Loss of Water		40290	1	1	Bit 9
Standby Unit On		40290	1	1	Bit 10
Not Used		40291	1	1	Bit 0

Table 13 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**
Short Cycle		40291	1	1	Bit 1
Loss of Power		40291	1	1	Bit 2
Not Used		40291	1	1	Bit 3
Not Used		40291	1	1	Bit 4
Not Used		40291	1	1	Bit 5
Local Alarm 1		40291	1	1	Bit 6
Local Alarm 2		40291	1	1	Bit 7
Run Times (View)					
Compressor 1 Run Hours		40019	1	1	
Compressor 2 Run Hours		40020	1	1	
Glycol Run Hours			1	1	
Fan Motor Run Hours		40021	1	1	
Humidifier Run Hours		40022	1	1	
Reheat 1 Run Hours			1	1	
Reheat 2 Run Hours			1	1	
Reheat 3 Run Hours			1	1	
Chilled H2O Valve Run Hours			1	1	
Setpoints (View)					
Temperature Setpoint		40010	1	1	
Temperature Tolerance		40011	1	1	
Humidity Setpoint		40012	1	1	
Humidity Tolerance		40013	1	1	
High Temperature Alarm Setpoint		40014	1	1	
Low Temp Alarm Setpoint		40015	1	1	
High Humidity Alarm Setpoint		40016	1	1	
Low Humidity Alarm Setpoint		40017	1	1	
Control Points (Set)					
Unit On / Off		40349	1	1	Bit 0 on=unit off Bit 1 on=unit on
Temperature Setpoint		40350	1	1	
Temperature Tolerance		40350	1	1x 1000	Multiply desired value by 1000
Humidity Setpoint		40351	1	1	
Humidity Tolerance		40351	1	1x 1000	Multiply desired value by 1000

Table 13 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**
Reheat Lockout		40349	1	1	Bit 2 on=RH off Bit 3 on=RH on
Humidifier Lockout		40349	1	1	Bit 4 on=HL off Bit 5 on=HL on
Trendable Points (Set)					
Temperature			1	1	
Humidity			1	1	
Reports					
Trend			1	1	
Status			1	1	

Table 14 Liebert Atlas Air™, Liebert Atlas PEC™, Liebert LECS 15™ - Input and Holding Registers - C10

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	
Average Return Air Temp.		40002	1	1	
Average Return Air Humidity		40003	1	1	
Average Supply Air Temp.		40004	1	1	
Average Supply Air Humidity		40005	1	1	
Activation Mode		40006	1	1	
Fan Status		40007	1	1	
Cool 1 Status		40008	1	1	
Cool 2 Status		40009	1	1	
Heat 1 Status		40010	1	1	
Heat 2 Status		40011	1	1	
Humidifier Status		40012	1	1	
De-humidifier Status		40013	1	1	
Cooling Capacity		40014	1	1	
Heating Capacity		40015	1	1	
Active Operation (Days)			1	1	
Active Operation (Hours)			1	1	
Cool Mode (Days)			1	1	
Cool Mode (Hours)			1	1	
Heat Mode (Days)			1	1	
Heat Mode (Hours)			1	1	
Humidifier Mode (Days)			1	1	
Humidifier Mode (Hours)			1	1	
De-humidifier Mode (Days)			1	1	
De-humidifier Mode (Hours)			1	1	
Cool 1 Operating Mode (Days)			1	1	
Cool 1 Operating Mode (Hours)			1	1	
Cool 2 Operating Mode (Days)			1	1	
Cool 2 Operating Mode (Hours)			1	1	
Fan Operation (Days)			1	1	
Fan Operation (Hours)			1	1	
Heat 1 Operating Mode (Days)			1	1	

Table 14 Liebert Atlas Air™, Liebert Atlas PEC™, Liebert LECS 15™ - Input and Holding Registers - C10

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**
Heat 1 Operating Mode (Hours)			1	1	
Heat 2 Operating Mode (Days)			1	1	
Heat 2 Operating Mode (Hours)			1	1	
Humidify Operating Mode (Days)			1	1	
Humidity Operating Mode (Hours)			1	1	
Cool Service (Days)			1	1	
Cool Service (Hours)			1	1	
Filter Service (Days)			1	1	
Filter Service (Hours)			1	1	
Humidifier Service (Days)			1	1	
Humidifier Service (Hours)			1	1	
Temperature Control Status		40019	1	1	
Battery Voltage Level		40020	1	1	
Remote Shutdown Status		40021	1	1	
General Alarm Status		40022	1	1	
Audible Alarm Status		40023	1	1	
Temperature Control Select		40024	1	1	
Alarm Points					
Communications		40289	1	1	Bit 0
Faulty Sensor		40289	1	1	Bit 1
High Temperature		40289	1	1	Bit 2
Low Temperature		40289	1	1	Bit 3
High Humidity		40289	1	1	Bit 4
Low Humidity		40289	1	1	Bit 5
Loss of Airflow		40289	1	1	Bit 6
Water Under Floor		40289	1	1	Bit 7
Cool 1 Low Pressure Alarm		40289	1	1	Bit 8
Cool 2 Low Pressure Alarm		40289	1	1	Bit 9
Cool 1 High Pressure Alarm		40289	1	1	Bit 10
Cool 2 High Pressure Alarm		40290	1	1	Bit 0
Cool Service		40290	1	1	Bit 1
Humidifier Service		40290	1	1	Bit 2

Table 14 Liebert Atlas Air™, Liebert Atlas PEC™, Liebert LECS 15™ - Input and Holding Registers - C10

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**
Filter Service		40290	1	1	Bit 3
Humidity Low Level		40290	1	1	Bit 4
Battery Level Low		40290	1	1	Bit 5
Loss of Power		40290	1	1	Bit 6
Spare 1		40290	1	1	Bit 7
Spare 2		40290	1	1	Bit 8
Setpoints (View)					
Unit Status (On / Off)			1	1	
Return Air Temperature		40016	1	1	
Return Air Humidity		40017	1	1	
Supply Air Temperature		40018	1	1	
High Temperature Alarm			1	1	
Low Temperature Alarm			1	1	
High Humidity Alarm			1	1	
Low Humidity Alarm			1	1	
Start up Delay			1	1	
Control Points (Set)					
Unit Status (On / Off)			1	1	
Return Air Temperature		40349	1	1	
Return Air Humidity		40350	1	1	
Supply Air Temperature		40351	1	1	
High Temperature Alarm			1	1	
Low Temperature Alarm			1	1	
High Humidity Alarm			1	1	
Low Humidity Alarm			1	1	
Start up Delay			1	1	
Trendable Points (Set)					
Average Return Air Temp.			1	1	
Average Return Air Humidity			1	1	
Average Supply Air Temp.			1	1	
Average Supply Air Humidity			1	1	
Reports					

Table 14 Liebert Atlas Air™, Liebert Atlas PEC™, Liebert LECS 15™ - Input and Holding Registers - C10

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**
Trend			1	1	
Status			1	1	

3.0 POWER DISTRIBUTION AND POWER CONDITIONING PRODUCTS

Table 15 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 - (Ext. Protocol - PM2) 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	1	
Voltage In Y-Z		40002	1	1	
Voltage In Z-X		40003	1	1	
Voltage Out A-B		40004	1	1	
Voltage Out B-C		40005	1	1	
Voltage Out C-A		40006	1	1	
Voltage Out A-N		40007	1	1	
Voltage Out B-N		40008	1	1	
Voltage Out C-N		40009	1	1	
Current Out A		40010	1	1	
Current Out B		40011	1	1	
Current Out C		40012	1	1	
Ground Current		40013	1	1/10	Divide by 10 for correct value
Neutral Current		40014	1	1	
kVA		40015	1	1	
kW		40016	1	1	
Frequency		40017	1	1/10	Divide by 10 for correct value
% Capacity A		40018	1	1	
% Capacity B		40019	1	1	
% Capacity C		40020	1	1	
Power Factor		40021	1	1/100	Divide by 100 for correct value
Kilowatt Hours			1	1	
THD Voltage X			1	1	
THD Voltage Y			1	1	
THD Voltage Z			1	1	
THD Current X			1	1	
THD Current Y			1	1	
THD Current Z			1	1	

Table 15 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 - (Ext. Protocol - PM2) 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**
K Factor Current X			1	1	
K Factor Current Y			1	1	
K Factor Current Z			1	1	
CREST Factor Current X			1	1	
CREST Factor Current Y			1	1	
CREST Factor Current Z			1	1	
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications		40289	1	1	Bit 0
Output Undervoltage		40289	1	1	Bit 1
Output Overvoltage		40289	1	1	Bit 2
Output Overcurrent		40289	1	1	Bit 3
Frequency Deviation		40289	1	1	Bit 4
Ground Overcurrent		40289	1	1	Bit 5
Transformer Overtemp		40289	1	1	Bit 6
Ground Fault		40289	1	1	Bit 7
Ground Failure		40289	1	1	Bit 8
Liquid Detected		40289	1	1	Bit 9
Security Alarm		40289	1	1	Bit 10
Phase Rotation/Loss		40290	1	1	Bit 0
Datawave Overtemperature		40290	1	1	Bit 1
Emergency Shutdown		40290	1	1	Bit 2
Load On Bypass		40290	1	1	Bit 3
Local Alarm #1		40290	1	1	Bit 4
Local Alarm #2		40290	1	1	Bit 5
Output Voltage THD		40290	1	1	Bit 6
Custom Alarm #1		40290	1	1	Bit 7
Custom Alarm #2		40290	1	1	Bit 8
Setpoints (View)					
None			1	1	
Control Points (Set)					
None			1	1	

Table 15 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 - (Ext. Protocol - PM2) 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**
Trendable Points (Set)					
Voltage In A-B			1	1	
Voltage In B-C			1	1	
Voltage In C-A			1	1	
Voltage Out A-B			1	1	
Voltage Out B-C			1	1	
Voltage Out C-A			1	1	
Voltage In A-N			1	1	
Voltage In B-N			1	1	
Voltage In C-N			1	1	
Current Out A			1	1	
Current Out B			1	1	
Current Out C			1	1	
% Capacity A			1	1	
% Capacity B			1	1	
% Capacity C			1	1	
Ground Current			1	1	
Neutral Current			1	1	
kW			1	1	
kVA			1	1	
Power Factor			1	1	
THD Voltage X			1	1	
THD Voltage Y			1	1	
THD Voltage Z			1	1	
THD Current X			1	1	
THD Current Y			1	1	
THD Current Z			1	1	
K Factor Current X			1	1	
K Factor Current Y			1	1	
K Factor Current Z			1	1	
CREST Factor Current X			1	1	

Table 15 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 - (Ext. Protocol - PM2) 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**
CREST Factor Current Y			1	1	
CREST Factor Current Z			1	1	
Reports					
Trend			1	1	
Status			1	1	

Table 16 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	1	
Preferred Source		40002	1	1	1=Source 1 / 0=Source 2
Load On Source 1 or 2		40003	1	1	1=Source 1 / 2=Source 2
Source 1 Voltage A-B		40004	1	1	
Source 1 Voltage B-C		40005	1	1	
Source 1 Voltage C-A		40006	1	1	
Source 1 Current A		40007	1	1	
Source 1 Current B		40008	1	1	
Source 1 Current C		40009	1	1	
Source 1 Frequency		40010	1	1/10	Divide by 10 for correct value
Source 2 Voltage A-B		40011	1	1	
Source 2 Voltage B-C		40012	1	1	
Source 2 Voltage C-A		40013	1	1	
Source 2 Current A		40014	1	1	
Source 2 Current B		40015	1	1	
Source 2 Current C		40016	1	1	
Source 2 Frequency		40017	1	1/10	Divide by 10 for correct value
kW		40018	1	1	
kVA		40019	1	1	
Auto Transfer Timer		40020	1	1	
Nominal Voltage Deviation		40021	1	1	
Phase Differential Limit		40022	1	1	
Frequency Deviation		40023	1	1/10	Divide by 10 for correct value
Auto Transfer Enabled		40024	1	1	1=Enabled / 0=Disabled
Dual Output Breaker Status			1	1	1=Enabled / 0=Disabled
Alarm Points					
Communications		40289	1	1	Bit 0
Logic Failure		40289	1	1	Bit 1
Equipment Overtemp		40289	1	1	Bit 2
Power Supply 1 Fault		40289	1	1	Bit 3
Source 1 Overvoltage		40289	1	1	Bit 4

Table 16 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**
Source 1 Undervoltage		40289	1	1	Bit 5
Source 2 Overvoltage		40289	1	1	Bit 6
Source 2 Undervoltage		40289	1	1	Bit 7
Source 1 Overload		40289	1	1	Bit 8
Shorted SCR1		40289	1	1	Bit 9
Shorted SCR2		40289	1	1	Bit 10
Open SCR1		40290	1	1	Bit 0
Open SCR2		40290	1	1	Bit 1
Fan Failure		40290	1	1	Bit 2
Source 2 Overload		40290	1	1	Bit 3
Power Supply 2 Fault		40290	1	1	Bit 4
Frequency Deviation		40290	1	1	Bit 5
Transfer Inhibit		40290	1	1	Bit 6
Auto Retransfer Primed		40290	1	1	Bit 7
Out of Synchronization		40290	1	1	Bit 8
Source 1 Failure		40290	1	1	Bit 9
Source 2 Failure		40290	1	1	Bit 10
Auto Retransfer Failed		40291	1	1	Bit 0
Overload		40291	1	1	Bit 1
Control Fuse 1 Blown		40291	1	1	Bit 2
Control Fuse 2 Blown		40291	1	1	Bit 3
Source 1 CB1 Open		40291	1	1	Bit 4
Source 2 CB2 Open		40291	1	1	Bit 5
Output CB3 Open		40291	1	1	Bit 6
Custom Alarm 1		40291	1	1	Bit 7
Custom Alarm 2		40291	1	1	Bit 8
Bypass CB4 Closed		40291	1	1	Bit 9
Bypass CB5 Closed		40291	1	1	Bit 10
Output CB 3B Open		40292	1	1	Bit 0
Custom Alarm 4		40292	1	1	Bit 1
Custom Alarm 5		40292	1	1	Bit 2
Custom Alarm 6		40292	1	1	Bit 3
Custom Alarm 7		40292	1	1	Bit 4
Custom Alarm 8		40292	1	1	Bit 5

Table 16 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**
Setpoints (View)					
Auto Transfer Timer			1	1	
Nominal Voltage Deviation			1	1	
Phase Differential Limit			1	1	
Frequency Deviation			1	1	
Auto Transfer Enabled			1	1	
Control Points (Set)					
None			1	1	
Trendable Points (Set)					
Source 1 Voltage A-B			1	1	
Source 1 Voltage B-C			1	1	
Source 1 Voltage C-A			1	1	
Source 1 Current A			1	1	
Source 1 Current B			1	1	
Source 1 Current C			1	1	
Source 2 Voltage A-B			1	1	
Source 2 Voltage B-C			1	1	
Source 2 Voltage C-A			1	1	
Source 2 Current A			1	1	
Source 2 Current B			1	1	
Source 2 Current C			1	1	
kW			1	1	
kVA			1	1	
Reports					
Trend			1	1	
Status			1	1	

Table 17 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	1	
Preferred Source		40002	1	1	0=Source 1, 255=Source 2
Active Source		40003	1	1	1=Source 1, 2=Source 2
Source 1 Volts A-B		40004	1	1	
Source 1 Volts B-C		40005	1	1	
Source 1 Volts C-A		40006	1	1	
Source 1 Current A		40007	1	1	
Source 1 Current B		40008	1	1	
Source 1 Current C		40009	1	1	
Source 1 Frequency		40010	1	1/10	Divide by 10 for correct value
Source 2 Volts A-B		40011	1	1	
Source 2 Volts B-C		40012	1	1	
Source 2 Volts C-A		40013	1	1	
Source 2 Current A		40014	1	1	
Source 2 Current B		40015	1	1	
Source 2 Current C		40016	1	1	
Source 2 Frequency		40017	1	1/10	Divide by 10 for correct value
Output kW		40018	1	1	
Output kVA		40019	1	1	
Auto Retransfer Delay		40020	1	1	
Nom STS2 Input Volt		40021	1	1	
Phase Difference Limit		40022	1	1	
Frequency Deviation		40023	1	1/10	Divide by 10 for correct value
CB 1 Status		40024	1	1	Bit 0
CB 2 Status		40024	1	1	Bit 1
CB 3 Status		40024	1	1	Bit 2
CB 3A Status		40024	1	1	Bit 3
CB 4 Status		40024	1	1	Bit 4
CB 5 Status		40024	1	1	Bit 5
CB Spare 1 Status		40024	1	1	Bit 6
CB Spare 2 Status		40024	1	1	Bit 7

Table 17 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**
CB 7 Status		40024	1	1	Bit 8
CB 8 Status		40024	1	1	Bit 9
Auto Xfer Enabled		40025	1	1	Bit 0
Has Dual Out Breakers		40025	1	1	Bit 1
Has PDU Equipped		40025	1	1	Bit 2
Has 4 pole Switch		40025	1	1	Bit 3
Has Shunt Trip		40025	1	1	Bit 4
Has Wye Out Xfmr		40025	1	1	Bit 5
Has Rmt Sorce Sel		40025	1	1	Bit 6
Manual I peak Reset		40025	1	1	Bit 7
Auto Restart Enabled		40025	1	1	Bit 8
Setpoints (View)					
Retransfer Delay		40020	1	1	
STS2 Voltage Rating		40021	1	1	
Max Xfer Phase Angle		40022	1	1	
Freq. Deviation Trip Point		40023	1	1	
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications Lost		40289	1	1	Bit 0
S1 SCR Short		40289	1	1	Bit 1
S2 SCR Short		40289	1	1	Bit 2
S1 SCR Open		40289	1	1	Bit 3
S2 SCR Open		40289	1	1	Bit 4
Primary Fan Fail		40289	1	1	Bit 5
Control Module Fail		40289	1	1	Bit 6
PWR Supply DC A Fail		40289	1	1	Bit 7
PWR Supply DC B Fail		40289	1	1	Bit 8
PWR Supply SRC 1 AC Fail		40289	1	1	Bit 9
PWR Supply SRC 2 AC Fail		40289	1	1	Bit 10
PWR Supply Logic Fail		40289	1	1	Bit 11
Output Voltage Sense Fail		40289	1	1	Bit 12
S1 Voltage Sense Fail		40289	1	1	Bit 13
S2 Voltage Sense Fail		40289	1	1	Bit 14
S1 SCR Sense Fail		40289	1	1	Bit 15

Table 17 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**
S2 SCR Sense Fail		40290	1	1	Bit 0
S1 Current Sense Fail		40290	1	1	Bit 1
S2 Current Sense Fail		40290	1	1	Bit 2
S1 Gate Drive Fail		40290	1	1	Bit 3
S2 Gate Drive Fail		40290	1	1	Bit 4
Internal Comm Fail		40290	1	1	Bit 5
External Comm Fail		40290	1	1	Bit 6
CB1 Shunt Trip Fail		40290	1	1	Bit 7
CB2 Shunt Trip Fail		40290	1	1	Bit 8
CB6 Neutral Open		40290	1	1	Bit 9
Contactor Neutral Fail		40290	1	1	Bit 10
Heatsink Overtemp		40290	1	1	Bit 11
Equipment Overtemp		40290	1	1	Bit 12
Ambient Overtemp		40290	1	1	Bit 13
S1 Undervolts		40290	1	1	Bit 14
S1 Undervolts (RMS)		40290	1	1	Bit 15
S1 Overvolts		40291	1	1	Bit 0
S1 Over/Under Freq		40291	1	1	Bit 1
S1 Fail		40291	1	1	Bit 2
S2 Undervolts		40291	1	1	Bit 3
S2 Undervolts (RMS)		40291	1	1	Bit 4
S2 Overvolts		40291	1	1	Bit 5
S2 Over/Under Frequency		40291	1	1	Bit 6
S2 Fail		40291	1	1	Bit 7
S1 Overcurrent		40291	1	1	Bit 8
S2 Overcurrent		40291	1	1	Bit 9
S1 I-Peak		40291	1	1	Bit 10
S2 I-Peak		40291	1	1	Bit 11
Sources Out of Sync		40291	1	1	Bit 12
Load On Alternate Source		40291	1	1	Bit 13
Auto Retransfer Inhibit		40291	1	1	Bit 14
CB1 (S1) Open		40292	1	1	Bit 0
CB2 (S2) Open		40292	1	1	Bit 1

Table 17 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**
CB4 (S1 BYP) Closed		40292	1	1	Bit 2
CB5 (S2 BYP) Closed		40292	1	1	Bit 3
CB3 Output Bkr Open		40292	1	1	Bit 4
CB3A Output Bkr Open		40292	1	1	Bit 5
S1 Phase Rotation Error		40292	1	1	Bit 6
S2 Phase Rotation Error		40292	1	1	Bit 7
Transfer Inhibited		40292	1	1	Bit 8
Output Undervoltage		40292	1	1	Bit 9
History Logs Full		40292	1	1	Bit 10
Equipment Fan Fail		40292	1	1	Bit 11
Load Volt THD High		40292	1	1	Bit 12
Load Over-current		40292	1	1	Bit 13
Ground Over-current		40292	1	1	Bit 14
Neutral Over-current		40292	1	1	Bit 15
Customer Alarm #1		40293	1	1	Bit 0
Customer Alarm #2		40293	1	1	Bit 1
Customer Alarm #3		40293	1	1	Bit 2
Customer Alarm #4		40293	1	1	Bit 3
Customer Alarm #5		40293	1	1	Bit 4
Customer Alarm #6		40293	1	1	Bit 5
Customer Alarm #7		40293	1	1	Bit 6
Customer Alarm #8		40293	1	1	Bit 7
Config. Changed		40293	1	1	Bit 8
Password changed		40293	1	1	Bit 9
Time changed		40293	1	1	Bit 10
Date changed		40293	1	1	Bit 11
Event Log Cleared		40293	1	1	Bit 12
History Log Cleared		40293	1	1	Bit 13
Xfer Count Cleared		40293	1	1	Bit 14
KWH count Cleared		40293	1	1	Bit 15
PDU Input1 Serge Fail		40294	1	1	Bit 0
PDU Input1 OV		40294	1	1	Bit 1
PDU Input1 UV		40294	1	1	Bit 2

Table 17 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**
PDU Input1 CB Open		40294	1	1	Bit 3
PDU Input1 UF/OF		40294	1	1	Bit 4
Manual Xfer to S1		40294	1	1	Bit 5
reserved		40294	1	1	Bit 6
PDU Input2 Serge Fail		40294	1	1	Bit 7
PDU Input2 OV		40294	1	1	Bit 8
PDU Input2 UV		40294	1	1	Bit 9
PDU Input2 CB Open		40294	1	1	Bit 10
PDU Input2 UF/OF		40294	1	1	Bit 11
Manual Xfer to S2		40294	1	1	Bit 12

4.0 UPS SYSTEMS

Table 18 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 19 Liebert Nfinity - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes/Units
Number of Input Lines	30004	40004	1	1	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	1	Bits 4 - 7
Number of Output Lines	30004	40004	1	1	Bits 8 - 11
Number of Power Mod.	30010	40010	1	1	-
Number of Battery Modules Installed	30011	40011	1	1	-
Device Maximum Frame Capacity	30023	40023	2	1	-
Device System Capacity	30025	40025	2	1	VA
Nominal Input Voltage	30027	40027	1	1	V
Nominal Output Voltage	30028	40028	1	1	V
Nominal Static Bypass Switch Voltage	30029	40029	1	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	1	V
Auto Restart Delay	30051	40051	1	1	seconds
Device Auto Restart Percent Setpt	30052	40052	1	1	%
Device Low Battery Time	30053	40053	1	1	min
Next Battery Auto Test Time	30057	40057	1	1	minutes
Overload Alarm Limit	30067	40067	2	1	VA
Minimum Redundant Power Modules	30074	40074	1	1	-
Load (Apparent Power)	30102	-	2	1	VA
Load (Real Power)	30104	-	2	1	W
Load / Capacity	30106	-	1	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	1	V
Battery Time Remaining	30115	-	1	1	min
Battery Charge Percentage	30116	-	1	1	%
Battery Temperature	30117	-	1	1	degrees C
Transformer Temperature	30121	-	1	1	degrees C
Redundant Power Modules	30124	-	1	1	-
Active Power Module Count	30126	-	1	1	-

Table 19 Liebert Nfinity - Input and Holding Registers

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

Table 20 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 20 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	-	-	-	-

Table 21 Liebert NX - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	1	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	1	Bits 4 - 7
Number of Output Lines	30004	40004	1	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	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 21 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	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	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	1	%

Table 21 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	-	%

Table 22 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 23 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	1	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	1	Bits 4 - 7
Number of Output Lines	30004	40004	1	1	Bits 8 - 11
Number of SubModules	30009	40009	1	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	1	VA
Nominal Input Voltage	30027	40027	1	1	V
Nominal Output Voltage	30028	40028	1	1	V
Nominal Input Current	30030	40030	1	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	1	V
Auto Restart Delay	30051	40051	1	1	seconds
Device Low Battery Time	30053	40053	1	1	min
Load (Apparent Power)	30102	-	2	1	VA
Load / Capacity	30106	-	1	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	1	V
Battery Time Remaining	30115	-	1	1	min
Battery Charge Percentage	30116	-	1	1	%
Battery Test Result	30130	-	1	1	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 7 - Inhibited
Input Voltage L1	30153	-	1	1	V
Output Voltage L1	30163	-	1	1	V
Output Current L1	30164	-	1	1	A
Input Maximum Voltage L1	30180	-	1	1	V
Input Minimum Voltage L1	30181	-	1	1	V
Output Maximum Voltage L1	30182	-	1	1	V
Output Minimum Voltage L1	30183	-	1	1	V

Table 23 Liebert PowerSure Interactive - Input and Holding Registers

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

Table 24 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 24 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 25 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	1	Bits 12 - 15
Number of Output Lines	30004	40004	1	1	Bits 8 - 11
Number of SubModules	30009	40009	1	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	1	VA
Nominal Input Voltage	30027	40027	1	1	V
Nominal Output Voltage	30028	40028	1	1	V
Nominal Input Current	30030	40030	1	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	1	V
Nominal Battery Capacity	30037	40037	1	1	minutes
Nominal Battery Float Voltage	30038	40038	1	1	V
Auto Restart Delay	30051	40051	1	1	seconds
Device Low Battery Time	30053	40053	1	1	min
Ambient Temperature Warning Point	30069	40069	1	1	degrees C
Over Temperature Limit Point	30072	40072	1	1	degrees C
Load (Apparent Power)	30102	-	2	1	VA
Load (Real Power)	30104	-	2	1	W
Load / Capacity	30106	-	1	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	1	V
Battery Time Remaining	30115	-	1	1	min
Battery Charge Percentage	30116	-	1	1	%
Ambient Temperature	30119	-	1	1	degrees C
Battery Test Result	30130	-	1	1	-
Input Voltage L1	30153	-	1	1	V
Input Current L1	30154	-	1	1	A

Table 25 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	1	V
Output Current L1	30164	-	1	1	A
Input Maximum Voltage L1	30180	-	1	1	V
Input Minimum Voltage L1	30181	-	1	1	V
Output Maximum Voltage L1	30182	-	1	1	V
Output Minimum Voltage L1	30183	-	1	1	V
Black Out Count	30301	-	1	1	-
Brown Out Count	30302	-	1	1	-

Table 26 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 26 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 27 Liebert GXT2 - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	1	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	1	Bits 4 - 7
Number of Output Lines	30004	40004	1	1	Bits 8 - 11
Number of SubModules	30009	40009	1	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	1	-
Battery Cabinet Number	30019	40019	1	1	-
Battery AmpHour	30020	40020	1	1	AH
Nominal Power Rating	30021	40021	2	1	VA
Nominal Input Voltage	30027	40027	1	1	V
Nominal Output Voltage	30028	40028	1	1	V
Nominal Static Bypass Switch Voltage	30029	40029	1	1	V
Nominal Input Current	30030	40030	1	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	1	V
Auto Restart Delay	30051	40051	1	1	seconds
Device Low Battery Time	30053	40053	1	1	min
Load (Apparent Power)	30102	-	2	1	VA
Load (Real Power)	30104	-	2	1	W
Load / Capacity	30106	-	1	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	1	V
Battery Time Remaining	30115	-	1	1	min
Battery Charge Percentage	30116	-	1	1	%
Ambient Temperature	30119	-	1	1	degrees C

Table 27 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	1	V
Bypass Voltage L1	30159	-	1	1	V
Output Voltage L1	30163	-	1	1	V
Output Current L1	30164	-	1	1	A
Input Maximum Voltage L1	30180	-	1	1	V
Input Minimum Voltage L1	30181	-	1	1	V
Output Maximum Voltage L1	30182	-	1	1	V
Output Minimum Voltage L1	30183	-	1	1	V
Black Out Count	30301	-	1	1	-
Brown Out Count	30302	-	1	1	-

Table 28 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 29 Liebert HiNet - Input and Holding Registers

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

Table 30 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 31 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	1	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	1	Bits 4 - 7
Number of Output Lines	30004	40004	1	1	Bits 8 - 11
Nominal Power Rating	30021	40021	2	1	VA
Nominal Input Voltage	30027	40027	1	1	V
Nominal Output Voltage	30028	40028	1	1	V
Nominal Static Bypass Switch Voltage	30029	40029	1	1	V
Nominal Input Current	30030	40030	1	1	A
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	1	V
Silence Alarm	-	40101	1	1	-
Load (Apparent Power)	30102	-	2	1	VA
Load (Real Power)	30104	-	2	1	W
Load / Capacity	30106	-	1	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	1	V
Battery Current	30114	-	1	1	A
Battery Time Remaining	30115	-	1	1	min
Battery Charge Percentage	30116	-	1	1	%
Input Voltage L1	30153	-	1	1	V
Input Current L1	30154	-	1	1	A
Bypass Voltage L1	30159	-	1	1	V
Bypass Current L1	30160	-	1	1	A
Output Voltage L1	30163	-	1	1	V
Output Current L1	30164	-	1	1	A
Input Voltage L2	30203	-	1	1	V
Input Current L2	30204	-	1	1	A
Bypass Voltage L2	30209	-	1	1	V
Bypass Current L2	30210	-	1	1	A
Output Voltage L2	30213	-	1	1	V
Output Current L2	30214	-	1	1	A
Input Voltage L3	30253	-	1	1	V
Input Current L3	30254	-	1	1	A

Table 31 Liebert Series 600 UPS - Input and Holding Registers

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

Table 32 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 33 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	1	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	1	Bits 4 - 7
Number of Output Lines	30004	40004	1	1	Bits 8 - 11
Nominal Power Rating	30021	40021	2	1	VA
Nominal Input Voltage	30027	40027	1	1	V
Nominal Output Voltage	30028	40028	1	1	V
Nominal Static Bypass Switch Voltage	30029	40029	1	1	V
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Silence Alarm	-	40101	1	1	-
Load (Apparent Power)	30102	-	2	1	VA
Load (Real Power)	30104	-	2	1	W
Load / Capacity	30106	-	1	1	%
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Input Voltage L1	30153	-	1	1	V
Bypass Voltage L1	30159	-	1	1	V
Bypass Current L1	30160	-	1	1	A
Output Voltage L1	30163	-	1	1	V
Output Current L1	30164	-	1	1	A
Input Voltage L2	30203	-	1	1	V
Bypass Voltage L2	30209	-	1	1	V
Bypass Current L2	30210	-	1	1	A
Output Voltage L2	30213	-	1	1	V
Output Current L2	30214	-	1	1	A
Input Voltage L3	30253	-	1	1	V
Bypass Voltage L3	30259	-	1	1	V
Bypass Current L3	30260	-	1	1	A
Output Voltage L3	30263	-	1	1	V
Output Current L3	30264	-	1	1	A

Table 34 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 35 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	1	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	1	Bits 4 - 7
Number of Output Lines	30004	40004	1	1	Bits 8 - 11
Number of SubModules	30009	40009	1	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	1	VA
Nominal Input Voltage	30027	40027	1	1	V
Nominal Output Voltage	30028	40028	1	1	V
Nominal Static Bypass Switch Voltage	30029	40029	1	1	V
Nominal Input Current	30030	40030	1	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	1	V
Device Low Battery Time	30053	40053	1	1	min
Load (Apparent Power)	30102	-	2	1	VA
Load (Real Power)	30104	-	2	1	W
Load / Capacity	30106	-	1	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	1 - 100% Charged 2 - Less than 100% Charged
Battery Voltage	30113	-	1	1	V
Battery Current	30114	-	1	1	A
Battery Time Remaining	30115	-	1	1	min
Battery Charge Percentage	30116	-	1	1	%
Battery Test Result	30130	-	1	1	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 6 - Inhibited
Input Voltage L1	30153	-	1	1	V
Input Current	30154	-	1	1	A
Bypass Voltage L1	30159	-	1	1	V
Bypass Current L1	30160	-	1	1	A

Table 35 Liebert Series 300 UPS - Input and Holding Registers

Data Point	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Output Voltage L1	30163	-	1	1	V
Output Current L1	30164	-	1	1	A
Input Voltage L2	30203	-	1	1	V
Input Current L2	30204	-	1	1	A
Bypass Voltage L2	30209	-	1	1	V
Bypass Current L2	30210	-	1	1	A
Output Voltage L2	30213	-	1	1	V
Output Current L2	30214	-	1	1	A
Input Voltage L3	30253	-	1	1	V
Input Current L3	30254	-	1	1	A
Bypass Voltage L3	30259	-	1	1	V
Bypass Current L3	30260	-	1	1	A
Output Voltage L3	30263	-	1	1	V
Output Current L3	30264	-	1	1	A
Black Out Count	30301	-	1	1	-
Brown Out Count	30302	-	1	1	-
Transient Count	30301	-	1	1	-
Silent Audible Alarm	-	40101	-	-	any value
Battery Start	-	40102	1	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	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	1	any value
Transfer Load to Inverter	-	40108			any value
Reset UPS Statistic data	-	40111	1	1	any value
Turn UPS Outlets On	-	40112	1	1	Bitmap mask for Outlet 1-16. All bits set to 1 will be turned On
Turn UPS Outlets Off	-	40113	1	1	Bitmap mask for Outlet 1-16. All bits set to 1 will be turned Off

Table 36 Liebert SICE 7200™, Liebert HiPulse™ - Input and Holding Registers - SMM

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	1	
Output Voltage L2-L3		40002	1	1	
Output Voltage L3-L1		40003	1	1	
Output Voltage L1-N			1	1	
Output Voltage L2-N			1	1	
Output Voltage L3-N			1	1	
Output Amps L1		40004	1	1	
Output Amps L2		40005	1	1	
Output Amps L3		40006	1	1	
Output Amps Neutral			1	1	
Power L1		40007	1	1	
Power L2		40008	1	1	
Power L3		40009	1	1	
Bypass Frequency		40010	1	1/10	Divide by 10 for correct value
Inverter Frequency		40011	1	1/10	Divide by 10 for correct value
Input Voltage L1-L2			1	1	
Input Voltage L2-L3			1	1	
Input Voltage L3-L1			1	1	
Battery Voltage		40012	1	1	
Battery Amperage		40013	1	1	
Apparent Power L1		40014	1	1	
Apparent Power L2		40015	1	1	
Apparent Power L3		40016	1	1	
% Load L1		40017	1	1	
% Load L2		40018	1	1	
% Load L3		40019	1	1	
Module Number			1	1	
% Battery Charge		40020	1	1	
Battery Temperature		40021	1	1	
Battery Time Remaining		40022	1	1	
Alarm Points					
Communications		40289	1	1	Bit 0

Table 36 Liebert SICE 7200™, Liebert HiPulse™ - Input and Holding Registers - SMM

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**
Bypass Switch Open		40289	1	1	Bit 1
Output Switch Open		40289	1	1	Bit 2
Rectifier Switch Open		40289	1	1	Bit 3
Battery CB Open		40289	1	1	Bit 4
Manual Bypass Closed		40289	1	1	Bit 5
Bypass Absent		40289	1	1	Bit 6
Bypass Overvoltage		40289	1	1	Bit 7
Bypass Undervoltage		40289	1	1	Bit 8
Bypass Frequency Error		40289	1	1	Bit 9
Byp Phase Rotation Error		40289	1	1	Bit 10
Bypass SCR Failure		40290	1	1	Bit 0
Bypass Off		40290	1	1	Bit 1
Bypass Off Via Display		40290	1	1	Bit 2
Load On Bypass		40290	1	1	Bit 3
Bypass Overtemperature		40290	1	1	Bit 4
Rectifier Off		40290	1	1	Bit 5
Rectifier Off Via Display		40290	1	1	Bit 6
Rectifier Block		40290	1	1	Bit 7
Rectifier Current Limit		40290	1	1	Bit 8
Rectifier Overtemperature		40290	1	1	Bit 9
Rectifier Fuse Failure		40290	1	1	Bit 10
Inverter Off		40291	1	1	Bit 0
Inverter Off Via Display		40291	1	1	Bit 1
Inverter Block		40291	1	1	Bit 2
Inverter Current Limit		40291	1	1	Bit 3
Inverter Overtemperature		40291	1	1	Bit 4
Inverter Non Sync		40291	1	1	Bit 5
Inverter Overvoltage		40291	1	1	Bit 6
Inverter Undervoltage		40291	1	1	Bit 7
Inverter Fuse Failure		40291	1	1	Bit 8
Output Overvoltage		40291	1	1	Bit 9
Output Undervoltage		40291	1	1	Bit 10
Output No Voltage		40292	1	1	Bit 0
Output Waveform Error		40292	1	1	Bit 1

Table 36 Liebert SICE 7200™, Liebert HiPulse™ - Input and Holding Registers - SMM

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**
Inverter Frequency Error		40292	1	1	Bit 2
Inverter Parallel Error		40292	1	1	Bit 3
Contactor Failure		40292	1	1	Bit 4
Battery Test		40292	1	1	Bit 5
Battery Test Failed		40292	1	1	Bit 6
Battery On Load		40292	1	1	Bit 7
Battery End of Discharge		40292	1	1	Bit 8
Boost Time Expired		40292	1	1	Bit 9
DC Slow Overvoltage		40292	1	1	Bit 10
DC Undervoltage		40293	1	1	Bit 0
Battery Fuse Failure		40293	1	1	Bit 1
DC Fast Overvoltage		40293	1	1	Bit 2
Transfer Count Block		40293	1	1	Bit 3
Overload Shutdown		40293	1	1	Bit 4
Overtemperature SD		40293	1	1	Bit 5
Emergency Stop		40293	1	1	Bit 6
Overload Present		40293	1	1	Bit 7
Overload Shutdown TO		40293	1	1	Bit 8
Bad EEPROM		40293	1	1	Bit 9
Error LRC Par P1		40293	1	1	Bit 10
Error LRC Par P2			1	1	
Error LRC Par P3			1	1	
Error LRC Alarm History			1	1	
Error LRC Event History			1	1	
Internal Battery Low			1	1	
Error LRC Table			1	1	
Error LRC Panel			1	1	
Can Bus No Response			1	1	
Battery Ground Fault			1	1	
Back Feed Fault			1	1	
Synchronization Inhibited			1	1	
ECO - Mode On			1	1	
Setpoints (View)					

Table 36 Liebert SICE 7200™, Liebert HiPulse™ - Input and Holding Registers - SMM

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**
Power Rating			1	1	
Configuration			1	1	
Nominal Voltage			1	1	
Low Level Input Voltage			1	1	
Upper Level Input Voltage			1	1	
Low Level Output Voltage			1	1	
Upper Level Output Voltage			1	1	
Nominal Frequency			1	1	
Frequency Tolerance			1	1	
Slew Rate			1	1	
# of Battery Cells			1	1	
Rated Capacity			1	1	
Pre-End Discharge			1	1	
End of Discharge per Cell			1	1	
Maximum Voltage per Cell			1	1	
Year			1	1	
Month			1	1	
Day			1	1	
Hour			1	1	
Minute			1	1	
Second			1	1	
Control Points (Set)					
Date & Time Sync			1	1	
Trendable Points (Set)					
Output Voltage L1-L2			1	1	
Output Voltage L2-L3			1	1	
Output voltage L3-L1			1	1	
Trendable Points (Set)					
Output Amps L1			1	1	
Output Amps L2			1	1	
Output Amps L3			1	1	
Power L1			1	1	
Power L2			1	1	

Table 36 Liebert SICE 7200™, Liebert HiPulse™ - Input and Holding Registers - SMM

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**
Power L3			1	1	
Battery Voltage			1	1	
Battery Amperage			1	1	
Apparent Power L1			1	1	
Apparent Power L2			1	1	
Apparent Power L3			1	1	
% Load L1			1	1	
% Load L2			1	1	
% Load L3			1	1	
Reports					
Status			1	1	
Trend			1	1	

Table 37 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	1	
Output Voltage L2-L3		40002	1	1	
Output Voltage L3-L1		40003	1	1	
Output Voltage L1-N			1	1	
Output Voltage L2-N			1	1	
Output Voltage L3-N			1	1	
Output Amps L1		40004	1	1	
Output Amps L2		40005	1	1	
Output Amps L3		40006	1	1	
Output Amps Neutral			1	1	
Power L1		40007	1	1	
Power L2		40008	1	1	
Power L3		40009	1	1	
Bypass Frequency		40010	1	1	
Input Voltage L1-L2			1	1	
Input Voltage L2-L3			1	1	
Input Voltage L3-L1			1	1	
Battery Voltage		40012	1	1	
Battery Amperage		40013	1	1	
Apparent Power L1		40014	1	1	
Apparent Power L2		40015	1	1	
Apparent Power L3		40016	1	1	
% Load L1		40017	1	1	
% Load L2		40018	1	1	
% Load L3		40019	1	1	
Number of Modules in Sys			1	1	
%Battery Charge		40020	1	1	
Battery Temperature		40021	1	1	
Battery Time Remaining		40022	1	1	
Communications		40289	1	1	Bit 0
Bypass Switch Open		40289	1	1	Bit 1
Output Switch Open		40289	1	1	Bit 2
Battery CB Open		40289	1	1	Bit 3
Manual Bypass Closed		40289	1	1	Bit 4
Bypass Absent		40289	1	1	Bit 5

Table 37 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 Overvoltage		40289	1	1	Bit 6
Bypass Undervoltage		40289	1	1	Bit 7
Bypass Frequency Error		40289	1	1	Bit 8
Bypass Ph Rotation Error		40289	1	1	Bit 9
Bypass SCR Failure		40289	1	1	Bit 10
Bypass Off		40290	1	1	Bit 0
Bypass Off Via Display		40290	1	1	Bit 1
Load On Bypass		40290	1	1	Bit 2
Bypass Overtemperature		40290	1	1	Bit 3
Inverter Non Sync		40290	1	1	Bit 4
Output Overvoltage		40290	1	1	Bit 5
Output Undervoltage		40290	1	1	Bit 6
Output No Voltage		40290	1	1	Bit 7
Output Waveform Error		40290	1	1	Bit 8
Transfer Count Block		40290	1	1	Bit 9
Overload Shutdown		40290	1	1	Bit 10
Overtemperature Shutdown		40291	1	1	Bit 0
Emergency Stop		40291	1	1	Bit 1
Overload Present		40291	1	1	Bit 2
Overload Shutdown TO		40291	1	1	Bit 3
Bad EEPROM		40291	1	1	Bit 4
Error LRC Par P1		40291	1	1	Bit 5
Error LRC Par P2		40291	1	1	Bit 5
Error LRC Par P3		40291	1	1	Bit 5
Error LRC Alarm History		40291	1	1	Bit 5
Error LRC Event History		40291	1	1	Bit 5
Internal Battery Low		40291	1	1	Bit 5
Error LRC Table		40291	1	1	Bit 5
Error LRC Panel		40291	1	1	Bit 5
Can Bus No Response		40291	1	1	Bit 5
Setpoints (View)					
Power Rating			1	1	
Configuration			1	1	
Nominal Voltage			1	1	

Table 37 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**
Low Level Input Voltage			1	1	
Upper Level Input Voltage			1	1	
Low Level Output Voltage			1	1	
Upper Level Output Voltage			1	1	
Nominal Frequency			1	1	
Frequency Tolerance			1	1	
Year			1	1	
Month			1	1	
Day			1	1	
Hour			1	1	
Minute			1	1	
Second			1	1	
Trendable Points (Set)					
Output Voltage L1-L2			1	1	
Output Voltage L2-L3			1	1	
Output Voltage L3-L1			1	1	
Output Amps L1			1	1	
Output Amps L2			1	1	
Output Amps L3			1	1	
Power L1			1	1	
Power L2			1	1	
Power L3			1	1	
Battery Voltage			1	1	
Battery Amperage			1	1	
Apparent Power L1			1	1	
Apparent Power L2			1	1	
Apparent Power L3			1	1	
% Load L1			1	1	
% Load L2			1	1	
% Load L3			1	1	
Reports					
Status			1	1	
Trend			1	1	

Table 38 Liebert SICE 7200, Liebert HiPulse - Input and Holding Registers - SSM

Controller	Single Module Series - SSM				
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	1	
Output Voltage L2-L3		40002	1	1	
Output Voltage L3-L1		40003	1	1	
Output Voltage L1-N			1	1	
Output Voltage L2-N			1	1	
Output Voltage L3-N			1	1	
Output Amps L1		40004	1	1	
Output Amps L2		40005	1	1	
Output Amps L3		40006	1	1	
Output Amps Neutral			1	1	
Power L1		40007	1	1	
Power L2		40008	1	1	
Power L3		40009	1	1	
Bypass Frequency		40010	1	1/10	Divide by 10 for correct value
Inverter Frequency		40011	1	1/10	Divide by 10 for correct value
Input Voltage L1-L2			1	1	
Input Voltage L2-L3			1	1	
Input Voltage L3-L1			1	1	
Battery Voltage		40012	1	1	
Battery Amperage		40013	1	1	
Apparent Power L1		40014	1	1	
Apparent Power L2		40015	1	1	
Apparent Power L3		40016	1	1	
% Load L1		40017	1	1	
% Load L2		40018	1	1	
% Load L3		40019	1	1	
%Battery Charge		40020	1	1	
Battery Temperature		40021	1	1	
Battery Time Remaining		40022	1	1	
Alarm Points					
Communications		40289	1	1	Bit 0
Bypass Switch Open		40289	1	1	Bit 1

Table 38 Liebert SICE 7200, Liebert HiPulse - Input and Holding Registers - SSM

Controller	Single Module Series - SSM
Liebert Products	Liebert SICE 7200 Liebert HiPulse

Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Output Switch Open		40289	1	1	Bit 2
Rectifier Switch Open		40289	1	1	Bit 3
Battery CB Open		40289	1	1	Bit 4
Manual Bypass Closed		40289	1	1	Bit 5
Bypass Absent		40289	1	1	Bit 6
Bypass Overvoltage		40289	1	1	Bit 7
Bypass Undervoltage		40289	1	1	Bit 8
Bypass Frequency Error		40289	1	1	Bit 9
Bypass Ph Rotation Error		40289	1	1	Bit 10
Bypass SCR Failure		40290	1	1	Bit 0
Bypass Off		40290	1	1	Bit 1
Bypass Off Via Display		40290	1	1	Bit 2
Load On Bypass		40290	1	1	Bit 3
Bypass Overtemperature		40290	1	1	Bit 4
Rectifier Off		40290	1	1	Bit 5
Rectifier Off Via Display		40290	1	1	Bit 6
Rectifier Block		40290	1	1	Bit 7
Rectifier Current Limit		40290	1	1	Bit 8
Rectifier Overtemperature		40290	1	1	Bit 9
Rectifier Fuse Failure		40290	1	1	Bit 10
Inverter Off		40291	1	1	Bit 0
Inverter Off Via Display		40291	1	1	Bit 1
Inverter Block		40291	1	1	Bit 2
Inverter Current Limit		40291	1	1	Bit 3
Inverter Overtemperature		40291	1	1	Bit 4
Inverter Non Sync		40291	1	1	Bit 5
Inverter Overvoltage		40291	1	1	Bit 6
Inverter Undervoltage		40291	1	1	Bit 7
Inverter Fuse Failure		40291	1	1	Bit 8
Output Overvoltage		40291	1	1	Bit 9
Output Undervoltage		40291	1	1	Bit 10
Output No Voltage		40292	1	1	Bit 0
Output Waveform Error		40292	1	1	Bit 1
Inverter Frequency Error		40292	1	1	Bit 2

Table 38 Liebert SICE 7200, Liebert HiPulse - Input and Holding Registers - SSM

Controller	Single Module Series - SSM				
Liebert Products	Liebert SICE 7200 Liebert HiPulse				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Inverter Parallel Error		40292	1	1	Bit 3
Contactor Failure		40292	1	1	Bit 4
Battery Test		40292	1	1	Bit 5
Battery Test Failed		40292	1	1	Bit 6
Battery On Load		40292	1	1	Bit 7
Battery End of Discharge		40292	1	1	Bit 8
Boost Time Expired		40292	1	1	Bit 9
DC Slow Overvoltage		40292	1	1	Bit 10
DC Undervoltage		40293	1	1	Bit 0
Battery Fuse Failure		40293	1	1	Bit 1
DC Fast Overvoltage		40293	1	1	Bit 2
Transfer Count Block		40293	1	1	Bit 3
Overload Shutdown		40293	1	1	Bit 4
Overtemperature Shutdown		40293	1	1	Bit 5
Emergency Stop		40293	1	1	Bit 6
Overload Present		40293	1	1	Bit 7
Overload Shutdown TO		40293	1	1	Bit 8
Bad EEPROM		40293	1	1	Bit 9
Error LRC Par P1		40293	1	1	Bit 10
Error LRC Par P2		40293	1	1	Bit 10
Error LRC Par P3		40293	1	1	Bit 10
Error LRC Alarm History		40293	1	1	Bit 10
Error LRC Event History		40293	1	1	Bit 10
Internal Battery Low		40293	1	1	Bit 10
Error LRC Table		40293	1	1	Bit 10
Error LRC Panel		40293	1	1	Bit 10
Can Bus No Response		40293	1	1	Bit 10
Setpoints (View)			1	1	
Power Rating			1	1	
Configuration			1	1	
Nominal Voltage			1	1	
Low Level Input Voltage			1	1	
Upper Level Input Voltage			1	1	

Table 38 Liebert SICE 7200, Liebert HiPulse - Input and Holding Registers - SSM

Controller	Single Module Series - SSM				
Liebert Products	Liebert SICE 7200 Liebert HiPulse				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Low Level Output Voltage			1	1	
Upper Level Output Voltage			1	1	
Nominal Frequency			1	1	
Frequency Tolerance			1	1	
Slew Rate			1	1	
# of Battery Cells			1	1	
Rated Capacity			1	1	
Pre-End Discharge			1	1	
End of Discharge per Cell			1	1	
Maximum Voltage per Cell			1	1	
Year			1	1	
Month			1	1	
Day			1	1	
Hour			1	1	
Minute			1	1	
Second			1	1	
Control Points (Set)					
Date & Time Sync			1	1	
Trendable Points (Set)					
Output Voltage L1-L2			1	1	
Output Voltage L2-L3			1	1	
Output Voltage L3-L1			1	1	
Output Amps L1			1	1	
Output Amps L2			1	1	
Output Amps L3			1	1	
Power L1			1	1	
Power L2			1	1	
Power L3			1	1	
Battery Voltage			1	1	
Trendable Points (Set)					
Battery Amperage			1	1	
Apparent Power L1			1	1	
Apparent Power L2			1	1	

Table 38 Liebert SICE 7200, Liebert HiPulse - Input and Holding Registers - SSM

Controller	Single Module Series - SSM				
Liebert Products	Liebert SICE 7200 Liebert HiPulse				
Available Points					
Data Point	**Input Register**	**Holding Register**	**# of Reg.**	**Scale**	**Notes/Units**
Apparent Power L3			1	1	
% Load L1			1	1	
% Load L2			1	1	
% Load L3			1	1	
Reports					
Status			1	1	
Trend			1	1	

Table 39 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	1	
Input Voltage B-C		40002	1	1	
Input Voltage C-A		40003	1	1	
Bypass Voltage A-B		40004	1	1	
Bypass Voltage B-C		40005	1	1	
Bypass Voltage C-A		40006	1	1	
Battery Voltage		40007	1	1	
Battery Current		40008	1	1x10	Scale by 10
Battery Temperature		40009	1	1	Degree C
Output Voltage A-B		40010	1	1	
Output Voltage B-C		40011	1	1	
Output Voltage C-A		40012	1	1	
Output Current A		40013	1	1x10	Scale by 10
Output Current B		40014	1	1x10	Scale by 10
Output Current C		40015	1	1x10	Scale by 10
Output kVA A		40016	1	1	
Output kVA B		40017	1	1	
Output kVA C		40018	1	1	
Output kW A		40019	1	1	
Output kW B		40020	1	1	
Output kW C		40021	1	1	
Output Frequency		40022	1	1x10	Scale by 10
Rated kVA Percentage		40023	1	1	
Rated kW Percentage		40024	1	1	
Alarm Points					
Communications Loss		40289	1	1	Bit 0
Battery Fuse Fail		40289	1	1	Bit 1
Battery Low Transfer		40289	1	1	Bit 2
DC Over Voltage Transient		40289	1	1	Bit 3
Input Phase Rotation Error		40289	1	1	Bit 4
Fuse Fail		40289	1	1	Bit 5 (Any of Rectifier / Trap Fuse)
Bypass Frequency Error		40289	1	1	Bit 6
Bypass Overload Shutdown		40289	1	1	Bit 7

Table 39 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	1	Bit 8
Inverter Over Voltage Transfer		40289	1	1	Bit 9
Inverter Fuse Fail		40289	1	1	Bit 10
Output Over Voltage Transfer		40289	1	1	Bit 11
Output Under Voltage Transfer		40289	1	1	Bit 12
SBS SCR Open		40289	1	1	Bit 13
SBS SCR Short		40289	1	1	Bit 14
Inverter Over Current Transfer		40289	1	1	Bit 15
Equipment Over Temperature		40290	1	1	Bit 0 (Any of Battery / Heatsink / Ambient / Timeout Shutdown)
Battery Ground Fault CB Trip		40290	1	1	Bit 1
Power Supply Fail		40290	1	1	Bit 2 (Any of Input / Bypass / Output / F1 / SWGR / MM / Option / Aux / EPO / LBS Power Fail)
EPO Shutdown		40290	1	1	Bit 3
Rectifier Fail		40290	1	1	Bit 4
Inverter Fail		40290	1	1	Bit 5
Hardware Shutdown		40290	1	1	Bit 6
Battery Discharge		40290	1	1	Bit 7
Input Current Imbalance		40290	1	1	Bit 8
Input Line fail		40290	1	1	Bit 9
Input Under Voltage		40290	1	1	Bit 10
Input Over Voltage		40290	1	1	Bit 11
Input Over Current		40290	1	1	Bit 12
Battery CB Open		40290	1	1	Bit 13
Battery Sync Error		40290	1	1	Bit 14
Bypass Voltage Out of Tolerance		40290	1	1	Bit 15
Bypass Line Fail		40291	1	1	Bit 0
Output Overload		40291	1	1	Bit 1
Output OF/UF		40291	1	1	Bit 2
Inverter Overload		40291	1	1	Bit 3 (Any of Inverter Phase A / B / C Overload)
Excessive Auto Retransfer		40291	1	1	Bit 4
Equipment Over Temperature		40291	1	1	Bit 5 (Any of Aux / Battery

Table 39 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**
Warning					/ Ambient / Heatsink / Inlet Over Temp Warning)
Fan Fail		40291	1	1	Bit 6 (any of Power Pole Fan 1 / 2 / 3, Primary Fan 1 / 2 / 3 and System Fan Fail)
SBS Unable		40291	1	1	Bit 7
Inverter Off By User		40291	1	1	Bit 8
Battery low Warning		40291	1	1	Bit 9
Battery Test Fail		40291	1	1	Bit 10
User Shutdown		40291	1	1	Bit 11
Load On Bypass		40291	1	1	Bit 12
Input Contact Alarms		40291	1	1	Bit 13 Any of Input Contact 1-8 Alarms
Generic Alarms		40291	1	1	Bit 14 (Any other alarms conditions that are not mapped)
Bypass Overload		40291	1	1	Bit 15 (any of Bypass A / B / C Overload)

NOTES

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SL-28170_REV02_12-08

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