Liebert CAC-1 Protocol

Connector Configuration Parameters

RTS ON DelayX10ms

Enter a number from 0 to 255 (0 to 2.55 seconds) to delay sending a message after turning on Request To Send (RTS). Commonly used with modem communication to allow additional time for the modems to synchronize.

RTS OFF DelayX10ms

Enter a number from 0 to 255 (0 to 2.55 seconds) to keep RTS on after a message has been sent. Commonly used to keep a radio on for a short period of time at the end of a message.

Handshake Option

If Full Handshake is selected the Omnii-Comm will assert RTS and wait for CTS before sending a message. RTS will be turned off after the message has been sent.If Constant Carrier is selected the Omnii-Comm will assert RTS when it sends its first message and leave it asserted. It will wait for CTS before sending.If Ignore CTS is selected, RTS will be asserted before sending a message and removed at the end of the message. The CTS input will be ignored.If No Handshake is selected, RTS will be asserted when the Omnii-Comm sends its first message. RTS will not be turned off at the end of the message. The CTS input will be ignored.If Activity Monitor is selected, the Omnii-Comm will check the DCD input before sending a message. If DCD is ON, the Omnii-Comm will delay sending the message.

Retry Count

The number of times a message will be retried before an error is reported

Option Bit Parameters

Use Radio Key

If checked, Bit 0 in a register specified by the "Radio Key Address" on the Header configuration screen will be turned ON before a message is sent and turned OFF after the message has been completed.

Enable Commands

Check this box if Commands will be sent to the Liebert equipment.

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Protocol Extension Table Parameters

The Protocol extension table is used to define additional parameters required for Liebert operation. Click on the box to enable the Protocol Extension Table. Click on the button to bring up the specific options as detailed below.

CMD Flag Data Type and Offset

The first two entries specify the Data Type and Starting Offset that will be used to store the Command Flags. The Command Flags are continuously monitored by the Omnii-Comm and a Command will be sent to the Liebert when a Command Flag changes from OFF to ON. Two words of Command Flags are required. The low byte of each word is used for the Command Flags. The upper byte of each word is used for Command Complete status.
The Commands are;

Word	Bit	Function
0	0	CA Reset Alarms
0	1	CAH Clear Alarm History
0	2	DATE Set units date setting
0	3	HHSPT Set High Humidity Setpoint
0	4	HSPT Set Humidity Setpoint
0	5	HTOL Set Units Environmental Humidity Tolerance
0	6	HTSPT Set High Temperature Setpoint
0	7	LHSPT Set Low Humidity Setpoint
1	0	LTSPT Set Low Temperature Setpoint
1	1	TIME Set units Time Setting
1	2	TSPT Sets Temperature Setpoint
1	3	TTOL Sets Units Environmental Temperature Tolerance

CMD Data Data Type and Offset

The next two entries specify the Data Type and Starting Offset for Command Data. Command Data must be set up before the Command Flag is set. The Liebert protocol requires 17 words of Command Data.

Word	Function
0	Device Address, All commands
1	Spare, Not Used
2-	4Month, Day, Year for DATE command
5	High Humidity Setpoint for HHSPT command
6	Humidity Setpont for HSPT command
7	Environmental Humidity Tolerance for HTOL command
8	High Temperature Setpoint for HTSPT command
9	Low Humidity Setpoint for LHSPT command
10	Low Temperature Setpoint for LTSPT command
11-14	Hour, Minute, Second, A or P, for TIME command
15	Temperature Setpoint for TSPT command
16	Environmental Temperature Tolerance for TTOL command

Parser Data Type and Offset

The next two entries are used to specify the Data Type and Starting Offset for the Parsing List to be used with the Liebert Protocol. The parsing list defines how the data returned from the Liebert will be extracted and stored.

Alarm Dat Data Type and Offset

The final two entries are used to specify the Data Type and Starting Offset for the Alarm Strings. Two hundred (200) words are required for storing 20 alarm strings with each string containing 20 characters.

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Poll Table Read Parameters

Device Address (Hex)

The hex address of the Liebert device that will respond to this Read. Valid addresses are 2 to 255 (0002 to 00FF hex)

Query Type

The type of query to be sent by the poll. The parsing list number to be used to interpret the response is automatically set to the same number as the query type. There are 7 choices:

0-SA?	Active Alarms
1-AH?	Alarm History
3-CYC?	Cooling Strategy
4-DATE?	Date Setting
5-TIME?	Time Setting
6-TR?	Trends
READALL.	

Readall Querys (Bin)

If the query type is READALL, this bit field determines the types of responses that will be returned. Bit 0 is the rightmost bit, Bit 15 is the leftmost bit in the field. Parsing list 17 will be used to decode the responses. The bit position/response fields are:

0-HC?	Direction of Change heat/cool
1-HD?	Direction of change humidigying/dehumidifying
2-HHSPT?	High Humidity Setpoint
3-HSPT?	Humidity Setpoint
4-HTOL?	Env. Himidity Tolerance
5-HTSPT?	High Temp Setpoint
6-HUM?	Env. Humidity
7-LHSPT?	Low Humidity Setpoint
8-STSPT?	Low Temp Setpoint
9-ON?	ON/OFF status
10-PCT?	Percent heating or cooling
11-TTOL?	Env. Temp Tolerance
12-SR?	Status
13-STG?	Stages of incremental Cooling/Heating
14-TEMP?	Temperature
15-TSPT?	Temperature Setpoint

Poll Table Write and Error Parameters

Liebert Write functions are not supported from the poll table. Use Commands to Write to Liebert.

Note: System Error Protocol Definitions are the same as Poll Table Write and Error Parameters

Database Extension Table Parameters

Index	Name	Size
0	INVALID SELECTION	