Metasys Integrator® Liebert® Application

Introduction

This document explains Metasys Integrator® Liebert® applications. Use this document with the Metasys Integrator unit technical bulletins on the Johnson Controls® Product Information site (http://cgproducts.johnsoncontrols.com *System Manuals* > *Integration* > *Metasys Integrator*), which provide information on installing and commissioning the Metasys Integrator unit. For information on Liebert equipment, see Liebert documentation (obtainable from a Liebert representative).

Note: If you are using a Universal Packaging Module (UPM) enclosure, you **must** install the Metasys Integrator unit 300 Series in a two high enclosure (EN-EWC25-0) rather than a one high enclosure (EN-EWC13-0) as shown in the figures for this application note.

Application Details

The Metasys Integrator unit allows Liebert equipment to become an integral part of the Metasys® and Metasys Companion Networks. After a Liebert Multi-Channel Communications Interface (MCCI), Environmental Communication Adapter (ECA2), DCLAN BMS, SiteLink™ Module, or Open Comms Network Interface Card (NIC) is connected to a Metasys or Companion Network via the Metasys Integrator unit, each of its Information Gathering Modules (IGMs) has access to the full complement of Metasys Building Automation System (BAS) features, including Change-of-State (COS) monitoring, alarm notification, trend, and totalization.

IGMs maintain Liebert environmental systems to provide precise control of temperature, humidity, filtration, and distribution for heat generating equipment.

The Metasys Integrator unit supports applications for many, but not all, SiteLink function blocks. With a Liebert SiteLink module configured for Modbus RTU protocol and downloaded with the appropriate SiteLink function block, the Metasys Integrator unit can communicate with most Liebert products.

Liebert equipment equipped with a Liebert OpenComms Network Interface Card use the SiteLink vendor tables.

IMPORTANT:	For a complete list of products, controllers, and function blocks, see the Liebert Web site (www.liebert.com).

You must verify that the product you want to integrate uses a function block that is listed in this document. Table 1 lists examples of products that are supported by the Metasys Integrator unit.

Table 1: Liebert SiteLink Products Supported by Metasys Integrator Unit

Product Names	Controller Name or Identification
Environmental Products	
CSU3000	Chiller
CSU3000 with Econocoil®	Chiller with Econocoil
Deluxe System™ 3	Level 0
	Levels 3, 10
	Levels 15, Advanced Microprocessor, Advanced with Graphics
	Levels 0 with On/Off Control, and Standard Microprocessor
Challenger 3	Level 0
Challenger 3000	Standard Microprocessor
	Advanced Microprocessor, Advanced with Graphics
DataMate	Small System Controller
Industrial Cooling Series	Standard Microprocessor, Advanced Microprocessor
	Level 10
Logicool™	Level 0
Mini-Mate	Small System Controller
Mini-Mate 2	MM2
Mini-Mate Plus	Small System Controller
Modular Plus	Level 1
	Level 10
Liebert Monitoring Modules	
LDS750 and LDS1000 Water Detection	LDS750 and LDS1000
RAC2-8 Autochangeover	RAC2-8
CCM200 Contact Closure Module	CCM200
VSM100 Voltage Sensing Module	VSM100
CSM100 Current Sensing Module	CSM100
Temperature/Humidity Module	THM100
RCM8 Contact Closure Module	RCM8
Continued on next page . . .	

Product Names (Cont.)	Controller Name or Identification
Power Products	
Static Transfer Switch PDU	Single Output Breaker, Prior to 1/99
Datawave®	Power Monitoring Panel
	Voltage Current Frequency Monitoring Panel
Precision Power Center	Power Monitoring Panel
	Voltage Current Monitoring Panel
MPU4000	Voltage Current Frequency Monitoring Panel
AP301/302 Single Module UPS	SM3
Early Series 300/500/600 Single Module UPS	SMS
Early Series 500/600 System Control Cabinet	SCC
Early Series 500/600 Multi-Module UPS	MMS
Series 600 Single Module UPS with Extended Protocol	SM4
Series 600 Multi-Module UPS with Extended Protocol	MM4
Series 600 System Control Cabinet with Extended Protocol	SC4
Npower® Single Module UPS	IMP

With the Liebert MCCI, the Metasys Integrator unit supports seven Liebert IGMs:

- Deluxe System 3/Level 0
- Deluxe System 3/Level 1
- Deluxe System 3/Level 2
- Deluxe System 3/Level 3
- Deluxe System 3/Level 10
- Deluxe System 3/Level 15
- Small Systems Controller (SSC)

With the Liebert ECA2, the Metasys Integrator unit supports three IGMs:

- Deluxe System 3/Level 0
- Deluxe System 3/Level 10
- Deluxe System 3/Level 15

With Liebert DCLAN, the Metasys Integrator unit communicates with the following devices:

- Environmental Unit Level 0 and Level 0 with On/Off Control (L00, L0A, and LSM)
- Environmental Unit Small Systems Control (L0B)
- Environmental Unit Level 2, 3, 10, and 15 (L02, L03, L10, L1A, and LAM)
- Chiller (CW1, CW2, and CW3)
- Power Conditioning Unit Type PMP with IGM, VCMP with IGM
- UPS Series 300* and 600-Type Single Module System (SMS), Multi Module System (MMS), and Static Control Cabinet (SCC)
- Contact Closure Module (CCM)
- Chiller with Econocoil (CE1, CE2, and CE3)

*Series 300 with optional SiteScan® Interface Card.

The MCCI or ECA2 connects to the Metasys Integrator unit through the RS-232 Bus. Once connected, it is the interface between Liebert equipment and non Liebert devices (such as the Metasys Integrator unit). The Metasys Integrator unit allows status information and commands to be transmitted between the Liebert devices and the Metasys or Companion Network.

Each Metasys Integrator vendor port can connect to one MCCI or ECA2. Each MCCI can connect up to 24 Liebert IGMs on 24 individual RS-422 lines. Each ECA2 can connect to two Liebert IGMs on two individual RS-422 lines.

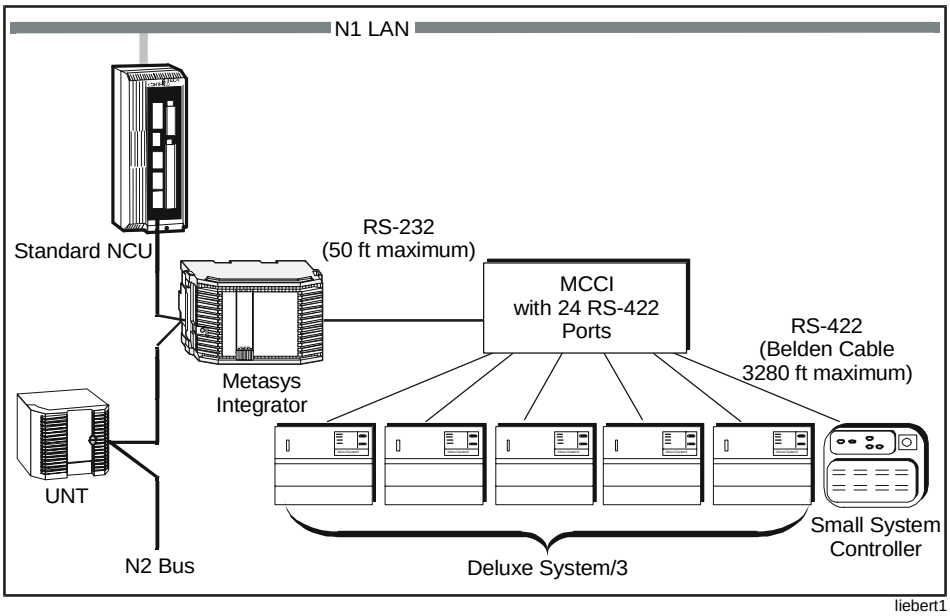
The Liebert DC100 can be used in place of the MCCI. The DC100 must be configured to use the MCCI protocol on Port 2, using SS25 software Version 1.05B or later. (The DC100 and MCCI are no longer available from Liebert.)

The DCLAN BMS protocol can be used as an interface to monitor and control Environmental Units, chillers, power conditioning units, Uninterruptible Power Supplies (UPSs), and Contact Closure Modules.

Liebert SiteLink modules provide a communication link between third-party Modbus devices and Liebert manufactured devices. The Liebert SiteLink-DC12i module has 12 ports. Each port may be connected to a Liebert device. A SiteLink-DC4i module has 4 ports. The OpenComms Network Interface Card has one port and is connected to one Liebert device. The SiteLink module (via downloaded Function Blocks) polls each device connected to it and stores the information in registers that a Modbus device can access. SiteLink modules can also be configured to communicate via DCLAN BMS protocol.

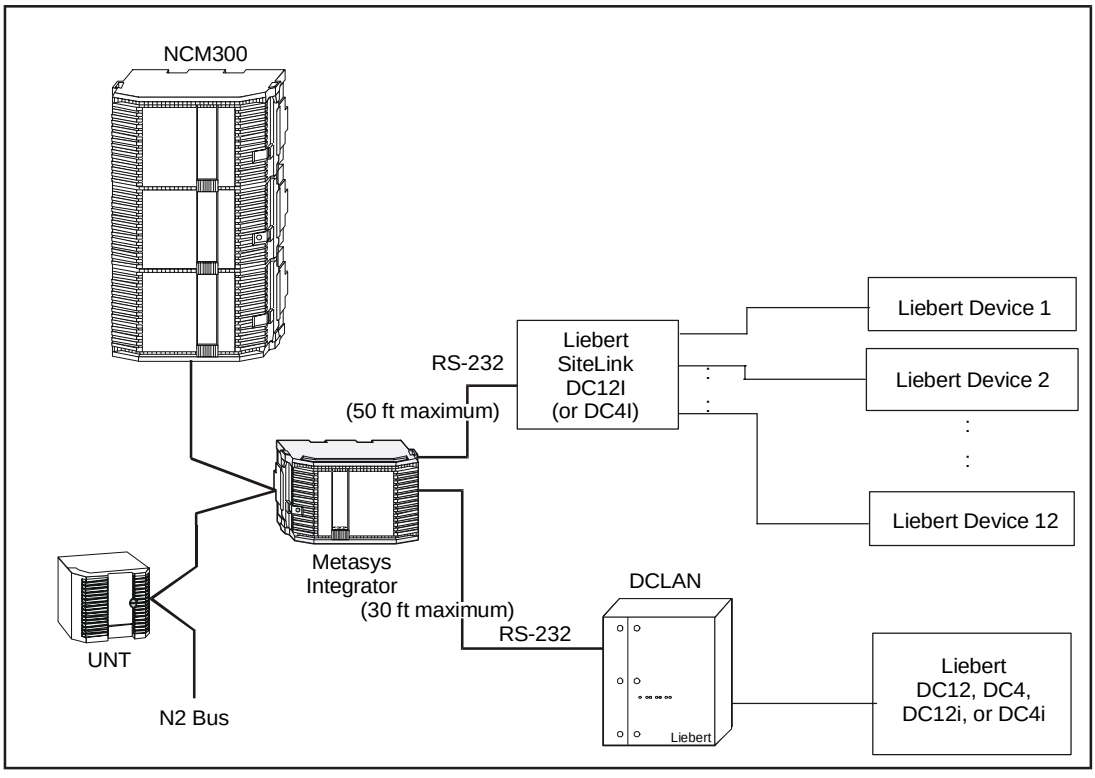
Liebert OpenComms Network Interface Cards communicate with Modbus devices via their third-party interface port (2-wire RS-485). This port is connected via an RS-485 converter to a vendor port on the Metasys Integrator unit. Modbus RTU protocol (9600, N, 8, 1 standard) is used for communication with the OpenComms NIC.

Figure 1 shows a Metasys Network with the Metasys Integrator unit connected to one MCCI in a star configuration. Figure 2 shows a Metasys Network with a Metasys Integrator unit connected to one DCLAN BMS, which can be connected to 12 control modules such as DC12-422 and DC12-485. For more information about DCLAN configurations, see *Configuration Guide-Intermediate* by Liebert Corporation. Figure 3 and Figure 4 show Metasys Companion and Liebert integration.



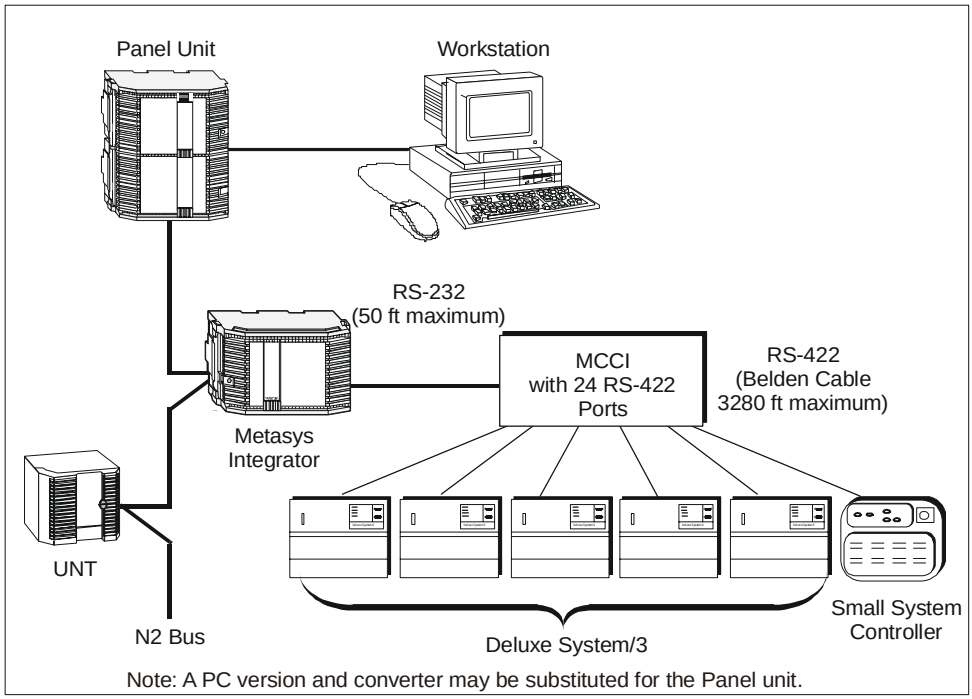
Note: If you use a UPM enclosure, you **must** install the Metasys Integrator unit 300 Series in a two high enclosure (EN-EWC25-0) rather than a one high enclosure (EN-EWC13-0) as shown in the figures for this application note.

Figure 1: Liebert and Metasys System Integration



Note: If you use a UPM enclosure, you **must** install the Metasys Integrator unit 300 Series in a two high enclosure (EN-EWC25-0) rather than a one high enclosure (EN-EWC13-0) as shown in the figures in this application note.

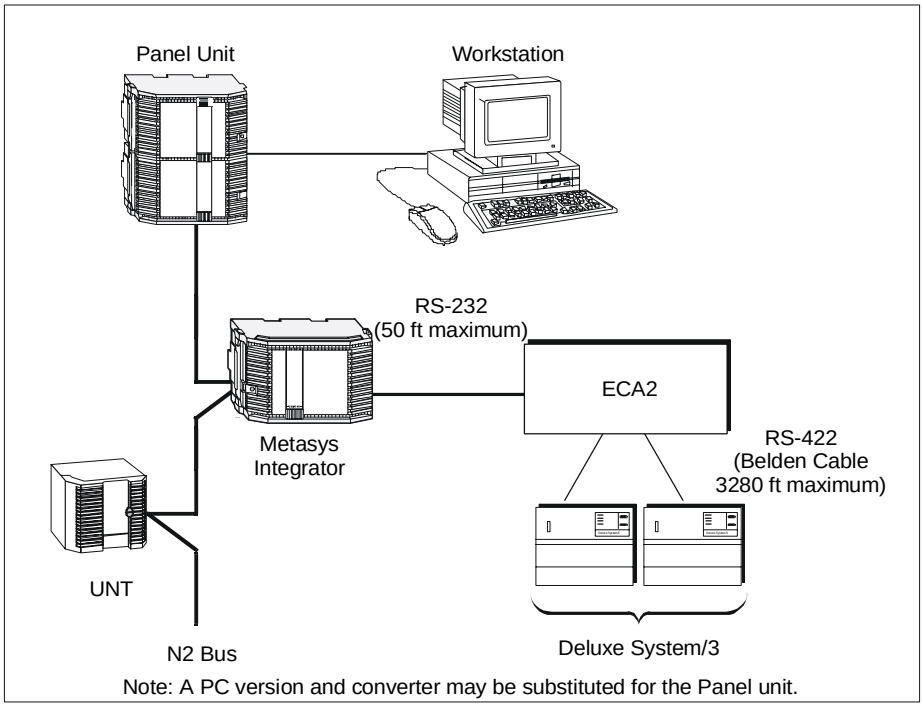
Figure 2: Liebert DCLAN BMS and Metasys System Integration



liebcomp

Note: If you use a UPM enclosure, you **must** install the Metasys Integrator unit 300 Series in a two high enclosure (EN-EWC25-0) rather than a one high enclosure (EN-EWC13-0) as shown in the figures in this application note.

Figure 3: Liebert MCCI and Metasys Companion Integration



liebcom2

Note: If you use a UPM enclosure, you **must** install the Metasys Integrator unit 300 Series in a two high enclosure (EN-EWC25-0) rather than a one high enclosure (EN-EWC13-0) as shown in the figures in this application note.

Figure 4: Liebert ECA2 and Metasys Companion Integration

Component Requirements

To integrate Liebert equipment, you need the following components:

- properly installed Liebert devices
- RS-232 cable (for connecting the MCCI, ECA2, DCLAN, or SiteLink module to the Metasys Integrator unit)

Note: If connecting a single Metasys Integrator unit to multiple SiteLink modules via the Modbus RTU protocol interface (that is standalone SiteLink modules that are not part of a DCLAN Network), additional RS-232 cables, RS-485 cables, and RS-485/232 converters are needed. See *Cable Connections* in this document for more information. Connection to one or more OpenComms Network Interface Cards also require a RS-485/232 Converter.

- Metasys Integrator unit
- N2 Bus (for connecting the Metasys Integrator unit to the Metasys or Companion Network)
- portable Personal Computer (PC) for downloading vendor communication tables (.VCT files) and network setup information into the Metasys Integrator unit and for running diagnostics
- cable for connecting portable PC to the Metasys Integrator unit
- the correct vendor communication table (.VCT file) to download into the Metasys Integrator unit (supplied on Metasys Integrator CD-ROM)

This document describes the RS-232 cable and the vendor communication tables. Liebert documentation describes its equipment. The remaining components are described in the Metasys Integrator unit technical on the Johnson Controls Product Information site (http://cgproducts.johnsoncontrols.com *System Manuals* > *Integration* > *Metasys Integrator*).

Metasys Release Requirements

To integrate Liebert equipment into the Metasys Network, you need:

- Metasys Operator Workstation (OWS) software Release 6.0 or later
- Metasys Integrator unit software/firmware Release 9.3 or later

Metasys Companion Release Requirements

To integrate Liebert equipment into the Metasys Companion Network, you need:

- Metasys Companion Release 5.0 or later
- Metasys Integrator unit software/firmware Release 9.3 or later

Vendor Component Requirements

Integration between the Metasys Integrator unit and Liebert has been tested with the equipment listed in Table 2. Changes to this equipment or integration of Liebert products not discussed in this document requires additional software development and testing by Systems Products. For information on integrating other products, refer to the *Custom Integration* section of this document.

Table 2: Liebert Part and Software Version Numbers

Liebert Product	Part Number	Firmware Version Number
Multi-Channel Communications Interface	129443G1	Revision 2.08
DC100	DC100BMS	MCCI Card, Revision 2.08
Deluxe System 3/Level 0	N/A**	Lev0 or Lev0A
Deluxe System 3/Level 1*	N/A**	Lev1
Deluxe System 3/Level 2	N/A**	Lev2 or Lev2A
Deluxe System 3/Level 3	N/A**	Lev2 or Lev2A
Deluxe System 3/Level 10	N/A**	Lev2 or Lev2A
Deluxe System 3/Level 15	N/A**	Lev2A
Single Module NPower UPS	N/A***	N/A
Small Systems Controller	N/A**	Lev0B
Environmental Communication Adapter (ECA2)	4D14081G1	1
DCLAN BMS Data Concentrator for Local Area Network (LAN)	DCLAN BMS	Revision 2.0
DC1 IGM Interface Module	DC1	--
DC4-422 IGM Interface Module	DC4-422	N/A
DC12-422 IGM Interface Module	DC12-422	N/A
SiteLink DC4i-422 IGM Interface Module	SiteLink-DC4i	N/A
SiteLink DC12i-422 IGM Interface Module	SiteLink-DC12i	N/A
OpenComms Network Interface Card	OpenComms NIC	N/A
REPOPT RS-485/232 Converter	REPOPT	N/A

* The System 3/Level 1 IGM requires a Liebert Retrofit Kit with a Liebert Protocol Converter (Part Number KIT-0101).

** Part number varies according to the system in which the System/3 controller is mounted.

*** Requires an OpenComms NIC or SiteScan® Optional Module.

DCLAN

The DCLAN BMS database is factory configured by Liebert. Only databases configured by a Liebert factory are supported. Obtain the following information from the Liebert representative:

- the address of each DCLAN BMS, which is configured with units to be monitored by the Metasys Integrator unit
- the DCLAN BMS database address of each unit, which includes the unit type (for example: DCLAN BMS Addresses 101 and 102 configured for an environmental unit type LAM)

Note: Every CMnet device uses two sequential DCLAN addresses. Liebert supports a maximum of fifty devices per DCLAN BMS.

To use SiteLink modules within a DCLAN system, the Liebert representative must configure SiteLink modules for DCLAN communication. DCLAN DC4 and DC12 drivers must be Version 4.7 or later.

SiteLink/OpenComms NIC

The Liebert representative must supply a Liebert Site Survey, which indicates which function blocks (for example, L00, PMP, EDS, etc.) are involved in the integration. The function blocks correspond to the three-character acronym associated with the name of each Metasys Integrator unit application for Liebert SiteLink.

To communicate directly to SiteLink/NIC modules, the Liebert representative must configure each SiteLink/NIC module to communicate via Modbus RTU protocol. The representative must also supply the Modbus address and port numbers for each Liebert device.

Vendor Contact Information

Liebert
P.O. Box 29186
1050 Dearborn Drive
Columbus, OH 43085

www.liebert.com

Site Application Engineering:
Phone: 800-222-5877

Design Considerations

When integrating Liebert equipment, consider the following:

- Make sure all Liebert equipment is set up, started, and running properly **before** attempting to integrate with the Metasys or Companion Network. (The Liebert representative is responsible for operation of Liebert equipment.)

MCCI/ECA2

- If an environmental unit is commanded off at the local controller, it cannot be turned on remotely.
- The MCCI/ECA2 baud rate is fixed at 9600 baud.
- The RS-232 port jumper settings on the MCCI should be set to DCE. (The Liebert representative is responsible for setting jumper settings on the MCCI.)

  Note: The DCE jumper pins are on the lower MCCI board and are labeled **DTE/DCE**.
- Cable distance between the master MCCI or ECA2 and the last IGM can be a maximum of 3280 feet. (The Liebert representative is responsible for proper configuration of Liebert equipment.)
- Set the DIP switches on SW1 of the ECA2 as follows:
  1=On, 2=On, 3=Off, 4=On, 5 (not used), 6=Off, 7=Off, 8=Off.
  Set SW2 on the ECA2 to Terminal.

DCLAN

- Liebert representatives must configure the DCLAN Network correctly.
- The DCLAN BMS must be configured so that echo is off.
- The default baud rate for the Metasys Integrator unit connection to a DCLAN Network is 9600 baud.

SiteLink Module/ OpenComms NIC

- Liebert representatives must configure each SiteLink/NIC module correctly. If the SiteLink module is directly connected to the Metasys Integrator unit, it must be downloaded with the function blocks and module drivers configured for Modbus. If connected to a DCLAN, it must be downloaded with the function blocks and module drivers configured for DCLAN.
- OpenComms NIC modules must be configured for Modbus RTU communication and a unique Modbus Slave Address assigned.
- The default baud rate for the Metasys Integrator unit connection to a SiteLink/NIC module is 9600 baud. The SiteLink module can also be configured for 38400 baud.
- If the SiteLink module supports automatic alarm reset, the auto-restore timer must be set as shown in Table 3 to ensure all hardware-latched alarms are reported.

Table 3: SiteLink Auto-Restore Timer Settings

Number of SiteLink Modules Connected to One Metasys Integrator Port	Number of Minutes Needed for SiteLink Configuration	Number of Minutes Needed for DCLAN Configuration
1	1	2
2 to 6	2	4
7 to 10*	3	6
* We do not recommend more than 10 modules be connected to one port because of performance considerations.		

- The Liebert representative is responsible for configuring the SiteLink module for setpoints and unit on/off control. If a SiteScan system is connected to the SiteLink module along with the Metasys Integrator unit, only one system is allowed to update setpoints (Analog Outputs [AOs]) and the unit on/off control.

Cable Connections

Cable Pinouts

MCCI

Use the following cable pinouts for the RS-232 connection between the Metasys Integrator unit and the Liebert MCCI:

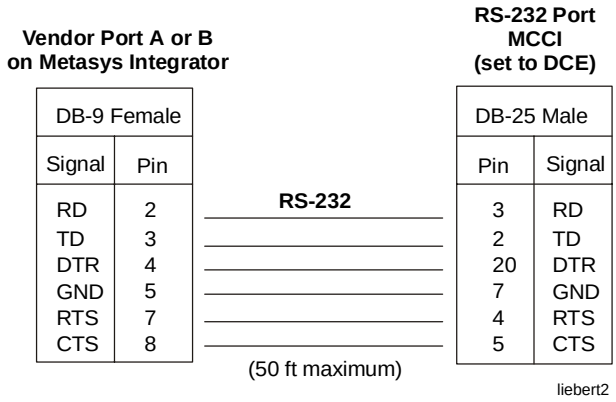


Figure 5: Cable Pinouts (MCCI)

ECA2

Use the following cable pinouts for the RS-232 connection between the Metasys Integrator unit and the Liebert ECA2:

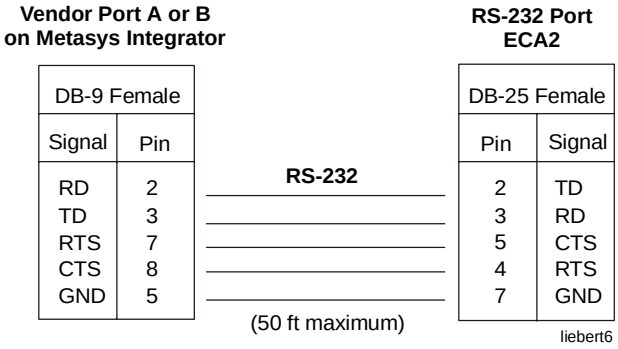


Figure 6: Cable Pinouts (ECA2)

DC100

Use the following cable pinouts for the RS-232 connection between the Metasys Integrator unit and the Liebert DC100:

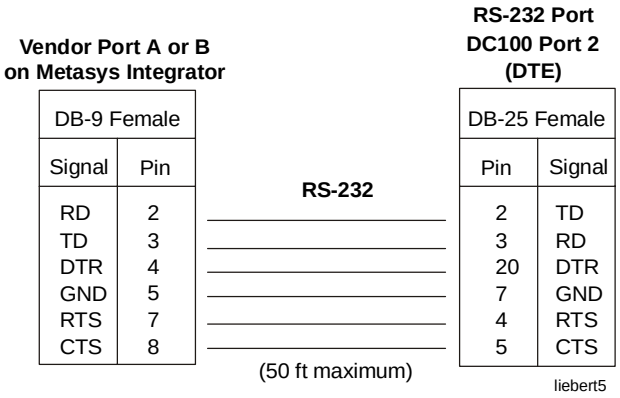


Figure 7: Cable Pinouts (DC100 Port 2)

DCLAN

Use the following cable pinouts for the RS-232 connection between the Metasys Integrator unit and the Liebert DCLAN Port 1. Use a DB-9 female to DB-9 female null modem to connect the Metasys Integrator unit to the Liebert DCLAN Port 2.

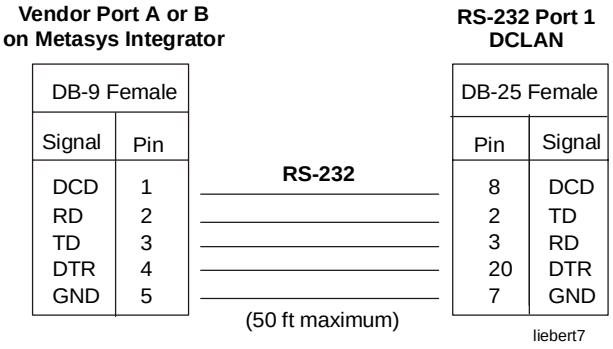


Figure 8: Cable Pinouts (DCLAN)

Connecting to SiteLink/NIC Modules

Direct RS-232 Connection

Use the following cable pinout for the RS-232 connection between the Metasys Integrator unit and a single Liebert SiteLink module:

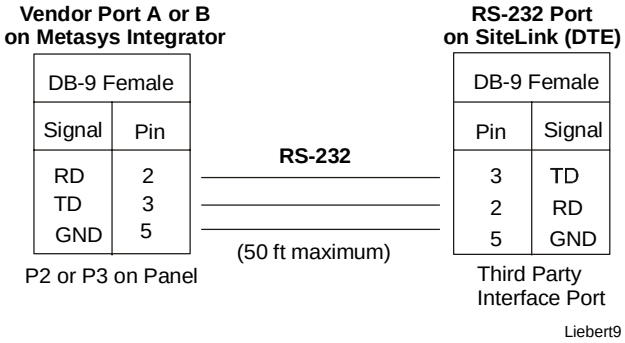


Figure 9: Cable Pinouts for Single SiteLink Module

RS-485 Connection

Use Figures 10 through 12 to wire multiple SiteLink/OpenComms NIC modules using Liebert REPOPT RS-232 to RS-485 Converters:

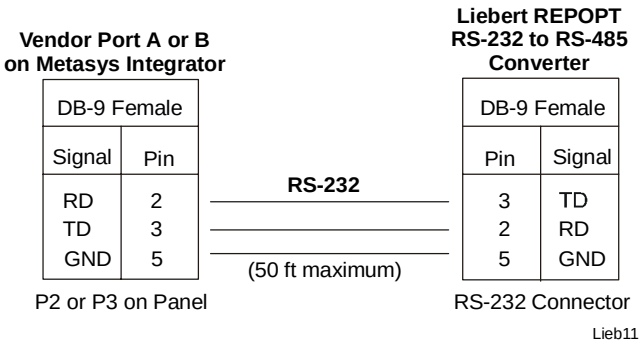


Figure 10: Cable Pinout for Liebert REPOPT RS-232 to RS-485 Converter

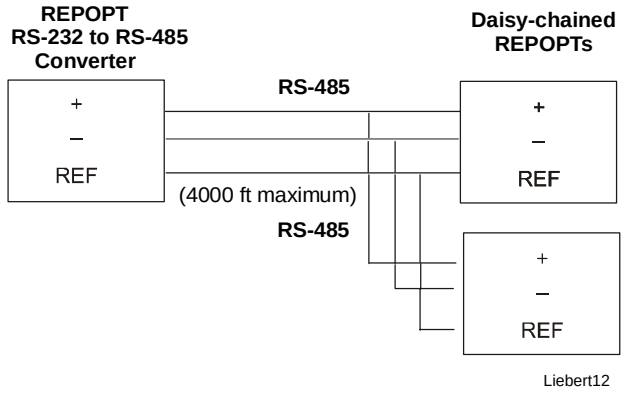


Figure 11: RS-485 Network of REPOPTs

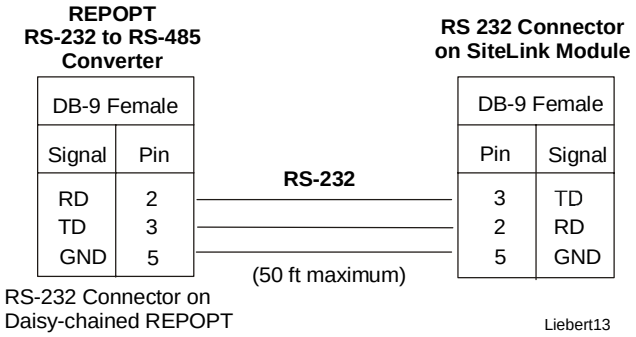


Figure 12: Null Modem Cable from Liebert REPOPT to SiteLink Module

Connecting the Cable

Connect the female end of the RS-232 cable to either Vendor Port A or Vendor Port B on the Metasys Integrator unit. Connect the other end of the cable to the RS-232 port on the MCCI, DC100, ECA2, DCLAN or SiteLink module.

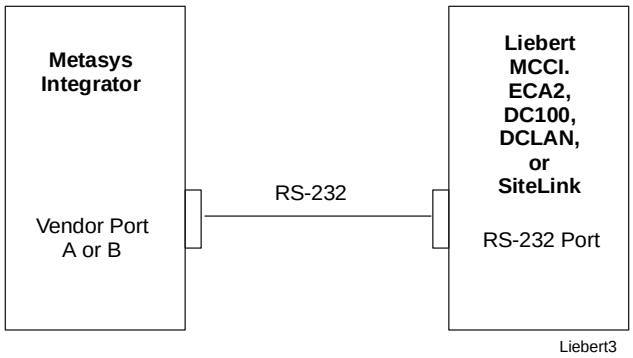


Figure 13: Port-to-Port Connection

Connection to Multiple SiteLink Modules

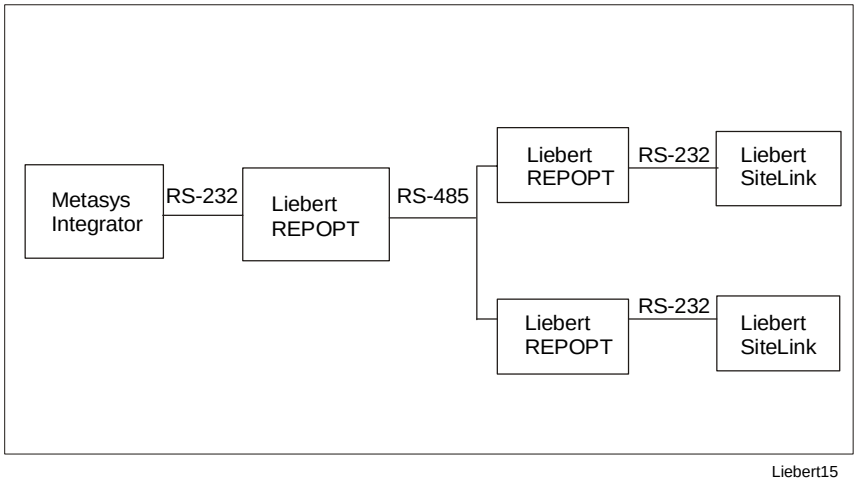


Figure 14: Connecting Metasys Integrator Unit to Multiple SiteLink Modules

Connecting Metasys Integrator Unit to OpenComms Network Interface Cards

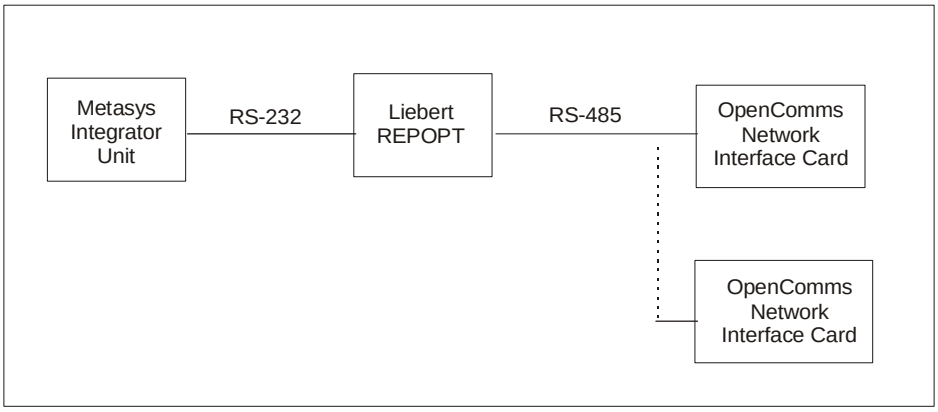


Figure 15: Connecting Metasys Integrator Unit to OpenComms Network Interface Card

Metasys Integrator Unit Setup

To set up the Metasys Integrator unit, use a portable PC connected to Metasys Integrator Terminal Port. Metasys Integrator unit setup involves:

- downloading the correct vendor communication table (.VCT file)
- setting up the ports
- assigning network addresses to the controllers

Tables 4 through 7 provide setup information specific to Liebert applications. For detailed procedures, see the Metasys Integrator unit technical bulletins on the Johnson Controls Product Information site (http://cgproducts.johnsoncontrols.com *System Manuals > Integration > Metasys Integrator*).

Table 4: Metasys Integrator Unit Setup for Liebert MCCI Applications

Vendor Communication Table (.VCT File)	
System 3/Level 0 and 1	LI_LEV0.VCT
System 3/Level 2, 3, 10, and 15	LI_LEV2.VCT
System 3/Level 10 and 15 with On/Off Control	LI_LEV2A.VCT
Small Systems Controller	LI_SSC.VCT
Port Setup	
Baud Rate	9600
Word Length	8
Stop Bits	1
Parity	None
Interface	RS-232
Network Setup	
Vendor Address	Port Number (1-24)
Timeout Value	4000 ms
Poll Delay	0 ms
Performance Guide	
System 3/Environmental Units	8 seconds
Small Systems Controller	8 seconds

Table 5: Metasys Integrator Unit Setup for Liebert ECA2 Applications

Vendor Communication Table (.VCT File)	
Environmental Communication Adapter (ECA2) Level 0	LI_ECA2.VCT
Environmental Communication Adapter (ECA2) Levels 10 and 15	LIECA210.VCT
Port Setup	
Baud Rate	9600
Word Length	8
Stop Bits	1
Parity	None
Interface	RS-232
Network Setup	
Vendor Address	Channel (1-2)
Timeout Value	4000 ms
Poll Delay	0 ms
Performance Guide	
ECA2 Environmental Communication Adapter	8 seconds

Table 6: Metasys Integrator Unit Setup for Liebert DCLAN Applications

Vendor Communication Table (.VCT File)	
Environmental Units	
Level 00 (L00)	LIDCLL00.VCT
Small Systems Control (L0B)	LIDCLL0B.VCT
Level 02 (L02) and Level 03 (L03)	LIDCLL02.VCT
Level 0 with On/Off Control (L0A) and Standard Microprocessor (LSM)	LIDCLL0A.VCT
Level 10 without On/Off Control (L10)	LIDCLL10.VCT
Level 10 with On/Off Control (L1A) and Level 15 with On/Off Control (LAM)	LIDCLL1A.VCT
Chillers	
Single Module (CW1)	LIDCLCW1.VCT
Two Module (CW2)	LIDCLCW2.VCT
Three Module (CW3)	LIDCLCW3.VCT
Chillers with Econocoil-Single Module (CE1)	LIDCLCE1.VCT
Chillers with Econocoil-Two Module (CE2)	LIDCLCE2.VCT
Chillers with Econocoil-Three Module (CE3)	LIDCLCE3.VCT
Power Conditioning Units	
Power Monitoring Panel (PMP)	LIDCLPMP.VCT
UPS	
Series 300 and 600 Single Module System (SMS)	LIDCLSMS.VCT
Series 600 Multi Module System (MMS)	LIDCLMMS.VCT
Series 600 Static Control Cabinet (SCC)	LIDCLSCC.VCT
Contact Closure Module (CCM)	LIDCLCCM.VCT
Port Setup	
Baud Rate	9600
Word Length	8
Stop Bits	1
Parity	None
Interface	RS-232
Continued on next page . . .	

Network Setup (Cont.)	
Vendor Address	D,aaa* where D is: the address of the DCLAN (‘1’ - ‘9’, ‘A’ - ‘Z’, or ‘a’ - ‘y’); where aaa is: the DCLAN configured address (101 - 199); each unit uses two consecutive DCLAN addresses**, only the first address is entered. For example, to address the first DCLAN device in DCLAN 1, enter **1,101**.
Timeout Value	1000 ms
Poll Delay	0 ms
Performance Guide	
DCLAN BMS Units	2 seconds

* The comma (,) between D and aaa of the Vendor Address is a required delimiter, which must be included in the vendor address.

** For the latest information on obtaining addressing information, please refer to *The Advisor*. It may be displayed or printed as needed.

Table 7: Metasys Integrator Unit Setup for Liebert SiteLink/NIC Applications

Vendor Communication Table (.VCT)	
CCM Function Block	LiSL_CCM.VCT
CSE Function Block	LiSL_CSE.VCT
CSU Function Block	LiSL_CSU.VCT
EDS Function Block	LiSL_EDS.VCT
IMP Function Block	LiSL_IMP.VCT
L00 Function Block	LiSL_L00.VCT
L0B Function Block	LiSL_L0B.VCT
L10 Function Block	LiSL_L10.VCT
LAM Function Block	LiSL_LAM.VCT
LSM Function Block	LiSL_LSM.VCT
MM4 Function Block	LiSL_MM4.VCT
MMS Function Block	LiSL_MMS.VCT
PMP Function Block	LiSL_PMP.VCT
RAC Function Block	LiSL_RAC.VCT
SC4 Function Block	LiSL_SC4.VCT
SCC Function Block	LiSL_SCC.VCT
SM3 Function Block	LiSL_SM3.VCT
SM4 Function Block	LiSL_SM4.VCT
SMS Function Block	LiSL_SMS.VCT
THM Function Block	LiSL_THM.VCT
VCF Function Block	LiSL_VCF.VCT
VCM Function Block	LiSL_VCM.VCT
WDU Function Block	LiSL_WDU.VCT
Port Configuration	
Baud Rate	9600 (38400 also can be used if the SiteLink module is configured for it.)
Word Length	8
Stop Bits	1
Parity	None
Interface	RS-232
Network Configuration	
Vendor Address	<Modbus Address>, <Port #> (for example, 3, 12) SiteLink Modbus Address 1-255, Port 1-12 NIC Modbus Address 1-255, Port 1 For example: If the SiteLink Modbus address is 3, and the IGM is connected to Port 12, enter **3**,**12**. If NIC Modbus address is 4, enter 4, 1 Note: <Modbus Address> defaults to 3.
Timeout Value	500 ms
Poll Delay	50 ms
Retries	3
Approximate Scan Time (for a single Metasys Integrator device)	
SiteLink/NIC Modbus	1 second

Point Mapping Tables

Deluxe System/3 (MCCI Configuration)

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Percent Heating point is AI3.

Use the following point mapping tables to map Metasys objects to the Liebert Deluxe System/3 IGMs. Table 8 applies to System/3 Levels 0, 1, 2, 3, 10, and 15.

Table 8: Deluxe System/3 (MCCI Configuration)

NPT[1]	NPA[2]	Unit	Description		
AI	1	DegF	Temperature		
AI	2	%RH	Humidity		
AI	3	%	Percent Heating		
AI	4	Step	Stages Heating		
AI	5	%	Percent Cooling		
AI	6	Step	Stages Cooling		
AO	1	DegF	Temperature Setpoint (40 to 85)		
AO	2	DegF	Temperature Tolerance (1 to 5)		
AO	3	%RH	Humidity Setpoint (40 to 60)		
AO	4	%RH	Humidity Tolerance (1 to 10)		
BI	1		Cooling	0-Heat,	1-Cool
BI	2		Glycol	0-Off,	1-On
BI	3		Humidifying	0-Off,	1-On
BI	4		Dehumidifying	0-Off,	1-On
BI	5		High Head Pressure Compressor 1	0-Normal,	1-Alarm
BI	6		High Head Pressure Compressor 2	0-Normal,	1-Alarm
BI	7		Loss of Airflow	0-Normal,	1-Alarm
BI	8		Standby Glycol Pump On	0-Normal,	1-Alarm
BI	9		Water Under Floor	0-Normal,	1-Alarm
BI	10		Change Filters	0-Normal,	1-Alarm
BI	11		High Temperature Alarm	0-Normal,	1-Alarm
BI	12		Low Temperature Alarm	0-Normal,	1-Alarm
BI	13		High Humidity Alarm	0-Normal,	1-Alarm
BI	14		Low Humidity Alarm	0-Normal,	1-Alarm
BI	15		High Water in Humidifier Pan	0-Normal,	1-Alarm
BI	16		No Water in Humidifier Pan	0-Normal,	1-Alarm
BI	17		Compressor #1 Overload	0-Normal,	1-Alarm
BI	18		Compressor #2 Overload	0-Normal,	1-Alarm
BI	19		Main Fan Overload	0-Normal,	1-Alarm
BI	20		Manual Override	0-Normal,	1-Alarm
BI	21		Smoke Detected	0-Normal,	1-Alarm
BI	22		Loss of Water Flow	0-Normal,	1-Alarm
BI	23		Standby Unit On	0-Normal,	1-Alarm
BI	24		Low Suction Pressure	0-Normal,	1-Alarm

1 Network Point Type
2 Network Point Address

Continued on next page . . .

NPT[1] (Cont.)	NPA[2]	Unit	Description		
BI	25		Short Cycle Alarm	0-Normal,	1-Alarm
BI	26		Loss of Power Alarm	0-Normal,	1-Alarm
BI	27		Local Alarm 1	0-Normal,	1-Alarm
BI	28		Local Alarm 2	0-Normal,	1-Alarm
BI	29		User Alarm 1	0-Normal,	1-Alarm
BI	30		User Alarm 2	0-Normal,	1-Alarm
BI	31		Alarm Condition Exists	0-Normal,	1-Alarm
BO	1		Reset All Alarms[3]	0-N/A,	1-Reset
BO	2		Unit Mode[4]	0-Off,	1-On
BD	1		Unit Start Status[4]	0-Off,	1-On
BD	2		Local Command Status[4]	0-Off,	1-On

1 Network Point Type

2 Network Point Address

3 The Reset All Alarms command has no effect on the System/3 Level 10. If you want to reset alarms on the Level 10, reset them directly on the System/3 controller panel. Do not map these points to Companion Binary Output (BO) points. If you map these points to Metasys BO objects, make sure the Auto Restore option in the BO object's Definition and Focus window is disabled.

4 Available only on units that include start/stop control.

Small Systems Controller (MCCI Configuration)

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Percent Heating point is AI3.

Table 9: Small Systems Controller (MCCI Configuration)

NPT[1]	NPA[2]	Unit	Description		
AI	1	DegF	Temperature		
AI	2	%RH	Humidity		
AI	3	%	Percent Heating		
AI	4	Step	Stages Heating		
AI	5	%	Percent Cooling		
AI	6	Step	Stages Cooling		
BI	1		Coolon	0-Heat,	1-Cool
BI	2		Glyavail	0-Off,	1-On
BI	3		Humidifying	0-Off,	1-On
BI	4		Dehumidifying	0-Off,	1-On
BI	5		High Head Pressure Compressor 1	0-Normal,	1-Alarm
BI	6		High Head Pressure Compressor 2	0-Normal,	1-Alarm
BI	7		Loss Of Airflow	0-Normal,	1-Alarm
BI	8		Standby Glycol Pump On	0-Normal,	1-Alarm
BI	9		Water Under Floor	0-Normal,	1-Alarm
BI	10		Change Filters	0-Normal,	1-Alarm
BI	11		High Temperature Alarm	0-Normal,	1-Alarm
BI	12		Low Temperature Alarm	0-Normal,	1-Alarm
BI	13		High Humidity Alarm	0-Normal,	1-Alarm
BI	14		Low Humidity Alarm	0-Normal,	1-Alarm
BI	15		High Water In Humidifier Pan	0-Normal,	1-Alarm
BI	16		No Water In Humidifier Pan	0-Normal,	1-Alarm
BI	17		Compressor 1 Overload	0-Normal,	1-Alarm
BI	18		Compressor 2 Overload	0-Normal,	1-Alarm
BI	19		Main Fan Overload	0-Normal,	1-Alarm
BI	20		Manual Override	0-Normal,	1-Alarm
BI	21		Smoke Detected	0-Normal,	1-Alarm
BI	22		Loss Of Water Flow	0-Normal,	1-Alarm
BI	23		Standby Unit On	0-Normal,	1-Alarm
BI	24		Low Suction Pressure	0-Normal,	1-Alarm
BI	25		Short Cycle Alarm	0-Normal,	1-Alarm
BI	26		Loss Of Power Alarm	0-Normal,	1-Alarm
BI	27		Local Alarm 1	0-Normal,	1-Alarm
BI	28		Local Alarm 2	0-Normal,	1-Alarm
BI	29		User Alarm 1	0-Normal,	1-Alarm
BI	30		User Alarm 2	0-Normal,	1-Alarm
BI	31		Alarm Condition Exists	0-Normal,	1-Alarm
BO	1		Reset Alarms[3]	0-N/A,	1-Reset

1 Network Point Type

2 Network Point Address

3 Do not map these points to Companion BO points. If you map these points to Metasys BO objects, make sure the Auto Restore option in the BO object's Definition and Focus window is disabled.

Liebert ECA2 Level 0

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Humidity Reading point is AI2.

Table 10: Liebert ECA2 Level 0

NPT[1]	NPA[2]	Unit	Description		
AI	1	DegF	Temperature Reading		
AI	2	% RH	Humidity Reading		
AI	3	%	Percent Heating/Cooling		
AI	4	Step	Stages Heating/Cooling		
AO	1	DegF	Temperature Setpoint	40-85	
AO	2	DegF	Temperature Sensitivity	1-5	
AO	3	% RH	Humidity Setpoint	40-60	
AO	4	% RH	Humidity Sensitivity	1-10	
BI	1		Cooling	0-Heat,	1-Cool
BI	2		Glycol	0-Off,	1-On
BI	3		Humidifying	0-Off,	1-On
BI	4		Dehumidifying	0-Off,	1-On
BI	5		High Head Pressure Compressor 1	0-Ok,	1-Alarm
BI	6		High Head Pressure Compressor 2	0-Ok,	1-Alarm
BI	7		Loss Of Airflow	0-Ok,	1-Alarm
BI	8		Standby Glycol Pump On	0-Ok,	1-Alarm
BI	9		Water Under Floor	0-Ok,	1-Alarm
BI	10		Change Filters	0-Ok,	1-Alarm
BI	11		High Temperature Alarm	0-Ok,	1-Alarm
BI	12		Low Temperature Alarm	0-Ok,	1-Alarm
BI	13		High Humidity Alarm	0-Ok,	1-Alarm
BI	14		Low Humidity Alarm	0-Ok,	1-Alarm
BI	15		High Water In Humidifier Pan	0-Ok,	1-Alarm
BI	16		No Water In Humidifier Pan	0-Ok,	1-Alarm
BI	17		Compressor 1 Overload	0-Ok,	1-Alarm
BI	18		Compressor 2 Overload	0-Ok,	1-Alarm
BI	19		Main Fan Overload	0-Ok,	1-Alarm
BI	20		Manual Override On	0-Ok,	1-Alarm
BI	21		Smoke Detected	0-Ok,	1-Alarm
BI	22		Loss Of Water Flow	0-Ok,	1-Alarm
BI	23		Standby Unit On	0-Ok,	1-Alarm
BI	24		Low Suction Pressure	0-Ok,	1-Alarm
BI	25		Short Cycle Alarm	0-Ok,	1-Alarm
BI	26		Loss Of Power Alarm	0-Ok,	1-Alarm
BI	27		Alarm Present	0-Ok,	1-Alarm
BO	1		Reset All Alarms[3]	0-N/A,	1-Reset
BO	2		Unit Mode	0-Off,	1-On

1 Network Point Type

2 Network Point Address

3 Do not map these points to Companion BO points. If you map these points to Metasys BO objects, make sure the Auto Restore option in the BO object's Definition and Focus window is disabled.

Liebert ECA2 Level 10 and Level 15

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Humidity Reading point is AI2.

Table 11: Liebert ECA2 Level 10 and Level 15

NPT[1]	NPA[2]	Unit	Description		
AI	1	DegF	Temperature Reading		
AI	2	%RH	Humidity Reading		
AI	3	%	Percent Heating/Cooling		
AI	4	Step	Stages Heating/Cooling		
AI	5	Hours	Compressor 1 Run Hours		
AI	6	Hours	Compressor 2 Run Hours		
AI	7	Hours	Glycol Hours		
AO	1	DegF	Temperature Setpoint	40-85	
AO	2	DegF	Temperature Sensitivity	1-5	
AO	3	%RH	Humidity Setpoint	40-60	
AO	4	%RH	Humidity Sensitivity	1-10	
AO	5	DegF	High Temperature Alarm Setpoint	40-85	
AO	6	DegF	Low Temperature Alarm Setpoint	40-85	
AO	7	%RH	High Humidity Alarm Setpoint	40-60	
AO	8	%RH	Low Humidity Alarm Setpoint	40-60	
BI	1		Cooling	0-Heat,	1-Cool
BI	2		Glycol	0-Off,	1-On
BI	3		Humidifying	0-Off,	1-On
BI	4		Dehumidifying	0-Off,	1-On
BI	5		High Head Pressure Compressor 1	0-Ok,	1-Alarm
BI	6		High Head Pressure Compressor 2	0-Ok,	1-Alarm
BI	7		Loss Of Airflow	0-Ok,	1-Alarm
BI	8		Standby Glycol Pump On	0-Ok,	1-Alarm
BI	9		Water Under Floor	0-Ok,	1-Alarm
BI	10		Change Filters	0-Ok,	1-Alarm
BI	11		High Temperature Alarm	0-Ok,	1-Alarm
BI	12		Low Temperature Alarm	0-Ok,	1-Alarm
BI	13		High Humidity Alarm	0-Ok,	1-Alarm
BI	14		Low Humidity Alarm	0-Ok,	1-Alarm
BI	15		High Water In Humidifier Pan	0-Ok,	1-Alarm
BI	16		No Water In Humidifier Pan	0-Ok,	1-Alarm
BI	17		Compressor 1 Overload	0-Ok,	1-Alarm
BI	18		Compressor 2 Overload	0-Ok,	1-Alarm
BI	19		Main Fan Overload	0-Ok,	1-Alarm
BI	20		Manual Override On	0-Ok,	1-Alarm
BI	21		Smoke Detected	0-Ok,	1-Alarm
BI	22		Loss Of Water Flow	0-Ok,	1-Alarm
BI	23		Standby Unit On	0-Ok,	1-Alarm
BI	24		Low Suction Pressure	0-Ok,	1-Alarm
BI	25		Short Cycle Alarm	0-Ok,	1-Alarm
BI	26		Loss Of Power Alarm	0-Ok,	1-Alarm
BI	27		Alarm Present	0-Ok,	1-Alarm

1 Network Point Type
2 Network Point Address

Continued on next page . . .

NPT[1] (Cont.)	NPA[2]	Unit	Description		
BO	1		Reset All Alarms[3]	0-N/A,	1-Reset
BO	2		Unit Mode	0-Off,	1-On

1 Network Point Type

2 Network Point Address

3 Do not map these points to Companion BO points. If you map these points to Metasys BO objects, make sure the Auto Restore option in the BO object's Definition and Focus window is disabled.

Liebert DCLAN Environmental Unit Level 0 and Level 0 with On/Off Control (L00, L0A, and LSM)

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Humidity Reading point is AI3.

Table 12: Liebert DCLAN Environmental Unit Level 0 and Level 0 with On/Off Control (L00, L0A, and LSM)

NPT[1]	NPA[2]	Unit	Description		
AI	1	DegF	Temperature Reading (F)		
AI	2	DegC	Temperature Reading (C)		
AI	3	%RH	Humidity Reading		
AO	1	DegF	Temperature Setpoint (F)	35-95	
AO	2	DegC	Temperature Setpoint (C)	1-35	
AO	3	Deg	Temperature Tolerance Setpoint	1-10	
AO	4	%RH	Humidity Setpoint	35-65	
AO	5	%RH	Humidity Tolerance Setpoint	1-10	
BI	1		Alarm Present	0-No,	1-Alarm
BI	2		Humidifying On	0-Off,	1-On
BI	3		Dehumidifying On	0-Off,	1-On
BI	4		Cooling On	0-Off,	1-On
BI	5		Heating On	0-Off,	1-On
BD	1		High Temperature	0-Ok,	1-Alarm
BD	2		Low Temperature	0-Ok,	1-Alarm
BD	3		High Humidity	0-Ok,	1-Alarm
BD	4		Low Humidity	0-Ok,	1-Alarm
BD	5		Loss Of Air Flow	0-Ok,	1-Alarm
BD	6		Water Under Floor	0-Ok,	1-Alarm
BD	7		Change Filters	0-Ok,	1-Alarm
BD	8		High Head Pressure	0-Ok,	1-Alarm
BO	1		Unit Run[3]	0-Off,	1-On

1 Network Point Type

2 Network Point Address

3 Only for L0A

Liebert DCLAN Environmental Unit Small Systems Control (L0B)

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Humidity point is AI3.

Table 13: Liebert DCLAN Environmental Unit Small Systems Control (L0B)

NPT[1]	NPA[2]	Unit	Description		
AI	1	DegF	Temperature (F)		
AI	2	DegC	Temperature (C)		
AI	3	%RH	Humidity		
BI	1		Alarm Present	0-No,	1-Alarm
BD	1		High Temperature	0-Ok,	1-Alarm
	2		Low Temperature	0-Ok,	1-Alarm
	3		High Humidity	0-Ok,	1-Alarm
	4		Low Humidity	0-Ok,	1-Alarm
BO	1		Unit Run	0-Off,	1-On

1 Network Point Type
2 Network Point Address

Liebert DCLAN Environmental Unit Level 2, 3, 10, and 15 (L02, L03, L10, L1A, and LAM)

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Humidity point is AI3.

Table 14: Liebert DCLAN Environmental Unit Level 2, 3, 10, and 15 (L02, L03, L10, L1A, and LAM)

NPT[1]	NPA[2]	Unit	Description	
AI	1	Deg	Temperature Reading (F)	
AI	2	Deg	Temperature Reading (C)	
AI	3	%RH	Humidity	
AO	1	Deg	Temperature Setpoint (F)	35-95
AO	2	Deg	Temperature Setpoint (C)	1-35
AO	3	Deg	Temperature Tolerance Setpoint	1-10
AO	4	%RH	Humidity Setpoint	35-65
AO	5	%RH	Humidity Tolerance Setpoint	1-10
AO	6	DegF	High Temperature Alarm Setpoint (F)	30-90
AO	7	DegF	High Temperature Alarm Setpoint (C)	-1-32
AO	8	DegF	Low Temperature Alarm Setpoint (F)	30-90
AO	9	Deg F	Low Temperature Alarm Setpoint (C)	-1-32
AO	10	%RH	High Humidity Alarm Setpoint	35-65
AO	11	%RH	Low Humidity Alarm Setpoint	30-90
AO	12	Min	Auto Restart Delay Setpoint	0-99
AO	13	Min	CW Flush Cycle Setpoint[3]	0-99

1 Network Point Type
2 Network Point Address
3 Available only for Level 02 and 03.

Continued on next page . . .

NPT[1]	NPA[2]	Unit	Description		
BI	1		Alarm Present	0-No,	1-Alarm
BI	2		Humidifying On	0-Off,	1-On
BI	3		Dehumidifying On	0-Off,	1-On
BI	4		Cooling On	0-Off,	1-On
BI	5		Heating On	0-Off,	1-On
BD	1		High Temperature	0-Ok,	1-Alarm
BD	2		Low Temperature	0-Ok,	1-Alarm
BD	3		High Humidity	0-Ok,	1-Alarm
BD	4		Low Humidity	0-Ok,	1-Alarm
BD	5		Loss Of Air Flow	0-Ok,	1-Alarm
BD	6		Water Under Floor	0-Ok,	1-Alarm
BD	7		Change Filters	0-Ok,	1-Alarm
BD	8		High Head Pressure 1	0-Ok,	1-Alarm
BD	9		High Head Pressure 2	0-Ok,	1-Alarm
BD	10		High Water Humidifier Pan	0-Ok,	1-Alarm
BD	11		Manual Override	0-Ok,	1-Alarm
BD	12		Customer Alarm 1	0-Ok,	1-Alarm
BD	13		Customer Alarm 2	0-Ok,	1-Alarm
BD	14		Standby Glycol Pump On	0-Ok,	1-Alarm
BD	15		Compressor 1 Overloaded	0-Ok,	1-Alarm
BD	16		Compressor 2 Overloaded	0-Ok,	1-Alarm
BD	17		Main Fan Overloaded	0-Ok,	1-Alarm
BD	18		Smoke Detected	0-Ok,	1-Alarm
BD	19		Loss Of Water Flow	0-Ok,	1-Alarm
BD	20		Standby Unit On	0-Ok,	1-Alarm
BD	21		Low Suction Pressure	0-Ok,	1-Alarm
BD	22		Short Cycle	0-Ok,	1-Alarm
BD	23		Loss Of Power	0-Ok,	1-Alarm
BD	24		Low Water Humidifier Pan[3]	0-Ok,	1-Alarm
BO	1		Alarm Reset[5]	0-N/A,	1-Reset
BO	2		Unit Run[4]	0-Off,	1-On

1 Network Point Type

2 Network Point Address

3 Available only for Level 02 and 03.

4 Available only for devices which have on/off control.

5 Do not map these points to Companion BO points. If you map these points to Metasys BO objects, make sure the Auto Restore option in the BO object's Definition and Focus window is disabled.

Liebert DCLAN Chiller - CW1, CW2, and CW3

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Module 3 Start point is BI8.

Table 15: Liebert DCLAN Chiller - CW1, CW2, and CW3

NPT[1]	NPA[2]	Unit	Description		
BI	1		Alarm Present	0-No,	1-Alarm
BI	2		Module 1 Start	0-Off,	1-On
BI	3		Module 1 Pump On	0-Off,	1-On
BI	4		Module 1 Cooling On	0-Off,	1-On
BI	5		Module 2 Start[3]	0-Off,	1-On
BI	6		Module 2 Pump On[3]	0-Off,	1-On
BI	7		Module 2 Cooling On[3]	0-Off,	1-On
BI	8		Module 3 Start[4]	0-Off,	1-On
BI	9		Module 3 Pump On[4]	0-Off,	1-On
BI	10		Module 3 Cooling On[4]	0-Off,	1-On
BD	1		High Head Pressure Module 1	0-Ok,	1-Alarm
BD	2		No Water Flow Module 1	0-Ok,	1-Alarm
BD	3		High Water Temperature Module 1	0-Ok,	1-Alarm
BD	4		Low Water Temperature Module 1	0-Ok,	1-Alarm
BD	5		No Power Module 1	0-Ok,	1-Alarm
BD	6		High Head Pressure Module 2[3]	0-Ok,	1-Alarm
BD	7		No Water Flow Module 2[3]	0-Ok,	1-Alarm
BD	8		High Water Temperature Module 2[3]	0-Ok,	1-Alarm
BD	9		Low Water Temperature Module 2[3]	0-Ok,	1-Alarm
BD	10		No Power Module 2[3]	0-Ok,	1-Alarm
BD	11		High Head Pressure Module 3[4]	0-Ok,	1-Alarm
BD	12		No Water Flow Module 3[4]	0-Ok,	1-Alarm
BD	13		High Water Temperature Module 3[4]	0-Ok,	1-Alarm
BD	14		Low Water Temperature Module 3[4]	0-Ok,	1-Alarm
BD	15		No Power Module 3[4]	0-Ok,	1-Alarm

1 Network Point Type
2 Network Point Address
3 Available for CW2 (two module unit) or CW3 (three module unit).
4 Available for CW3.

Liebert DCLAN Chiller with Econocoil - CE1, CE2, and CE3

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Module 2 Start point is BI6.

Table 16: Liebert DCLAN Chiller with Econocoil CE1, CE2, and CE3

NPT[1]	NPA[2]	Unit	Description	
BI	1		Alarm Present	0-No, 1-Alarm
BI	2		Module 1 Start	0-Off, 1-On
BI	3		Module 1 Pump On	0-Off, 1-On
BI	4		Module 1 Cooling On	0-Off, 1-On
BI	5		Module 1 Econocoil Operating	0-Off, 1-On
BI	6		Module 2 Start[3]	0-Off, 1-On
BI	7		Module 2 Pump On[3]	0-Off, 1-On
BI	8		Module 2 Cooling On[3]	0-Off, 1-On
BI	9		Module 2 Econocoil Operating	0-Off, 1-On
BI	10		Module 3 Start[4]	0-Off, 1-On
BI	11		Module 3 Pump On[4]	0-Off, 1-On
BI	12		Module 3 Cooling On[4]	0-Off, 1-On
BI	13		Module 3 Econocoil Operating	0-Off, 1-On
BD	1		High Head Pressure Module 1	0-Ok, 1-Alarm
BD	2		No Water Flow Module 1	0-Ok, 1-Alarm
BD	3		High Water Temperature Module 1	0-Ok, 1-Alarm
BD	4		Low Water Temperature Module 1	0-Ok, 1-Alarm
BD	5		No Power Module 1	0-Ok, 1-Alarm
BD	6		High Head Pressure Module 2[3]	0-Ok, 1-Alarm
BD	7		No Water Flow Module 2[3]	0-Ok, 1-Alarm
BD	8		High Water Temperature Module 2[3]	0-Ok, 1-Alarm
BD	9		Low Water Temperature Module 2[3]	0-Ok, 1-Alarm
BD	10		No Power Module 2[3]	0-Ok, 1-Alarm
BD	11		High Head Pressure Module 3[4]	0-Ok, 1-Alarm
BD	12		No Water Flow Module 3[4]	0-Ok, 1-Alarm
BD	13		High Water Temperature Module 3[4]	0-Ok, 1-Alarm
BD	14		Low Water Temperature Module 3[4]	0-Ok, 1-Alarm
BD	15		No Power Module 3[4]	0-Ok, 1-Alarm

1 Network Point Type
2 Network Point Address
3 Available for CE2 (two-module unit) or CE3 (three-module unit).
4 Available for CE3.

Liebert DCLAN Power Conditioning Unit

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Frequency point is AI14.

Table 17: Liebert DCLAN Power Conditioning Unit - Type PMP with IGM, VCMP with IGM

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Volts Out X-Y		
AI	2	Volt	Volts Out Y-Z		
AI	3	Volt	Volts Out Z-X		
AI	4	Volt	Volts Out X-N		
AI	5	Volt	Volts Out Y-N		
AI	6	Volt	Volts Out Z-N		
AI	7	Amps	Amps Out X		
AI	8	Amps	Amps Out Y		
AI	9	Amps	Amps Out Z		
AI	10	Amps	Ground Current		
AI	11	Amps	Neutral Current		
AI	12	kV	kVA		
AI	13	kW	kW		
AI	14	Hz	Frequency		
AI	15	%	% Capacity Phase X		
AI	16	%	% Capacity Phase Y		
AI	17	%	% Capacity Phase Z		
BI	1		Alarm Present	0-No,	1-Alarm
BD	1		Transformer Over Temperature	0-Ok,	1-Alarm
BD	2		Frequency Deviation	0-Ok,	1-Alarm
BD	3		Ground Over Current	0-Ok,	1-Alarm
BD	4		Output Over Current	0-Ok,	1-Alarm
BD	5		Output Over Voltage	0-Ok,	1-Alarm
BD	6		Output Under Voltage	0-Ok,	1-Alarm
BD	7		Ground System Fault	0-Ok,	1-Alarm
BD	8		Water Under Floor	0-Ok,	1-Alarm
BD	9		Security Alarm	0-Ok,	1-Alarm
BD	10		Phase Rotation	0-Ok,	1-Alarm
BD	11		Datawave Over Temperature	0-Ok,	1-Alarm
BD	12		Emergency Shutdown	0-Ok,	1-Alarm
BD	13		Unit In Bypass	0-Ok,	1-Alarm
BD	14		Customer Alarm 1	0-Ok,	1-Alarm
BD	15		Customer Alarm 2	0-Ok,	1-Alarm
BD	16		Local Alarm	0-Ok,	1-Alarm
BD	17		Ground Failure	0-Ok,	1-Alarm
BO	1		Alarm Reset[3]	0-N/A,	1-Reset

1 Network Point Type

2 Network Point Address

3 Do not map these points to Companion BO points. If you map these points to Metasys BO objects, make sure the Auto Restore option in the BO object's Definition and Focus window is disabled.

Liebert DCLAN UPS Series 300 and 600

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Frequency point is AI12.

Table 18: Liebert DCLAN UPS Series 300* and 600 - Type Single Module System (SMS) and Multi Module System (MMS)

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Volts Out A-B		
AI	2	Volt	Volts Out B-C		
AI	3	Volt	Volts Out C-A		
AI	4	Volt	Volts Out A-N		
AI	5	Volt	Volts Out B-N		
AI	6	Volt	Volts Out C-N		
AI	7	Amps	Amps Out A		
AI	8	Amps	Amps Out B		
AI	9	Amps	Amps Out C		
AI	10	kV	KVA		
AI	11	kW	kW		
AI	12	Hz	Frequency		
AI	13	%	% Capacity Phase A		
AI	14	%	% Capacity Phase B		
AI	15	%	% Capacity Phase C		
AI	16	Amps	Battery Current		
AI	17	Volt	DC Bus Voltage		
AI	18	Volt	Input Volts Phase A-B		
AI	19	Volt	Input Volts Phase B-C		
AI	20	Volt	Input Volts Phase C-A		
BI	1		Alarm Present	0-No,	1-Alarm
BD	1		Output Overload	0-Ok,	1-Alarm
BD	2		Load On Bypass	0-Ok,	1-Alarm
BD	3		Static Switch Disabled	0-Ok,	1-Alarm
BD	4		Emergency Power Off	0-Ok,	1-Alarm
BD	5		Module Cooling Failure	0-Ok,	1-Alarm
BD	6		Ambient Over Temperature	0-Ok,	1-Alarm
BD	7		Battery Discharging	0-Ok,	1-Alarm
BD	8		Low Battery Reserve	0-Ok,	1-Alarm
BD	9		Battery Disconnect	0-Ok,	1-Alarm
BD	10		Fuse Cleared	0-Ok,	1-Alarm
BD	11		Control Power Failure[4]	0-Ok,	1-Alarm
BO	1		Alarm Reset[3]	0-N/A,	1-Reset

1 Network Point Type

2 Network Point Address

3 Do not map these points to Companion BO points. If you map these points to Metasys BO objects, make sure the Auto Restore option in the BO object's Definition and Focus window is disabled.

4 Not available on MMS.

* Series 300 with optional SiteScan Interface Card

Liebert DCLAN Series 600 Static Control Cabinet (SCC)

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Frequency point is AI12.

Table 19: Liebert DCLAN Series 600 Static Control Cabinet (SCC)

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Volts Out A-B		
AI	2	Volt	Volts Out B-C		
AI	3	Volt	Volts Out C-A		
AI	4	Volt	Volts Out A-N		
AI	5	Volt	Volts Out B-N		
AI	6	Volt	Volts Out C-N		
AI	7	Amp	Amps Out A		
AI	8	Amp	Amps Out B		
AI	9	Amp	Amps Out C		
AI	10	kV	KVA		
AI	11	kW	kW		
AI	12	Hz	Frequency		
AI	13	%	% Capacity Phase A		
AI	14	%	% Capacity Phase B		
AI	15	%	% Capacity Phase C		
AI	16	Volt	Bypass Voltage Phase A-B		
AI	17	Volt	Bypass Voltage Phase B-C		
AI	18	Volt	Bypass Voltage Phase C-A		
BI	1		Alarm Present	0-No,	1-Alarm
BD	1		Output Overload	0-Ok,	1-Alarm
BD	2		Emergency Power Off	0-Ok,	1-Alarm
BD	3		Load on Bypass	0-Ok,	1-Alarm
BD	4		Static Switch Disabled	0-Ok,	1-Alarm
BD	5		System Output Out of Limits	0-Ok,	1-Alarm
BD	6		Module 1 Alarm	0-Ok,	1-Alarm
BD	7		Module 2 Alarm	0-Ok,	1-Alarm
BD	8		Module 3 Alarm	0-Ok,	1-Alarm
BD	9		Module 4 Alarm	0-Ok,	1-Alarm
BD	10		Module 5 Alarm	0-Ok,	1-Alarm
BD	11		Module 6 Alarm	0-Ok,	1-Alarm
BO	1		Alarm Reset[3]	0-N/A,	1-Reset

1 Network Point Type

2 Network Point Address

3 Do not map these points to Companion BO points. If you map these points to Metasys BO objects, make sure the Auto Restore option in the BO object's Definition and Focus window is disabled.

Liebert DCLAN Contact Closure Module (CCM)

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Input Contact 1 point is BI1.

Table 20: Liebert DCLAN Contact Closure Module (CCM)

NPT[1]	NPA[2]	Unit	Description		
BI	1		Input Contact 1	0-Off,	1-On
BI	2		Input Contact 2	0-Off,	1-On
BI	3		Input Contact 3	0-Off,	1-On
BI	4		Input Contact 4	0-Off,	1-On
BI	5		Input Contact 5	0-Off,	1-On
BI	6		Input Contact 6	0-Off,	1-On
BI	7		Input Contact 7	0-Off,	1-On
BI	8		Input Contact 8	0-Off,	1-On
BI	9		Input Contact 9	0-Off,	1-On
BI	10		Input Contact 10	0-Off,	1-On
BI	11		Input Contact 11	0-Off,	1-On
BI	12		Input Contact 12	0-Off,	1-On
BI	13		Input Contact 13	0-Off,	1-On
BI	14		Input Contact 14	0-Off,	1-On
BI	15		Input Contact 15	0-Off,	1-On
BI	16		Input Contact 16	0-Off,	1-On
BI	17		Input Contact 17	0-Off,	1-On
BI	18		Input Contact 18	0-Off,	1-On
BI	19		Input Contact 19	0-Off,	1-On
BI	20		Input Contact 20	0-Off,	1-On
BI	21		Input Contact 21	0-Off,	1-On
BI	22		Input Contact 22	0-Off,	1-On
BI	23		Input Contact 23	0-Off,	1-On
BI	24		Input Contact 24	0-Off,	1-On
BI	25		Input Contact 25	0-Off,	1-On
BI	26		Input Contact 26	0-Off,	1-On
BI	27		Input Contact 27	0-Off,	1-On
BI	28		Input Contact 28	0-Off,	1-On
BI	29		Input Contact 29	0-Off,	1-On
BI	30		Input Contact 30	0-Off,	1-On
BI	31		Input Contact 31	0-Off,	1-On
	32		Input Contact 32	0-Off,	1-On
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC CCM Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Input Contact 1 point is BI1.

Table 21: Liebert SiteLink/NIC CCM Function Block

NPT[1]	NPA[2]	Unit	Description		
BI	1		Input Contact 1	0-Open,	1-Closed
BI	2		Input Contact 2	0-Open,	1-Closed
BI	3		Input Contact 3	0-Open,	1-Closed
BI	4		Input Contact 4	0-Open,	1-Closed
BI	5		Input Contact 5	0-Open,	1-Closed
BI	6		Input Contact 6	0-Open,	1-Closed
BI	7		Input Contact 7	0-Open,	1-Closed
BI	8		Input Contact 8	0-Open,	1-Closed
BI	9		Input Contact 9	0-Open,	1-Closed
BI	10		Input Contact 10	0-Open,	1-Closed
BI	11		Input Contact 11	0-Open,	1-Closed
BI	12		Input Contact 12	0-Open,	1-Closed
BI	13		Input Contact 13	0-Open,	1-Closed
BI	14		Input Contact 14	0-Open,	1-Closed
BI	15		Input Contact 15	0-Open,	1-Closed
BI	16		Input Contact 16	0-Open,	1-Closed
BI	17		Input Contact 17	0-Open,	1-Closed
BI	18		Input Contact 18	0-Open,	1-Closed
BI	19		Input Contact 19	0-Open,	1-Closed
BI	20		Input Contact 20	0-Open,	1-Closed
BI	21		Input Contact 21	0-Open,	1-Closed
BI	22		Input Contact 22	0-Open,	1-Closed
BI	23		Input Contact 23	0-Open,	1-Closed
BI	24		Input Contact 24	0-Open,	1-Closed
BI	25		Input Contact 25	0-Open,	1-Closed
BI	26		Input Contact 26	0-Open,	1-Closed
BI	27		Input Contact 27	0-Open,	1-Closed
BI	28		Input Contact 28	0-Open,	1-Closed
BI	29		Input Contact 29	0-Open,	1-Closed
BI	30		Input Contact 30	0-Open,	1-Closed
BI	31		Input Contact 31	0-Open,	1-Closed
BI	32		Input Contact 32	0-Open,	1-Closed
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC CSE Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Module 1 Start/Stop point is BI1.

Table 22: Liebert SiteLink/NIC CSE Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	#	Number of Modules		
BI	1		Module 1 Start/Stop	0-Stop,	1-Start
BI	2		Module 1 Pump On/Off	0-Off,	1-On
BI	3		Module 1 Cool On/Off	0-Off,	1-On
BI	4		Module 2 Start/Stop	0-Stop,	1-Start
BI	5		Module 2 Pump On/Off	0-Off,	1-On
BI	6		Module 2 Cool On/Off	0-Off,	1-On
BI	7		Module 3 Start/Stop	0-Stop,	1-Start
BI	8		Module 3 Pump On/Off	0-Off,	1-On
BI	9		Module 3 Cool On/Off	0-Off,	1-On
BI	10		Module 1 Econocycle On/Off	0-Off,	1-On
BI	11		Module 2 Econocycle On/Off	0-Off,	1-On
BI	12		Module 3 Econocycle On/Off	0-Off,	1-On
BI	13		System Econocycle On/Off	0-Off,	1-On
BI	14		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	15		Local Alarm 1		
BI	16		Local Alarm 2		
BI	17		Module 1 High Head Pressure		
BI	18		Module 2 High Head Pressure		
BI	19		Module 3 High Head Pressure		
BI	20		Module 1 No Water Flow		
BI	21		Module 2 No Water Flow		
BI	22		Module 3 No Water Flow		
BI	23		Module 1 High Water Temp		
BI	24		Module 2 High Water Temp		
BI	25		Module 3 High Water Temp		
BI	26		Module 1 Low Water Temp		
BI	27		Module 2 Low Water Temp		
BI	28		Module 3 Low Water Temp		
BI	29		Module 1 No Power Other Mod		
BI	30		Module 2 No Power Other Mod		
	31		Module 3 No Power Other Mod		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communication		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC CSU Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Module 1 Start/Stop point is BI1.

Table 23: Liebert SiteLink/NIC CSU Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	#	Number of Modules		
BI	1		Module 1 Start/Stop	0-Stop,	1-Start
BI	2		Module 1 Pump On/Off	0-Off,	1-On
BI	3		Module 1 Cool On/Off	0-Off,	1-On
BI	4		Module 2 Start/Stop	0-Stop,	1-Start
BI	5		Module 2 Pump On/Off	0-Off,	1-On
BI	6		Module 2 Cool On/Off	0-Off,	1-On
BI	7		Module 3 Start/Stop	0-Stop,	1-Start
BI	8		Module 3 Pump On/Off	0-Off,	1-On
BI	9		Module 3 Cool On/Off	0-Off,	1-On
BI	10		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	11		Local Alarm 1		
BI	12		Local Alarm 2		
BI	13		Module 1 High Head Pressure		
BI	14		Module 2 High Head Pressure		
BI	15		Module 3 High Head Pressure		
BI	16		Module 1 No Water Flow		
BI	17		Module 2 No Water Flow		
BI	18		Module 3 No Water Flow		
BI	19		Module 1 High Water Temp		
BI	20		Module 2 High Water Temp		
BI	21		Module 3 High Water Temp		
BI	22		Module 1 Low Water Temp		
BI	23		Module 2 Low Water Temp		
BI	24		Module 3 Low Water Temp		
BI	25		Module 1 No Power Other Mod		
BI	26		Module 2 No Power Other Mod		
BI	27		Module 3 No Power Other Mod		
BI	28		Module 1 Liquid Detected		
BI	29		Module 2 Liquid Detected		
BI	30		Module 3 Liquid Detected		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communication		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC EDS Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the kW point is AI17.

Table 24: Liebert SiteLink/NIC EDS Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	#	Transfer Count		
AI	2	Volt	Source 1 Volts A-B		
AI	3	Volt	Source 1 Volts B-C		
AI	4	Volt	Source 1 Volts C-A		
AI	5	Amps	Source 1 Amps A		
AI	6	Amps	Source 1 Amps B		
AI	7	Amps	Source 1 Amps C		
AI	8	Hz	Source 1 Freq		
AI	9	Volt	Source 2 Volts A-B		
AI	10	Volt	Source 2 Volts B-C		
AI	11	Volt	Source 2 Volts C-A		
AI	12	Amps	Source 2 Amps A		
AI	13	Amps	Source 2 Amps B		
AI	14	Amps	Source 2 Amps C		
AI	15	Hz	Source 2 Freq		
AI	16	kVA	KVA		
AI	17	kW	kW		
AI	18	Sec	Auto Transfer Time		
AI	19	%	Nominal Voltage Deviation		
AI	20	Deg	Phase Differential Limit		
AI	21	Hz	Frequency Deviation		
BI	1		Preferred Source	0-Scr2,	1-Src1
BI	2		Load On Source 1 or 2	0-Scr2,	1-Src1
BI	3		Auto-Transfer Enabled	0-Disabl,	1-Enable
BI	4		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok	1-Alarm
BI	5		Logic Failure		
BI	6		Equip Overtemp		
BI	7		Power Supply 1 Fault		
BI	8		Source 1 Overvoltage		
BI	9		Source 1 Undervoltage		
BI	10		Source 2 Overvoltage		
BI	11		Source 2 Undervoltage		
BI	12		Source 1 Overload		
BI	13		Shorted SCR 1		
BI	14		Shorted SCR 2		
BI	15		Open SCR 1		
BI	16		Open SCR 2		
BI	17		Fan Failure		
BI	18		Source 2 Overload		
BI	19		Power Supply 2 Fault		
BI	20		Freq Deviation		
BI	21		Transfer Inhibit		
BI	22		Auto Retransfer Primed		

1 Network Point Type

2 Network Point Address

Continued on next page . . .

NPT[1] (Cont.)	NPA[2]	Unit	Description
BI	23		Out of Sync
BI	24		Source 1 Failure
BI	25		Source 2 Failure
BI	26		Retransfer Failure
BI	27		Overload
BI	28		Control Fuse 1 Blown
BI	29		Control Fuse 2 Blown
BI	30		Source 1 CB 1 Open
BI	31		Source 2 CB 2 Open
BI	32		Output CB 3 Open
BI	33		Custom Alarm 1
BI	34		Custom Alarm 2
BI	35		Bypass CB4 Closed
BI	36		Bypass CB5 Closed
BI	37		Custom Alarm 3
BI	38		Custom Alarm 4
BI	39		Custom Alarm 5
BI	40		Custom Alarm 6
BI	41		Custom Alarm 7
BI	42		Custom Alarm 8
			Alarm Flags 0-Ok 1-Alarm
BD	1		Loss of Communication

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC L00 Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Temperature point is AI1.

Table 25: Liebert SiteLink/NIC L00 Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Deg	Temperature		
AI	2	%RH	Humidity		
AI	3	Step	Stages		
AI	4	%	% Capacity		
AI	5	Deg	Temperature Tolerance		
AI	6	%RH	Humidity Tolerance		
AI	7	Deg	Temperature Setpoint		
AI	8	%RH	Humidity Setpoint		
AO	1	DegF	Temperature Setpoint	(40 to 90)	
AO	2	%RH	Humidity Setpoint	(20 to 80)	
AO	3	DegC	Temperature Setpoint DegC	(5 to 32)	
AO	4	DegF	Temperature Tolerance Setpoint	(1 to 10)	
AO	5	%RH	Humidity Tolerance Setpoint	(1 to 10)	
BI	1		Cooling	0-Off,	1-On
BI	2		Heating	0-Off,	1-On
BI	3		Humidification	0-Off,	1-On
BI	4		Dehumidification	0-Off,	1-On
BI	5		Econ-O-Cycle	0-Off,	1-On
BI	6		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	7		High Head Pressure 1		
BI	8		High Head Pressure 2		
BI	9		Loss Of Airflow		
BI	10		Liquid Detected		
BI	11		Change Filters		
BI	12		High Temperature		
BI	13		Low Temperature		
BI	14		High Humidity		
BI	15		Low Humidity		
BI	16		Custom Alarm 1		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss Of Communication		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC L0B Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Temperature point is AI1.

Table 26: Liebert SiteLink/NIC L0B Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Deg	Temperature		
AI	2	%RH	Humidity		
AI	3	Step	Stages		
AI	4	%	% Capacity		
BI	1		Cooling	0-Off,	1-On
BI	2		Heating	0-Off,	1-On
BI	3		Humidification	0-Off,	1-On
BI	4		Dehumidification	0-Off,	1-On
BI	5		Econ-O-Cycle	0-Off,	1-On
BI	6		Alarm Present	0-No,	1-Yes
BI	7		Unit Run	0-Off,	1-On
			Alarm Flags	0-Ok,	1-Alarm
BI	8		High Temperature		
BI	9		Low Temperature		
BI	10		High Humidity		
BI	11		Low Humidity		
BI	12		Unit Turned Off Locally		
BI	13		Unit Turned Off Remotely		
BI	14		Temperature Scale	0-DegF,	1-DegC
BO	1		Unit Run (Last Command)	0-Off,	1-On
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communication		

1 Network Point Type

2 Network Point Address

Liebert SiteLink/NIC L10 Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Temperature point is AI1.

Table 27: Liebert SiteLink/NIC L10 Function Block

NPT[1]	NPA[2]	Unit	Description	
AI	1	Deg	Temperature	
AI	2	%RH	Humidity	
AI	3	Step	Stages	
AI	4	%	% Capacity	
AI	5	Deg	Temperature Tolerance	
AI	6	%RH	Humidity Tolerance	
AI	7	Deg	Temperature Setpoint	
AI	8	%RH	Humidity Setpoint	
AO	1	DegF	Temperature Setpoint	(40 to 90)
AO	2	%RH	Humidity Setpoint	(20 to 80)
AO	3	DegC	Temperature Setpoint DegC	(5 to 32)
AO	4	DegF	Temperature Tolerance Setpoint	(1 to 10)
AO	5	%RH	Humidity Tolerance Setpoint	(1 to 10)

1 Network Point Type

2 Network Point Address

Continued on next page . . .

NPT[1] (Cont.)	NPA[2]	Unit	Description		
BI	1		Cooling	0-Off,	1-On
BI	2		Heating	0-Off,	1-On
BI	3		Humidification	0-Off,	1-On
BI	4		Dehumidification	0-Off,	1-On
BI	5		Econ-O-Cycle	0-Off,	1-On
BI	6		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	7		High Head Pressure 1		
BI	8		High Head Pressure 2		
BI	9		Loss of Airflow		
BI	10		Standby Glycool Unit On		
BI	11		Liquid Detected		
BI	12		Change Filters		
BI	13		High Temperature		
BI	14		Low Temperature		
BI	15		High Humidity		
BI	16		Low Humidity		
BI	17		Humidifier Problem		
BI	18		No Water in Humidifier Pan		
BI	19		Compressor 1 Overload		
BI	20		Compressor 2 Overload		
BI	21		Main Fan Overload		
BI	22		Manual Override		
BI	23		Smoke Detected		
BI	24		Loss of Water		
BI	25		Standby Unit On		
BI	26		Low Suction Pressure		
BI	27		Short Cycle		
BI	28		Loss of Power		
BI	29		Inverter on Bypass		
BI	30		Standby Fan On		
BI	31		Emergency Power Off		
BI	32		Local Alarm 1		
	33		Local Alarm 2		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC LAM and MM2 Function Blocks

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Temperature point is AI1.

Table 28: Liebert SiteLink/NIC LAM and MM2 Function Blocks

NPT[1]	NPA[2]	Unit	Description	
AI	1	Deg	Temperature	
AI	2	%RH	Humidity	
AI	3	Step	Stages	
AI	4	%	% Capacity	
AI	5	Deg	Temperature Tolerance	
AI	6	%RH	Humidity Tolerance	
AI	7	Deg	High Temp Setpoint*	
AI	8	Deg	Low Temp Setpoint*	
AI	9	%RH	High Humidity Setpoint*	
AI	10	%RH	Low Humidity Setpoint*	
AI	11	Deg	Temperature Setpoint	
AI	12	%RH	Humidity Setpoint	
AO	1	DegF	Temperature Setpoint	(40 to 90)
AO	2	%RH	Humidity Setpoint	(20 to 80)
AO	3	DegC	Temperature Setpoint DegC	(5 to 32)
AO	4	DegF	Temperature Tolerance Setpoint	(1 to 10)
AO	5	%RH	Humidity Tolerance Setpoint	(1 to 30)

1 Network Point Type

2 Network Point Address

* If the corresponding alarm is disabled at the SiteLink/NIC module, the setpoint has a 0 value.

Continued on next page . . .

NPT[1] (Cont.)	NPA[2]	Unit	Description		
BI	1		Cooling	0-Off,	1-On
BI	2		Heating	0-Off,	1-On
BI	3		Humidification	0-Off,	1-On
BI	4		Dehumidification	0-Off,	1-On
BI	5		Econ-O-Cycle	0-Off,	1-On
BI	6		Alarm Present	0-No,	1-Yes
BI	7		Unit Run	0-Off,	1-On
			Alarm Flags	0-Ok,	1-Alarm
BI	8		High Head Pressure 1		
BI	9		High Head Pressure 2		
BI	10		Loss of Airflow		
BI	11		Standby Glycool Unit On		
BI	12		Liquid Detected		
BI	13		Change Filters		
BI	14		High Temperature		
BI	15		Low Temperature		
BI	16		High Humidity		
BI	17		Low Humidity		
BI	18		Humidifier Problem		
BI	19		No Water in Humidifier Pan		
BI	20		Compressor 1 Overload		
BI	21		Compressor 2 Overload		
BI	22		Main Fan Overload		
BI	23		Manual Override		
BI	24		Smoke Detected		
BI	25		Loss of Water		
BI	26		Standby Unit On		
BI	27		Low Suction Pressure		
BI	28		Short Cycle		
BI	29		Loss of Power		
BI	30		Inverter on Bypass		
BI	31		Standby Fan On		
BI	32		Emergency Power Off		
BI	33		Local Alarm 1		
BI	34		Local Alarm 2		
BI	35		Unit Turned Off Locally		
	36		Unit Turned Off Remotely		
BO	1		Unit Run (Last Commanded)	0-Off,	1-On
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type

2 Network Point Address

Liebert SiteLink/NIC LSM Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Temperature point is AI1.

Table 29: Liebert SiteLink/NIC LSM Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Deg	Temperature		
AI	2	%RH	Humidity		
AI	3	Step	Stages		
AI	4	%	% Capacity		
AI	5	Deg	Temperature Tolerance		
AI	6	%RH	Humidity Tolerance		
AI	7	Deg	Temp Setpoint		
AI	8	%RH	Humidity Setpoint		
AO	1	DegF	Temperature Setpoint	(40 to 90)	
AO	2	%RH	Humidity Setpoint	(20 to 80)	
AO	3	DegC	Temperature Setpoint DegC	(5 to 32)	
AO	4	DegF	Temperature Tolerance Setpoint	(1 to 10)	
AO	5	%RH	Humidity Tolerance Setpoint	(1 to 10)	
BI	1		Cooling	0-Off,	1-On
BI	2		Heating	0-Off,	1-On
BI	3		Humidification	0-Off,	1-On
BI	4		Dehumidification	0-Off,	1-On
BI	5		Econ-O-Cycle	0-Off,	1-On
BI	6		Alarm Present	0-No,	1-Yes
BI	7		Unit Run	0-Off,	1-On
			Alarm Flags	0-Ok,	1-Alarm
BI	8		High Head Pressure 1		
BI	9		High Head Pressure 2		
BI	10		Loss of Airflow		
BI	11		Liquid Detected		
BI	12		Change Filters		
BI	13		High Temperature		
BI	14		Low Temperature		
BI	15		High Humidity		
BI	16		Low Humidity		
BI	17		Custom Alarm 1		
BI	18		Unit Turned Off Locally		
BI	19		Unit Turned Off Remotely		
BO	1		Unit Run (Last Commanded)	0-Off,	1-On
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC MM4 Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the kW point is AI13.

Table 30: Liebert SiteLink/NIC MM4 Function Block

NPT[1]	NPA[2]	Unit	Description
AI	1	Volt	Input Volts A-B
AI	2	Volt	Input Volts B-C
AI	3	Volt	Input Volts C-A
AI	4	Volt	Output Volts A-B
AI	5	Volt	Output Volts B-C
AI	6	Volt	Output Volts C-A
AI	7	Amps	Output Amps A
AI	8	Amps	Output Amps B
AI	9	Amps	Output Amps C
AI	10	Volt	DC Bus Voltage
AI	11	Amps	Battery Current
AI	12	kVA	KVA
AI	13	kW	kW
AI	14	Hz	Critical Bus Frequency
AI	15	%	% Capacity A
AI	16	%	% Capacity B
AI	17	%	% Capacity C
AI	18	Amps	Input Amps A
AI	19	Amps	Input Amps B
AI	20	Amps	Input Amps C

1 Network Point Type
2 Network Point Address

Continued on next page . . .

NPT[1] (Cont.)	NPA[2]	Unit	Description		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok	1-Alarm
BI	2		Battery Discharge		
BI	3		Input Failure		
BI	4		Hardware Shutdown		
BI	5		DC Ground Fault		
BI	6		Input CB Open		
BI	7		Output CB Open		
BI	8		DC Cap Fuse Blown		
BI	9		Low Battery Reserve		
BI	10		Output Overload		
BI	11		Rectifier Fuse Blown		
BI	12		Emergency Power Off		
BI	13		Ambient Overtemperature		
BI	14		Battery Disconnected		
BI	15		Control Power Failure		
BI	16		Overload Shutdown		
BI	17		Inverter Fault		
BI	18		Input Current Unbalance		
BI	19		Inverter Out of Sync		
BI	20		Reverse Power		
BI	21		Low Battery Shutdown		
BI	22		DC Overvoltage Shutdown		
BI	23		Battery Cycle Buffer Full		
BI	24		Equipment Overtemperature		
BI	25		Blower/Fan Failure		
BI	26		Overtemperature Shutdown		
			Alarm Flags	0-Ok	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC MMS Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the kW point is AI16.

Table 31: Liebert SiteLink/NIC MMS Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Input Volts A-B		
AI	2	Volt	Input Volts B-C		
AI	3	Volt	Input Volts C-A		
AI	4	Volt	Output Volts A-B		
AI	5	Volt	Output Volts B-C		
AI	6	Volt	Output Volts C-A		
AI	7	Volt	Output Volts A-N		
AI	8	Volt	Output Volts B-N		
AI	9	Volt	Output Volts C-N		
AI	10	Amps	Output Amps A		
AI	11	Amps	Output Amps B		
AI	12	Amps	Output Amps C		
AI	13	Volt	DC Bus Voltage		
AI	14	Amps	Battery Current		
AI	15	kVA	kVA		
AI	16	kW	kW		
AI	17	Hz	Output Frequency		
AI	18	%	% Capacity A		
AI	19	%	% Capacity B		
AI	20	%	% Capacity C		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok	1-Alarm
BI	2		Battery Discharge		
BI	3		Low Battery Reserve		
BI	4		Output Overload		
BI	5		Fuse Cleared		
BI	6		Ambient Overtemperature		
BI	7		Battery Grounded		
BI	8		Battery Disconnected		
BI	9		Module Cooling		
BI	10		Control Power Failure		
BI	11		Overload Shutdown		
			Alarm Flags	0-Ok	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC NPower IMP Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Battery Temperature is AI9.

Table 32: Liebert SiteLink/NIC NPower IMP Function Block

NPT[1]	NPA[2]	Unit	Description
AI	1	Volt	Input Volts A-B
AI	2	Volt	Input Volts B-C
AI	3	Volt	Input Volts C-A
AI	4	Volt	Bypass Volts A-B
AI	5	Volt	Bypass Volts B-C
AI	6	Volt	Bypass Volts C-A
AI	7	Volt	Battery Volts
AI	8	Amps	Battery Current
AI	9	C	Battery Temperature
AI	10	Volt	Output Volts A-B
AI	11	Volt	Output Volts B-C
AI	12	Volts	Output Volts C-A
AI	13	Amps	Output Current A
AI	14	Amps	Output Current B
AI	15	Amps	Output Current C
AI	16	kVA	Output kVA A
AI	17	kVA	Output kVA B
AI	18	kVA	Output kVA C
AI	19	kW	Output kW A
AI	20	kW	Output kW B
AI	21	kW	Output kW C
AI	22	Hz	Output Frequency
AI	23	%max	Rated kVA Percent
AI	24	%max	Rated kW Percent

1 Network Point Type
2 Network Point Address

Continued on next page . . .

NPT[1] (Cont.)	NPA[2]	Unit	Description		
BI	1		Communications	0-Ok,	1-Alarm
BI	2		Battery Fuse Failure	0-Ok,	1-Alarm
BI	3		Battery Low Transfer	0-Ok,	1-Alarm
BI	4		DC Overvoltage Transient	0-Ok,	1-Alarm
BI	5		Input Phase Rotation Error	0-Ok,	1-Alarm
BI	6		Rectifier Fuse Failure	0-Ok,	1-Alarm
BI	7		Bypass Frequency Error	0-Ok,	1-Alarm
BI	8		Bypass Overload Shutdown	0-Ok,	1-Alarm
BI	9		Bypass Phase Rotation Error	0-Ok,	1-Alarm
BI	10		Inverter Overload Transfer	0-Ok,	1-Alarm
BI	11		Inverter Fuse Failure	0-Ok,	1-Alarm
BI	12		Output Overvolt Transfer	0-Ok,	1-Alarm
BI	13		Output Undervolt Transfer	0-Ok,	1-Alarm
BI	14		SBS SCR Open	0-Ok,	1-Alarm
BI	15		SBS SCR Shorted	0-Ok,	1-Alarm
BI	16		Inverter Current Limit Transfer	0-Ok,	1-Alarm
BI	17		Overtemp CB Trip	0-Ok,	1-Alarm
BI	18		Battery Ground Fault CB Trip	0-Ok,	1-Alarm
BI	19		Power Supply Fail	0-Ok,	1-Alarm
BI	20		EPO Shutdown	0-Ok,	1-Alarm
BI	21		Rectifier Fail	0-Ok,	1-Alarm
BI	22		Inverter Fail	0-Ok,	1-Alarm
BI	23		Hardware Shutdown	0-Ok,	1-Alarm
BI	24		Battery Discharging	0-Ok,	1-Alarm
BI	25		Input Current Imbalance	0-Ok,	1-Alarm
BI	26		Input Line Failure	0-Ok,	1-Alarm
BI	27		Input Undervoltage	0-Ok,	1-Alarm
BI	28		Input Overvoltage	0-Ok,	1-Alarm
BI	29		Input Overcurrent	0-Ok,	1-Alarm
BI	30		Battery CB Open	0-Ok,	1-Alarm
BI	31		Bypass Sync Error	0-Ok,	1-Alarm
BI	32		Bypass Volts Out of Tolerance	0-Ok,	1-Alarm
BI	33		Bypass Line Failure	0-Ok,	1-Alarm
BI	34		Inverter Current Limit	0-Ok,	1-Alarm
BI	35		Output Over/Under Frequency	0-Ok,	1-Alarm
BI	36		Inverter Overload	0-Ok,	1-Alarm
BI	37		Excessive Auto Re-Transfers	0-Ok,	1-Alarm
BI	38		Overtemp Warning	0-Ok,	1-Alarm
BI	39		Fan Failure	0-Ok,	1-Alarm
BI	40		SBS Unable	0-Ok,	1-Alarm
BI	41		Inverter Off by User	0-Ok,	1-Alarm
BI	42		Low Battery Warning	0-Ok,	1-Alarm
BI	43		Battery Test Fail User Shutdown	0-Ok,	1-Alarm
BI	44		Load on Bypass	0-Ok,	1-Alarm
	45		Input Contact	0-Ok,	1-Alarm

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC PMP Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the kW point is AI16.

Table 33: Liebert SiteLink/NIC PMP Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Input Volts A-B		
AI	2	Volt	Input Volts B-C		
AI	3	Volt	Input Volts C-A		
AI	4	Volt	Output Volts A-B		
AI	5	Volt	Output Volts B-C		
AI	6	Volt	Output Volts C-A		
AI	7	Volt	Output Volts A-N		
AI	8	Volt	Output Volts B-N		
AI	9	Volt	Output Volts C-N		
AI	10	Amps	Output Amps A		
AI	11	Amps	Output Amps B		
AI	12	Amps	Output Amps C		
AI	13	Amps	Ground Current		
AI	14	Amps	Neutral Current		
AI	15	kVA	kVA		
AI	16	kW	kW		
AI	17	Hz	Output Freq		
AI	18	%	% Capacity A		
AI	19	%	% Capacity B		
AI	20	%	% Capacity C		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	2		Output Undervoltage		
BI	3		Output Overvoltage		
BI	4		Output Overcurrent		
BI	5		Frequency Deviation		
BI	6		Ground Overcurrent		
BI	7		Transformer Overtemp		
BI	8		Ground Fault		
BI	9		Ground Failure		
BI	10		Liquid Detected		
BI	11		Security Alarm		
BI	12		Phase Rotation/Loss		
BI	13		Datawave Overtemp		
BI	14		Emergency Shutdown		
BI	15		Load On Bypass		
BI	16		Local Alarm		
BI	17		Custom Alarm 1		
BI	18		Custom Alarm 2		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC RAC Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Unit 1 On/Off point is BI1.

Table 34: Liebert SiteLink/NIC RAC Function Block

NPT[1]	NPA[2]	Unit	Description		
BI	1		Unit 1 On/Off	0-Off,	1-On
BI	2		Unit 2 On/Off	0-Off,	1-On
BI	3		Unit 3 On/Off	0-Off,	1-On
BI	4		Unit 4 On/Off	0-Off,	1-On
BI	5		Unit 5 On/Off	0-Off,	1-On
BI	6		Unit 6 On/Off	0-Off,	1-On
BI	7		Unit 7 On/Off	0-Off,	1-On
BI	8		Unit 8 On/Off	0-Off,	1-On
BI	9		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	10		Unit 1 Common Alarm		
BI	11		Unit 2 Common Alarm		
BI	12		Unit 3 Common Alarm		
BI	13		Unit 4 Common Alarm		
BI	14		Unit 5 Common Alarm		
BI	15		Unit 6 Common Alarm		
BI	16		Unit 7 Common Alarm		
BI	17		Unit 8 Common Alarm		
BI	18		Emergency Power Operation		
BI	19		EPO All Units		
BI	20		High Temperature		
BI	21		Low Temperature		
BI	22		High Humidity		
BI	23		Low Humidity		
BI	24		Manual Override		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC SC4 Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the kW point is AI11.

Table 35: Liebert SiteLink/NIC SC4 Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Input Volts A-B		
AI	2	Volt	Input Volts B-C		
AI	3	Volt	Input Volts C-A		
AI	4	Volt	Output Volts A-B		
AI	5	Volt	Output Volts B-C		
AI	6	Volt	Output Bolts C-A		
AI	7	Amps	Output Amps A		
AI	8	Amps	Output Amps B		
AI	9	Amps	Output Amps C		
AI	10	kVA	KVA		
AI	11	kW	kW		
AI	12	Hz	Critical Bus Frequency		
AI	13	%	% Capacity A		
AI	14	%	% Capacity B		
AI	15	%	% Capacity C		
AI	16	Volt	Bypass Volts A-B		
AI	17	Volt	Bypass Volts B-C		
AI	18	Volt	Bypass Volts C-A		
AI	19	Hz	Output Frequency		
AI	20	Hz	Bypass Frequency		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	2		Output Undervoltage		
BI	3		Output Overvoltage		
BI	4		Frequency Deviation		
BI	5		Bypass CB Open		
BI	6		Output CB Open		
BI	7		Static SW Disconnected		
BI	8		Output Overload		
BI	9		Emergency Power Off		
BI	10		Load On Bypass		
BI	11		Static Switch Disabled		
BI	12		Control Power Failure		
BI	13		Module 1Summary Alarm		
BI	14		Module 2 Summary Alarm		
BI	15		Module 3 Summary Alarm		
BI	16		Module 4 Summary Alarm		
BI	17		Module 5 Summary Alarm		
BI	18		Module 6 Summary Alarm		
BI	19		Bypass Not Available		
BI	20		Not OK to Transfer		
BI	21		Bypass Ph. Rotation Error		
BI	22		Manual Reset/Transfer		
BI	23		Auto Retransfer Primed		

1 Network Point Type
2 Network Point Address

Continued on next page . . .

NPT[1] (Cont.)	NPA[2]	Unit	Description
BI	24		Overload Transfer
BI	25		Module 1 Offline
BI	26		Module 2 Offline
BI	27		Module 3 Offline
BI	28		Module 4 Offline
BI	29		Module 5 Offline
BI	30		Module 6 Offline
BI	31		Custom Alarm 1
BI	32		Custom Alarm 2
BI	33		Custom Alarm 3
BI	34		Custom Alarm 4
BI	35		Custom Alarm 5
BI	36		Custom Alarm 6
BI	37		Custom Alarm 7
BI	38		Custom Alarm 8
BD	1		Alarm Flags 0-Ok, 1-Alarm Loss of Communications

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC SCC Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the kW point is AI14.

Table 36: Liebert SiteLink/NIC SCC Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Input Volts A-B		
AI	2	Volt	Input Volts B-C		
AI	3	Volt	Input Volts C-A		
AI	4	Volt	Output Volts A-B		
AI	5	Volt	Output Volts B-C		
AI	6	Volt	Output Volts C-A		
AI	7	Volt	Output Volts A-N		
AI	8	Volt	Output Volts B-N		
AI	9	Volt	Output Volts C-N		
AI	10	Amps	Output Amps A		
AI	11	Amps	Output Amps B		
AI	12	Amps	Output Amps C		
AI	13	kVA	KVA		
AI	14	kW	kW		
AI	15	Hz	Output Frequency		
AI	16	%	% Capacity A		
AI	17	%	% Capacity B		
AI	18	%	% Capacity C		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	2		Output Overload		
BI	3		Emergency Power Off		
BI	4		Load On Bypass		
BI	5		Static Switch Disabled		
BI	6		Output Out of Limits		
BI	7		Module 1 Summary Alarm		
BI	8		Module 2 Summary Alarm		
BI	9		Module 3 Summary Alarm		
BI	10		Module 4 Summary Alarm		
BI	11		Module 5 Summary Alarm		
BI	12		Module 6 Summary Alarm		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC SM3 Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Output Frequency point is AI14.

Table 37: Liebert SiteLink/NIC SM3 Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Input Volts A-N		
AI	2	Volt	Input Volts B-N		
AI	3	Volt	Input Volts C-N		
AI	4	Volt	Output Volts A-N		
AI	5	Volt	Output Volts B-N		
AI	6	Volt	Output Volts C-N		
AI	7	Amps	Output Amps A		
AI	8	Amps	Output Amps B		
AI	9	Amps	Output Amps C		
AI	10	Volt	DC Bus Voltage		
AI	11	Amps	DC Bus Current		
AI	12	kVA	kVA		
AI	13	kW	kW		
AI	14	Hz	Output Frequency		
AI	15	%	% Capacity A		
AI	16	%	% Capacity B		
AI	17	%	% Capacity C		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	2		Battery Discharge		
BI	3		Low Battery Reserve		
BI	4		Output Overload		
BI	5		Fuse Cleared		
BI	6		Emergency Power Off		
BI	7		Ambient Overtemperature		
BI	8		Load On Bypass		
BI	9		Static Switch Disabled		
BI	10		Battery Disconnected		
BI	11		Module Cooling Failure		
BI	12		Control Power Failure		
BI	13		Overload Shutdown		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type

2 Network Point Address

Liebert SiteLink/NIC SM4 Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Input Amps A point is AI21.

Table 38: Liebert SiteLink/NIC SM4 Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Input Volts A-B		
AI	2	Volt	Input Volts B-C		
AI	3	Volt	Input Volts C-A		
AI	4	Volt	Output Volts A-B		
AI	5	Volt	Output Volts B-C		
AI	6	Volt	Output Volts C-A		
AI	7	Amps	Output Amps A		
AI	8	Amps	Output Amps B		
AI	9	Amps	Output Amps C		
AI	10	Volt	DC Bus Voltage		
AI	11	Amps	Battery Current		
AI	12	kVA	kVA		
AI	13	kW	kW		
AI	14	Hz	Critical Bus Frequency		
AI	15	%	% Capacity A		
AI	16	%	% Capacity B		
AI	17	%	% Capacity C		
AI	18	Volt	Bypass Volts A-B		
AI	19	Volt	Bypass Volts B-C		
AI	20	Volt	Bypass Volts C-A		
AI	21	Amps	Input Amps A		
AI	22	Amps	Input Amps B		
AI	23	Amps	Input Amps C		
AI	24	Hz	Bypass Frequency		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	2		Output Undervoltage		
BI	3		Output Overvoltage		
BI	4		Battery Discharge		
BI	5		Freq Deviation		
BI	6		Input Failure		
BI	7		Hardware Shutdown		
BI	8		DC Ground Fault		
BI	9		Input CB Open		
BI	10		Bypass CB Open		
BI	11		Output CB Open		
BI	12		Static SW Disconnected		
BI	13		DC Cap Fuse Blown		
BI	14		Low Battery Reserve		
BI	15		Output Overload		
BI	16		Rectifier Fuse Blown		
BI	17		Emergency Power Off		
B	18		Ambient Overtemperature		
BI	19		Load On Bypass		

1 Network Point Type
2 Network Point Address

Continued on next page . . .

NPT[1] (Cont.)	NPA[2]	Unit	Description
BI	20		Static Switch Disabled
BI	21		Battery Disconnected
BI	22		Control Power Failure
BI	23		Inverter Fault
BI	24		Input Current Unbalance
BI	25		Bypass Not Available
BI	26		Not OK to Transfer
BI	27		Bypass Ph. Rotation Error
BI	28		Manual Reset/Transfer
BI	29		Auto Retransfer Primed
BI	30		Overload Transfer
BI	31		Reverse Power
BI	32		Low Battery Shutdown
BI	33		DC Overvoltage Shutdown
BI	34		Battery Cycle Buffer Full
BI	35		Equip Overtemp
BI	36		Blower/Fan Failure
BI	37		Overtemp Shutdown
BI	38		Custom Alarm 1
BI	39		Custom Alarm 2
BI	40		Custom Alarm 3
BI	41		Custom Alarm 4
BI	42		Custom Alarm 5
BI	43		Custom Alarm 6
BI	44		Custom Alarm 7
BI	45		Custom Alarm 8
			Alarm Flags 0-Ok, 1-Alarm
BD	1		Loss of Communications

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC SMS Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Output Frequency point is AI17.

Table 39: Liebert SiteLink/NIC SMS Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Bypass Volts A-B		
AI	2	Volt	Bypass Volts B-C		
AI	3	Volt	Bypass Volts C-A		
AI	4	Volt	Output Volts A-B		
AI	5	Volt	Output Volts B-C		
AI	6	Volt	Output Volts C-A		
AI	7	Volt	Output Volts A-N		
AI	8	Volt	Output Volts B-N		
AI	9	Volt	Output Volts C-N		
AI	10	Amps	Output Amps A		
AI	11	Amps	Output Amps B		
AI	12	Amps	Output Amps C		
AI	13	Volt	DC Bus Voltage		
AI	14	Amps	DC Bus Current		
AI	15	kVA	kVA		
AI	16	kW	kW		
AI	17	Hz	Output Frequency		
AI	18	%	% Capacity A		
AI	19	%	% Capacity B		
AI	20	%	% Capacity C		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	2		Battery Discharge		
BI	3		Low Battery Reserve		
BI	4		Output Overload		
BI	5		Fuse Cleared		
BI	6		Emergency Power Off		
BI	7		Ambient Overtemperature		
BI	8		Load On Bypass		
BI	9		Static Switch Disabled		
BI	10		Battery Disconnected		
BI	11		Module Cooling Failure		
BI	12		Control Power Failure		
BI	13		Overload Shutdown		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC THM Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the No. 1 Temperature point is AI1.

Table 40: Liebert SiteLink/NIC THM Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Deg	#1 - Temperature		
AI	2	%RH	#1 - Humidity		
AI	3	Deg	#2 - Temperature		
AI	4	%RH	#2 - Humidity		
AI	5	Deg	#3 - Temperature		
AI	6	%RH	#3 - Humidity		
AI	7	Deg	#4 - Temperature		
AI	8	%RH	#4 - Humidity		
AI	9	Deg	#5 - Temperature		
AI	10	%RH	#5 - Humidity		
AI	11	Deg	#6 - Temperature		
AI	12	%RH	#6 - Humidity		
AI	13	Deg	#7 - Temperature		
AI	14	%RH	#7 - Humidity		
AI	15	Deg	#8 - Temperature		
AI	16	%RH	#8 - Humidity		
BI	1		Alarm Present	0-No,	1-Yes
BD	1		Alarm Flags Loss of Communications	0-Ok,	1-Alarm

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC VCF Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Alarm Present point is BI1.

Table 41: Liebert SiteLink/NIC VCF Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Output Volts X-Y		
AI	2	Volt	Output Volts Y-Z		
AI	3	Volt	Output Volts Z-X		
AI	4	Volt	Output Volts X-N		
AI	5	Volt	Output Volts Y-N		
AI	6	Volt	Output Volts Z-N		
AI	7	Amps	Output Amps A		
AI	8	Amps	Output Amps B		
AI	9	Amps	Output Amps C		
AI	10	Amps	Ground Current		
AI	11	Amps	Neutral Current		
AI	12	kVA	kVA		
AI	13	Hz	Frequency		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	2		Output Undervoltage		
BI	3		Output Overvoltage		
BI	4		Transformer Overtemp		
BI	5		Local Alarm 1		
BI	6		Local Alarm 2		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC VCM Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Alarm Present point is BI1.

Table 42: Liebert SiteLink/NIC VCM Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	Volt	Output Volts X-Y		
AI	2	Volt	Output Volts Y-Z		
AI	3	Volt	Output Volts Z-X		
AI	4	Volt	Output Volts X-N		
AI	5	Volt	Output Volts Y-N		
AI	6	Volt	Output Volts Z-N		
AI	7	Amps	Output Amps A		
AI	8	Amps	Output Amps B		
AI	9	Amps	Output Amps C		
AI	10	Amps	Ground Current		
AI	11	Amps	Neutral Current		
AI	12	kVA	kVA		
BI	1		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	2		Output Undervoltage		
BI	3		Output Overvoltage		
BI	4		Transformer Overtemp		
BI	5		Local Alarm 1		
BI	6		Local Alarm 2		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Liebert SiteLink/NIC WDU Function Block

To get the hardware reference for mapping points to CS object attributes (via the software model), combine the Network Point Type (NPT) and Network Point Address (NPA). For example, the hardware reference for the Distance point is AI1.

Table 43: Liebert SiteLink/NIC WDU Function Block

NPT[1]	NPA[2]	Unit	Description		
AI	1	#	Distance		
BI	1		Units	0-Meters,	1-Feet
BI	2		Alarm Present	0-No,	1-Yes
			Alarm Flags	0-Ok,	1-Alarm
BI	3		Cable Fault		
BI	4		Liquid Detected		
			Alarm Flags	0-Ok,	1-Alarm
BD	1		Loss of Communications		

1 Network Point Type
2 Network Point Address

Metasys Network Setup

Metasys Network Setup is described in the Metasys Integrator unit technical bulletins on the Johnson Controls Product Information site (http://cgproducts.johnsoncontrols.com *System Manuals* > *Integration* > *Metasys Integrator*). This section contains details specific to Liebert applications.

Mapping to a CS Object

Table 44: Software Model and CS Object Definition

Application	**Software Model** (on *Tables and Models* CD-ROM)	**Display Attribute** (Recommended)	**NT Command Attribute** (Recommended)
DC100 or MCCI			
System 3	LI_SYS3.DDL	AI1	BO1
Levels 0, 1, 2, 3, 10, and 15		Temperature	Reset Alarms
Small Systems Controller	LI_SSC.DDL	AI1	BO1
		Temperature	Reset Alarms
ECA2			
Level 0	LI_ECA2.DDL	AI1	BO1
		Temperature	Reset Alarms
Levels 10 and 15	LIECA210.DDL	AI1	BO1
		Temperature	Reset Alarms
DCLAN Environmental Units			
Level 00 (L00)	LIDCLL00.DDL	AI1	BO1
		Temperature	Unit Run
Small Systems Control (L0B)	LIDCLL0B.DDL	AI1	BO1
		Temperature	Unit Run
Level 02 (L02) and Level 03 (L03)	LIDCLL02.DDL	AI1	BO1
		Temperature	Reset Alarms
Level 0 with On/Off Control (L0A) and Standard Microprocessor (LSM)	LIDCLL0A.DDL		
Level 10 without On/Off Control (L10)	LIDCLL10.DDL	AI1	BO1
		Temperature	Reset Alarms
Level 10 (L1A) and Level 15 (LAM) with On/Off Control	LIDCLL1A.DDL	AI1	BO1
		Temperature	Reset Alarms
* For the NT Command attribute, use the same attribute as the Display attribute. However, since you cannot command the points, you will not be able to command the attribute. (This must be defined because the NT Command attribute cannot be null.)			

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Application (Cont.)	**Software Model** (on *Tables and Models* CD-ROM)	**Display Attribute** (Recommended)	**NT Command Attribute** (Recommended**)**
Chillers			
Single Module (CW1)	LIDCLCW1.DDL	BI4 Cooling On	BI4* Cooling On
Two Module (CW2)	LIDCLCW2.DDL	BI4 Cooling On	BI4* Cooling On
Three Module (CW3)	LIDCLCW3.DDL	BI4 Cooling On	BI4* Cooling On
Chillers with Econocoil			
Single Module (CE1)	LIDCLCE1.DDL	BI4 Cooling On	BI4 Cooling On
Two Module (CE2)	LIDCLCE2.DDL	BI4 Cooling On	BI4 Cooling On
Three Module (CE3)	LIDCLCE3.DDL	BI4 Cooling On	BI4 Cooling On
Power Conditioning Unit			
Power Monitoring Panel (PMP)	LIDCLPMP.DDL	AI 13 kW	BO1 Reset Alarms
UPS			
Series 300 and 600 – Single Module System (SMS)	LIDCLSMS.DDL	AI16 Battery Current	BO1 Reset Alarms
Series 600 – Multi-Module System (MMS)	LIDCLMMS.DDL	AI16 Battery Current	BO1 Reset Alarms
Series 600 – Static Control Cabinet (SCC)	LIDCLSCC.DDL	AI1 Input Volts A-B	BO1 Reset Alarms
NPower (IMP) UPS	LISL_IMP.DDL	AI8 Battery Current	AI8* Battery Current
Contact Closure Module (CCM)	LIDCLCCM.DDL	BI1 Input Contact 1	BI1* Input Contact 1

* For the NT Command attribute, use the same attribute as the Display attribute. However, since you cannot command the points, you will not be able to command the attribute. (This must be defined because the NT Command attribute cannot be null.)

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Application (Cont.)	**Software Model** (on *Tables and Models* CD-ROM)	**Display Attribute** (Recommended)	**NT Command Attribute** (Recommended**)**
SiteLink/NIC Modbus Function Blocks			
CCM	LiSL_CCM.DDL	BI1 Contact 1	BI1* Contact 1
CSE	LiSL_CSE.DDL	BI1 Module 1 Start/Stop	BI1* Module 1 Start/Stop
CSU	LiSL_CSU.DDL	BI1 Module 1 Start/Stop	BI1* Module 1 Start/Stop
EDS	LiSL_EDS.DDL	AI2 Source 1 Volts A-B	AI2* Source 1 Volts A-B
L00	LiSL_L00.DDL	AI1 Temperature	AO1* Setpoint
L0B	LiSL_L0B.DDL	AI1 Temperature	BO1* Unit Run
L10	LiSL_L10.DDL	AI1 Temperature	AO1* Setpoint
LAM	LiSL_LAM.DDL	AI1 Temperature	AO1* Setpoint
LSM	LiSL_LSM.DDL	AI1 Temperature	AO1* Setpoint
MM4	LiSL_MM4.DDL	AI1 Input Volts A-B	AI1* Input Volts A-B
MMS	LiSL_MMS.DDL	AI1 Input Volts A-B	AI1* Input Volts A-B
PMP	LiSL_PMP.DDL	AI1 Input Volts A-B	AI1* Input Volts A-B
RAC	LiSL_RAC.DDL	BI1 Unit 1 On/Off	BI1* Unit 1 On/Off
SC4	LiSL_SC4.DDL	AI1 Input Volts A-B	AI1* Input Volts A-B
SCC	LiSL.SCC.DDL	AI1 Input Volts A-B	AI1* Input Volts A-B
SM3	LiSL_SM3.DDL	AI1 Input Volts A-B	AI1* Input Volts A-B
SM4	LiSL_SM4.DDL	AI1 Input Volts A-B	AI1* Input Volts A-B
SMS	LiSL_SMS.DDL	AI4 Output Volts A-B	AI4* Output Volts A-B

* For the NT Command attribute, use the same attribute as the Display attribute. However, since you cannot command the points, you will not be able to command the attribute. (This must be defined because the NT Command attribute cannot be null.)

Continued on next page . . .

Application (Cont.)	**Software Model** (on *Tables and Models* CD-ROM)	**Display Attribute** (Recommended)	**NT Command Attribute** (Recommended**)**
SiteLink/NIC Modbus (Cont.)			
THM	LiSL_THM.DDL	AI1	AI1*
		#1 Temp	#1 Temp
VCF	LiSL_VCF.DDL	AI1	AI1*
		Output Volts X-Y	Output Volts X-Y
VCM	LiSL_VCM.DDL	AI1	AI1*
		Output Volts X-Y	Output Volts X-Y
WDU	LiSL_WDU.DDL	AI1	AI1*
		Distance	Distance
* For the NT Command attribute, use the same attribute as the Display attribute. However, since you cannot command the points, you will not be able to command the attribute. (This must be defined because the NT Command attribute cannot be null.)			

Custom Integration

For information on integrating products that are not discussed in this document, first refer to the *Metasys Compatible Products* online list of released connectivity products. If this list does not provide the information you require, consider using the Systems Integration Services (SIS) *Request Custom Engineered Solutions* process to request a custom contract from System Integration Team.

Access both the *Metasys Compatible Products* and the *Request Custom Engineered Solutions* process from *The Advisor* by performing the following steps:

1. Click on the Products Focus link, located at the top of *The Advisor* home page.
2. Under Products, click on the *Systems Integration Services* link.
3. For the searchable database, click on *Metasys Compatible Products*.
4. Select *Metasys Compatible Products Database*.
5. Click *Online Search Tool*.
6. After the search in completed, return to the *Systems Integration Services* home page as instructed in Steps 1-2.
7. Select *Custom Engineered Solutions* to view the process used for requesting all types of SIS engineered solutions and services.
8. Select *Requesting an Engineered Solution or Service*.
9. Click *Online Request Page*.

If you need further assistance, contact the Johnson Controls Field Support Center.

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