CIAT

LonWorks CIAT Translator

Overview and Configuration Manual

808-335 Rev. 06/16

Manual Revisions

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Section/Chapter	Changes
	N/A

Introduction

Introduction

About this Manual

This manual contains information about the functions of the LonWorks CIAT Translator module with LON FT-10A (free topology) communication and how the user configures the LonWorks CIAT Translator to perform those functions.

The manual is divided into the following sections:

- Introduction
- Operating Characteristics
- Configuration
- Maintenance

The Introduction consists of this description of the manual.

The Operating Characteristics section contains a description of the CIAT Translator hardware and a summary description of its configuration and maintenance tables.

The Configuration section contains detailed lists of the decisions for each CIAT Translator configuration table. Each list entry includes the decision's purpose, the range of values that may be used, and the default values that will appear in the decision if it is not configured by the user. The mapping tables include an explanation of each decision, along with the LonWorks read/write access, LON Variable Type, and an example CPP point name.

The Maintenance section contains detailed lists of the decisions for each CIAT Translator maintenance table. Each list entry includes the decision's purpose and the range of values that may be displayed.

The Appendix contains examples of actual configurations for a chiller, rooftop, and generic template, along with a list of LON SNVTs and corresponding CPP (Chiller Proprietary Protocol) point names and descriptions.

Operating Characteristics

Operating Characteristics

The LonWorks CIAT Translator with LON FT-10A (free topology) communication is a micro controller-based module that provides the ability to integrate CIAT CPP-based controllers into LonWorks-based networks.

The LonWorks CIAT Translator (33CNTRANLON) provides CPP to LON FT-10A ANSI/EIA-709.1 protocol conversion.

The CIAT Translator can be mounted in the controls section of any CPP equipment and converts the CPP-based controller data to LonWorks. The CIAT Translator is outdoor duty rated and contains a CPP RS-485 connector and a LON FT-10A communications connector.

The LonWorks CIAT Translator can convert CIAT equipment with CPP controls to LON and outputs the CPP data in standard LON Rooftop or Chiller profiles. CIAT rooftop units can be converted to the standard LonMark Rooftop Unit (RTU) Functional profile 8030 Version 1.1. CIAT chillers can be converted to the standard LonMark Chiller Functional profile 8040 Version 1.0. The chiller and rooftop profiles include additional LON SNVTs beyond those required by the LON standard profiles. These additional SNVTs allow for enhanced LON capability beyond the standard LON-defined profiles. In addition to the rooftop and chiller profiles, a generic LON profile is also supplied. This profile can be used to convert CIAT controllers that may not convert efficiently into the LonMark Rooftop or Chiller profiles.

When connected to a CPP controller, the LonWorks CIAT Translator allows a third party LON device to read and write to the CPP controller's mapped status display, time schedule, and setpoint schedule data. Note that LON status display write access is subject to the CPP equipment controller's defined read/write access for each status display item.

Templates

The LonWorks CIAT Translator contains chiller, rooftop, and generic LON templates that allow mapping of various CPP points to LON SNVTs. Tables 2-1 through 2-3 show the type and quantity of CPP points in each supplied template.

Table 2-1
Rooftop Template

Reads	Writes
Space Temperature	Space Temperature
Outdoor Air Temperature	Outdoor Air Temperature
Outdoor Air Humidity	Outdoor Air Humidity
CO2 (PPM)	Space Humidity
Cooling Coil %	CO2 (PPM)
Heating Coil %	Supply Air Setpoint (VAV)
Economizer Position %	Setpoint Offset
Fan Speed %	6 Setpoints (degF)
Normal/Alarm Discrete	1 Setpoint (PPM)
Controlling Setpoint	Occupancy Schedule (>64E)
4 Generic Temperature	1 Generic Temperature
8 Generic Discrete	3 Generic Discrete
2 Generic Pressure ("H2O)	3 Generic Discrete
3 Generic Percentage	1 Generic Pressure ("H2O)
2 Generic Delta Temp	2 Generic Percentage
2 Generic (0 to 65535)	1 Generic (0 to 65535)
2 Generic (-32767 to 32767)	

Table 2-2
Chiller Template

Reads	Writes
Percent Capacity	Chiller Start/Stop
Active Demand Limit Percent	Active Demand Limit Percent
Chilled Water Control Temp	Chilled Water Control Temp
Entering Chilled Water Temp	Hot Water Control Temp
Leaving Chilled Water Temp	Occupancy Schedule (>64E)
Entering Cond Water Temp	1 Generic Temperature
Leaving Cond Water Temp	2 Generic Discrete
Chilled Water Flow Discrete	1 Generic Pressure (PSI)
Cond Walter Flow Discrete	1 Generic (0 to 65535)
6 Generic Temperature	
6 Generic Discrete	
4 Generic Pressure (PSI)	
2 Generic Percentage	
2 Generic Delta Temp	
2 Generic (0 to 65535)	
2 Generic (-32767 to 32767)	

Table 2-3
Generic Template

Reads	Writes
Cooling Coil %	6 Setpoints (degF)
Heating Coil %	Occupancy Schedule (>64E)
Second Heating Coil %	3 Generic Temperature
Economizer Position %	3 Generic Discrete
Fan Speed %	1 Generic Pressure ("H2O)
Normal/Alarm Discrete	1 Generic Pressure (PSI)
8 Generic Temperature	2 Generic Percentage
8 Generic Discrete	1 Generic PPM
2 Generic Pressure ("H2O)	1 Generic (0 to 65535)
4 Generic Pressure (PSI)	
4 Generic Percentage	
2 Generic Delta Temp	
1 Generic PPM	
2 Generic (0 to 65535)	
2 Generic (-32767 to 32767)	

Default Address and Baud Rate

The LonWorks CIAT Translator's default CPP address is 0,200 (bus number, system element number). The default CPP baud rate is 9600 bps.

Each LonWorks CIAT Translator has a unique LON address. The LON address can be sent to LON configuration tools when the LON service pin is pressed.

The CIAT Translator has three LEDs that are used to indicate operational status:

Table 2-4
CIAT Translator LEDs

LED	Color	Indicates
Status	Red	Operating, initialization and configuration status. The LED blinks at a 2 Hz rate when initializing and at 1 Hz when operating correctly.
CPP	Yellow	The CIAT Translator is sending CPP communication messages to the connected CPP controller. If the connected CPP controller is responding, its CPP LED will blink when a message is sent back to the CIAT Translator.

(*continued*)

Table 2-4
CIAT Translator LEDs (continued)

LED	Color	Indicates
LON	Green	The CIAT Translator is sending LON communication messages to the third party LonWorks network.

LonWorks CIAT Translator Configuration Tables

The CIAT Translator contains the configuration tables listed below. For descriptions of the decisions in each table, refer to the Configuration section of this manual. The purpose of each table is summarized on the following pages.

CIAT Translator Device Configuration Table (CtlrID)
Chiller Mapping Table 1 (CHLRMAP1)
Chiller Mapping Table 2 (CHLRMAP2)
CIAT Translator Configuration Table (CONFIG)
Generic Mapping Tab le 1 (GNRCMAP1)
Generic Mapping Table 2 (GNRCMAP2)
Rooftop Unit Mapping Table 1 (RTUMAP1)
Rooftop Unit Mapping Table 2 (RTUMAP2)

CIAT Translator Configuration Table

The CIAT Translator Configuration Table (CONFIG) contains decisions used to specify the following:

- LonWorks Profile (Rooftop, Chiller, Generic)
- CPP Address
- Auto-mapping
- Reset Points Profile

Chiller Mapping Tables

The Chiller Mapping Tables (CHLRMAP1 and CHLRMAP2) are used to map or associate CPP points with the variables in the LonWorks Chiller profile, which is based on LonMark Functional Profile Chiller 8040 V 1.0. These tables are configured if the CIAT Translator CONFIG Table's Device Type decision is set to 2 (Chiller).

Generic Mapping Tables

The CIAT Translator's Generic Mapping Tables (GNRCMAP1 and GNRCMAP2) are used to map or associate CPP points with the variables in the LonWorks generic controller profile. These tables are configured if the CIAT Translator CONFIG Table's Device Type decision is set to 3 (Generic). This table could be used, for example, to allow LON access to an air handler.

Rooftop Mapping Tables

The CIAT Translator's Rooftop Mapping Tables (RTUMAP1 and RTUMAP2) are used to map or associate CPP points with the variables in the LonWorks rooftop profile, which is based on LonMark Function Profile Rooftop Unit 8030 Version 1.1. The table is configured if the CIAT Translator CONFIG Table's Device Type decision is set to 1 (Rooftop).

CIAT Translator Device Configuration Table

The CIAT Translator contains a Device Configuration Table (CtlrID). By changing the information that appears in this table, you can change the name, description, and location that appears for the CIAT Translator in the CPP front end's Controller List.

CIAT Translator Maintenance Tables

The CIAT Translator contains the following maintenance tables:

Chiller Mapping Table 1 (CHLRMNT1)
Chiller Mapping Table 2 (CHLRMNT2)
Communication Status Table (COMSTAT)
Generic Mapping Table 1 (GNRCMNT1)
Generic Mapping Table 2 (GNRCMNT2)
LonWorks Messages Table (MESSAGES)
Rooftop Unit Mapping Table 1 (RTUMNT1)
Rooftop Unit Mapping Table 2 (RTUMNT2)

Chiller, Rooftop, Generic Mapping Maintenance Tables

The maintenance values displayed in these tables are read-only values that show the current value of the CPP points that have been mapped to the Lonworks variables as the points exist in the CPP system element. These values are updated every 30 seconds. Note that if a LonWorks read (nvo) and write (nvi) variable have been mapped to the same CPP point, they will display the same value in the maintenance table display.

Communication Status Maintenance Table

The maintenance values displayed in this table are read-only values that show diagnostic data about LonWorks-to-CPP system element communication.

Messages Maintenance Table

The maintenance values displayed in this table are read-only values that show diagnostic data about LonWorks-to-CPP system element communication messages.

Configuration

Configuration

The LonWorks CIAT Translator's operation is controlled by decisions entered in a group of configuration tables. The CIAT Translator contains the following configuration tables:

CTLR_ID	CIAT Translator Controller Identification Table
CHLRMAP1	Chiller Mapping Configuration Table 1
CHLRMAP2	Chiller Mapping Configuration Table 2
CONFIG	CIAT Translator Configuration Table
GNRCMAP1	Generic Configuration Table 1
GNRCMAP2	Generic Configuration Table 2
RTUMAP1	Rooftop Unit Configuration Table 1
RTUMAP2	Rooftop Unit Configuration Table 2

Configuration Process

LonWorks CIAT Translator configuration and start-up consists of four main processes:

1. Physically connect the LonWorks CIAT Translator to the CPP system element.
2. Select the appropriate LonWorks profile. You do this in the CONFIG Table.
3. Map, or associate, CPP points with LonWorks points by configuring the appropriate set of configuration tables (rooftop, chiller, or generic), depending on the device type that you selected in the CONFIG Table.
4. Commission the CIAT Translator on the LonWorks network.

Each of the above-listed processes is discussed below.

Select the LonWorks Profile

1. Connect the target CPP system element to the CIAT Translator's CPP connector. Confirm that the element is powered and communicating on the CPP Bus.
2. Using a CPP front end (such as Service Tool) access the CIAT Translator's CONFIG Table and select the appropriate LonWorks profile (Rooftop, Chiller, or Generic) by entering a 1, 2, or a 3 into the CONFIG Table's Device Type decision.

3. Enter appropriate values into all CONFIG Table decisions and download the CONFIG Table into the CIAT Translator.

   If the CIAT Translator is on a CPP bus with elements other than the single CPP device with which it is communicating, you must:

   - Set Bus and Element #s
   - Set the Reset Points Profile decision to *Yes*
   - Download.

   This chapter's CIAT Translator Configuration (CONFIG) Table section contains explanations of and allowable entries and default values for each CONFIG Table decision.

   After approximately 5 seconds, the CIAT Translator should identify the target CPP system element and begin to download its tables. This takes 10 to 40 seconds, depending on the number of tables in the target CPP system element. During this period, the Yellow LED will flash to indicate CPP bus activity. When the flashing stops, the download is complete.

   Note: Do not cycle CIAT Translator power within 30 seconds of downloading the CONFIG Table or any of the mapping tables. Be sure that the Yellow CPP LED is NOT flashing.

Map CPP Points with LonWorks Variables

1. Using a CPP front end, access the appropriate set of configuration tables, depending on the value you specified in the CONFIG Table's Device Type decision :

   Rooftop (Device Type 1) - RTUMAP1 and RTUMAP2
   Chiller (Device Type 2) - CHLRMAP1 and CHLRMAP2
   Generic (Device Type 3) - GNRCMAP1 and GNRCMAP2

2. You will now "map" or associate CPP point names with each LonWorks network variable name that is listed in the configuration tables. Note that those LonWorks network variables having read access begin with the characters *nvo* and LonWorks network variables with write access begin with the characters *nvi*.

   Entries are case insensitive - upper or lower case characters may be used.

In the Lon structure, there are different types of points for reading and writing purposes. If a CPP point is to be both read and written to by the Lon system, it is recommended that you use two Lon points to accomplish this. The reason for using a separate Lon point to read the CPP point is in case that CPP point is forced by a higher level function than the CIAT Translator itself, which uses Control forces.

Also in the Lon structure, there are dedicated types of points for different types of generic values, such as Temperature, Temperature Difference, Pressure, Percent, and Discrete. You must associate a particular CPP point with the matching Lon point type or the CIAT Translator will not function properly.

In addition, for the CIAT Translator's chiller and rooftop mapping tables, the identity of some Lon points have been predetermined to conform to the LonMark functional profile for the particular device type. Using these points, where possible, allows the generic point types that appear later in the mapping table to be used for other CPP points. Example: In the Chiller tables there are dedicated Lon points for Entering and Leaving Chilled Water Temperature, and in the Rooftop tables there are dedicated points for Space and Outside Air Temperature.

Explanations of each table decision, along with example CPP point names, can be found later in this Configuration chapter. Examples of completed templates and lists of SNVTs and corresponding CPP points can be found in the Appendix.

Check for Mapping Errors and Confirm Values in Maintenance Tables

1. Using a CPP front end, access the two configuration mapping tables (chiller, rooftop, or generic) that were used in Step 2 of the Map CPP Points with LonWorks Variables procedure, which appears prior to this section of the Configuration chapter.
2. Download each table to the CIAT Translator and wait approximately one minute.

   During this time the CIAT Translator performs error checking to verify if you have entered any non-existent point names as well as checks for correct point types (analog/discrete,etc.).
3. Upload the tables and check the displayed tables.

   Look for any decisions that may have the message *error**1* or *error**2* displayed in their Value column. These messages indicate that the entry that was made for this decision is invalid:

*error**1* Indicates that the point name was not found in the target CPP system element.

*error**2* The point name was found on the target CPP device but the data type is not valid to this LonWorks network variable.

The errors should be corrected and the tables downloaded.

Example: If, in the CHILLERMAP1 Table, the nvoTEMP1 decision has been configured with the point name DP_A, which is a pressure, the message *error**2* will be displayed because this decision requires a temperature point.

After verifying that there are no error messages in either Configuration mapping Table, cycle power to the CIAT Translator and observe the yellow LED. This is the CPP communication indicator.

Approximately one minute after the yellow LED stops blinking, check the appropriate Maintenance Tables to confirm that the correct data is displayed for each configured point.

Note: The CIAT Translator polls the CPP system element every 30 seconds to both Read and Write CPP points.

Commissioning the Device on the LonWorks Network

The CIAT Translator is now fully commissioned on the CIAT/CPP side and is ready for the Lon systems integrator to commission the Lon side using a Lon software tool such as LonMaker.

A list of the actual CPP points configured in the appropriate MAP1 and MAP2 templates should be supplied to the systems integrator to assist him/her with the commissioning process. A blank copy of these templates can be found in the Appendix of this manual. Additionally, the NeuronID of the Echelon Lon processor chip should also be supplied to the systems integrator. This is a 12 character alphanumeric code that can be found on a white label located along the upper edge of the control board, opposite the Lon connector.

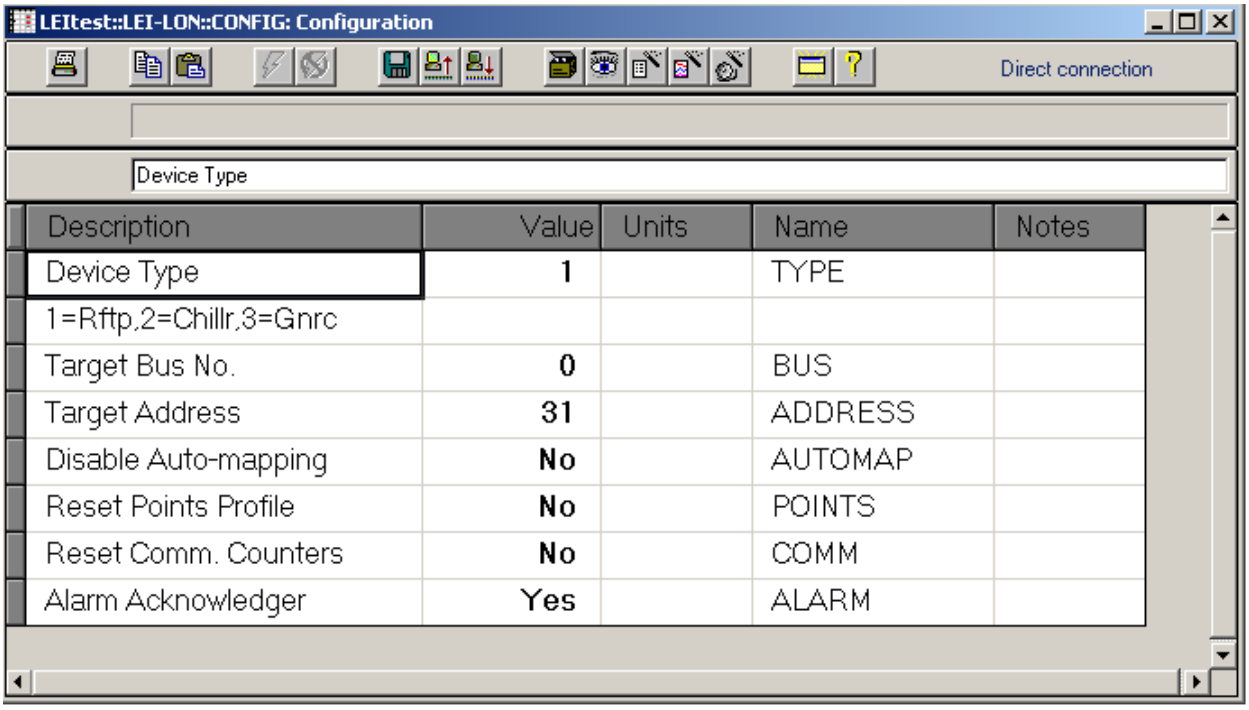
After the LonWorks CIAT Translator is added to the LonWorks network, the LonWorks network variables that were mapped in this chapter's Map CPP Points with LonWorks Variables procedure can be used to read/write data points on the target CPP system element.

CIAT Translator Configuration (CONFIG) Table

The CIAT Translator's CONFIG Table is shown below. An explanation of each decision, including allowable entries and default values follows.

Note: When starting up the CIAT Translator this is the first table you must configure.

Figure 3-1
CIAT Translator Configuration (CONFIG) Table



Description	Value	Units	Name	Notes
Device Type	1		TYPE	
1=Rftp,2=Chillr,3=Gnrc				
Target Bus No.	0		BUS	
Target Address	31		ADDRESS	
Disable Auto-mapping	No		AUTOMAP	
Reset Points Profile	No		POINTS	
Reset Comm. Counters	No		COMM	
Alarm Acknowledger	Yes		ALARM	

Device Type 1=Rftp, 2=Chillr, 3=Gnrc

Use this decision to select the desired LonWorks Profile. After entering this value and downloading this table to the CIAT Translator, the appropriate LonWorks variable names will be loaded into the CIAT Translator.

Allowable Entries
1 = Rooftop
2 = Chiller
3 = Generic

Default Value 0

Target Bus No.

Use this decision to specify the bus number of the CPP system element to which the CIAT Translator is connected.

Note: If you do not enter a value for this decision or if the value is incorrect, the CIAT Translator will attempt to find the element address itself. You will then have to upload this table to check if the correct address has been found.

Allowable Entries 0-239

Default Value 0

Target Address

Use this decision to specify the number of the CPP system element to which the CIAT Translator is connected.

Note: If you do not enter a value for this decision or if the value is incorrect, the CIAT Translator will attempt to find the element address itself. You will then have to upload this table to check if the correct address has been found.

Allowable Entries 0-239

Default Value 0

Disable Auto-mapping

Use this decision to disable or enable the CIAT Translator's automatic mapping feature. Setting this decision to *No* will cause the CIAT Translator to upload mapping tables that may exist in the target CPP system element. Setting this decision to *Yes* will disable automatic mapping and will cause the CIAT Translator to use the mapping tables from the CIAT Translator.

Note: No current CPP system element contains automatic mapping tables.

Allowable Entries 0 = No
1 = Yes

Default Value 0

Reset Points Profile

Use this decision to clear the contents of all of the CIAT Translator's CPP points to LonWorks variable mapping tables. This decision resets to *No* on completion of the operation. The following tables will be cleared:

RTUMAP1 and RTUMAP2
CHLRMAP1 and CHLRMAP2
GNRCMAP1 and GNRCMAP2

Note: Do not save this decision set to *Yes*. Do not cycle CIAT Translator power for at least 30 seconds after downloading this decision set to Yes. If you do cycle power within 30 seconds of downloading this decision as *Yes*, the CIAT Translator will return to its default address of 0,200 at a baud rate of 9600 baud.

Allowable Entries 0 = No
1 = Yes

Default Value 0

Reset Comm. Counters

Use this decision to clear the COMMSTAT Maintenance Table's Num Successful Messages and Num Failed Messages counters. This decision resets to *No* on completion of the operation.

Note: Do not save this decision set to *Yes*.

Allowable Entries 0 = No
1 = Yes

Default Value 0

Alarm Acknowledger

Use this decision to specify whether the CIAT Translator should act as a CPP alarm acknowledger for all alarm messages received from the CPP Bus. There must be only one CPP alarm acknowledger per CPP.

Note that alarms from the CIAT Translator's target system element are placed into the CIAT Translator's buffer.

Allowable Entries 0 = No
1 = Yes

Default Value 1

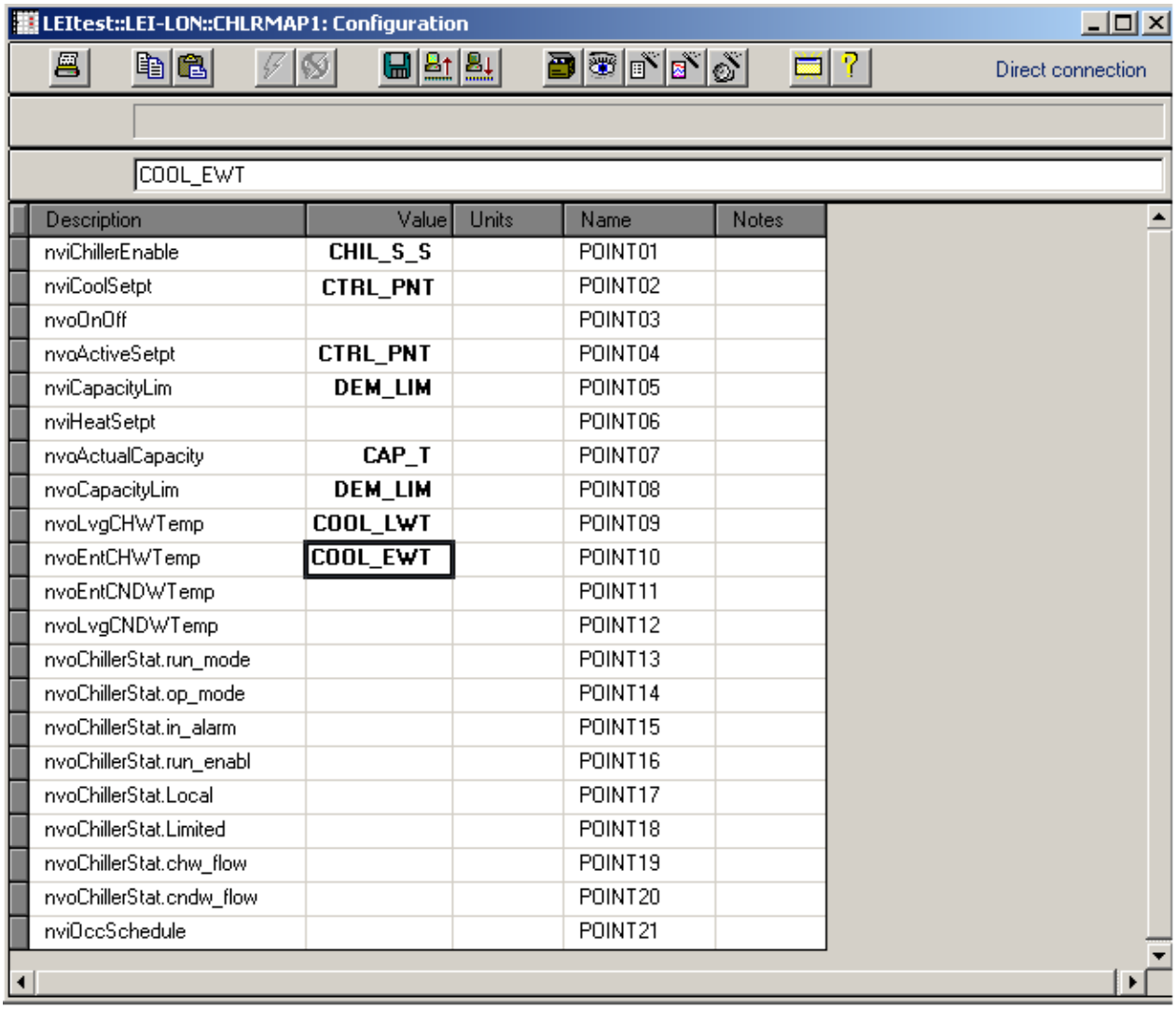
Chiller Mapping Configuration (CHLRMAP1) Table 1

The CIAT Translator's CHLRMAP1 Table is used to map or associate CPP points with the variables in the LonWorks chiller profile (which is based on LonMark Functional Profile: Chiller 8040 V 1.0). This table should be configured if the CIAT Translator CONFIG Table's Device Type decision was set to 2 (Chiller). A sample CHLRMAP1 Table is shown below. An explanation of each decision, including LonWorks read/write access, LON Variable Type, along with an example CPP point name follows.

Allowable Entries and Default Value

CPP point names can consist of up to 8 characters. The default for each decision is blank.

Figure 3-2
Chiller Mapping 1 Configuration (CHLRMAP1) Table



Description	Value	Units	Name	Notes
nviChillerEnable	CHIL_S_S		POINT01	
nviCoolSetpt	CTRL_PNT		POINT02	
nvoOnOff			POINT03	
nvoActiveSetpt	CTRL_PNT		POINT04	
nviCapacityLim	DEM_LIM		POINT05	
nviHeatSetpt			POINT06	
nvoActualCapacity	CAP_T		POINT07	
nvoCapacityLim	DEM_LIM		POINT08	
nvoLvgCHWTemp	COOL_LWT		POINT09	
nvoEntCHWTemp	COOL_EWT		POINT10	
nvoEntCNDWTemp			POINT11	
nvoLvgCNDWTemp			POINT12	
nvoChillerStat.run_mode			POINT13	
nvoChillerStat.op_mode			POINT14	
nvoChillerStat.in_alarm			POINT15	
nvoChillerStat.run_enabl			POINT16	
nvoChillerStat.Local			POINT17	
nvoChillerStat.Limited			POINT18	
nvoChillerStat.chw_flow			POINT19	
nvoChillerStat.cndw_flow			POINT20	
nviOccSchedule			POINT21	

nviChillerEnable

Use this decision to specify the name of the discrete CPP point that the LON system can write to in order to start or stop the chiller.

LON Variable Type	SNVT_switch
Read/Write Access	Write
Example	CHIL_S_S Chiller Start/Stop

nviCoolSetpt

Use this decision to specify the name of the analog CPP point that the LON system can write to in order to set the leaving chilled water temperature setpoint when the chiller is operating in cooling mode.

LON Variable Type	SNVT_temp_p
Read/Write Access	Write
Example	CTRL_PNT Control Point

nvoOnOff

Use this decision to specify the name of the discrete CPP point that the LON system can read in order to indicate the chiller's current status (on/off).

Note: Most CPP chillers do not contain this point.

LON Variable Type	SNVT_switch
Read/Write Access	Read

nvoActiveSetpt

Use this decision to specify the name of the analog CPP point that the LON system can read in order to obtain the current value of the chiller's cooling or heating setpoint. The setpoint to be used (cooling or heating) depends on the chiller's current operating mode.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	CTRL_PNT Control Point

nviCapacityLim

Use this decision to specify the name of the analog CPP point that the LON system can write to in order to set the capacity limit of the chiller.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Write
Example	DEM_LIM Active Demand Limit

nviHeatSetpt

Use this decision to specify the name of the analog CPP point that the LON system can write to in order to set the heating setpoint.

LON Variable Type	SNVT_temp_p
Read/Write Access	Write
Example	CTRL_PNT Control Point

nvoActualCapacity

Use this decision to specify the name of the analog CPP point that the LON system can read in order to obtain the current running capacity of the chiller.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Read
Example	CAP_T Percent Total Capacity

nvoCapacityLim

Use this decision to specify the name of the analog CPP point that the LON system can read in order to obtain the chiller's current capacity limit setpoint.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Read
Example	DEM_LIM Active Demand Limit

nvoLvgCHWTemp

Use this decision to specify the name of the analog CPP point that the LON system can read in order to obtain the leaving chilled water temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	LWT Leaving Fluid Temp

nvoEntCHWTemp

Use this decision to specify the name of the analog CPP point that the LON system can read in order to obtain the entering chilled water temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	EWT Entering Fluid Temp

nvoEntCNDWTemp

Use this decision to specify the name of the analog CPP point that the LON system can read in order to obtain the entering condenser water temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	COND_EWT Condenser Entering Fluid

nvoLvgCNDWTemp

Use this decision to specify the name of the analog CPP point that the LON system can read in order to obtain the leaving condenser water temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	COND_LWT Condenser Leaving Fluid

nvoChillerStat.run_mode

Use this decision to provide the name of the discrete CPP point that the LON system can read in order to obtain the main running mode of the chiller.

Note: Most CPP chillers do not contain this point.

LON Variable Type	SNVT_chlr_status
Read/Write Access	Read

nvoChillerStat.op_mode

Use this decision to provide the name of the discrete CPP point that the LON system can read in order to obtain the main operating status of the chiller.

Note: Most CPP chillers do not contain this point.

LON Variable Type	SNVT_chlr_status
Read/Write Access	Read

nvoChillerStat.in_alarm

Use this decision to provide the name of the discrete CPP point the LON system can read in order to obtain the alarm status of the chiller.

Note: Most CPP chillers do not contain this point.

LON Variable Type	SNVT_chlr_status
Read/Write Access	Read

nvoChillerStat.run_enabl Use this decision to specify the name of the discrete CPP point that the LON system can read in order to obtain the status of the chiller (start/stop).

LON Variable Type	SNVT_chlr_status
Read/Write Access	Read
Example	CHIL_S_S Chiller Start/Stop

nvoChillerStat.Local Use this decision to specify the name of the discrete CPP point that the LON system can read in order to obtain the chiller's local or network control status.

Note: Most CPP chillers do not contain this point.

LON Variable Type	SNVT_chlr_status
Read/Write Access	Read

nvoChillerStat.Limited Use this decision to specify the name of the discrete CPP point that the LON system can read in order to indicate that the chiller cannot reach setpoint.

Note: Most CPP chillers do not contain this point.

LON Variable Type	SNVT_chlr_status
Read/Write Access	Read

nvoChillerStat.chw_flow Use this decision to specify the name of the discrete CPP point that the LON system can read in order to indicate if chilled water flow is present.

LON Variable Type	SNVT_chlr_status
Read/Write Access	Read
Example	COOLFLOW Cooler Flow Switch

nvoChillerStat.cndw_flow Use this decision to specify the name of the discrete CPP point that the LON system can read in order to indicate if condenser water flow is present.

LON Variable Type	SNVT_chlr_status
Read/Write Access	Read
Example	CONDFLOW Condenser Flow Switch

nviOccSchedule

Use this decision to specify the name of the CPP occupancy schedule that the LON system can write to in order to set occupancy times.

Note: The chiller unit must be configured to use a global occupancy schedule (Allowable entries: OCCPC65E to OCCPC99E). Refer to the chiller documentation for additional information on the setup of the global occupancy schedule.

LON Variable Type	SNVT_tod_event
Read/Write Access	Write
Example	OCCPC66E Occupancy Equipment

Chiller Mapping Configuration (CHLRMAP2) Table 2

The CIAT Translator's CHLRMAP2 Table is used to map or associate CPP points with the variables in the LonWorks chiller profile. This table, in addition to the CHLRMAP1 Table, should be configured if the CIAT Translator CONFIG Table's Device Type decision was set to 2 (Chiller). A sample CHLRMAP2 Table is shown below. An explanation of each decision, including LonWorks read/write access, LON Variable Type, along with an example CPP point name follows.

Allowable Entries and Default Value

CPP point names can consist of up to 8 characters. The default for each decision is blank.

nviTEMP1

Use this decision to specify the name of the analog CPP point that the LON system can write to in order to set an additional chiller operating temperature.

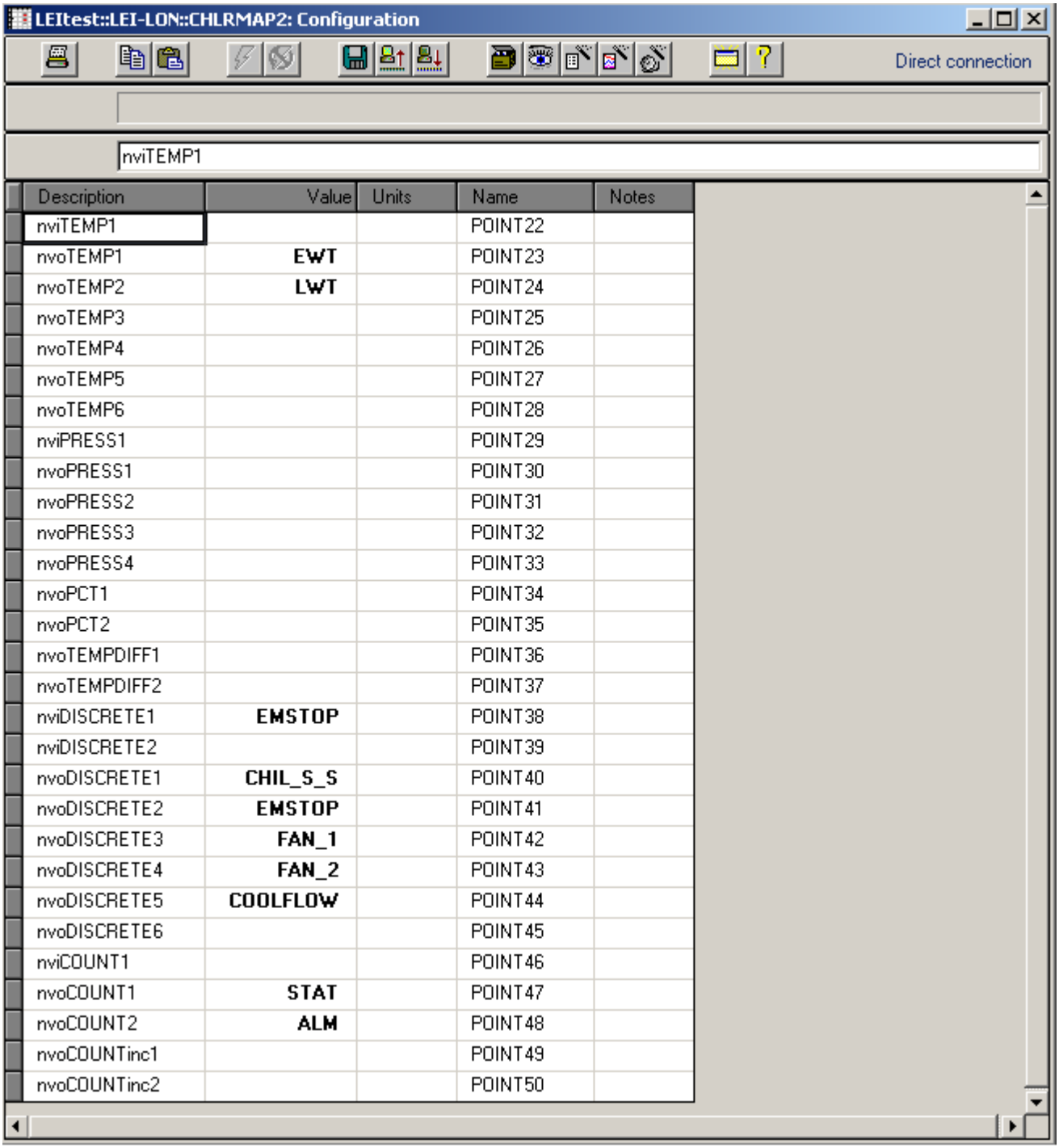
LON Variable Type	SNVT_temp_p
Read/Write Access	Write
Example	OAT Outdoor Air Temperature

nvoTEMP1 - 6

Use these 6 decisions to specify the names of the analog CPP points that the LON system can read in order to obtain additional chiller operating temperatures.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	TMP_SCTA Saturated Condensing Temp

Figure 3-3
Chiller Mapping 2
Configuration (CHLRMAP2)
Table



Description	Value	Units	Name	Notes
nviTEMP1			POINT22	
nvoTEMP1	**EWT**		POINT23	
nvoTEMP2	**LWT**		POINT24	
nvoTEMP3			POINT25	
nvoTEMP4			POINT26	
nvoTEMP5			POINT27	
nvoTEMP6			POINT28	
nviPRESS1			POINT29	
nvoPRESS1			POINT30	
nvoPRESS2			POINT31	
nvoPRESS3			POINT32	
nvoPRESS4			POINT33	
nvoPCT1			POINT34	
nvoPCT2			POINT35	
nvoTEMPDIFF1			POINT36	
nvoTEMPDIFF2			POINT37	
nviDISCRETE1	**EMSTOP**		POINT38	
nviDISCRETE2			POINT39	
nvoDISCRETE1	**CHIL_S_S**		POINT40	
nvoDISCRETE2	**EMSTOP**		POINT41	
nvoDISCRETE3	**FAN_1**		POINT42	
nvoDISCRETE4	**FAN_2**		POINT43	
nvoDISCRETE5	**COOLFLOW**		POINT44	
nvoDISCRETE6			POINT45	
nviCOUNT1			POINT46	
nvoCOUNT1	**STAT**		POINT47	
nvoCOUNT2	**ALM**		POINT48	
nvoCOUNTinc1			POINT49	
nvoCOUNTinc2			POINT50	

nviPRESS1

Use this decision to specify the name of the analog CPP point that the LON system can write to in order to set an additional chiller operating pressure.

Note: 1. Most CPP chillers do not allow write access to this point.
2. For use with points having units of psi (kPa).

LON Variable Type	SNVT_press
Read/Write Access	Write

nvoPRESS1 - 4

Use these 4 decisions to specify the names of the analog CPP points that the LON system can read in order to obtain additional chiller operating pressures.

Note: 1. For use with points having units of psi (kPa).

LON Variable Type	SNVT_press
Read/Write Access	Read
Example	SP_A Suction Pressure Circuit A

nvoPCT1 - 2

Use these 2 decisions to specify the names of the analog CPP points the LON system can read in order to obtain additional chiller operating parameters in percentage.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Read
Example	CAPA_A Percentage Operating Capacity

nvoTEMPDIFF1 - 2

Use these 2 decisions to specify the names of the analog CPP points that the LON system can read in order to obtain additional chiller differential temperatures.

LON Variable Type	SNVT_temp_diff
Read/Write Access	Read
Example	SH_A Suction Superheat

nviDISCRETE1 - 2

Use these 2 decisions to specify the names of the discrete CPP points that the LON system can write to in order to set additional discrete operating parameters.

LON Variable Type	SNVT_switch
Read/Write Access	Write
Example	EMSTOP Emergency Stop

nvoDISCRETE1 - 6

Use these 6 decisions to specify the names of the discrete CPP points that the LON system can read in order to obtain additional discrete operating parameters.

LON Variable Type	SNVT_switch
Read/Write Access	Read
Example	FANS_1 Fan 1 Relay

nviCOUNT1

Use this decision to specify the name of the analog or multi-state CPP point that the LON system will write to in order to set additional analog or multi-state operating parameters.

LON Variable Type	SNVT_count
Read/Write Access	Write
Example	S_HRS Service Ontime Hours

nvoCOUNT1 - 2

Use these decisions to specify the names of the analog or multi-state CPP points that the LON system will read in order to obtain additional analog or multi-state values.

LON Variable Type	SNVT_count
Read/Write Access	Read
Example	STAT Run Status

nvoCOUNTinc1 - 2

Use these decisions to specify the names of the analog or multi-state CPP points that the LON system will read in order to obtain additional analog or multi-state values.

LON Variable Type	SNVT_count_inc
Read/Write Access	Read
Example	STAT Run Status

Rooftop Mapping Configuration (RTUMAP1) Table 1

The CIAT Translator's RTUMAP1 Table is used to map or associate CPP points with the variables in the LonWorks rooftop profile (which is based on LonMark Functional Profile: Rooftop Unit (RTU) 8030 Version 1.1). This table should be configured if the CIAT Translator CONFIG Table's Device Type decision was set to 1 (Rooftop). A sample RTUMAP1 Table is shown on the page which follows. An explanation of each decision, including LonWorks read/write access, LON Variable Type, along with an example CPP point name follows.

Allowable Entries and Default Value

CPP point names can consist of up to 8 characters. The default for each decision is blank.

nviSpaceTemp

Use this decision to specify the name of the analog CPP point that the LON system can write to in order to set the space temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Write
Example	SPT Space Temperature

nviSetPoint

Use this decision to specify the name of the analog CPP point that the LON system can write to in order to set the temperature setpoint.

LON Variable Type	SNVT_temp_p
Read/Write Access	Write
Example	CTRL_PNT Control Point

nvoSpaceTemp

Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the space temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	SPT Space Temperature

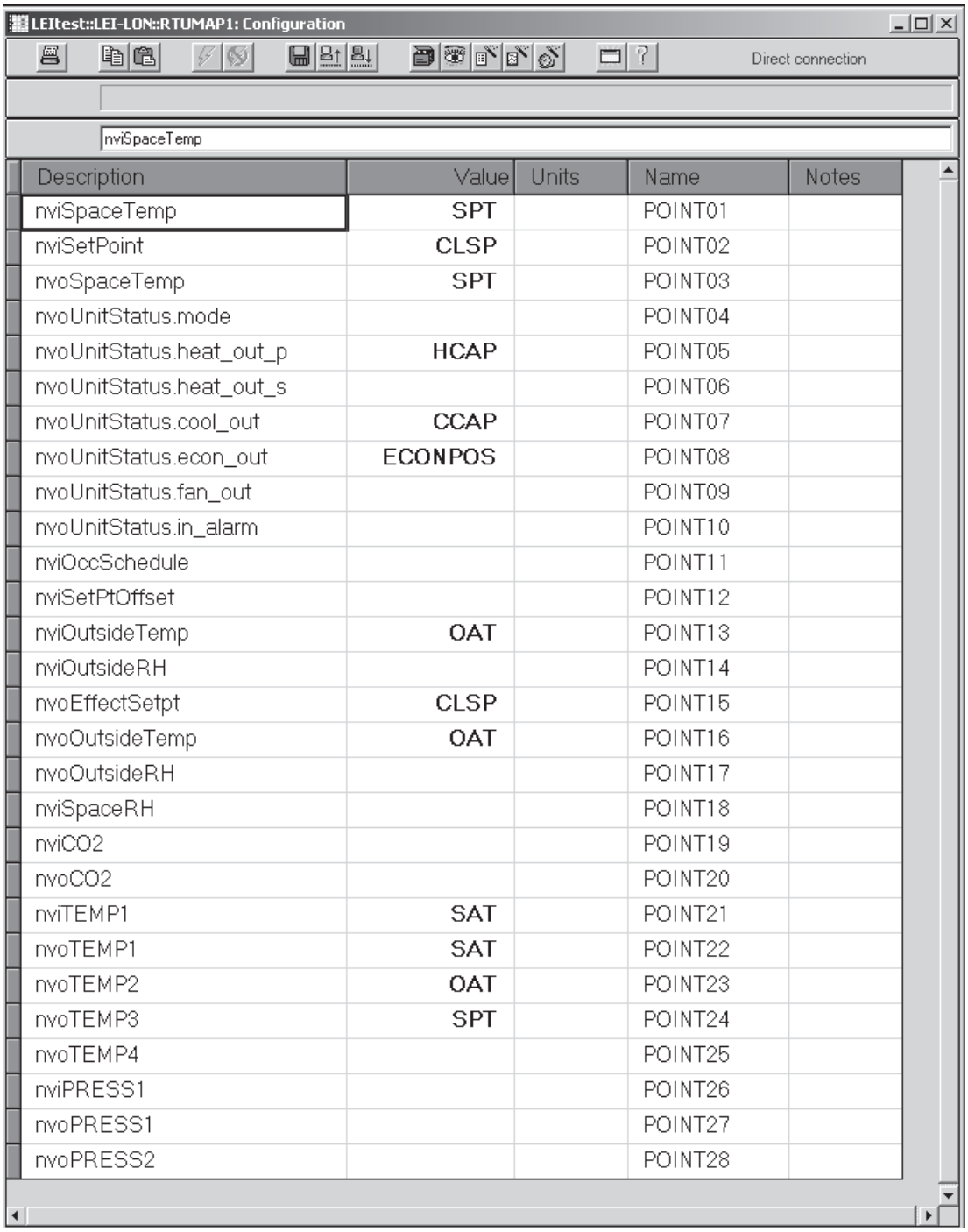
nvoUnitStatus.mode

Use this decision to specify the name of the discrete CPP point that the LON system can read in order to indicate the rooftop's operating mode.

Note: CPP rooftops do not contain this point.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read

Figure 3-4
Rooftop Mapping 1
Configuration (RTUMAP1)
Table



Description	Value	Units	Name	Notes
nviSpaceTemp	SPT		POINT01	
nviSetPoint	CLSP		POINT02	
nvoSpaceTemp	SPT		POINT03	
nvoUnitStatus.mode			POINT04	
nvoUnitStatus.heat_out_p	HCAP		POINT05	
nvoUnitStatus.heat_out_s			POINT06	
nvoUnitStatus.cool_out	CCAP		POINT07	
nvoUnitStatus.econ_out	ECONPOS		POINT08	
nvoUnitStatus.fan_out			POINT09	
nvoUnitStatus.in_alarm			POINT10	
nviOccSchedule			POINT11	
nviSetPtOffset			POINT12	
nviOutsideTemp	OAT		POINT13	
nviOutsideRH			POINT14	
nvoEffectSetpt	CLSP		POINT15	
nvoOutsideTemp	OAT		POINT16	
nvoOutsideRH			POINT17	
nviSpaceRH			POINT18	
nviCO2			POINT19	
nvoCO2			POINT20	
nviTEMP1	SAT		POINT21	
nvoTEMP1	SAT		POINT22	
nvoTEMP2	OAT		POINT23	
nvoTEMP3	SPT		POINT24	
nvoTEMP4			POINT25	
nviPRESS1			POINT26	
nvoPRESS1			POINT27	
nvoPRESS2			POINT28	

nvoUnitStatus.heat_out_p Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the current primary heat capacity in percent full scale.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read
Example	HCAP Heating % Total Capacity

nvoUnitStatus.heat_out_s Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the current secondary heat capacity in percent full scale.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read
Example	HCAP Heating % Total Capacity

nvoUnitStatus.cool_out Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the current secondary cooling capacity in percent full scale.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read
Example	CCAP Cooling % Total Capacity

nvoUnitStatus.econ_out Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the current economizer position in percent full scale.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read
Example	ECONOPOS Economizer Position %

nvoUnitStatus.fan_out Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the current fan speed in percent full scale.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read
Example	VFD Variable Frequency Drive Speed %

nvoUnitStatus.in_alarm

Use this decision to provide the name of the discrete CPP point that the LON system can read in order to indicate the alarm status of the rooftop.

Note: Most CPP rooftops do not contain this point.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read

nviOccSchedule

Use this decision to specify the name of the CPP occupancy schedule that the LON system can write to in order to set occupancy times.

Note: The rooftop unit must be configured to use a global occupancy schedule (Allowable entries: OCCPC65E to OCCPC99E). Refer to the rooftop documentation for additional information on the setup of the global occupancy schedule.

LON Variable Type	SNVT_tod_event
Read/Write Access	Write
Example	OCCPC66E Occupancy Equipment

nviSetptOffset

Use this decision to specify the name of the analog CPP point that the LON system will write to in order to set the active temperature setpoint.

Note: Most CPP rooftops do not contain this point.

LON Variable Type	SNVT_temp_p
Read/Write Access	Write

nviOutsideTemp

Use this decision to specify the name of the analog CPP point that the LON system will write to in order to set the outside air temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Write
Example	OAT Outside Air Temperature

nviOutsideRH

Use this decision to specify the name of the analog CPP point that the LON system will write to in order to set the outside air relative humidity.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Write
Example	OARH Outside Air Relative Humidity

nvoEffectSetpt

Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the temperature setpoint.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	CTRL_PNT Control Point

nvoOutsideTemp

Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the outside air temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	OAT Outside Air Temperature

nvoOutsideRH

Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the outside air relative humidity.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Read
Example	OARH Outside Air Relative Humidity

nviSpaceRH

Use this decision to specify the name of the analog CPP point that the LON system will write to in order to set the relative humidity.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Write
Example	RH Relative Humidity

nviCO2

Use this decision to specify the name of the analog CPP point that the LON system will write to in order to set the CO2 level in ppm.

LON Variable Type	SNVT_ppm
Read/Write Access	Write
Example	IAQ Indoor air quality

nvoCO2

Use this decision to specify the name of the analog CPP point that the LON system will read to indicate the CO2 level in ppm.

LON Variable Type	SNVT_ppm
Read/Write Access	Read
Example	IAQ Indoor air quality

nviTEMP1

Use this decision to specify the name of the analog CPP point that the LON system will write to in order to set an additional rooftop operating temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Write
Example	OAT Outdoor Air Temperature

nvoTEMP1-4

Use these 4 decisions to specify the analog CPP point names that the LON system will read to indicate additional rooftop operating temperatures.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	TMP_SCTA Saturated Condensing Temp

nviPRESS1

Use this decision to specify the name of the analog CPP point that the LON system will write to in order to set an additional rooftop operating pressure.

Note: For use with points having units of "H2O (Pa).

LON Variable Type	SNVT_press_p
Read/Write Access	Write
Example	SP Static Pressure

nvoPRESS1 - 2

Use these 2 decisions to specify the names of the analog CPP point that the LON system will read to indicate additional rooftop operating pressures.

Note: For use with points having units of "H2O (Pa).

LON Variable Type	SNVT_press_p
Read/Write Access	Read
Example	SP Static Pressure

Rooftop Mapping Configuration (RTUMAP2) Table 2

The CIAT Translator's RTUMAP2 Table is used to map or associate CPP points with the variables in the LonWorks rooftop profile. This table should be configured if the CIAT Translator CONFIG Table's Device Type decision was set to 1 (Rooftop). A sample RTUMAP2 Table is shown on the page which follows. An explanation of each decision, including LonWorks read/write access, LON Variable Type, along with an example CPP point name follows.

Allowable Entries and Default Value

CPP point names can consist of up to 8 characters. The default for each decision is blank.

nviPCT1-2

Use these 2 decisions to specify the names of the analog CPP points that the LON system will write to in order to set additional rooftop operating parameters in percentage.

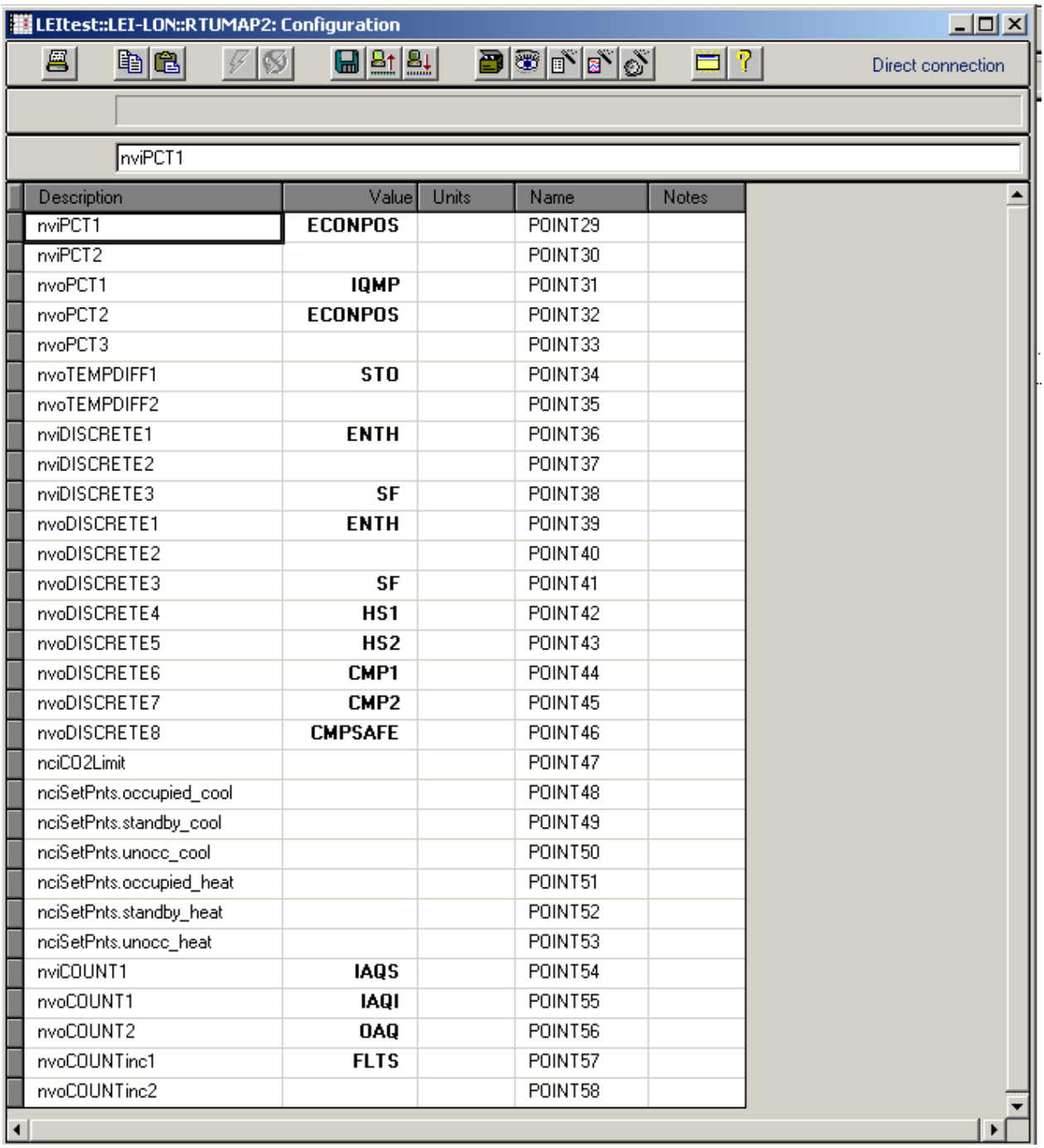
LON Variable Type	SNVT_lev_percent
Read/Write Access	Write
Example	ECONPOS Economizer Position

nvoPCT1-3

Use these 3 decisions to specify the names of the analog CPP point that the LON system will read to indicate additional rooftop operating parameters in percentage.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Read
Example	CAPA_A Percentage Operating Capacity

Figure 3-5
Rooftop Mapping 2 Configuration (RTUMAP2) Table



Description	Value	Units	Name	Notes
nviPCT1	ECONPOS		POINT29	
nviPCT2			POINT30	
nvoPCT1	IQMP		POINT31	
nvoPCT2	ECONPOS		POINT32	
nvoPCT3			POINT33	
nvoTEMPDIFF1	STO		POINT34	
nvoTEMPDIFF2			POINT35	
nviDISCRETE1	ENTH		POINT36	
nviDISCRETE2			POINT37	
nviDISCRETE3	SF		POINT38	
nvoDISCRETE1	ENTH		POINT39	
nvoDISCRETE2			POINT40	
nvoDISCRETE3	SF		POINT41	
nvoDISCRETE4	HS1		POINT42	
nvoDISCRETE5	HS2		POINT43	
nvoDISCRETE6	CMP1		POINT44	
nvoDISCRETE7	CMP2		POINT45	
nvoDISCRETE8	CMPSAFE		POINT46	
nciCO2Limit			POINT47	
nciSetPnts.occupied_cool			POINT48	
nciSetPnts.standby_cool			POINT49	
nciSetPnts.unocc_cool			POINT50	
nciSetPnts.occupied_heat			POINT51	
nciSetPnts.standby_heat			POINT52	
nciSetPnts.unocc_heat			POINT53	
nviCOUNT1	IAQS		POINT54	
nvoCOUNT1	IAQI		POINT55	
nvoCOUNT2	OAQ		POINT56	
nvoCOUNTinc1	FLTS		POINT57	
nvoCOUNTinc2			POINT58	

nvoTEMPDIFF1 - 2

Use these 2 decisions to specify the names of the analog CPP points that the LON system will read to indicate additional rooftop differential temperatures.

LON Variable Type	SNVT_temp_diff
Read/Write Access	Read
Example	SH_A Suction Superheat

nviDISCRETE1 - 3

Use these 3 decisions to specify the names of the discrete CPP points that the LON system will write to in order to set additional discrete operating parameters.

LON Variable Type	SNVT_switch
Read/Write Access	Write
Example	EMSTOP Emergency Stop

nvoDISCRETE1 - 8

Use these 8 decisions to specify the names of the discrete CPP points that the LON system will read to indicate additional discrete operating parameters.

LON Variable Type	SNVT_switch
Read/Write Access	Read
Example	FANS_1 Fan 1 Relay

nciCO2Limit

Use this decision to provide the name of the analog CPP point that the LON system will write to in order to set the CO2 threshold value.

LON Variable Type	SNVT_ppm
Read/Write Access	Write
Example	IAQS Indoor Air Quality Setpoint

nciSetpnts.occupied_cool

Use this decision to provide the name of the analog CPP point that the LON system will write to in order to set the occupied cooling setpoint.

LON Variable Type	SNVT_temp_setpt
Read/Write Access	Write
Example	OCSP Occupied Cool Setpoint

nciSetpnts.standby_cool Use this decision to provide the name of the analog CPP point that the LON system will write to in order to set the cooling setpoint in standby mode.

Note: Most CPP rooftops do not use this mode.

LON Variable Type SNVT_temp_setpt

Read/Write Access Write

nciSetpnts.unocc_cool Use this decision to provide the name of the analog CPP point that the LON system will write to in order to set the unoccupied cooling setpoint.

LON Variable Type SNVT_temp_setpt

Read/Write Access Write

Example UCSP
Unoccupied Cool Setpoint

nciSetpnts.occupied_heat Use this decision to provide the name of the analog CPP point that the LON system will write to in order to set the occupied heating setpoint.

LON Variable Type SNVT_temp_setpt

Read/Write Access Write

Example OHSP
Occupied Heat Setpoint

nciSetpnts.standby_heat Use this decision to provide the name of the analog CPP point that the LON system will write to in order to set the heating setpoint in standby mode.

Note: Most CPP rooftops do not use this mode.

LON Variable Type SNVT_temp_setpt

Read/Write Access Write

nciSetpnts.unocc_heat Use this decision to provide the name of the analog CPP point that the LON system will write to in order to set the unoccupied heating setpoint.

LON Variable Type SNVT_temp_setpt

Read/Write Access Write

Example UHSP
Unoccupied Heat Setpoint

nviCOUNT1

Use this decision to specify the name of the analog or multi-state CPP point that the LON system will write to in order to set additional analog or multi-state operating parameters.

LON Variable Type	SNVT_count
Read/Write Access	Write
Example	OASP OA cfm Setpoint

nvoCOUNT1 - 2

Use these 2 decisions to specify the names of the analog or multi-state CPP points that the LON system will read in order to obtain additional analog or multi-state values.

LON Variable Type	SNVT_count
Read/Write Access	Read
Example	OACFM OA Airflow

nvoCOUNTinc1 - 2

Use these 2 decisions to specify the names of the analog or multi-state CPP points that the LON system will read in order to obtain additional analog or multi-state values.

LON Variable Type	SNVT_count_inc
Read/Write Access	Read
Example	OACFM OA Airflow

Generic Mapping Configuration (GNRCMAP1) Table 1

The CIAT Translator's GNRCMAP1 Table is used to map or associate CPP points with the variables in the LonWorks generic controller profile. This table should be configured if the CIAT Translator CONFIG Table's Device Type decision was set to 3 (Generic). This table could be used, for example, to allow LON access to an air handler. A sample GNRCMAP1 Table is shown on the page which follows. An explanation of each decision, including LonWorks read/write access, LON Variable Type, along with an example CPP point name follows. The decision explanations and example point names below are taken from a CPP air handler. Keep in mind, however, that the generic controller profile can also be used with other types of CPP controllers.

Allowable Entries and Default Value

CPP point names can consist of up to 8 characters. The default for each decision is blank.

nvoUnitStatus.mode

Use this decision to specify the name of the discrete CPP point that the LON system can read in order to indicate the air handler's operating mode.

Note: Most CPP air handlers do not contain this point.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read

nvoUnitStatus.heat_out_p

Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the current primary heat capacity in percent full scale.

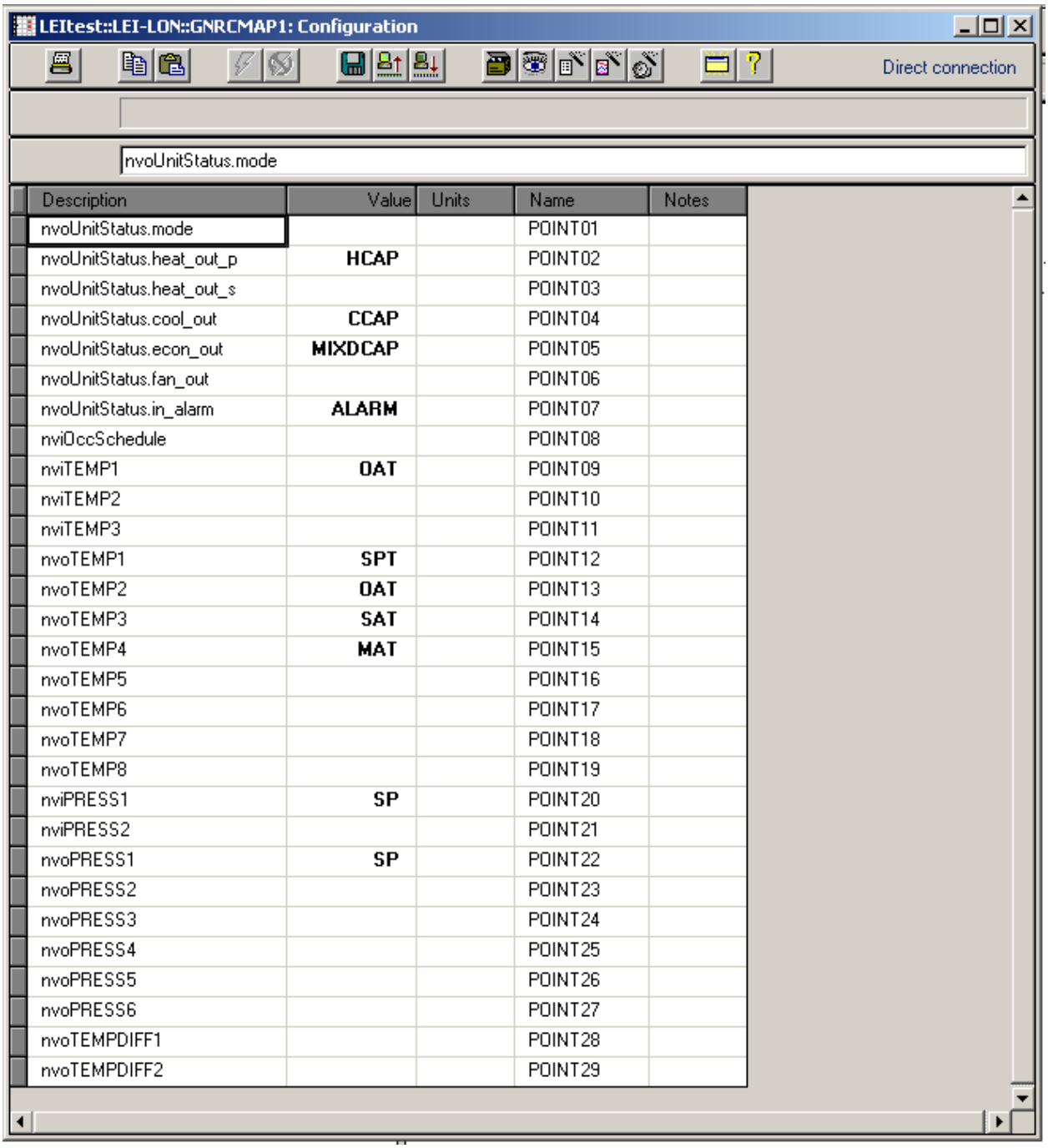
LON Variable Type	SNVT_hvac_status
Read/Write Access	Read
Example	HCV Heating Coil Valve %

nvoUnitStatus.heat_out_s

Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the current secondary heat capacity in percent full scale.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read
Example	HCV Heating Coil Valve %

Figure 3-6
Generic Mapping 1 Configuration (GNRCMAP1) Table



Description	Value	Units	Name	Notes
nvoUnitStatus.mode			POINT01	
nvoUnitStatus.heat_out_p	**HCAP**		POINT02	
nvoUnitStatus.heat_out_s			POINT03	
nvoUnitStatus.cool_out	**CCAP**		POINT04	
nvoUnitStatus.econ_out	**MIXDCAP**		POINT05	
nvoUnitStatus.fan_out			POINT06	
nvoUnitStatus.in_alarm	**ALARM**		POINT07	
nviOccSchedule			POINT08	
nviTEMP1	**OAT**		POINT09	
nviTEMP2			POINT10	
nviTEMP3			POINT11	
nvoTEMP1	**SPT**		POINT12	
nvoTEMP2	**OAT**		POINT13	
nvoTEMP3	**SAT**		POINT14	
nvoTEMP4	**MAT**		POINT15	
nvoTEMP5			POINT16	
nvoTEMP6			POINT17	
nvoTEMP7			POINT18	
nvoTEMP8			POINT19	
nviPRESS1	**SP**		POINT20	
nviPRESS2			POINT21	
nvoPRESS1	**SP**		POINT22	
nvoPRESS2			POINT23	
nvoPRESS3			POINT24	
nvoPRESS4			POINT25	
nvoPRESS5			POINT26	
nvoPRESS6			POINT27	
nvoTEMPDIFF1			POINT28	
nvoTEMPDIFF2			POINT29	

nvoUnitStatus.cool_out Use this decision to specify the name of the analog CPP point that that the LON system can read in order to indicate the current cooling capacity in percent full scale.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read
Example	CCV Cooling Coil Valve

nvoUnitStatus.econ_out Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the current economizer position in percent full scale.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read

nvoUnitStatus.fan_out Use this decision to specify the name of the analog CPP point that the LON system can read in order to indicate the current fan speed in percent full scale.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read
Example	VFD Variable Frequency Drive Speed %

nvoUnitStatus.in_alarm Use this decision to provide the name of the discrete CPP point that the LON system can read in order to indicate the alarm status of the air handler.

Note: Most CPP air handlers do not contain this point.

LON Variable Type	SNVT_hvac_status
Read/Write Access	Read

nviOccSchedule

Use this decision to specify the name of the CPP occupancy schedule that the LON system can write to in order to set occupancy times.

Note: The CPP unit must be configured to use a global occupancy schedule (Allowable entries: OCCPC65E to OCCPC99E). Refer to the CPP documentation for additional information on the setup of the global occupancy schedule.

LON Variable Type	SNVT_tod_event
Read/Write Access	Write
Example	OCCPC66E Occupancy Equipment

nviTEMP1 - 3

Use these 3 decisions to specify the name of the analog CPP point that the LON system can write to in order to set an additional air handler operating temperature.

LON Variable Type	SNVT_temp_p
Read/Write Access	Write
Example	OAT Outdoor Air Temperature

nvoTEMP1 - 8

Use these 8 decisions to specify the analog CPP point names that the LON system can read in order to indicate additional air handler operating temperatures.

LON Variable Type	SNVT_temp_p
Read/Write Access	Read
Example	SAT Supply Air Temperature

nviPRESS1 - 2

Use these 2 decisions to specify the name of the analog CPP point that the LON system can write to in order to set an additional air handler operating pressure.

Note:
1. Most CPP air handlers do not allow write access to this point.
2. PRESS1 is for use with points having units of "H20 (Pa).
3. PRESS2 is for use with points having uints of psi (kPa).

LON Variable Type	PRESS1: SNVT_press_p PRESS2: SNVT_press
Read/Write Access	Write

nvoPRESS1 - 6

Use these 6 decisions to specify the names of the analog CPP point that that the LON system can read in order to indicate additional air handler operating pressures.

Note: 1. PRESS1-2 are for use with points having units of "H20 (Pa).
2. PRESS3-6 are for use with points having units of psi (kPa).

LON Variable Type	PRESS1-2: SNVT_press_p PRESS3-6: SNVT_press
Read/Write Access	Read
Example	SP Static Pressure

nvoTEMPDIFF1 - 2

Use these 2 decisions to specify the names of the analog CPP points that the LON system can read in order to indicate additional air handler differential temperatures.

Note: Most CPP air handlers do no contain these points.

LON Variable Type	SNVT_temp_diff
Read/Write Access	Read

Generic Mapping Configuration (GNRCMAP2) Table 2

The CIAT Translator's GNRCMAP2 Table is used to map or associate CPP points with the variables in the LonWorks generic profile. This table, in addition to the GNRCMAP1 Table, should be configured if the CIAT Translator CONFIG Table's Device Type decision was set to 3 (Generic). A sample GNRCMAP2 Table is shown below. An explanation of each decision, including LonWorks read/write access, LON Variable Type, along with an example CPP point name follows. The decision explanations and example point names below are taken from a CPP air handler. Keep in mind, however, that the generic controller profile can also be used with other types of CPP controllers.

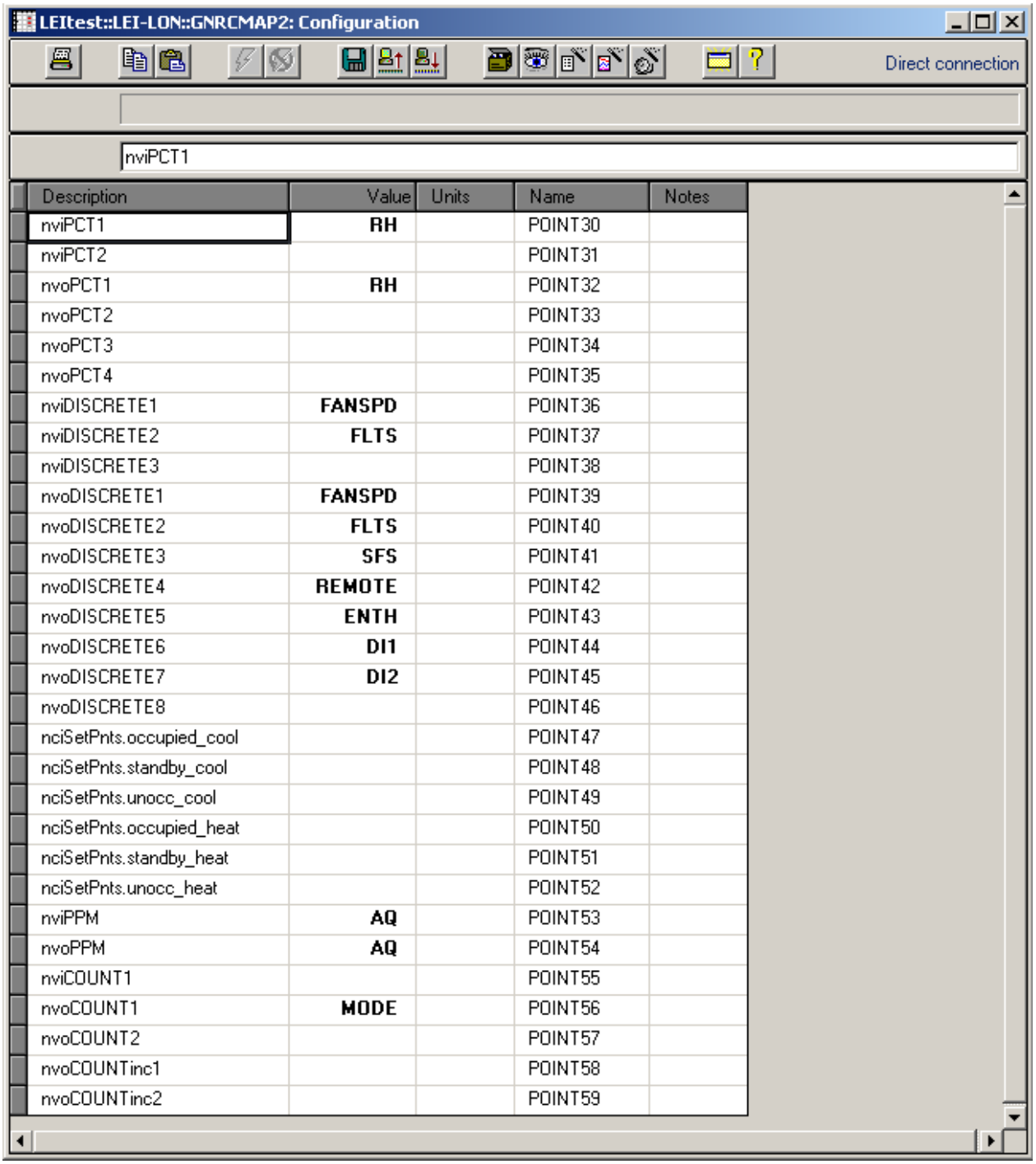
CPP point names can consist of up to 8 characters. The default for each decision is blank.

nviPCT1 - 2

Use these 2 decisions to specify the names of the analog CPP points that the LON system will write to in order to set additional operating parameters in percentage.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Write
Example	MIXD Mixed Air Damper

Figure 3-7
Generic Mapping 2 Configuration (GNRCMAP2) Table



Description	Value	Units	Name	Notes
nviPCT1	**RH**		POINT30	
nviPCT2			POINT31	
nvoPCT1	**RH**		POINT32	
nvoPCT2			POINT33	
nvoPCT3			POINT34	
nvoPCT4			POINT35	
nviDISCRETE1	**FANSPD**		POINT36	
nviDISCRETE2	**FLTS**		POINT37	
nviDISCRETE3			POINT38	
nvoDISCRETE1	**FANSPD**		POINT39	
nvoDISCRETE2	**FLTS**		POINT40	
nvoDISCRETE3	**SFS**		POINT41	
nvoDISCRETE4	**REMOTE**		POINT42	
nvoDISCRETE5	**ENTH**		POINT43	
nvoDISCRETE6	**DI1**		POINT44	
nvoDISCRETE7	**DI2**		POINT45	
nvoDISCRETE8			POINT46	
nciSetPnts.occupied_cool			POINT47	
nciSetPnts.standby_cool			POINT48	
nciSetPnts.unocc_cool			POINT49	
nciSetPnts.occupied_heat			POINT50	
nciSetPnts.standby_heat			POINT51	
nciSetPnts.unocc_heat			POINT52	
nviPPM	**AQ**		POINT53	
nvoPPM	**AQ**		POINT54	
nviCOUNT1			POINT55	
nvoCOUNT1	**MODE**		POINT56	
nvoCOUNT2			POINT57	
nvoCOUNTinc1			POINT58	
nvoCOUNTinc2			POINT59	

nvoPCT1 - 4

Use these 4 decisions to specify the names of the analog CPP points that the LON system can read in order to indicate additional air handler operating parameters in percentage.

LON Variable Type	SNVT_lev_percent
Read/Write Access	Read
Example	RFVC Return Fan Volume Control

nviDISCRETE1 - 3

Use these 3 decisions to specify the names of the discrete CPP points that the LON system can write to in order to set additional discrete operating parameters.

LON Variable Type	SNVT_switch
Read/Write Access	Write
Example	FLTS Filter Status

nvoDISCRETE1 - 8

Use these 8 decisions to specify the names of the discrete CPP points that the LON system can read in order to indicate additional discrete operating parameters.

LON Variable Type	SNVT_switch
Read/Write Access	Read
Example	FANS_1 Fan 1 Relay

nciSetpnts.occupied_cool

Use this decision to provide the name of the analog CPP point that the LON system can write to in order to set the occupied cooling setpoint.

LON Variable Type	SNVT_temp_setpt
Read/Write Access	Write
Example	OCSP Occupied Cool Setpoint

nciSetpnts.standby_cool

Use this decision to provide the name of the analog CPP point that the LON system can write to in order to set the cooling setpoint in standby mode.

Note: Most CPP air handlers do not use this mode.

LON Variable Type	SNVT_temp_setpt
Read/Write Access	Write

nciSetpnts.unocc_cool

Use this decision to provide the name of the analog CPP point that the LON system can write to in order to set the unoccupied cooling setpoint.

LON Variable Type	SNVT_temp_setpt
Read/Write Access	Write
Example	UCSP Unoccupied Cool Setpoint

nciSetpnts.occupied_heat

Use this decision to provide the name of the analog CPP point that the LON system can write to in order to set the occupied heating setpoint.

LON Variable Type	SNVT_temp_setpt
Read/Write Access	Write
Example	OHSP Occupied Heat Setpoint

nciSetpnts.standby_heat

Use this decision to provide the name of the analog CPP point that the LON system can write to in order to set the heating setpoint in standby mode.

Most CPP air handlers do not contain this point.

LON Variable Type	SNVT_temp_setpt
Read/Write Access	Write

nviPPM1

Use this decision to specify the name of the analog CPP point that the LON system will write to in order to set an additional operating parameter in PPM.

LON Variable Type	SNVT_ppm
Read/Write Access	Write
Example	AQ1 Air Quality 1 (ppm)

nvoPPM1

Use this decision to specify the name of the analog CPP point that the LON system will read in order to obtain an additional analog values in PPM.

LON Variable Type	SNVT_ppm
Read/Write Access	Read
Example	AQ1 Air Quality 1 (ppm)

nviCOUNT1

Use this decision to specify the name of the analog or multi-state CPP point that the LON system will write to in order to set additional analog or multi-state operating parameters.

LON Variable Type	SNVT_count
Read/Write Access	Write
Example	OASP OA cfm Setpoint

nvoCOUNT1 - 2

Use these 2 decisions to specify the names of the analog or multi-state CPP points that the LON system will read in order to obtain additional analog or multi-state values.

LON Variable Type	SNVT_count
Read/Write Access	Read
Example	OACFM OA Airflow

nvoCOUNTinc1 - 2

Use these 2 decisions to specify the names of the analog or multi-state CPP points that the LON system will read in order to obtain additional analog or multi-state values.

LON Variable Type	SNVT_count_inc
Read/Write Access	Read
Example	OACFM OA Airflow

Maintenance

Maintenance

The CIAT Translator contains the maintenance tables listed below.

CHLRMNT1 Chiller Maintenance Table 1
CHLRMNT2 Chiller Maintenance Table 2
COMMSTAT Communication Status Maintenance Table
GNRCMNT1 Generic Maintenance Table 1
GNRCMNT2 Generic Maintnenance Table 2
MESSAGES Messages Maintenance Table
RTUMNT1 Rooftop Maintenance Table 1
RTUMNT2 Rooftop Mainten ance Table 2

The maintenance values displayed in these tables are read-only values that show the current value of the CPP points that have been mapped to the Lonworks variables as the points exist in the CPP system element. These values are updated every 30 seconds. Note that if a LonWorks read (nvo) and write (nvi) variable have been mapped to the same CPP point, they will display the same value in the maintenance table display.

Chiller Maintenance (CHLRMNT1) Table 1

Figure 4-1 on the page which follows illustrates the Chiller Maintenance (CHLRMNT1) Table. An explanation of each value in the table follows. Note that the valid display ranges are dependent on the point.

nviChillerEnable Indicates the commanded state of the chiller (on or off).

nviCoolSetpt Indicates the commanded value for the leaving chilled water temperature setpoint when the chiller is operating in cooling mode.

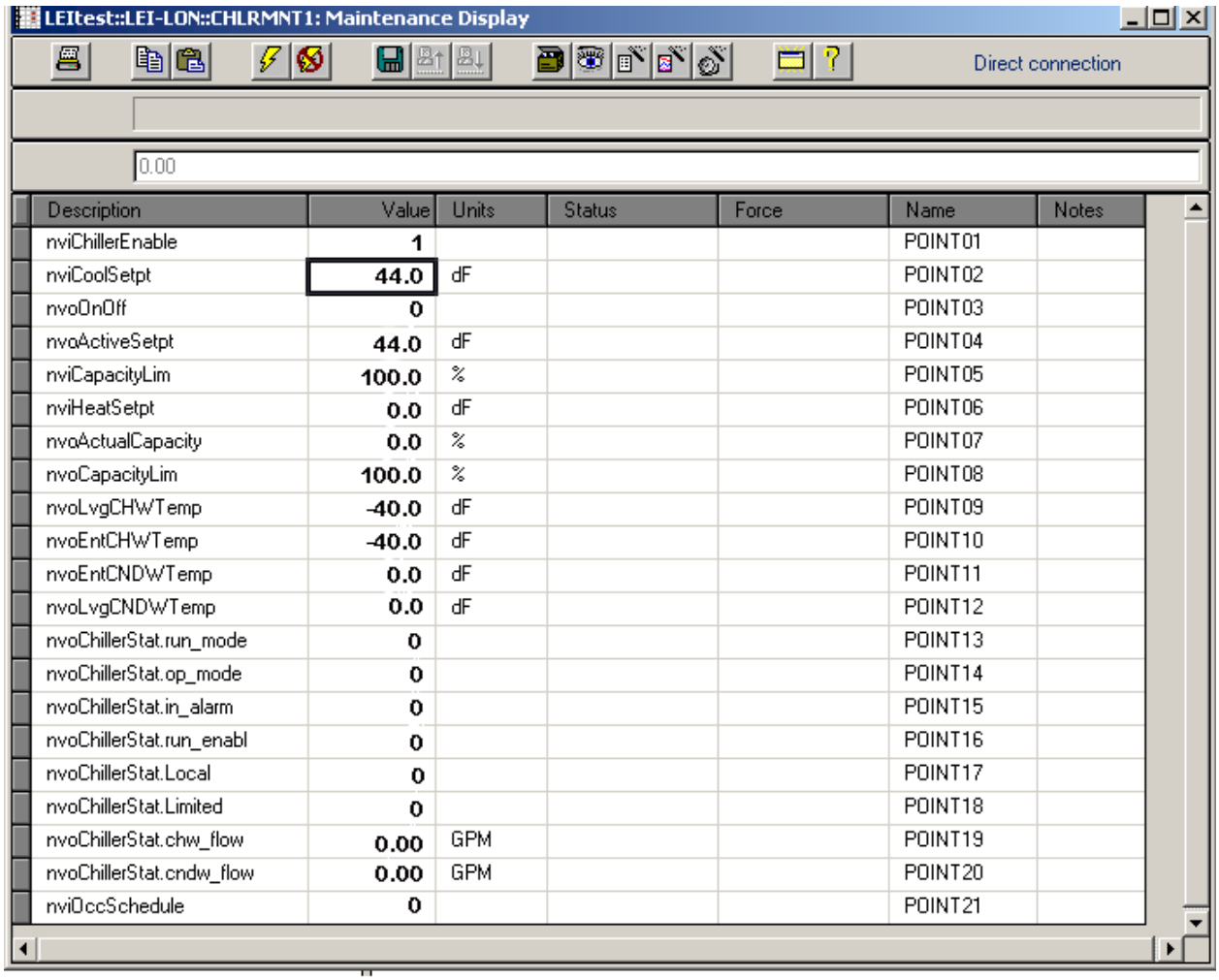
nvoOnOff Indicates the chiller's current status (on/off).

Note: Most CPP chillers do not contain this point.

nvoActiveSetpt Indicates the current value of the chiller's cooling or heating setpoint. The setpoint to be displayed (cooling or heating) depends on the chiller's current operating mode.

nviCapacityLim Indicates the commanded value for the capacity limit of the chiller.

Figure 4-1
Chiller Maintenance
(CHLRMNT1)
Table 1



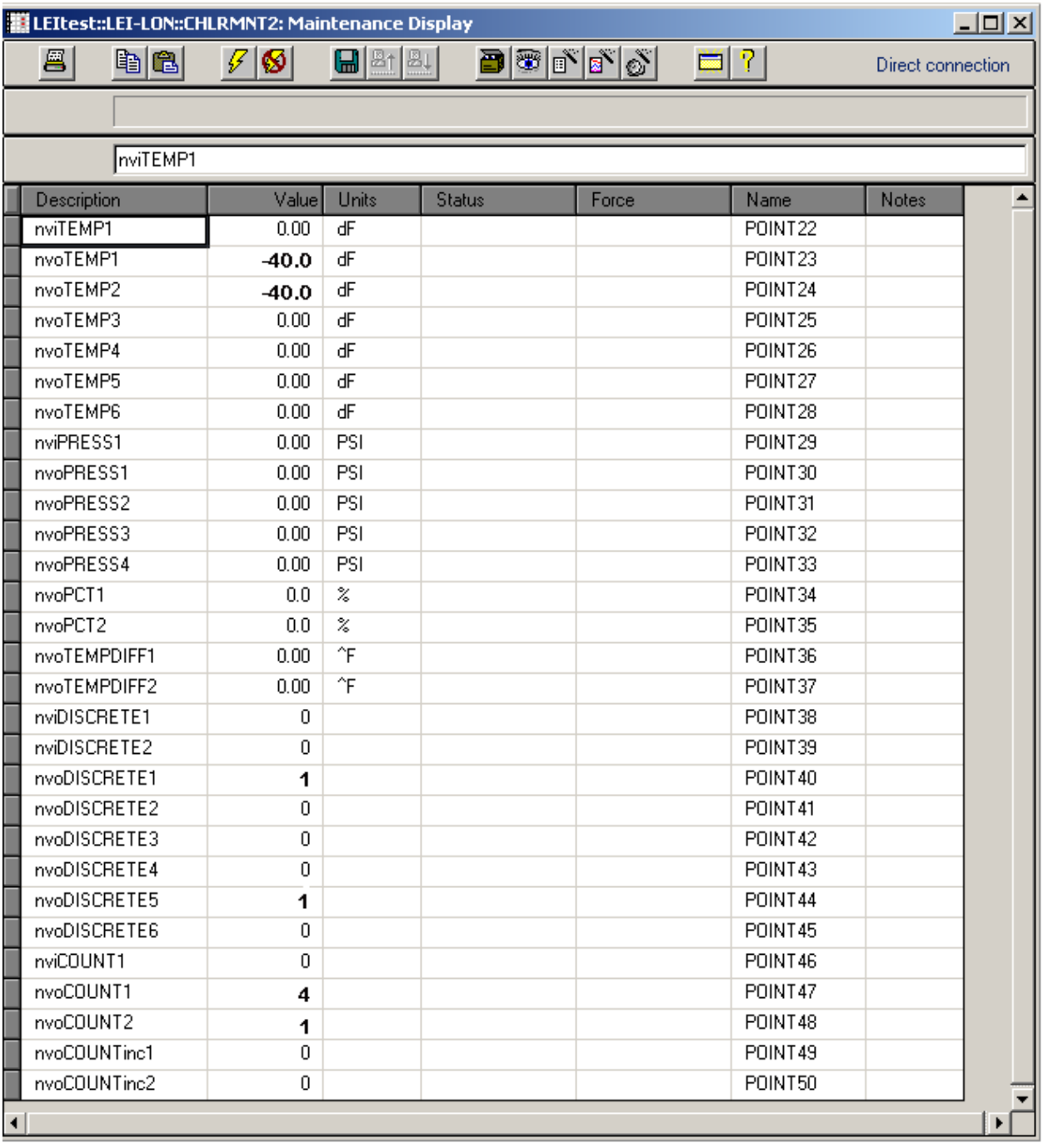
Description	Value	Units	Status	Force	Name	Notes
nviChillerEnable	1				POINT01	
nviCoolSetpt	44.0	dF			POINT02	
nvoOnOff	0				POINT03	
nvoActiveSetpt	44.0	dF			POINT04	
nviCapacityLim	100.0	%			POINT05	
nviHeatSetpt	0.0	dF			POINT06	
nvoActualCapacity	0.0	%			POINT07	
nvoCapacityLim	100.0	%			POINT08	
nvoLvgCHWTemp	-40.0	dF			POINT09	
nvoEntCHWTemp	-40.0	dF			POINT10	
nvoEntCNDWTemp	0.0	dF			POINT11	
nvoLvgCNDWTemp	0.0	dF			POINT12	
nvoChillerStat.run_mode	0				POINT13	
nvoChillerStat.op_mode	0				POINT14	
nvoChillerStat.in_alarm	0				POINT15	
nvoChillerStat.run_enabl	0				POINT16	
nvoChillerStat.Local	0				POINT17	
nvoChillerStat.Limited	0				POINT18	
nvoChillerStat.chw_flow	0.00	GPM			POINT19	
nvoChillerStat.cndw_flow	0.00	GPM			POINT20	
nviOccSchedule	0				POINT21	

nviHeatSetpt	Indicates the commanded heating setpoint.
nvoActualCapacity	Indicates the current running capacity of the chiller.
nvoCapacityLim	Indicates the chiller's current capacity limit setpoint.
nvoLvgCHWTemp	Indicates the leaving chilled water temperature.
nvoEntCHWTemp	Indicates the entering chilled water temperature.
nvoEntCNDWTemp	Indicates the entering condenser water temperature.
nvoLvgCNDWTemp	Indicates the leaving condenser water temperature.
nvoChillerStat.run_mode	Indicates the main running mode of the chiller. **Note:** Most CPP chillers do not contain this point.
nvoChillerStat.op_mode	Indicates the main operating status of the chiller. **Note:** Most CPP chillers do not contain this point.
nvoChillerStat.in_alarm	Indicates the alarm status of the chiller. **Note:** Most CPP chillers do not contain this point.
nvoChillerStat.run_enabl	Indicates the start or stop status of the chiller.
nvoChillerStat.Local	Indicates the chiller's local or network control status. **Note:** Most CPP chillers do not contain this point.
nvoChillerStat.Limited	Indicates if the chiller cannot reach setpoint. **Note:** Most CPP chillers do not contain this point.
nvoChillerStat.chw_flow	Indicates the presence of chilled water flow.
nvoChillerStat.cndw_flow	Indicates the presence of condenser water flow.
nviOccSchedule	Indicates the next commanded occupancy state, as determined by the CPP global occupancy equipment table.

Chiller Maintenance (CHLMNT2) Table 2

Figure 4-2 shown below illustrates the Chiller Maintenance (CHLRMNT2) Table. An explanation of each value in the table follows. Note that the valid display ranges are dependent on the point.

Figure 4-2
Chiller Maintenance
(CHLRMNT2)
Table 2



Description	Value	Units	Status	Force	Name	Notes
nviTEMP1	0.00	dF			POINT22	
nvoTEMP1	**-40.0**	dF			POINT23	
nvoTEMP2	**-40.0**	dF			POINT24	
nvoTEMP3	0.00	dF			POINT25	
nvoTEMP4	0.00	dF			POINT26	
nvoTEMP5	0.00	dF			POINT27	
nvoTEMP6	0.00	dF			POINT28	
nviPRESS1	0.00	PSI			POINT29	
nvoPRESS1	0.00	PSI			POINT30	
nvoPRESS2	0.00	PSI			POINT31	
nvoPRESS3	0.00	PSI			POINT32	
nvoPRESS4	0.00	PSI			POINT33	
nvoPCT1	0.0	%			POINT34	
nvoPCT2	0.0	%			POINT35	
nvoTEMPDIFF1	0.00	^F			POINT36	
nvoTEMPDIFF2	0.00	^F			POINT37	
nviDISCRETE1	0				POINT38	
nviDISCRETE2	0				POINT39	
nvoDISCRETE1	**1**				POINT40	
nvoDISCRETE2	0				POINT41	
nvoDISCRETE3	0				POINT42	
nvoDISCRETE4	0				POINT43	
nvoDISCRETE5	**1**				POINT44	
nvoDISCRETE6	0				POINT45	
nviCOUNT1	0				POINT46	
nvoCOUNT1	**4**				POINT47	
nvoCOUNT2	**1**				POINT48	
nvoCOUNTinc1	0				POINT49	
nvoCOUNTinc2	0				POINT50	

nviTEMP1	Indicates an additional chiller commanded operating temperature.
nvoTEMP1 - 6	Indicates additional chiller operating temperatures.
nviPRESS1	Indicates an additional chiller commanded operating pressure.
nvoPRESS1 - 4	Indicates additional chiller operating pressures.
nvoPCT1 - 2	Indicates additional chiller operating parameters in percentage.
nvoTEMPDIFF1 - 2	Indicates additional chiller differential temperatures.
nviDISCRETE1 - 2	Indicates additional commanded discrete operating parameters.
nvoDISCRETE1 - 6	Indicates additional discrete operating parameters.
nviCOUNT1	Indicates chiller commanded analog or multi-state parameter. **Note:** This point will always display in customary US units.
nvoCOUNT1 - 2	Indicate chiller analog or multi-state values. **Note:** These points will always display in customary US units.
nvoCOUNTinc1 - 2	Indicate chiller analog or multi-state values. **Note:** These points will always display in customary US units.

Rooftop Maintenance (RTUMNT1) Table 1

Figure 4-3 on the page which follows illustrates the Rooftop Maintenance (RTUMNT1) Table. The maintenance values displayed in this table are read-only values that show the current value of the CPP points that have been mapped to the Lonworks variables as the points exist in the CPP system element. These values are updated every 30 seconds. An explanation of each value in the table follows. Note that the valid display ranges are dependent on the point.

nviSpaceTemp Indicates the commanded space temperature.

nviSetPoint Indicates the commanded temperature setpoint.

nvoSpaceTemp Indicates the space temperature.

nvoUnitStatus.mode Indicates the rooftop's operating mode.

Note: Most CPP rooftops do not contain this point.

nvoUnitStatus.heat_out_p Indicates the current primary heat capacity in percent full scale.

nvoUnitStatus.heat_out_s Indicates the current secondary heat capacity in percent full scale.

nvoUnitStatus.cool_out Indicates the current cooling capacity in percent full scale.

nvoUnitStatus.econ_out Indicates the current economizer position in percent full scale.

nvoUnitStatus.fan_out Indicates the current fan speed in percent full scale.

Note: Most CPP rooftops do not contain this point.

nvoUnitStatus.in_alarm Indicates the alarm status of the chiller.

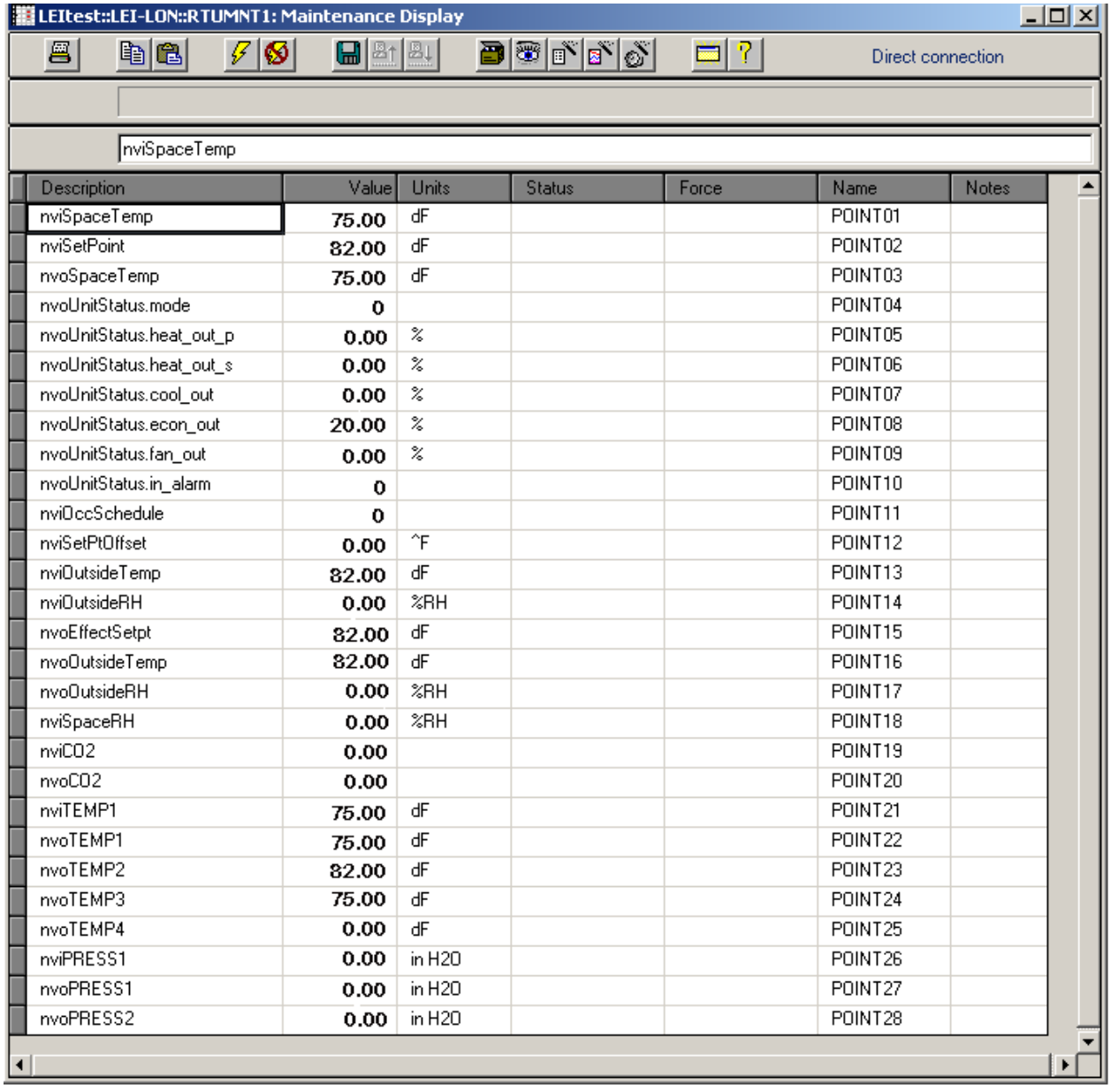
Notes: Most CPP rooftops do not contain this point.

nviOccSchedule Indicates the next commanded occupancy state, as determined by the CPP global occupancy equipment table.

nviSetptOffset Indicates the commanded temperature setpoint offset.

Notes: Most CPP rooftops do not contain this point.
Metric points will always assume ^T, even if the point is mapped to a temperature.

Figure 4-3
Rooftop Maintenance
(RTUMNT1)
Table 1



Description	Value	Units	Status	Force	Name	Notes
nviSpaceTemp	75.00	dF			POINT01	
nviSetPoint	82.00	dF			POINT02	
nvoSpaceTemp	75.00	dF			POINT03	
nvoUnitStatus.mode	0				POINT04	
nvoUnitStatus.heat_out_p	0.00	%			POINT05	
nvoUnitStatus.heat_out_s	0.00	%			POINT06	
nvoUnitStatus.cool_out	0.00	%			POINT07	
nvoUnitStatus.econ_out	20.00	%			POINT08	
nvoUnitStatus.fan_out	0.00	%			POINT09	
nvoUnitStatus.in_alarm	0				POINT10	
nviOccSchedule	0				POINT11	
nviSetPtOffset	0.00	^F			POINT12	
nviOutsideTemp	82.00	dF			POINT13	
nviOutsideRH	0.00	%RH			POINT14	
nvoEffectSetpt	82.00	dF			POINT15	
nvoOutsideTemp	82.00	dF			POINT16	
nvoOutsideRH	0.00	%RH			POINT17	
nviSpaceRH	0.00	%RH			POINT18	
nviCO2	0.00				POINT19	
nvoCO2	0.00				POINT20	
nviTEMP1	75.00	dF			POINT21	
nvoTEMP1	75.00	dF			POINT22	
nvoTEMP2	82.00	dF			POINT23	
nvoTEMP3	75.00	dF			POINT24	
nvoTEMP4	0.00	dF			POINT25	
nviPRESS1	0.00	in H20			POINT26	
nvoPRESS1	0.00	in H20			POINT27	
nvoPRESS2	0.00	in H20			POINT28	

nviOutsideTemp	Indicates the commanded outside air temperature.
nviOutsideRH	Indicates the commanded outside air relative humidity.
nvoEffectSetpt	Indicates the setpoint temperature.
nvoOutsideTemp	Indicates the outside air temperature.
nvoOutsideRH	Indicates the outside air relative humidity.
nviSpaceRH	Indicates the commanded space relative humidity.
nviCO2	Indicates the commanded CO2 level in ppm.
nvoCO2	Indicates the commanded CO2 level in ppm.
nviTEMP1	Indicates an additional rooftop commanded operating temperature.
nvoTEMP1-4	Indicate additional rooftop operating temperatures.
nviPRESS1	Indicates an additional rooftop commanded operating pressure.
nvoPRESS1 - 2	Indicate additional rooftop operating pressures.

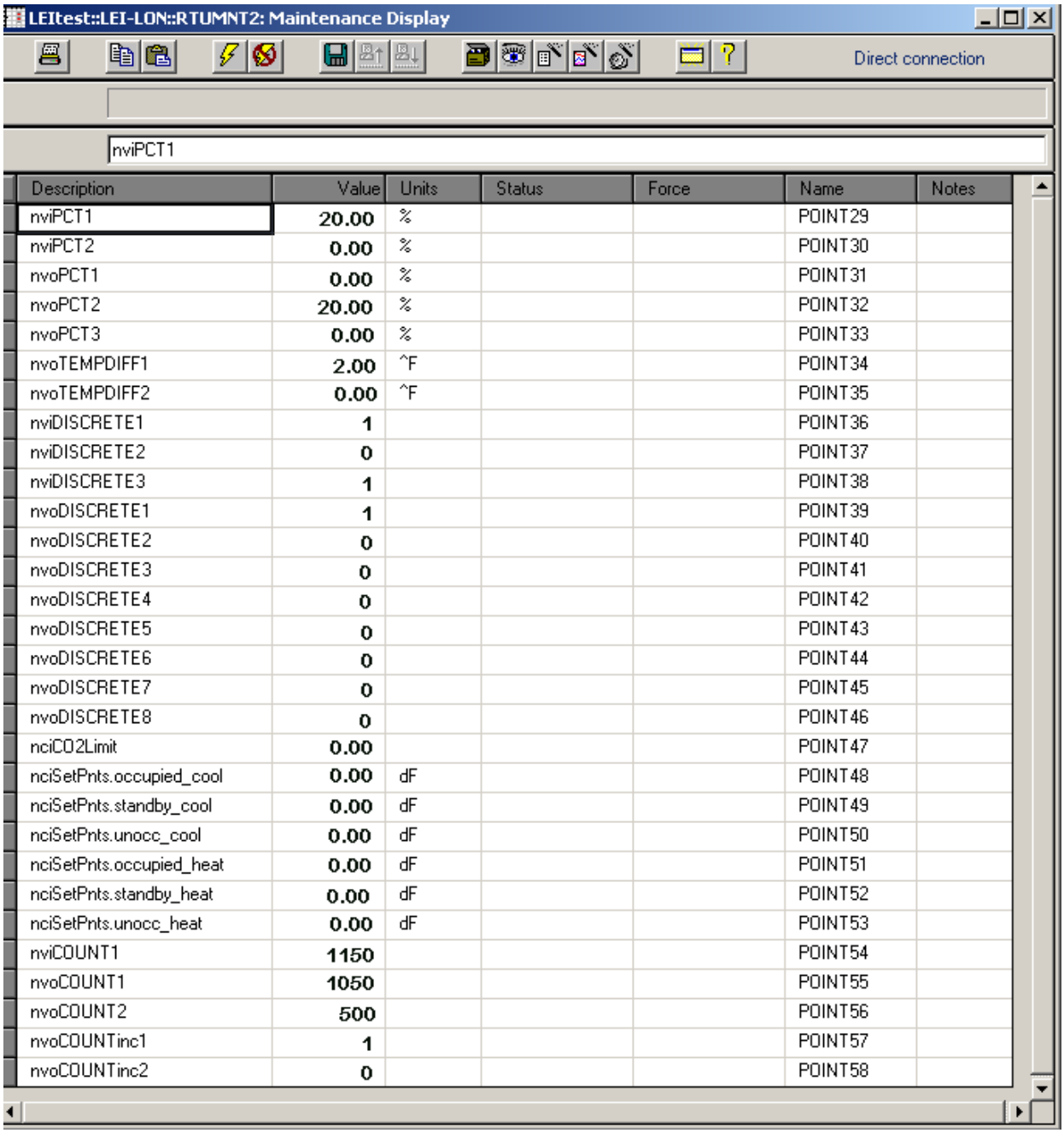
Rooftop Maintenance (RTUMNT2) Table 2

Figure 4-4 illustrates the Rooftop Maintenance (RTUMNT2) Table. The maintenance values displayed in this table are read-only values that show the current value of the CPP points that have been mapped to the Lonworks variables as the points exist in the CPP system element. These values are updated every 30 seconds. An explanation of each value in the table follows. Note that the valid display ranges are dependent on the point.

nviPCT1-2	Indicate rooftop commanded parameters in percentage.
nvoPCT1-3	Indicate additional rooftop operating parameters in percentage.
nvoTEMPDIFF1 - 2	Indicate additional rooftop differential temperatures.
nviDISCRETE1 - 3	Indicate additional discrete commanded operating parameters.

nvoDISCRETE1 - 8	Indicate additional discrete commanded operating parameters.
nciCO2Limit	Indicates the commanded CO2 threshold value.
nciSetpnts.occupied_cool	Indicates the commanded occupied cooling setpoint.
nciSetpnts.standby_cool	Indicates the commanded cooling setpoint in standby mode. **Note:** Most CPP rooftops do not use this mode.
nciSetpnts.unocc_cool	Indicates the commanded unoccupied cooling setpoint.
nciSetpnts.occupied_heat	Indicates the commanded occupied heating setpoint.
nciSetpnts.standby_heat	Indicates the commanded heating setpoint in standby mode. **Note:** Most CPP rooftops do not use this mode.
nciSetpnts.unocc_heat	Indicates the commanded unoccupied heating setpoint.
nviCOUNT1	Indicates a rooftop commanded analog or multi-state parameter. **Note:** This point will always display in customary US units.
nvoCOUNT1 - 2	Indicate rooftop analog or multi-state values. **Note:** These points will always display in customary US units.
nvoCOUNTinc1 - 2	Indicates rooftop analog or multi-state values. **Note:** These points will always display in customary US units.

Figure 4-4
Rooftop Maintenance
(RTUMNT2)
Table 2



Description	Value	Units	Status	Force	Name	Notes
nviPCT1	20.00	%			POINT29	
nviPCT2	0.00	%			POINT30	
nvoPCT1	0.00	%			POINT31	
nvoPCT2	20.00	%			POINT32	
nvoPCT3	0.00	%			POINT33	
nvoTEMPDIFF1	2.00	^F			POINT34	
nvoTEMPDIFF2	0.00	^F			POINT35	
nviDISCRETE1	1				POINT36	
nviDISCRETE2	0				POINT37	
nviDISCRETE3	1				POINT38	
nvoDISCRETE1	1				POINT39	
nvoDISCRETE2	0				POINT40	
nvoDISCRETE3	0				POINT41	
nvoDISCRETE4	0				POINT42	
nvoDISCRETE5	0				POINT43	
nvoDISCRETE6	0				POINT44	
nvoDISCRETE7	0				POINT45	
nvoDISCRETE8	0				POINT46	
nciCO2Limit	0.00				POINT47	
nciSetPnts.occupied_cool	0.00	dF			POINT48	
nciSetPnts.standby_cool	0.00	dF			POINT49	
nciSetPnts.unocc_cool	0.00	dF			POINT50	
nciSetPnts.occupied_heat	0.00	dF			POINT51	
nciSetPnts.standby_heat	0.00	dF			POINT52	
nciSetPnts.unocc_heat	0.00	dF			POINT53	
nviCOUNT1	1150				POINT54	
nvoCOUNT1	1050				POINT55	
nvoCOUNT2	500				POINT56	
nvoCOUNTinc1	1				POINT57	
nvoCOUNTinc2	0				POINT58	

Generic Maintenance (GNRCMNT1) Table 1

Figure 4-5 on the page which follows illustrates the Generic Maintenance (GNRCMNT1) Table. The maintenance values displayed in this table are read-only values that show the current value of the CPP points that have been mapped to the Lonworks variables as the points exist in the CPP system element. These values are updated every 30 seconds. An explanation of each value in the table follows. Note that the valid display ranges are dependent on the point.

nvoUnitStatus.mode

Indicates the controller's operating mode.

Note: Most CPP controllers do not contain this point.

nvoUnitStatus.heat_out_p

Indicates the current primary heat capacity in percent full scale.

nvoUnitStatus.heat_out_s

Indicates the current secondary heat capacity in percent full scale.

nvoUnitStatus.cool_out

Indicates the current cooling capacity in percent full scale.

nvoUnitStatus.econ_out

Indicates the current economizer position in percent full scale.

nvoUnitStatus.fan_out

Indicates the current fan speed in percent full scale.

nvoUnitStatus.in_alarm

Indicates the alarm status of the controller.

Note: Most CPP air handlers do not contain this point.

nviOccSchedule

Indicates the next commanded occupancy state, as determined by the CPP global occupancy equipment table.

nviTEMP1 - 3

Indicates an additional controller commanded operating temperature.

nvoTEMP1 - 8

Indicate additional controller operating temperatures.

nviPRESS1 - 2

Indicate additional controller commanded operating pressures.

Note: Most CPP controllers do not allow write access to this point.

nvoPRESS1 - 6

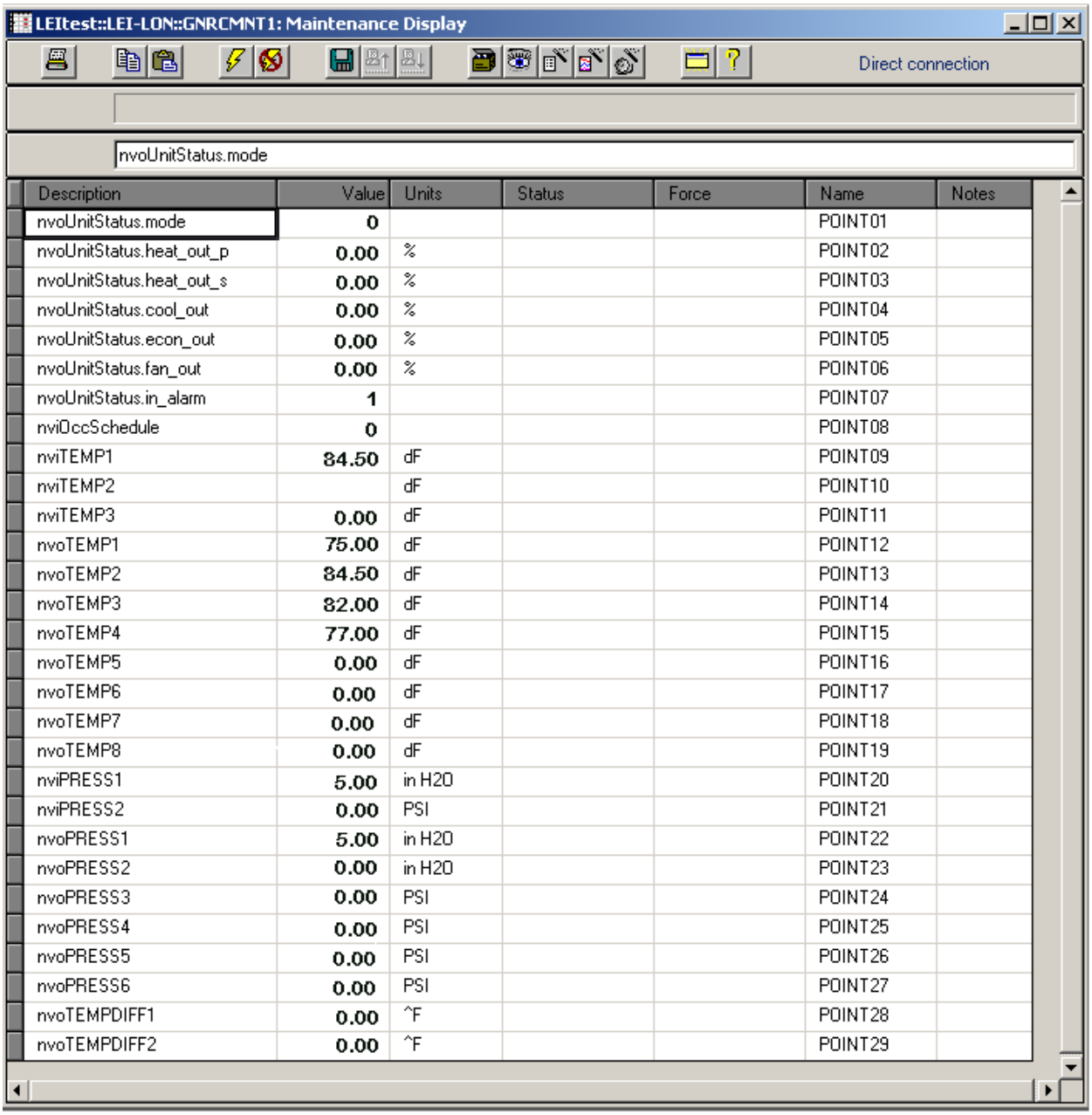
Use these 6 decisions to specify the names of the analog CPP point that will indicate additional controller operating pressures.

nvoTEMPDIFF1 - 2

Indicate additional controller differential temperatures.

Note: Most CPP air handlers do not contain this point.

Figure 4-3
Generic Maintenance
(GNRCMNT1)
Table 1



Description	Value	Units	Status	Force	Name	Notes
nvoUnitStatus.mode	0				POINT01	
nvoUnitStatus.heat_out_p	0.00	%			POINT02	
nvoUnitStatus.heat_out_s	0.00	%			POINT03	
nvoUnitStatus.cool_out	0.00	%			POINT04	
nvoUnitStatus.econ_out	0.00	%			POINT05	
nvoUnitStatus.fan_out	0.00	%			POINT06	
nvoUnitStatus.in_alarm	1				POINT07	
nviOccSchedule	0				POINT08	
nviTEMP1	84.50	dF			POINT09	
nviTEMP2		dF			POINT10	
nviTEMP3	0.00	dF			POINT11	
nvoTEMP1	75.00	dF			POINT12	
nvoTEMP2	84.50	dF			POINT13	
nvoTEMP3	82.00	dF			POINT14	
nvoTEMP4	77.00	dF			POINT15	
nvoTEMP5	0.00	dF			POINT16	
nvoTEMP6	0.00	dF			POINT17	
nvoTEMP7	0.00	dF			POINT18	
nvoTEMP8	0.00	dF			POINT19	
nviPRESS1	5.00	in H2O			POINT20	
nviPRESS2	0.00	PSI			POINT21	
nvoPRESS1	5.00	in H2O			POINT22	
nvoPRESS2	0.00	in H2O			POINT23	
nvoPRESS3	0.00	PSI			POINT24	
nvoPRESS4	0.00	PSI			POINT25	
nvoPRESS5	0.00	PSI			POINT26	
nvoPRESS6	0.00	PSI			POINT27	
nvoTEMPDIFF1	0.00	^F			POINT28	
nvoTEMPDIFF2	0.00	^F			POINT29	

Generic Mapping Maintenance (GNRCMNT2) Table 2

Figure 4-6 on the page which follows illustrates the Generic Maintenance (GNRCMNT2) Table. The maintenance values displayed in this table are read-only values that show the current value of the CPP points that have been mapped to the Lonworks variables as the points exist in the CPP system element. These values are updated every 30 seconds. An explanation of each value in the table follows. Note that the valid display ranges are dependent on the point.

nviPCT1 - 2 Indicate additional controller commanded parameters in percentage.

nvoPCT1 - 4 Indicate additional controller operating parameters in percentage.

nviDISCRETE1 - 3 Indicate additional commanded discrete operating parameters.

nvoDISCRETE1 - 8 Indicate additional discrete operating parameters.

nciSetpnts.occupied_cool Indicates the commanded occupied cooling setpoint.

nciSetpnts.standby_cool Indicates the commanded cooling setpoint in standby mode.

Note: Most CPP controllers do not use this mode.

nciSetpnts.unocc_cool Indicates the commanded unoccupied cooling setpoint.

nciSetpnts.occupied_heat Indicates the commanded occupied heating setpoint.

nciSetpnts.standby_heat Indicates the commanded heating setpoint in standby mode.

Note: Most CPP controllers do not contain this point.

nviPPM Indicates a commanded parameter in PPM.

nvoPPM Indicates an analog value in PPM.

nviCOUNT1 Indicates a commanded analog or multi-state parameter.

Note: This point will always display in customary US units.

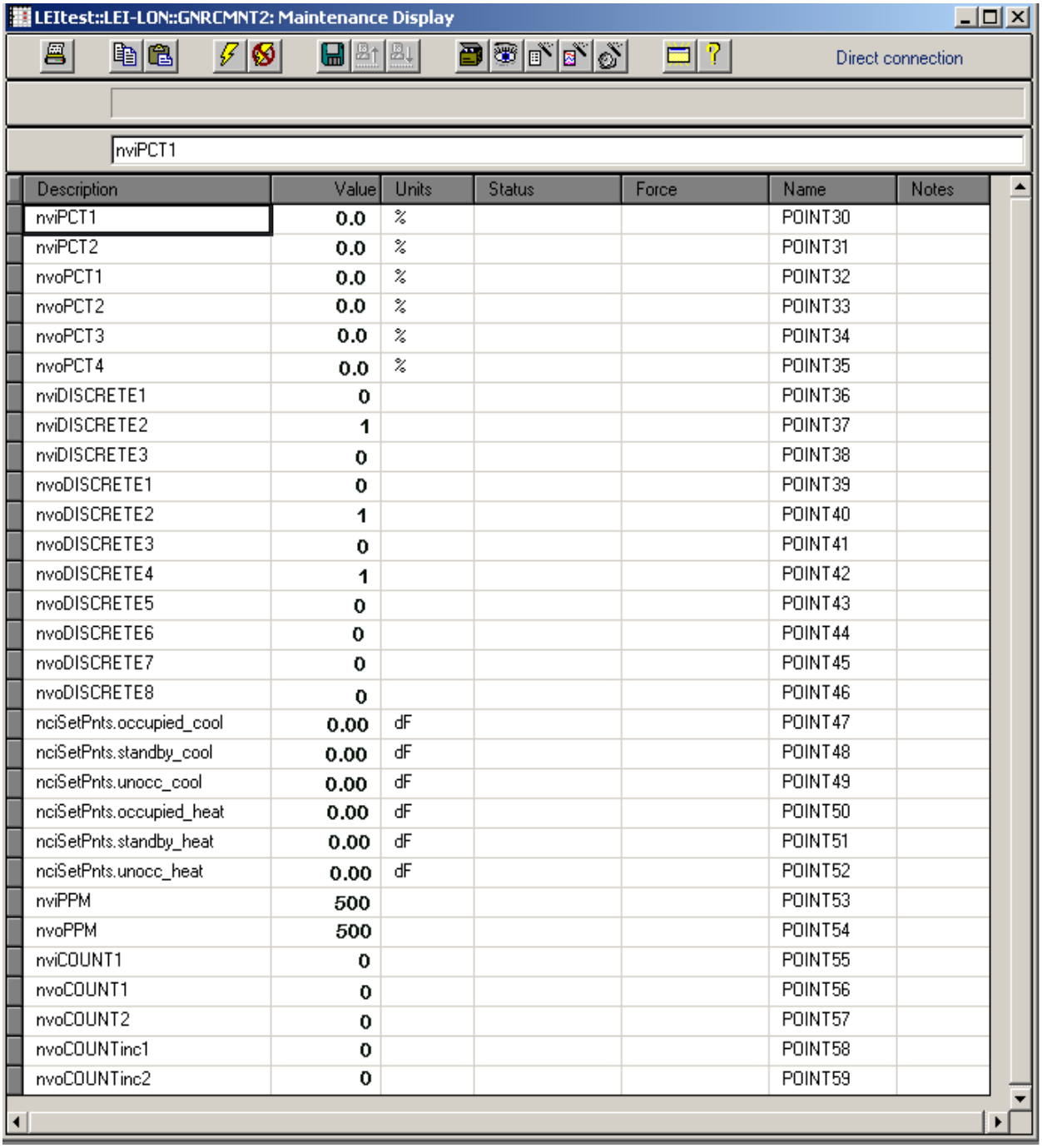
nvoCOUNT1 - 2 Indicate analog or multi-state values.

Note: These points will always display in customary US units.

nvoCOUNTinc1 - 2 Indicate analog or multi-state values.

Note: These points will always display in customary US units.

Figure 4-6
Generic Mapping 2 Maintenance (GNRCMNT2) Table



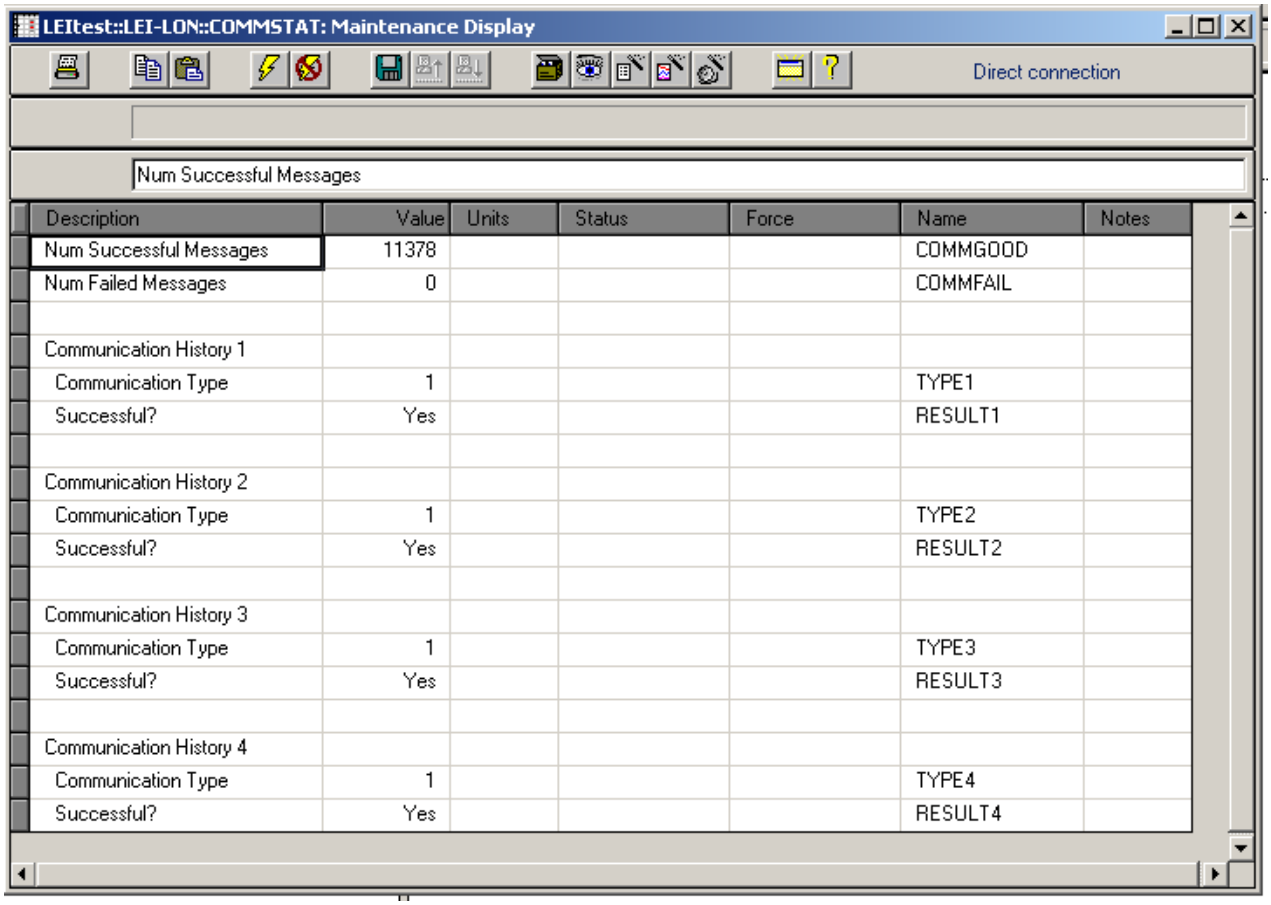
Description	Value	Units	Status	Force	Name	Notes
nviPCT1	0.0	%			POINT30	
nviPCT2	0.0	%			POINT31	
nvoPCT1	0.0	%			POINT32	
nvoPCT2	0.0	%			POINT33	
nvoPCT3	0.0	%			POINT34	
nvoPCT4	0.0	%			POINT35	
nviDISCRETE1	0				POINT36	
nviDISCRETE2	1				POINT37	
nviDISCRETE3	0				POINT38	
nvoDISCRETE1	0				POINT39	
nvoDISCRETE2	1				POINT40	
nvoDISCRETE3	0				POINT41	
nvoDISCRETE4	1				POINT42	
nvoDISCRETE5	0				POINT43	
nvoDISCRETE6	0				POINT44	
nvoDISCRETE7	0				POINT45	
nvoDISCRETE8	0				POINT46	
nciSetPnts.occupied_cool	0.00	dF			POINT47	
nciSetPnts.standby_cool	0.00	dF			POINT48	
nciSetPnts.unocc_cool	0.00	dF			POINT49	
nciSetPnts.occupied_heat	0.00	dF			POINT50	
nciSetPnts.standby_heat	0.00	dF			POINT51	
nciSetPnts.unocc_heat	0.00	dF			POINT52	
nviPPM	500				POINT53	
nvoPPM	500				POINT54	
nviCOUNT1	0				POINT55	
nvoCOUNT1	0				POINT56	
nvoCOUNT2	0				POINT57	
nvoCOUNTinc1	0				POINT58	
nvoCOUNTinc2	0				POINT59	

Communication Status Maintenance (COMMSTAT) Table

Figure 4-7 below illustrates the Communication Status Maintenance (COMMSTAT) Table. The maintenance values displayed in this table are read-only values that show diagnostic data about LonWorks-to-CPP system element communication. These values are updated every 30 seconds. An explanation of each value in the table follows.

Note: This information is primarily intended to be used by the Lon systems integrator for troubleshooting.

Figure 4-7
Communications Status Maintenance (COMMSTAT) Table



Description	Value	Units	Status	Force	Name	Notes
Num Successful Messages	11378				COMMGOOD	
Num Failed Messages	0				COMMFAIL	
Communication History 1						
Communication Type	1				TYPE1	
Successful?	Yes				RESULT1	
Communication History 2						
Communication Type	1				TYPE2	
Successful?	Yes				RESULT2	
Communication History 3						
Communication Type	1				TYPE3	
Successful?	Yes				RESULT3	
Communication History 4						
Communication Type	1				TYPE4	
Successful?	Yes				RESULT4	

Num Successful Messages

Indicates the number of successful read, write, and other communication messages sent from LonWorks to the CPP system element. This value is a running total of the number of successful messages detected since the last communication reset. It is not reset on cycling CIAT TRANSLATOR power. It can be reset, however, using the CONFIG Table's Reset Comm. Counters decision.

Valid Display 0 - 65,000

Num Failed Messages

Indicates the number of unsuccessful read, write, and other communication messages sent from LonWorks to the CPP system element. This value is a running total of the number of unsuccessful messages detected since the last communication reset. It is not reset on cycling power to the CIAT Translator. It can be reset, however, using the CONFIG Table's Reset Comm. Counters decision.

Valid Display 0 - 65,000

Communication History 1 - 4

These 4 decisions display the below-listed data about the four most recent LonWorks-to-CPP communication messages.

Communication Type

Indicates the type of communication message.

Valid Display

1 = Read Network Variable
2 = Write Network Variable
3 = Other

Successful?

Indicates whether or not this communication was successful.

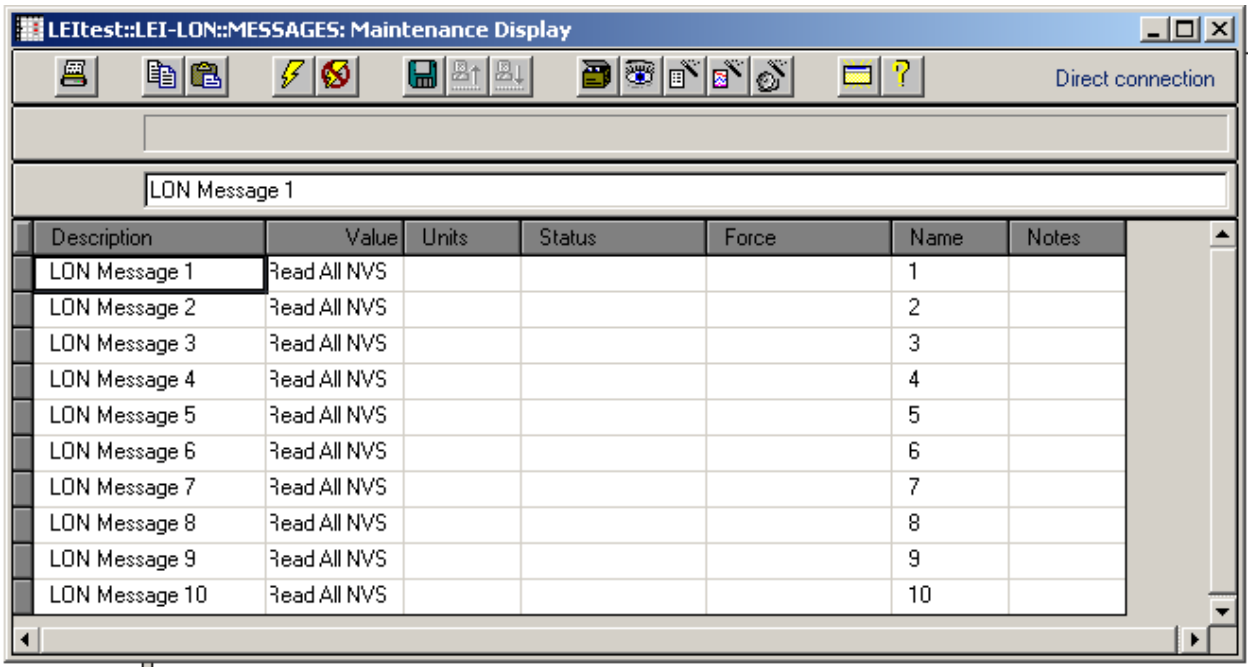
Valid Display Yes/No

Messages Maintenance (MESSAGES) Table

Figure 4-8 below illustrates the Messages Maintenance (MESSAGES) Table. The maintenance values displayed in this table are read-only values that show diagnostic data about LonWorks-to-CPP system element communication messages. These values are updated every 30 seconds. An explanation of each value in the table follows.

Note: This information is primarily intended to be used by the Lon systems integrator for troubleshooting.

Figure 4-8
Messages Maintenance (MESSAGES) Table



Description	Value	Units	Status	Force	Name	Notes
LON Message 1	Read All NVS				1	
LON Message 2	Read All NVS				2	
LON Message 3	Read All NVS				3	
LON Message 4	Read All NVS				4	
LON Message 5	Read All NVS				5	
LON Message 6	Read All NVS				6	
LON Message 7	Read All NVS				7	
LON Message 8	Read All NVS				8	
LON Message 9	Read All NVS				9	
LON Message 10	Read All NVS				10	

LON Message 1 - 10

These 10 decisions display diagnostic information about the 10 most recent LonWorks-to-CPP communication messages.

Valid Display

Selfconfiguration
Read all NVs
Propagate NV#
Set NV#
Read NV#

where: NV = Network Variable
= Number of the Network Variable

The Propagate and Set commands both refer to writes to CPP points. Propagate indicates that the value has not changed, but the CIAT Translator's 30 second refresh has caused Lonworks to write to the CPP point again. Set indicates that Lonworks has written a new value to the CPP point.

Appendix

Appendix

This section contains examples of actual configurations for a chiller, rooftop, and generic template, along with a list of LON SNVTs and corresponding CPP point names and descriptions.

Figure A-2
Sample Configuration for CHLRMAP1 Table

Job Site:
LEI Address: 0,211
Attached Device: 19XR III
Attached Device Address: 0,1
LON Profile: Chiller Profile

CHLRMAP1	SNVT Type		Read or Write?	CPP Point Description	CPP Point Name
nviChillerEnable	SNVT_switch	POINT01	W	Chiller Start/Stop	CHIL_S_S
nviCoolSetpt	SNVT_temp_p	POINT02	W	Leaving Chilled Water Control Point	LCW_STPT
nvoOnOff	SNVT_switch	POINT03	R		
nvoActiveSetpt	SNVT_temp_p	POINT04	R	Leaving Chilled Water Control Point	LCW_STPT
nviCapacityLim	SNVT_lev_percent	POINT05	W	Active Demand Limit	DEM_LIM
nviHeatSetpt	SNVT_temp_p	POINT06	W		
nvoActualCapacity	SNVT_lev_percent	POINT07	R	Motor Percent Kilowatts	KW_P
nvoCapacityLim	SNVT_lev_percent	POINT08	R	Active Demand Limit	DEM_LIM
nvoLvgCHWTemp	SNVT_temp_p	POINT09	R	Leaving Chilled Water	LCW
nvoEntCHWTemp	SNVT_temp_p	POINT10	R	Entering Chilled Water	ECW
nvoEntCNDWTemp	SNVT_temp_p	POINT11	R	Entering Condenser Water	ECDW
nvoLvgCNDWTemp	SNVT_temp_p	POINT12	R	Leaving Condenser Water	LCDW
nvoChillerStat.run_mode	SNVT_chlr_status	POINT13	R		
nvoChillerStat.op_mode	SNVT_chlr_status	POINT14	R		
nvoChillerStat.in_alarm	SNVT_chlr_status	POINT15	R		
nvoChillerStat.run_enabl	SNVT_chlr_status	POINT16	R		
nvoChillerStat.Local	SNVT_chlr_status	POINT17	R		
nvoChillerStat.Limited	SNVT_chlr_status	POINT18	R		
nvoChillerStat.chw_flow	SNVT_chlr_status	POINT19	R		
nvoChillerStat.cndw_flow	SNVT_chlr_status	POINT20	R		
nviOccSchedule	SNVT_occupancy	POINT21	W		

Figure A-2
Sample Configuration for CHLRMAP2 Table

CHLRMAP2	SNVT Type		Read or Write?	CPP Point Description	CPP Point Name
nviTEMP1	SNVT_temp_p	POINT22	W		
nvoTEMP1	SNVT_temp_p	POINT23	R		
nvoTEMP2	SNVT_temp_p	POINT24	R		
nvoTEMP3	SNVT_temp_p	POINT25	R		
nvoTEMP4	SNVT_temp_p	POINT26	R		
nvoTEMP5	SNVT_temp_p	POINT27	R		
nvoTEMP6	SNVT_temp_p	POINT28	R		
nviPRESS1	SNVT_press	POINT29	W		
nvoPRESS1	SNVT_press	POINT30	R	Evaporator Refrig Pressure	ERP
nvoPRESS2	SNVT_press	POINT31	R	Condenser Refrig Pressure	CRP
nvoPRESS3	SNVT_press	POINT32	R	Oil Pump Delta P	OILPD
nvoPRESS4	SNVT_press	POINT33	R		
nvoPCT1	SNVT_lev_percent	POINT34	R	Average Line Current	AMPS_%
nvoPCT2	SNVT_lev_percent	POINT35	R		
nvoTEMPDIFF1	SNVT_temp_diff_p	POINT36	R		
nvoTEMPDIFF2	SNVT_temp_diff_p	POINT37	R		
nviDISCRETE1	SNVT_switch	POINT38	W		
nviDISCRETE2	SNVT_switch	POINT39	W		
nvoDISCRETE1	SNVT_switch	POINT40	R	Chiller Start/Stop	CHIL_S_S
nvoDISCRETE2	SNVT_switch	POINT41	R	Chilled Water Flow Status	CHW_FLOW
nvoDISCRETE3	SNVT_switch	POINT42	R	Condenser Water Flow Status	CDW_FLOW
nvoDISCRETE4	SNVT_switch	POINT43	R		
nvoDISCRETE5	SNVT_switch	POINT44	R		
nvoDISCRETE6	SNVT_switch	POINT45	R		
nviCOUNT1	SNVT_count	POINT46	W		
nvoCOUNT1	SNVT_count	POINT47	R	Control Mode	MODE
nvoCOUNT2	SNVT_count	POINT48	R	Run Status	STATUS
nvoCOUNTinc1	SNVT_count_inc	POINT49	R	System Alarm/Alert	SYS_ALM
nvoCOUNTinc2	SNVT_count_inc	POINT50	R		

Figure A-3
CHLRMAP1 Table SNVTs and CPP Points

LEI Address:
Attached Device:
Attached Device Address:
LON Profile:

(NA) Means not generally applicable to CPP

CHLRMAP1	SNVT Type		Read or Write?..	CPP Point Description
nviChillerEnable	SNVT_switch	POINT01	W	Chiller Start/Stop (1/0)
nviCoolSetpt	SNVT_temp_p	POINT02	W	Chilled Water Control Temp (degF)
nvoOnOff	SNVT_switch	POINT03	R	Chiller On/Off (1/0) (NA)
nvoActiveSetpt	SNVT_temp_p	POINT04	R	Chilled Water Control Temp (degF)
nviCapacityLim	SNVT_lev_percent	POINT05	W	Active Demand Limit (%)
nviHeatSetpt	SNVT_temp_p	POINT06	W	Hot Water Control Temp (degF)
nvoActualCapacity	SNVT_lev_percent	POINT07	R	Pecent Capacity (%)
nvoCapacityLim	SNVT_lev_percent	POINT08	R	Active Demand Limit (%)
nvoLvgCHWTemp	SNVT_temp_p	POINT09	R	Leaving Chilled Water Temp (degF)
nvoEntCHWTemp	SNVT_temp_p	POINT10	R	Entering Chilled Water Temp (degF)
nvoEntCNDWTemp	SNVT_temp_p	POINT11	R	Leaving Cond Water Temp (degF)
nvoLvgCNDWTemp	SNVT_temp_p	POINT12	R	Entering Cond Water Temp (degF)
nvoChillerStat.run_mode	SNVT_chlr_status	POINT13	R	(NA)
nvoChillerStat.op_mode	SNVT_chlr_status	POINT14	R	(NA)
nvoChillerStat.in_alarm	SNVT_chlr_status	POINT15	R	Chiller In Alarm (1/0) (NA)
nvoChillerStat.run_enabl	SNVT_chlr_status	POINT16	R	Chiller Run Enabled (1/0) (NA)
nvoChillerStat.Local	SNVT_chlr_status	POINT17	R	Chiller Local Enabled (1/0) (NA)
nvoChillerStat.Limited	SNVT_chlr_status	POINT18	R	Chiller Demand Limited (1/0) (NA)
nvoChillerStat.chw_flow	SNVT_chlr_status	POINT19	R	Chilled Water Flow Detected (1/0)
nvoChillerStat.cndw_flow	SNVT_chlr_status	POINT20	R	Cond Water Flow Detected (1/0)
nviOccSchedule	SNVT_occupancy	POINT21	W	Global CPP Occupancy (>64)

Figure A-4
CHLRMAP2
Table SNVTs
and CPP Points

CHLRMAP2	SNVT Type		Read or Write?	CPP Point Description
nviTEMP1	SNVT_temp_p	POINT22	W	Temperature (degF)
nvoTEMP1	SNVT_temp_p	POINT23	R	Temperature (degF)
nvoTEMP2	SNVT_temp_p	POINT24	R	Temperature (degF)
nvoTEMP3	SNVT_temp_p	POINT25	R	Temperature (degF)
nvoTEMP4	SNVT_temp_p	POINT26	R	Temperature (degF)
nvoTEMP5	SNVT_temp_p	POINT27	R	Temperature (degF)
nvoTEMP6	SNVT_temp_p	POINT28	R	Temperature (degF)
nviPRESS1	SNVT_press	POINT29	W	Pressure (PSI)
nvoPRESS1	SNVT_press	POINT30	R	Pressure (PSI)
nvoPRESS2	SNVT_press	POINT31	R	Pressure (PSI)
nvoPRESS3	SNVT_press	POINT32	R	Pressure (PSI)
nvoPRESS4	SNVT_press	POINT33	R	Pressure (PSI)
nvoPCT1	SNVT_lev_percent	POINT34	R	Percent (%)
nvoPCT2	SNVT_lev_percent	POINT35	R	Percent (%)
nvoTEMPDIFF1	SNVT_temp_diff_p	POINT36	R	Delta Temperature (^F)
nvoTEMPDIFF2	SNVT_temp_diff_p	POINT37	R	Delta Temperature (^F)
nviDISCRETE1	SNVT_switch	POINT38	W	Discrete (1/0)
nviDISCRETE2	SNVT_switch	POINT39	W	Discrete (1/0)
nvoDISCRETE1	SNVT_switch	POINT40	R	Discrete (1/0)
nvoDISCRETE2	SNVT_switch	POINT41	R	Discrete (1/0)
nvoDISCRETE3	SNVT_switch	POINT42	R	Discrete (1/0)
nvoDISCRETE4	SNVT_switch	POINT43	R	Discrete (1/0)
nvoDISCRETE5	SNVT_switch	POINT44	R	Discrete (1/0)
nvoDISCRETE6	SNVT_switch	POINT45	R	Discrete (1/0)
nviCOUNT1	SNVT_count	POINT46	W	Generic analog or discrete (0-65535)
nvoCOUNT1	SNVT_count	POINT47	R	Generic analog or discrete (0-65535)
nvoCOUNT2	SNVT_count	POINT48	R	Generic analog or discrete (0-65535)
nvoCOUNTinc1	SNVT_count_inc	POINT49	R	Generic analog or discrete (-32767 - 32767)
nvoCOUNTinc2	SNVT_count_inc	POINT50	R	Generic analog or discrete (-32767 - 32767)

Figure A-5
Sample Configuration for RTUMAP1 Table

Job Site:
LEI Address: 0, 204
Attached Device: 48HG Centurian
Attached Device Address: 0, 1
LON Profile: Rooftop

RTUMAP1	SNVT Type		Read or Write?	CPP Point Description	CPP Point Name
nviSpaceTemp	SNVT_temp_p	POINT01	W		
nviSetPoint	SNVT_temp_p	POINT02	W		
nvoSpaceTemp	SNVT_temp_p	POINT03	R	Space Temperature	SPT
nvoUnitStatus.mode	SNVT_hvac_status	POINT04	R		
nvoUnitStatus.heat_out_p	SNVT_hvac_status	POINT05	R		
nvoUnitStatus.heat_out_s	SNVT_hvac_status	POINT06	R		
nvoUnitStatus.cool_out	SNVT_hvac_status	POINT07	R		
nvoUnitStatus.econ_out	SNVT_hvac_status	POINT08	R		
nvoUnitStatus.fan_out	SNVT_hvac_status	POINT09	R		
nvoUnitStatus.in_alarm	SNVT_hvac_status	POINT10	R		
nviOccSchedule	SNVT_occupancy	POINT11	W	Occupancy Schedule	OCCPC65E
nviSetPtOffset	SNVT_temp_p	POINT12	W		
nviOutsideTemp	SNVT_temp_p	POINT13	W		
nviOutsideRH	SNVT_lev_percent	POINT14	W		
nvoEffectSetpt	SNVT_temp_p	POINT15	R		
nvoOutsideTemp	SNVT_temp_p	POINT16	R	Outdoor Air Temperature	OAT
nvoOutsideRH	SNVT_lev_percent	POINT17	R		
nviSpaceRH	SNVT_lev_percent	POINT18	W		
nviCO2	SNVT_ppm	POINT19	W		
nvoCO2	SNVT_ppm	POINT20	R	Indoor Air CO2 Level	IAQ
nviTEMP1	SNVT_temp_p	POINT21	W		
nvoTEMP1	SNVT_temp_p	POINT22	R	Supply Air Temperature	SAT
nvoTEMP2	SNVT_temp_p	POINT23	R		
nvoTEMP3	SNVT_temp_p	POINT24	R		
nvoTEMP4	SNVT_temp_p	POINT25	R		
nviPRESS1	SNVT_press_p	POINT26	W		
nvoPRESS1	SNVT_press_p	POINT27	R		
nvoPRESS2	SNVT_press_p	POINT28	R		

Figure A-6
Sample Configuration
for RTUMAP2 Table

RTUMAP2	SNVT Type		Read or Write?	CPP Point Description	CPP Point Name
nviPCT1	SNVT_lev_percent	POINT29	W		
nviPCT2	SNVT_lev_percent	POINT30	W		
nvoPCT1	SNVT_lev_percent	POINT31	R	Economizer Position	ECONOPOS
nvoPCT2	SNVT_lev_percent	POINT32	R	Economizer Min. Position in Effect	MIN_POS
nvoPCT3	SNVT_lev_percent	POINT33	R		
nvoTEMPDIFF1	SNVT_temp_diff_p	POINT34	R		
nvoTEMPDIFF2	SNVT_temp_diff_p	POINT35	R		
nviDISCRETE1	SNVT_switch	POINT36	W	Currently Occupied	OCCUPIED
nviDISCRETE2	SNVT_switch	POINT37	W	**Unit Shutdown Input**	**FIREDOWN**
nviDISCRETE3	SNVT_switch	POINT38	W		
nvoDISCRETE1	SNVT_switch	POINT39	R	Currently Occupied	OCCUPIED
nvoDISCRETE2	SNVT_switch	POINT40	R	Supply Fan Status	FAN_STAT
nvoDISCRETE3	SNVT_switch	POINT41	R	Heating Stage 1	HEAT_1
nvoDISCRETE4	SNVT_switch	POINT42	R	Heating Stage 2	HEAT_2
nvoDISCRETE5	SNVT_switch	POINT43	R	Compressor A1	COMP_A1
nvoDISCRETE6	SNVT_switch	POINT44	R	Compressor B1	COMP_B1
nvoDISCRETE7	SNVT_switch	POINT45	R	Compressor C1	COMP_C1
nvoDISCRETE8	SNVT_switch	POINT46	R		
nciCO2Limit	SNVT_ppm	POINT47	W		
nciSetPnts.occupied_cool	SNVT_temp_setpt	POINT48	W	Occupied Cooling Setpoint	OCSP
nciSetPnts.standby_cool	SNVT_temp_setpt	POINT49	W		
nciSetPnts.unocc_cool	SNVT_temp_setpt	POINT50	W	Unoccupied Cooling Setpoint	UCSP
nciSetPnts.occupied_heat	SNVT_temp_setpt	POINT51	W	Occupied Heating Setpoint	OHSP
nciSetPnts.standby_heat	SNVT_temp_setpt	POINT52	W		
nciSetPnts.unocc_heat	SNVT_temp_setpt	POINT53	W	Unoccupied Heating Setpoint	UHSP
nviCOUNT1	SNVT_count	POINT54	W		
nvoCOUNT1	SNVT_count	POINT55	R		
nvoCOUNT2	SNVT_count	POINT56	R		
nvoCOUNTinc1	SNVT_count_inc	POINT57	R		
nvoCOUNTinc2	SNVT_count_inc	POINT58	R		

Figure A-7
RTUMAP1 Table SNVTs and CPP Points

Job Site:
LEI Address:
Attached Device:
Attached Device Address:
LON Profile:

(NA) Means not generally applicable to CPP

RTUMAP1	SNVT Type		Read or Write?	CPP Point Description
nviSpaceTemp	SNVT_temp_p	POINT01	W	Space Temperature (degF)
nviSetPoint	SNVT_temp_p	POINT02	W	Supply Air Setpoint on VAV units (degF)
nvoSpaceTemp	SNVT_temp_p	POINT03	R	Space Temperature (degF)
nvoUnitStatus.mode	SNVT_hvac_status	POINT04	R	(NA)
nvoUnitStatus.heat_out_p	SNVT_hvac_status	POINT05	R	Heating Coil Valve (%)
nvoUnitStatus.heat_out_s	SNVT_hvac_status	POINT06	R	Secondary Heating Coil Valve (%) (NA)
nvoUnitStatus.cool_out	SNVT_hvac_status	POINT07	R	Cooling Coil Valve (%)
nvoUnitStatus.econ_out	SNVT_hvac_status	POINT08	R	Economizer (%)
nvoUnitStatus.fan_out	SNVT_hvac_status	POINT09	R	Fan Speed (%)
nvoUnitStatus.in_alarm	SNVT_hvac_status	POINT10	R	Discrete Alarm point (1/0)
nviOccSchedule	SNVT_occupancy	POINT11	W	Global CPP Occupancy (>64)
nviSetPtOffset	SNVT_temp_p	POINT12	W	Temperature (degF)
nviOutsideTemp	SNVT_temp_p	POINT13	W	Outdoor Air Temperature (degF)
nviOutsideRH	SNVT_lev_percent	POINT14	W	Outdoor Air RH (%)
nvoEffectSetpt	SNVT_temp_p	POINT15	R	Controlling Setpoint (degF)
nvoOutsideTemp	SNVT_temp_p	POINT16	R	Outdoor Air Temperature (degF)
nvoOutsideRH	SNVT_lev_percent	POINT17	R	Outdoor Air RH (%)
nviSpaceRH	SNVT_lev_percent	POINT18	W	Space RH (%)
nviCO2	SNVT_ppm	POINT19	W	IAQ (PPM)
nvoCO2	SNVT_ppm	POINT20	R	IAQ (PPM)
nviTEMP1	SNVT_temp_p	POINT21	W	Temperature (degF)
nvoTEMP1	SNVT_temp_p	POINT22	R	Temperature (degF)
nvoTEMP2	SNVT_temp_p	POINT23	R	Temperature (degF)
nvoTEMP3	SNVT_temp_p	POINT24	R	Temperature (degF)
nvoTEMP4	SNVT_temp_p	POINT25	R	Temperature (degF)
nviPRESS1	SNVT_press_p	POINT26	W	Pressure (“H2O)
nvoPRESS1	SNVT_press_p	POINT27	R	Pressure (“H2O)
nvoPRESS2	SNVT_press_p	POINT28	R	Pressure (“H2O)

Figure A-8
RTUMAP2 Table SNVTs and CPP Points

RTUMAP2	SNVT Type		Read or Write?	CPP Point Description
nviPCT1	SNVT_lev_percent	POINT29	W	Percent (%)
nviPCT2	SNVT_lev_percent	POINT30	W	Percent (%)
nvoPCT1	SNVT_lev_percent	POINT31	R	Percent (%)
nvoPCT2	SNVT_lev_percent	POINT32	R	Percent (%)
nvoPCT3	SNVT_lev_percent	POINT33	R	Percent (%)
nvoTEMPDIFF1	SNVT_temp_diff_p	POINT34	R	Delta Temperature (^F)
nvoTEMPDIFF2	SNVT_temp_diff_p	POINT35	R	Delta Temperature (^F)
nviDISCRETE1	SNVT_switch	POINT36	W	Discrete (1/0)
nviDISCRETE2	SNVT_switch	POINT37	W	Discrete (1/0)
nviDISCRETE3	SNVT_switch	POINT38	W	Discrete (1/0)
nvoDISCRETE1	SNVT_switch	POINT39	R	Discrete (1/0)
nvoDISCRETE2	SNVT_switch	POINT40	R	Discrete (1/0)
nvoDISCRETE3	SNVT_switch	POINT41	R	Discrete (1/0)
nvoDISCRETE4	SNVT_switch	POINT42	R	Discrete (1/0)
nvoDISCRETE5	SNVT_switch	POINT43	R	Discrete (1/0)
nvoDISCRETE6	SNVT_switch	POINT44	R	Discrete (1/0)
nvoDISCRETE7	SNVT_switch	POINT45	R	Discrete (1/0)
nvoDISCRETE8	SNVT_switch	POINT46	R	Discrete (1/0)
nciCO2Limit	SNVT_ppm	POINT47	W	IAQ Setpoint (PPM)
nciSetPnts.occupied_cool	SNVT_temp_setpt	POINT48	W	Temperature Setpoint (degF)
nciSetPnts.standby_cool	SNVT_temp_setpt	POINT49	W	(NA)
nciSetPnts.unocc_cool	SNVT_temp_setpt	POINT50	W	Temperature Setpoint (degF)
nciSetPnts.occupied_heat	SNVT_temp_setpt	POINT51	W	Temperature Setpoint (degF)
nciSetPnts.standby_heat	SNVT_temp_setpt	POINT52	W	(NA)
nciSetPnts.unocc_heat	SNVT_temp_setpt	POINT53	W	Temperature Setpoint (degF)
nviCOUNT1	SNVT_count	POINT54	W	Generic analog or discrete (0-65535)
nvoCOUNT1	SNVT_count	POINT55	R	Generic analog or discrete (0-65535)
nvoCOUNT2	SNVT_count	POINT56	R	Generic analog or discrete (0-65535)
nvoCOUNTinc1	SNVT_count_inc	POINT57	R	Generic analog or discrete (-32767 - 32767)
nvoCOUNTinc2	SNVT_count_inc	POINT58	R	Generic analog or discrete (-32767 - 32767)

Figure A-9
Sample Configuration for GNRCMAP1 Table

Job Site:
LEI Address: 0, 182
Attached Device: PremierLink
Attached Device Address: 0, 31
LON Profile: Generic

GNRCMAP1	SNVT Type		Read or Write?	CPP Point Description	CPP Point Name
nvoUnitStatus.mode	SNVT_hvac_status	POINT01	R		
nvoUnitStatus.heat_out_p	SNVT_hvac_status	POINT02	R		
nvoUnitStatus.heat_out_s	SNVT_hvac_status	POINT03	R		
nvoUnitStatus.cool_out	SNVT_hvac_status	POINT04	R		
nvoUnitStatus.econ_out	SNVT_hvac_status	POINT05	R		
nvoUnitStatus.fan_out	SNVT_hvac_status	POINT06	R		
nvoUnitStatus.in_alarm	SNVT_hvac_status	POINT07	R		
nviOccSchedule	SNVT_occupancy	POINT08	W		
nviTEMP1	SNVT_temp_p	POINT09	W		
nviTEMP2	SNVT_temp_p	POINT10	W		
nviTEMP3	SNVT_temp_p	POINT11	W		
nvoTEMP1	SNVT_temp_p	POINT12	R	Supply Air Temperature	SAT
nvoTEMP2	SNVT_temp_p	POINT13	R	Outdoor Air Temperature	OAT
nvoTEMP3	SNVT_temp_p	POINT14	R	Space Temperature	SPT
nvoTEMP4	SNVT_temp_p	POINT15	R		
nvoTEMP5	SNVT_temp_p	POINT16	R		
nvoTEMP6	SNVT_temp_p	POINT17	R		
nvoTEMP7	SNVT_temp_p	POINT18	R		
nvoTEMP8	SNVT_temp_p	POINT19	R		
nviPRESS1	SNVT_press_p	POINT20	W		
nviPRESS2	SNVT_press	POINT21	W		
nvoPRESS1	SNVT_press_p	POINT22	R		
nvoPRESS2	SNVT_press_p	POINT23	R		
nvoPRESS3	SNVT_press	POINT24	R		
nvoPRESS4	SNVT_press	POINT25	R		
nvoPRESS5	SNVT_press	POINT26	R		
nvoPRESS6	SNVT_press	POINT27	R		
nvoTEMPDIFF1	SNVT_temp_diff_p	POINT28	R		
nvoTEMPDIFF2	SNVT_temp_diff_p	POINT29	R		

Figure A-10
Sample Configuration for GNRCMAP2 Table

GNRCMAP2	SNVT Type		Read or Write?	CPP Point Description	CPP Point Name
nviPCT1	SNVT_lev_percent	POINT30	W		
nviPCT2	SNVT_lev_percent	POINT31	W		
nvoPCT1	SNVT_lev_percent	POINT32	R	Cooling % Total Capacity	CCAP
nvoPCT2	SNVT_lev_percent	POINT33	R	Heating % Total Capacity	HCAP
nvoPCT3	SNVT_lev_percent	POINT34	R	Economizer Position	ECONPOS
nvoPCT4	SNVT_lev_percent	POINT35	R		
nviDISCRETE1	SNVT_switch	POINT36	W	Remote Occupied Mode	RMTOCC
nviDISCRETE2	SNVT_switch	POINT37	W		
nviDISCRETE3	SNVT_switch	POINT38	W		
nvoDISCRETE1	SNVT_switch	POINT39	R	Supply Fan Relay	SF
nvoDISCRETE2	SNVT_switch	POINT40	R	Economizer Active	ECOS
nvoDISCRETE3	SNVT_switch	POINT41	R	Remote Occupied Mode	RMTOCC
nvoDISCRETE4	SNVT_switch	POINT42	R		
nvoDISCRETE5	SNVT_switch	POINT43	R		
nvoDISCRETE6	SNVT_switch	POINT44	R		
nvoDISCRETE7	SNVT_switch	POINT45	R		
nvoDISCRETE8	SNVT_switch	POINT46	R		
nciSetPnts.occupied_cool	SNVT_temp_setpt	POINT47	W	Occupied Cooling Setpoint	OCSP
nciSetPnts.standby_cool	SNVT_temp_setpt	POINT48	W		
nciSetPnts.unocc_cool	SNVT_temp_setpt	POINT49	W	Unoccupied Cooling Setpoint	UCSP
nciSetPnts.occupied_heat	SNVT_temp_setpt	POINT50	W	Occupied Heating Setpoint	OHSP
nciSetPnts.standby_heat	SNVT_temp_setpt	POINT51	W		
nciSetPnts.unocc_heat	SNVT_temp_setpt	POINT52	W	Unoccupied Heating Setpoint	UHSP
nviPPM	SNVT_ppm	POINT53	W		
nvoPPM	SNVT_ppm	POINT54	R		
nviCOUNT1	SNVT_count	POINT55	W		
nvoCOUNT1	SNVT_count	POINT56	R		
nvoCOUNT2	SNVT_count	POINT57	R		
nvoCOUNTinc1	SNVT_count_inc	POINT58	R		
nvoCOUNTinc2	SNVT_count_inc	POINT59	R		

Figure A-11
GNRCMAP1 Table SNVTs and CPP Points

Job Site:
LEI Address:
Attached Device:
Attached Device Address:
LON Profile:

(NA) Means not generally applicable to CPP

GNRCMAP1	SNVT Type		Read or Write?	CPP Point Description
nvoUnitStatus.mode	SNVT_hvac_status	POINT01	R	(NA)
nvoUnitStatus.heat_out_p	SNVT_hvac_status	POINT02	R	Heating Coil Valve (%)
nvoUnitStatus.heat_out_s	SNVT_hvac_status	POINT03	R	Secondary Heating Coil Valve (%)
nvoUnitStatus.cool_out	SNVT_hvac_status	POINT04	R	Cooling Coil Valve (%)
nvoUnitStatus.econ_out	SNVT_hvac_status	POINT05	R	Economizer (%)
nvoUnitStatus.fan_out	SNVT_hvac_status	POINT06	R	Fan Speed (%)
nvoUnitStatus.in_alarm	SNVT_hvac_status	POINT07	R	Discrete Alarm point (1/0)
nviOccSchedule	SNVT_occupancy	POINT08	W	Global CPP Occupancy (>64)
nviTEMP1	SNVT_temp_p	POINT09	W	Temperature (degF)
nviTEMP2	SNVT_temp_p	POINT10	W	Temperature (degF)
nviTEMP3	SNVT_temp_p	POINT11	W	Temperature (degF)
nvoTEMP1	SNVT_temp_p	POINT12	R	Temperature (degF)
nvoTEMP2	SNVT_temp_p	POINT13	R	Temperature (degF)
nvoTEMP3	SNVT_temp_p	POINT14	R	Temperature (degF)
nvoTEMP4	SNVT_temp_p	POINT15	R	Temperature (degF)
nvoTEMP5	SNVT_temp_p	POINT16	R	Temperature (degF)
nvoTEMP6	SNVT_temp_p	POINT17	R	Temperature (degF)
nvoTEMP7	SNVT_temp_p	POINT18	R	Temperature (degF)
nvoTEMP8	SNVT_temp_p	POINT19	R	Temperature (degF)
nviPRESS1	SNVT_press_p	POINT20	W	Pressure (“H2O)
nviPRESS2	SNVT_press	POINT21	W	Pressure (PSI)
nvoPRESS1	SNVT_press_p	POINT22	R	Pressure (“H2O)
nvoPRESS2	SNVT_press_p	POINT23	R	Pressure (“H2O)
nvoPRESS3	SNVT_press	POINT24	R	Pressure (PSI)
nvoPRESS4	SNVT_press	POINT25	R	Pressure (PSI)
nvoPRESS5	SNVT_press	POINT26	R	Pressure (PSI)
nvoPRESS6	SNVT_press	POINT27	R	Pressure (PSI)
nvoTEMPDIFF1	SNVT_temp_diff_p	POINT28	R	Delta Temperature (^F)
nvoTEMPDIFF2	SNVT_temp_diff_p	POINT29	R	Delta Temperature (^F)

Figure A-12
GNRCMAP2 Table SNVTs and CPP Points

GNRCMAP2	SNVT Type		Read or Write?	CPP Point Description
nviPCT1	SNVT_lev_percent	POINT30	W	Percent (%)
nviPCT2	SNVT_lev_percent	POINT31	W	Percent (%)
nvoPCT1	SNVT_lev_percent	POINT32	R	Percent (%)
nvoPCT2	SNVT_lev_percent	POINT33	R	Percent (%)
nvoPCT3	SNVT_lev_percent	POINT34	R	Percent (%)
nvoPCT4	SNVT_lev_percent	POINT35	R	Percent (%)
nviDISCRETE1	SNVT_switch	POINT36	W	Discrete (1/0)
nviDISCRETE2	SNVT_switch	POINT37	W	Discrete (1/0)
nviDISCRETE3	SNVT_switch	POINT38	W	Discrete (1/0)
nvoDISCRETE1	SNVT_switch	POINT39	R	Discrete (1/0)
nvoDISCRETE2	SNVT_switch	POINT40	R	Discrete (1/0)
nvoDISCRETE3	SNVT_switch	POINT41	R	Discrete (1/0)
nvoDISCRETE4	SNVT_switch	POINT42	R	Discrete (1/0)
nvoDISCRETE5	SNVT_switch	POINT43	R	Discrete (1/0)
nvoDISCRETE6	SNVT_switch	POINT44	R	Discrete (1/0)
nvoDISCRETE7	SNVT_switch	POINT45	R	Discrete (1/0)
nvoDISCRETE8	SNVT_switch	POINT46	R	Discrete (1/0)
nciSetPnts.occupied_cool	SNVT_temp_setpt	POINT47	W	Temperature Setpoint (degF)
nciSetPnts.standby_cool	SNVT_temp_setpt	POINT48	W	(NA)
nciSetPnts.unocc_cool	SNVT_temp_setpt	POINT49	W	Temperature Setpoint (degF)
nciSetPnts.occupied_heat	SNVT_temp_setpt	POINT50	W	Temperature Setpoint (degF)
nciSetPnts.standby_heat	SNVT_temp_setpt	POINT51	W	(NA)
nciSetPnts.unocc_heat	SNVT_temp_setpt	POINT52	W	Temperature Setpoint (degF)
nviPPM	SNVT_ppm	POINT53	W	IAQ (PPM)
nvoPPM	SNVT_ppm	POINT54	R	IAQ (PPM)
nviCOUNT1	SNVT_count	POINT55	W	Generic analog or discrete (0-65535)
nvoCOUNT1	SNVT_count	POINT56	R	Generic analog or discrete (0-65535)
nvoCOUNT2	SNVT_count	POINT57	R	Generic analog or discrete (0-65535)
nvoCOUNTinc1	SNVT_count_inc	POINT58	R	Generic analog or discrete (-32767 - 32767)
nvoCOUNTinc2	SNVT_count_inc	POINT59	R	Generic analog or discrete (-32767 - 32767)

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