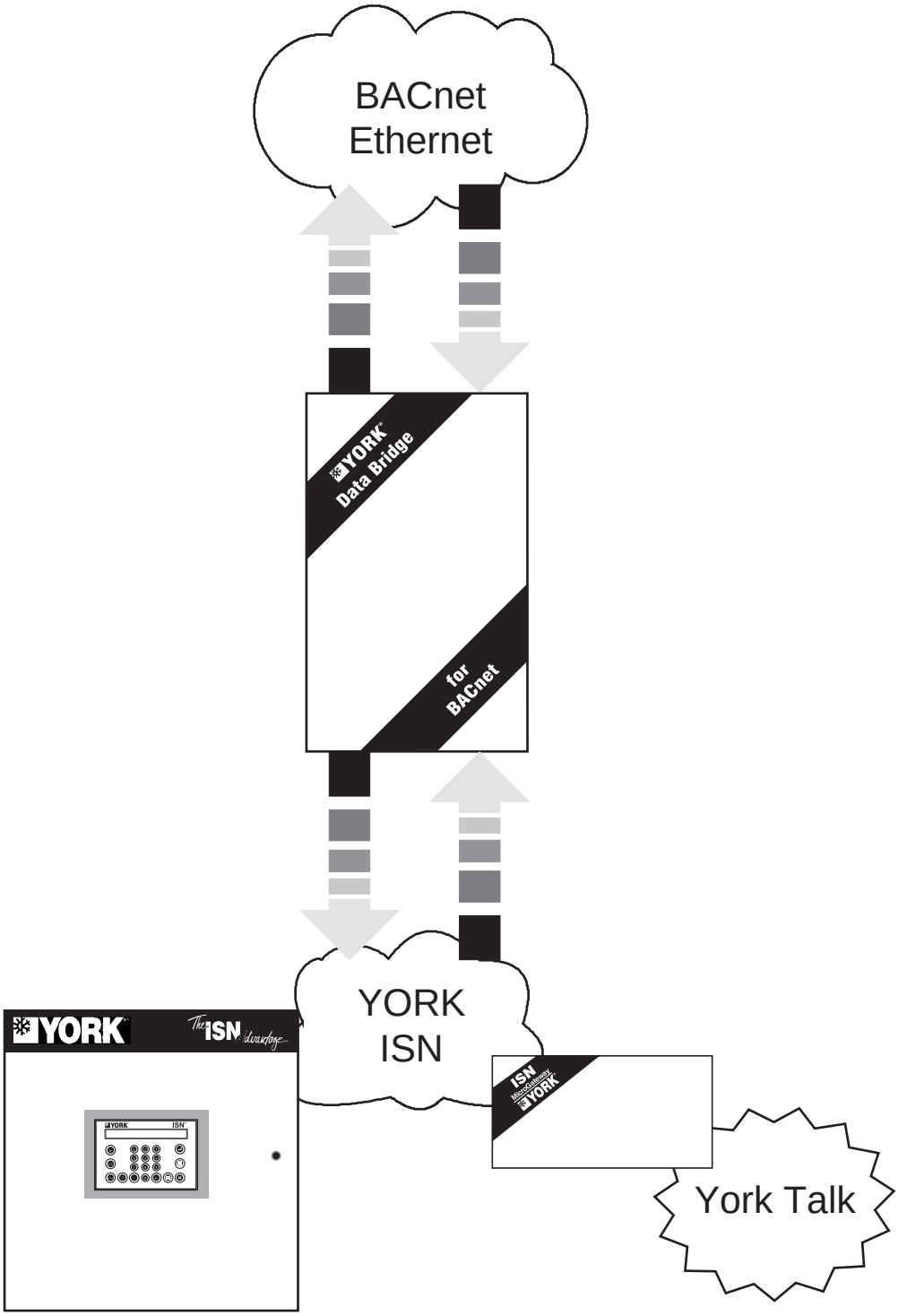
YORK®	Data Bridge for BACnet	
OPERATION MANUAL	NEW RELEASE	Form 450.20-O05 (202)

371-03626-101 Data Bridge for BACnet



IMPORTANT!

READ BEFORE PROCEEDING!

GENERAL SAFETY GUIDELINES

This equipment is a relatively complicated apparatus. During installation, operation, maintenance or service, individuals may be exposed to certain components or conditions including, but not limited to: refrigerants, oils, materials under pressure, rotating components, and both high and low voltage. Each of these items has the potential, if misused or handled improperly, to cause bodily injury or death. It is the obligation and responsibility of operating/service personnel to identify and recognize these inherent hazards, protect themselves, and proceed safely in completing their tasks. Failure to comply with any of these requirements could result in serious damage to the equipment and the property in which it is situated, as well as severe personal injury or death to themselves and people at the site.

This document is intended for use by owner-authorized operating/service personnel. It is expected that this individual possesses independent training that will enable them to perform their assigned tasks properly and safely. It is essential that, prior to performing any task on this equipment, this individual shall have read and understood this document and any referenced materials. This individual shall also be familiar with and comply with all applicable governmental standards and regulations pertaining to the task in question.

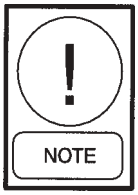
SAFETY SYMBOLS

The following symbols are used in this document to alert the reader to areas of potential hazard:

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

CAUTION identifies a hazard which could lead to damage to the machine, damage to other equipment and/or environmental pollution. Usually an instruction will be given, together with a brief explanation.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



NOTE is used to highlight additional information which may be helpful to you.

CHANGEABILITY OF THIS DOCUMENT

In complying with YORK's policy for continuous product improvement, the information contained in this document is subject to change without notice. While YORK makes no commitment to update or provide current information automatically to the manual owner, that information, if applicable, can be obtained by contacting the nearest YORK Sales, Service and Authorized Distributor offices.

It is the responsibility of operating/service personnel as to the applicability of these documents. If there is any question in the mind of operating/service personnel as to the applicability of these documents, then, prior to working on the equipment, they should verify with the owner whether the equipment has been modified and if current documentation is available.

REFERENCE INSTRUCTIONS

DESCRIPTION	FORM NO.
BACnet PICs/BIBBs Data Bridge for BACnet	450.20-TD02
Data Bridge for BACnet Specification	450.20-S20
Data Bridge for BACnet Installation	450.20-N19
ISN Applications Guide	450.20-AG1
Renewal Parts List (Electronic Version Available Only on the Intranet)	450.00-RP1

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SECTION 1

GENERAL INFORMATION

OVERVIEW

The Data Bridge for BACnet™ is a communications device that allows YORK chillers and other devices that communicate using the YORK ISN Rev. 7 protocol to be connected to a BACnet Ethernet network.

The Data Bridge for BACnet houses two smaller interface devices to form the ISN to BACnet Gateway. The first interface device, the LINC MicroGateway, connects to the ISN network, receiving data from chillers and other devices that communicate using ISN natively. The LINC MicroGateway then acts as a "pass-through" interface device to the Single Board Computer (SBC), which reads ISN messages from the LINC MicroGateway and provides the ISN to BACnet protocol translation and transmission onto the BACnet Ethernet network. The SBC is an embedded Intel® 86-based platform running a custom real-time, multitasking operating system overlaid on ROM-DOS version 6.22. Multiple tasks include:

- BACnet network/application layer protocol management.
- ISN protocol management.
- Database management.
- ISN proprietary to BACnet interface management.
- Debug and diagnostics.
- Provides real-time asynchronous operation for maximum flexibility and speed.

The Data Bridge for BACnet is a BACnet Conformance Class 3 device that supports the following functional groups:

- Clock
- Files
- Time Master
- Device Communications

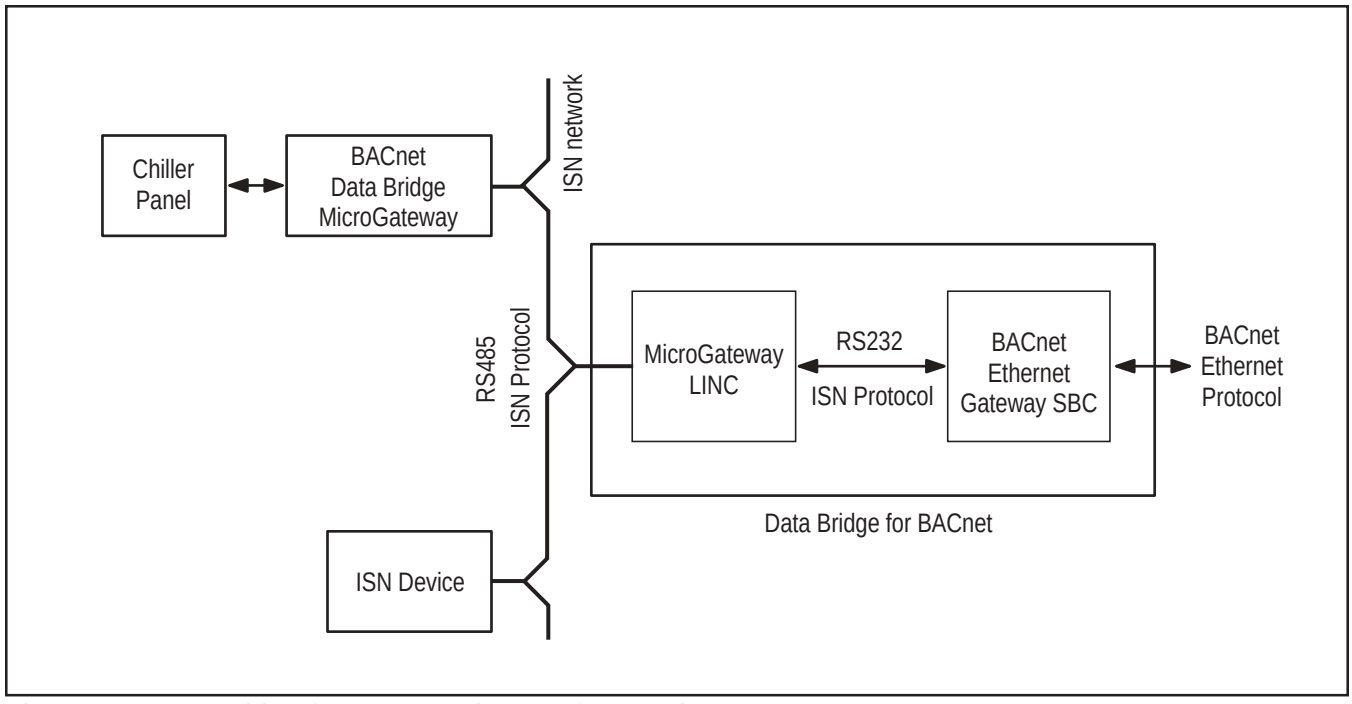

Figure 1 – Data Bridge for BACnet Theory of Operation

Table 1. BACnet Services Supported

Application Service Initiate	Application Service Execute
	AtomicReadFile
	AtomicWriteFile
	ReadProperty
	WriteProperty
	ReadPropertyMultiple
	WritePropertyMultiple
	DeviceCommunicationControl
TimeSynchronization	TimeSynchronization
	Who-Has
I-Have	
Who-Is	Who-Is
I-Am	I-Am

Reading and Writing Data from the ISN Network

Upon receipt of BACnet ReadProperty or ReadPropertyMultiple requests on the BACnet Ethernet network, the SBC uses the BACnet object and property information to lookup ISN mapping information in the ISN to BACnet translation database. If an ISN read data request is required, the SBC decodes the ISN Feature from the BACnet *Object_Type* property and the ISN Section, Node and Net from the BACnet *Object_Instance* property and passes the ISN read request on to the LINC MicroGateway through the SBC's COM1 serial port. Asynchronously the LINC MicroGateway polls the ISN devices on the ISN network for the required data and returns it at a later time to the SBC, once again using the SBC's COM1 port. The mapping of the BACnet *Object_Types* into ISN Features is listed in the table titled "*BACnet Object_Type Mapping*".

Table 2. BACnet Object_Type Mapping

BACnet Object_Type	ISN Feature
Analog Input (=0)	F02
Analog Output (=1)	F07
Analog Value (=2)	F03
Binary Input (=3)	F05
Binary Output (=4)	F06

The encoding of the ISN Section, Node and Net in the BACnet Object_Instance is accomplished according to the algorithm:

Object_Instance=(section*16384) + (node*128) + net

For example, a Feature 7, Section 2, Node 1, Net 0 translates into a BACnet Analog Output

Object_Type (=1)

and a BACnet

Object_Instance = (2*16384) + 128 + 0 = 32768 + 128 = 32896

or a BACnet

Object_Identifier=(1*4194304)+ 32896=4227200 (0x408080)

Upon receipt of BACnet WriteProperty or WritePropertyMultiple requests on the BACnet Ethernet network, the SBC determines if the corresponding ISN feature is writable and uses the BACnet object and property information to lookup and generate an ISN write request in a manner similar to the one described for the read request.

The required BACnet properties not mapped into ISN parameters are kept internally in the SBC's ISN to BACnet translation database. The table titled *"BACnet Properties Supported"* details the required BACnet properties supported by the Data Bridge for BACnet and the source of the values.

Cached Values

Because of the difference in data rates between the ISN network (50 kbaud) and the BACnet Ethernet network (10 or 100 Mbps), read requests to the ISN network are placed in a memory cache so the values requested can be served into the cache asynchronous to transmission on the Ethernet network. This means the SBC never has to wait for ISN values before sending them on the BACnet Ethernet network.

The number of cache values is set at 128. Each cache slot has a "lifetime" after which the cache slot is freed. If all 128 slots are used and another request is made, the oldest cache slot is freed and the new request is entered in its place. ReadPropertyMultiple requests are also cached but only until they are fulfilled once. A maximum of eight (8) ReadPropertyMultiple requests can be cached with a maximum of 64 objects per request. If the maximum ReadPropertyMultiple requests are exceeded, the Data Bridge replies to the request with a BACnet Reject-PDU that has a reject reason of Buffer Overflow.

Management of BACnet Services

With the exception of ReadProperty, WriteProperty, ReadPropertyMultiple and WritePropertyMultiple, all other BACnet services supported are managed directly by the SBC without the need to interact with the LINC MicroGateway.

Conformance Class 3 Services

Whenever the Data Bridge receives a BACnet Who-Is request from another BACnet device, it retrieves the required Device Object information from the database and formats and executes an I-Am request on the BACnet Ethernet network. The I-Am request is always broadcast. If the device instance range is specified in the Who-Is request, the destination network is the same as the source network of the Who-Is. Otherwise the I-Am is a global broadcast, i.e. the destination network is 0xFFFF. The Data Bridge can be programmed to periodically broadcast unsolicited I-Am requests on a periodic basis. Normally this feature is turned off.

When the Data Bridge receives a BACnet Who-Has request from another BACnet device, it searches the database for the requested BACnet object and makes a reply back to the requesting BACnet device if the object is found within the database. The reply is in the form of an I-Have request sent directly back to the BACnet device that originated the Who-Has.

Device Communication Functional Group

BACnet DeviceCommunicationControl requests that are received from other BACnet devices are managed directly by the Data Bridge allowing remote enabling and disabling of communications on the BACnet Ethernet network. If the Time Duration is specified in a disable request, the Data Bridge keeps track of the elapsed time and re-enables communication after expiration. When in the disabled state, all incoming BACnet packets are processed normally, but no packets are sent to the Ethernet network.

Clock Functional Group

When the Data Bridge receives a BACnet TimeSynchronization request, it syncs the internal clock to the time value contained in the request.

File Functional Group

The Data Bridge supports a single BACnet File Object whose instance is one (1) for the sole purpose of uploading (reading from the Data Bridge) and downloading (writing to the Data Bridge) the ISN to BACnet translation database. The File Object is *not* exposed on the BACnet network. When a record access type AtomicReadFile request is received along with the proper *Object_Identifier*, the Data Bridge responds with the specified record of the ISN to BACnet translation database. When a record access type AtomicWriteFile request is received along with the proper *Object_Identifier*, the Data Bridge goes into a special “download” mode and begins downloading the specified records of the database. When the downloading is completed, as indicated by the end-of-file marker in the AtomicWriteFile request, the Data Bridge automatically reboots. Internally the ISN to BACnet translation database is a file that is always named NVS.BIN. Normally the database is uploaded and downloaded using a special protocol on the SBC’s RS232 COM2 serial port. The File Functional Group is supported for future use.

Time Master Functional Group

The Data Bridge can be programmed to initiate global broadcast TimeSynchronization requests on a periodic basis. Normally this feature is turned off.

Other Services

The Data Bridge can be programmed to initiate global broadcast Who-Is requests on a periodic basis and keep a list of BACnet devices that answer with I-Am requests. Normally this feature is turned off.

Table 3. Analog Input Type-Supported Properties

BACnet Property	Readable/ Writable (R/W)	Source
Object_Identifier	R	Database
Object_Name	R	Database
Object_Type	R	Always 0
Present_Value	R	ISN F02
Description	R	Database
Status_Flags	R	Always 0
EventState	R	Always normal (0)
Out_Of_Service	R	Always false
Units	R	ISN F02

Table 4. Analog Output Type-Supported Properties

BACnet Property	Readable/ Writable (R/W)	Source
Object_Identifier	R	Database
Object_Name	R	Database
Object_Type	R	Always 1
Present_Value	RW	ISN F07
Description	R	Database
Status_Flags	R	Always 0
EventState	R	Always normal (0)
Out_Of_Service	R	Always false
Units	R	Always none
Priority_Array	RW	Database
Relinquish_Default	RW	Database

Table 5. Analog Value Type-Supported Properties

BACnet Property	Readable/ Writable (R/W)	Source
Object_Identifier	R	Database
Object_Name	R	Database
Object_Type	R	Always 2
Present_Value	RW	ISN F03
Description	R	Database
Status_Flags	R	Always 0
EventState	R	Always normal (0)
Out_Of_Service	R	Always false
Units	R	ISN F03
Priority_Array	RW	Database
Relinquish_Default	RW	Database

Table 6. Binary Input Type-Supported Properties

BACnet Property	Readable/ Writable (R/W)	Source
Object_Identifier	R	Database
Object_Name	R	Database
Object_Type	R	Always 3
Present_Value	R	ISN F05
Description	R	Database
Status_Flags	R	Always 0
EventState	R	Always normal (0)
Out_Of_Service	R	Always false
Polarity	R	ISN F05

Table 7. Binary Output Type-Supported Properties

BACnet Property	Readable/ Writable (R/W)	Source
Object_Identifier	R	Database
Object_Name	R	Database
Object_Type	R	Always 4
Present_Value	RW	ISN F06
Description	R	Database
Status_Flags	R	Always 0
EventState	R	Always normal (0)
Out_Of_Service	R	Always false
Polarity	R	ISN F06
Priority_Array	RW	Database
Relinquish_Default	RW	Database

Table 8. Device Object Type-Supported Properties

BACnet Property	Readable/Writable (R/W)	Source
Object_Identifier	R	Database
Object_Name	R	Database
Object_Type	R	Always 8
System_Status	R	Always normal (0)
Vendor_Name	R	"YORK INTERNATIONAL CORPORATION"
Vendor_Identifier	R	Always 23
Model_Name	R	"York BACnet ISN Gateway"
Firmware_Revision	R	"v1.00"
Application_Software_Version	R	"ISN Server 1.00"
Location	R	Database
Description	R	Database
Protocol_Version	R	Always 1
Protocol_Conformance_Class	R	Always 3
Protocol_Services_Supported	R	Always 0x03, 0x08, 0xC0, 0x20, 0xE0
Protocol_Object_Types_Supported	R	Always 0xF8, 0x08, 0x00
Object_List	R	Database
Max_APDU_Length_Accepted	R	Database
Segmentation_Supported	R	Database
Local_Time	R	Database
Local_Date	R	Database
UTC_Offset	R	Database
Daylight_Savings_Status	R	Database
APDU_Segment_Timeout	R	Database
APDU_Timeout	R	Database
Number_Of_ APDU _Retries	R	Database
Device_Address_Binding	R	Always Empty

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SECTION 2

SOFTWARE

Overview

The Data Bridge for BACnet™ is a communications device that provides a connection between a YORK proprietary ISN Rev. 7 network operating at 50 kbaud and a BACnet Ethernet network. It is referred to as a gateway. The Data Bridge for BACnet provides a translation of ISN Features into the standard BACnet *properties* of standard BACnet *objects* for accessing by BACnet clients. The Data Bridge achieves this translation by mapping the ISN Features to BACnet *objects* and *properties* using a customizable ISN to BACnet translation database loaded into the Single Board Computer (SBC). The SBC provides the ISN to BACnet translation capabilities of the Data Bridge and the interface to the BACnet network, while the LINC MicroGateway interfaces to the ISN network.

The YORK BACnet Configuration Tool (CfgTool) provides an easy-to-use Windows® 95 or 98-based interface to create the translation database and download it to the SBC. In order to facilitate the commissioning of Data Bridge, standard profiles of YORK chillers and selected other ISN devices, such as standard air-handlers, are provided with the BACnet Configuration Tool. A complete list of the profiles included with the Configuration Tool and the ISN to BACnet translation details is described in Appendix A of this document.

Requirements

A desktop or laptop PC running Microsoft Windows 95 or 98 with an RS232 serial port and a floppy drive is required. An RS232 serial cable with a 9-pin female D-Subminiature connector on the Data Bridge side and either a 9-pin or 25-pin female D-Subminiature connector on the CfgTool PC side is also required. If a standard built-up RS232 cable is used, a null modem device may be required.

The RS232 cable is plugged into the Data Bridge's Single Board Computer (SBC) COM2 serial port, which is a 9-pin male D-Subminiature connector.

Installation

The BACnet Configuration Tool is installed from a floppy diskette. The installation procedure is as follows:

1. Insert the BACnet Configuration Tool CD into the drive (usually D:/) of the PC.
2. Click **Start**, then click **Run**.
3. Type **D:/Setup** in the window and click **OK**.

   NOTE: If the Windows 95/98 system is set for Autorun, the installation process begins automatically when the diskette is inserted into the floppy drive.

4. When the installation is complete, open **My Computer**.
5. Find  CfgTool.exe and click it.
6. Click the File Menu, then click Create Shortcut or drag  CfgTool.exe onto the desktop to create a shortcut.

The following is an inventory of the Windows files installed for the Configuration Tool:

1. CfgTool.exe is the Configuration Tool executable program.
2. ISNtypes.txt is a simple text file that defines a list of the standard ISN device profiles supported by CfgTool.
3. A set of files named ISN_**.txt where ** is a two character code for the profile type. These files contain the actual profiles for the ISN devices. The profiles supported are shown in the table titled *"Chiller Codes."*
4. A file named gasp32.dll that provides the serial communications for downloading the database to a Gateway is installed in the Windows\System folder.

Table 9. Chiller Codes

Profile Type Code	Description
YT	Centrifugal Dual/Mono Shell
C1	Reciprocating Chiller
YK	Centrifugal Super Chiller
A1	Air-Cooled Screw Chiller with MicroGateway
A3	Master/Slave Air Cooled Screw Chiller
YI	Isoflow Absorption Chiller
UK	Centrifugal Super Chiller with MicroGateway
US	Rotary Screw Chiller with MicroGateway
UT	Centrifugal Chiller with MicroGateway
AH	Standard Air Handler
TC	Terminal Digital Controller
RT	Rooftop Unit
AD	Air Handling Hot Deck/Cold Deck Unit
AM	Air Handling Unit with Mixing Box
VT	Centrifugal Dual/Mono Shell with VSD
VK	Centrifugal Super Chiller with VSD
YP	Paraflow Absorption Chiller
YU	Universal Chiller

Before Starting

Before commissioning a Data Bridge for BACnet Gateway, knowledge of the following information is required:

- The types of ISN devices connected to the ISN network, specifically if they are standard YORK chillers or other standard devices, so that standard device profiles can be used.
- The ISN network number for each ISN device (0 to 99).
- The ISN node number for each ISN device (0 to 99).

The following information about the Data Bridge is used to define the BACnet Device Object properties for the gateway:

- Device *Object_Instance* (0 to 4194303 and must be unique throughout the entire BACnet system)
- Device *Object_Name*
- Device *Description*
- *Location*

For BACnet clients to access data from the Data Bridge, facility managers need to know the following BACnet information about the data points in the Data Bridge:

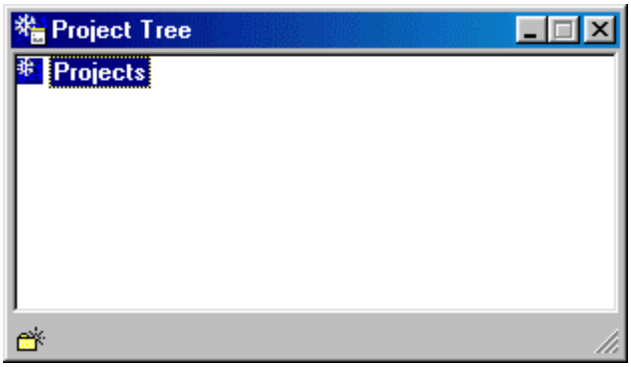
- *Object_Instance* property of the Device Object.
- A list of the *Object_Identifier* properties for the ISN data points translated by the Data Bridge.

Following the configuration of a database for a gateway, a report can be printed using CfgTool that summarizes the required BACnet information.

Starting the Configuration Tool

To start the Configuration Tool, double-click the CfgTool shortcut icon on the desktop.

The first time CfgTool is started, a Project Tree screen appears with only a *Projects* root showing.

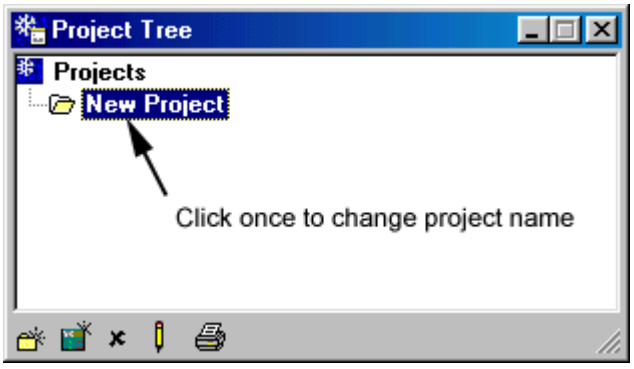


The top level CfgTool Project Tree screen consists of a list of projects in the form of a tree, with each project being represented by a tree branch under the Projects root. Each project in turn consists of one or more gateways with each gateway represented by a leaf of the project branch. The Projects root is represented by the ““snowflake” symbol, the project branches by the folder symbol and the gateway leaves by the document symbol. Internally, each project is kept as a Windows 95/98 folder while each gateway is kept as a Windows 95/98 document, which, in the case of CfgTool, is a binary file.

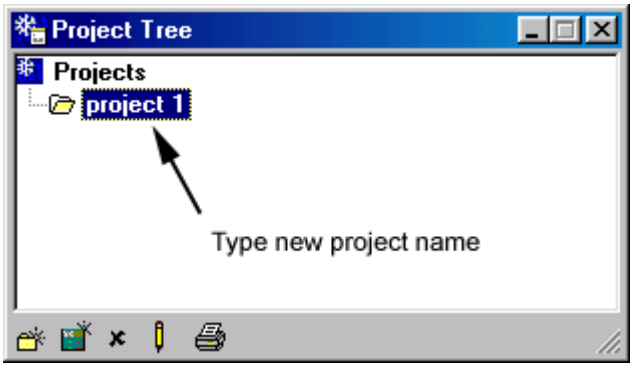
Creating and Deleting Projects

Projects are created by clicking on the new folder symbol at the bottom of the Project Tree screen.

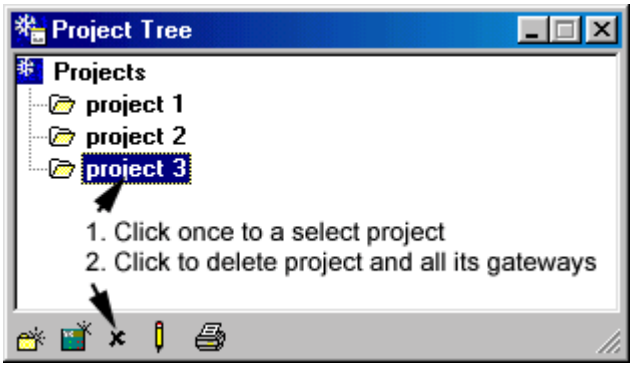
When the new folder is clicked, a new project is created with the name “New Project.”



The project name is changed by clicking once on the “New Project” name, typing the new project name, and then pressing **Enter**. Note that Windows converts all project names to lower case.



Additional projects may be added at any time and in any number, but each project must have a unique name. Projects and all associated gateways can be deleted by selecting a project name and clicking the delete symbol.

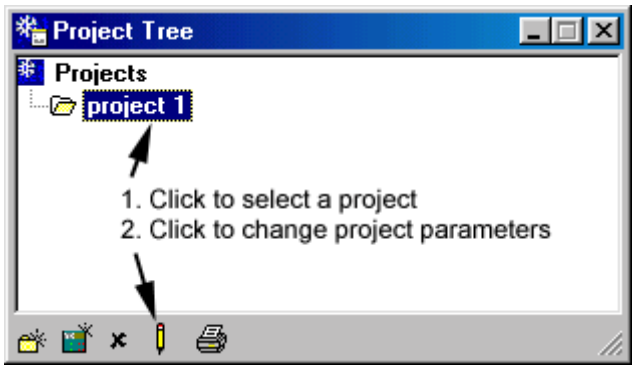


When the delete symbol is clicked, a confirmation window is displayed to verify the deletion.

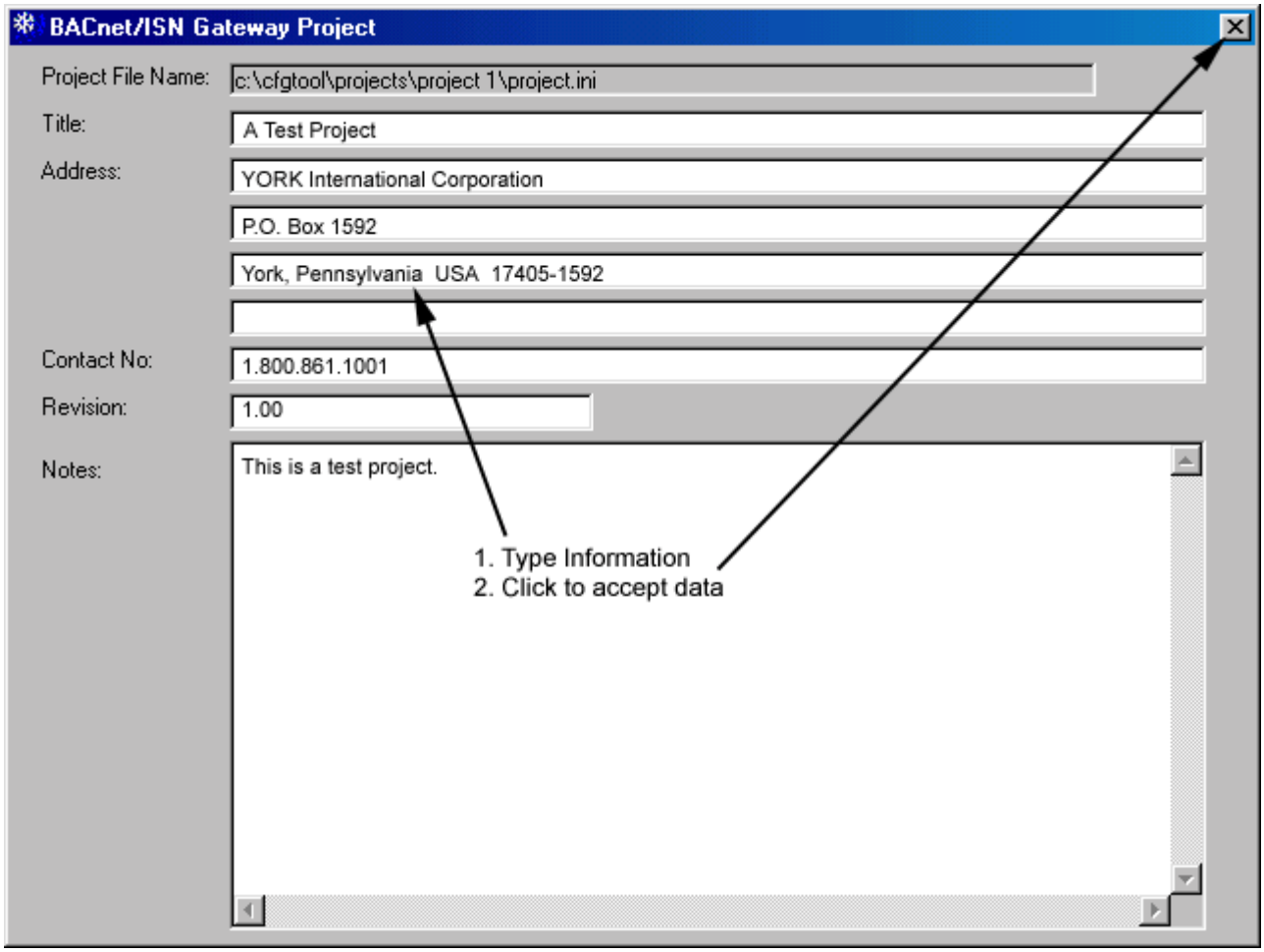
Internally, each project is a Windows subfolder of the main CfgTool folder. The project subfolder name is the same as the project name.

Entering Project Information

A small amount of optional information is kept about each project allowing the user to provide unique data to identify the project or job. The project information can be modified by selecting a project and clicking the edit symbol.

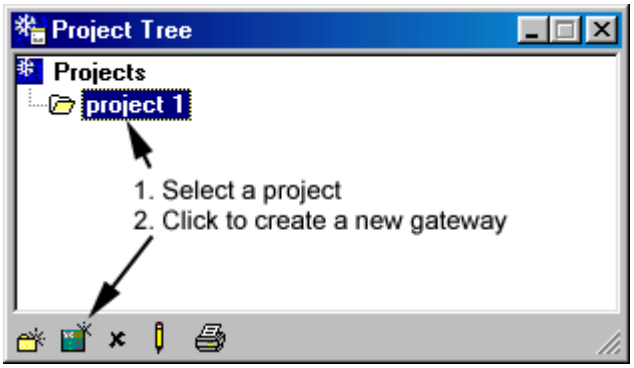


The resulting screen can be filled with the information about the project. As data is filled in or changed, it is displayed in red to distinguish changed data from unchanged data. The data is accepted by clicking on the close box of the project information window.

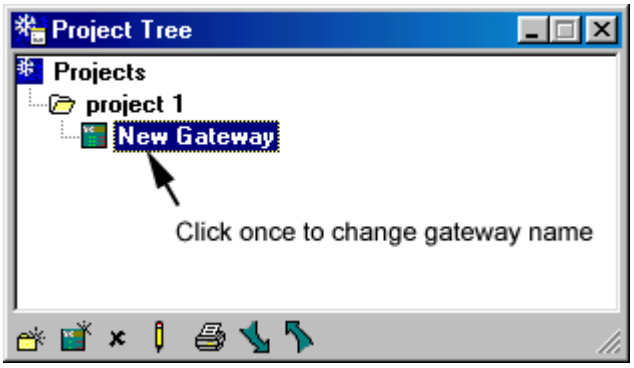

BACnet/ISN Gateway Project
Project File Name:
c:\cfgtool\projects\project 1\project.ini
Title:
A Test Project
Address:
YORK International Corporation
P.O. Box 1592
York, Pennsylvania USA 17405-1592
Contact No:
1.800.861.1001
Revision:
1.00
Notes:
This is a test project.
1. Type Information
2. Click to accept data

Creating and Deleting Gateways

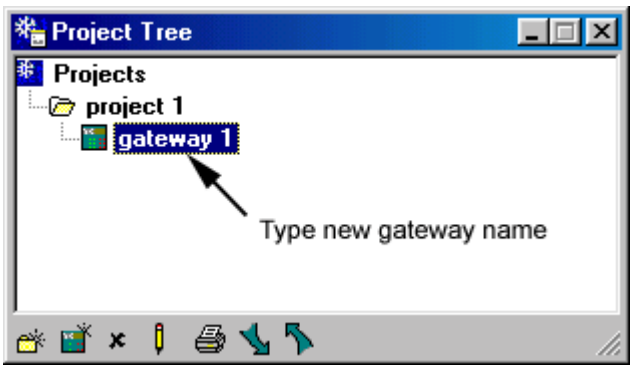
To create a gateway for a project, select the project and click the document icon at the bottom of the screen.

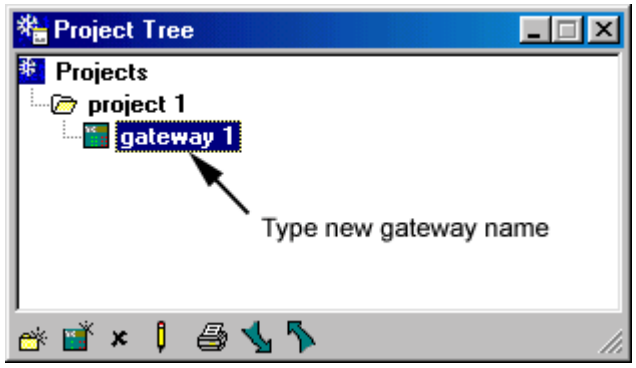


A gateway will be created with the name “New Gateway.”

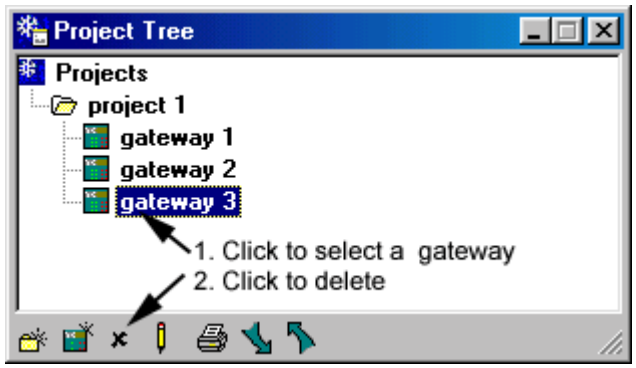


The gateway name is changed by clicking once on the “New Gateway” name, typing the new gateway name and then pressing **Enter**. Note that Windows converts all gateway names to lower case.





Additional gateways may be added at any time and in any number, but they must have unique names within the project. Gateways can be deleted by selecting a gateway name and clicking the delete ✖ symbol.

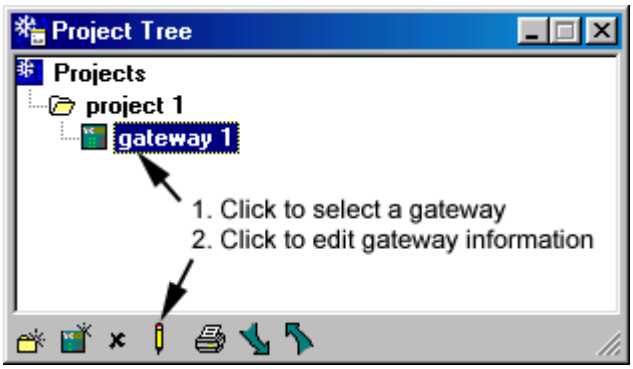


When the delete ✖ symbol is clicked, a confirmation window is displayed to verify the deletion.

Internally, each gateway is a binary file contained in the project subfolder of the main CfgTool folder. The binary file name is *.bin where * is the gateway name.

Entering Gateway Information

The information that defines the ISN to BACnet translation database for a Data Bridge is created and modified by selecting a gateway and clicking the edit symbol.



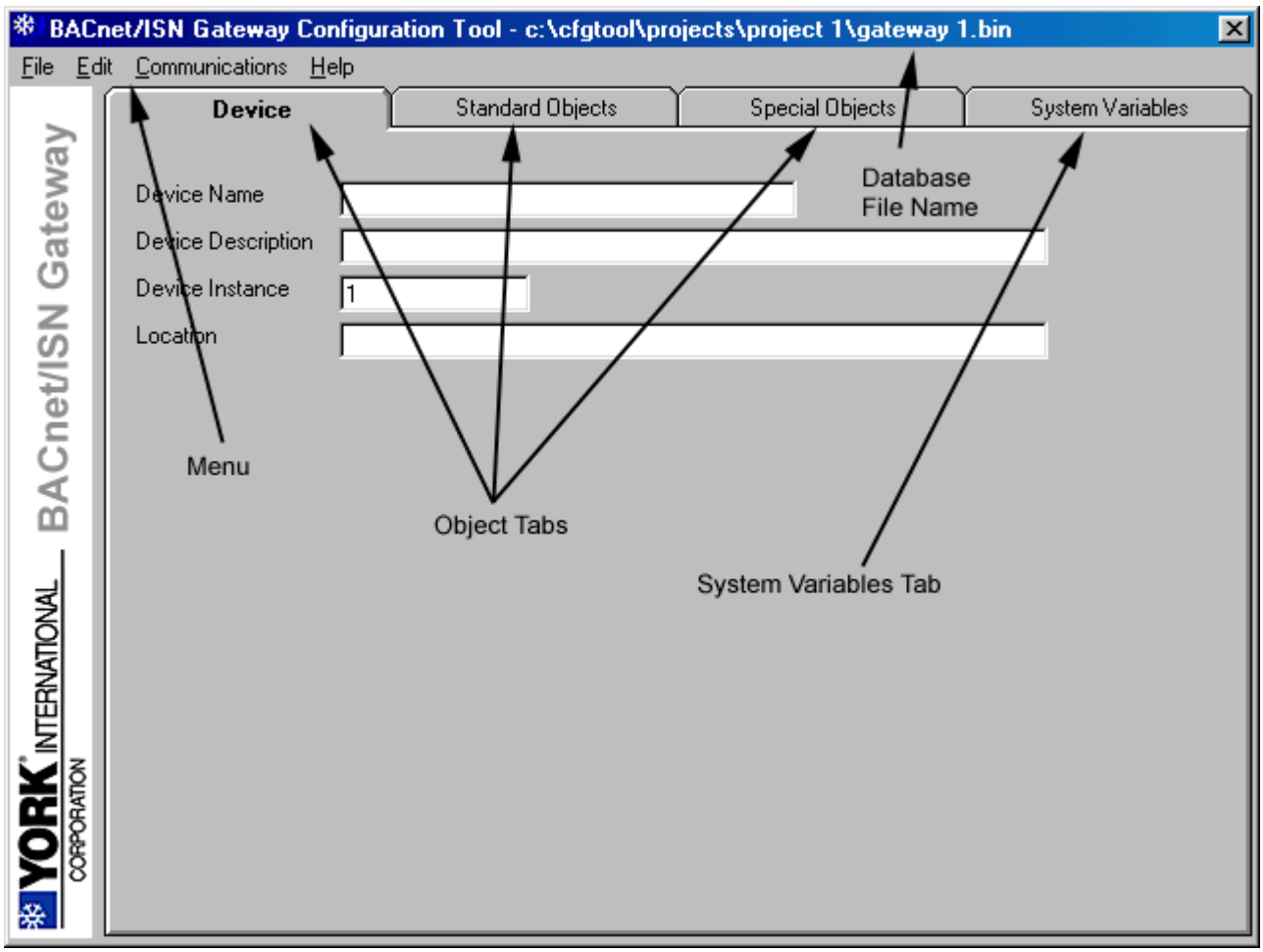
The resulting screen allows you to define the mapping for the ISN features to BACnet objects and properties and otherwise define the BACnet operating parameters for the Gateway.

The Gateway Edit screen contains four tabs which when clicked display different screens for defining and editing BACnet objects and editing and defining Gateway system variables The menu at the top provides a means of performing:

- File operations (Save, Close, Print, Print to File)
- Edit operations (Delete Object, Config Mode)
- Communications operations (File Upload, File Download)
- Help (About the Config Tool)

Configuration Modes

There are two configuration modes selectable through the Edit-Config Mode menu: Basic and Advanced. In most cases, the Basic mode should be used since most of the default parameters that are not visible in Basic mode are suitable for most situations. The Advanced mode is rarely needed and allows the overriding of some of the default parameters for



objects and system variables. Advanced mode has the disadvantage of taking added time and effort to define the additional parameters. The following explanations for defining and editing the Gateway parameters is given first for the Basic mode and then for the Advanced mode. Menu-driven operations are explained when required.

File Name

The name for the ISN to BACnet translation database file is shown at the top of the window. The file name is the same as the Gateway name with the file extension .bin and is located in a subfolder that has the same name as project. When downloaded to the Data Bridge for BACnet, the database file is always saved with the file name nvs.bin in the Data Bridge.

Device Tab

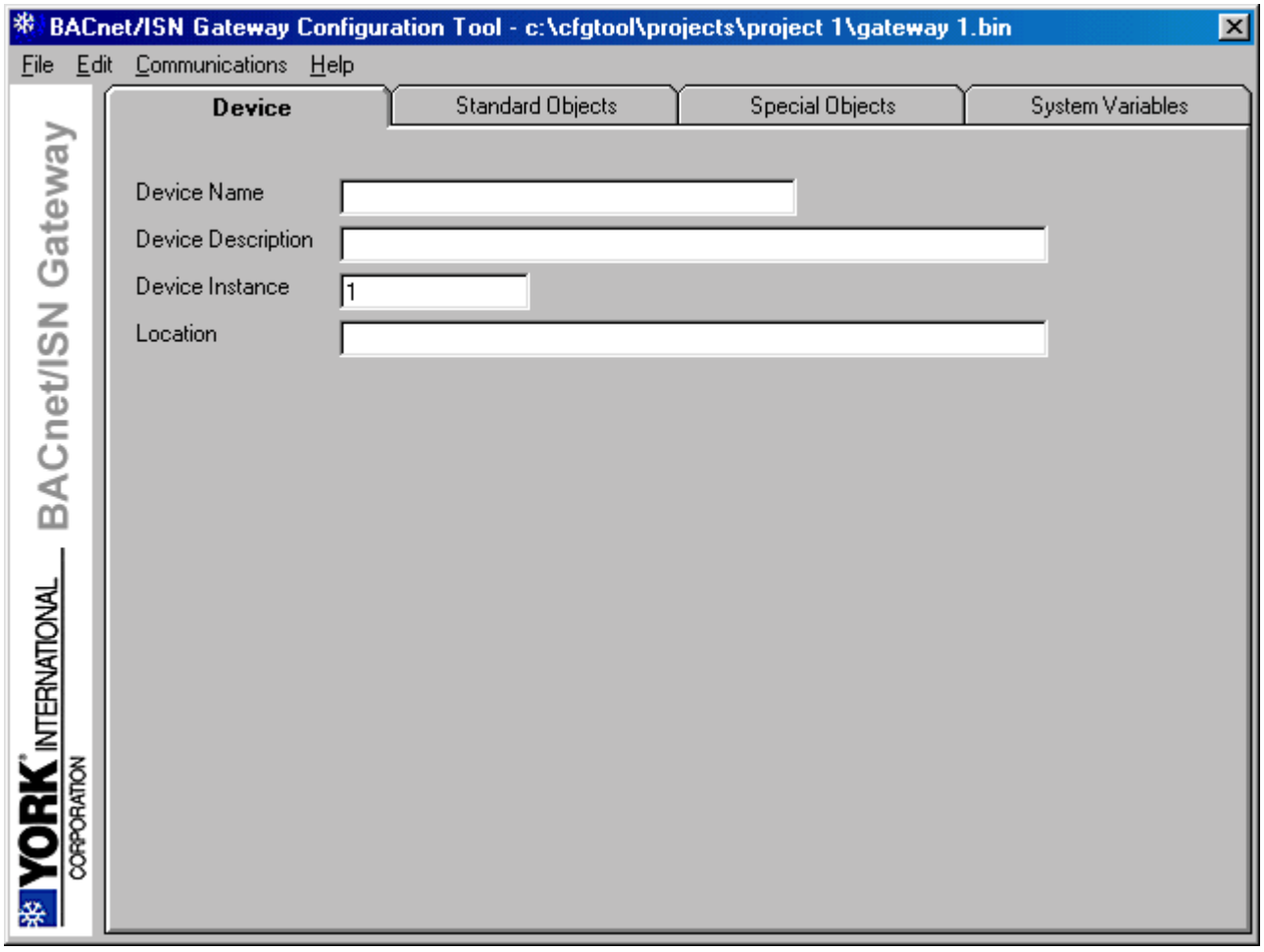
When the gateway edit screen is first entered, the Device tab is selected. To select the Device tab from any other tab, click the Device tab once.

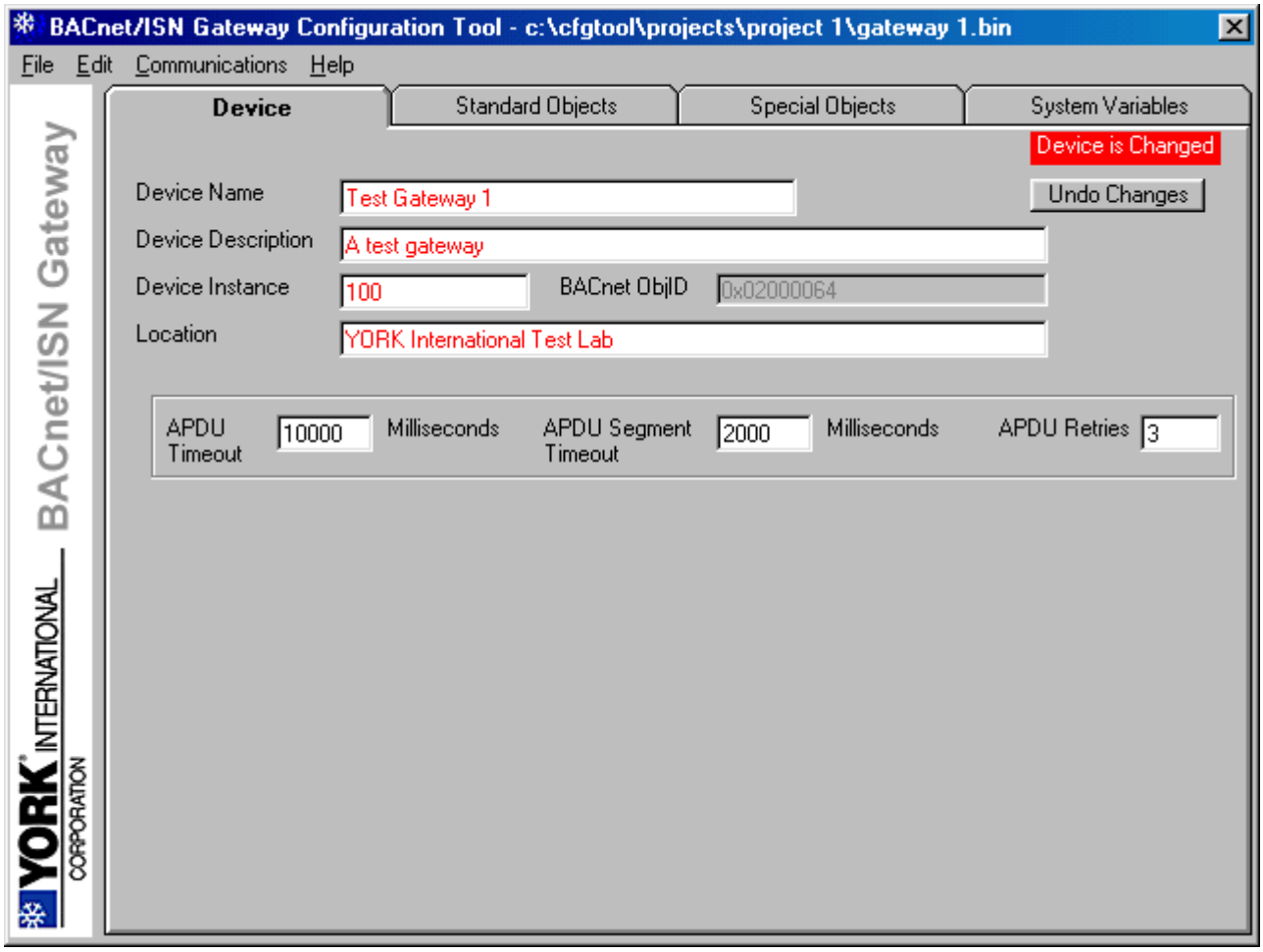
Device Tab Basic Mode

The Device tab is used to define the BACnet Device Object properties for the **gateway**. In Basic mode this includes the:

- Device Name
- Device Description
- Device Instance
- Location

The Device Name becomes the *Object_Name* property for the Device Object, the Device Description becomes the *Description* property for the Device Object and the Location becomes the *Location* property for the Device Object. The Device Instance becomes the *Object_Instance* for the Device Object





which, together with the Device Object type (8), forms the *Object_Identifier* property for the Device Object. The Device Instance must be a unique number (0 to 4194303) within the entire BACnet network.

To change a parameter, click the mouse inside the edit box and begin typing. As characters are typed, they are displayed in red to distinguish changed data from unchanged. A red “Device is Changed” message is also displayed. Although more characters can be typed, the Device Name is truncated to 32, the Device Description is truncated to 56 and the Location is truncated to 64.

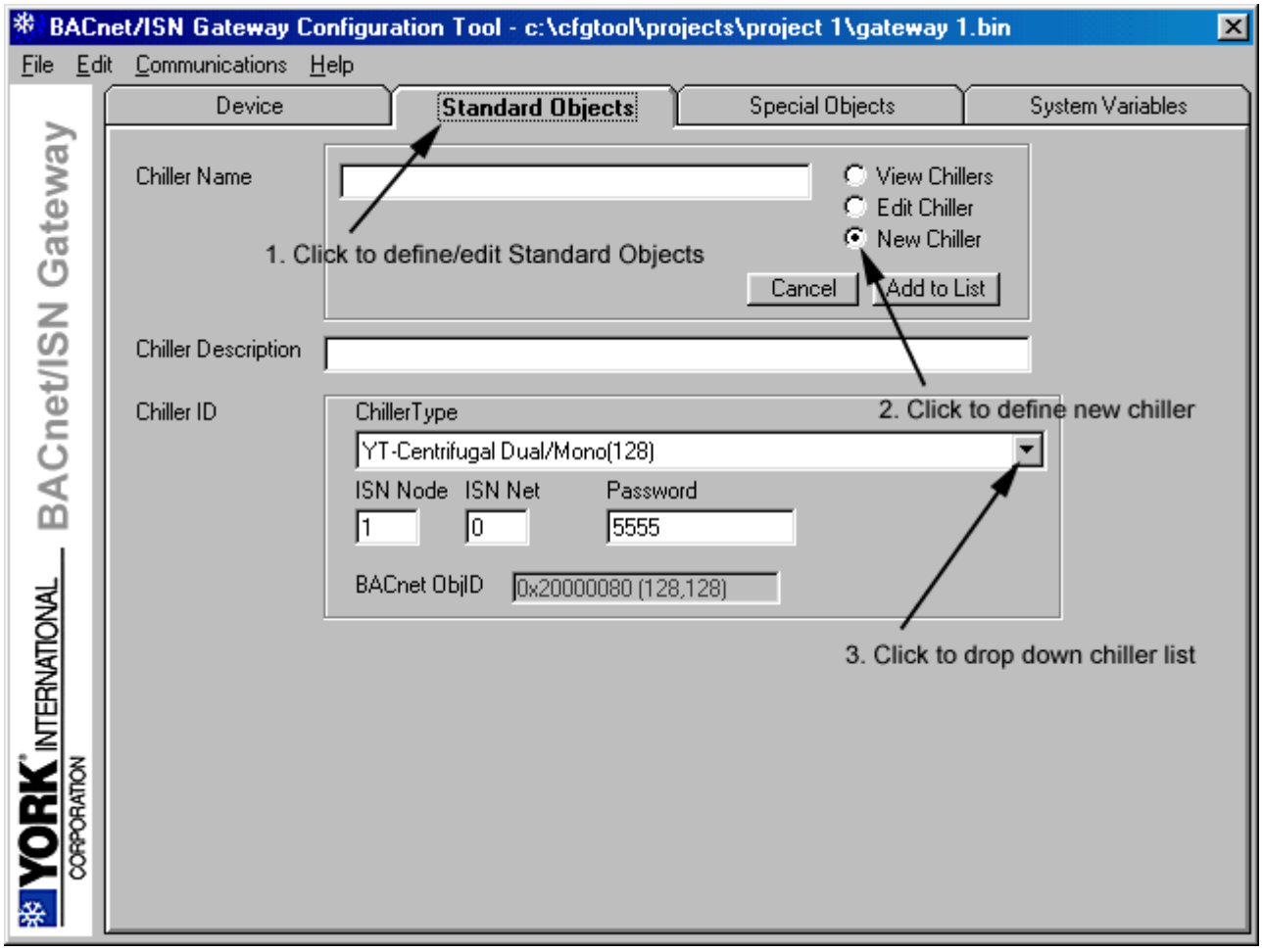
An “Undo Changes” button allows a limited backup to the previous version of data.

Device Tab Advanced Mode

When the Advanced mode is selected using the Edit-Config Mode-Advanced menu selection, the *Object_Identifier* for the Device Object is shown for information only and the following parameters are shown for editing:

- APDU Timeout
- APDU Segment Timeout
- APDU Retries

The APDU Timeout becomes the *APDU_Timeout* property for the Device Object, the APDU Segment Timeout becomes the *APDU_Segment_Timeout* property for the Device Object and the APDU Retries becomes the *Number_of_APDU_Retries* property for the Device Object.

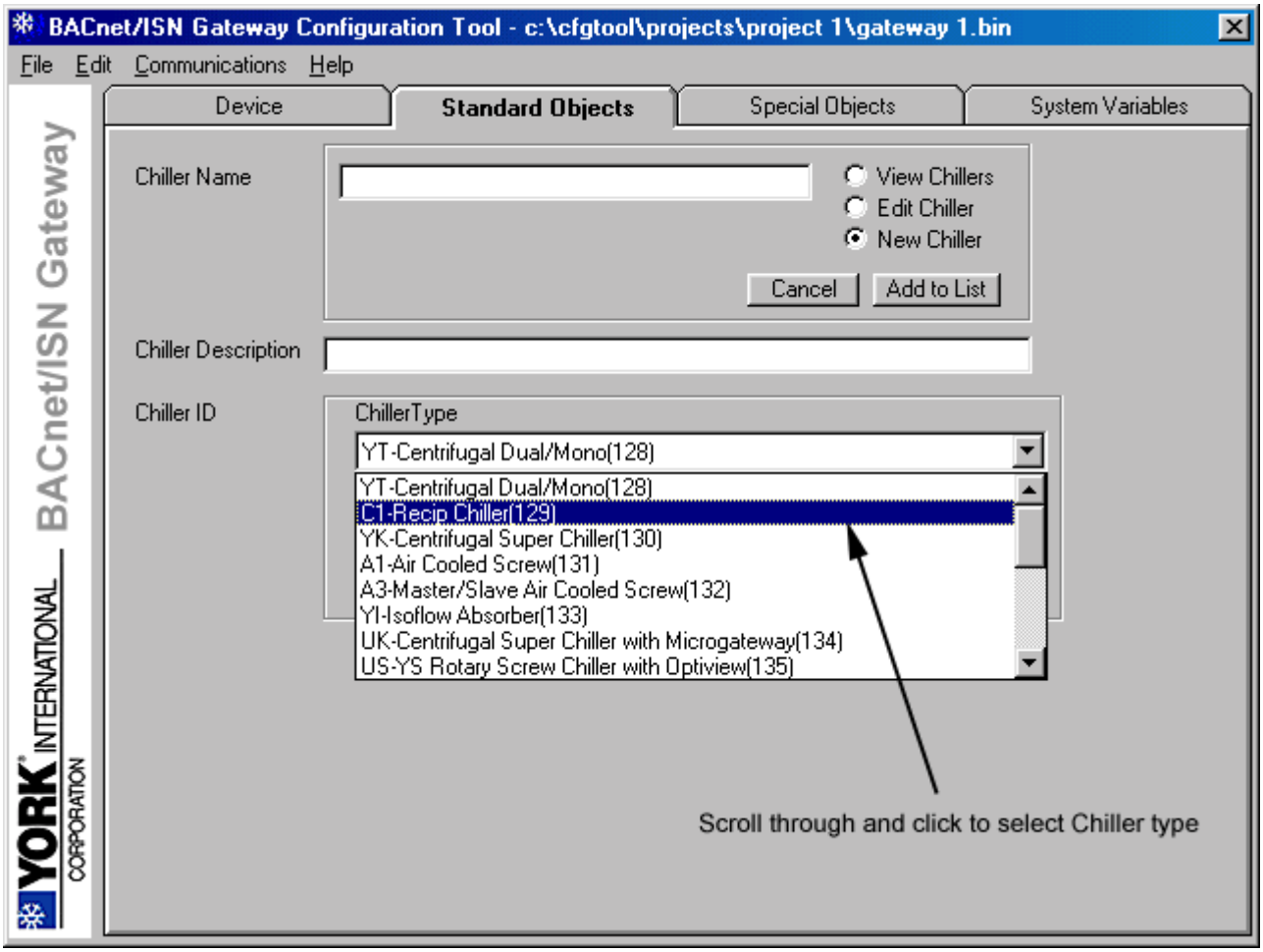


Defining Chillers Using the Standard Objects Tab

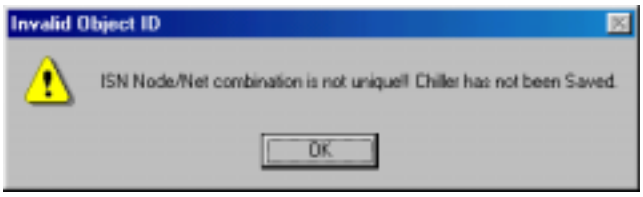
To select the Standard Objects tab from any other tab, click the Standard Objects tab once. The Standard Objects tab defines standard ISN devices, mostly chillers, from a set of ISN device profiles supplied with the CfgTool. Each profile contains a set of ISN points mapped directly into BACnet standard objects and properties in a predefined way. Although most of the profiles are for standard chillers, profiles for other selected devices, such as air-handlers are provided. In this document and in the CfgTool screens, all the ISN devices defined by the profiles are referred to as chillers.

Standard Objects Tab Basic Mode

After selecting the Standard Objects tab, a set of radio buttons allows definition of a new chiller. The drop-down list of “Chiller Types” is used to select the new chiller type from the list of standard device profiles.



After selecting the chiller type, the Chiller Name, Chiller Description, ISN Node and ISN Net of the chiller must be entered. The ISN Node and ISN Net combination must be unique on the ISN network to avoid communication conflicts with the ISN devices on the network. If the ISN Net and ISN Node are not unique, a pop-up warning is displayed.

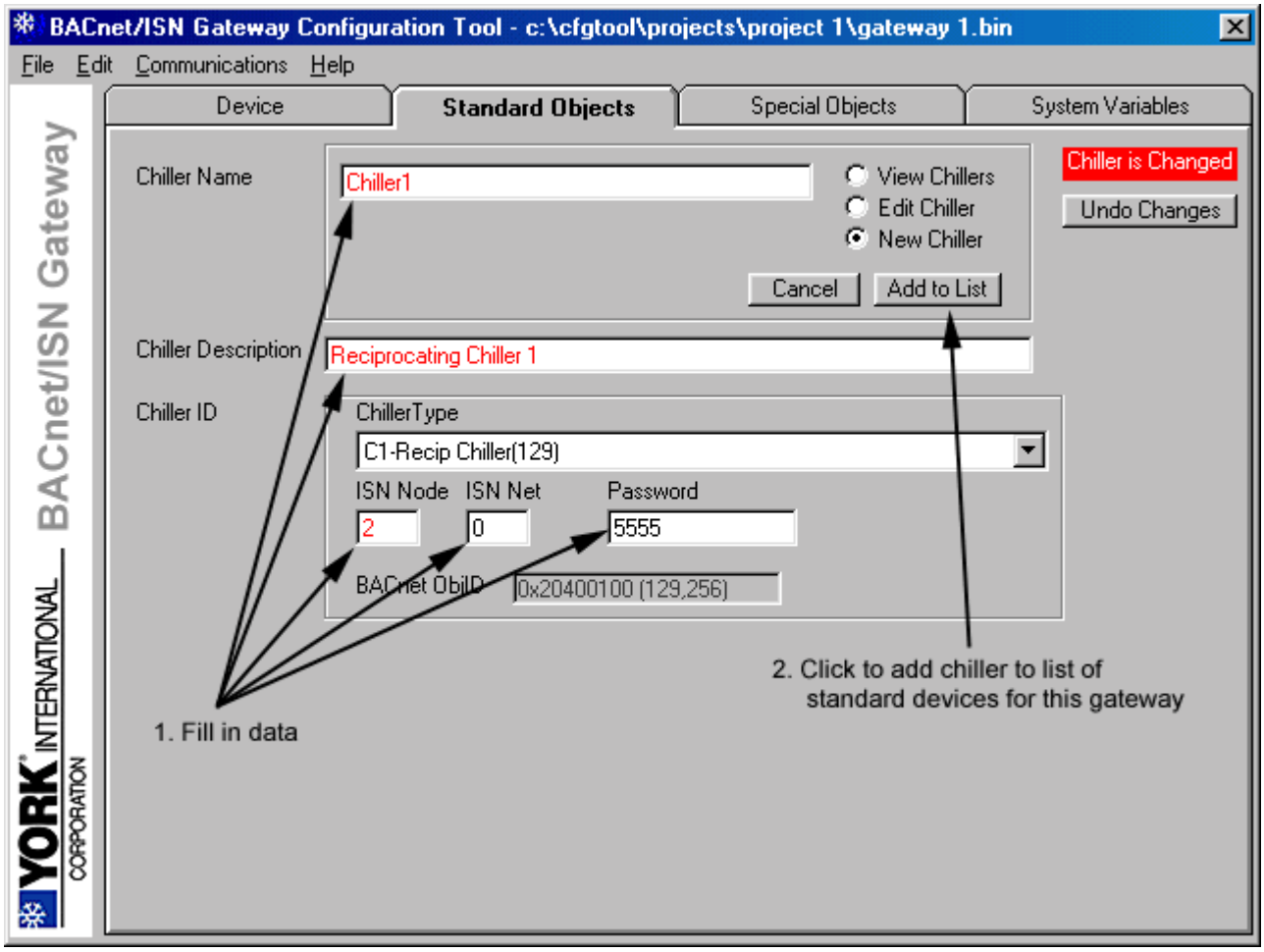


The Chiller Name and Description are used only by the CfgTool and do not in anyway affect the operation of the Gateway.

Each standard chiller type is assigned a proprietary BACnet Object_Type starting at 128. The combination of the proprietary Object_Type and the ISN node and net are used to form a proprietary Object_Identifier for the chiller object as a whole. The algorithm used to form the BACnet Object_Identifier for a chiller is:

Object_Identifier=(Object_Type *4194304) + (node*128) + net

The Object_Identifier is used only for grouping the component points with the chiller type in the CfgTool and is not exposed to the BACnet network. It does not affect the operation of the Gateway in any way. The default Password for ISN access can be overridden

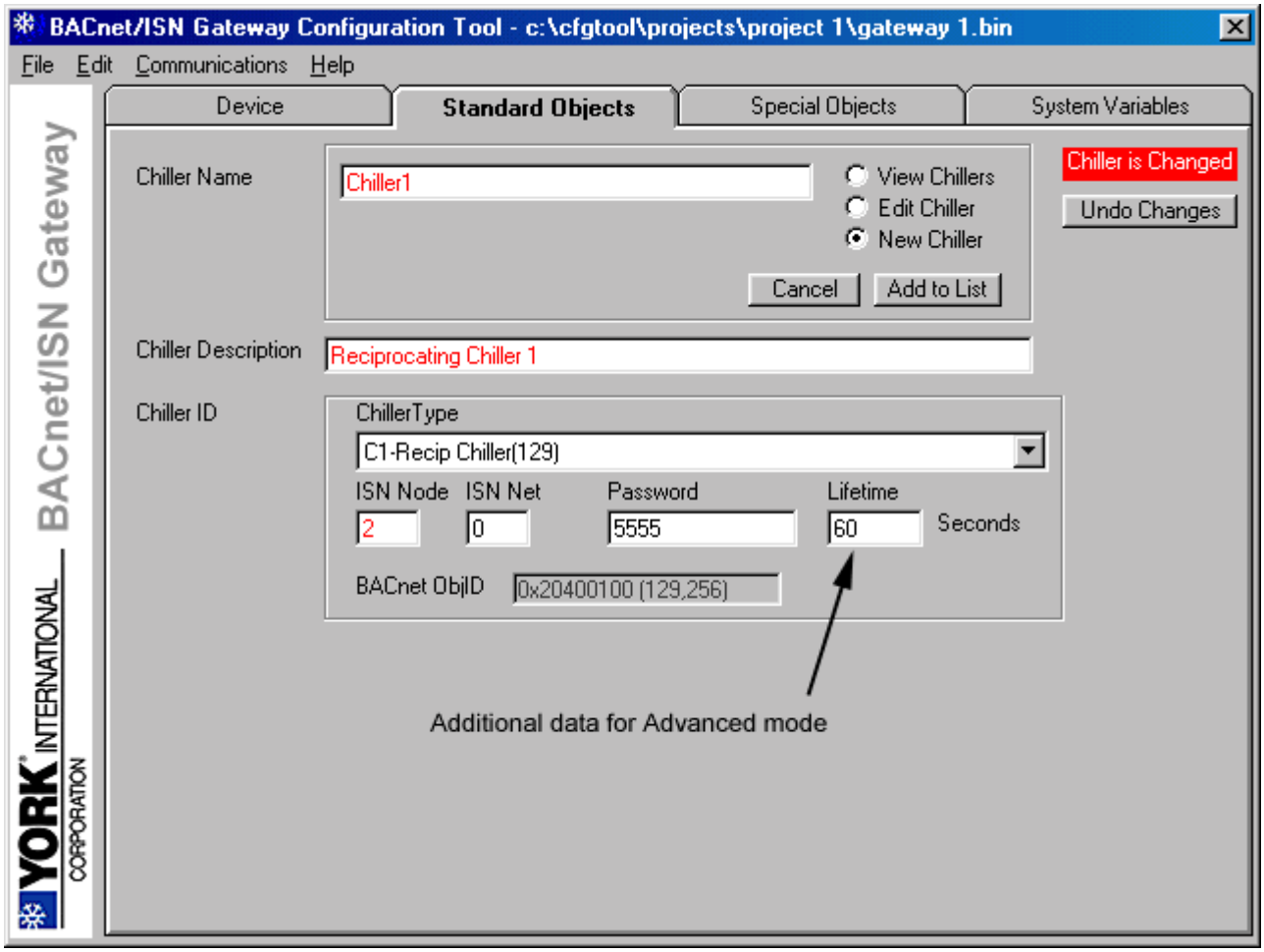


from its default value of 5555 if required. As data is filled in, the text is displayed in red to distinguish it from the unchanged data, and a red “Chiller is Changed” message is displayed. A limited amount of “undoing” is possible by clicking the “Undo Changes” button.

Standard Objects Tab Advanced Mode

The sole difference between Basic mode and Advanced mode for the Standard Objects screen is the display of and ability to change the Lifetime parameter. The Lifetime parameter is used in the Data Bridge to flush ISN values from the read cache if they are not accessed for the Lifetime period from the BACnet stack.

After all the required data is filled in, clicking the “Add to List” button adds the chiller to the list of chillers for the gateway. The Standard Objects screen is changed to view, and change, the individual points accessible for the chiller. This state is indicated by the “View Chillers” radio button being selected.


BACnet/ISN Gateway Configuration Tool - c:\cfgtool\projects\project 1\gateway 1.bin
File Edit Communications Help
Device
Standard Objects
Special Objects
System Variables
Chiller Name
Chiller1
View Chillers
Edit Chiller
New Chiller
Cancel
Add to List
Chiller is Changed
Undo Changes
Chiller Description
Reciprocating Chiller 1
Chiller ID
ChillerType
C1-Recip Chiller(129)
ISN Node
ISN Net
Password
Lifetime
2
0
5555
60
Seconds
BACnet ObjID
0x20400100 (129,256)
Additional data for Advanced mode
BACnet/ISN Gateway
YORK INTERNATIONAL CORPORATION

Radio Buttons on the Standard Object Tab

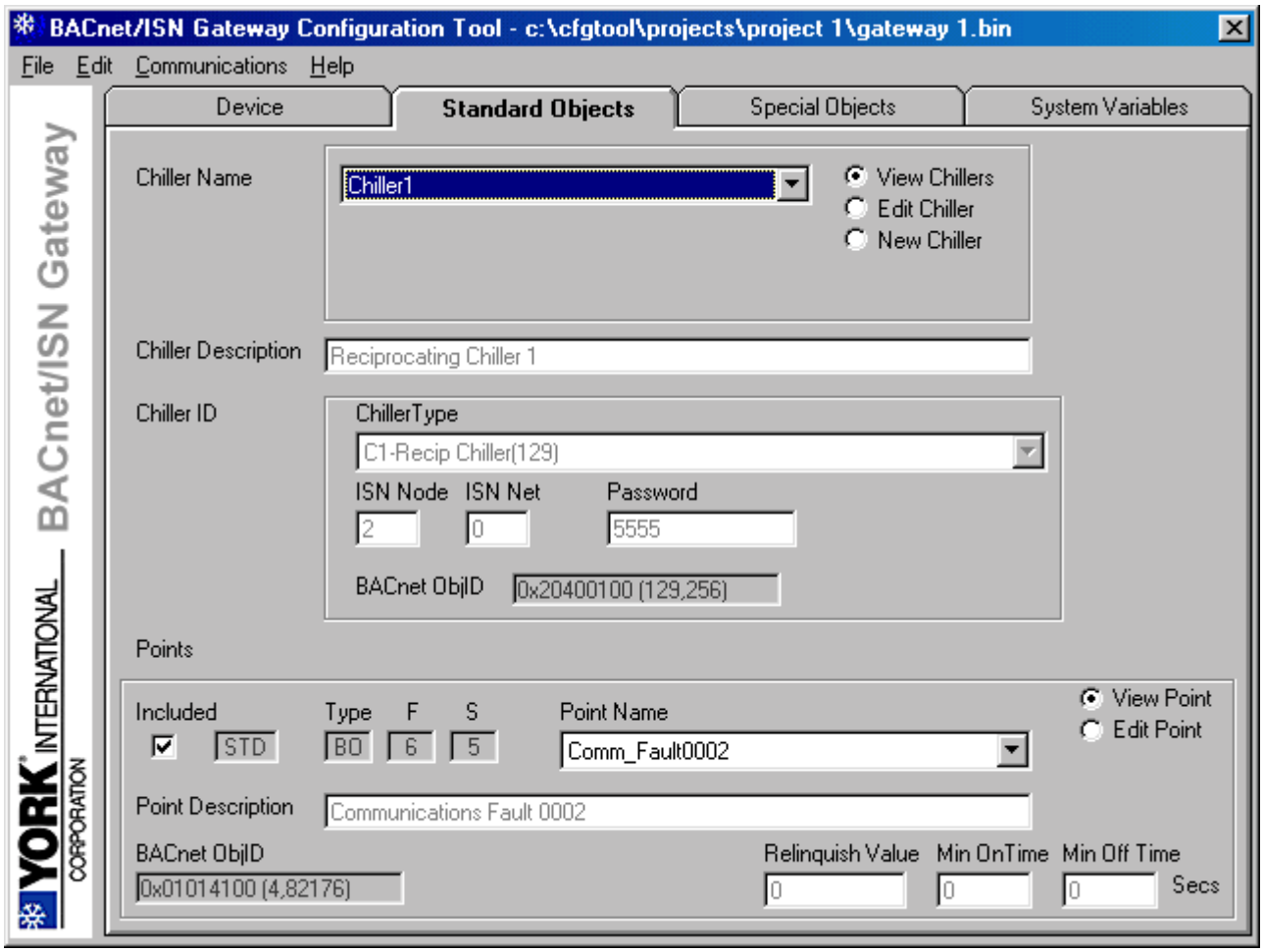
There are three radio buttons on the Standard Object screen that allow selection of an editing mode for standard objects:

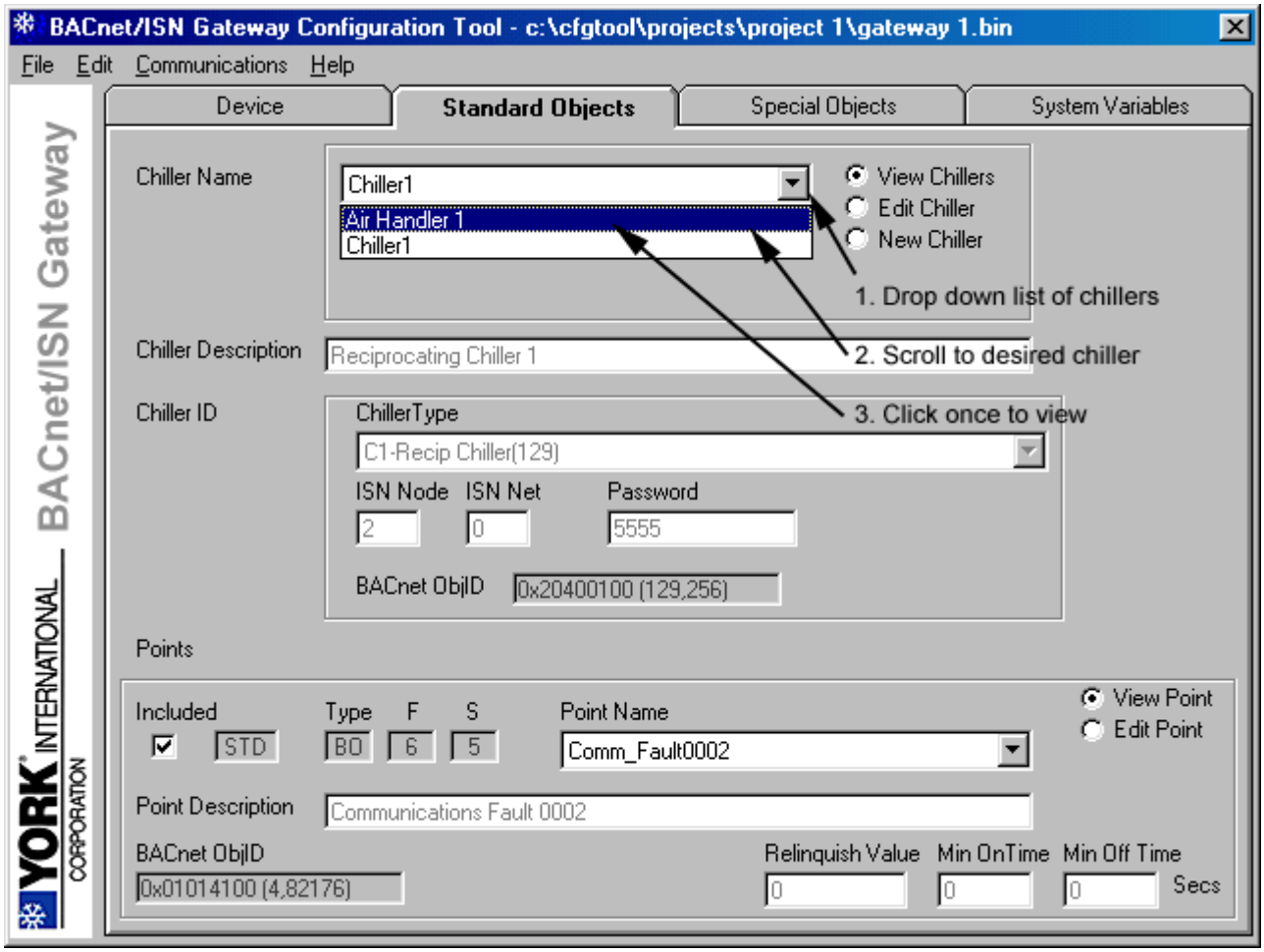
- View Chillers
- Edit Chiller
- New Chiller

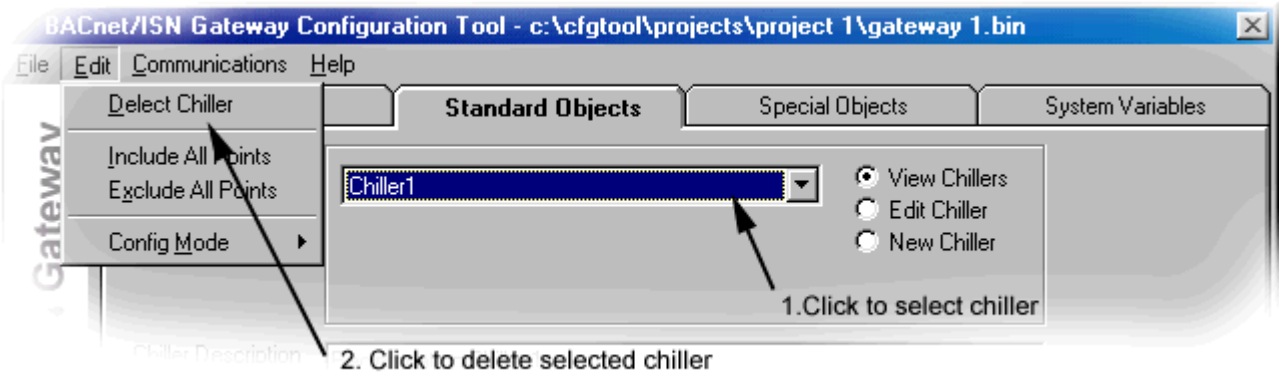
The “New Chiller” editing mode has been described in the preceding paragraphs. New chillers can be added at any time. Once chillers have been added, their basic information can be modified at any time by clicking the “Edit Chiller” button. The screen displayed in the “Edit Chiller” mode is the same as the screen in the “New Chiller” mode, except that the “Add to List” button is replaced by an “Accept” button. The “View Chillers” mode allows editing of the parameters of the individual points of the chiller. To select a different chiller, drop down the “Chiller Name” list, scroll down to a different chiller and click it once.

Deleting Chillers

Chillers are deleted using the Edit-Delete Chiller menu.




BACnet/ISN Gateway Configuration Tool - c:\cfgtool\projects\project 1\gateway 1.bin
File Edit Communications Help
Device
Standard Objects
Special Objects
System Variables
Chiller Name
Chiller1
Air Handler 1
Chiller1
View Chillers
Edit Chiller
New Chiller
1. Drop down list of chillers
Chiller Description
Reciprocating Chiller 1
2. Scroll to desired chiller
Chiller ID
ChillerType
C1-Recip Chiller(129)
ISN Node
ISN Net
Password
2
0
5555
BACnet ObjID
0x20400100 (129,256)
3. Click once to view
Points
Included
Type
F
S
Point Name
STD
BO
6
5
Comm_Fault0002
View Point
Edit Point
Point Description
Communications Fault 0002
BACnet ObjID
0x01014100 (4,82176)
Relinquish Value
Min OnTime
Min Off Time
0
0
0
Secs
BACnet/ISN Gateway
YORK INTERNATIONAL CORPORATION


BACnet/ISN Gateway Configuration Tool - c:\cfgtool\projects\project 1\gateway 1.bin
File Edit Communications Help
Delect Chiller
Include All Points
Exclude All Points
Config Mode
Standard Objects
Special Objects
System Variables
Chiller1
View Chillers
Edit Chiller
New Chiller
1.Click to select chiller
2. Click to delete selected chiller

Defining Objects Using the Standard Objects Tab

From the Standard Objects tab and with the “View Chillers” radio button selected, the individual points for each chiller can be viewed and edited. Individual points for the chillers are mapped into one of five standard BACnet Object_Types:

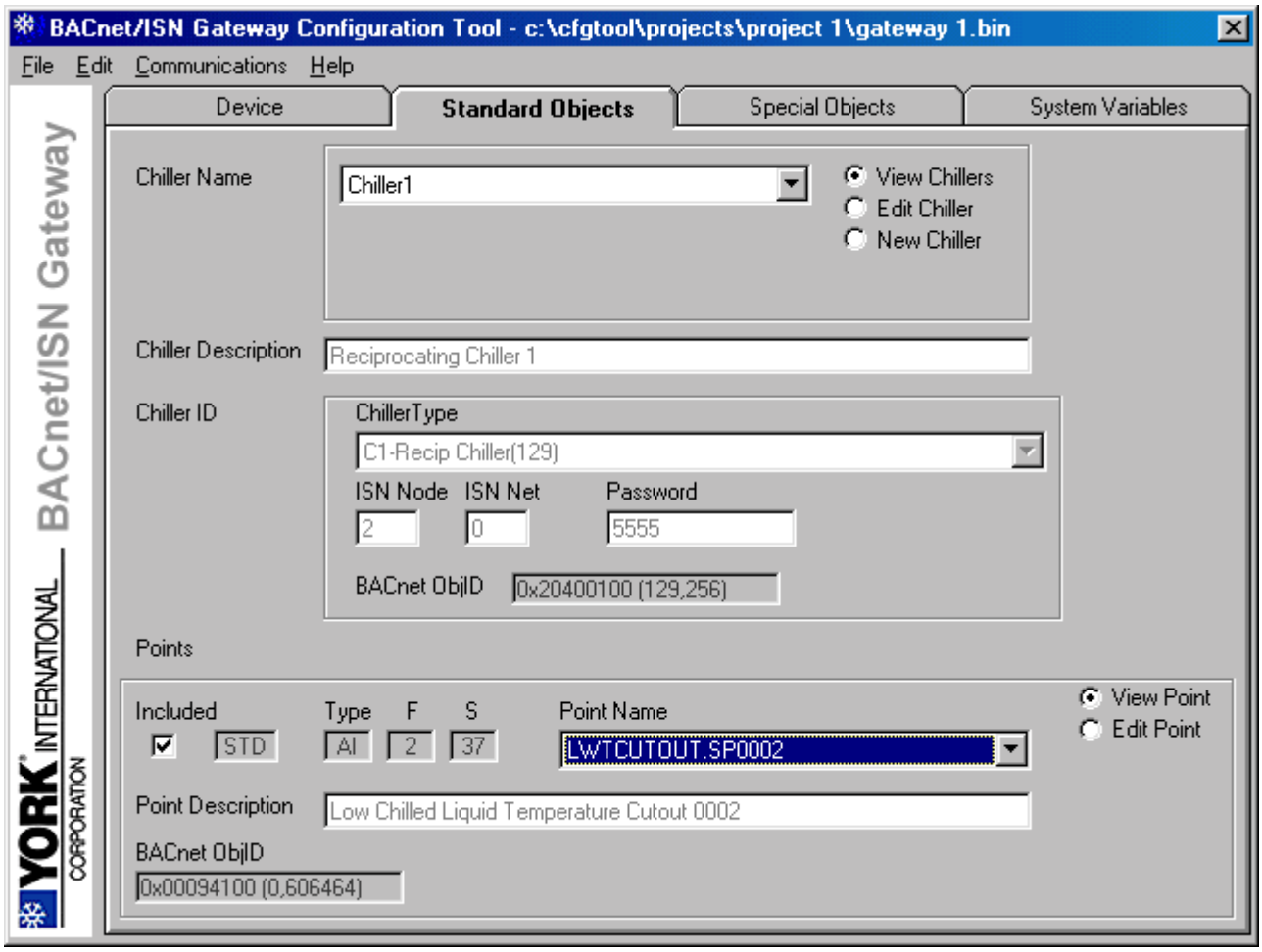
- Analog Input (=0)
- Analog Output (=1)
- Analog Value (=2)
- Binary Input (=3)
- Binary Output (=4)

The screen shown below displays the typical view of a single BACnet object for a chiller.

The “Point Name” is a scrolling list of all standard (STD) and optional (OPT) points that are mappable for a selected chiller. As each point is selected by scrolling through the list, the other parameters for the point display automatically. The following descriptions are common to all BACnet Object_Types.

The “Included” checkbox allows selection and deselection of standard and optional points for the chiller. By default when a new chiller is created, all STD points are selected and all OPT points are deselected. A point is visible on the BACnet Ethernet network only if it is included.

The “Type” of BACnet point is assigned automatically based on the ISN feature (“F”) of the mapped point. This association is fixed and cannot be changed. The “Type” is directly mapped into the BACnet Object_Type property. The ISN section (“S”) is fixed according to ISN protocol rules. It cannot be changed for any given point. The “BACnet ObjId” is automatically formed by combining the “Type”, “ISN



Net", "ISN Node" and "S" according to the algorithm:

Object_Identifier=(Object_Type *4194304) + (ISN section *16384)+(ISN node*128) + ISN net

This is mapped directly into the BACnet Object_Identifier property. The hexadecimal value of the Object_Identifier is shown along with the BACnet Object_Type and Object_Instance in parentheses.

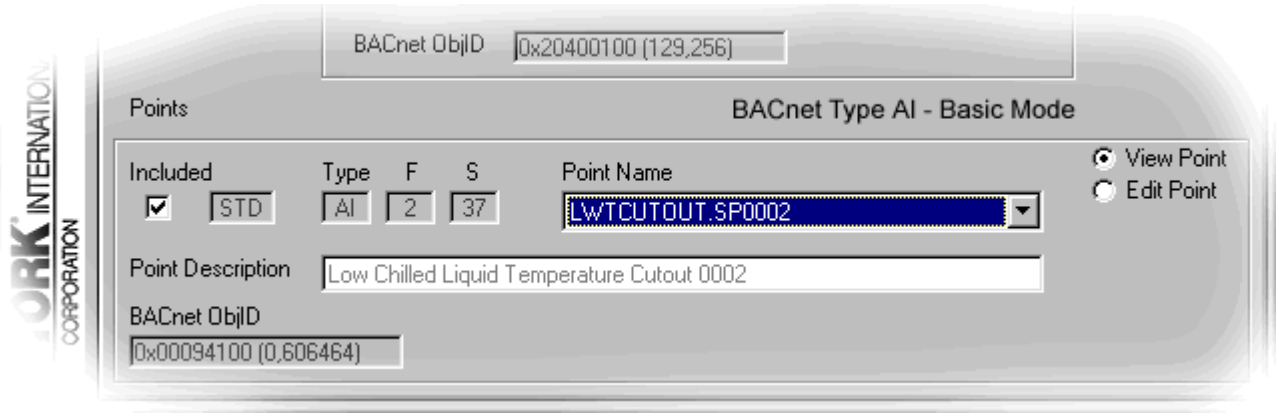
The "Point Name" is formed by adding (ISN net*100) + ISN node to the predefined base name. The "Point Name" maps directly into the Object_Name property. Similarly the "Point Description" is formed by adding (ISN net*100)+ISN node to a predefined base description. The "Point Description" maps directly into the Description property.

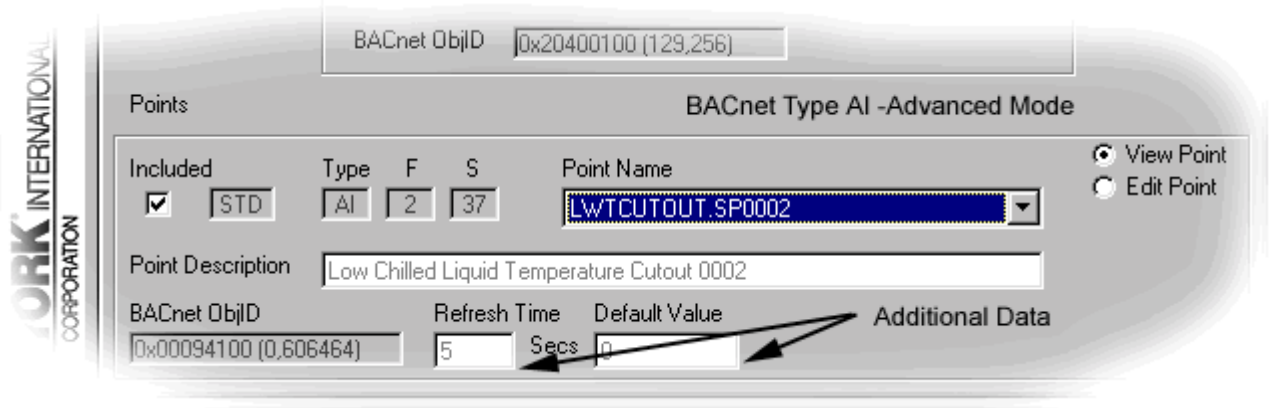
Since the ISN net and ISN node must be unique on the ISN network, it is guaranteed that the BACnet Object_Identifier, Object_Name and Description properties are also unique as required.

All other parameters are different for each Object_Type. Additional data may be displayed in the Advanced mode that is not displayed in the Basic mode. The different parameters for each Object_Type are described below. A "vignette" image of each Object_Type for both Basic mode and Advanced mode is shown along with an description of the parameters that are unique to that type.

Analog Input Basic Mode

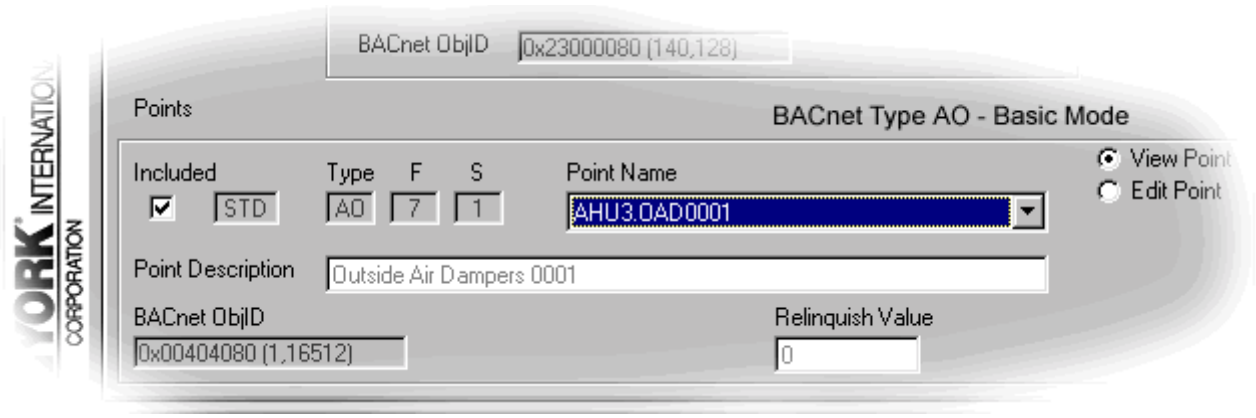
There are no parameters displayed in Basic mode that are unique to this Object_Type.





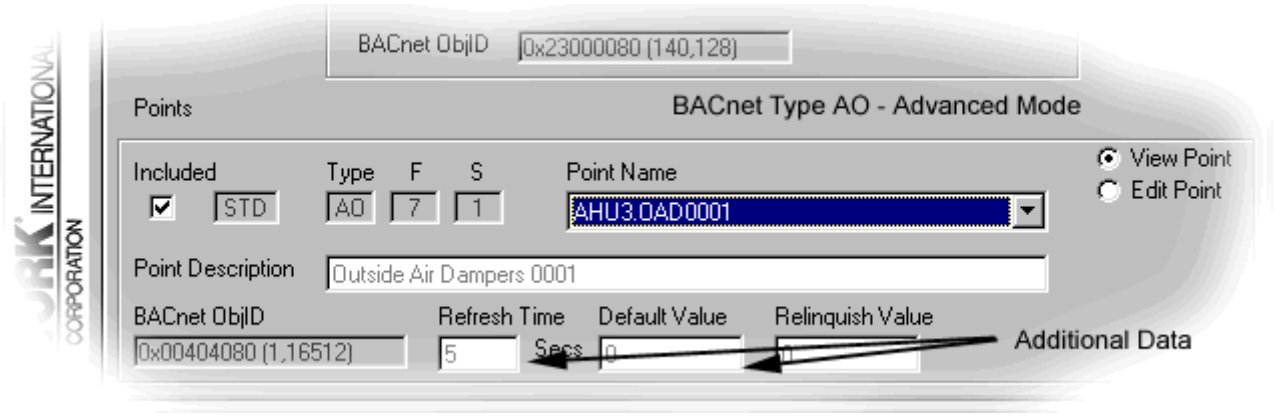
Analog Input Advanced Mode

The "Refresh Time" is the period in seconds that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Gateway. The "Default Value" is used for debugging only and does not affect operation of the Gateway in any way.



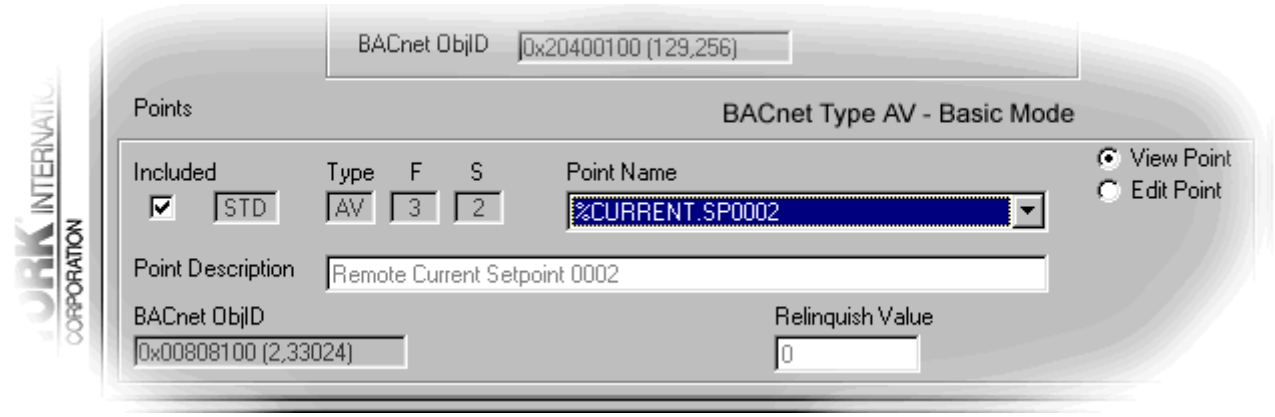
Analog Output Basic Mode

The “Relinquish Value” is mapped directly into the Relinquish_Default property.



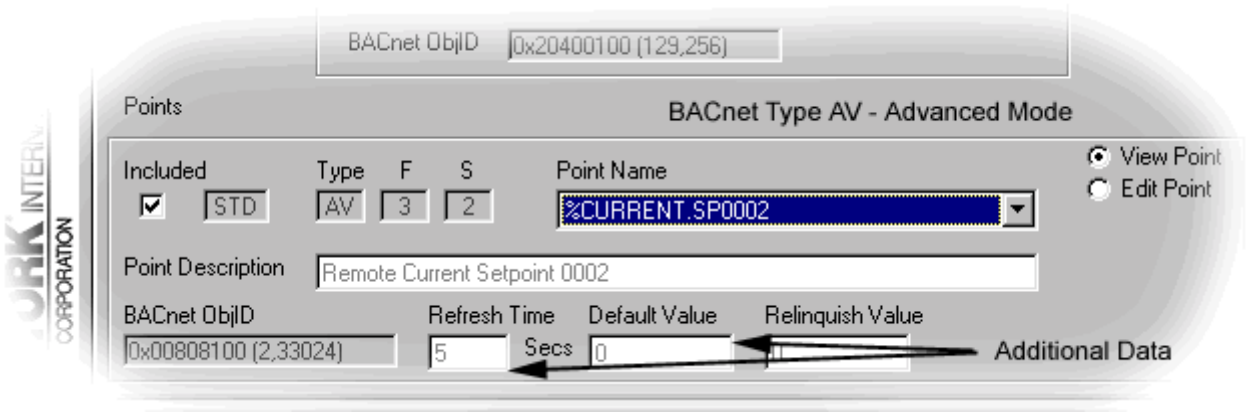
Analog Output Advanced Mode

The “Refresh Time” is the period in seconds that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Gateway. The “Default Value” is used for debugging only and does not affect operation of the Gateway in any way.



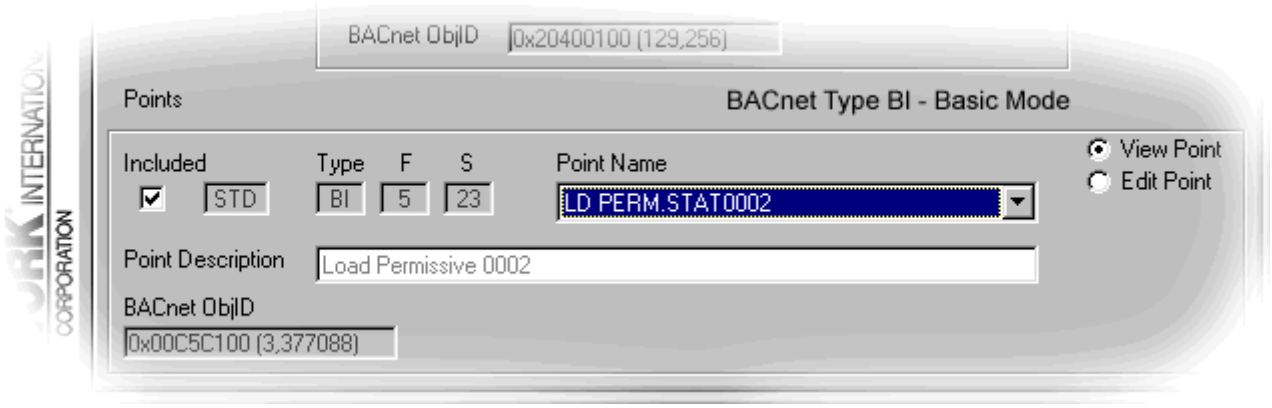
Analog Value Basic Mode

The “Relinquish Value” is mapped directly into the Relinquish_Default property.



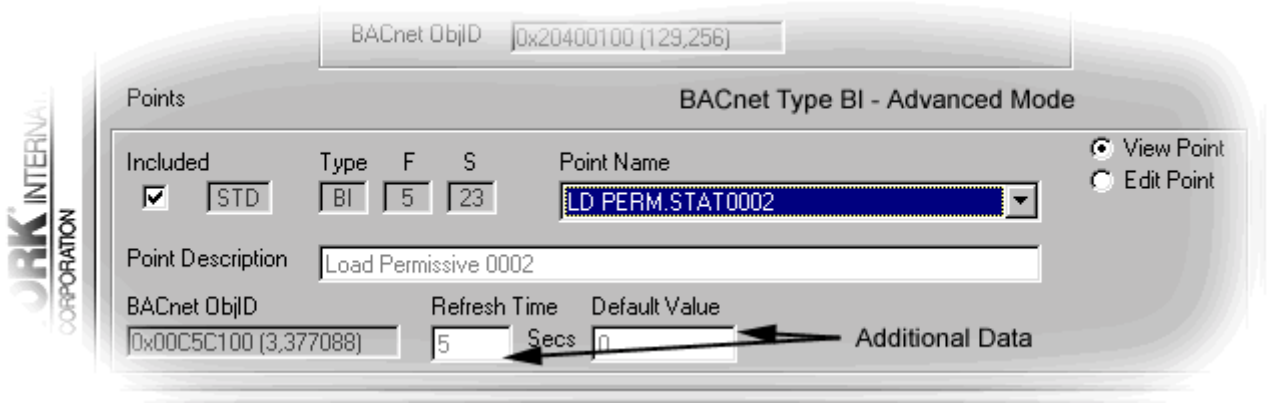
Analog Value Advanced Mode

The “Refresh Time” is the period in seconds that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Gateway. The “Default Value” is used for debugging only and does not affect operation of the Gateway in any way.



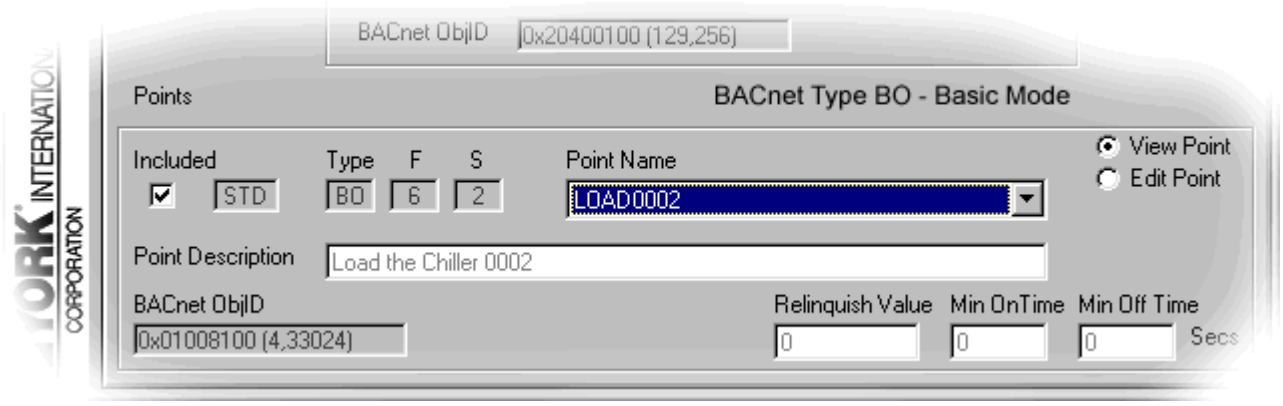
Binary Input Basic Mode

There are no parameters displayed in Basic mode that are unique to this Object_Type.



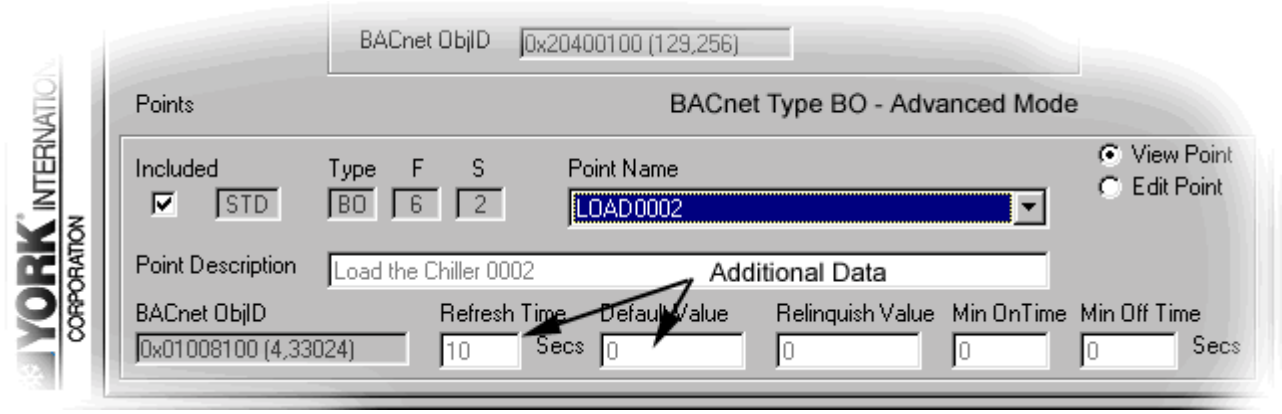
Binary Input Advanced Mode

The “Refresh Time” is the period in seconds that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Gateway. The “Default Value” is used for debugging only and does not affect operation of the Gateway in any way.



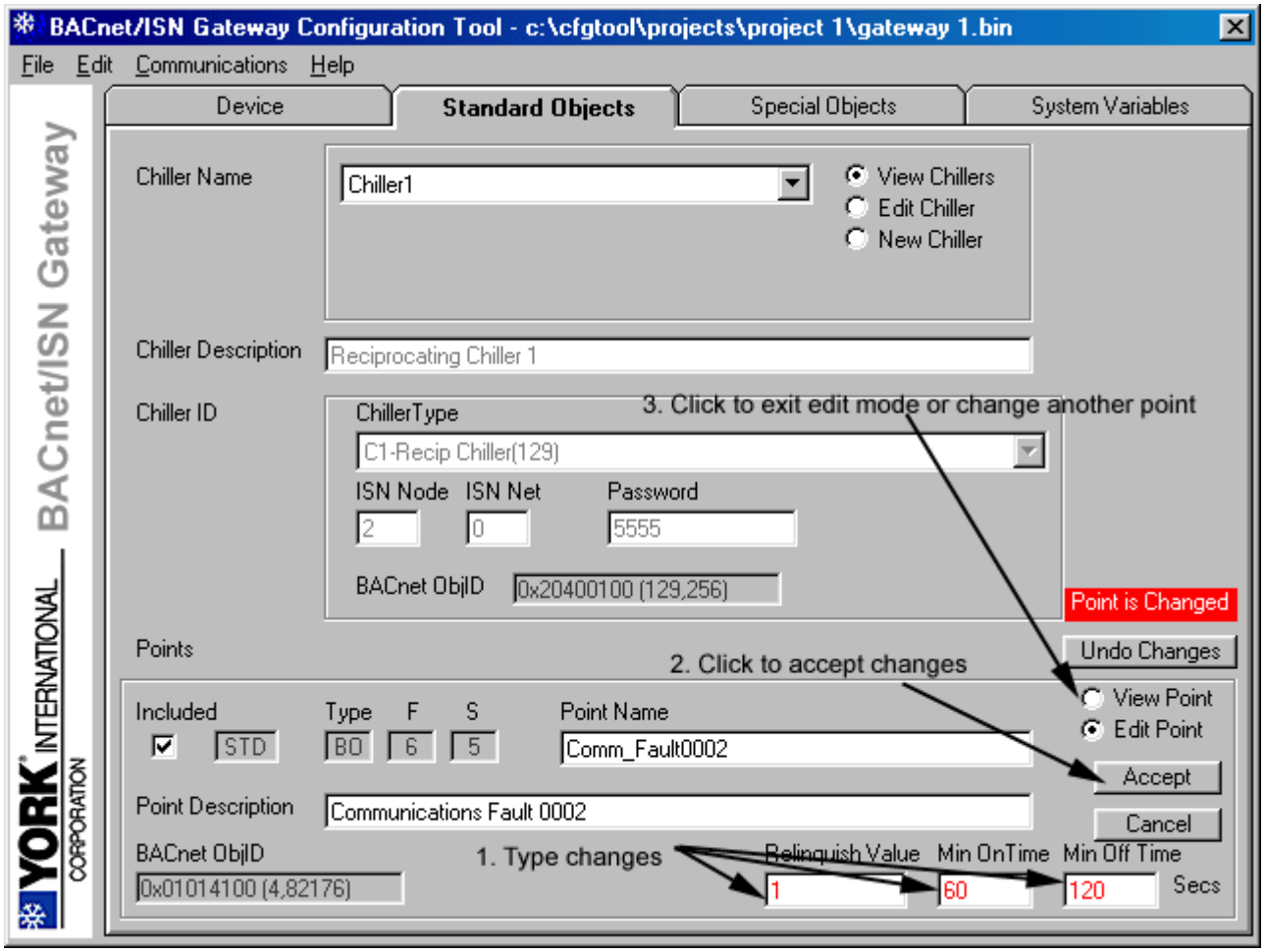
Binary Output Basic Mode

The “Relinquish Value” is mapped directly into the Relinquish_Default property. The “Min On Time” and “Min Off Time” map directly into the Minimum_On_Time and Minimum_On_Time properties directly.



Binary Output Advanced Mode

The “Refresh Time” is the period in seconds that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Gateway. The “Default Value” is used for debugging only and does not affect operation of the Gateway in any way.

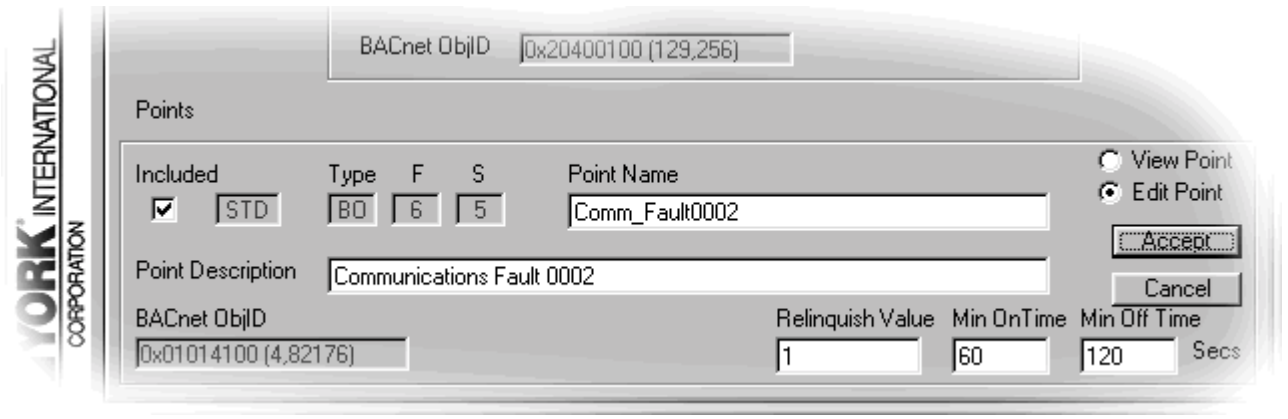


Editing Point Data

Other than the “Included” checkbox, which may be checked or unchecked at any time, the “Edit Point” radio button must be selected in order to change any of the default parameters.

In Basic mode the following parameters, if included for a point, can be changed:

- Point Name
- Point Description
- Relinquish Value (if included for a point)
- Min On Time (if included for a point)



- Min Off Time (if included for a point)

In Advanced mode the following parameters, if included for a point, can be changed:

- Refresh Time
- Default Value (if included for a point)

Care must be taken in changing the “Point Name” and “Point Description” so that they do not conflict with other names and descriptions in the system. Point Names should be unique within the Gateway. The CfgTool does not check for uniqueness in Point Names.

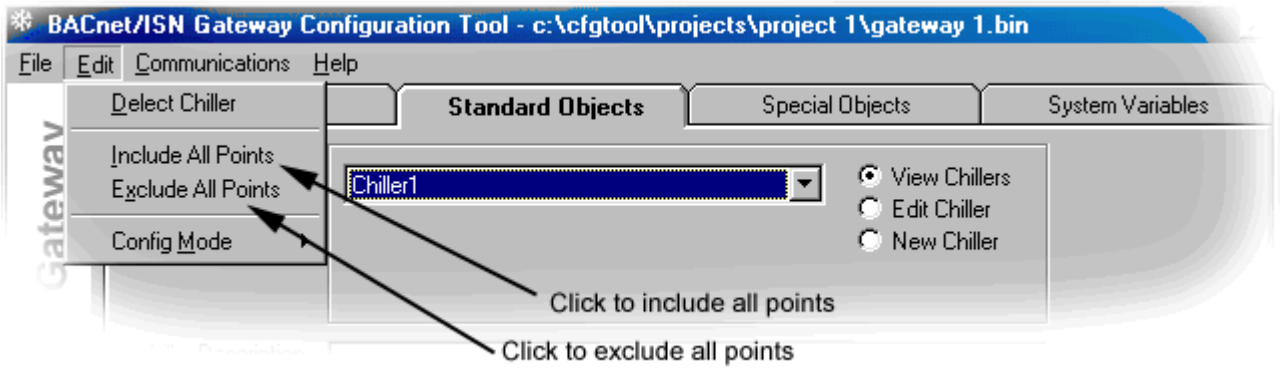
As changes are typed, the text is displayed in red and a “Point is Changed” message is displayed. To accept the changes, click the “Accept” button. The changed text turns black when the changes are accepted.

Only one point can be changed at a time. To exit the “Edit Point” mode or to change another point, click the “View Point” radio button.

Including and Excluding All Points

For any chiller, all points (STD and OPT) can be included or excluded using the Edit-Include All Points or Edit-Exclude All Points menu.

Once all points are included or all points are excluded, the only way to return to the default of all STD points included and all OPT points excluded, is to use the “Included” checkbox for each individual point.



Special Objects Tab

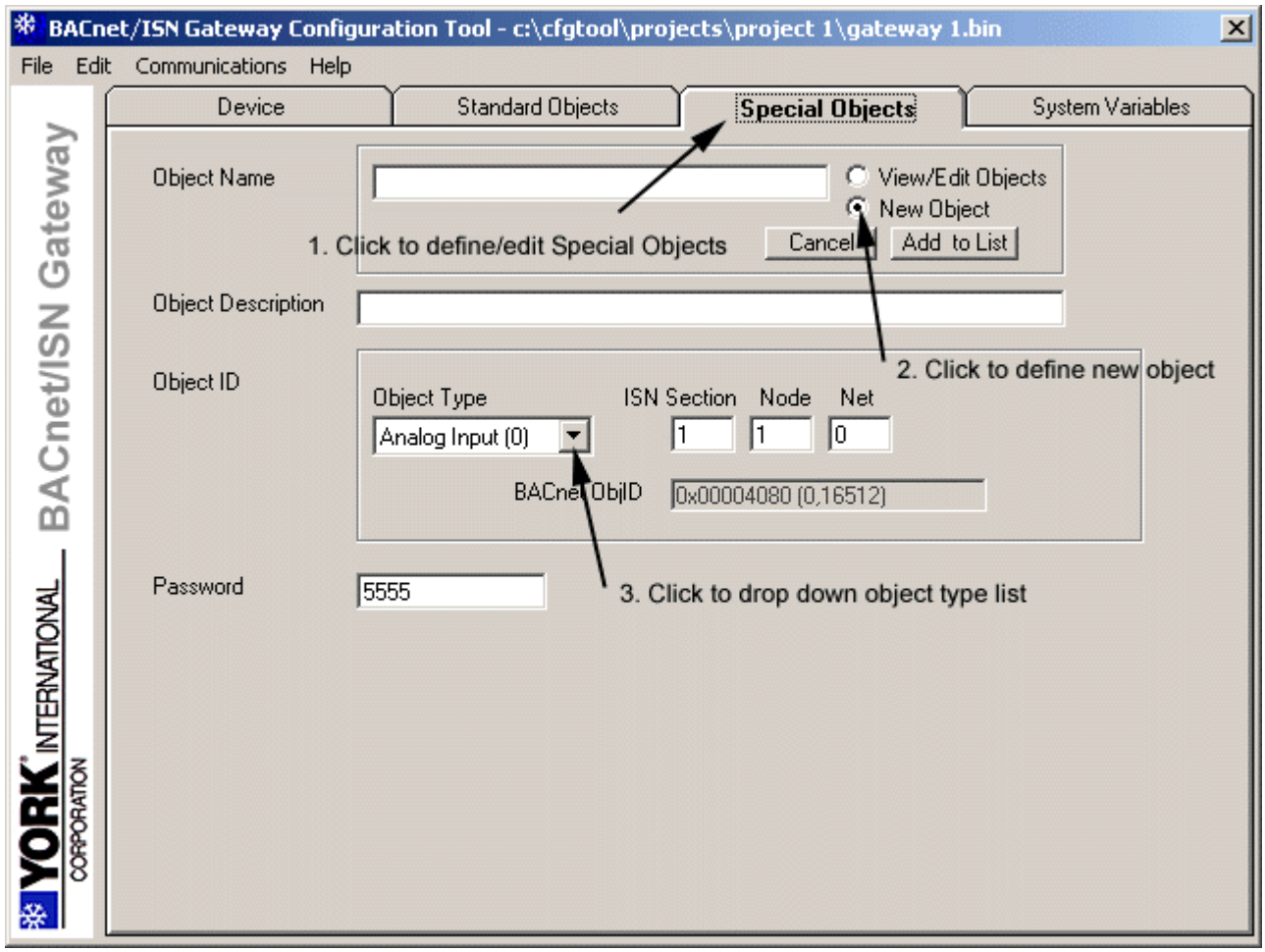
To select the Special Objects tab from any other tab, click the Special Objects tab once. The Special Objects tab is used to define points from ISN devices that may not have a standard profile supplied with the CfgTool or to select points individually from devices that do have profiles but for which it's not desirable to map all points from the profile.

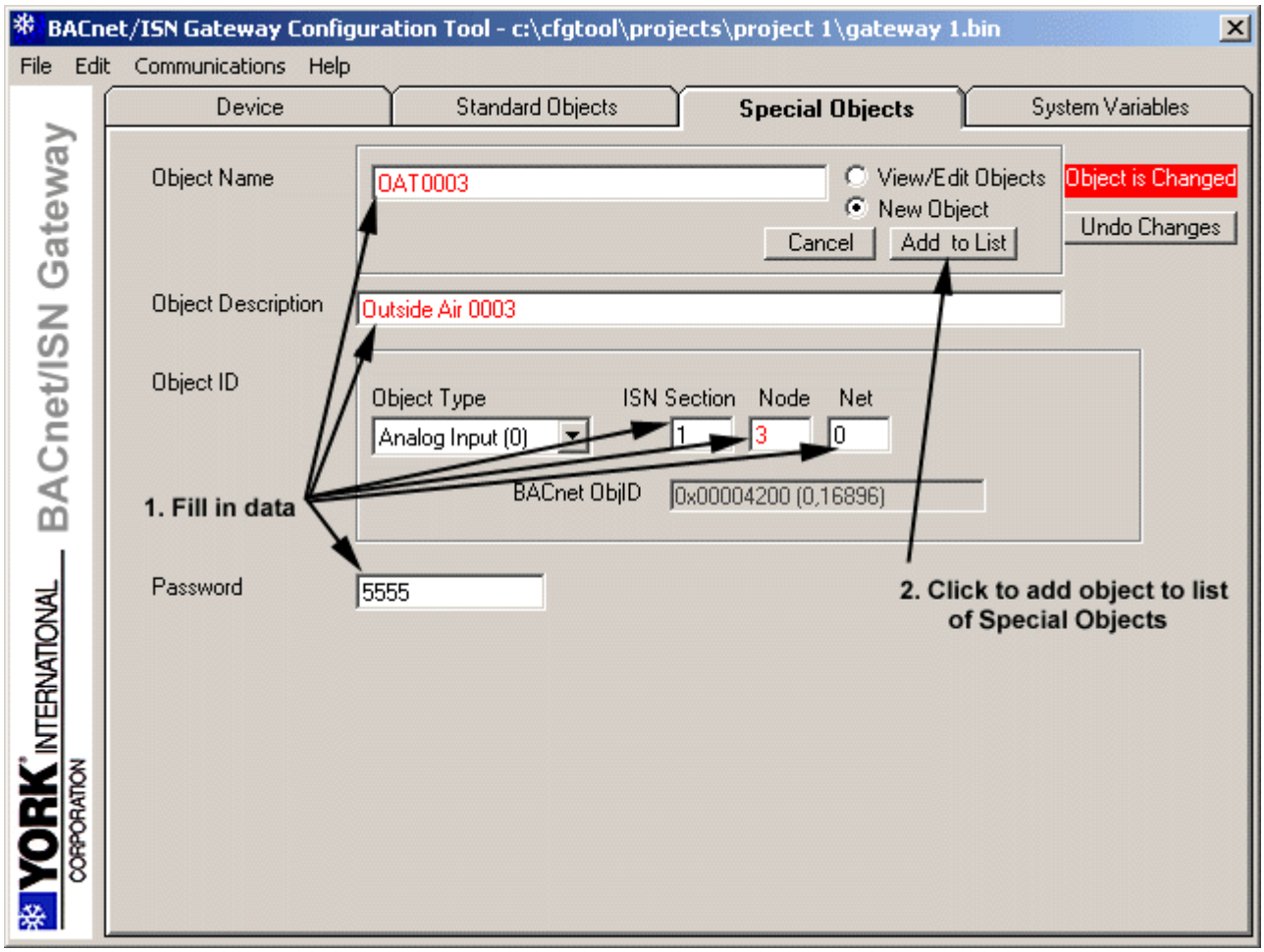
After selecting the Special Objects tab, a set of radio buttons allows definition of a new object to begin. The drop-down list of “Object_Types” is used to select the new BACnet Object_Type from the list of standard Object_Types.

Individual points are mapped into one of five standard BACnet Object_Types:

Table 10. BACnet Object Types to ISN Features

BACnet Object	ISN Feature
Analog Input	F02 (Read Only)
Analog Output	F07 (Read and Write)
Analog Value	F03 (Read and Write)
Binary Input	F05 (Read Only)
Binary Output	F06 (Read and Write)





The screen shown above displays a typical view of a single special object.

After selecting the “Object Type”, the “Object Name”, “Object Description”, “ISN section”, “ISN node” and “ISN net” of the point must be entered. The “BACnet ObjID” is automatically formed by combining the “Object Type”, “ISN section”, “ISN net” and “ISN node” according to the algorithm:

Object_Identifier=(Object_Type *4194304) + (ISN section *16384)+(ISN node*128) + ISN net

This is mapped directly into the BACnet Object_Identifier property. The hexadecimal value of the Object_Identifier is shown along with the BACnet Object_Type and Object_Instance in parentheses.

The “Object Name” maps directly into the Object_Name property. The “Object Description” maps directly into the Description property.

The “Password” is used for accessing points on the ISN network. It defaults to 5555.

All other parameters are different for each Object_Type. Additional data may be displayed in the Advanced mode that is not displayed in the Basic mode. The different parameters for each Object_Type are described below without the aid of individual illustrations.

Analog Input Basic Mode

There are no parameters displayed in Basic mode that are unique to this Object_Type.

Analog Input Advanced Mode

The additional parameters for this Object_Type are:

- Lifetime
- Refresh Time
- Default Value

The “Lifetime” parameter is used in the Data Bridge to flush ISN values from the cache if they are not accessed for the Lifetime period from the BACnet stack. The “Refresh Time” is the period in seconds

that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Data Bridge. The “Default Value” is used for debugging only and does not affect operation of the Data Bridge in any way.

Analog Output Basic Mode

The additional parameter for this Object_Type is:

- Relinquish Value

The “Relinquish Value” is mapped directly into the Relinquish_Default property.

Analog Output Advanced Mode

The additional parameters for this Object_Type are:

- Lifetime
- Refresh Time
- Default Value

The “Lifetime” parameter is used in the Data Bridge to flush ISN values from the cache if they are not accessed for the Lifetime period from the BACnet stack. The “Refresh Time” is the period in seconds that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Data Bridge. The “Default Value” is used for debugging only and does not affect operation of the Data Bridge in any way.

Analog Value Basic Mode

The additional parameter for this Object_Type is:

- Relinquish Value

The “Relinquish Value” is mapped directly into the Relinquish_Default property.

Analog Value Advanced Mode

The additional parameters for this Object_Type are:

- Lifetime
- Refresh Time
- Default Value

The “Lifetime” parameter is used in the Data Bridge to flush ISN values from the cache if they are not accessed for the Lifetime period from the BACnet stack. The “Refresh Time” is the period in seconds that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Data Bridge. The “Default Value” is used for debugging only and does not affect operation of the Data Bridge in any way.

Binary Input Basic Mode

There are no parameters displayed in Basic mode that are unique to this Object_Type.

Binary Input Advanced Mode

The additional parameters for this Object_Type are:

- Lifetime
- Refresh Time
- Default Value

The “Lifetime” parameter is used in the Data Bridge to flush ISN values from the cache if they are not accessed for the Lifetime period from the BACnet stack. The “Refresh Time” is the period in seconds that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Data Bridge. The “Default Value” is used for debugging only and does not affect operation of the Data Bridge in any way.

Binary Output Basic Mode

The additional parameter for this Object_Type is:

- Relinquish Value
- Minimum_On_Time
- Minimum_Off_Time

The “Relinquish Value” is mapped directly into the Relinquish_Default property. The “Min On Time” and “Min Off Time” map directly into the Minimum_On_Time and Minimum_On_Time properties directly.

Binary Output Advanced Mode

The additional parameters for this *Object_Type* are:

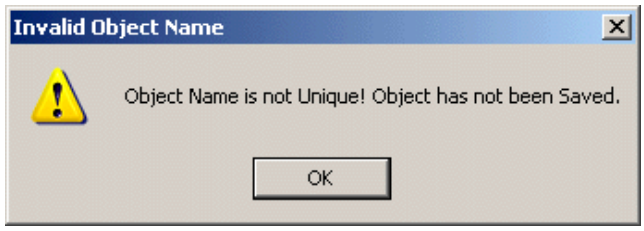
- Lifetime
- Refresh Time
- Default Value

The “Lifetime” parameter is used in the Data Bridge to flush ISN values from the cache if they are not accessed for the Lifetime period from the BACnet stack. The “Refresh Time” is the period in seconds that the ISN value for the feature and section is updated if it is actively in the cache between the ISN and BACnet side of the Data Bridge. The “Default Value” is used for debugging only and does not affect operation of the Data Bridge in any way.

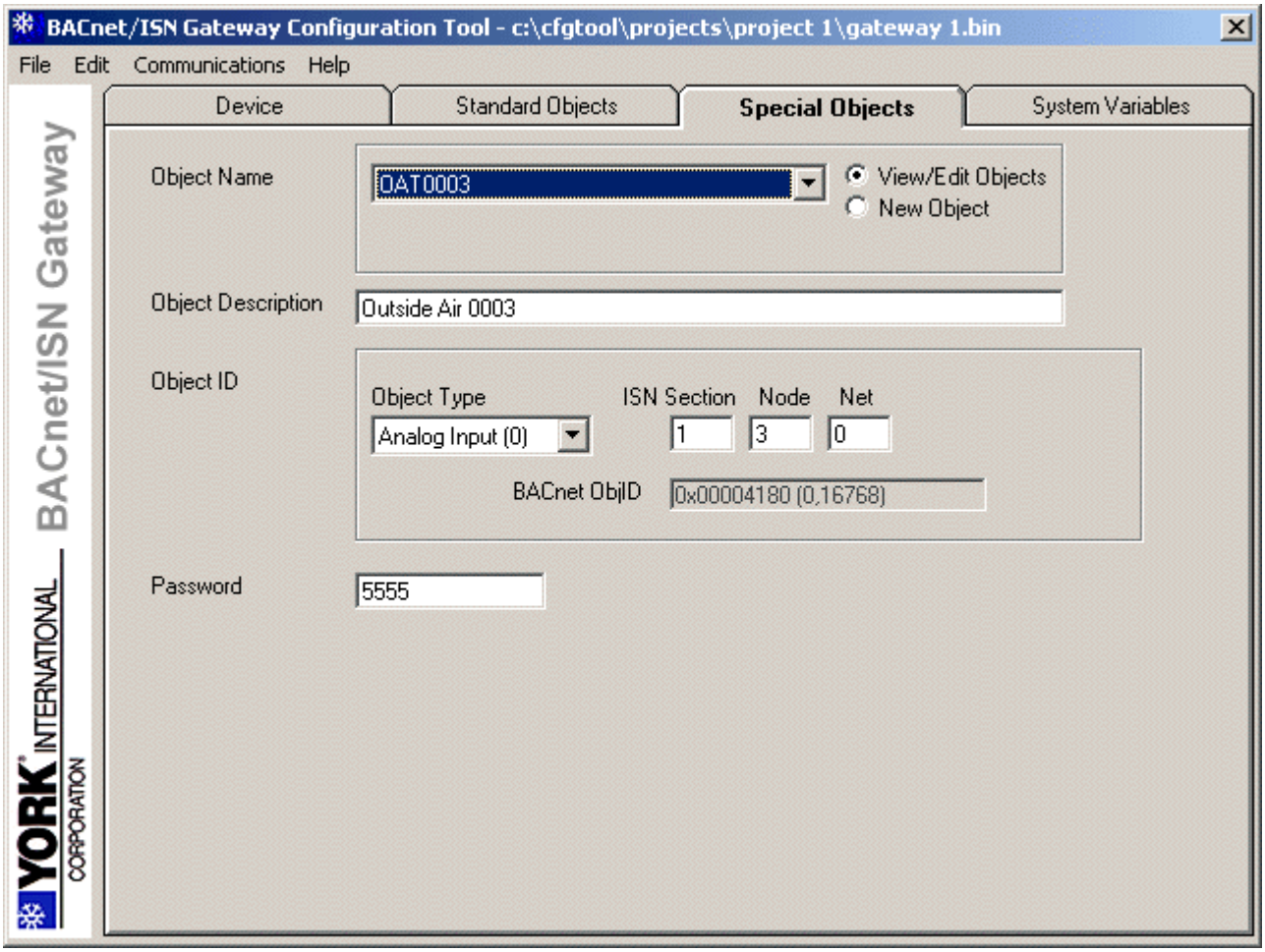
Accepting Changes

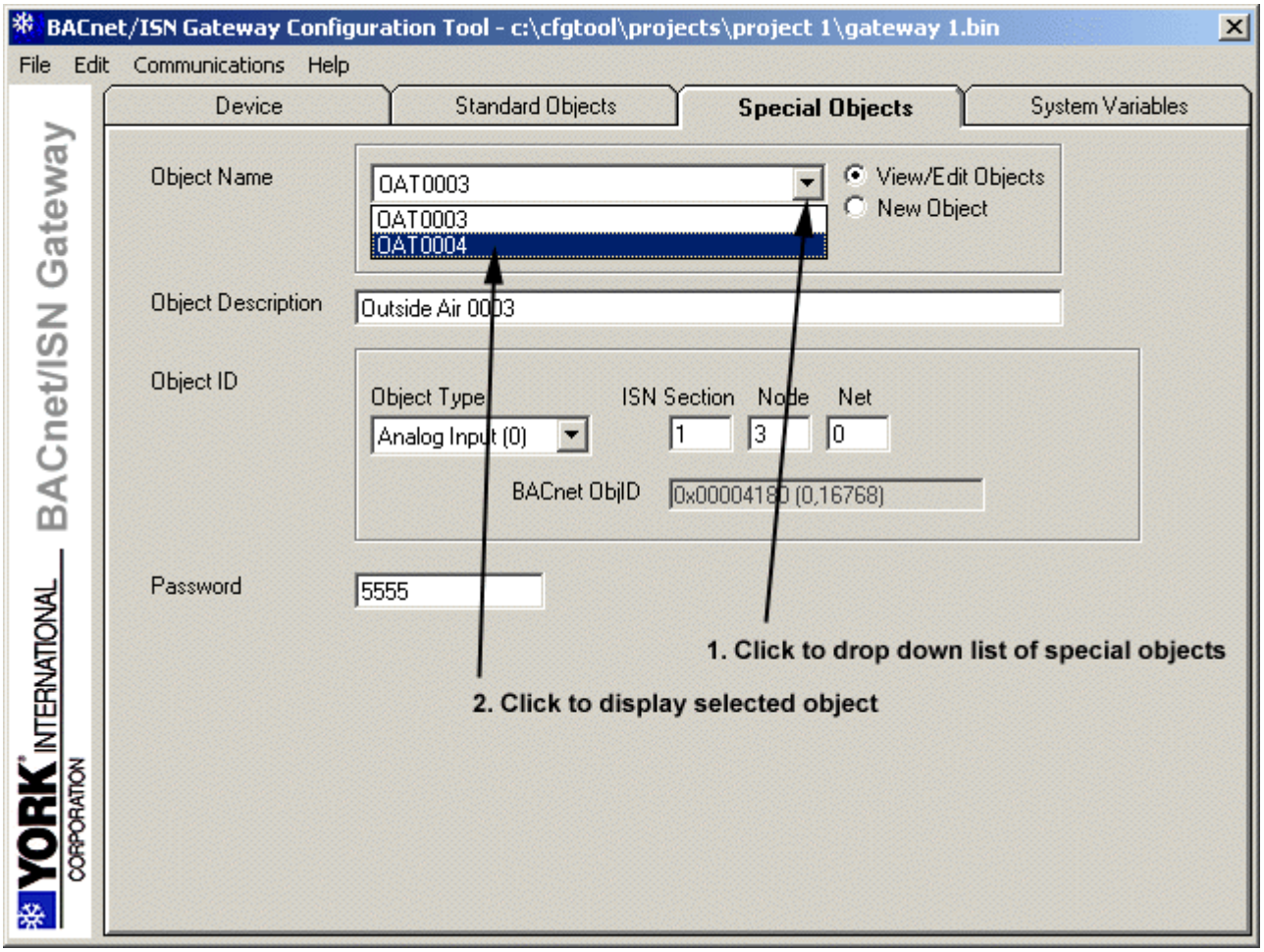
When all the data for the new special object is entered, click the “Add to List” button or click the “View/Edit Objects” radio button.

The *Object_Identifier* and the *Object_Name* must be unique within the Data Bridge. If either is not unique, one of two pop-up warnings is displayed.



Additional objects can be added at any time by clicking the “New Object” radio button.



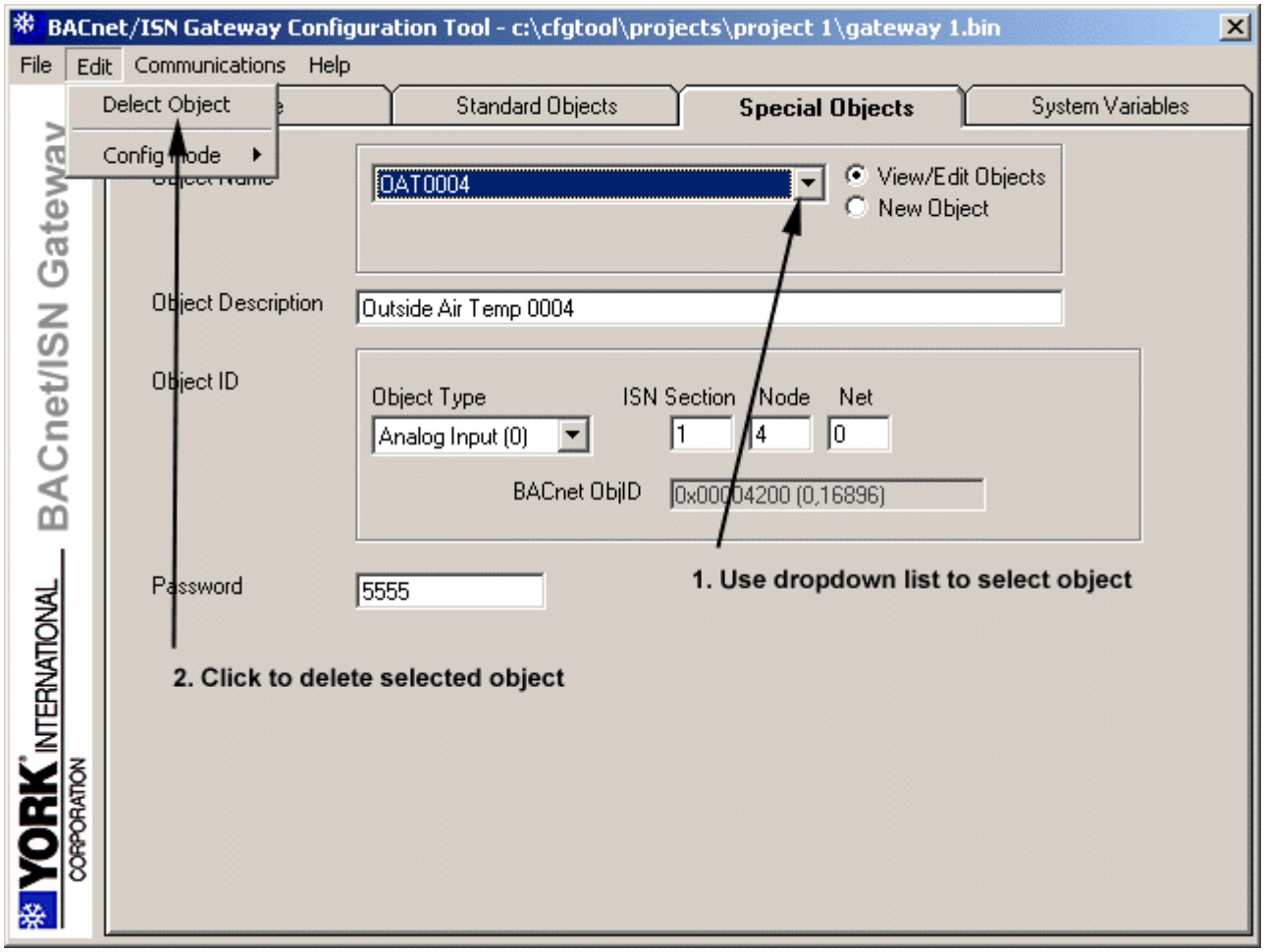


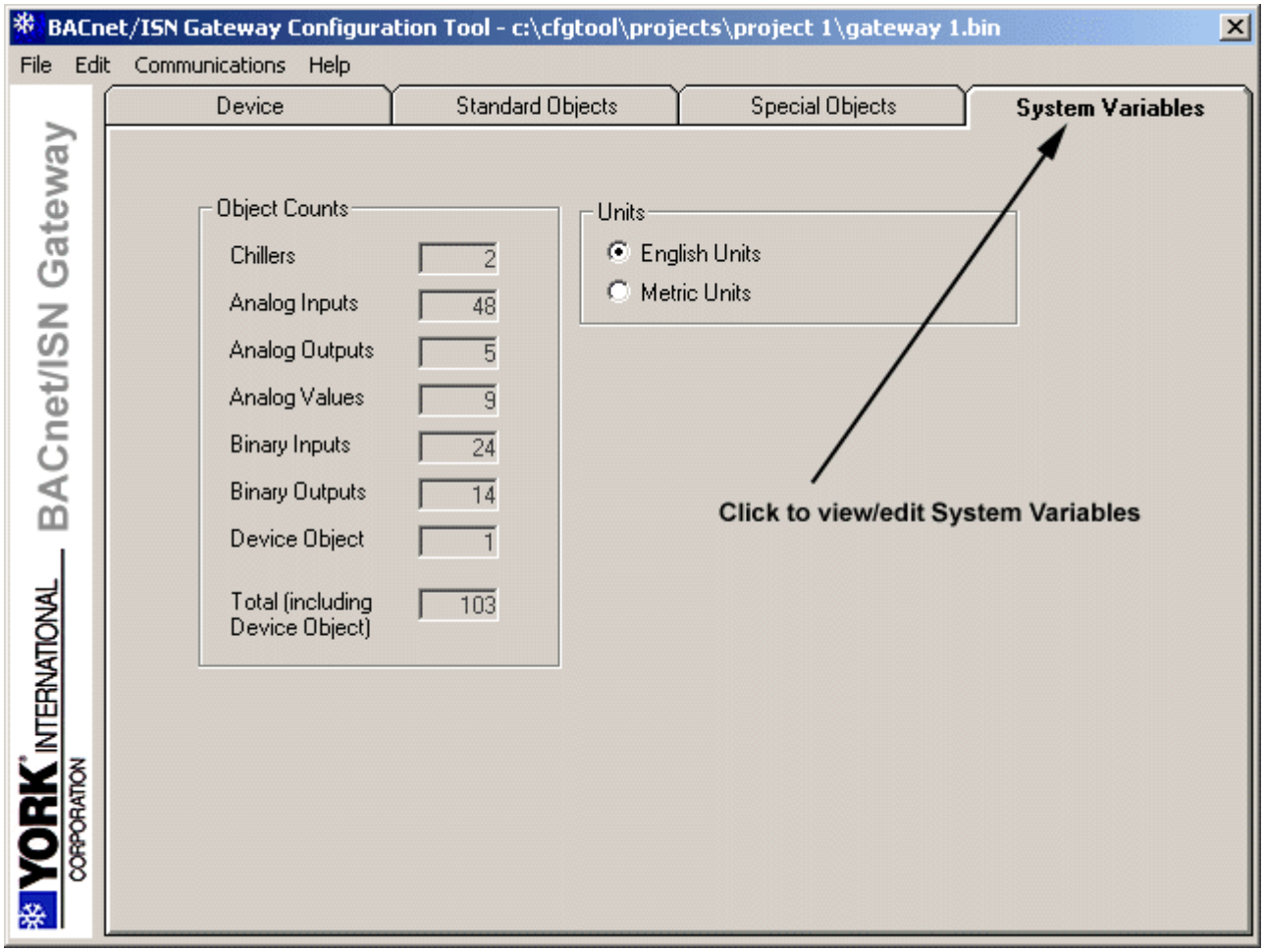
Editing Object Data

To edit or view another object, drop down the “Object Name” list, scroll to the desired object and click once on the object. The parameters for an object can be changed any time the “View/Edit Objects” radio button is selected.

Deleting Objects

Special objects are deleted using the Edit-Delete Object menu.



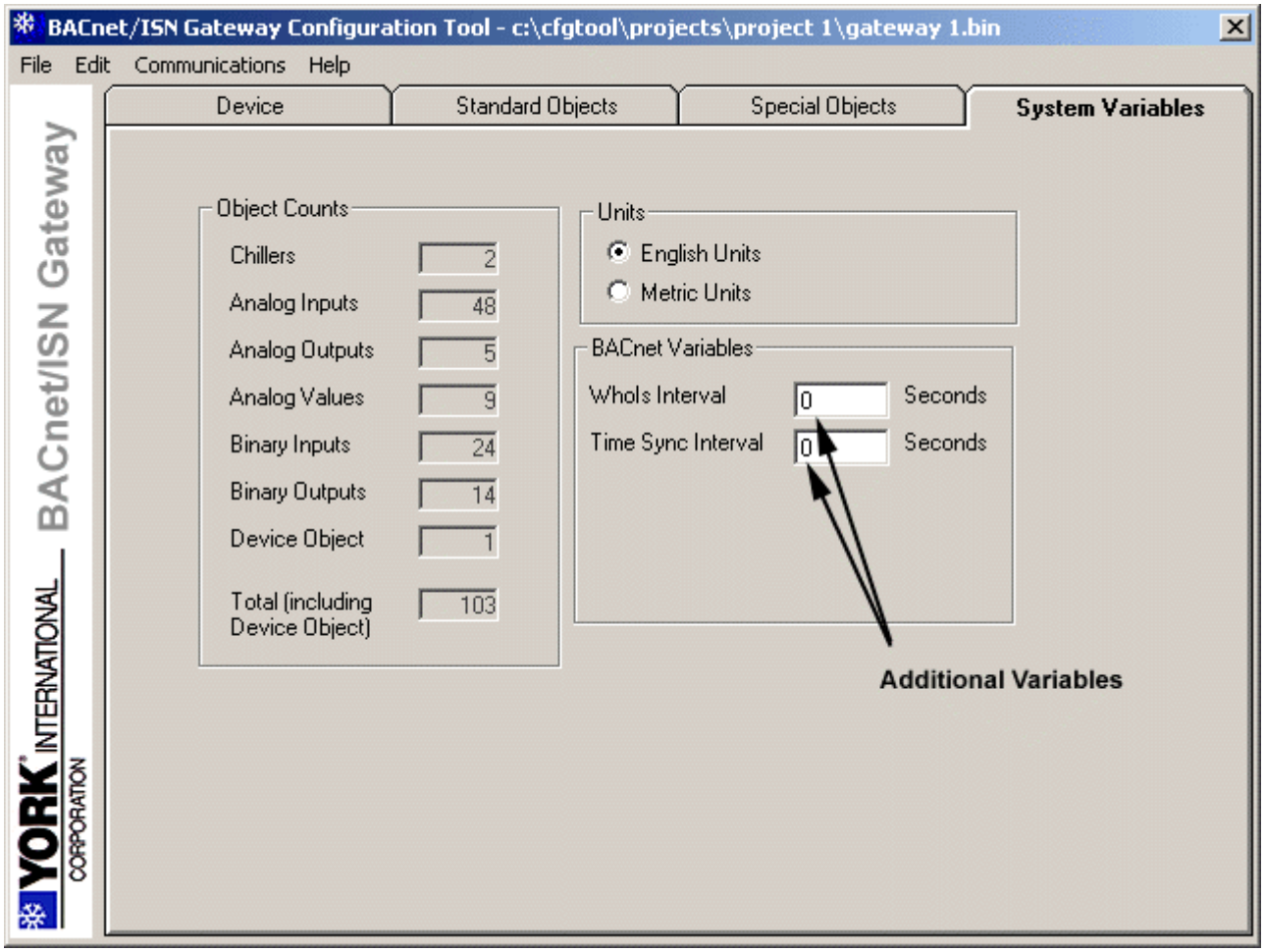


System Variables Tab

To select the System Variables tab from any other tab, click the tab once. The System Variables tab is used to display object counts and to change a limited number of the variables used by the Gateway system.

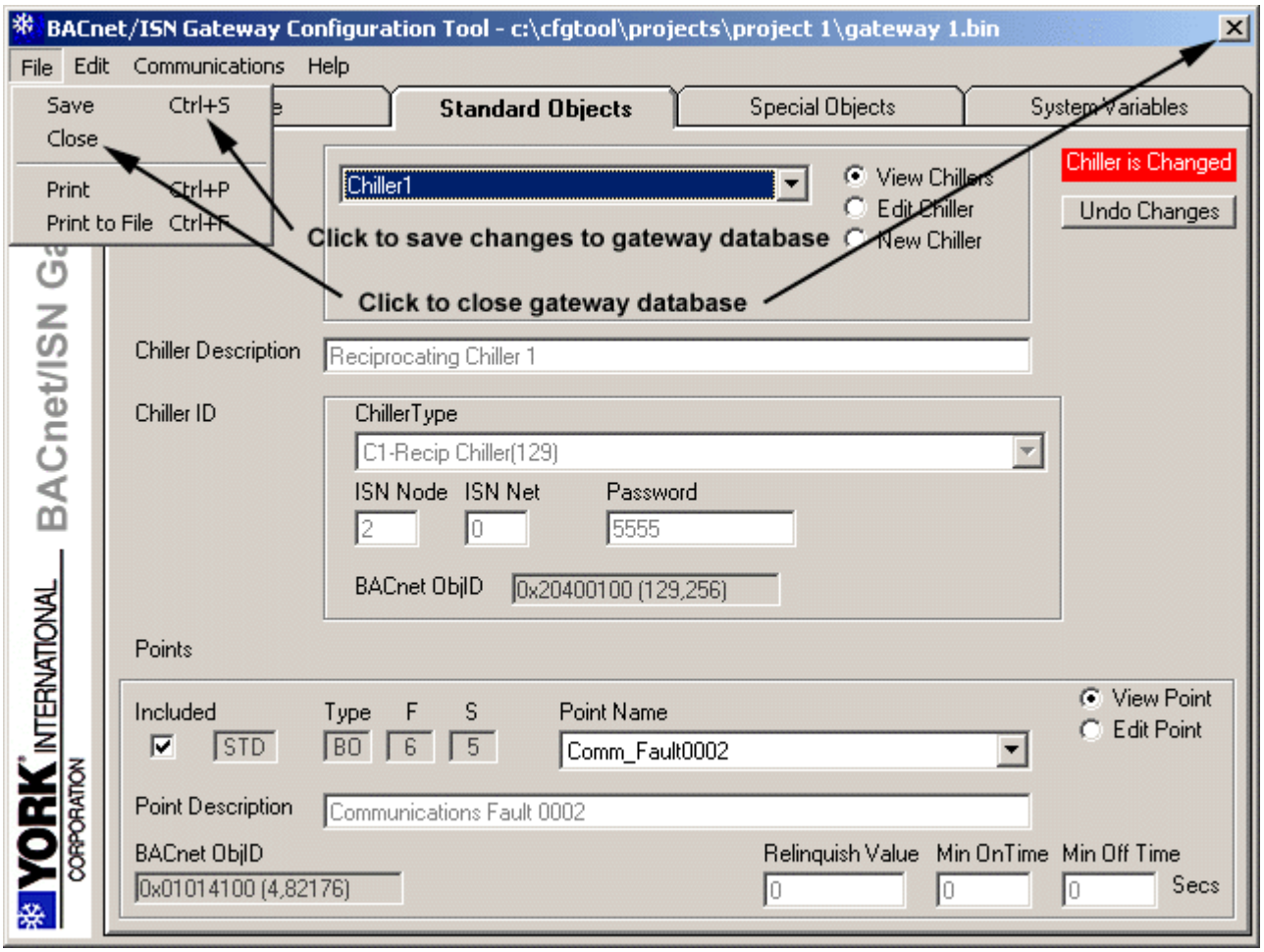
System Variables Tab Basic Mode

In Basic mode, the total count of each type of object as well as the total count of all objects is displayed. The counts include all the chillers, all the “included” standard objects and all the special objects. A pair of radio buttons for selecting “English Units” or “Metric Units” for all the ISN device values is provided, with English being selected as the default.



System Variables Tab Advanced Mode

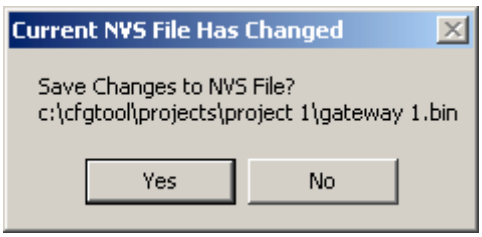
In Advanced mode, the “WhoIs Interval” and “Time Sync Interval” parameters are displayed and available for editing. These intervals, if set to non-zero values, indicate to the Data Bridge an interval in seconds that it is to broadcast BACnet Who-Is requests or BACnet TimeSynchronization requests on the BACnet Ethernet network. The default interval for both these parameters is 0, indicating that the features are disabled.

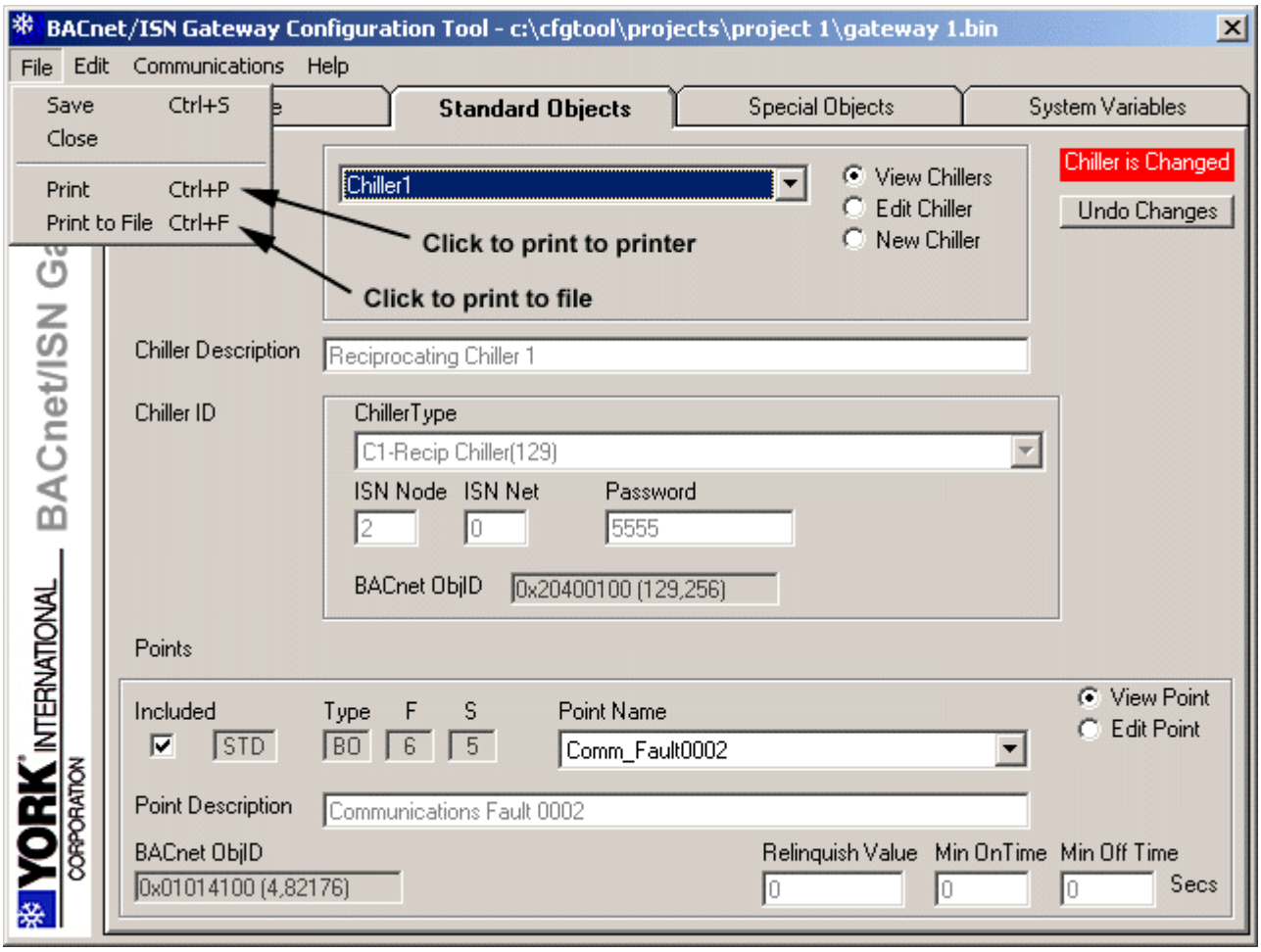


Saving/Abandoning Changes

Changes to the Data Bridge database can be saved at any time in any tab by using the File-Save menu.

The database file can be closed at any time in any tab using the File-Close menu or by clicking the close box. If changes have been made to the database a pop-up warning appears.

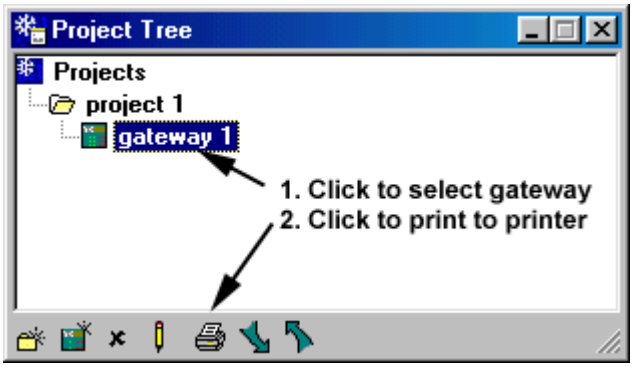




Printing Reports

A printed version of the database file for any gateway can be printed on a printer at any time using the File-Print menu. Alternately the database can be printed to a file using the File-Print to File menu.

Any gateway database file can be printed to a printer from the Project Tree screen by clicking on the printer symbol at the bottom of the screen.



A sample printed report is shown on the next page.

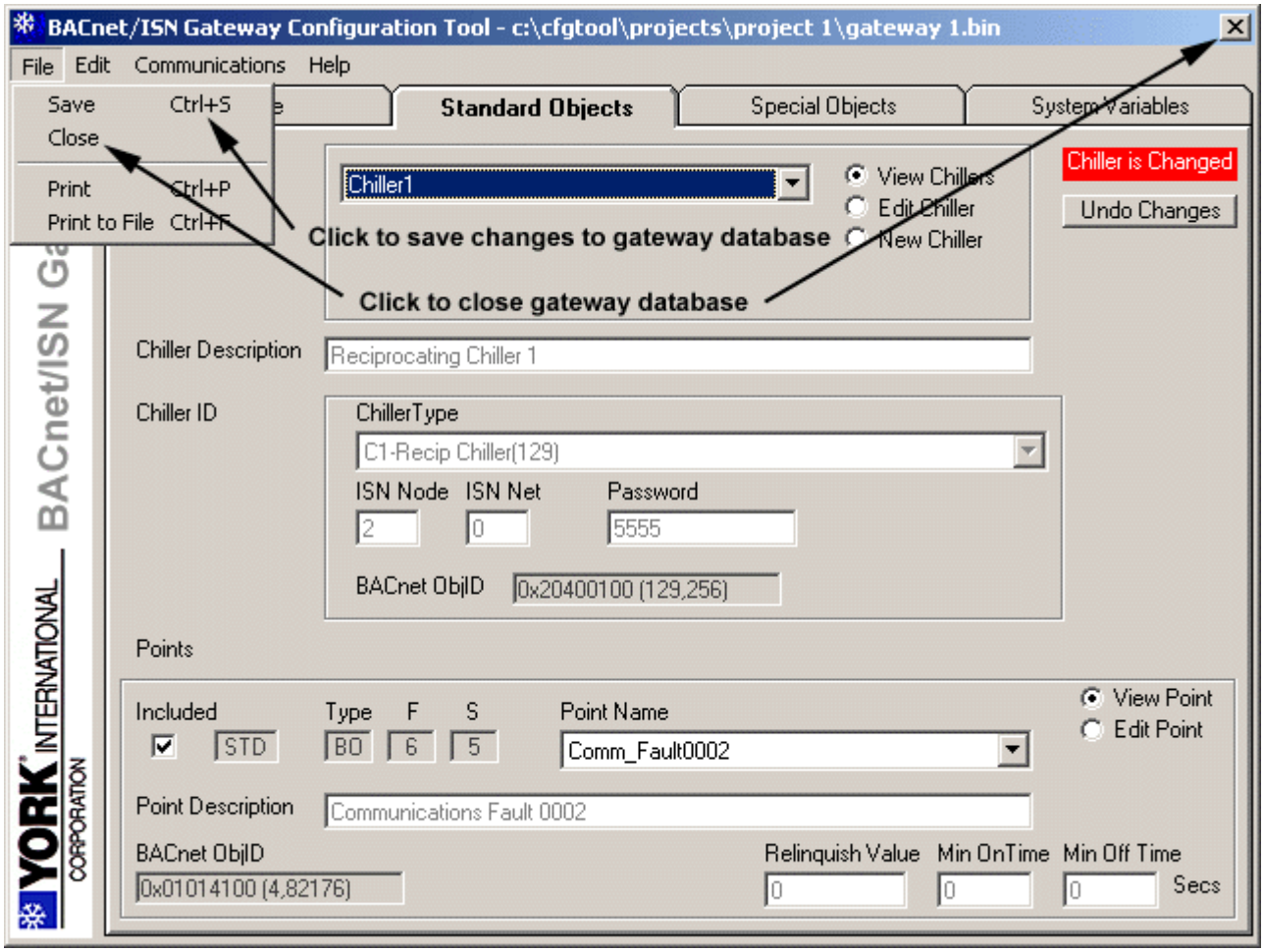
The printout shows the BACnet Object_Type, Object_Instance, decimal Object_Identifier, Object_Name, Description and ISN mapping information for each object.

BACnet/ISN Gateway Configuration

Device Information
Name: Test Gateway 1
Instance: 100
Description: A test gateway
Location: YORK International Test Lab
Number of Objects: 103

Object Information

Type/Instance	ObjectID	Net/Node/F/S	Name	Description
C1-Recip Chiller(129)/256	541065472	00/02/--/--	Chiller1	Reciprocating Chiller 1
Binary Output (4)/82176	16859392	00/02/06/05	Comm_Fault0002	Communications Fault 0002
Analog Value (2)/16640	8405248	00/02/03/01	LCHW_TEMP.SP0002	Leaving Chilled Water Temp Setpoint 0002
Analog Value (2)/33024	8421632	00/02/03/02	%CURRENT.SP0002	Remote Current Setpoint 0002
Analog Value (2)/49408	8438016	00/02/03/03	LEAD.SP0002	Lead Unit Number Setpoint 0002
Binary Output (4)/16640	16793856	00/02/06/01	START0002	Start/Stop 0002
Binary Output (4)/33024	16810240	00/02/06/02	LOAD0002	Load the Chiller 0002
Binary Output (4)/49408	16826624	00/02/06/03	UNLOAD0002	Unload the Chiller 0002
Binary Output (4)/65792	16843008	00/02/06/04	HISTORY0002	Send History Buffer #1 0002
Analog Input (0)/16640	16640	00/02/02/01	LCHW.TEMP0002	Leaving Chilled Water Temp 0002
Analog Input (0)/33024	33024	00/02/02/02	ECHW.TEMP0002	Entering Chilled Water Temp 0002
Analog Input (0)/49408	49408	00/02/02/03	MIXCHW.TEMP0002	Mixed Chilled Liquid Temperature 0002
Analog Input (0)/65792	65792	00/02/02/04	ECDW.TEMP0002	Entering Condenser Water Temp 0002
Analog Input (0)/82176	82176	00/02/02/05	LCDW.TEMP0002	Leaving Condenser Water Temp 0002
Analog Input (0)/98560	98560	00/02/02/06	OA.TEMP0002	Ambient Air Temperature 0002
Analog Input (0)/114944	114944	00/02/02/07	C1_OIL.TEMP0002	Comp 1 Oil Temperature 0002
Analog Input (0)/131328	131328	00/02/02/08	C1 OIL.PRESS0002	Comp 1 Oil Pressure 0002
Analog Input (0)/147712	147712	00/02/02/09	C1SUCT.PRESS0002	Comp 1 Suction Pressure 0002
Analog Input (0)/164096	164096	00/02/02/10	C1DISC.PRESS0002	Comp 1 Discharge Pressure 0002
Analog Input (0)/180480	180480	00/02/02/11	C1 %FL.AMPS0002	Comp 1 %Full Load Amps 0002
Analog Input (0)/196864	196864	00/02/02/12	C1 RUN.HOURS0002	Comp 1 Total Run Hours 0002
Analog Input (0)/213248	213248	00/02/02/13	C1 START.CNT0002	Comp 1 Total Number of Starts 0002
Analog Input (0)/229632	229632	00/02/02/14	C1ARTIME.SEC0002	Comp 1 Anti-Recycle Timer 0002
Analog Input (0)/246016	246016	00/02/02/15	AC_TIMER.SEC0002	Anti-Coincident Timer 0002
Analog Input (0)/262400	262400	00/02/02/16	C2 OIL.TEMP0002	Comp 2 Oil Temperature 0002
Analog Input (0)/278784	278784	00/02/02/17	C2 OIL.PRESS0002	Comp 2 Oil Pressure 0002
Analog Input (0)/295168	295168	00/02/02/18	C2SUCT.PRESS0002	Comp 2 Suction Pressure 0002
Analog Input (0)/311552	311552	00/02/02/19	C2DISC.PRESS0002	Comp 2 Discharge Pressure 0002
Analog Input (0)/327936	327936	00/02/02/20	C2 %FL.AMPS0002	Comp 2 %Full Load Amps 0002
Analog Input (0)/344320	344320	00/02/02/21	C2 RUN.HOURS0002	Comp 2 Total Run Hours 0002
Analog Input (0)/360704	360704	00/02/02/22	C2 START.CNT0002	Comp 2 Total Number of Starts 0002
Analog Input (0)/377088	377088	00/02/02/23	C2ARTIME.SEC0002	Comp 2 Anti-Recycle Timer 0002
Analog Input (0)/409856	409856	00/02/02/25	LDSTEP.AVAIL0002	Load Steps Available 0002
Binary Input (3)/16640	12599552	00/02/05/01	CHL_RUN.STAT0002	Chiller Run 0002
Binary Input (3)/33024	12615936	00/02/05/02	CHL_ALM.STAT0002	Chiller Alarm 0002
Binary Input (3)/49408	12632320	00/02/05/03	EVP_HTR.STAT0002	Evaporator Heater Status 0002
Binary Input (3)/65792	12648704	00/02/05/04	EVP_PMP.STAT0002	Evaporator Pump Status 0002
Binary Input (3)/82176	12665088	00/02/05/05	CD_PUMP.STAT0002	Condenser Pump Status 0002
Binary Input (3)/114944	12697856	00/02/05/07	C1 LLSV.STAT0002	Comp 1 Liquid Line Solenoid Valve Status 0002
Binary Input (3)/131328	12714240	00/02/05/08	C1HGBPV.STAT0002	Comp 1 Hot Gas Bypass Valve Status 0002
Binary Input (3)/164096	12747008	00/02/05/10	C1 FREV.STAT0002	Comp 1 Reverse Condenser Fan Status 0002
Binary Input (3)/180480	12763392	00/02/05/11	C2 LLSV.STAT0002	Comp 2 Liquid Line Solenoid Valve Status 0002
Binary Input (3)/196864	12779776	00/02/05/12	C2HGBPV.STAT0002	Comp 2 Hot Gas Bypass Valve Status 0002

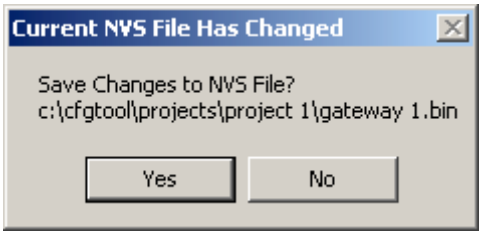


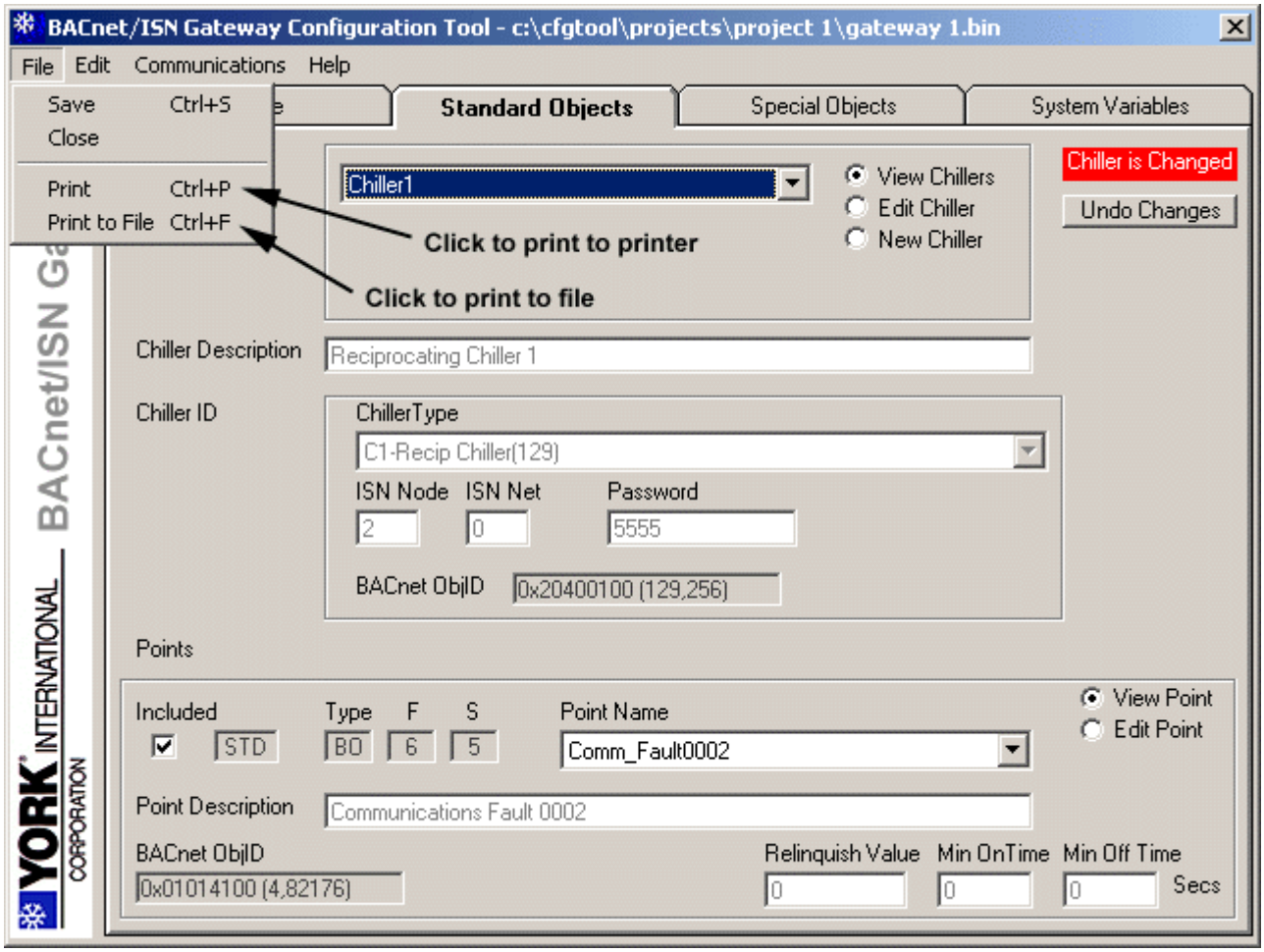
Using the File Menu

Saving and Closing the Database File

Changes to the gateway database can be saved at any time using the File-Save menu selection.

The gateway database file can be closed at any time using the File-Close menu or clicking on the close box. If the database file has been changed, a pop-up window will be displayed to warn that the file has changed.

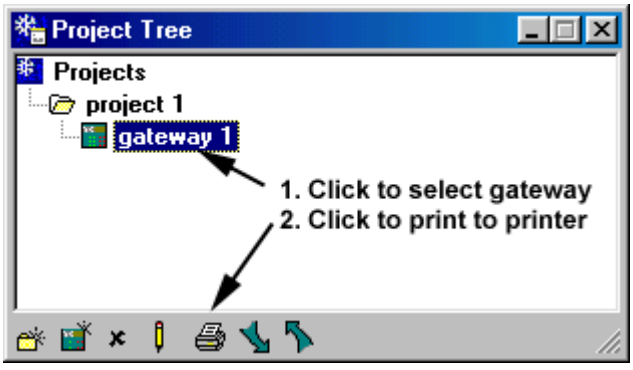




Printing the Database File

The Data Bridge database can be printed at any time using the File-Print menu selection

or clicking the print symbol in the Project Tree screen.



The printed report can be used by the facility manager as a list of BACnet objects that are mapped by the Gateway.

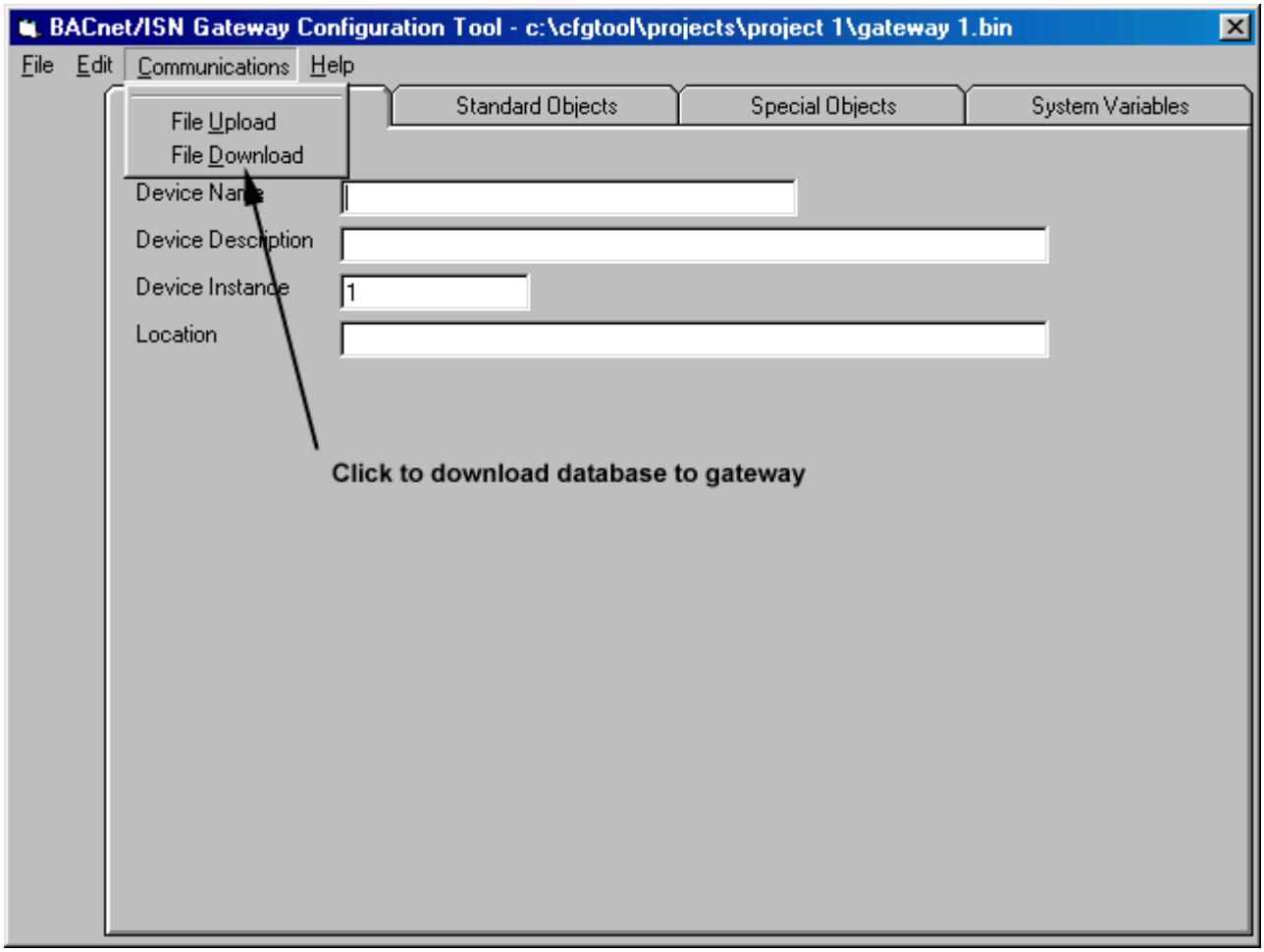
Alternately a report can be printed to a file using the File-Print to File menu selection.

BACnet/ISN Gateway Configuration

Device Information
Name: Test Gateway 1
Instance: 100
Description: A test gateway
Location: YORK International Test Lab
Number of Objects: 103

Object Information

Type/Instance	ObjectID	Net/Node/F/S	Name	Description
C1-Recip Chiller(129)/256	541065472	00/02/--/--	Chiller1	Reciprocating Chiller 1
Binary Output (4)/82176	16859392	00/02/06/05	Comm_Fault0002	Communications Fault 0002
Analog Value (2)/16640	8405248	00/02/03/01	LCHW_TEMP.SP0002	Leaving Chilled Water Temp Setpoint 0002
Analog Value (2)/33024	8421632	00/02/03/02	%CURRENT.SP0002	Remote Current Setpoint 0002
Analog Value (2)/49408	8438016	00/02/03/03	LEAD.SP0002	Lead Unit Number Setpoint 0002
Binary Output (4)/16640	16793856	00/02/06/01	START0002	Start/Stop 0002
Binary Output (4)/33024	16810240	00/02/06/02	LOAD0002	Load the Chiller 0002
Binary Output (4)/49408	16826624	00/02/06/03	UNLOAD0002	Unload the Chiller 0002
Binary Output (4)/65792	16843008	00/02/06/04	HISTORY0002	Send History Buffer #1 0002
Analog Input (0)/16640	16640	00/02/02/01	LCHW.TEMP0002	Leaving Chilled Water Temp 0002
Analog Input (0)/33024	33024	00/02/02/02	ECHW.TEMP0002	Entering Chilled Water Temp 0002
Analog Input (0)/49408	49408	00/02/02/03	MIXCHW.TEMP0002	Mixed Chilled Liquid Temperature 0002
Analog Input (0)/65792	65792	00/02/02/04	ECDW.TEMP0002	Entering Condenser Water Temp 0002
Analog Input (0)/82176	82176	00/02/02/05	LCDW.TEMP0002	Leaving Condenser Water Temp 0002
Analog Input (0)/98560	98560	00/02/02/06	OA.TEMP0002	Ambient Air Temperature 0002
Analog Input (0)/114944	114944	00/02/02/07	C1_OIL.TEMP0002	Comp 1 Oil Temperature 0002
Analog Input (0)/131328	131328	00/02/02/08	C1 OIL.PRESS0002	Comp 1 Oil Pressure 0002
Analog Input (0)/147712	147712	00/02/02/09	C1SUCT.PRESS0002	Comp 1 Suction Pressure 0002
Analog Input (0)/164096	164096	00/02/02/10	C1DISC.PRESS0002	Comp 1 Discharge Pressure 0002
Analog Input (0)/180480	180480	00/02/02/11	C1 %FL.AMPS0002	Comp 1 %Full Load Amps 0002
Analog Input (0)/196864	196864	00/02/02/12	C1 RUN.HOURS0002	Comp 1 Total Run Hours 0002
Analog Input (0)/213248	213248	00/02/02/13	C1 START.CNT0002	Comp 1 Total Number of Starts 0002
Analog Input (0)/229632	229632	00/02/02/14	C1ARTIME.SEC0002	Comp 1 Anti-Recycle Timer 0002
Analog Input (0)/246016	246016	00/02/02/15	AC_TIMER.SEC0002	Anti-Coincident Timer 0002
Analog Input (0)/262400	262400	00/02/02/16	C2 OIL.TEMP0002	Comp 2 Oil Temperature 0002
Analog Input (0)/278784	278784	00/02/02/17	C2 OIL.PRESS0002	Comp 2 Oil Pressure 0002
Analog Input (0)/295168	295168	00/02/02/18	C2SUCT.PRESS0002	Comp 2 Suction Pressure 0002
Analog Input (0)/311552	311552	00/02/02/19	C2DISC.PRESS0002	Comp 2 Discharge Pressure 0002
Analog Input (0)/327936	327936	00/02/02/20	C2 %FL.AMPS0002	Comp 2 %Full Load Amps 0002
Analog Input (0)/344320	344320	00/02/02/21	C2 RUN.HOURS0002	Comp 2 Total Run Hours 0002
Analog Input (0)/360704	360704	00/02/02/22	C2 START.CNT0002	Comp 2 Total Number of Starts 0002
Analog Input (0)/377088	377088	00/02/02/23	C2ARTIME.SEC0002	Comp 2 Anti-Recycle Timer 0002
Analog Input (0)/409856	409856	00/02/02/25	LDSTEP.AVAIL0002	Load Steps Available 0002
Binary Input (3)/16640	12599552	00/02/05/01	CHL_RUN.STAT0002	Chiller Run 0002
Binary Input (3)/33024	12615936	00/02/05/02	CHL_ALM.STAT0002	Chiller Alarm 0002
Binary Input (3)/49408	12632320	00/02/05/03	EVP_HTR.STAT0002	Evaporator Heater Status 0002
Binary Input (3)/65792	12648704	00/02/05/04	EVP_PMP.STAT0002	Evaporator Pump Status 0002
Binary Input (3)/82176	12665088	00/02/05/05	CD_PUMP.STAT0002	Condenser Pump Status 0002
Binary Input (3)/114944	12697856	00/02/05/07	C1 LLSV.STAT0002	Comp 1 Liquid Line Solenoid Valve Status 0002
Binary Input (3)/131328	12714240	00/02/05/08	C1HGBPV.STAT0002	Comp 1 Hot Gas Bypass Valve Status 0002
Binary Input (3)/164096	12747008	00/02/05/10	C1 FREV.STAT0002	Comp 1 Reverse Condenser Fan Status 0002
Binary Input (3)/180480	12763392	00/02/05/11	C2 LLSV.STAT0002	Comp 2 Liquid Line Solenoid Valve Status 0002
Binary Input (3)/196864	12779776	00/02/05/12	C2HGBPV.STAT0002	Comp 2 Hot Gas Bypass Valve Status 0002



Uploading and Downloading the Database

After creating or modifying a Data Bridge translation database it can be downloaded to a Data Bridge device through one of the serial ports of the CfgTool PC and the COM2 serial port of the Data Bridge SBC. A database can be uploaded from a Data Bridge to the CfgTool PC at any time for backup or cloning.

Changing the Communication Port

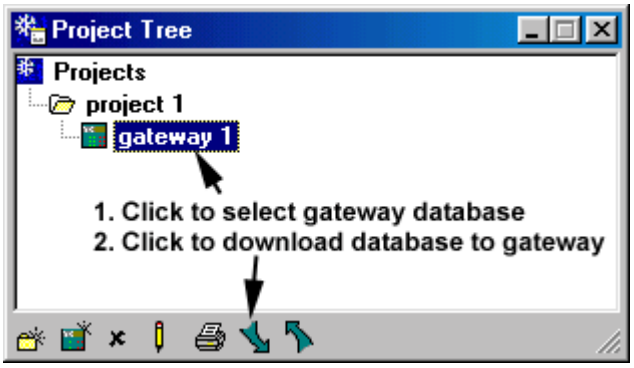
By default, CfgTool is designed to operate on the COM1 serial port of the PC on which it's installed. The port can be changed by creating a plain text file named GASP.INI using a plain text editor such as Notepad and placing it in the Windows folder. GASP.INI should have exactly two lines:

```
[GASP32]
port=COM2:96,N,8,1
```

If COM1 is used for the downloading, GASP.INI is not required.

Downloading a Database

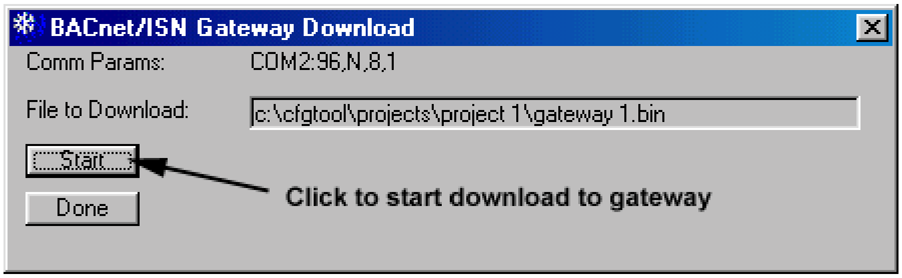
A database is downloaded using the Communication-File Download menu or directly from the Project Tree screen by clicking on the download symbol.



After clicking the download selection, a Download screen is displayed indicating the serial port to be

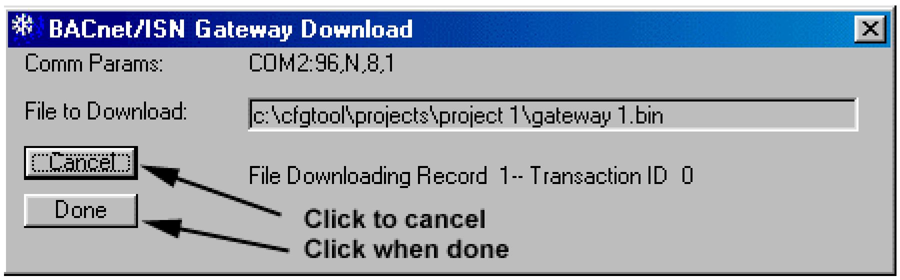
used and the file to be downloaded. To begin the downloading, click the “Start” Button. To cancel, click the “Done” button or the close [X] box.

After the “Start” button is clicked, the Download screen is modified to indicate progress of the operation. The modified screen shows the database record number being downloaded in real-time.

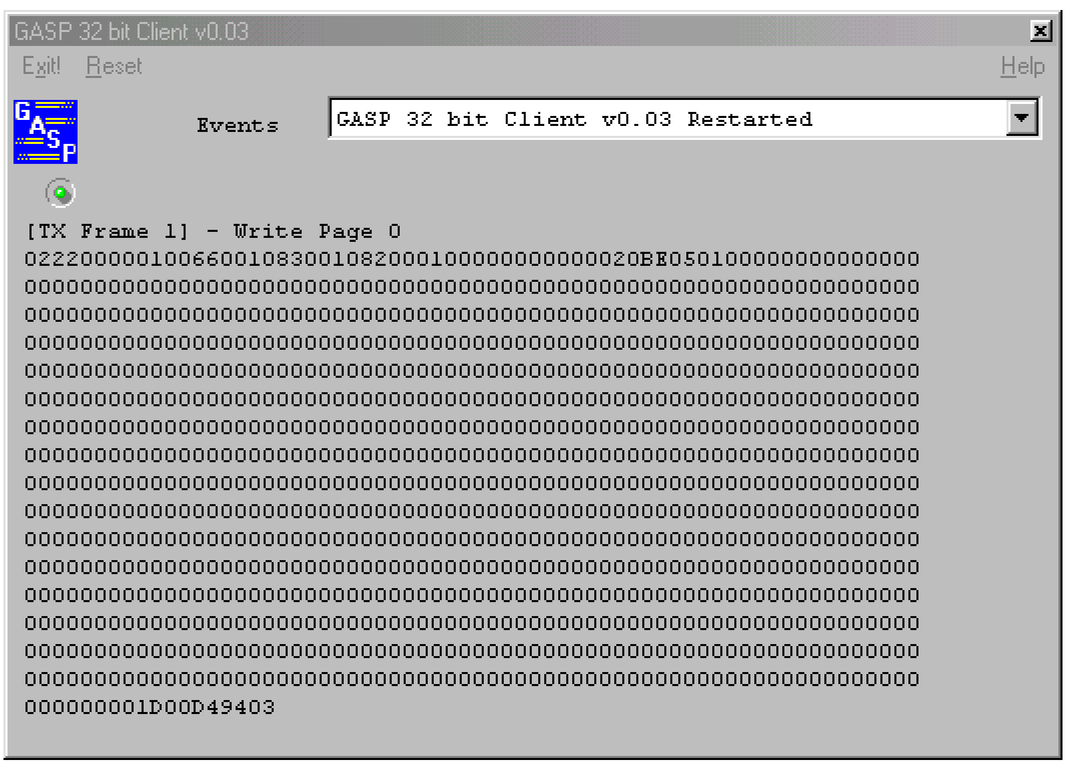


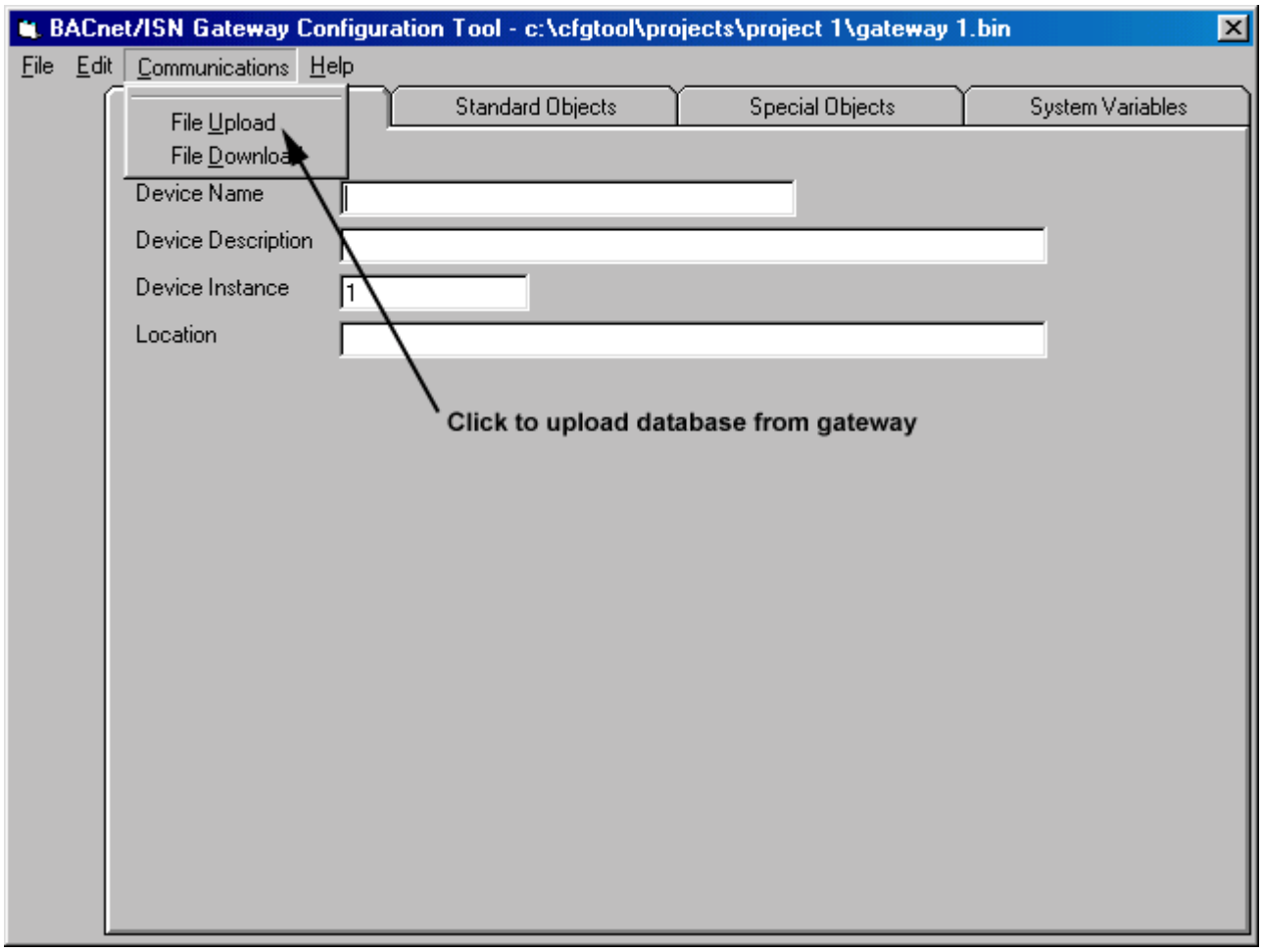
2

The downloading can be cancelled at any time by clicking the “Cancel” button. When the downloading is completed, a “File Download Complete” message will be displayed and the “Done” button can be clicked to complete the process.



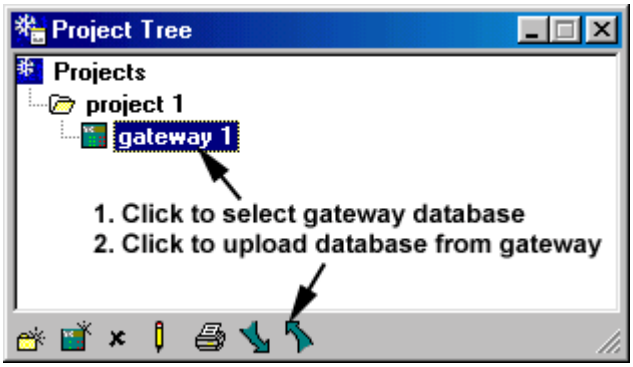
During the downloading process, a GASP progress screen is also shown that indicates each entire record that is being downloaded as a string of hexadecimal bytes in real-time.





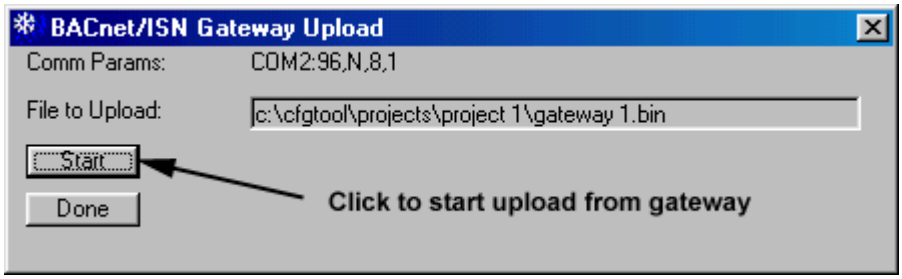
Uploading a Database

A database is uploaded using the Communication-File Upload menu or directly from the Project Tree screen by clicking on the upload icon.

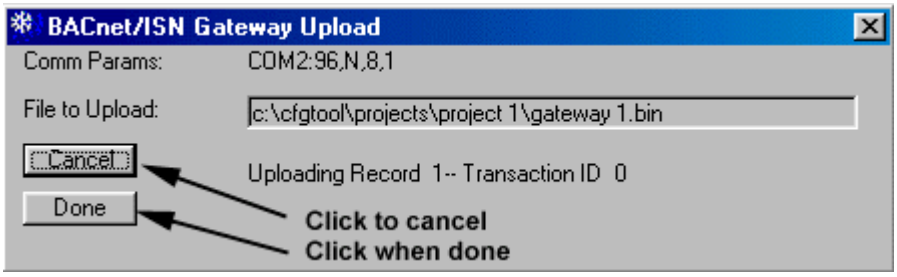


After clicking the upload selection, an Upload screen is displayed indicating the serial port to be used and the file to be uploaded. To begin uploading, click the "Start" Button. To cancel, click the "Done" button or the close box.

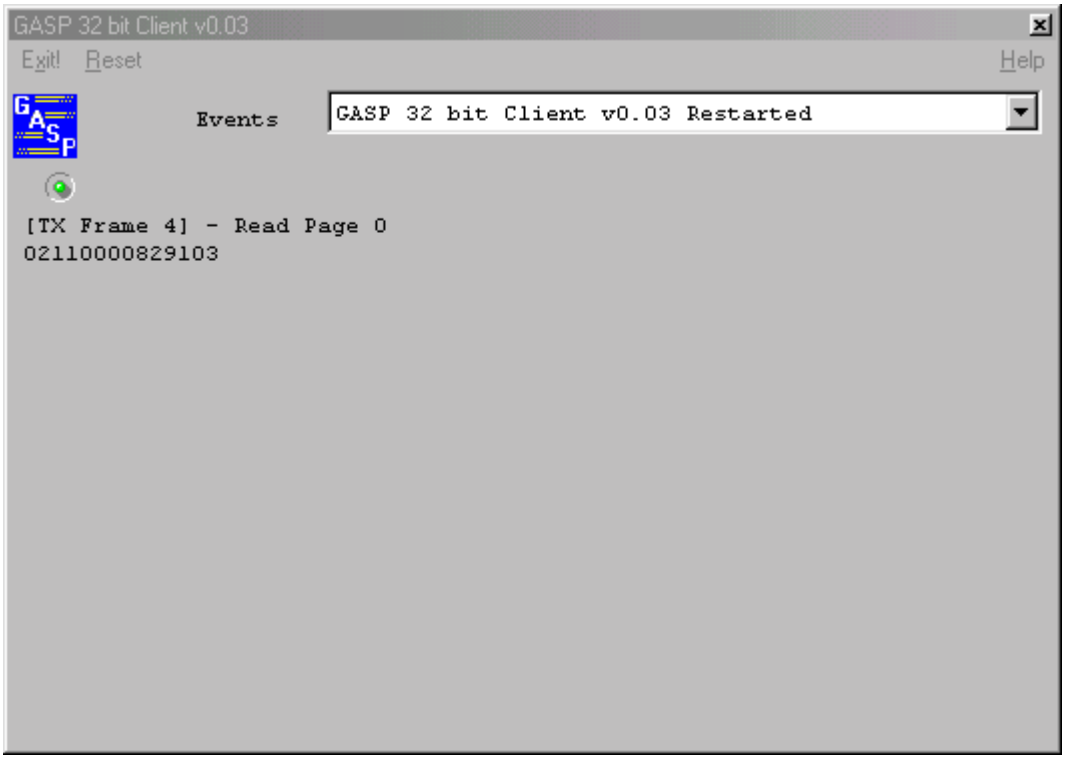
After the “Start” button is clicked, the Upload screen is modified to indicate progress of the operation. The modified screen shows the database record number being downloaded in real-time.



The uploading can be cancelled at any time by clicking the “Cancel” button. When the uploading is completed, a “File Upload Complete” message will be displayed and the “Done” button can be clicked to complete the process.



During the uploading process, a GASP progress screen is also shown that indicates each entire record that is being uploaded as a string of hexadecimal bytes in real-time.



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SECTION 3

HARDWARE

General

The Data Bridge for BACnet uses a LINC Micro-Gateway to interface to an ISN network and a Single Board Computer (SBC) to interface to a BACnet Ethernet network.

The LINC MicroGateway has five LEDs that are used as indicators of communication and operating status. Two LEDs are associated with each communication port and indicate when the LINC MicroGateway is receiving or transmitting information. The STATUS LED indicates the unit has power.

The SBC has two sets of LEDs. The Power/HDD LEDs indicate that there is power applied to the unit. The Ethernet LEDs indicate when the SBC is receiving or transmitting information through the Ethernet port.

Port LEDs

Each communication port is supported with two diagnostic LEDs. The red LEDs show transmissions while the green LEDs show data reception.

Port 1 LEDs

When the LINC MicroGateway is communicating with the ISN network, the RX and TX LEDs are lit while the communication is taking place. The LINC MicroGateway does not communicate with the ISN network unless directed to do so by the SBC.

Port 2 LEDs

When the LINC MicroGateway and the SBC are communicating with each other, the RX and TX LEDs are lit while the communication is taking place. The LINC MicroGateway does not communicate with the SBC unless directed to do so by SBC.

Dimly Lit LEDs

Sometimes the green RX1 LED on the MicroGateway LINC may appear to be dimly illuminated, even if there is no activity on the network. This is an indication that the bias of the transceiver is being affected. There are usually two reasons for this type of problem; a constant electrical coupling onto the network wires or a defective RS485 transceiver.

To ensure that the problem is not related to an installation problem:

- Ensure that no high voltage electrical signals are in close proximity to the MicroGateway.
- Provide a good ground connection for the MicroGateway.

If a defective transceiver requires replacement refer to the procedure shown later in this section.

Power/HDD LEDs

When 12 VDC power is supplied to the SBC the green Power LED is lit. The red LED is used to indicate Hard Disk operation. Since the SBC does not use a hard disk, the red LED should always remain off.

Ethernet LEDs

Whenever the SBC is communicating with the BACnet Ethernet network, the RX and TX LEDs are lit while the communication is taking place. The orange LED shows transmissions while the green LED shows data reception.

Restarting the SBC

The SBC can be reset and restarted either manually or automatically.

Manual Reset

The SBC is equipped with a reset push-button. Pressing the reset push-button of the SBC restarts only the SBC and does not restart the LINC Micro-Gateway.

Automatic Reset

The SBC is equipped with a watchdog timer that automatically resets the SBC if the main CPU processor of the SBC "hangs up". This should never occur under normal operations. If the watchdog timer does reset the SBC, please contact the factory.

Part Replacement

Certain items on the Data Bridge can be replaced if found to be malfunctioning. Typical items are the RS485 drivers (transceivers) on the MicroGateway LINC board, the MicroGateway LINC circuit board, SBC, DiskonChip, or power board.

Chip Replacement

DANGER: Always disconnect the line voltage to the Data Bridge for BACnet before removing any components.

WARNING: Personnel should always be grounded before touching any circuit board. An Anti-Static Ground Strap is recommended. As a minimum, firmly grasp grounded metal before working on the unit.

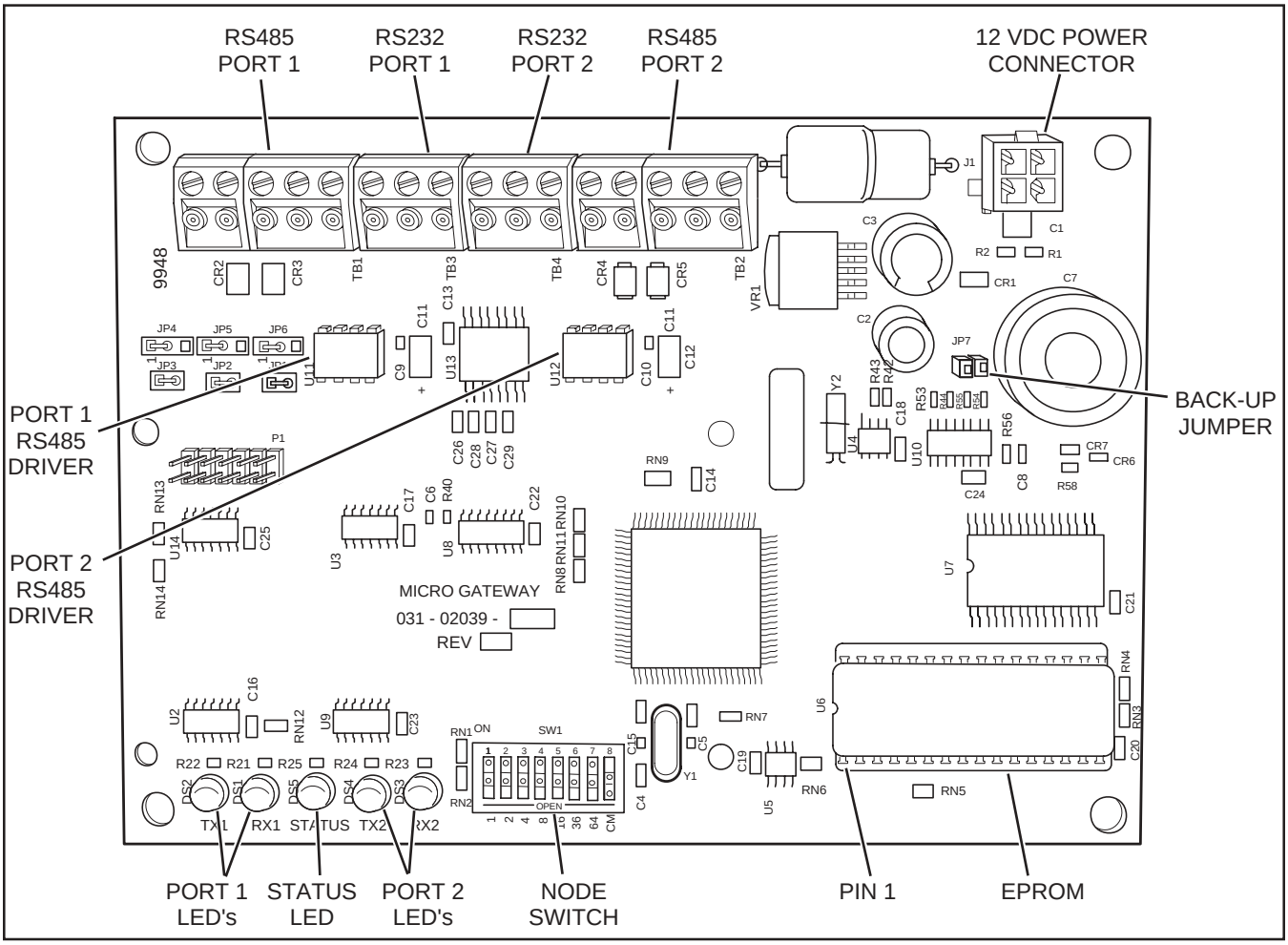
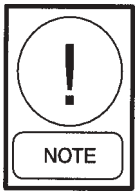


Figure 2 – LINC MicroGateway Circuit Board

To replace an RS485 driver in the MicroGateway LINC (transceiver):

1. Disconnect the line voltage power supply to the Data Bridge for BACnet.
2. Note the position of the notch in the chip. Using a chip removal tool, remove the desired chip from the MicroGateway card.
3. On the replacement chip, locate the notch. Carefully install the replacement chip in the socket with the notch in the same location as noted during removal.



NOTE: The notch indicates the location of pin 1 on the chip.

4. Reconnect the line voltage power supply.
5. Close the cover and secure the latch.

CAUTION: Never operate the Data Bridge with the enclosure cover open.

Circuit Board Replacement

If the MicroGateway LINC circuit board is found to be faulty, it can be replaced.

To replace the circuit board:

1. Disconnect the line voltage power supply and network cables to the Data Bridge for BACnet.
2. Remove the connector from J1 from the circuit board.
3. Remove the connectors from TB4 and TB1.
4. Remove the four screws securing the circuit board to the enclosure. Remove the board.
5. Position the replacement circuit board in the enclosure. Secure with four washers previously removed.
6. Connect the power to connector J1.
7. Turn on the line voltage supply and check for proper operation.
8. Close the cover and secure the latch.

CAUTION: Never operate the Data Bridge with the enclosure cover open.

Power Board

When the unit fails to operate due to loss of power, ensure that the fuse(s) is not damaged. There are two fuses. A 1-amp slow-blow is in a push-and-turn receptacle next to the power switch. An additional 1.25-amp fast-blow fuse is located on the Power Board next to the 3-pin connector. Replace the fuse(s) as necessary.

To replace the Power Board:

1. Disconnect the line voltage power supply to the Data Bridge for BACnet at the fuse panel.
2. Remove the screw securing the Power Board cover. Pull the cover away from the switch and remove.
3. Using a screw driver or small pry device, release and remove the 6-pin and 3-pin connectors from the Power Board.

CAUTION: Do not pull on the wires. Grasp the connectors to pull them from the socket.

4. Remove the ground wire.
5. Remove the four screws securing the Power Board to the enclosure. Maneuver the Power Board from the enclosure.
6. Position the replacement Power Board into the enclosure in the same manner as removed. Secure with four screws previously removed.
7. Attach ground wire to the Power Board.

8. Attach 3-pin and 6-pin connectors to the Power Board, ensuring that the ridge on each connector is fully under the plastic latch.
9. Install the Power Board cover in the enclosure. Ensure that the tabs are inserted into the slots in the section divider. Secure the cover with the screw previously removed.

CAUTION: Never operate the device without the Power Board cover installed to separate the low voltage components from high voltage components.

10. Close the cover and secure the latch.

CAUTION: Never operate the Data Bridge with the enclosure cover open.

Single Board Computer

If the Single Board Computer (SBC) is determined to be faulty, it can be replaced as a single component.

To replace the SBC:

1. Disconnect the line voltage power supply to the Data Bridge for BACnet at the fuse panel.
2. Disconnect the power harness from the SBC.

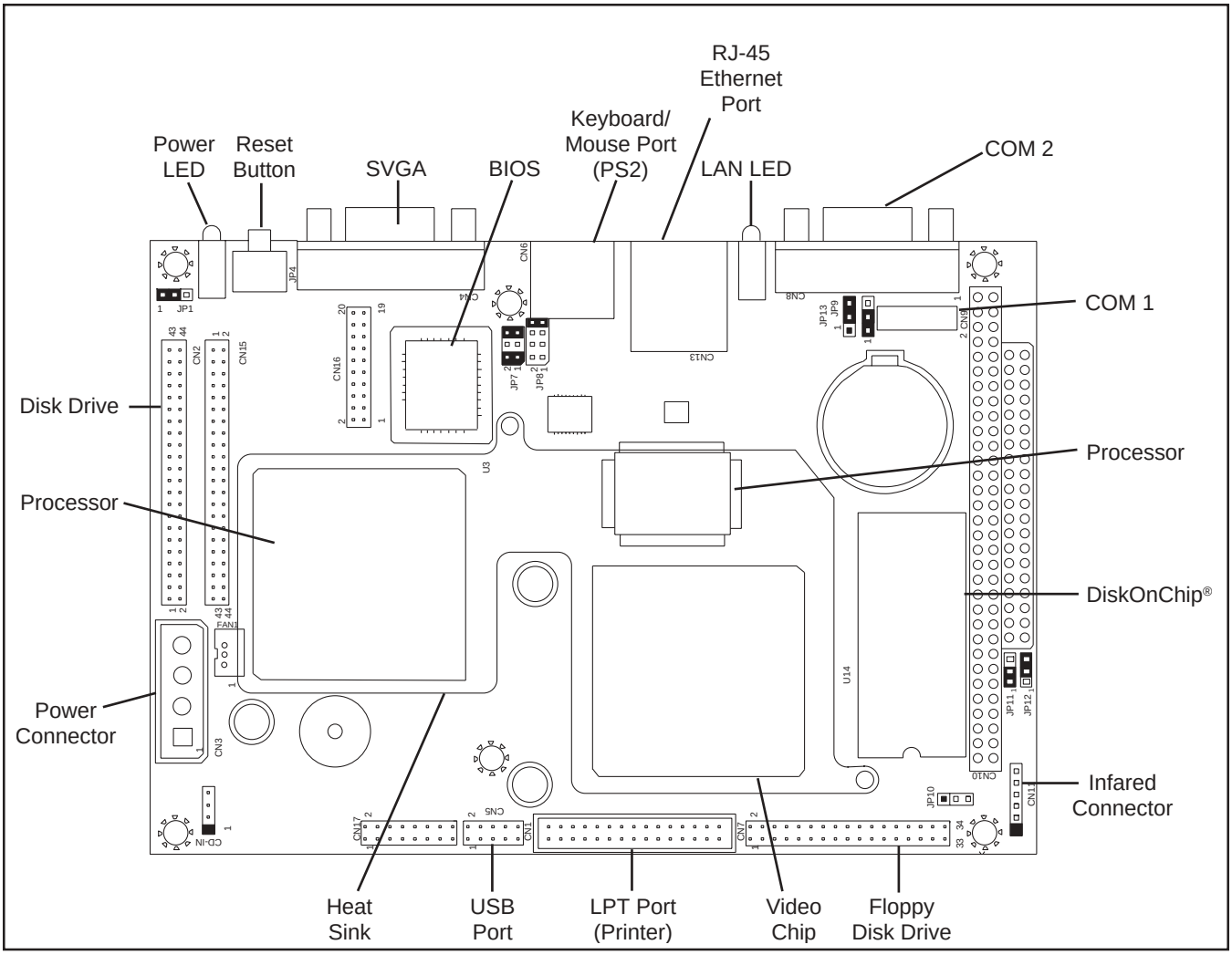
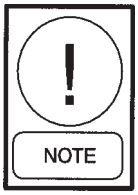


Figure 3 – Single Board Computer (SBC)

3. Remove the Ethernet cable from the RJ-45 network plug.
4. Disconnect DB-9 connector at COM1 on the SBC.
5. Note the orientation of the connector (red wire indicates pin 1) and disconnect from the SBC the ribbon cable to the two COM2 connectors. (A replacement cable and connectors are included with the new SBC. The cable and connectors may be replaced, if necessary.)
6. Remove the six screws securing the SBC to the bracket. Remove the SBC.



NOTE: The entire bracket may also be removed for easier access to the SBC and stand-offs under the board.

7. Install the replacement SBC and secure to the bracket using the six previously removed screws.
8. Connect the ribbon cable to the two COM2 connectors to CN9, taking care to orient the connector properly as noted during removal.
9. Connect the DB-9 connector to COM1 (CN8).
10. Connect the power harness to the SBC at CN3.
11. Connect the Ethernet network to the RJ-45 connector.
12. Close the cover and secure the latch.

CAUTION: Never operate the Data Bridge with the enclosure cover open.

Diagnostics

The SBC has a built-in connector for a standard SVGA color monitor and standard PC keyboard connector that can be used to diagnose abnormal operation of the Data Bridge for BACnet. Normally, the Data Bridge for BACnet is shipped from the factory with the diagnostic feature turned off since system operation is slowed down when enabled. If these diagnostics are required, contact the factory for specific advice and guidance on activating the diagnostics feature and troubleshooting the Data Bridge for BACnet.

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APPENDIX

General

The YORK BACnet Configuration Tool is used to configure the Data Bridge for BACnet off-line using a Windows 95/98-based interactive tool. The Configuration Tool provides a set of standard ISN chiller/device profiles with a fixed set of Standard (STD) and optional (OPT) ISN points mapped into standard BACnet objects. Use of the profiles facilitates setup of the Data Bridge when used with standard YORK ISN devices. Individual ISN points from other types of ISN devices can also be configured as needed.

The following tables identify the standard profiles supported by the Configuration Tool and the points that are supported by each type of unit defined by the profiles.

Notice that each ISN device type or profile is assigned a BACnet proprietary *Object_Type*. The *Object_Identifier* formed from the proprietary *Object_Type* and the *Object_Instance* is for organizational purposes only and has no object properties. They are ***not*** exposed on the BACnet Ethernet network.

The following tables identify each profile and the points they contain. The meaning of the columns is as follows:

- **Page** is the ISN **page** of the point. This is used for reference only.
- **Object_Name** is the base name that forms the BACnet *Object_Name* property for the mapped point. Since *Object_Names* must be unique through the BACnet system and since the combination of the ISN **net** and **node** must be unique throughout the ISN system, the **net***100 + **node** is appended to the base name to form the full, unique *Object_Name* (for example the base name START becomes START0001 for **net**=0, **node**=1).
- The **Description** is used as the BACnet *Description* property for the point after the **net***100 + **node** is appended to it.
- **F** is the ISN **feature** of the point. This maps directly into a BACnet *Object_Type* property.

Table A-1. ISN Features to BACnet Objects

BACnet Object	ISN Feature
Analog Input	F02 (Read Only)
Analog Output	F07 (Read and Write)
Analog Value	F03 (Read and Write)
Binary Input	F05 (Read Only)
Binary Output	F06 (Read and Write)

- **S** is the ISN **section** of the point. This is used along with the ISN **net** and **node** of the ISN device to form the BACnet *Object_Instance* property:

Object_Instance=(**section***16384) + (**node***128) + **net**

- **STD/OPT** indicates whether the mapped profile point is standard or optional. By default, all standard points become part of the ISN to BACnet translation database, while optional points do not. The configuration engineer can override the default selection to include optional points or exclude standard points.
- **Refresh Secs** is the time between refreshes of ISN features that require INS reads and that are mapped into the BACnet *Present_Value* properties of the points and kept in the cache between the ISN and BACnet networks.

Table A-2. ISN Devices Supported by Configuration Tool Standard Profiles

ISN Unit Type	Description	BACnet Proprietary Object Type for Unit	Standard Points	Optional Points	Total Points
YT	Centrifugal Dual/Mono Shell	128	38	22	60
C1	Reciprocating Chiller	129	71	2	73
YK	Centrifugal Super Chiller	130	43	22	65
A1	Air Cooled Screw Chiller with MicroGateway	131	73	0	73
A3	Master/Slave Air Cooled Screw Chiller	132	129	0	129
YI	Isoflow Absorption Chiller	133	66	3	69
UK	Centrifugal Super Chiller with Microgateway	134	41	19	60
US	Rotary Screw Chiller with Microgateway	135	44	0	44
UT	Centrifugal Chiller with Microgateway	136	38	22	60
AH	Standard Air Handler	140	31	0	31
TC	Terminal Digital Controller	141	23	0	23
RT	Rooftop Unit	142	43	0	43
AD	Air Handling Hot Deck/Cold Deck Unit	143	41	0	41
AM	Air Handling Unit with Mixing Box	144	50	0	50
VT	Centrifugal Dual/Mono Shell with VSD	145	56	0	56
VK	Centrifugal Super Chiller with VSD	146	61	4	65
YP	Paraflow Absorption Chiller	148	55	0	55
YU	Universal Chiller	149	167	0	167

Table A-3. YT–Centrifugal Dual/Mono Shell Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	%CURRENT.SP	Remote Current Setpoint	F03	S02	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	HISTORY	Frozen/Live Data Source	F06	S02	BO	OPT	60
P09	VSD_FX/VR_SP	Fixed Variable Speed Selector (0= VariableSpd)	F06	S03	BO	OPT	60
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	EVAP.PRESS	Evaporator Pressure	F02	S03	AI	STD	5
P14	COND.PRESS	Condenser Pressure	F02	S04	AI	STD	5
P15	OIL.DP	Oil Pressure	F02	S05	AI	STD	5
P16	ECDW.TEMP	Entering Condenser Water Temp	F02	S06	AI	STD	5
P17	LCDW.TEMP	Leaving Condenser Water Temp	F02	S07	AI	STD	5
P18	%CURRENT	Percent Motor Current	F02	S08	AI	STD	5
P19	PHASE_A.AMPS	Phase A Motor Current	F02	S09	AI	STD	60
P20	PHASE_B.AMPS	Phase B Motor Current	F02	S10	AI	STD	60
P21	PHASE_C.AMPS	Phase C Motor Current	F02	S11	AI	STD	60
P22	A-B.VOLTS	Phase A-B Line Voltage	F02	S12	AI	STD	60
P23	B-C.VOLTS	Phase B-C Line Voltage	F02	S13	AI	STD	60
P24	C-A.VOLTS	Phase C-A Line Voltage	F02	S14	AI	STD	60
P25	LCHW_ACT.SP	Leaving Chilled Water Temp Actual Setpoint	F02	S15	AI	STD	5
P26	%CURR_ACT.SP	Remote / Local Actual Current Setpoint	F02	S16	AI	STD	5
P27	EVAPSAT.TEMP	Evaporator Saturation Temp	F02	S17	AI	STD	5
P28	CONDSAT.TEMP	Condenser Saturation Temp	F02	S18	AI	STD	5
P29	DISCH.TEMP	Discharge Temp	F02	S19	AI	STD	5
P30	OIL.TEMP	Oil Temperature	F02	S20	AI	STD	5
P31	PURGE.PRESS	Purge Pressure	F02	S21	AI	STD	30
P32	RUN.HOURS	Accumulated Operating Hours	F02	S22	AI	STD	600
P33	START.COUNT	Accumulated System Starts	F02	S23	AI	STD	600
P36	COMPR.STAT	Compressor Motor Status	F05	S01	BI	STD	60
P37	VENTSOL.STAT	Vent Valve Status	F05	S02	BI	STD	60
P38	CHWPUMP.STAT	Chilled Water Pump Status	F05	S03	BI	STD	60
P39	STARTSW.STAT	Start Switch Status (1=Stop/Reset-0=Run/Start)	F05	S04	BI	STD	60
P40	CHWFLSW.STAT	Chiller Water Flow Switch Status	F05	S05	BI	STD	60
P48	ACC_VALD_MAP	Adaptive Capacity Control Valid Surge Map	F05	S13	BI	OPT	600
P49	ACC_SURGE	Adaptive Capacity Control New Surge Point	F05	S14	BI	OPT	600
P50	VSD_CLGPMP	VSD Cooling Pump Running (0=Stopped)	F05	S15	BI	OPT	600
P51	VSD_FLT519	VSD IEEE 519 Filter Present (0=Not Installed)	F05	S16	BI	OPT	600
P52	SURGE_TYPE	Surge Detection Type (0=Delta_P/P-1=Current)	F05	S17	BI	OPT	600
P56	AR_TIME.MIN	Anti-Recycle Time Left	F02	S26	AI	STD	60
P57	OPR_MOD.CODE	Operating Mode (1=Service-2=Local-3=Remote)	F02	S27	AI	STD	5
P58	OPER.CODE	Operation Code	F02	S28	AI	STD	5
P59	SAFETY.CODE	Safety Shutdown Code	F02	S29	AI	STD	5
P60	CYCLING.CODE	Cycling Shutdown Code	F02	S30	AI	STD	5
P61	VSD_INT.TEMP	VSD Internal Temp	F02	S31	AI	OPT	60
P62	VSD_CHSKTEMP	VSD Converter Heatsink Temp	F02	S32	AI	OPT	60
P63	ACC _PRV_POS	ACC PRV Position	F02	S33	AI	OPT	60
P64	ACC_FRZ.HZ	ACC Frozen Output Frequency	F02	S34	AI	OPT	60
P69	ACC_DLTA_P/P	ACC Frozen Delta P/P	F02	S39	AI	OPT	60
P70	VSD_O/P.VOLT	VSD OutputVoltage	F02	S40	AI	OPT	60
P71	VSD_I/P.KW	VSD Input KW	F02	S41	AI	OPT	60
P72	VSD_I/P.MWHR	VSD I/P MWH	F02	S42	AI	OPT	60
P73	VSD_DCLK.VLT	VSD DC Link Voltage	F02	S43	AI	OPT	60
P74	VSD_DCLK.CUR	VSD DC Link Current	F02	S44	AI	OPT	60
P75	VSD_SRG_CONT	VSD Surge Count	F02	S45	AI	OPT	60
P76	VSD_O/P.HZ	VSD Output Frequency	F02	S46	AI	OPT	60
P77	VSD_AVGV.THD	VSD Maximum Voltage THD	F02	S47	AI	OPT	60
P78	VSD_AVGI.TDD	VSD Maximum Current TDD	F02	S48	AI	OPT	60
P79	VSD_I/P.KVA	VSD Input KVA	F02	S49	AI	OPT	60

Table A-4. C1–Reciprocating Chiller Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	%CURRENT.SP	Remote Current Setpoint	F03	S02	AV	STD	5
P05	LEAD.SP	Lead Unit Number Setpoint	F03	S03	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	LOAD	Load the Chiller	F06	S02	BO	STD	10
P09	UNLOAD	Unload the Chiller	F06	S03	BO	STD	10
P10	HISTORY	Send History Buffer #1	F06	S04	BO	STD	10
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	MIXCHW.TEMP	Mixed Chilled Liquid Temperature	F02	S03	AI	STD	5
P14	ECDW.TEMP	Entering Condenser Water Temp	F02	S04	AI	STD	5
P15	LCDW.TEMP	Leaving Condenser Water Temp	F02	S05	AI	STD	5
P16	OA.TEMP	Ambient Air Temperature	F02	S06	AI	STD	60
P17	C1_OIL.TEMP	Comp 1 Oil Temperature	F02	S07	AI	OPT	5
P18	C1 OIL.PRESS	Comp 1 Oil Pressure	F02	S08	AI	STD	5
P19	C1SUCT.PRESS	Comp 1 Suction Pressure	F02	S09	AI	STD	5
P20	C1DISC.PRESS	Comp 1 Discharge Pressure	F02	S10	AI	STD	5
P21	C1 %FL.AMPS	Comp 1 %Full Load Amps	F02	S11	AI	STD	5
P22	C1 RUN.HOURS	Comp 1 Total Run Hours	F02	S12	AI	STD	600
P23	C1 START.CNT	Comp 1 Total Number of Starts	F02	S13	AI	STD	600
P24	C1ARTIME.SEC	Comp 1 Anti-Recycle Timer	F02	S14	AI	STD	600
P25	AC_TIMER.SEC	Anti-Coincident Timer	F02	S15	AI	STD	60
P26	C2 OIL.TEMP	Comp 2 Oil Temperature	F02	S16	AI	OPT	5
P27	C2 OIL.PRESS	Comp 2 Oil Pressure	F02	S17	AI	STD	5
P28	C2SUCT.PRESS	Comp 2 Suction Pressure	F02	S18	AI	STD	5
P29	C2DISC.PRESS	Comp 2 Discharge Pressure	F02	S19	AI	STD	5
P30	C2 %FL.AMPS	Comp 2 %Full Load Amps	F02	S20	AI	STD	5
P31	C2 RUN.HOURS	Comp 2 Total Run Hours	F02	S21	AI	STD	600
P32	C2 START.CNT	Comp 2 Total Number of Starts	F02	S22	AI	STD	600
P33	C2ARTIME.SEC	Comp 2 Anti-Recycle Timer	F02	S23	AI	STD	5
P35	LDSTEP.AVAIL	Load Steps Available	F02	S25	AI	STD	5
P36	CHL_RUN.STAT	Chiller Run	F05	S01	BI	STD	5
P37	CHL_ALM.STAT	Chiller Alarm	F05	S02	BI	STD	5
P38	EVP_HTR.STAT	Evaporator Heater Status	F05	S03	BI	STD	5
P39	EVP_PMP.STAT	Evaporator Pump Status	F05	S04	BI	STD	5
P40	CD_PUMP.STAT	Condenser Pump Status	F05	S05	BI	STD	5
P42	C1 LLSV.STAT	Comp 1 Liquid Line Solenoid Valve Status	F05	S07	BI	STD	5
P43	C1HGBPV.STAT	Comp 1 Hot Gas Bypass Valve Status	F05	S08	BI	STD	5
P45	C1 FREV.STAT	Comp 1 Reverse Condenser Fan Status	F05	S10	BI	STD	5
P46	C2 LLSV.STAT	Comp 2 Liquid Line Solenoid Valve Status	F05	S11	BI	STD	5
P47	C2HGBPV.STAT	Comp 2 Hot Gas Bypass Valve Status	F05	S12	BI	STD	5
P49	C2 FREV.STAT	Comp 2 Reverse Condenser Fan Status	F05	S14	BI	STD	5
P50	DIP1.STAT	Switch #1 -> 0=Comfort 1=Brine Cooling	F05	S15	BI	STD	600
P51	DIP2.STAT	Switch #2 -> 0-=Std Amb 1=Low Ambient	F05	S16	BI	STD	600
P52	DIP3.STAT	Switch #3 -> 0=Local 1=Remote	F05	S17	BI	STD	600
P53	DIP4.STAT	Switch #4 -> 0=EEV 1= Thermal Expansion Valves	F05	S18	BI	STD	600
P54	DIP5.STAT	Switch #5 -> 0=English 1=Metric Units	F05	S19	BI	STD	600
P55	DIP6.STAT	Switch #6 -> 0=X-Line 1=Wye Delta Start	F05	S20	BI	STD	600
P56	C1 OPER.CODE	Comp 1 Operational Code	F02	S26	AI	STD	5
P57	C1FAULT.CODE	Comp 1 Fault Code	F02	S27	AI	STD	5
P58	C2 OPER.CODE	Comp 2 Operational Code	F02	S28	AI	STD	5
P59	C2FAULT.CODE	Comp 2 Fault Code	F02	S29	AI	STD	5
P60	C1STAGES.NUM	Comp 1 Number of Stages of Loading	F02	S30	AI	STD	600
P61	C1FANFWD.NUM	Comp 1 Forward Condenser Fans Status (0 1 2)”	F02	S31	AI	STD	600
P62	C2STAGES.NUM	Comp 2 Number of Stages of Loading	F02	S32	AI	STD	600
P63	C2FANFWD.NUM	Comp 2 Forward Condenser Fans Status (0 1 2)”	F02	S33	AI	STD	600
P64	LEAD_COMP	Lead Compressor Number	F02	S34	AI	STD	5
P66	LCHW_ACT.SP	Leaving Chilled Liquid Setpoint	F02	S36	AI	STD	5
P67	LWTCUTOUT.SP	Low Chilled Liquid Temperature Cutout	F02	S37	AI	STD	600
P68	LOWAMBCO.SP	Low Ambient Temperature Cutout	F02	S38	AI	STD	600
P69	HIAMBCO.SP	High Ambient Temperature Cutout	F02	S39	AI	STD	600
P70	LPCUTOUT.SP	Low Suction Pressure Cutout	F02	S40	AI	STD	600
P71	HPCUTOUT.SP	High Discharge Pressure Cutout	F02	S41	AI	STD	600
P72	RMT_TEMP.SP	Remote Temperature Set Point	F02	S42	AI	STD	5
P73	RMT_RNG.TEMP	Remote Cooling Range	F02	S43	AI	STD	600
P74	LOCAL_CLR.SP	Local Cooler Barrel Setpoint	F02	S44	AI	STD	5
P75	C1RUN.SEC	Comp 1 Run Time (seconds)	F02	S45	AI	STD	600
P76	C2RUN.SEC	Comp 2 Run Time (seconds)	F02	S46	AI	STD	600
P80	DIP7.STAT	Switch #7 -> 0=Manual 1=Auto Lead/Lag	F05	S21	BI	STD	600
P81	DIP8.STAT	Switch #8 -> 0=R134a 1=R22	F05	S22	BI	STD	600
P82	LD PERM.STAT	Load Permissive	F05	S23	BI	STD	600

Table A-5. YK–Centrifugal Super Chiller Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	%CURRENT.SP	Remote Current Setpoint	F03	S02	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	HISTORY	Frozen/Live Data Source	F06	S02	BO	OPT	60
P09	VSD_FX/VR_SP	Fixed Variable Speed Selector (0= VariableSpd)	F06	S03	BO	OPT	60
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	EVAP.PRESS	Evaporator Pressure	F02	S03	AI	STD	5
P14	COND.PRESS	Condenser Pressure	F02	S04	AI	STD	5
P15	OIL.DP	Oil Pressure	F02	S05	AI	STD	5
P16	ECDW.TEMP	Entering Condenser Water Temp	F02	S06	AI	STD	5
P17	LCDW.TEMP	Leaving Condenser Water Temp	F02	S07	AI	STD	5
P18	%CURRENT	Percent Motor Current	F02	S08	AI	STD	5
P19	PHASE_A.AMPS	Phase A Motor Current	F02	S09	AI	STD	60
P20	PHASE_B.AMPS	Phase B Motor Current	F02	S10	AI	STD	60
P21	PHASE_C.AMPS	Phase C Motor Current	F02	S11	AI	STD	60
P22	A-B.VOLTS	Phase A-B Line Voltage	F02	S12	AI	STD	60
P23	B-C.VOLTS	Phase B-C Line Voltage	F02	S13	AI	STD	60
P24	C-A.VOLTS	Phase C-A Line Voltage	F02	S14	AI	STD	60
P25	LCHW_ACT.SP	Leaving Chilled Water Temp Actual Setpoint	F02	S15	AI	STD	5
P26	%CURR_ACT.SP	Remote / Local Actual Current Setpoint	F02	S16	AI	STD	5
P27	EVAPSAT.TEMP	Evaporator Saturation Temp	F02	S17	AI	STD	5
P28	CONDSAT.TEMP	Condenser Saturation Temp	F02	S18	AI	STD	5
P29	DISCH.TEMP	Discharge Temp	F02	S19	AI	STD	5
P30	OIL.TEMP	Oil Temperature	F02	S20	AI	STD	5
P31	PURGE.PRESS	Purge Pressure	F02	S21	AI	STD	30
P32	RUN.HOURS	Accumulated Operating Hours	F02	S22	AI	STD	600
P33	START.COUNT	Accumulated System Starts	F02	S23	AI	STD	600
P34	LO.OIL	Lo Oil Pressure	F02	S24	AI	STD	600
P35	HI.OIL	Hi Oil Pressure	F02	S25	AI	STD	600
P36	COMPR.STAT	Compressor Motor Status	F05	S01	BI	STD	60
P37	VENTSOL.STAT	Vent Valve Status	F05	S02	BI	STD	60
P38	CHWPUMP.STAT	Chilled Water Pump Status	F05	S03	BI	STD	60
P39	STARTSW.STAT	Start Switch Status (1=Stop/Reset-0=Run/Start)	F05	S04	BI	STD	60
P40	CHWFLSW.STAT	Chiller Water Flow Switch Status	F05	S05	BI	STD	60
P48	ACC_VALD_MAP	Adaptive Capacity Control Valid Surge Map	F05	S13	BI	OPT	600
P49	ACC_SURGE	Adaptive Capacity Control New Surge Point	F05	S14	BI	OPT	600
P50	VSD_CLGPMP	VSD Cooling Pump Running (0=Stopped)	F05	S15	BI	OPT	600
P51	VSD_FLT519	VSD IEEE 519 Filter Present (0=Not Installed)	F05	S16	BI	OPT	600
P52	SURGE_TYPE	Surge Detection Type (0=Delta_P/P-1=Current)	F05	S17	BI	OPT	600
P56	AR_TIME.MIN	Anti-Recycle Time Left	F02	S26	AI	STD	60
P57	OPR_MOD.CODE	Operating Mode (1=Service-2=Local-3=Remote)	F02	S27	AI	STD	5
P58	OPER.CODE	Operation Code	F02	S28	AI	STD	5
P59	SAFETY.CODE	Safety Shutdown Code	F02	S29	AI	STD	5
P60	CYCLING.CODE	Cycling Shutdown Code	F02	S30	AI	STD	5
P61	VSD_INT.TEMP	VSD Internal Temp	F02	S31	AI	OPT	60
P62	VSD_CHSKTEMP	VSD Converter Heatsink Temp	F02	S32	AI	OPT	60
P63	ACC _PRV_POS	ACC PRV Position	F02	S33	AI	OPT	60
P64	ACC_FRZ.HZ	Adaptive Capacity Control Frozen Output Frequency	F02	S34	AI	OPT	60
P65	REF_LVL.SP	Refrig Level Setpoint	F02	S35	AI	STD	60
P66	PROX_SENS.POS	Proximity Sensor Position	F02	S36	AI	STD	60
P67	PROX_SENS.REF	Proximity Sensor Reference	F02	S37	AI	STD	60
P69	ACC_DLTA_P/P	Adaptive Capacity Control Frozen Delta P/P	F02	S39	AI	OPT	60
P70	VSD_O/P.VOLT	VSD OutputVoltage	F02	S40	AI	OPT	60
P71	VSD_I/P.KW	VSD Input KW	F02	S41	AI	OPT	60
P72	VSD_I/P.MWHR	VSD I/P MWH	F02	S42	AI	OPT	60
P73	VSD_DCLK.VLT	VSD DC Link Voltage	F02	S43	AI	OPT	60
P74	VSD_DCLK.CUR	VSD DC Link Current	F02	S44	AI	OPT	60
P75	VSD_SRG_CONT	VSD Surge Count	F02	S45	AI	OPT	60
P76	VSD_O/P.HZ	VSD Output Frequency	F02	S46	AI	OPT	60
P77	VSD_AVGV.THD	VSD Maximum Voltage THD	F02	S47	AI	OPT	60
P78	VSD_AVGI.TDD	VSD Maximum Current TDD	F02	S48	AI	OPT	60
P79	VSD_I/P.KVA	VSD Input KVA	F02	S49	AI	OPT	60

Table A-6. A1–Air-Cooled Screw Chiller with MicroGateway Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	%CURRENT.SP	Remote Current Setpoint	F03	S02	AV	STD	5
P05	LEAD.SP	Lead Unit Number Setpoint	F03	S03	AV	STD	5
P06	LAG_START.SP	Lag Start Setpoint(40-99%)	F03	S04	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	LOAD	Load the Chiller	F06	S02	BO	STD	10
P09	UNLOAD	Unload the Chiller	F06	S03	BO	STD	10
P10	HISTORY	Send History Buffer #1	F06	S04	BO	STD	10
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	MIXCHW.TEMP	Mixed Chilled Liquid Temperature	F02	S03	AI	STD	5
P14	C1 SUCT.TEMP	Comp 1 Suction Temperature	F02	S04	AI	STD	5
P15	C1DISCH.TEMP	Comp 1 Discharge Temperature	F02	S05	AI	STD	5
P16	OA.TEMP	Ambient Air Temperature	F02	S06	AI	STD	60
P17	C1_OIL.TEMP	Comp 1 Oil Temperature	F02	S07	AI	STD	5
P18	C1 OIL.PRESS	Comp 1 Oil Pressure	F02	S08	AI	STD	5
P19	C1SUCT.PRESS	Comp 1 Suction Pressure	F02	S09	AI	STD	5
P20	C1DISC.PRESS	Comp 1 Discharge Pressure	F02	S10	AI	STD	5
P21	C1 %FL.AMPS	Comp 1 %Full Load Amps	F02	S11	AI	STD	5
P22	C1 RUN.HOURS	Comp 1 Total Run Hours	F02	S12	AI	STD	600
P23	C1 START.CNT	Comp 1 Total Number of Starts	F02	S13	AI	STD	600
P24	C1ARTIME.SEC	Comp 1 Anti-Recycle Timer	F02	S14	AI	STD	600
P25	AC_TIMER.SEC	Anti-Coincident Timer	F02	S15	AI	STD	60
P26	C2 OIL.TEMP	Comp 2 Oil Temperature	F02	S16	AI	STD	5
P27	C2 OIL.PRESS	Comp 2 Oil Pressure	F02	S17	AI	STD	5
P28	C2SUCT.PRESS	Comp 2 Suction Pressure	F02	S18	AI	STD	5
P29	C2DISC.PRESS	Comp 2 Discharge Pressure	F02	S19	AI	STD	5
P30	C2 %FL.AMPS	Comp 2 %Full Load Amps	F02	S20	AI	STD	5
P31	C2 RUN.HOURS	Comp 2 Total Run Hours	F02	S21	AI	STD	600
P32	C2 START.CNT	Comp 2 Total Number of Starts	F02	S22	AI	STD	600
P33	C2ARTIME.SEC	Comp 2 Anti-Recycle Timer	F02	S23	AI	STD	5
P34	C1 SVCALC.%	Comp 1 Calculated Slide Valve %	F02	S24	AI	STD	5
P35	C2 SVCALC.%	Comp 2 Calculated Slide Valve %	F02	S25	AI	STD	5
P36	CHL_RUN.STAT	Chiller Run	F05	S01	BI	STD	5
P37	CHL_ALM.STAT	Chiller Alarm	F05	S02	BI	STD	5
P38	EVP_HTR.STAT	Evaporator Heater Status	F05	S03	BI	STD	5
P39	EVP_PMP.STAT	Evaporator Pump Status	F05	S04	BI	STD	5
P42	C1 LLSV.STAT	Comp 1 Liquid Line Solenoid Valve Status	F05	S07	BI	STD	5
P45	C1 FREV.STAT	Comp 1 Reverse Condenser Fan Status	F05	S10	BI	STD	5
P46	C2 LLSV.STAT	Comp 2 Liquid Line Solenoid Valve Status	F05	S11	BI	STD	5
P49	C2 FREV.STAT	Comp 2 Reverse Condenser Fan Status	F05	S14	BI	STD	5
P50	DIP1.STAT	Switch #1 -> 0=Comfort 1=Brine Cooling	F05	S15	BI	STD	600
P51	DIP2.STAT	Switch #2 -> 0-=Std Amb 1=Low Ambient	F05	S16	BI	STD	600
P52	DIP3.STAT	Switch #3 -> 0=Local 1=Remote	F05	S17	BI	STD	600
P53	DIP4.STAT	Switch #4 -> 0=EEV 1= Thermal Expansion Valves	F05	S18	BI	STD	600
P54	DIP5.STAT	Switch #5 -> 0=English 1=Metric Units	F05	S19	BI	STD	600
P55	DIP6.STAT	Switch #6 -> 0=X-Line 1=Wye Delta Start	F05	S20	BI	STD	600
P56	C1 OPER.CODE	Comp 1 Operational Code	F02	S26	AI	STD	5
P57	C1FAULT.CODE	Comp 1 Fault Code	F02	S27	AI	STD	5
P58	C2 OPER.CODE	Comp 2 Operational Code	F02	S28	AI	STD	5
P59	C2FAULT.CODE	Comp 2 Fault Code	F02	S29	AI	STD	5
P61	C1FANFWD.NUM	“Comp 1 Forward Condenser Fans Status (0 1 2)”	F02	S31	AI	STD	600
P63	C2FANFWD.NUM	“Comp 2 Forward Condenser Fans Status (0 1 2)”	F02	S33	AI	STD	600
P64	LEAD_COMP	Lead Compressor Number	F02	S34	AI	STD	5
P66	LCHW_ACT.SP	Leaving Chilled Liquid Setpoint	F02	S36	AI	STD	5
P67	LWTCUTOUT.SP	Low Chilled Liquid Temperature Cutout	F02	S37	AI	STD	60
P68	LOWAMBCO.SP	Low Ambient Temperature Cutout	F02	S38	AI	STD	600
P69	HIAMBCO.SP	High Ambient Temperature Cutout	F02	S39	AI	STD	600
P70	LPCUTOUT.SP	Low Suction Pressure Cutout	F02	S40	AI	STD	600
P71	HPCUTOUT.SP	High Discharge Pressure Cutout	F02	S41	AI	STD	600
P72	RMT_TEMP.SP	Remote Temperature Set Point	F02	S42	AI	STD	5
P73	C1SSUCT.TEMP	Comp 1 Saturated Suction Temperature	F02	S43	AI	STD	5
P74	LOCAL_CLR.SP	Local Cooler Barrel Setpoint	F02	S44	AI	STD	5
P75	C1SDISC.TEMP	Comp 1 Saturated Discharge Temperature	F02	S45	AI	STD	5
P76	C1 SUCT.TEMP	Comp 1 Suction Temperature	F02	S46	AI	STD	5
P77	C2 DISC.TEMP	Comp 2 Discharge Temperature	F02	S47	AI	STD	5
P78	C2SSUCT.TEMP	Comp 2 Saturated Suction Temperature	F02	S48	AI	STD	5
P79	C2SDISC.TEMP	Comp 2 Saturated Discharge Temperature	F02	S49	AI	STD	5
P80	DIP7.STAT	Switch #7 -> 0=Manual 1=Auto Lead/Lag	F05	S21	BI	STD	600
P81	DIP8.STAT	Switch #8 -> 0=R134a 1=R22	F05	S22	BI	STD	600
P82	LD PERM.STAT	Load Permissive	F05	S23	BI	STD	600

Table A-7. A3–Master Air-Cooled Screw Chiller Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02S01	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03S01	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04S01	%LOAD.SP	% Load Limit (10 - 100%)	F03	S02	AV	STD	5
P05S01	LEAD.SP	Lead Unit Number Setpoint	F03	S03	AV	STD	5
P06S01	LAG_START.SP	Lag Start Setpoint (40 - 99%)	F03	S04	AV	STD	5
P07S01	START	Start/Stop	F06	S01	BO	STD	10
P08S01	LOAD	Load the Chiller	F06	S02	BO	STD	10
P09S01	UNLOAD	Unload the Chiller	F06	S03	BO	STD	10
P10S01	HISTORY	Send History Buffer #1	F06	S04	BO	STD	10
P11S01	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12S01	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13S01	MIXCHW.TEMP	Mixed Chilled Liquid Temperature	F02	S03	AI	STD	5
P14S01	C1 SUCT.TEMP	Comp 1 Suction Temperature	F02	S04	AI	STD	5
P15S01	C1DISCH.TEMP	Comp 1 Discharge Temperature	F02	S05	AI	STD	5
P16S01	OA.TEMP	Ambient Air Temperature	F02	S06	AI	STD	60
P17S01	C1_OIL.TEMP	Comp 1 Oil Temperature	F02	S07	AI	STD	5
P18S01	C1 OIL.PRESS	Comp 1 Oil Pressure	F02	S08	AI	STD	5
P19S01	C1SUCT.PRESS	Comp 1 Suction Pressure	F02	S09	AI	STD	5
P20S01	C1DISC.PRESS	Comp 1 Discharge Pressure	F02	S10	AI	STD	5
P21S01	C1 %FL.AMPS	Comp 1 %Full Load Amps	F02	S11	AI	STD	5
P22S01	C1 RUN.HOURS	Comp 1 Total Run Hours	F02	S12	AI	STD	600
P23S01	C1 START.CNT	Comp 1 Total Number of Starts	F02	S13	AI	STD	600
P24S01	C1ARTIME.SEC	Comp 1 Anti-Recycle Timer	F02	S14	AI	STD	600
P25S01	AC_TIMER.SEC	Anti-Coincident Timer	F02	S15	AI	STD	60
P26S01	C2 OIL.TEMP	Comp 2 Oil Temperature	F02	S16	AI	STD	5
P27S01	C2 OIL.PRESS	Comp 2 Oil Pressure	F02	S17	AI	STD	5
P28S01	C2SUCT.PRESS	Comp 2 Suction Pressure	F02	S18	AI	STD	5
P29S01	C2DISC.PRESS	Comp 2 Discharge Pressure	F02	S19	AI	STD	5
P30S01	C2 %FL.AMPS	Comp 2 %Full Load Amps	F02	S20	AI	STD	5
P31S01	C2 RUN.HOURS	Comp 2 Total Run Hours	F02	S21	AI	STD	600
P32S01	C2 START.CNT	Comp 2 Total Number of Starts	F02	S22	AI	STD	600
P33S01	C2ARTIME.SEC	Comp 2 Anti-Recycle Timer	F02	S23	AI	STD	5
P34S01	C1 SVCALC.%	Comp 1 Calculated Slide Valve %	F02	S24	AI	STD	5
P35S01	C2 SVCALC.%	Comp 2 Calculated Slide Valve %	F02	S25	AI	STD	5
P36S01	CHL_RUN.STAT	Chiller Run	F05	S01	BI	STD	5
P37S01	CHL_ALM.STAT	Chiller Alarm	F05	S02	BI	STD	5
P38S01	EVP_HTR.STAT	Evaporator Heater Status	F05	S03	BI	STD	5
P39S01	EVP_PMP.STAT	Evaporator Pump Status	F05	S04	BI	STD	5
P42S01	C1 LLSV.STAT	Comp 1 Liquid Line Solenoid Valve Status	F05	S07	BI	STD	5
P45S01	C1 FREV.STAT	Comp 1 Reverse Condenser Fan Status	F05	S10	BI	STD	5
P46S01	C2 LLSV.STAT	Comp 2 Liquid Line Solenoid Valve Status	F05	S11	BI	STD	5
P49S01	C2 FREV.STAT	Comp 2 Reverse Condenser Fan Status	F05	S14	BI	STD	5
P50S01	DIP1.STAT	Switch #1 -> 0=Comfort 1=Brine Cooling	F05	S15	BI	STD	5
P51S01	DIP2.STAT	Switch #2 -> 0-=Std Amb 1=Low Ambient	F05	S16	BI	STD	5
P52S01	DIP3.STAT	Switch #3 -> 0=Local 1=Remote	F05	S17	BI	STD	5
P53S01	DIP4.STAT	Switch #4 -> 0=EEV 1= Thermal Expansion Valves	F05	S18	BI	STD	5
P54S01	DIP5.STAT	Switch #5 -> 0=English 1=Metric Units	F05	S19	BI	STD	5
P55S01	DIP6.STAT	Switch #6 -> 0=X-Line 1=Wye Delta Start	F05	S20	BI	STD	5
P56S01	C1 OPER.CODE	Comp 1 Operational Code	F02	S26	AI	STD	5
P57S01	C1FAULT.CODE	Comp 1 Fault Code	F02	S27	AI	STD	5
P58S01	C2 OPER.CODE	Comp 2 Operational Code	F02	S28	AI	STD	5
P59S01	C2FAULT.CODE	Comp 2 Fault Code	F02	S29	AI	STD	5
P61S01	C1FANFWD.NUM	“Comp 1 Forward Condenser Fans Status (0 1 2)”	F02	S31	AI	STD	5
P63S01	C2FANFWD.NUM	“Comp 2 Forward Condenser Fans Status (0 1 2)”	F02	S33	AI	STD	5
P64S01	LEAD_COMP	Lead Compressor Number	F02	S34	AI	STD	5
P66S01	LCHW_ACT.SP	Leaving Chilled Liquid Setpoint	F02	S36	AI	STD	5
P67S01	LWTCUTOUT.SP	Low Chilled Liquid Temperature Cutout	F02	S37	AI	STD	5
P68S01	LOWAMBCO.SP	Low Ambient Temperature Cutout	F02	S38	AI	STD	5
P69S01	HIAMBCO.SP	High Ambient Temperature Cutout	F02	S39	AI	STD	5
P70S01	LPCUTOUT.SP	Low Suction Pressure Cutout	F02	S40	AI	STD	5
P71S01	HPCUTOUT.SP	High Discharge Pressure Cutout	F02	S41	AI	STD	5
P72S01	RMT_TEMP.SP	Remote Temperature Set Point	F02	S42	AI	STD	5
P73S01	C1SSUCT.TEMP	Comp 1 Saturated Suction Temperature	F02	S43	AI	STD	5
P74S01	LOCAL_CLR.SP	Local Cooler Barrel Setpoint	F02	S44	AI	STD	5
P75S01	C1SDISC.TEMP	Comp 1 Saturated Discharge Temperature	F02	S45	AI	STD	5
P76S01	C1 SUCT.TEMP	Comp 1 Suction Temperature	F02	S46	AI	STD	5
P77S01	C2 DISC.TEMP	Comp 2 Discharge Temperature	F02	S47	AI	STD	5
P78S01	C2SSUCT.TEMP	Comp 2 Saturated Suction Temperature	F02	S48	AI	STD	5
P79S01	C2SDISC.TEMP	Comp 2 Saturated Discharge Temperature	F02	S49	AI	STD	5
P80S01	DIP7.STAT	Switch #7 -> 0=Manual 1=Auto Lead/Lag	F05	S21	BI	STD	600
P81S01	DIP8.STAT	Switch #8 -> 0=R134a 1=R22	F05	S22	BI	STD	600
P82S01	LD PERM.STAT	Load Permissive	F05	S23	BI	STD	60

Table A-8. A3–Slave Air-Cooled Screw Chiller Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02S02	Comm_Fault	Communications Fault	F06	S06	BO	STD	5
P11S02	LCHW.TEMP	Leaving Chilled Water Temp	F02	S51	AI	STD	5
P12S02	ECHW.TEMP	Entering Chilled Water Temp	F02	S52	AI	STD	5
P13S02	MIXCHW.TEMP	Mixed Chilled Liquid Temperature	F02	S53	AI	STD	5
P14S02	C3 SUCT.TEMP	Comp 3 Suction Temperature	F02	S54	AI	STD	5
P15S02	C3DISCH.TEMP	Comp 3 Discharge Temperature	F02	S55	AI	STD	5
P16S02	OA.TEMP	Ambient Air Temperature	F02	S56	AI	STD	60
P17S02	C3_OIL.TEMP	Comp 3 Oil Temperature	F02	S57	AI	STD	5
P18S02	C3 OIL.PRESS	Comp 3 Oil Pressure	F02	S58	AI	STD	5
P19S02	C3SUCT.PRESS	Comp 3 Suction Pressure	F02	S59	AI	STD	5
P20S02	C3DISC.PRESS	Comp 3 Discharge Pressure	F02	S60	AI	STD	5
P21S02	C3 %FL.AMPS	Comp 3 %Full Load Amps	F02	S61	AI	STD	5
P22S02	C3 RUN.HOURS	Comp 3 Total Run Hours	F02	S62	AI	STD	600
P23S02	C3 START.CNT	Comp 3 Total Number of Starts	F02	S63	AI	STD	600
P24S02	C3ARTIME.SEC	Comp 3 Anti-Recycle Timer	F02	S64	AI	STD	600
P25S02	AC_TIMER.SEC	Anti-Coincident Timer	F02	S65	AI	STD	60
P26S02	C4 OIL.TEMP	Comp 4 Oil Temperature	F02	S66	AI	STD	5
P27S02	C4 OIL.PRESS	Comp 4 Oil Pressure	F02	S67	AI	STD	5
P28S02	C4SUCT.PRESS	Comp 4 Suction Pressure	F02	S68	AI	STD	5
P29S02	C4DISC.PRESS	Comp 4 Discharge Pressure	F02	S69	AI	STD	5
P30S02	C4 %FL.AMPS	Comp 4 %Full Load Amps	F02	S70	AI	STD	5
P31S02	C4 RUN.HOURS	Comp 4 Total Run Hours	F02	S71	AI	STD	600
P32S02	C4 START.CNT	Comp 4 Total Number of Starts	F02	S72	AI	STD	600
P33S02	C4ARTIME.SEC	Comp 4 Anti-Recycle Timer	F02	S73	AI	STD	5
P34S02	C3 SVCALC.%	Comp 3 Calculated Slide Valve %	F02	S74	AI	STD	5
P35S02	C4 SVCALC.%	Comp 4 Calculated Slide Valve %	F02	S75	AI	STD	5
P36S02	CHL_RUN.STAT	Chiller Run	F05	S26	BI	STD	5
P37S02	CHL_ALM.STAT	Chiller Alarm	F05	S27	BI	STD	5
P38S02	EVP_HTR.STAT	Evaporator Heater Status	F05	S28	BI	STD	5
P39S02	EVP_PMP.STAT	Evaporator Pump Status	F05	S29	BI	STD	5
P42S02	C3 LLSV.STAT	Comp 3 Liquid Line Solenoid Valve Status	F05	S32	BI	STD	5
P45S02	C3 FREV.STAT	Comp 3 Reverse Condenser Fan Status	F05	S35	BI	STD	5
P46S02	C4 LLSV.STAT	Comp 4 Liquid Line Solenoid Valve Status	F05	S36	BI	STD	5
P49S02	C4 FREV.STAT	Comp 4 Reverse Condenser Fan Status	F05	S39	BI	STD	5
P56S02	C3 OPER.CODE	Comp 3 Operational Code	F02	S76	AI	STD	5
P57S02	C3FAULT.CODE	Comp 3 Fault Code	F02	S77	AI	STD	5
P58S02	C4 OPER.CODE	Comp 4 Operational Code	F02	S78	AI	STD	5
P59S02	C4FAULT.CODE	Comp 4 Fault Code	F02	S79	AI	STD	5
P61S02	C3FANFWD.NUM	Comp 3 Forward Condenser Fans Status (0 1 2)	F02	S81	AI	STD	5
P63S02	C4FANFWD.NUM	Comp 4 Forward Condenser Fans Status (0 1 2)	F02	S83	AI	STD	5
P64S02	LEAD.COMP	Lead Compressor Number	F02	S84	AI	STD	5
P66S02	LCHW_ACT.SP	Leaving Chilled Liquid Setpoint	F02	S86	AI	STD	5
P67S02	LWTCUTOUT.SP	Low Chilled Liquid Temperature Cutout	F02	S87	AI	STD	5
P68S02	LOWAMBCO.SP	Low Ambient Temperature Cutout	F02	S88	AI	STD	5
P69S02	HIAMBCO.SP	High Ambient Temperature Cutout	F02	S89	AI	STD	5
P70S02	LPCUTOUT.SP	Low Suction Pressure Cutout	F02	S90	AI	STD	5
P71S02	HPCUTOUT.SP	High Discharge Pressure Cutout	F02	S91	AI	STD	5
P72S02	RMT_TEMP.SP	Remote Temperature Set Point	F02	S92	AI	STD	5
P73S02	C3SSUCT.TEMP	Comp 3 Saturated Suction Temperature	F02	S93	AI	STD	5
P74S02	LOCAL_CLR.SP	Local Cooler Barrel Setpoint	F02	S94	AI	STD	5
P75S02	C3SDISC.TEMP	Comp 3 Saturated Discharge Temperature	F02	S95	AI	STD	5
P76S02	C3 SUCT.TEMP	Comp 3 Suction Temperature	F02	S96	AI	STD	5
P77S02	C4 DISC.TEMP	Comp 4 Discharge Temperature	F02	S97	AI	STD	5
P78S02	C4SSUCT.TEMP	Comp 4 Saturated Suction Temperature	F02	S98	AI	STD	5
P79S02	C4SDISC.TEMP	Comp 4 Saturated Discharge Temperature	F02	S99	AI	STD	5
P82S02	LD PERM.STAT	Load Permissive	F05	S48	BI	STD	60

Table A-9. A1–Isoflow Absorption Chiller Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P05	LOAD.SP	Remote Current Setpoint	F03	S03	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	HISTORY	Frozen/Live Data Source	F06	S02	BO	STD	60
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	GEN_SH.PRESS	Generator Shell Pressure	F02	S03	AI	STD	5
P16	ECDW.TEMP	Entering Condenser Water Temp	F02	S06	AI	STD	5
P17	LCDW.TEMP	Leaving Condenser Water Temp	F02	S07	AI	STD	5
P18	ADECRYS.TEMP	Automatic Decrystallization Temperature	F02	S08	AI	STD	5
P19	CONDREF.TEMP	Refrigerant Temperature Leaving	F02	S09	AI	STD	60
P20	STM/HW.TEMP	Steam/Hot Water Supply Temperature	F02	S10	AI	STD	60
P21	STMSUP.PRESS	Steam Supply Pressure(steam units only)	F02	S11	AI	OPT	60
P22	SUP_VALV.POS	Steam/Hot Water Valve Position(0-100%)	F02	S12	AI	STD	60
P23	LOC_LCHW.SP	Local Leaving Chilled Water Setpoint	F02	S13	AI	STD	60
P24	PP_SERINT.SP	Purge Pump Service Interval Setpoint-Hours	F02	S14	AI	OPT	60
P25	LCHW_ACT.SP	Leaving Chilled Water Temp Actual Setpoint	F02	S15	AI	STD	60
P27	REFRIG.TEMP	Refrigerant Temperature	F02	S17	AI	STD	5
P28	STG_SOL.TEMP	Strong Solution Temperature	F02	S18	AI	STD	5
P32	RUN.HOURS	Total Operating Hours	F02	S22	AI	STD	600
P33	START.COUNT	Total System Starts	F02	S23	AI	STD	600
P34	LTPRGE.COUNT	Lifetime Purge Count	F02	S24	AI	STD	600
P36	REFPUMP.STAT	Refrigerant Status	F05	S01	BI	STD	60
P37	CDWPUMP.STAT	Condenser Water Pump Status	F05	S02	BI	STD	60
P38	CHWPUMP.STAT	Chilled Water Pump Status	F05	S03	BI	STD	60
P39	STARTSW.STAT	Start Switch Status	F05	S04	BI	STD	60
P40	SPMPSOL.STAT	Refrigerant & Sltn Pump Mtr Coolant Slnd Valve Status	F05	S05	BI	STD	60
P41	SOLPMP.STAT	Solution/Absorber Pump Motor Status	F05	S06	BI	STD	60
P42	GENPUMP.STAT	Generator Pump Motor Status	F05	S07	BI	STD	60
P43	PRGPUMP.STAT	Purge Pump Motor Status	F05	S08	BI	STD	60
P44	CHWFLSW.STAT	Chilled Water Flow Switch Status	F05	S09	BI	STD	60
P45	STABSOL.STAT	Refrierant Stabillizer Solenoid Valve Status	F05	S10	BI	STD	60
P46	CDWFLSW.STAT	Condenser Water Flow Switch Status	F05	S11	BI	STD	60
P47	DIL_CYC.STAT	Dilution Cycling Status	F05	S12	BI	OPT	60
P48	RLEVFSW.STAT	Refrierant Level Float Switch Status	F05	S13	BI	STD	60
P49	J50.STAT	J50 Status(0=AutoRestart 1=Manual Restart)	F05	S14	BI	STD	60
P50	J51.STAT	J51 Status(0=Ldg Ovrdes Active 1=No Ldg Overides)	F05	S15	BI	STD	60
P51	J52.STAT	J52 Status(0=English Units 1=Metric Units)	F05	S16	BI	STD	60
P52	J54.STAT	J54 Status(0=Ltd CW Pump 1=Full CW Pump Control)	F05	S17	BI	STD	60
P53	J55.STAT	J55 Status(0=Diagnostics Enbld 1=Diagnostics Dsbld)	F05	S18	BI	STD	60
P54	J57.STAT	J57 Status(0=RTC Disabled 1=RTC Enabled)	F05	S19	BI	STD	60
P55	J12.STAT	J12 (Expansion I/O Board)(0=English 1=German)	F05	S20	BI	STD	60
P56	DIL_CYC.CODE	Dilution Cycle Code)	F02	S26	AI	STD	5
P57	OPR_MOD.CODE	Operating Mode (1=Service 2=Local 3=Remote)	F02	S27	AI	STD	5
P58	OPER.CODE	Operation Code	F02	S28	AI	STD	5
P59	SAFETY.CODE	Safety Shutdown Code	F02	S29	AI	STD	5
P60	CYCLING.CODE	Cycling Shutdown Code	F02	S30	AI	STD	5
P61	WARN.CODE	Warning Code	F02	S31	AI	STD	60
P66	RMT_LOAD.SP	Remote Load Setpoint	F02	S36	AI	STD	60
P67	VLVMAXLD.SP	Maximum Steam/Hot Water Valve Load Setpoint	F02	S37	AI	STD	60
P68	WKPRGE.COUNT	Weekly Purge Counter	F02	S38	AI	STD	60
P69	PD_LIM.SP	Pulldown Demand Setpoint - Minutes	F02	S39	AI	STD	60
P70	PD_DMD.MIN	Pulldown Demand - Minutes Left	F02	S40	AI	STD	60
P71	PD_START.SP	Pulldown Demand Setpoint - Start Load Limit	F02	S41	AI	STD	60
P72	PD_STOP.SP	Pulldown Demand Setpoint - Stop Load Limit	F02	S42	AI	STD	60
P73	PD_DMD.LIM	Pulldown Demand - Present Limit	F02	S43	AI	STD	60
P74	REMT_RNG.SP	Remote Temp Range Setpoint	F02	S44	AI	STD	60
P75	VLVMAXUNL.SP	Max Steam/Hot Water Temp Setpoint	F02	S45	AI	STD	60
P76	ECDW_MAX.SP	Max Entering Condesor Water Temp Setpoint	F02	S46	AI	STD	60
P77	JP1.STAT	JP1 Status(0=Steam Operation 1=Hot Water Operation)	F02	S47	AI	STD	60
P78	JP3.STAT	JP3 Status(0=Std Mode 1=50Hz Model)	F02	S48	AI	STD	60
P79	JP1_EXP.STAT	JP1 Expansion(0=Rotary Valve 1=Cage Valve)	F02	S49	AI	STD	60
P80	RLEVSOL.STAT	Refrigerant Level Solenoid Valve Status	F05	S21	BI	STD	60
P81	SST_LMT.STAT	Low ECDW Temp Limit Active	F05	S22	BI	STD	60
P82	ADECRYS.STAT	Automatic Decrystallization Active	F05	S23	BI	STD	60
P83	RMTLOAD.STAT	Remote Load Limiting Active	F05	S24	BI	STD	60
P84	PD_LMT.STAT	Pulldown Limiting Active	F05	S25	BI	STD	60

Table A-10. UK–Centrifugal Super Chiller with MicroGateway Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	%CURRENT.SP	Remote Current Setpoint	F03	S02	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	HISTORY	Frozen/Live Data Source	F06	S02	BO	STD	60
P09	VSD_FX/VR_SP	Fixed Variable Speed Selector (0= VariableSpd)	F06	S03	BO	OPT	60
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	EVAP.PRESS	Evaporator Pressure	F02	S03	AI	STD	5
P14	COND.PRESS	Condenser Pressure	F02	S04	AI	STD	5
P15	OIL.DP	Oil Pressure	F02	S05	AI	STD	5
P16	ECDW.TEMP	Entering Condenser Water Temp	F02	S06	AI	STD	5
P17	LCDW.TEMP	Leaving Condenser Water Temp	F02	S07	AI	STD	5
P18	%CURRENT	Percent Motor Current	F02	S08	AI	STD	5
P19	PHASE_A.AMPS	Phase A Motor Current	F02	S09	AI	STD	60
P20	PHASE_B.AMPS	Phase B Motor Current	F02	S10	AI	STD	60
P21	PHASE_C.AMPS	Phase C Motor Current	F02	S11	AI	STD	60
P22	A-B.VOLTS	Phase A-B Line Voltage	F02	S12	AI	OPT	60
P23	B-C.VOLTS	Phase B-C Line Voltage	F02	S13	AI	OPT	60
P24	C-A.VOLTS	Phase C-A Line Voltage	F02	S14	AI	OPT	60
P25	LCHW_ACT.SP	Leaving Chilled Water Temp Actual Setpoint	F02	S15	AI	STD	5
P26	%CURR_ACT.SP	Remote / Local Actual Current Setpoint	F02	S16	AI	STD	5
P27	EVAPSAT.TEMP	Evaporator Saturation Temp	F02	S17	AI	STD	5
P28	CONDSAT.TEMP	Condenser Saturation Temp	F02	S18	AI	STD	5
P29	DISCH.TEMP	Discharge Temp	F02	S19	AI	STD	5
P30	OIL.TEMP	Oil Temperature	F02	S20	AI	STD	5
P31	REFRIG.LEVEL	Refrigerant Level	F02	S21	AI	STD	5
P32	RUN.HOURS	Accumulated Operating Hours	F02	S22	AI	STD	600
P33	START.COUNT	Accumulated System Starts	F02	S23	AI	STD	600
P36	COMPR.STAT	Compressor Motor Status	F05	S01	BI	STD	60
P37	VENTSOL.STAT	Vent Valve Status	F05	S02	BI	STD	60
P38	CHWPUMP.STAT	Chilled Water Pump Status	F05	S03	BI	STD	60
P39	STARTSW.STAT	Start Switch Status (1=Stop/Reset-0=Run/Start)	F05	S04	BI	STD	60
P40	CHWFLSW.STAT	Chiller Water Flow Switch Status	F05	S05	BI	STD	60
P48	ACC_VALD_MAP	Adaptive Capacity Control Valid Surge Map	F05	S13	BI	STD	600
P49	ACC_SURGE	Adaptive Capacity Control New Surge Point	F05	S14	BI	STD	600
P50	VSD_CLGPMP	VSD Cooling Pump Running (0=Stopped)	F05	S15	BI	STD	600
P51	VSD_FLT519	VSD IEEE 519 Filter Present (0=Not Installed)	F05	S16	BI	STD	600
P52	SURGE_TYPE	Surge Detection Type (0=Delta_P/P-1=Current)	F05	S17	BI	STD	600
P56	AR_TIME.MIN	Anti-Recycle Time Left	F02	S26	AI	STD	60
P57	OPR_MOD.CODE	Operating Mode (1=Service-2=Local-3=Remote)	F02	S27	AI	STD	5
P58	OPER.CODE	Operation Code	F02	S28	AI	STD	5
P59	SAFETY.CODE	Safety Shutdown Code	F02	S29	AI	STD	5
P60	CYCLING.CODE	Cycling Shutdown Code	F02	S30	AI	STD	5
P61	VSD_INT.TEMP	VSD Internal Temp	F02	S31	AI	OPT	60
P62	VSD_CHSKTEMP	VSD Converter Heatsink Temp	F02	S32	AI	OPT	60
P63	ACC _PRV_POS	ACC PRV Position	F02	S33	AI	OPT	60
P64	ACC_FRZ.HZ	Adaptive Capacity Control Frozen Output Frequency	F02	S34	AI	OPT	60
P69	ACC_DLTA_P/P	Adaptive Capacity Control Frozen Delta P/P	F02	S39	AI	OPT	60
P70	VSD_O/P.VOLT	VSD OutputVoltage	F02	S40	AI	OPT	60
P71	VSD_I/P.KW	VSD Input KW	F02	S41	AI	OPT	60
P72	VSD_I/P.MWHR	VSD I/P MWH	F02	S42	AI	OPT	60
P73	VSD_DCLK.VLT	VSD DC Link Voltage	F02	S43	AI	OPT	60
P74	VSD_DCLK.CUR	VSD DC Link Current	F02	S44	AI	OPT	60
P75	VSD_SRG_CONT	VSD Surge Count	F02	S45	AI	OPT	60
P76	VSD_O/P.HZ	VSD Output Frequency	F02	S46	AI	OPT	60
P77	VSD_AVGV.THD	VSD Maximum Voltage THD	F02	S47	AI	OPT	60
P78	VSD_AVGI.TDD	VSD Maximum Current TDD	F02	S48	AI	OPT	60
P79	VSD_I/P.KVA	VSD Input KVA	F02	S49	AI	OPT	60

Table A-11. US–Rotary Screw Chiller with MicroGateway Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	%CURRENT.SP	Remote Current Setpoint	F03	S02	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	EVAP.PRESS	Evaporator Pressure	F02	S03	AI	STD	5
P14	COND.PRESS	Condenser Pressure	F02	S04	AI	STD	5
P15	OIL.DP	Oil Pressure	F02	S05	AI	STD	5
P16	ECDW.TEMP	Entering Condenser Water Temp	F02	S06	AI	STD	5
P17	LCDW.TEMP	Leaving Condenser Water Temp	F02	S07	AI	STD	5
P18	%CURRENT	Percent Motor Current	F02	S08	AI	STD	5
P19	PHASE_A.AMPS	Phase A Motor Current	F02	S09	AI	STD	60
P20	PHASE_B.AMPS	Phase B Motor Current	F02	S10	AI	STD	60
P21	PHASE_C.AMPS	Phase C Motor Current	F02	S11	AI	STD	60
P22	A-B.VOLTS	Phase A-B Line Voltage	F02	S12	AI	STD	60
P23	B-C.VOLTS	Phase B-C Line Voltage	F02	S13	AI	STD	60
P24	C-A.VOLTS	Phase C-A Line Voltage	F02	S14	AI	STD	60
P25	LCHW_ACT.SP	Leaving Chilled Water Temp Actual Setpoint	F02	S15	AI	STD	5
P26	%CURR_ACT.SP	Remote / Local Actual Current Setpoint	F02	S16	AI	STD	5
P27	EVAPSAT.TEMP	Evaporator Saturation Temp	F02	S17	AI	STD	5
P28	CONDSAT.TEMP	Condenser Saturation Temp	F02	S18	AI	STD	5
P29	DISCH.TEMP	Discharge Temp	F02	S19	AI	STD	5
P30	OIL.TEMP	Oil Temperature	F02	S20	AI	STD	5
P31	FILTER.DP	Filter Diff Press	F02	S21	AI	STD	5
P32	RUN.HOURS	Accumulated Operating Hours	F02	S22	AI	STD	600
P33	START.COUNT	Accumulated System Starts	F02	S23	AI	STD	600
P34	MINCURLIM.SP	Minimum Current Setpoint	F02	S24	AI	STD	600
P35	%SLIDE.VALVE	% Slide Valve Position	F02	S25	AI	STD	600
P36	COMPR.STAT	Compressor Motor Status	F05	S01	BI	STD	60
P37	OIL_SOL.STAT	Oil Solenoid Status	F05	S02	BI	STD	60
P38	CHWPUMP.STAT	Chilled Water Pump Status	F05	S03	BI	STD	60
P39	STARTSW.STAT	Start Switch Status (1=Stop/Reset-0=Run/Start)	F05	S04	BI	STD	60
P40	CHWFLSW.STAT	Chiller Water Flow Switch Status	F05	S05	BI	STD	60
P42	OIL_SEP.STAT	Oil Seperator Status	F05	S07	BI	STD	60
P55	ICESTORE.ENA	Ice Storage Enable	F05	S20	BI	STD	600
P56	AR_TIME.MIN	Anti-Recycle Time Left	F02	S26	AI	STD	60
P57	WARNING.FLT	Unit Warning Fault Code	F02	S27	AI	STD	5
P58	OPER.CODE	Operation Code	F02	S28	AI	STD	5
P59	SAFETY.CODE	Safety Shutdown Code	F02	S29	AI	STD	5
P60	CYCLING.CODE	Cycling Shutdown Code	F02	S30	AI	STD	5
P66	LWT_RST.OFF	Leaving Water Temp Reset offset	F02	S36	AI	STD	60
P67	SEAL.DP	Shaft Seal Diff Pressure	F02	S37	AI	STD	60

Table A-12. UT–Centrifugal Chiller with MicroGateway Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	%CURRENT.SP	Remote Current Setpoint	F03	S02	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	HISTORY	Frozen/Live Data Source	F06	S03	BO	OPT	60
P09	VSD_FX/VR_SP	Fixed Variable Speed Selector (0= VariableSpd)	F06	S04	BO	OPT	60
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	EVAP.PRESS	Evaporator Pressure	F02	S03	AI	STD	5
P14	COND.PRESS	Condenser Pressure	F02	S04	AI	STD	5
P15	OIL.DP	Oil Pressure	F02	S05	AI	STD	5
P16	ECDW.TEMP	Entering Condenser Water Temp	F02	S06	AI	STD	5
P17	LCDW.TEMP	Leaving Condenser Water Temp	F02	S07	AI	STD	5
P18	%CURRENT	Percent Motor Current	F02	S08	AI	STD	5
P19	PHASE_A.AMPS	Phase A Motor Current	F02	S09	AI	STD	60
P20	PHASE_B.AMPS	Phase B Motor Current	F02	S10	AI	STD	60
P21	PHASE_C.AMPS	Phase C Motor Current	F02	S11	AI	STD	60
P22	A-B.VOLTS	Phase A-B Line Voltage	F02	S12	AI	STD	60
P23	B-C.VOLTS	Phase B-C Line Voltage	F02	S13	AI	STD	60
P24	C-A.VOLTS	Phase C-A Line Voltage	F02	S14	AI	STD	60
P25	LCHW_ACT.SP	Leaving Chilled Water Temp Actual Setpoint	F02	S15	AI	STD	5
P26	%CURR_ACT.SP	Remote / Local Actual Current Setpoint	F02	S16	AI	STD	5
P27	EVAPSAT.TEMP	Evaporator Saturation Temp	F02	S17	AI	STD	5
P28	CONDSAT.TEMP	Condenser Saturation Temp	F02	S18	AI	STD	5
P29	DISCH.TEMP	Discharge Temp	F02	S19	AI	STD	5
P30	OIL.TEMP	Oil Temperature	F02	S20	AI	STD	5
P31	PURGE.PRESS	Purge Pressure	F02	S21	AI	STD	30
P32	RUN.HOURS	Accumulated Operating Hours	F02	S22	AI	STD	600
P33	START.COUNT	Accumulated System Starts	F02	S23	AI	STD	600
P36	COMPR.STAT	Compressor Motor Status	F05	S01	BI	STD	60
P37	VENTSOL.STAT	Vent Valve Status	F05	S02	BI	STD	60
P38	CHWPUMP.STAT	Chilled Water Pump Status	F05	S03	BI	STD	60
P39	STARTSW.STAT	Start Switch Status (1=Stop/Reset-0=Run/Start)	F05	S04	BI	STD	60
P40	CHWFLSW.STAT	Chiller Water Flow Switch Status	F05	S05	BI	STD	60
P48	ACC_VALD_MAP	Adaptive Capacity Control Valid Surge Map	F05	S06	BI	OPT	600
P49	ACC_SURGE	Adaptive Capacity Control New Surge Point	F05	S07	BI	OPT	600
P50	VSD_CLGPMP	VSD Cooling Pump Running (0=Stopped)	F05	S08	BI	OPT	600
P51	VSD_FLT519	VSD IEEE 519 Filter Present (0=Not Installed)	F05	S09	BI	OPT	600
P52	SURGE_TYPE	Surge Detection Type (0=Delta_P/P-1=Current)	F05	S10	BI	OPT	600
P56	AR_TIME.MIN	Anti-Recycle Time Left	F02	S26	AI	STD	60
P57	OPR_MOD.CODE	Operating Mode (1=Service-2=Local-3=Remote)	F02	S27	AI	STD	5
P58	OPER.CODE	Operation Code	F02	S28	AI	STD	5
P59	SAFETY.CODE	Safety Shutdown Code	F02	S29	AI	STD	5
P60	CYCLING.CODE	Cycling Shutdown Code	F02	S30	AI	STD	5
P61	VSD_INT.TEMP	VSD Internal Temp	F02	S31	AI	OPT	60
P62	VSD_CHSKTEMP	VSD Converter Heatsink Temp	F02	S32	AI	OPT	60
P63	ACC _PRV_POS	ACC PRV Position	F02	S33	AI	OPT	60
P64	ACC_FRZ.HZ	Adaptive Capacity Control Frozen Output Frequency	F02	S34	AI	OPT	60
P69	ACC_DLTA_P/P	Adaptive Capacity Control Frozen Delta P/P	F02	S39	AI	OPT	60
P70	VSD_O/P.VOLT	VSD OutputVoltage	F02	S40	AI	OPT	60
P71	VSD_I/P.KW	VSD Input KW	F02	S41	AI	OPT	60
P72	VSD_I/P.MWHR	VSD I/P MWH	F02	S42	AI	OPT	60
P73	VSD_DCLK.VLT	VSD DC Link Voltage	F02	S43	AI	OPT	60
P74	VSD_DCLK.CUR	VSD DC Link Current	F02	S44	AI	OPT	60
P75	VSD_SRG_CONT	VSD Surge Count	F02	S45	AI	OPT	60
P76	VSD_O/P.HZ	VSD Output Frequency	F02	S46	AI	OPT	60
P77	VSD_AVGV.THD	VSD Maximum Voltage THD	F02	S47	AI	OPT	60
P78	VSD_AVGI.TDD	VSD Maximum Current TDD	F02	S48	AI	OPT	60
P79	VSD_I/P.KVA	VSD Input KVA	F02	S49	AI	OPT	60

Table A-13. AH–Standard Air-Handler Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P201	AHU3.DAT	Discharge Air Temperature	F02	S01	AI	STD	5
P202	AHU3.MAT	Mixed Air Temperature	F02	S02	AI	STD	5
P203	AHU3.OAT	Outside Air Temperature	F02	S03	AI	STD	5
P204	AHU3.SAT	Space Air Temperature	F02	S04	AI	STD	5
P205	AHU3.SP.ADJ	Space Setpoint Adjust	F02	S05	AI	STD	5
P208	MIN.OA.SP	Minimum Outside Air Setpoint	F02	S08	AI	STD	60
P301	SAT.SP.DIFF	Space Temperature Setpoint Differential	F03	S01	AV	STD	5
P302	OAT.ENA.DIFF	Outside Air Damper Enable Differential	F03	S02	AV	STD	5
P303	SAT.SP.SPADJ	Space Temperature Plus Setpoint Adjust	F03	S03	AV	STD	5
P304	MIN.OAD.CNTRL	Minimum Outside Air Damper Control	F03	S04	AV	STD	5
P305	AHU3.SAT.SP	AHU-3 Space Air Temperature Setpoint	F03	S05	AV	STD	5
P306	OAT.ENA.SP	Outside Air Temperature Enable Setpoint	F03	S06	AV	STD	5
P501	AHU3.FAN.ON	Fan Status	F05	S01	BI	STD	30
P502	AHU3.C1.ON	Condensor #1 Status	F05	S02	BI	STD	30
P503	AHU3.C2.ON	Condensor #2 Status	F05	S03	BI	STD	30
P504	AHU3.ENA	System Enable Point	F05	S04	BI	STD	30
P601	AHU3.FAN.SS	Fan Start/Stop	F06	S01	BO	STD	10
P602	AHU3.C1.SS	Condensor #1 Start/Stop	F06	S02	BO	STD	10
P603	AHU3.C2.SS	Condensor #2 Start/Stop	F06	S03	BO	STD	10
P604	AHU3.HT.SS	Heating Start/Stop	F06	S04	BO	STD	10
P605	OAD.ENA	Outside Air Damper Enable	F06	S05	BO	STD	10
P606	COOL.ENA	Cooling Enable Point	F06	S06	BO	STD	10
P607	HEAT.ENA	Heating Enable Point	F06	S07	BO	STD	10
P608	FREEZE.PROT	Freeze Protection Point	F06	S08	BO	STD	10
P609	AHU3.FILTER	Filter Status Point	F06	S09	BO	STD	10
P701	AHU3.OAD	Outside Air Dampers	F07	S01	AO	STD	5
P702	AHU3.EAD	Exhaust Air Dampers	F07	S02	AO	STD	5
P703	AHU3.RAD	Return Air Dampers	F07	S03	AO	STD	5
P704	COOL.LOAD	Cooling Load	F07	S04	AO	STD	5
P705	HEAT.LOAD	Heating Load	F07	S05	AO	STD	5

Table A-14. TC–Terminal Digital Controller Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P201	SPA.TEMP.ADJ	Space Temperature Adjust	F02	S01	AI	STD	5
P202	SPACE.TEMP	Space Temperature	F02	S02	AI	STD	5
P203	DAT	Discharge Air Temperature	F02	S03	AI	STD	5
P204	SPACE.SP	Space Temperature Setpoint	F02	S04	AI	STD	5
P205	DAT.SP	Discharge Air Setpoint	F02	S05	AI	STD	5
P206	NSB.HEAT	Night Setback Heating Setpoint	F02	S06	AI	STD	60
P207	NSB.COOL	Night Setback Cooling Setpoint	F02	S07	AI	STD	60
P301	ADJ.SAT.SP	Adjusted Space Temperature Setpoint	F03	S01	AV	STD	5
P302	HEAT.SP.FC	Heating Setpoint Fan Control	F03	S02	AV	STD	5
P303	COOL.CNTRL	Cooling Control	F03	S03	AV	STD	5
P304	HEAT.CNTRL	Heating Control	F03	S04	AV	STD	5
P305	NSB.HEAT	Night Setback Heating Control	F03	S05	AV	STD	5
P306	NSB.COOL	Night Setback Cooling Control	F03	S06	AV	STD	5
P307	SPACE.SP	Space Temperature Setpoint	F03	S07	AV	STD	5
P501	OCCUPIED	Occupied/Unoccupied Status	F05	S01	BI	STD	30
P502	FAN.RUN	Fan Run Status	F05	S02	BI	STD	30
P503	HISTORY.ENA	Enable History	F05	S03	BI	STD	30
P601	FAN.SS	Fan Start/Stop	F06	S01	BO	STD	10
P602	COOLING.VLV	Cooling Valve Start/Stop	F06	S02	BO	STD	10
P603	HEATING.VLV	Heating Valve Start/Stop	F06	S03	BO	STD	10
P604	FAN.ENA	Fan Enable	F06	S04	BO	STD	10
P605	NIGHT.STBK	Night Setback Enable	F06	S05	BO	STD	10

Table A-15. RT–Rooftop Unit Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P201	SPACE.TEMP	Space Temperature	F02	S01	AI	STD	5
P202	OAT.TEMP	Outside Air Temperature	F02	S02	AI	STD	5
P203	DAT	Discharge Air Temperature	F02	S03	AI	STD	5
P204	STPT.ADJ	Setpoint Adjust	F02	S04	AI	STD	5
P301	COOL.SP	Cooling Setpoint	F03	S01	AV	STD	5
P302	SAT-CLG.STPT	Space Temp - Cooling Setpoint	F03	S02	AV	STD	5
P303	HTG.SP	Heating Setpoint	F03	S03	AV	STD	5
P304	HTG.STPT-SAT	Heating Setpoint - Space Temp	F03	S04	AV	STD	5
P305	ECON.STPT.HI	Economizer Setpoint High	F03	S05	AV	STD	5
P306	DA.STPT.HI	Discharge Air Setpoint High	F03	S06	AV	STD	5
P307	DA.STPT.LO	Discharge Air Setpoint Low	F03	S07	AV	STD	5
P308	DX.OFF.STPT	DX Cooling Off Setpoint	F03	S08	AV	STD	5
P309	DX.STPT-OAT	DX Cooling Setpoint - Outside Air Temp	F03	S09	AV	STD	5
P310	DX1.ON.TIMER	DX Cooling 1 On Timer	F03	S10	AV	STD	5
P311	DX2.ON.TIMER	DX Cooling 2 On Timer	F03	S11	AV	STD	5
P312	HT1.ON.TIMER	Heating 1 On Timer	F03	S12	AV	STD	5
P313	HT2.ON.TIMER	Heating 2 On Timer	F03	S13	AV	STD	5
P316	ECON.STPT-OAT	Econimizer Setpoint - Outside Air Temp	F03	S16	AV	STD	5
P317	DAT.STPT-DAT	Discharge Air Setpoint - Discharge Air Temp	F03	S17	AV	STD	5
P318	CLG.STBK	Night Setback Cooling	F03	S18	AV	STD	5
P319	HTG.STBK	Night Setback Heating	F03	S19	AV	STD	5
P320	SAT.VS.CSB	Space Temp vs Cooling Setback	F03	S20	AV	STD	5
P321	SAT.VS.HSB	Space Temp vs Heating Setback	F03	S21	AV	STD	5
P501	CONSTANT.FAN	Constant Fan Status	F05	S01	BI	STD	30
P502	OCC.OR	Occupied Override Status	F05	S02	BI	STD	30
P601	FAN.ENA	Fan Enable	F06	S01	BO	STD	10
P602	CLG.ENA	Cooling Enable	F06	S02	BO	STD	10
P603	DX.STG1.ENA	DX Cooling Stage 1 Enable	F06	S03	BO	STD	10
P604	DX.STG2.ENA	DX Cooling Stage 2 Enable	F06	S04	BO	STD	10
P605	HTG.ENA	Heating Enable	F06	S05	BO	STD	10
P606	HTG.STG1.ENA	DX Heating Stage 1 Enable	F06	S06	BO	STD	10
P607	HTG.STG2.ENA	DX Heating Stage 2 Enable	F06	S07	BO	STD	10
P608	ECON.ENA	Economizer Enable	F06	S08	BO	STD	10
P609	DX1.ON.TIMER	DX1 On Timer	F06	S09	BO	STD	10
P610	DX2.ON.TIMER	DX2 On Timer	F06	S10	BO	STD	10
P611	HT1.ON.TIMER	HT1 On Timer	F06	S11	BO	STD	10
P612	HT2.ON.TIMER	HT2 On Timer	F06	S12	BO	STD	10
P613	DAMPER.HOME	Damper in Home Position	F06	S13	BO	STD	10
P614	OCCUPIED	Occupied Status	F06	S14	BO	STD	10
P701	CLG.SIGNAL	Cooling Output Signal	F07	S01	AO	STD	5
P702	HTG.SIGNAL	Heating Output Signal	F07	S02	AO	STD	5
P703	ECON.SIGNAL	Economizer Output Signal	F07	S03	AO	STD	5

Table A-16. RT–Rooftop Unit Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P201	OAT.TEMP	Outside Air Temperature	F02	S01	AI	STD	5
P202	CD.DAT	Cold Deck Discharge Air Temperature	F02	S02	AI	STD	5
P203	HD.DAT	Hot Deck Discharge Air Temperature	F02	S03	AI	STD	5
P204	MA.TEMP	Mixed Air Temperature	F02	S04	AI	STD	5
P205	SPACE.HUMID	Space Humidity	F02	S05	AI	STD	5
P206	HWR.TEMP	Hot Water Return Temperature	F02	S06	AI	STD	5
P207	HWS.TEMP	Hot Water Supply Temperature	F02	S07	AI	STD	5
P208	CHWS.TEMP	Chilled Water Supply Temperature	F02	S08	AI	STD	5
P209	CHWR.TEMP	Chilled Water Return Temperature	F02	S09	AI	STD	5
P301	COLD.DECK.SP	Cold Deck Temperature Setpoint	F03	S01	AV	STD	5
P302	CONV.SP	Convertor Setpoint	F03	S02	AV	STD	5
P303	CONV.CALC	Convertor Calculation Setpoint	F03	S03	AV	STD	5
P304	2/3_CNTRL	2/3 Control	F03	S04	AV	STD	5
P305	PHV.SP	Pre-heat Valve Setpoint	F03	S05	AV	STD	5
P306	HOT.DECK.SP	Hot Deck Setpoint	F03	S06	AV	STD	5
P307	SAH.SP	Supply Air Humidity Setpoint	F03	S07	AV	STD	5
P501	AHU.FAN.STAT	AHU Fan Status	F05	S01	BI	STD	30
P502	FZ.STAT	Freeze Status	F05	S02	BI	STD	30
P503	FILTER.DP	Filter Differential Pressure	F05	S03	BI	STD	30
P504	HWP1.STAT	Hot Water Pump 1 Status	F05	S04	BI	STD	30
P505	HWP2.STAT	Hot Water Pump 2 Status	F05	S05	BI	STD	30
P506	SEQ.ENA	Sequence Enable	F05	S06	BI	STD	30
P601	AHU1.FAN.SS	AHU1 Fan Start/Stop	F06	S01	BO	STD	10
P602	HWP1.SS	Hot Water Pump 1 Start/Stop	F06	S02	BO	STD	10
P603	HWP2.SS	Hot Water Pump 2 Start/Stop	F06	S03	BO	STD	10
P604	AHU1.FZ.STAT	AHU1 Freeze Status	F06	S04	BO	STD	10
P605	HWP1.FAIL	Hot Water Pump 1 Failure	F06	S05	BO	STD	10
P606	HWP2.FAIL	Hot Water Pump 2 Failure	F06	S06	BO	STD	10
P607	COOL.ENA	Cooling Enable	F06	S07	BO	STD	10
P608	HTG.ENA	Heating Enable	F06	S08	BO	STD	10
P609	2/3.VLV.ENA	2/3 Valve Enable	F06	S09	BO	STD	10
P610	PRE.HEAT.ENA	PreHeat Enable	F06	S10	BO	STD	10
P701	OAD	Outside Air Damper Signal	F07	S01	AO	STD	5
P702	1/3.VLV	1/3 Valve Signal	F07	S02	AO	STD	5
P703	2/3.VLV	2/3 Valve Signal	F07	S03	AO	STD	5
P704	CHW.VLV	Chilled Water Valve Signal	F07	S04	AO	STD	5
P705	HTW.VLV	Hot Water Valve Signal	F07	S05	AO	STD	5
P706	PHW.VLV	PreHeat Water Valve Signal	F07	S06	AO	STD	5
P707	HUM.VLV	Humidity Valve Signal	F07	S07	AO	STD	5
P708	FAN.SPD	Fan Speed Signal	F07	S08	AO	STD	5

Table A-17. AM–Air-Handling Unit with Mixing Box Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P201	OAT.TEMP	Outside Air Temperature	F02	S01	AI	STD	5
P202	RAT	Return Air Temperature	F02	S02	AI	STD	5
P203	AHU1.DAT	AHU-1 Discharge Air Temperature	F02	S03	AI	STD	5
P204	AHU1.MAT	AHU-1 Mixed Air Temperature	F02	S04	AI	STD	5
P205	AHU1.SAT	AHU-1 Space Air Temperature	F02	S05	AI	STD	5
P206	BLDG.HWS	Building Hot Water Supply	F02	S06	AI	STD	5
P207	AHU2.DAT	AHU-2 Discharge Air Temperature	F02	S07	AI	STD	5
P208	AHU2.MAT	AHU-2 Mixed Air Temperature	F02	S08	AI	STD	5
P209	AHU2.SAT	AHU-2 Space Air Temperature	F02	S09	AI	STD	5
P301	LOW.MAT	Lowest Mixed Air Temperature	F03	S01	AV	STD	5
P302	AHU1.DAT.SP	AHU-1 Discharge Air Temperature Setpoint	F03	S02	AV	STD	5
P303	AHU2.DAT.SP	AHU-2 Discharge Air Temperature Setpoint	F03	S03	AV	STD	5
P304	LHWT.SP	Leaving Hot Water Temperature Setpoint	F03	S04	AV	STD	5
P305	LHWT.CALC	Leaving Hot Water Temperature Calculation	F03	S05	AV	STD	5
P306	CL.ENA.SP	Cooling Enable Setpoint	F03	S06	AV	STD	5
P307	CL.ENA.DIFF	Cooling Enable Differential	F03	S07	AV	STD	5
P308	HT.ENA.SP	Heating Enable Setpoint	F03	S08	AV	STD	5
P309	HT.ENA.DIFF	Heating Enable Differential	F03	S09	AV	STD	5
P310	AHU1.HWV.SP	AHU-1 Hot Water Valve Setpoint	F03	S10	AV	STD	5
P311	AHU2.HWV.SP	AHU-2 Hot Water Valve Setpoint	F03	S11	AV	STD	5
P501	AHU1.FAN.STAT	AHU-1 Fan Status	F05	S01	BI	STD	30
P502	CHWP1.STAT	Chilled Water Pump-1 Status	F05	S02	BI	STD	30
P503	CHWP2.STAT	Chilled Water Pump-2 Status	F05	S03	BI	STD	30
P504	AHU2.FAN	AHU-2 Fan Status	F05	S04	BI	STD	30
P505	HWP1.STAT	Hot Water Pump-1 Status	F05	S05	BI	STD	30
P506	HWP2.STAT	Hot Water Pump-2 Status	F05	S06	BI	STD	30
P507	SEQUENCE	Pump Seqence	F05	S07	BI	STD	30
P601	BOILER.SS	Boiler Start/stop	F06	S01	BO	STD	10
P602	AHU1.FAN.SS	AHU-1 Fan Start/Stop	F06	S02	BO	STD	10
P603	AHU2.FAN.SS	AHU-2 Fan Start/Stop	F06	S03	BO	STD	10
P604	HWP1.SS	Hot Water Pump-1 Start/Stop	F06	S04	BO	STD	10
P605	HWP2.SS	Hot Water Pump-2 Start/Stop	F06	S05	BO	STD	10
P606	CHWP1.SS	Chilled Water Pump-1 Start/Stop	F06	S06	BO	STD	10
P607	CHWP2.SS	Chilled Water Pump-2 Start/Stop	F06	S07	BO	STD	10
P608	AHU1.FZ	AHU-1 Freeze Alarm	F06	S08	BO	STD	10
P609	AHU2.FZ	AHU-2 Freeze Alarm	F06	S09	BO	STD	10
P610	HWP1.FAIL	Hot Water Pump-1 Failure	F06	S10	BO	STD	10
P611	HWP2.FAIL	Hot Water Pump-2 Failure	F06	S11	B0	STD	10
P612	CHWP1.FAIL	Chilled Water Pump-1 Failure	F06	S12	B0	STD	10
P613	CHWP2.FAIL	Chilled Water Pump-2 Failure	F06	S13	B0	STD	10
P614	COOL.ENA	Cooling Enable	F06	S14	B0	STD	10
P615	HEAT.ENA	Heating Eable	F06	S15	B0	STD	10
P616	FILTER.DP1	Filter Differential Pressure Alarm AHU-1	F06	S16	B0	STD	10
P617	FILTER.DP2	Filter Differential Pressure Alarm AHU-2	F06	S17	B0	STD	10
P618	AHU1.ENA	AHU-1 Enable	F06	S18	BO	STD	10
P619	AHU2.ENA	AHU-2 Enable	F06	S19	BO	STD	10
P620	BOILER.ENA	Boiler Enable	F06	S20	BO	STD	10
P621	HEAT.ENA.PNT	Heat Enable Point	F06	S21	BO	STD	10
P622	COOL.ENA.PNT	Cool Enable Point	F06	S22	BO	STD	10
P701	BLDG.HW3W.VLV	Building Hot Water 3-Way Valve	F07	S01	AO	STD	5
P702	OAD	Outside Air Damper	F07	S02	AO	STD	5
P703	RAD	Return Air Damper	F07	S03	AO	STD	5
P704	AHU1.HW.VLV	AHU-1 Hot Water Valve	F07	S04	AO	STD	5
P705	AHU1.CW.VLV	AHU-1 Chilled Water Valve	F07	S05	AO	STD	5
P706	AHU2.HW.VLV	AHU-2 Hot Water Valve	F07	S06	AO	STD	5
P707	AHU2.CW.VLV	AHU-2 Chilld Water Valve	F07	S07	AO	STD	5

Table A-18. VT–Centrifugal Dual/Mono Shell with VSD Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	%CURRENT.SP	Remote Current Setpoint	F03	S02	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	HISTORY	Frozen/Live Data Source	F06	S02	BO	OPT	60
P09	VSD_FX/VR_SP	Fixed Variable Speed Selector (0= VariableSpd)	F06	S03	BO	STD	60
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	EVAP.PRESS	Evaporator Pressure	F02	S03	AI	STD	5
P14	COND.PRESS	Condenser Pressure	F02	S04	AI	STD	5
P15	OIL.DP	Oil Pressure	F02	S05	AI	STD	5
P16	ECDW.TEMP	Entering Condenser Water Temp	F02	S06	AI	STD	5
P17	LCDW.TEMP	Leaving Condenser Water Temp	F02	S07	AI	STD	5
P18	%CURRENT	Percent Motor Current	F02	S08	AI	STD	5
P19	PHASE_A.AMPS	Phase A Motor Current	F02	S09	AI	STD	60
P20	PHASE_B.AMPS	Phase B Motor Current	F02	S10	AI	STD	60
P21	PHASE_C.AMPS	Phase C Motor Current	F02	S11	AI	STD	60
P22	A-B.VOLTS	Phase A-B Line Voltage	F02	S12	AI	OPT	60
P23	B-C.VOLTS	Phase B-C Line Voltage	F02	S13	AI	OPT	60
P24	C-A.VOLTS	Phase C-A Line Voltage	F02	S14	AI	OPT	60
P25	LCHW_ACT.SP	Leaving Chilled Water Temp Actual Setpoint	F02	S15	AI	STD	5
P26	%CURR_ACT.SP	Remote / Local Actual Current Setpoint	F02	S16	AI	STD	5
P27	EVAPSAT.TEMP	Evaporator Saturation Temp	F02	S17	AI	STD	5
P28	CONDSAT.TEMP	Condenser Saturation Temp	F02	S18	AI	STD	5
P29	DISCH.TEMP	Discharge Temp	F02	S19	AI	STD	5
P30	OIL.TEMP	Oil Temperature	F02	S20	AI	STD	5
P31	PURGE.PRESS	Purge Pressure	F02	S21	AI	STD	30
P32	RUN.HOURS	Accumulated Operating Hours	F02	S22	AI	STD	600
P33	START.COUNT	Accumulated System Starts	F02	S23	AI	STD	600
P36	COMPR.STAT	Compressor Motor Status	F05	S01	BI	STD	60
P37	VENTSOL.STAT	Vent Valve Status	F05	S02	BI	STD	60
P38	CHWPUMP.STAT	Chilled Water Pump Status	F05	S03	BI	STD	60
P39	STARTSW.STAT	Start Switch Status (1=Stop/Reset-0=Run/Start)	F05	S04	BI	STD	60
P40	CHWFLSW.STAT	Chiller Water Flow Switch Status	F05	S05	BI	STD	60
P48	ACC_VALD_MAP	Adaptive Capacity Control Valid Surge Map	F05	S13	BI	STD	600
P49	ACC_SURGE	Adaptive Capacity Control New Surge Point	F05	S14	BI	STD	600
P50	VSD_CLGPMP	VSD Cooling Pump Running (0=Stopped)	F05	S15	BI	STD	600
P51	VSD_FLT519	VSD IEEE 519 Filter Present (0=Not Installed)	F05	S16	BI	STD	600
P52	SURGE_TYPE	Surge Detection Type (0=Delta_P/P-1=Current)	F05	S17	BI	STD	600
P56	AR_TIME.MIN	Anti-Recycle Time Left	F02	S26	AI	STD	60
P57	OPR_MOD.CODE	Operating Mode (1=Service-2=Local-3=Remote)	F02	S27	AI	STD	5
P58	OPER.CODE	Operation Code	F02	S28	AI	STD	5
P59	SAFETY.CODE	Safety Shutdown Code	F02	S29	AI	STD	5
P60	CYCLING.CODE	Cycling Shutdown Code	F02	S30	AI	STD	5
P61	VSD_INT.TEMP	VSD Internal Temp	F02	S31	AI	STD	60
P62	VSD_CHSKTEMP	VSD Converter Heatsink Temp	F02	S32	AI	STD	60
P63	ACC _PRV_POS	ACC PRV Position	F02	S33	AI	STD	60
P64	ACC_FRZ.HZ	Adaptive Capacity Control Frozen Output Frequency	F02	S34	AI	STD	60
P69	ACC_DLTA_P/P	Adaptive Capacity Control Frozen Delta P/P	F02	S39	AI	STD	60
P70	VSD_O/P.VOLT	VSD OutputVoltage	F02	S40	AI	STD	60
P71	VSD_I/P.KW	VSD Input KW	F02	S41	AI	STD	60
P72	VSD_I/P.MWHR	VSD I/P MWH	F02	S42	AI	STD	60
P73	VSD_DCLK.VLT	VSD DC Link Voltage	F02	S43	AI	STD	60
P74	VSD_DCLK.CUR	VSD DC Link Current	F02	S44	AI	STD	60
P75	VSD_SRG_CONT	VSD Surge Count	F02	S45	AI	STD	60
P76	VSD_O/P.HZ	VSD Output Frequency	F02	S46	AI	STD	60
P77	VSD_AVGV.THD	VSD Maximum Voltage THD	F02	S47	AI	STD	60
P78	VSD_AVGI.TDD	VSD Maximum Current TDD	F02	S48	AI	STD	60
P79	VSD_I/P.KVA	VSD Input KVA	F02	S49	AI	STD	60

Table A-19. VK–Centrifugal Super Chiller with VSD Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	%CURRENT.SP	Remote Current Setpoint	F03	S02	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	HISTORY	Frozen/Live Data Source	F06	S02	BO	OPT	60
P09	VSD_FX/VR_SP	Fixed Variable Speed Selector (0= VariableSpd)	F06	S03	BO	STD	60
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	EVAP.PRESS	Evaporator Pressure	F02	S03	AI	STD	5
P14	COND.PRESS	Condenser Pressure	F02	S04	AI	STD	5
P15	OIL.DP	Oil Pressure	F02	S05	AI	STD	5
P16	ECDW.TEMP	Entering Condenser Water Temp	F02	S06	AI	STD	5
P17	LCDW.TEMP	Leaving Condenser Water Temp	F02	S07	AI	STD	5
P18	%CURRENT	Percent Motor Current	F02	S08	AI	STD	5
P19	PHASE_A.AMPS	Phase A Motor Current	F02	S09	AI	STD	60
P20	PHASE_B.AMPS	Phase B Motor Current	F02	S10	AI	STD	60
P21	PHASE_C.AMPS	Phase C Motor Current	F02	S11	AI	STD	60
P22	A-B.VOLTS	Phase A-B Line Voltage	F02	S12	AI	OPT	60
P23	B-C.VOLTS	Phase B-C Line Voltage	F02	S13	AI	OPT	60
P24	C-A.VOLTS	Phase C-A Line Voltage	F02	S14	AI	OPT	60
P25	LCHW_ACT.SP	Leaving Chilled Water Temp Actual Setpoint	F02	S15	AI	STD	5
P26	%CURR_ACT.SP	Remote / Local Actual Current Setpoint	F02	S16	AI	STD	5
P27	EVAPSAT.TEMP	Evaporator Saturation Temp	F02	S17	AI	STD	5
P28	CONDSAT.TEMP	Condenser Saturation Temp	F02	S18	AI	STD	5
P29	DISCH.TEMP	Discharge Temp	F02	S19	AI	STD	5
P30	OIL.TEMP	Oil Temperature	F02	S20	AI	STD	5
P31	PURGE.PRESS	Purge Pressure	F02	S21	AI	STD	30
P32	RUN.HOURS	Accumulated Operating Hours	F02	S22	AI	STD	600
P33	START.COUNT	Accumulated System Starts	F02	S23	AI	STD	600
P34	LO.OIL	Lo Oil Pressure	F02	S24	AI	STD	600
P35	HI.OIL	Hi Oil Pressure	F02	S25	AI	STD	600
P36	COMPR.STAT	Compressor Motor Status	F05	S01	BI	STD	60
P37	VENTSOL.STAT	Vent Valve Status	F05	S02	BI	STD	60
P38	CHWPUMP.STAT	Chilled Water Pump Status	F05	S03	BI	STD	60
P39	STARTSW.STAT	Start Switch Status (1=Stop/Reset-0=Run/Start)	F05	S04	BI	STD	60
P40	CHWFLSW.STAT	Chiller Water Flow Switch Status	F05	S05	BI	STD	60
P48	ACC_VALD_MAP	Adaptive Capacity Control Valid Surge Map	F05	S13	BI	STD	600
P49	ACC_SURGE	Adaptive Capacity Control New Surge Point	F05	S14	BI	STD	600
P50	VSD_CLGPMP	VSD Cooling Pump Running (0=Stopped)	F05	S15	BI	STD	600
P51	VSD_FLT519	VSD IEEE 519 Filter Present (0=Not Installed)	F05	S16	BI	STD	600
P52	SURGE_TYPE	Surge Detection Type (0=Delta_P/P-1=Current)	F05	S17	BI	STD	600
P56	AR_TIME.MIN	Anti-Recycle Time Left	F02	S26	AI	STD	60
P57	OPR_MOD.CODE	Operating Mode (1=Service-2=Local-3=Remote)	F02	S27	AI	STD	5
P58	OPER.CODE	Operation Code	F02	S28	AI	STD	5
P59	SAFETY.CODE	Safety Shutdown Code	F02	S29	AI	STD	5
P60	CYCLING.CODE	Cycling Shutdown Code	F02	S30	AI	STD	5
P61	VSD_INT.TEMP	VSD Internal Temp	F02	S31	AI	STD	60
P62	VSD_CHSKTEMP	VSD Converter Heatsink Temp	F02	S32	AI	STD	60
P63	ACC _PRV_POS	ACC PRV Position	F02	S33	AI	STD	60
P64	ACC_FRZ.HZ	Adaptive Capacity Control Frozen Output Frequency	F02	S34	AI	STD	60
P65	REF_LVL.SP	Refrig Level Setpoint	F02	S35	AI	STD	60
P66	PROX_SENS.POS	Proximity Sensor Position	F02	S36	AI	STD	60
P67	PROX_SENS.REF	Proximity Sensor Reference	F02	S37	AI	STD	60
P69	ACC_DLTA_P/P	Adaptive Capacity Control Frozen Delta P/P	F02	S39	AI	STD	60
P70	VSD_O/P.VOLT	VSD OutputVoltage	F02	S40	AI	STD	60
P71	VSD_I/P.KW	VSD Input KW	F02	S41	AI	STD	60
P72	VSD_I/P.MWHR	VSD I/P MWH	F02	S42	AI	STD	60
P73	VSD_DCLK.VLT	VSD DC Link Voltage	F02	S43	AI	STD	60
P74	VSD_DCLK.CUR	VSD DC Link Current	F02	S44	AI	STD	60
P75	VSD_SRG_CONT	VSD Surge Count	F02	S45	AI	STD	60
P76	VSD_O/P.HZ	VSD Output Frequency	F02	S46	AI	STD	60
P77	VSD_AVGV.THD	VSD Maximum Voltage THD	F02	S47	AI	STD	60
P78	VSD_AVGI.TDD	VSD Maximum Current TDD	F02	S48	AI	STD	60
P79	VSD_I/P.KVA	VSD Input KVA	F02	S49	AI	STD	60

Table A-20. YP–Paraflow Absorption Chiller Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02	Comm_Fault	Communications Fault	F06	S05	BO	STD	5
P03	LCHW_TEMP.SP	Leaving Chilled Water Temp Setpoint	F03	S01	AV	STD	5
P04	HOTWTR.SP	Hot Water Temp Setpoint	F03	S02	AV	STD	5
P05	REMLOAD.SP	Remote Load Limit Setpoint	F03	S03	AV	STD	5
P07	START	Start/Stop	F06	S01	BO	STD	10
P08	HISTORY	Frozen/Live Data Source	F06	S02	BO	STD	60
P11	LCHW.TEMP	Leaving Chilled Water Temp	F02	S01	AI	STD	5
P12	ECHW.TEMP	Entering Chilled Water Temp	F02	S02	AI	STD	5
P13	1GEN1.PRESS	1st Generator#1 Pressure	F02	S03	AI	STD	5
P14	1GEN1.TEMP	1st Generator#1 Temp	F02	S04	AI	STD	5
P15	1GEN2.PRESS	1st Generator#2 Pressure	F02	S05	AI	STD	5
P16	ECDW.TEMP	Entering Condenser Water Temp	F02	S06	AI	STD	5
P17	LCDW.TEMP	Leaving Condenser Water Temp	F02	S07	AI	STD	5
P18	1GEN2.TEMP	1st Generator#2 Temp	F02	S08	AI	STD	5
P19	LHOTW.TEMP	Leaving Hot Water Temperature	F02	S09	AI	STD	5
P20	EHOTW.TEMP	Entering Hot Water Temperature	F02	S10	AI	STD	5
P22	LOADING.PCT	Burner Percent Loading (0-100%)	F02	S12	AI	STD	60
P25	LCHW_ACT.SP	Leaving Chilled Water Temp Actual Setpoint	F02	S15	AI	STD	60
P26	LHOTWACT.SP	Leaving Hot Water Actual Setpoint	F02	S16	AI	STD	60
P27	REFRIG.TEMP	Refrigerant Temperature	F02	S17	AI	STD	5
P28	SOL.TEMP	Solution Temperature	F02	S18	AI	STD	5
P29	REF_TEMP.CO	Refrigerant Temperature Coefficient	F02	S19	AI	STD	60
P30	PRGPMP.PRESS	Purge Pump Pressure	F02	S20	AI	STD	60
P31	PRGTANK.PRESS	Purge Tank Pressure	F02	S21	AI	STD	60
P32	RUN.HOURS	Total Operating Hours	F02	S22	AI	STD	600
P33	START.COUNT	Total System Starts	F02	S23	AI	STD	600
P34	LTPRGE.COUNT	Lifetime Purge Count	F02	S24	AI	STD	600
P35	MLTPRGE.COUNT	Manual Lifetime Purge Count	F02	S25	AI	STD	600
P36	REFPUMP.STAT	Refrigerant Status	F05	S01	BI	STD	60
P37	CDWPUMP.STAT	Condenser Water Pump Status	F05	S02	BI	STD	60
P38	CHWPUMP.STAT	Chilled Water Pump Status	F05	S03	BI	STD	60
P39	STARTSW.STAT	Start Switch Status	F05	S04	BI	STD	60
P40	HOTWPMPSOL.STAT	Hot Water Pump Status	F05	S05	BI	STD	60
P41	SOLPMP1.STAT	Solution Pump 1 Status	F05	S06	BI	STD	60
P42	SOLPUMP2.STAT	Solution Pump 2 Status	F05	S07	BI	STD	60
P43	PRGPUMP.STAT	Purge Pump Motor Status	F05	S08	BI	STD	60
P44	CHWFLSW.STAT	Chilled Water Flow Switch Status	F05	S09	BI	STD	60
P45	HOTWTR.STAT	Hot Water Flow Status	F05	S10	BI	STD	60
P46	CDWFLSW.STAT	Condenser Water Flow Switch Status	F05	S11	BI	STD	60
P47	DIL_CYC.STAT	Dilution Cycling Status	F05	S12	BI	STD	60
P56	UNIT_OP.CODE	Operating Code (0=Cool; 1=Heat; 2=Heat/Cool)	F02	S26	AI	STD	5
P57	OPR_MOD.CODE	Operating Mode (1=Service 2=Local 3=Remote)	F02	S27	AI	STD	5
P58	OPER.CODE	Operation Code	F02	S28	AI	STD	5
P59	SAFETY.CODE	Safety Shutdown Code	F02	S29	AI	STD	5
P60	CYCLING.CODE	Cycling Shutdown Code	F02	S30	AI	STD	5
P66	RMT_LOAD.SP	Remote Load Setpoint	F02	S36	AI	STD	60
P67	MAXLD.SP	Maximum Load Setpoint	F02	S37	AI	STD	60
P68	WKPRGE.COUNT	Weekly Purge Counter	F02	S38	AI	STD	60
P69	PD_LIM.SP	Pulldown Demand Setpoint - Minutes	F02	S39	AI	STD	60
P70	PD_DMD.MIN	Pulldown Demand - Minutes Left	F02	S40	AI	STD	60
P71	PDLD_START.SP	Pulldown Loading Start Setpoint - Start Load Limit	F02	S41	AI	STD	60
P72	PDLD_STOP.SP	Pulldown Loading Stop Setpoint - Stop Load Limit	F02	S42	AI	STD	60
P73	PD_DMD.LIM	Present Calculated Pulldown Loading	F02	S43	AI	STD	60
P80	ENERGY.SERVICE	Input Energy Supply (0=Gas/Oil 1=Steam)	F05	S21	BI	STD	60

Table A-21. YU–Universal Chiller Section 1 Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02S01	YTS01P02.	605	F06	S05	BO	STD	5
P03S01	YTS01P03.	301	F03	S01	AV	STD	5
P04S01	YTS01P04.	302	F03	S02	AV	STD	5
P05S01	YTS01P05.	303	F03	S03	AV	STD	5
P06S01	YTS01P06.	304	F03	S04	AV	STD	5
P07S01	YTS01P07.	601	F06	S01	BO	STD	5
P08S01	YTS01P08.	602	F06	S02	BO	STD	5
P09S01	YTS01P09.	603	F06	S03	BO	STD	5
P10S01	YTS01P10.	604	F06	S04	BO	STD	5
P11S01	YTS01P11.	201	F02	S01	AI	STD	5
P12S01	YTS01P12.	202	F02	S02	AI	STD	5
P13S01	YTS01P13.	203	F02	S03	AI	STD	5
P14S01	YTS01P14.	204	F02	S04	AI	STD	5
P15S01	YTS01P15.	205	F02	S05	AI	STD	5
P16S01	YTS01P16.	206	F02	S06	AI	STD	5
P17S01	YTS01P17.	207	F02	S07	AI	STD	5
P18S01	YTS01P18.	208	F02	S08	AI	STD	5
P19S01	YTS01P19.	209	F02	S09	AI	STD	5
P20S01	YTS01P20.	210	F02	S10	AI	STD	5
P21S01	YTS01P21.	211	F02	S11	AI	STD	5
P22S01	YTS01P22.	212	F02	S12	AI	STD	5
P23S01	YTS01P23.	213	F02	S13	AI	STD	5
P24S01	YTS01P24.	214	F02	S14	AI	STD	5
P25S01	YTS01P25.	215	F02	S15	AI	STD	5
P26S01	YTS01P26.	216	F02	S16	AI	STD	5
P27S01	YTS01P27.	217	F02	S17	AI	STD	5
P28S01	YTS01P28.	218	F02	S18	AI	STD	5
P29S01	YTS01P29.	219	F02	S19	AI	STD	5
P30S01	YTS01P30.	220	F02	S20	AI	STD	5
P31S01	YTS01P31.	221	F02	S21	AI	STD	5
P32S01	YTS01P32.	222	F02	S22	AI	STD	5
P33S01	YTS01P33.	223	F02	S23	AI	STD	5
P34S01	YTS01P34.	224	F02	S24	AI	STD	5
P35S01	YTS01P35.	225	F02	S25	AI	STD	5
P36S01	YTS01P36.	501	F05	S01	BI	STD	5
P37S01	YTS01P37.	502	F05	S02	BI	STD	5
P38S01	YTS01P38.	503	F05	S03	BI	STD	5
P39S01	YTS01P39.	504	F05	S04	BI	STD	5
P40S01	YTS01P40.	505	F05	S05	BI	STD	5
P41S01	YTS01P41.	506	F05	S06	BI	STD	5
P42S01	YTS01P42.	507	F05	S07	BI	STD	5
P43S01	YTS01P43.	508	F05	S08	BI	STD	5
P44S01	YTS01P44.	509	F05	S09	BI	STD	5
P45S01	YTS01P45.	510	F05	S10	BI	STD	5
P46S01	YTS01P46.	511	F05	S11	BI	STD	5
P47S01	YTS01P47.	512	F05	S12	BI	STD	5
P48S01	YTS01P48.	513	F05	S13	BI	STD	5
P49S01	YTS01P49.	514	F05	S14	BI	STD	5
P50S01	YTS01P50.	515	F05	S15	BI	STD	5
P51S01	YTS01P51.	516	F05	S16	BI	STD	5
P52S01	YTS01P52.	517	F05	S17	BI	STD	5
P53S01	YTS01P53.	518	F05	S18	BI	STD	5
P54S01	YTS01P54.	519	F05	S19	BI	STD	5
P55S01	YTS01P55.	520	F05	S20	BI	STD	5
P56S01	YTS01P56.	226	F02	S26	AI	STD	5
P57S01	YTS01P57.	227	F02	S27	AI	STD	5
P58S01	YTS01P58.	228	F02	S28	AI	STD	5
P59S01	YTS01P59.	229	F02	S29	AI	STD	5
P60S01	YTS01P60.	230	F02	S30	AI	STD	5
P61S01	YTS01P61.	231	F02	S31	AI	STD	5
P62S01	YTS01P62.	232	F02	S32	AI	STD	5
P63S01	YTS01P63.	233	F02	S33	AI	STD	5
P64S01	YTS01P64.	234	F02	S34	AI	STD	5
P65S01	YTS01P65.	235	F02	S35	AI	STD	5
P66S01	YTS01P66.	236	F02	S36	AI	STD	5
P67S01	YTS01P67.	237	F02	S37	AI	STD	5
P68S01	YTS01P68.	238	F02	S38	AI	STD	5
P69S01	YTS01P69.	239	F02	S39	AI	STD	5
P70S01	YTS01P70.	240	F02	S40	AI	STD	5
P71S01	YTS01P71.	241	F02	S41	AI	STD	5
P72S01	YTS01P72.	242	F02	S42	AI	STD	5
P73S01	YTS01P73.	243	F02	S43	AI	STD	5
P74S01	YTS01P74.	244	F02	S44	AI	STD	5
P75S01	YTS01P75.	245	F02	S45	AI	STD	5
P76S01	YTS01P76.	246	F02	S46	AI	STD	5
P77S01	YTS01P77.	247	F02	S47	AI	STD	5
P78S01	YTS01P78.	248	F02	S48	AI	STD	5
P79S01	YTS01P79.	249	F02	S49	AI	STD	5
P80S01	YTS01P80.	521	F05	S21	BI	STD	5
P81S01	YTS01P81.	522	F05	S22	BI	STD	5
P82S01	YTS01P82.	523	F05	S23	BI	STD	5
P83S01	YTS01P83.	524	F05	S24	BI	STD	5
P84S01	YTS01P84.	525	F05	S25	BI	STD	5

Table A-21. YU–Universal Chiller Section 2 Profile

Page	Object_Name	Description	F	S	Object_Type	STD/OPT	Refresh (Sec)
P02S02	YTS02P02.	606	F06	S06	BO	STD	5
P03S02	YTS02P03.	305	F03	S05	AV	STD	5
P04S02	YTS02P04.	306	F03	S06	AV	STD	5
P05S02	YTS02P05.	307	F03	S07	AV	STD	5
P06S02	YTS02P06.	308	F03	S08	AV	STD	5
P07S02	YTS02P07.	607	F06	S07	BO	STD	5
P08S02	YTS02P08.	608	F06	S08	BO	STD	5
P09S02	YTS02P09.	609	F06	S09	BO	STD	5
P10S02	YTS02P10.	610	F06	S10	BO	STD	5
P11S02	YTS02P11.	251	F02	S51	AI	STD	5
P12S02	YTS02P12.	252	F02	S52	AI	STD	5
P13S02	YTS02P13.	253	F02	S53	AI	STD	5
P14S02	YTS02P14.	254	F02	S54	AI	STD	5
P15S02	YTS02P15.	255	F02	S55	AI	STD	5
P16S02	YTS02P16.	256	F02	S56	AI	STD	5
P17S02	YTS02P17.	257	F02	S57	AI	STD	5
P18S02	YTS02P18.	258	F02	S58	AI	STD	5
P19S02	YTS02P19.	259	F02	S59	AI	STD	5
P20S02	YTS02P20.	260	F02	S60	AI	STD	5
P21S02	YTS02P21.	261	F02	S61	AI	STD	5
P22S02	YTS02P22.	262	F02	S62	AI	STD	5
P23S02	YTS02P23.	263	F02	S63	AI	STD	5
P24S02	YTS02P24.	264	F02	S64	AI	STD	5
P25S02	YTS02P25.	265	F02	S65	AI	STD	5
P26S02	YTS02P26.	266	F02	S66	AI	STD	5
P27S02	YTS02P27.	267	F02	S67	AI	STD	5
P28S02	YTS02P28.	268	F02	S68	AI	STD	5
P29S02	YTS02P29.	269	F02	S69	AI	STD	5
P30S02	YTS02P30.	270	F02	S70	AI	STD	5
P31S02	YTS02P31.	271	F02	S71	AI	STD	5
P32S02	YTS02P32.	272	F02	S72	AI	STD	5
P33S02	YTS02P33.	273	F02	S73	AI	STD	5
P34S02	YTS02P34.	274	F02	S74	AI	STD	5
P35S02	YTS02P35.	275	F02	S75	AI	STD	5
P36S02	YTS02P36.	526	F05	S26	BI	STD	5
P37S02	YTS02P37.	527	F05	S27	BI	STD	5
P38S02	YTS02P38.	528	F05	S28	BI	STD	5
P39S02	YTS02P39.	529	F05	S29	BI	STD	5
P40S02	YTS02P40.	530	F05	S30	BI	STD	5
P41S02	YTS02P41.	531	F05	S31	BI	STD	5
P42S02	YTS02P42.	532	F05	S32	BI	STD	5
P43S02	YTS02P43.	533	F05	S33	BI	STD	5
P44S02	YTS02P44.	534	F05	S34	BI	STD	5
P45S02	YTS02P45.	535	F05	S35	BI	STD	5
P46S02	YTS02P46.	536	F05	S36	BI	STD	5
P47S02	YTS02P47.	537	F05	S37	BI	STD	5
P48S02	YTS02P48.	538	F05	S38	BI	STD	5
P49S02	YTS02P49.	539	F05	S39	BI	STD	5
P50S02	YTS02P50.	540	F05	S40	BI	STD	5
P51S02	YTS02P51.	541	F05	S41	BI	STD	5
P52S02	YTS02P52.	542	F05	S42	BI	STD	5
P53S02	YTS02P53.	543	F05	S43	BI	STD	5
P54S02	YTS02P54.	544	F05	S44	BI	STD	5
P55S02	YTS02P55.	545	F05	S45	BI	STD	5
P56S02	YTS02P56.	276	F02	S76	AI	STD	5
P57S02	YTS02P57.	277	F02	S77	AI	STD	5
P58S02	YTS02P58.	278	F02	S78	AI	STD	5
P59S02	YTS02P59.	279	F02	S79	AI	STD	5
P60S02	YTS02P60.	280	F02	S80	AI	STD	5
P61S02	YTS02P61.	281	F02	S81	AI	STD	5
P62S02	YTS02P62.	282	F02	S82	AI	STD	5
P63S02	YTS02P63.	283	F02	S83	AI	STD	5
P64S02	YTS02P64.	284	F02	S84	AI	STD	5
P65S02	YTS02P65.	285	F02	S85	AI	STD	5
P66S02	YTS02P66.	286	F02	S86	AI	STD	5
P67S02	YTS02P67.	287	F02	S87	AI	STD	5
P68S02	YTS02P68.	288	F02	S88	AI	STD	5
P69S02	YTS02P69.	289	F02	S89	AI	STD	5
P70S02	YTS02P70.	290	F02	S90	AI	STD	5
P71S02	YTS02P71.	291	F02	S91	AI	STD	5
P72S02	YTS02P72.	292	F02	S92	AI	STD	5
P73S02	YTS02P73.	293	F02	S93	AI	STD	5
P74S02	YTS02P74.	294	F02	S94	AI	STD	5
P75S02	YTS02P75.	295	F02	S95	AI	STD	5
P76S02	YTS02P76.	296	F02	S96	AI	STD	5
P77S02	YTS02P77.	297	F02	S97	AI	STD	5
P78S02	YTS02P78.	298	F02	S98	AI	STD	5
P79S02	YTS02P79.	299	F02	S99	AI	STD	5
P80S02	YTS02P80.	546	F05	S46	BI	STD	5
P81S02	YTS02P81.	547	F05	S47	BI	STD	5
P82S02	YTS02P82.	548	F05	S48	BI	STD	5
P83S02	YTS02P83.	549	F05	S49	BI	STD	5
P84S02	YTS02P84.	550	F05	S50	BI	STD	5

NOTES

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