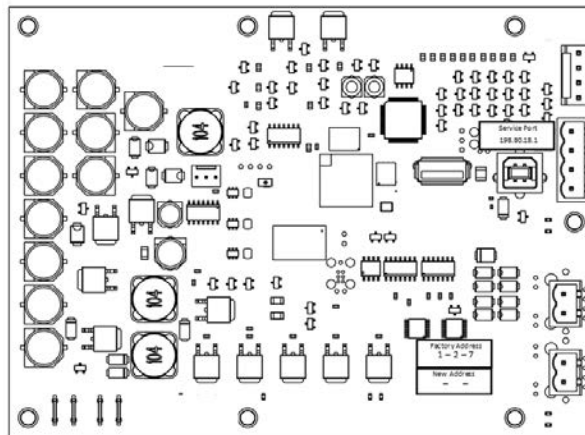![TRANE®]

Integration Guide

BACnet® Communication Interface (BCI2-I)

For IntelliPak™ and Commercial Self-Contained

Order Numbers: X13651544–010: IntelliPak 1; for software and hardware
C1752184600010: IntelliPak 1, II, and CSC; for field-installed kit

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⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

April 2022   **BAS-SVP054A-EN**   TRANE TECHNOLOGIES™

Introduction

The BACnet Communication Interface (BCI-I) for IntelliPak® is comprised of a Tracer® UC400 controller with interface software. It is a non-programmable communications module that allows heating, ventilation, and air-conditioning (HVAC) equipment to communicate on a BACnet communications network.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.
NOTICE	Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs and HCFCs such as saturated or unsaturated HFCs and HCFCs.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**

- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**

- **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- **All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.**

- **Non-Trane personnel should always follow local regulations.**

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Table of Contents

Overview

BACnet Protocol

The Building Automation and Control Network (BACnet®) protocol is ANSI/ASHRAE Standard 135. This standard allows building automation systems or components from different manufacturers to share information and control functions. BACnet® provides building owners the capability to connect various types of building control systems or subsystems together for many uses. Multiple vendors can use this protocol to share information for monitoring and supervisory control between systems and devices in a multi-vendor interconnected system. The BACnet® protocol defines standard objects (data points) called BACnet® objects. Each object has a defined list of properties that provide context information about that object. In addition, BACnet® defines a number of application services that are used to interact with objects in a BACnet® device.

BACnet Testing Laboratory (BTL) Certification

The BCI2–I and BCI2–R supports the BACnet communication protocol and has been designed to meet the requirements of the BACnet Building Controller (B-BC) profile. For more details, refer to the BTL web site at www.bacnetinternational.org.

BCI2-I Configuration

The BCI2-I device is designed as a self-configuring controller to accommodate the many possible equipment configuration options available in the IntelliPak™ line of equipment. This self-configuring device eliminates the need for the BAS technician having to create BACnet objects, minimizes the risk of object configuration errors, and allows the IntelliPak unit to be quickly installed in the BAS.

The self-configuration process only creates objects that are appropriate for the feature set of the specific IntelliPak unit that the BCI2-I is connected to. After this process is complete, the device exits *factory mode* and enters the *normal mode* of operation.

Important: At this point, the self-configuration process will not start when power is applied to the device.

The set of objects listed in ",", are the set of all possible objects supported by the IntelliPak line of equipment. The BAS technician should query the device for the list of actual objects that have been created in the device.

Backward Compatibility

IntelliPak I units manufactured after February 2009 with design sequence *F* or *A* on units manufactured after September (for either 20-75 ton or S*HK 90-130 assemblies), are shipped with the correct software versions. Units with lower design sequences will report *COMM 5* instead of *BACnet* on the BAS Communications Software Revision Number screen.

For IntelliPak units manufactured before May 2003 with design sequences prior to *5, 20-75 ton or X, 90-130 ton*, will require a module change(s).

For IntelliPak I units requiring board changes, add the following modules:

- RTM X13650558-08 v20.05
- LHI X13650780-06 v26.04
- RHI X13650787-06 v26.04 (if installed)
- VOM X13650432-02 v02.01 (if installed)

Note: The Human Interface (HI) will still report the wrong device/comm protocol on the Revision report screen in the configuration menu.

IntelliPak II units with design sequence *D0, 90-150 ton* and Human Interface (HI) software, Version 35.06 or higher, are shipped with the correct software versions (*design sequence is the 10th and 11th digits of the unit model number*). Units with lower design sequences or using a HI software

version prior to Version 35.06, will report COMM 5 instead of BACnet on the BAS Communications Software Revision Number screen.

To verify software versions, press the **CONFIGURATION** button on the human interface, then press the **NEXT** button to display the software revision screens.

CSC units manufactured after October 2009 are shipped with the correct software versions. For CSC units manufactured before 2009, the HI will report the wrong device/COMM protocol on the **Revision Report** screen on the configuration menu. The units will report COMM5 instead of BACnet on the BAS communications **Software Revision Number** screen.

Software Service Tools for Configuring BCI2-I

Tracer TU

Tracer TU version 11.6 or higher is a service tool software that allows the technician to modify the operation of the device and to discover the BACnet objects present in the device. To modify the device or discover objects, first connect to Tracer TU as follows:

⚠ WARNING
Hazardous Voltage! **Failure to disconnect power before servicing could result in death or serious injury. Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.**

1. Connect a USB cable directly between the laptop PC and the service port located on the front of the BCI2-I device.
2. Click either the Tracer TU desktop icon or the Tracer TU program item in the Tracer TU group on the Start menu. The Tracer TU splash screen displays briefly followed by the Connect dialog box.
3. Select the Direct Connection radio button, if not already selected.
4. Click the Connect button and the Tracer TU Unit Summary page displays after successful connection.

   Note: The BCI2-I may be powered by means of the USB cable or the 24 Vac from the HVAC unit. Concurrent connection of unit power and the USB cable will not harm the BCI2-I device.

Embedded BCI2 Service Tool

To establish a connection using BCI2 Service Tool:

1. Using a USB-A to USB-B cable, plug the USB-B end into the Service Port on the BCI2. Plug the USB-A end into a laptop.
2. Open a browser on the laptop.
3. Enter **198.80.18.1**.
4. The BCI2 Service Tool will be served up from the BCI2 controller.
5. Changes can be made to the configuration of the BCI2-I and saved.

Figure 1.   Protocol Configuration
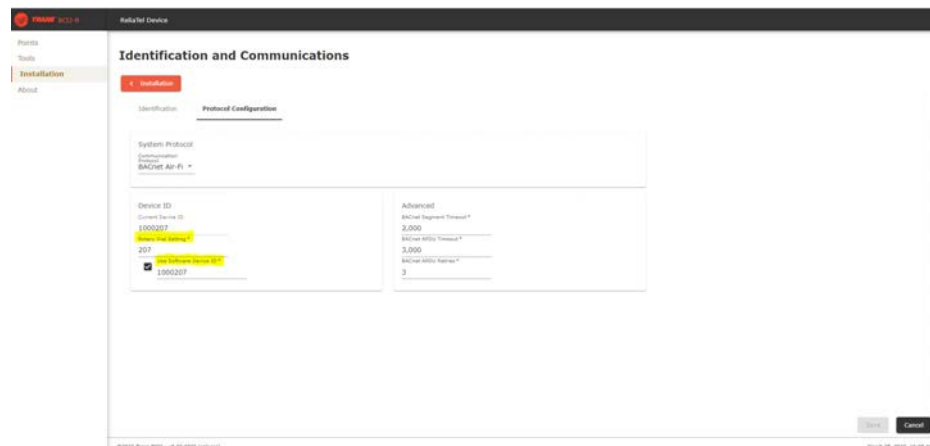
Clearing the BCI2-I Controller Using Tracer TU

Clearing the controller is required to allow the BCI2-I to set the units of measure for the device or to scan the IntelliPak unit to create BACnet objects. The process of clearing the controller must be run prior to executing units of measure configuration or the object self-configuration process. The BCI2-I can be cleared using Tracer TU or the embedded BCI2 Service Tool.

> ## ⚠ WARNING
>
> **Hazardous Voltage!**
> **Failure to disconnect power before servicing could result in death or serious injury. Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.**

1. Power down the unit.

   Note: The IMC buss must not be active during reset.

2. Establish the connection between Tracer TU and the device by following the procedure in the previous section.

3. From the Utilities menu, select **Status > Controller Settings**.

4. Click the **Clear Controller** button and a pop-up window displays asking for confirmation to reset the device. Click **Yes**.

5. After a few seconds a pop-up displays confirming that the controller has been reset and indicating that the controller will be rebooted. Click **OK**.

   After the controller boots up:

   • The name reverts back to the default value (IntelliPak Device).

   • It is in *factory default* state.

   • The units of measure is SI (metric).

   • The TP baud rate is 76,800 (Clear Controller does not change the baud rate).

   • There are no BACnet objects present in the controller.

   > *Important: The controller must be in this state prior to changing the units of measure or self-configuring the device..*

Clearing the Controller Using BCI2 Service Tool

1. Using a USB-A to USB-B cable, plug the USB-B end into the Service Port on the BCI2. Plug the USB-A end into a laptop.

2. Open a browser on the laptop.

3. Enter **198.80.18.1**.

4. The BCI2 Service Tool will be served up from the BCI2 controller.

5. Navigate to **Tools** > **Backup and Restore** > **Clear Controller**.

6. Click **Continue**.

7. The BCI2-R is cleared and ready to accept a new configuration or change units of measure.

Important: The controller must be in this state prior to changing the units of measure or self-configuring the device.

Configuring IP Units with Tracer TU

The BCI2-I supports both inch-pound (IP) and SI (metric) units of measure. The factory default is SI. The device allows only a change of units for all objects as a whole. Mixed units of measure is not allowed. If the controller is not in cleared state, follow one of the previous procedures for clearing the controller.

1. Establish a connection between Tracer TU and the BCI2-I.

2. From the Utilities drop-down menu, select **Status > Controller Settings**.

   Note: The page contains four (4) configuration frames that are minimized. Expand the Controller Units frame.

3. In the Device Units box of the frame, select the **IP units of measure** radio button and then click the **Send To Device** button in the lower right-hand corner of the window. A pop-up displays indicating that changes were saved to the controller. Select **OK**.

4. Exit Tracer TU and cycle power to the controller by disconnecting and then reconnecting the USB plug. After the controller boots up:

   • It is in factory default state.

   • The units of measure is IP.

   • The TP baud rate is 76,800. (The baud rate can be any of four possibilities.)

   • There are no BACnet objects present in the controller.

   • If the BCI2-I was previously assigned a name, it will not display after the controller reboot.

Configuring IP units with embedded BCI2 Service Tool

1. Using a USB-A to USB-B cable, plug the USB-B end into the Service Port on the BCI2. Plug the USB-A end into a laptop.

2. Open a browser on the laptop.

3. Enter **198.80.18.1**.

4. The BCI2 Service Tool will be served up from the BCI2 controller.

5. Navigate to **Tools** > **Installation and Communication** > **System Units**.

6. Click **Save**.

BACnet Object Configuration

Configuring BACnet objects is a self-configuring process.

If the controller is not cleared, follow one of the previous procedures to clear the controller.

1. Remove the USB cable plug from the device.

2. Apply power to the HVAC equipment. After the device boots up, the self-configuration process begins. No further user action is required.

   Note: Do not remove power while the device is in self-configuration mode. The UC400 Marque LED will begin flashing when the point creation process is finished. The process typically takes 2 to 4 minutes. When complete, the device enters normal operating mode.

Changing Baud Rate with Tracer TU

The BCI2-I device supports four (4) baud rates and can be modified with Tracer TU:

• 9,600

• 19,200

• 38,400

• 76,800 (default)

⚠ WARNING

Hazardous Voltage!

Failure to disconnect power before servicing could result in death or serious injury. Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.

---

1. Establish a connection between Tracer TU and the BCI2-I.

2. From the Utilities drop-down menu, select **Status > Controller Settings**.

    Note: The page contains four (4) configuration frames that are minimized. Expand the Protocol frame to view.

3. Click on the drop down arrow for the Baud Rate list and select the preferred baud rate.

4. Click the **Send To Device** button in the lower right-hand corner of the window. A pop-up displays indicating that changes were saved to the controller. Click **OK**.

5. Exit Tracer TU and disconnect the USB cable plug.

6. Apply power to the HVAC equipment.

Changing Baud Rate Using Embedded BCI2 Service Tool

1. Using a USB-A to USB-B cable, plug the USB-B end into the Service Port on the BCI2. Plug the USB-A end into a laptop.

2. Open a browser on the laptop.

3. Enter **198.80.18.1**.

4. The BCI2 Service Tool will be served up from the BCI2 controller.

5. Navigate to **Tools** > **Installation and Communication** > **Protocol Configuration** > **Edit**.

6. Click **Save**.

Changing (Soft Set) Device ID with Tracer TU

By default, the BCI2-I device sets its device ID to the same value as the one defined by the rotary switches (MS/TP MAC address) on the front of the device. For simple networks, this is an easy method that ensures unique device IDs across the link.

The device also supports the full range of device ID values as specified by the BACnet Standard. Systems that require a more complex device ID convention are supported with Tracer TU, which has the ability to set the device ID through software configuration.

⚠ **WARNING**

Hazardous Voltage!

Failure to disconnect power before servicing could result in death or serious injury. Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.

1. Establish a connection between Tracer TU and the BCI2-I.

2. From the Utilities drop-down menu, select Controller and then Controller Settings.

    Note: The page contains four (4) configuration frames that are minimized. Expand the Protocol frame.

3. In the device ID box, select the check box next to Use Software Device ID to enable the functionality. The swipe-and-type box is invoked.

4. Type in the preferred device ID.

5. Click the **Send To Device** button in the lower right-hand corner of the window. A pop-up displays indicating that changes were saved to the controller. Click **OK**.

6. Exit Tracer TU and disconnect the USB service plug.

7. Apply power to the HVAC equipment.

Changing (Soft Set) Device ID Using Embedded BCI2 Service Tool

1. Using a USB-A to USB-B cable, plug the USB-B end into the Service Port on the BCI2. Plug the USB-A end into a laptop.

2. Open a browser on the laptop.

3. Enter **198.80.18.1**.

4. The BCI2 Service Tool will be served up from the BCI2 controller.

5. Navigate to **Tools** > **Installation and Communication** > **Protocol Configuration** > **Edit**.

6. In the Device ID box, select **Use Software Device ID** to enable the functionality. The swipe-and-type box is invoked.

7. Enter the preferred **Device ID**.

8. Click **Save**.

9. Apply power to the HVAC equipment.

Stand-Alone or BAS Operation

The control system on HVAC equipment has the ability to operate the unit as a stand-alone system or as part of a building automation system. The BCI2-I (either factory or field installed), by default, is configured for stand-alone operation. This configuration enables the HVAC equipment to operate prior to the commissioning of the unit into the BAS.

Using Embedded BCI2 Service Tool to Override and Put Points In/Out of Service

To override or put points in/out of service, navigate to **Points > [point type].** See figure the figures below.

Figure 2. BCI2 Service Tool Points

Figure 3. BCI2 Service Tool Override Details

Figure 4.   BCI2 Service Tool Point Service

Configuring IntelliPak™ Control

The IntelliPak control system must be configured at the human interface (HI) to support unit control from the BAS. The technician should set/verify the following configuration properties as illustrated below and verify that the *BAS Module Comm Failure* diagnostic is not present.

1.   Configuration Menu

Configuration - Model Num Digit	34
BAS Communication Module	Installed

Software Revision Number:		
BAS Communications:	BACnet	28.02

2.   Setup Menu

Unit Control: BAS/NETWORK

3.   Diagnostics Menu

Active Diagnostic - - Auto Reset
None

BAS Unit Control

The BCI2-I provides a method for a BAS to control the operation of HVAC equipment. This method consists of BACnet objects that the BAS can access to control and monitor the status of equipment. There are two (2) sets of objects:

- Output objects; used by the BAS to provide command, setpoint, and sensor information to the IntelliPak unit.

- Input objects; provide IntelliPak status information to the BAS.

The system allows the BAS technician to define the amount of control that the BAS system applies to the unit. This is done by configuring the state of the *Out of Service* property of the output objects. If the property is set to *TRUE*, the equipment uses a corresponding local value for control. If the property is set to *FALSE*, the local value is ignored and the BAS-supplied value is used for control. The BAS value is provided to the IntelliPak by writing to the present value property of the corresponding output object. The factory default value for the *Out of Service* property of these objects is *TRUE*.

Periodic Update of BAS Values

The BCI2–I device requires the BAS system to periodically update the sensor values to protect against a loss of communication between the BAS and the BCI2–I . By BACnet definition, the present value of the object maintains the last value written to it, regardless of the amount of time that has elapsed since the last write. If communication is lost for several minutes or longer, the present value of BAS-supplied sensor objects may no longer represent the current state of environmental conditions. This may result in decreased occupant comfort and damage to building systems.

BAS Communication Failure

The BCI2–I is designed to minimize *communication failure mode*. It does this by monitoring the length of time that has elapsed since the last write to the present value of the sensor object. If the length of time exceeds a predefined limit, the BCI2–I places the object into the *fault* state and reverts to a unit-supplied sensor value for control. At power-up, the sensor objects are set to a *fault* state and remain in this state until a write is detected. Wireless sensors continue sensing and report the communication failure to the local unit, but not the upstream to the BAS

The following list is a set of sensor values that can be supplied by the BAS:

- Space Static Pressure BAS
- Space Air Temperature BAS
- Discharge Air Temperature BAS
- Duct Static Air Pressure BAS
- Outdoor Air Temperature BAS
- Outdoor Air Humidity BAS
- Outdoor Airflow BAS
- Space CO_2 Concentration BAS
- Space Humidity BAS

Input/Output Commands and Calculations

This section provides the following information about certain inputs and outputs that perform unique control commands and calculations:

- Filter timer and diagnostic reset commands
- Setpoint calculations

System Control Command

Binary Output Object 1 has a special importance in the system. This object allows the BAS to command the unit to run in a local or BAS control mode. When the present value property of the object is set to *Standalone Control*, the IntelliPak unit enters local control and ignores BAS-supplied values. In this mode, the unit uses local sensor and setpoint values. When the object present value property is set to *BAS Control*, the IntelliPak unit uses the values supplied by the BAS system for unit control.

Filter Timer Reset Command

The BCI2 uses the *Filter Runtime Hours* object (AI 6) to generate a diagnostic when its present value is greater than the *Filter Runtime Hours Setpoint*, (AV 1) present value. The procedure for resetting the timer is as follows:

The BAS changes the state of the Filter Timer Reset Command object (BO 13) to the active state. When the change to active state takes place, the BCI2 sets the present value of the Filter Runtime Hours object to zero and then sets the Reset Command object back to the inactive state.

Diagnostics Reset Command

The IntelliPak control system monitors the operation of the HVAC equipment. If an abnormal condition is detected, a diagnostic message displays on the human interface of the equipment

control panel. In addition, the set of internal diagnostics is mapped to the set of BACnet binary input objects. The corresponding BI object changes the state from *inactive* to *active* when the diagnostic is detected. The object has been configured to send a BACnet event message to external BACnet devices as defined by the protocol.

The BAS has the ability to reset internal diagnostics by controlling the state of the *Diagnostic Reset Command* object (BO 14). The procedure for resetting diagnostics is as follows:

- The BAS changes the state of the *Diagnostic Reset* to the active state. When the change to *active* state take place, the IntelliPak control system resets all internal diagnostics and sets the state of all of the diagnostic objects to inactive.

- Upon completion of this action, the BCI2–I sets the present value of the *Diagnostic Reset Command* object back to the *inactive* state.

Setpoint Calculations

The equipment has the ability to perform two (2) basic control functions:

- **Space air temperature control:** When the unit is configured for space air temperature control, it controls the air temperature of the space that contains the space air temperature sensor or the wireless space sensor. This value can be provided by wiring the sensor to the unit or by means of a sensor value provided by the BAS.

- **Discharge air temperature control:** When the unit is configured for discharge air control, it controls the temperature of the air leaving the unit to the discharge air temperature setpoint.

The illustration below shows how the various temperature setpoints are calculated for space temperature control. The active space temperature setpoint is calculated based on the space temperature setpoint and the two setpoint offset values when the unit is in an occupied mode. In unoccupied mode, the unoccupied heating and cooling setpoints are used as the active setpoint.
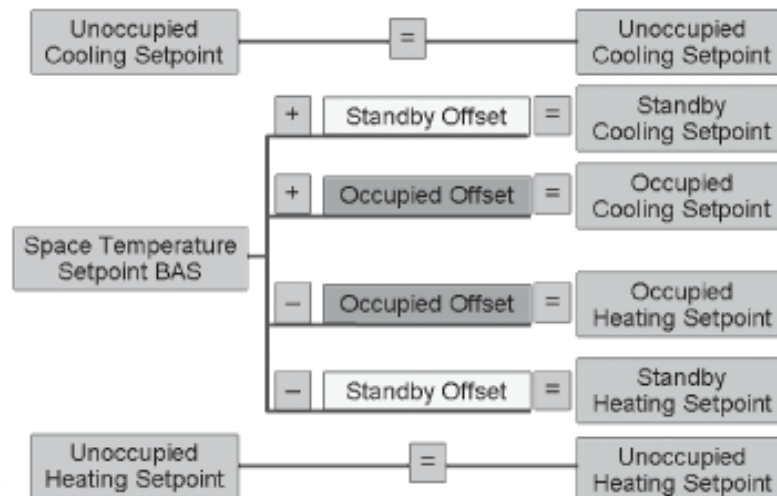
Timestamped Configuration

The BCI2–I device has a software-derived clock that maintains the time and date. The device requires the current time in order to record timestamps when an event or a change in state is detected by a BACnet object. However, in the event of a power loss, the device does not maintain the time/date information. At power-up, the device time and date defaults to 12:00 p.m., Jan 1,

1970. To minimize the possibility that the unit time stamp is not representing the actual time, the BAS should be setup to periodically synchronize the device time clock with the BAS clock using the *BACnet TimeSynchronization service*.

BCI2 IntelliPak™ Address and LEDs

Rotary Dial Address

Previous versions of BCI-I had rotary dials to set the controller address. The BCI2-I controller does not have rotary dials to set the address. A default address is set at the factory and recorded on a label applied to the circuit board. The address can be changed using the embedded BCI2 Service Tool.

Follow these instructions to change the address of the controller.:

1. Using a USB-A to USB-B cable, plug the USB-B end into the Service Port on the BCI2. Plug the USB-A end into a laptop.
2. Open a browser on the laptop.
3. Enter **198.80.18.1**.
4. The BCI2 Service Tool will be served up from the BCI2 controller.
5. Navigate to **Tools** > **Installation and Communication** > **Protocol Configuration** > **Edit**.
6. Enter the Rotary Dial Setting (address).
7. If the **Device ID** needs to be changed, select **Use Software Device ID** and enter the desired Device ID.

Figure 5.   Setting the controller address with the embedded BCI2 Service Tool
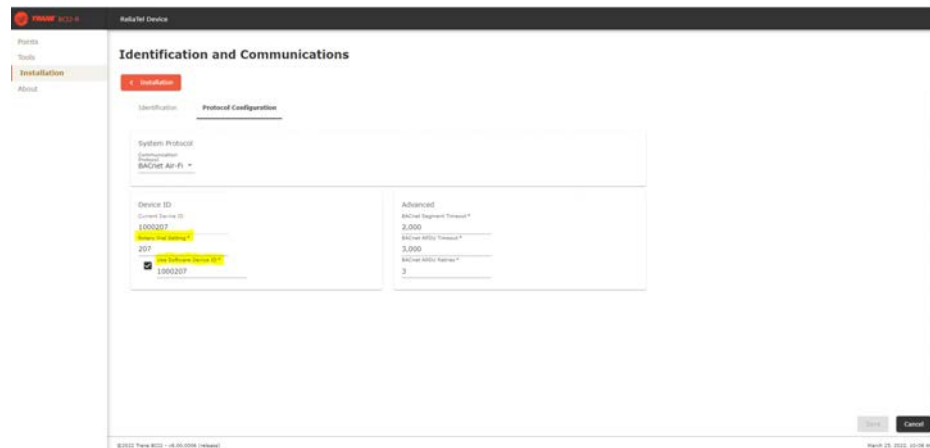
Changing Rotary Dial Address with Tracer TU

1. Establish a connection between Tracer TU and the BCI2–I.
2. From the Utilities drop-down menu, select **Status** > **Controller Settings**.

Note: The page contains four configuration frames that are minimized. Expand the Protocol frame to view.

3. In the **Rotary Dial Settings** field, enter a new address.
4. Click **Send to Device** in the lower right-hand corner.
5. Exit Tracer TU and disconnect the USB cable plug.
6. Apply power to the HVAC equipment.

LEDs Description

Table 1. Interpreting the LEDs

LED type	LED Activity	Indicates...
Status LED 4 (green)	Solid on	Normal operation
	Steady blink pattern, 50% on and 50% off, repeating	BCI2 not connected to equipment (ReliaTel, IntelliPak or CH530)
	Short/long flash pattern, repeating	Alarms or point faults are present
	Not illuminated	The controller is off
	2 blinks followed by a pause, repeating	The controller is booting.
	3 blinks followed by a pause, repeating	Controller firmware is updating.
	4 blinks followed by a pause, repeating	Data storage error, replace controller
	5 blinks followed by a pause, repeating	System error, restart controller or clear controller.
Link Tx	Tx flickering/blinking green	Normally illuminated. Will be illuminated even if no data transferred or not connected to the Link.
	Not illuminated	No data transferring or not connected
Link Rx	Rx flickering/blinking yellow	Data is being transferred
	Not illuminated	No data is transferring or not connected
IMC Tx	Tx flickering/blinking green	Data is being transferred
	Not illuminated	No data is transferring or not connected
IMC Rx	Rx flickering/blinking yellow	Data is being transferred
	Not illuminated	No data is transferring or not connected

BACnet Data Points and Configuration Property Definitions

The BCI2 device allows an IntelliPak control system to communicate with BACnet systems and devices using BACnet MS/TP. This section includes information about:

- BACnet protocol implementation conformance statement (PICS).
- Object types: descriptions and configuration.
- BACnet protocol: data link layers, device address binding, networking options, and character sets.
- Object data points and configurations.

BACnet Protocol Implementation Conformance Statement (PICS)

Standardized Device Profile (Annex L)

Profile Description	Supported
BACnet Advanced Application Controller (B-AAC)	☐
BACnet Application Specific Controller (B-ASC)	☒
BACnet Building Controller (B-BC)	☐
BACnet Operator Workstation (B-OWS)	☐
BACnet Smart Actuator (B-SA)	☐
BACnet Smart Sensor (B-SS)	☐

Interoperability Building Blocks (Annex K)

Data Sharing Description	Supported
Data Sharing-Read Property-A (DS-RP-A)	☐
Data Sharing-Read Property-B (DS-RP-B)	☒
Data Sharing-Read Property Multiple-A (DS-RPM-A)	☒
Data Sharing-Read Property Multiple-B (DS-RPM-B)	☒
Data Sharing-Write Property-A (DS-WP-A)	☒
Data Sharing-Write Property-B (DS-WP-B)	☒
Data Sharing-Write Property Multiple-A (DS-WPM-A)	☒
Data Sharing-Write Property Multiple-B (DS-WPM-B)	☒
Data Sharing-Change Of Value-A (DS-COV-A)	☒
Data Sharing-Change Of Value-B (DS-COV-B)	☒
Alarm and Event Management Description	**Supported**
Alarm and Event-Notification-A (AE-N-A)	☒
Alarm and Event-Notification-Internal-B (AE-N-I-B)	☒
Alarm and Event-Acknowledge Alarm-A (AE-ACK-A)	☒
Alarm and Event-Acknowledge Alarm-B (AE-ACK-B)	☒
Alarm and Event-Alarm Summary-B (AE-ASUM-B)	☒
Alarm and Event-Enrollment Summary-B (AE-ESUM-B)	☒

Alarm and Event-Information-B (AE-INFO-B)	☒
Alarm and Event-Event Log-Internal-B (AE-EL-I-B)	☒
Scheduling	**Supported**
Scheduling-Internal-B (SCHED-I-B)	☒
Scheduling-External-B (SCHED-E-B)	☒
Trending	**Supported**
Trending-Viewing and Modifying Trends-Internal-B (T-VMT-I-B)	☒
Trending-Viewing and Modifying Trends-External-B (T-VMT-E-B)	☒
Trending-Automated Trend Retrieval-B (T-ATR-B)	☒
Device Management Description	**Supported**
Device Management-Dynamic Device Binding-A (DM-DDB-A)	☒
Device Management-Dynamic Device Binding-B (DM-DDB-B)	☒
Device Management-Dynamic Object Binding-B (DM-DOB-B)	☒
Device Management-Device Communication Control-B (DM-DCC-B)	☒
Device Management-Time Synchronization-B (DM-TS-B)	☒
Device Management-UTC-Time Synchronization-B (DM-UTC-B)	☒
Device Management-Reinitialize Device-B (DM-RD-B)	☒
Device Management-Backup and Restore-B (DM-BR-B)	☒
Device Management-List Manipulation-B (DM-LM-B)	☒
Device Management-Object Creation and Deletion-B (DM-OCD-B)	☒

Segmentation Capability

Segmentation Description	Supported
Segmented Requests/ Window Size: 1	☒
Segmented Responses/ Window Size: 1	☒

Object Types

Table 2. Descriptions and configurations

Object Type	Required Properties Read	Properties Written[a]	Optional Properties Read	Ability to Create	Ability to Delete
Analog Input	• Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Units • COV_Increment • Time_Delay • Notificatin Class • High_Limit • Low_Limit • Deadband • Limit_Enable • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit • Property List	• Description • Reliability • Min_Pres_Value • Max_Pres_Value	• Object_Name • Present_Value • Description • Reliability • Out_of_Service • Min_Pres_Value • Max_Pres_Value • COV_Increment • Time_Delay • Notification _Class • High_Limit • Low_Limit • Deadband • Limit_Enable • Event_Enable • Notify_Type • Event_Detection_Enable • Event_Algorithm_Inhibit_ Ref • Event_Algorithm_Inhibit	No	No

BACnet Data Points and Configuration Property Definitions

Table 2. Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written(a)	Optional Properties Read	Ability to Create	Ability to Delete
Analog Output	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Units • Priority_Array • Relinquish_Default • COV_Increment • Time_Delay • Notificatin Class • High_Limit • Low_Limit • Deadband • Limit_Enable • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit • Property List	• Description • Reliability • Min_Pres_Value • Max_Pres_Value	• Object_Name • Present_Value • Description • Reliability • Out_of_Service • Min_Pres_Value • Max_Pres_Value • Relinquish_Default • COV_Increment • Time_Delay • Notification _Class • High_Limit • Low_Limit • Deadband • Limit_Enable • Event_Enable • Notify_Type • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit	No	No

Table 2. Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written[a]	Optional Properties Read	Ability to Create	Ability to Delete
Analog Value	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Units • Priority_Array • Relinquish_Default • COV_Increment • Time_Delay • Notificatin Class • High_Limit • Low_Limit • Deadband • Limit_Enable • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit • Property List	• Description • Reliability • Min_Pres_Value • Max_Pres_Value	• Object_Name • Present_Value • Description • Reliability • Out_of_Service • Min_Pres_Value • Max_Pres_Value • Relinquish_Default • COV_Increment • Time_Delay • Notification _Class • High_Limit • Low_Limit • Deadband • Limit_Enable • Event_Enable • Notify_Type • Event_Detection_Enable • Event_Algorithm_Inhibit_ Ref • Event_Algorithm_Inhibit	No	No

Table 2. Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written[a]	Optional Properties Read	Ability to Create	Ability to Delete
Binary Input	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Polarity • Active_Text • Inactive_Text • Change_Of_State_Time • Change_Of_State_Count • Time_of_State_Count_Reset • Elapsed_Acitive_Time • Time_of_Active_Time_Reset • Time_Delay • Notificatin Class • Alarm_Value • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit • Property List	• Description • Reliability	• Object_Name • Present_Value • Description • Reliability • Out_of_Service • Polarity • Inactive_Text • Active_Text • Change_of_State_Count • Elapsed_Active_Time • Time_Delay • Notification_Class • Alarm_Value • Event_Enable • Notify_Type • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit	No	No

Table 2. Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written[a]	Optional Properties Read	Ability to Create	Ability to Delete
Binary Output	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Polarity • Active_Text • Inactive_Text • Change_Of_State_Time • Change_Of_State_Count • Time_Of_State_Count_Reset • Elapsed_Active_Time • Time_of_Active_Time_Reset • Minimum_Off_Time • Minimum_On_Time • Priority_Array • Relinquish_Default • Time_Delay • Notificatin Class • Feedback_Value • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit • Property List	• Description • Reliability	• Object_Name • Present_Value • Description • Reliability • Out_of_Service • Polarity • Inactive_Text • Active_Text • Change_of_State_Count • Elapsed_Active_Time • Minimum_Off_Time • Minimum_On_Time • Relinquish_Default • Time_Delay • Notification_Class • Event_Enable • Notify_Type • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit	No	No

Table 2.   Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written[a]	Optional Properties Read	Ability to Create	Ability to Delete
Binary Value	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Active_Text • Inactive_Text • Change_Of_State_Time • Change_Of_State_Count • Time_Of_State_Count_Reset • Elapsed_Active_Time • Time_of_Active_Time_Reset • Minimum_Off_Time • Minimum_On_Time • Priority_Array • Relinquish_Default • Time_Delay • Notificatin Class • Alarm_Value • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit • Property List	• Description • Reliability	• Object_Name • Present_Value • Description • Reliability • Out_of_Service • Inactive_Text • Active_Text • Change_of_State_Count • Elapsed_Active_Time • Minimum_Off_Time • Minimum_On_Time • Relinquish_Default • Time_Delay • Notification_Class • Alarm_Value • Event_Enable • Notify_Type • Event_Detection_Enable • Event_Algorithm_Inhibit_ Ref • Event_Algorithm_Inhibit	No	No
Calendar	• Object_Identifier • Object_Name • Object_Type • Present_Value • Date_List • Property_List	• Description	• Object_Name • Description • Date_List	No	No

Table 2. Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written[a]	Optional Properties Read	Ability to Create	Ability to Delete
Device	• Object_Identifier • Object_Name • Object_Type • System_Status • Vendor_Name • Vendor_Identifier • Model_Name • Firmware_Revision • Application_Software_Version • Protocol_Version • Protocol_Revision • Protocol_Services_Supported • Protocol_Object_Types_Supported • Object_List • Max_APDU_Length_Accepted • Segmentation_Supported • Max_Segments_Accepted • Local_Time • Local_Date • UTC-Offset • Daylight_Savings_Status • APDU_Segment_Timeout • APDU_Timeout • Number_Of_APDU_Retries • Max_Manager • Max_Info_Frames • Device_Address_Binding • Database_Revision • Configuration_Files • Last_Restore_Time • Backup_Failure_Timeout • Backup_Preparation_Time • Restore_Preperation_Time • Restore_Completion_Time • Backup_and_Restore_State • Acitve_COV_Subscriptions • Time_of_Device_Restart • Serial_Number • Property_List • Profile_Name	• Location • Description	• Object_Name • Location • Description • UTC_Offset • Backup_Failure_Timeout • APDU_Segment_timeout • APDU_Timeout • Number_Of_APDU_Retries	No	No

Table 2. Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written[a]	Optional Properties Read	Ability to Create	Ability to Delete
Event Enrollment Object	• Object_Identifier • Object_Name • Object_Type • Event_Type • Notify_Type • Event_Parameters • Object_Property_Reference • Event_State • Event_Enable • Acked_Transitions • Notification_Class • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit • Status_Flags • Reliability • Property_List	• Description	• Object_Name • Desciption • Event_Parameters • Object_Property_Reference • Event_Enable • Notification_Clase • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algoithm_Inhibit • Reliability • Notify_Type	No	No
Event Log Object	• Object_Identifier • Object_Name • Object_Type • Property_List • Status_Flags • Event_State • Enable • Stop_When_Full • Buffer Size • Log_Buffer • Record_Count • Total_Record_Count	None	• Enable • Record_Count	No	No

Table 2.   Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written[a]	Optional Properties Read	Ability to Create	Ability to Delete
Multistate Input	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Number_Of_States • Time_Delay • Notification_Class • Alarm_Values • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algoithm_Inhibit • Property_List	• Description • Reliability • State_Text • Fault_Values	• Description • Reliability • State_Text • Fault_Values	No	No
Multistate Output	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Number_Of_States • Priority_Array • Relinquish_Default • Time_Delay • Notification_Class • Feedback_Value • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algoithm_Inhibit • Property_List	• Description • Reliability • State_Text	• Object_Name • Present_Value • Description • Reliability • Out_of_Service • Number_of_States • Relinquish_Default • State_Text • Time_Delay • Notification_Class • Event_Enable • Notify_Type • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algorithm_Inhibit	No	No

Table 2. Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written[a]	Optional Properties Read	Ability to Create	Ability to Delete
Multistate Value	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Number_Of_States • Priority_Array • Relinquish_Default • Time_Delay • Notification_Class • Alarm_Values • Fault_Values • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable • Event_Algorithm_Inhibit_Ref • Event_Algoithm_Inhibit • Property_List	• Description • Reliability • State_Text	• Object_Name • Present_Value • Description • Reliability • Out_of_Service • Number_of_States • Relinquish_Default • State_Text • Time_Delay • Notification_Class • Alarm_Values • Fault_Values • Event_Enable • Notify_Type • Event_Detection_Enable • Event_Algorithm_Inhibit_ Ref • Event_Algorithm_Inhibit	No	No
Notifica-tion Class	• Object_Identifier • Object_Name • Object_Type • Notification_Class • Priority • Ack_Required • Recipient_List • Property_List	None	• Object_Name • Priority • Ack_Required • Recipient_List	No	No

Table 2. Descriptions and configurations (continued)

Object Type	Required Properties Read	Properties Written(a)	Optional Properties Read	Ability to Create	Ability to Delete
Schedule	• Object_Identifier • Object_Name • Object_Type • Present_Value • Effective_Period • Schedule_Default • List_Of_Object_Property_ Reference • Priority_For_Writing • Status_Flags • Reliability • Out_Of_Service • Property_List	• Description • Weekly_Schedule • Exception_Schedule	• Object_Name • Description • Schedule_Default • List_of_Property_ References • Weekly_Schedule • Exception_Schedule • Priority_for_Writing • Out_of_Service	No	No
Trend	• Object_Identifier • Object_Name • Object_Type • Enable • Start_Time • Stop_Time • Log_Device_Object_Property • Log_Interval • COV_Resubscription_Interval • Stop_When_Full • Buffer_Size • Log_Buffer • Record_Count • Total_Record_Count • Logging_Type • Notification_Threshold • Records_Since_Notification • Last_Notify_Record • Event_State • Status_Flags • Notification_Class • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Event_Detection_Enable Property_List	• Reliability	• Object_Name • Enable • Start_Time • Stop_Time • Log_Device_Object_ Property • Log_Interval • COV_Resubscription_ Interval • Stop_When_Full • Buffer_Size • Record_Count • Logging_Type • Notification_Threshold • Notification_Class • Event_Enable • Notify_Type	No	No

(a)

The following properties are only writable when the Out_Of_Service property is set to TRUE: **Reliability** property for all objects and the **Present_Value** property for the Analog Input, Binary Input, and Multistate Input objects.

BACnet Protocol

Data Link layer Options

Data Link Layer Description	Supported
BACnet IP, (Annex J), Foreign Device	☐
ISO 8802-3, Ethernet (Clause 7)(10Base2, 10Base5, 10BaseT, Fiber)	☐
ANSI/ATA 878.1, 2.5 Mb ARCNET (Clause 8)	☐
ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), Baud Rate(s)	☐
EIA-485 Token Passing, Requestor (Clause 9), Baud Rate(s): 9600, 19200, 38400, and 76800	☒
EIA-485 Token Passing, Non-requestor (Clause 9)	☐
Point-to-Point, EIA 232 (Clause 10), Baud Rate(s): 9600, 19200, 38400	☐
Point-to-Point, Modem (Clause 10), Baud Rate(s): 9600, 19200, 38400	☐
LonTalk, (Clause 11), Medium	☐
BACnet/ZigBee (Annex O)*	☒
Other	☐
* The BCI2-C does not support BACnet/Zigbee communications.	

Device Address BindingOptions

Annex H, BACnet Tunneling	Yes ☐ No ☒

Networking Options

Router	☐
Annex H, BACnet Tunneling	☐
BACnet/IP Broadcast Management Device (BBMD)	☐
Does the BBMD Support Registrations by Foreign Devices?	☐

Character Sets

Indicates support for multiple characters sets, but does not imply that all character sets are supported simultaneously. Maximum supported string length is 64 bytes (any character set).

Character Set Descriptions	Supported
ISO-10646 UTF-8	☒
IBM/Microsoft DBCS	☐
JIS C 6226	☐
ISO 10646 (UCS-4)	☐
ISO 10646 (UCS2)	☐
ISO 8859-1	☐

Object Data Points and Diagnostic Data Points

The following tables are sorted as follows:

- Tables are listed by input/output type and sorted by object identifier. These tables provide the user with the units type for each object type.

• are sorted by object name and provide a complete list of object names, types, values/ranges, and descriptions.

Note: Not all points are available to the user. The available data points are defined during self-configuration and are dependent on the type of equipment.

Table 3. Analog Output

Object Identi-fier	Object Name	Description	Units	Valid Range	Re-fresh Rate (Sec.)	When Exists[a]
AO1	Economizer Minimum Position Setpoint BAS	BAS supplied economizer position minimum setpoint value.	Percent	0% to 100%	NA	With Economizer installed
AO2	Space Temperature Setpoint BAS	Base value to calculate setpoints in occupied and standby modes.	Degrees-Fahrenheit	50.0° to 90.0°	NA	Always
AO4	Morning Warmup Setpoint BAS	BAS supplied temperature setpoint used in morning warm-up mode.	Degrees-Fahrenheit	53.0° to 90.0°	NA	With any heat installed
AO5	Daytime Warmup Terminate Temperature Setpoint BAS	BAS supplied daytime warm-up terminate temperature setpoint.	Degrees-Fahrenheit	53.0° to 90.0°	NA	With any heat installed
AO6	Discharge Air Cooling Setpoint BAS	BAS supplied discharge air temperature cooling setpoint value.	Degrees-Fahrenheit	40.0° to 90.0°	NA	Variable Air Volume
AO7	Discharge Air Heating Setpoint BAS	BAS supplied discharge air temperature heating setpoint value.	Degrees-Fahrenheit	40.0° to 180.0°	NA	Variable Air Volume
AO8	Duct Static Pressure Setpoint BAS	BAS supplied duct static air pressure setpoint value.	Inches-of-water	0.70 to 4.30 (Ipak I) 0.70 to 5.10 (Ipak II)	NA	Variable Air Volume
AO9	Space Static Pressure Setpoint BAS	BAS supplied space static air pressure setpoint value.	Inches-of-water	0.03 to 0.30 -0.02 to 0.30 (enhanced StatiTrac)	NA	With StatiTrac
AO10	Space Static Pressure BAS	BAS supplied space static air pressure sensor value.	Inches-of-water	-0.28 to 0.50 -0.67 to 0.67 (enhanced StatiTrac)	900	With StatiTrac
AO11	Space Temperature BAS	BAS supplied space air temperature sensor value.	Degrees-Fahrenheit	-39.5° to 200.0°	900	Always
AO12	Discharge Air Temperature BAS	BAS supplied discharge air temperature sensor value.	Degrees-Fahrenheit	-39.5° to 200.0°	900	Always
AO13	Duct Static Pressure BAS	BAS supplied duct static air pressure sensor value.	Inches-of-water	0.0 to 5.0 (Ipak I) 0.0 to 7.9 (Ipak II)	900	Variable Air Volume
AO14	Outdoor Air Temperature BAS	BAS supplied outdoor air temperature sensor value.	Degrees-Fahrenheit	-39.5° to 200.0°	900	Always
AO15	Outdoor Air Humidity BAS	BAS supplied outdoor air humidity sensor value.	Percent	10.0% to 90.0%	900	Always
AO16	Outdoor Air Minimum Flow Setpoint BAS	BAS supplied minimum outdoor airflow setpoint.	Cubic-feet-per-minute	0 to 60,000	NA	Fresh Air Management installed

Table 3.   Analog Output (continued)

Object Identi-fier	Object Name	Description	Units	Valid Range	Re-fresh Rate (Sec.)	When Exists[a]
AO17	Outdoor Air Flow BAS	BAS supplied outdoor airflow sensor value.	Cubic-feet-per-minute	0 to 65,000	900	Fresh Air Management installed
AO18	Space CO$_2$ Concentration BAS	BAS supplied space CO$_2$ sensor value.	Parts-per-million	50 to 2,200	900	Always
AO19	Cool Capacity Enable Setpoint BAS	BAS supplied cooling demand limit capacity setpoint value.	Percent	0% to 100%	NA	With all cooling types
AO20	Heat Capacity Enable Setpoint BAS	BAS supplied heating demand limit capacity setpoint value.	Percent	0% to 100%	NA	With any heat installed
AO21	Space Dehumidification Setpoint BAS	BAS supplied space dehumidification setpoint value.	Percent	40% to 65%	NA	Dehumidifica-tion Configuration
AO22	Discharge Air Dewpoint Setpoint BAS	BAS supplied discharge air dewpoint setpoint value.	Degrees-Fahrenheit	45.0° to 75.0°	5	
AO23	Discharge Air Reheat Setpoint BAS	BAS supplied discharge air reheat setpoint value.	Degrees-Fahrenheit	60.0° to 80.0°	NA	Dehumidifica-tion Configuration
AO25	Space Humidity BAS	BAS supplied space humidity sensor value.	Percent	10% to 90%	900	Dehumidifica-tion or Humidification Configuration
AO26	Space Humidification Setpoint BAS	BAS supplied space humidification setpoint value.	Percent	20% to 50%	NA	Roof Top Unit with Humidification Configured
AO29	Occupied Offset	Offset used to calculate setpoints in occupied mode.	Degrees-Fahrenheit	1.0° to 5.0°	NA	Always
AO30	Standby Offset	Offset value used to calculate setpoints in standby mode.	Degrees-Fahrenheit	1.0° to 10.0°	NA	Always
AO31	Unoccupied Cooling Setpoint	Cooling temperature setpoint used for control in unoccupied mode.	Degrees-Fahrenheit	52.0° to 88.0°	NA	Always
AO32	Unoccupied Heating Setpoint	Heating temperature setpoint used for control in unoccupied mode.	Degrees-Fahrenheit	50.0° to 90.0°	NA	Always

Table 3. Analog Output (continued)

Object Identifier	Object Name	Description	Units	Valid Range	Refresh Rate (Sec.)	When Exists[a]
AO33	Chemical Purge Water Treatment Duration	Set BAS time duration (minutes) for Chemical Purge Water Treatment event (CSC units only). A value of 0 (Disabled) will not activate the timer that determines the duration of the event. In this case the duration will be set for as long as the request persists. A value between 15 - 254 will enable the timer to determine the duration of the event once a valid request is received. A value of 1-14 will be clamped to a valid 15 minutes.	Minutes	0 to 254	NA	Never
AO39	Supply Fan Speed Command Setpoint BAS	BAS supplied Supply Fan Speed Setpoint	Percent	0% to 100%	NA	Variable Air Volume
AO40	Exhaust Fan Speed Setpoint BAS	BAS supplied Exhaust Fan Speed Setpoint	Percent	0% to 100%	NA	Variable Air Volume
AO43	Daytime Warm-up Initiate Temperature Setpoint BAS	BAS supplied initiate temperature setpoint used in morning warm-up mode.	Degrees-Fahrenheit	50.0° to 87.0°	NA	With any heat installed
AO1001	Digital Scroll Compressor Signal	Supplied voltage to the Digital Scroll Compressor	Volts DC	0V to 10V	NA	Digit Scroll Compressor present

[a]
  This column of information specifies when items are instantiated. The criteria in which the BCI2-I product will have specific objects instantiated is based on the features and options that have been selected.

Table 4. Analog Input

Object Identifier	Object Name	Description	Units (Listed Are Defaults)	When Exists[a]
AI1	Cooling Capacity Status	Indicates the unit cooling capacity being utilized.	Percent	Always
AI2	Heat Primary Capacity Status	Indicates the unit primary heating capacity being utilized.	Percent	Always
AI3	Heat Secondary Capacity Status	Indicates the unit secondary heating capacity being utilized.	Percent	Roof Top Unit
AI5	Reheat Capacity Status	Indicates the unit reheat heating capacity being utilized.	Percent	Dehumidification
AI6	Filter Runtime Hours	Indicates the number of hours air has flowed through the filter.	Hours	Always
AI7	Supply Fan Speed Command	Indicates the unit commanded supply fan speed.	Percent	Always
AI8	Exhaust Fan Speed Command	Indicates the unit commanded exhaust fan speed.	Percent	With 100% exhaust capabilities
AI9	Exhaust Damper Position Status	Indicates the unit exhaust damper position.	Percent	With 100% exhaust capabilities or Return Fan

Table 4. Analog Input (continued)

Object Identi-fier	Object Name	Description	Units (Listed Are Defaults)	When Exists(a)
AI10	Return Fan Speed Command	Indicates the unit commanded return fan speed.	Percent	Always
AI11	Outdoor Air Damper Position Status	Indicates the unit outdoor air damper position.	Percent	With Economizer installed
AI12	Waterside Economizer Valve Position Status	Indicates the unit waterside economizer valve position.	Percent	Commercial Self Contained with Waterside Economizer
AI13	Frost Avoidance Temperature Setpoint	Indicates the frost coil avoidance temperature setpoint.	Degrees-Fahrenheit	Always
AI14	Condenser Capacity Status	Indicates the unit condenser capacity being utilized.	Percent	Always
AI15	Space Temperature Active	The space temperature currently used for unit control.	Degrees-Fahrenheit	Always
AI16	Space Humidity Active	The space humidity value from a unit-mounted control.	Percent-relative-humidity	With Dehumidification or with Economizing and Comparative Enthalpy Module
AI17	Space Enthalpy	The space enthalpy value from a unit-mounted control.	BTUs-per-pound	With Dehumidification or with Economizing and Comparative Enthalpy Module
AI18	Outdoor Air Temperature Active	The outdoor air temperature currently used for unit control.	Degrees-Fahrenheit	Always
AI19	Outdoor Air Temperature Local	The outdoor air temperature value from a unit-mounted sensor.	Degrees-Fahrenheit	Always
AI20	Outdoor Air Humidity Active	The outdoor air humidity value used for unit control.	Percent-relative-humidity	With Economizing and Comparative Enthalpy Module
AI21	Outdoor Air Humidity Local	The outdoor air humidity value from a unit-mounted sensor.	Percent-relative-humidity	With Economizing and Comparative Enthalpy Module
AI22	Outdoor Air Dewpoint	The outdoor air dewpoint value being utilized by the unit.	Degrees-Fahrenheit	
AI23	Outdoor Air Enthalpy	The outdoor air enthalpy value being utilized by the unit.	BTUs-per-pound	With Economizing and Comparative Enthalpy Module
AI24	Discharge Air Temperature Active	The discharge air temperature currently used for unit control.	Degrees-Fahrenheit	Always
AI25	Mixed Air Temperature	The mixed air temperature value from a unit-mounted sensor.	Degrees-Fahrenheit	With Ventilation Control Module or Commercial Self Contained with Waterside Economizer
AI26	Return Air Temperature	The return air temperature value from a unit-mounted sensor.	Degrees-Fahrenheit	With Economizing and Comparative Enthalpy Module
AI28	Duct Static Pressure Active	Duct static air pressure value currently being used for unit control.	Inches-of-water	Variable Air Volume
AI29	Duct Static Pressure Local	Duct static air pressure value measured by a unit-mounted sensor.	Inches-of-water	Variable Air Volume

Table 4. Analog Input (continued)

Object Identi-fier	Object Name	Description	Units (Listed Are Defaults)	When Exists[a]
AI30	Return Fan Air Pressure	Return fan air pressure value measured by a unit-mounted sensor.	Inches-of-water	Return fan with StatiTrac
AI31	Space Static Air Pressure Active	Space static air pressure value being used for unit control.	Inches-of-water	With StatiTrac installed
AI32	Space CO$_2$ Concentration Active	Space CO$_2$ concentration being used for unit control.	Parts-per-million	With DCV option
AI33	Discharge Air Dewpoint	Discharge air temperature dewpoint being used by the unit.	Degrees-Fahrenheit	Dehumidification
AI34	Outdoor Air Flow Active	Outdoor airflow utilized by the unit.	Cubic-feet-per-minute	With Ventilation Control Module
AI35	Condenser Water Entering Temperature	The temperature of the water entering the condenser.	Degrees-Fahrenheit	Commercial Self Contained with Waterside Economizer or Water Cooler Condenser
AI36	Evaporator Entering Temperature Circuit 1	Indicates the entering evaporator temperature for circuit 1.	Degrees-Fahrenheit	DX Roof Top Unit
AI37	Evaporator Entering Temperature Circuit 2	Indicates the entering evaporator temperature for circuit 2.	Degrees-Fahrenheit	DX Roof Top Unit
AI38	Evaporator Leaving Temperature Circuit 1	Indicates the leaving evaporator temperature for circuit 1	Degrees-Fahrenheit	Commercial Self Contained or DX Roof Top Unit
AI39	Evaporator Leaving Temperature Circuit 2	Indicates the leaving evaporator temperature for circuit 2.	Degrees-Fahrenheit	Commercial Self Contained or DX Roof Top Unit
AI40	Evaporator Leaving Temperature Circuit 3	Indicates the leaving evaporator temperature for circuit 3.	Degrees-Fahrenheit	For 35 ton or larger Water Cooled Signature Series Commercial Self Contained with Independent Refrigerant Circuit
AI41	Evaporator Leaving Temperature Circuit 4	Indicates the leaving evaporator temperature for circuit 4.	Degrees-Fahrenheit	For 65 ton or larger Water Cooled Signature Series Commercial Self Contained with Independent Refrigerant Circuit
AI42	Condensing Saturated Temperature Circuit 1	Indicates the saturated condenser temperature for circuit 1.	Degrees-Fahrenheit	DX
AI43	Condensing Saturated Temperature Circuit 2	Indicates the saturated condenser temperature for circuit 2.	Degrees-Fahrenheit	For 2 or more refrigerant circuits
AI44	Condensing Saturated Temperature Circuit 3	Indicates the saturated condenser temperature for circuit 3.	Degrees-Fahrenheit	For 3 or more refrigerant circuits
AI45	Condensing Saturated Temperature Circuit 4	Indicates the saturated condenser temperature for circuit 4.	Degrees-Fahrenheit	For 4 refrigerant circuits
AI46	Condenser Water Leaving Temperature Active	Condenser water leaving temperature value used for unit control.	Degrees-Fahrenheit	Water Cooled Commercial Self Contained or Roof Top Unit
AI47	Condenser Water Temperature Local	Condenser water leaving temperature from a unit mounted sensor.	Degrees-Fahrenheit	Water Cooled Commercial Self Contained or Roof Top Unit

Table 4. Analog Input (continued)

Object Identi-fier	Object Name	Description	Units (Listed Are Defaults)	When Exists[a]
AI48	Duct Static Pressure Setpoint Active	Duct static pressure setpoint value being used for unit control.	Inches-of-water	Variable Air Volume
AI50	Space Temperature Setpoint Active	Space temperature setpoint value being used for unit control.	Degrees-Fahrenheit	Always
AI52	Discharge Air Temperature Setpoint Active	Discharge air temperature setpoint value being used for unit control.	Degrees-Fahrenheit	Variable Air Volume
AI54	Morning Warmup Temperature Setpoint Active	The air temperature setpoint used during morning warm-up mode.	Degrees-Fahrenheit	With any heat installed
AI55	Daytime Warmup Air Temperature Terminate Setpoint Active	The air temperature setpoint used to end daytime warm-up mode.	Degrees-Fahrenheit	Variable Air Volume with any heat installed
AI56	Economizer Minimum Position Setpoint Active	The minimum position value the economizer damper will utilize.	Percent	With Economizer installed
AI57	Outdoor Air Minimum Flow Setpoint Active	The minimum outdoor airflow setpoint being utilized by the unit.	Cubic-feet-per-minute	With Ventilation Control Module and Fresh Air Flow Measurement
AI58	Dehumidification High Limit Setpoint	Humidity setpoint value that starts dehumidification control.	Percent	Roof Top Unit with Dehumidification
AI60	Discharge Air Dewpoint Temperature Setpoint	Humidity setpoint value used during dehumidification control.	Degrees-Fahrenheit	With Dehumidification
AI61	Discharge Air Reheat Setpoint Active	Indicates the active supply air reheat temperature setpoint.	Degrees-Fahrenheit	Roof Top Unit with Dehumidification
AI62	Space Humidification Setpoint Active	Indicates the setpoint used during space humidification control.	Percent	Roof Top Unit
AI64	Energy Recovery Exhaust Air Bypass Damper Position	Energy recovery exhaust air bypass damper position.	Percent	Roof Top Unit with Energy Recovery
AI65	Energy Recovery Leaving Exhaust Temperature	Energy recovery leaving exhaust air temperature.	Degrees-Fahrenheit	Roof Top Unit with Energy Recovery
AI66	Energy Recovery Outdoor Air Bypass Damper Position	Energy recovery outdoor air bypass damper position.	Percent	Roof Top Unit with Energy Recovery
AI67	Daytime Warmup Initiate Temperature Setpoint Local	The local daytime warm-up initiate temperature setpoint.	Degrees-Fahrenheit	Variable Air Volume with any heat installed
AI68	Daytime Warmup Terminate Temperature Setpoint Local	Temperature setpoint that will exit daytime warm-up mode.	Degrees-Fahrenheit	Variable Air Volume with any heat installed
AI69	Economizing Temperature Enable Setpoint	Temperature setpoint below which economizing can be used.	Degrees-Fahrenheit	With Economizer installed
AI70	Economizing Enthalpy Enable Setpoint	Enthalpy setpoint below which economizing can be used.	BTUs-per-pound	With Economizer installed
AI71	Exhaust Enable Position Setpoint Status	Exhaust air damper minimum position to enable exhaust sequence.	Percent	With Economizer installed
AI74	Space Temperature Cooling Setpoint Input	Cooling temperature setpoint from space sensor module.	Degrees-Fahrenheit	Always
AI75	Space Temperature Heating Setpoint Input	Heating temperature setpoint from space sensor module.	Degrees-Fahrenheit	Always
AI76	Humidification Capacity Status	Indicates the unit humidification capacity being utilized.	Percent	With Humidification

Table 4. Analog Input (continued)

Object Identifier	Object Name	Description	Units (Listed Are Defaults)	When Exists[a]
AI78	Space Temperature Setpoint Local	The local space temperature setpoint.	Degrees-Fahrenheit	Always
AI79	Dehumidification Capacity Status	Indicates the unit dehumidification capacity being utilized.	Percent	Roof Top Unit with Dehumidification
AI80	Cabinet Style	Describes the cabinet style of the unit. There are four (4) types: 8 = Modular 24 = Signature 38 = Rooftop,54 = Air Handler	NA	Always
AI81	Cool Type	Describes the cooling type installed in the unit. There are 20 cooling types: 1 = None 2 = Modulating Cold Water 6 = Modulating DX 33 = 2-Stage Air-Cooled DX 1 Circuit 2 Compressor Relays 34 = 2-Stage Air-Cooled DX 2 Circuit 2 Compressor Relays 35 = 3-Stage Air-Cooled DX 2 Circuit 1 Compressor Relays 36 = 3-Stage Air-Cooled DX 2 Circuit 2 Compr Relays 37 = 2-Stage Water-Cooled DX 1 Circuit 2 Compressor Relays 38 = 2-Stage Water-Cooled DX 2 Circuit 2 Compressor Relays 39 = 3-Stage Water-Cooled DX 1 Circuit 2 Compressor Relays 40 = 3-Stage Water-Cooled DX 2 Circuit 2 Compressor Relays 41 = 3-Stage Air-Cooled DX 2 Circuit 3 Compressor Relays 42 = 4-Stage Air-Cooled DX 2 Circuit 3 Compressor Relays 43 = 3-Stage Water-Cooled DX 2 Circuit 3 Compressor Relays 44 = 4-Stage Water-Cooled DX 2 Circuit 3 Compressor Relays 45 = 3-Stage Water-Cooled DX 3 Circuit 3 Compressor Relays 46 = 4-Stage Water-Cooled DX 3 Circuit 3 Compressor Relays 47 = 4-Stage Air-Cooled DX 2 Circuit 4 Compressor Relays 48 = 4-Stage Water-Cooled DX 2 Circuit 4 Compressor Relays 49 = 4-Stage Water-Cooled DX 4 Circuit 4 Compressor Relays	NA	Always
AI82	Preheat Type	Describes the heating type installed in the unit. There are 13 types: 129 = None 130 = Modulating Hot Water 134 = Modulating Electric 135 = 1-Stage Electric 136 = 2-Stage Electric 137 = 3-Stage Electric 138 = 4-Stage Electric 158 = 5-Stage Electric 160 = 7-Stage Electric 141 = 2-Stage Gas 162 = 4-Stage Gas 142 = Modulating Gas 163 = External Heat	NA	Always
AI83	Reheat Type	Describes the reheat type installed in the unit. There are two (2) types: 1 = None 17 = Hot Gas	NA	Always

Table 4. Analog Input (continued)

Object Identi- fier	Object Name	Description	Units (Listed Are Defaults)	When Exists[a]
AI84	Space CO_2 High Limit Setpoint	Indicates the high limit space CO_2 setpoint for ventilation.	Parts-per-million	Always
AI85	Space CO_2 Low Limit	Indicates the low limit space CO_2 setpoint for ventilation.	Parts-per-million	With DCV option
AI86	Economizer Minimum Position Setpoint Local	Indicates the local economizer minimum position setpoint.	Percent	With Economizer installed
AI87	Space Temperature Local	The space air temperature measured by a unit-mounted sensor.	Degrees-Fahrenheit	Always
AI88	Unit Energy Demand	Indicates the current heat/cool energy demand of the unit.	Percent	Always
AI89	Supply Fan Type	Describes the supply fan type installed in the unit. There are three (3) types: 1 = None 2 = 1-Speed 6 = Variable Speed	NA	Always
AI90	Exhaust or Return Fan Type	Describes the exhaust or return fan type installed in the unit. There are five (5) types: 1 = None 2 = 1-Speed Exhaust Fan 7 = 1-Speed Exhaust Fan with Modulating Exhaust Damper 22 = 1-Speed Return Fan with Modulating Exhaust Damper 26 = Variable Speed Fan with Modulating Exhaust Damper	NA	Always
AI110	Daytime Warmup Air Temperature Initiate Setpoint Active	Indicates the active daytime warmup initiate setpoint.	Degrees-Fahrenheit	Variable Air Volume with any Heat Installed
AI1001	Resistance Compressor Minimum Capacity	Created when Digital Scroll Compressor is present.	Ohms	Digital Scroll Compressor present

[a]

    This column of information specifies when items are instantiated. The criteria in which the BCI2-I product will have specific objects instantiated is based on the features and options that have been selected.

Table 5. Analog Value

Object Identifier	Object Name	Description	Units	Valid Range
AV1	Filter Runtime Hours Setpoint	The setpoint value used by the filter run hours calculation.	Hours	0 to 10,000
AV1001	Digital Scroll Compressor Cooling P Gain	Created when Digital Scroll Compressor is present.	NA	0.1 to 25
AV1002	Digital Scroll Compressor Cooling Capacity Status	Created when Digital Scroll Compressor is present.	Percent	0% to 100%

Table 6. Multi-state Output

BCI2-I Object Identifier	Object Name	Description	Object States	When Exists[a]
MO1	Economizer Airside Enable BAS	Command the state of the airside economizer system.	1 = Disabled 2 = Enabled 3 = Auto	With Economizer installed
MO2	Emergency Override Command	Command the unit into an emergency mode of operation.	1 = Normal 2 = Pressurize 3 = De-pressurize 4 = Purge 5 = Shutdown 6 = Fire	Always
MO3	Economizer Waterside Enable BAS	Command the state of the waterside economizer system.	1 = Disabled 2 = Enabled 3 = Auto	Commercial Self Contained with Water Side Economizer
MO6	Language Selection Command	Command the unit to provide diagnostics in foreign languages.	1 = English 2 = French 3 = German 4 = Spanish 5 = Portuguese 6 = Dutch 7 = Italian	
MO7	Occupancy Request	Command the unit into an occupancy mode.	1 = Occupied 2= Unoccupied 3 = Occupied Bypass 4 = Occupied Standby	Always
MO8	Heat Cool Mode Request BAS	Command the unit to a specific application mode.	1 = Auto 2 = Heat 3 = Morning Warm-up 4 = Cool 5 = Night Purge 6 = Pre-cool 7 = Off 8 = Test 9 = Emergency Heat 10 = Fan Only 11 = Free Cool 12 = Ice Making 13 = Max Heat 14 = Economy Mode 15 = Dehumidifying 16 = Calibrate	Always
MO10	Condenser Water Flow BAS	Command the unit to utilize a remote water flow indication.	1 = Flow 2 = No Flow 3 = Auto	Always

[a]
    This column of information specifies when items are instantiated. The criteria in which the BCI2-I product will have specific objects instantiated is based on the features and options that have been selected.

Table 7. Multi-state Input

BCI2-I Object Identifier	Object Name	Description	Object States	When Exist[a]
MI2	Trane Unit Type	General description of the equipment-type classification.	1 = 1 Heat/1 Cool 2 = Heat Pump 3 = Blower Coil 4 = Unit Ventilator 5 = Fan Coil 6 = Rooftop 7 = Air Handler 8 = Vertical Self Contained 9 = Unitary 10 = VAV Box 11 = Fan Coil	Always
MI9	Economizer Type	General description of the equipment economizer system.	1 = None 2 = 2 Position Ventilation 3 = Modulation Economizer 4 = 2 Position Ventilation/Waterside Economizer 5 = Waterside Economizer 6 = Airside/Waterside Economizer 7 = TRAQ Damper 8 = Airside Economizer and TRAQ Damper/Sensor 9 = Waterside Economizer and TRAQ Damper/Sensor 10 = Airside/Waterside Economizer and TRAQ Damper/Sensor	Always
MI10	Condenser Type	General description of the equipment condenser system.	1 = None 2 = Air Cooled 3 = Water Cooled 4 = Evaporative	Always
MI13	Ventilation Override Status	Indicates if the unit is in a ventilation override mode of operation.	1= Inactive 2= Mode A Active 3= Mode B Active 4= Mode C Active 5= Mode D Active 6= Mode E Active	Configured with Ventilation Override Module
MI15	Economizer Decision Method	Unit method to determine when the economizer system is enabled.	1= Absolute Temperature 2= Relative Temperature 3= Absolute Enthalpy 4= Comparative Enthalpy	Configured with Economizer
MI17	Cooling Reset Type Status	Indicates the type of cooling reset.	1= None 2= Outdoor Air 3= Zone	Variable Air Volume
MI18	Heating Reset Type Status	Indicates the type of heating reset.	1= None 2= Outdoor Air 3= Zone	Variable Air Volume
MI19	Application Mode Status	Indicates the current application mode of the equipment.	1 = Auto 2 = Heat 3 = Morning Warm-up 4 = Cool 5 = Night Purge 6 = Pre-cool 7 = Off 8 = Test 9 = Emergency Heat 10 = Fan Only 11 = Free Cool 12 = Ice-Making 13 = Max Heat 14 = Economy Mode 15 = Dehumidifying 16 = Calibrate	Always

Table 7. Multi-state Input (continued)

BCI2-I Object Identifier	Object Name	Description	Object States	When Exist[a]
MI20	Occupancy Status	Indicates the current occupancy mode of the unit.	1 = Occupied 2 = Unoccupied 3 = Occupied Bypass 4 = Occupied Standby	Always
MI21	Unit Stop Source	Source of the stop command that turned off the equipment.	1= None 2= Emergency Stop 3= External Auto/Stop 4= Local HI 5= Remote HI	Always
MI22	Cooling Setpoint Source	Indicates the source of the space cooling setpoint.	1= RTM Zone Sensor 2= Night Setback Panel 3= Human Interface 4= GBAS 0-5V 5= BAS/Network 6= GBAS 0-10V	Always
MI23	Heating Setpoint Source	Indicates the source of the space heating setpoint.	1= RTM Zone Sensor 2= Night Setback Panel 3= Human Interface 4= GBAS 0-5V 5= BAS/Network 6= GBAS 0-10V	Always
MI24	Timed Override Status	Timed override request or cancel from zone sensor.	1 = Idle 2 = On 3 = Cancel	Always
MI25	Cool Output 1	Indicates the commanded state of cooling output 1.	1 = Off 2 = On 3 = Not Present	DX
MI26	Cool Output 2	Indicates the commanded state of cooling output 2.	1 = Off 2 = On 3 = Not Present	With 2 or more refrigerant circuits
MI27	Cool Output 3	Indicates the commanded state of cooling output 3.	1 = Off 2 = On 3 = Not Present	With 3 or more refrigerant circuits
MI28	Cool Output 4	Indicates the commanded state of cooling output 4.	1 = Off 2 = On 3 = Not Present	Always
MI29	Heat Output 1	Indicates the commanded state of heating output 1.	1 = Off 2 = On 3 = Not Present	Configured with any heat
MI30	Heat Output 2	Indicates the commanded state of heating output 2.	1 = Off 2 = On 3 = Not Present	Configured with 2 or more stages of heat
MI31	Heat Output 3	Indicates the commanded state of heating output 3.	1 = Off 2 = On 3 = Not Present	Roof Top Unit Configured with 3 or more stages of heat
MI32	Heat Output 4	Indicates the commanded state of heating output 4.	1 = Off 2 = On 3 = Not Present	Roof Top Unit Configured with 4 or more stages of heat
MI33	Heat Output 5	Indicates the commanded state of heating output 5.	1 = Off 2 = On 3 = Not Present	Roof Top Unit Configured with 5 or more stages of heat
MI34	Prefilter Status	Indicates the pre-filter media state.	1 = Clean 2 = Dirty 3 = Not Present	Roof Top Unit Configured with Energy Recovery

Table 7. Multi-state Input (continued)

BCI2-I Object Identifier	Object Name	Description	Object States	When Exist[a]
MI35	Primary Filter Status	Indicates the primary filter media state.	1 = Clean 2 = Dirty 3 = Not Present	Always
MI36	Final Filter Status	Indicates the final filter media state.	1 = Clean 2 = Dirty 3 = Not Present	Configured with Final Filter
MI37	Supply Fan Proving Status	Indicates the current state of the supply fan.	1= Off 2= On 3= Not Present	Always
MI38	Exhaust Fan Status	Indicates the commanded state of the exhaust fan.	1 = Off 2 = On 3 = Not Present	Configured with 100% or 50/100% Powered Exhaust
MI39	Exhaust Fan Proving Status	Indicates if the unit exhaust fan is off or on.	1 = Off 2 = On 3= Not Present	Configured with 100% or 50/100% Powered Exhaust
MI40	Return Fan Proving Status	Indicates the current state of the return fan.	1 = Off 2= On 3= Not Present	Configured with return fan
MI41	Supply Fan Status	Indicates the state of the supply fan.	1 = Off 2 = On 3 = Not Present	Always
MI42	Return Fan Status	Indicates the state of the return fan.	1 = Off 2 = On 3 = Not Present	Always
MI43	Outdoor Damper Status	Indicates the operating state of the outdoor damper.	1 = At or Below Minimum Position 2 = Above Minimum Position 3 = Not Present	With Economizer installed
MI44	Economizer System Status	Indicates the operating state of the waterside economizer system.	1 = Disabled 2 = Enabled 3 = Not Present	With Economizer installed
MI46	Cool Output 5	Indicates the commanded state of cooling output 5.	1 = Off 2 = On 3 = Not Present	With 5 or more cooling outputs

[a]
This column of information specifies when items are instantiated. The criteria in which the BCI2-I product will have specific objects instantiated is based on the features and options that have been selected.

Table 8. Binary Output

Object Identifier	Object Name	Description	Relin-quish Default	Object States	When Exists [a]
BO1	System Control Command	Command the unit to standalone- or BAS-controlled operation.	Inactive	Inactive = Standalone Control Active = BAS Control	Always
BO5	Heat Lockout Command	Command the unit to prevent heating operation.	Inactive	Inactive = Allow Heating Active = Heating Locked Out	Always
BO6	Cool Lockout Command	Command the unit to prevent cooling operation.	Inactive	Inactive = Allow Cooling Active = Cooling Locked Out	Always
BO7	Remote Minimum Position Enabled Command	Command the unit to the minimum position operation.	Inactive	Inactive = Disabled Active = Enabled	Always
BO8	Supply Fan Configuration Command	Command the unit supply fan to cycling or continuous operation.	Inactive	Inactive = Auto Active = On	Always

Table 8. Binary Output (continued)

Object Identifier	Object Name	Description	Relin-quish Default	Object States	When Exists (a)
BO12	Primary Heat Reheat Enable Command	Enable the heating or reheating system during dehumidification mode.	Inactive	Inactive = Disabled Active = Enabled	Always
BO13	Filter Timer Reset	Command the unit to reset the accumulated filter run hours.	Inactive	Inactive = Accumulating Active = Reset	Always
BO14	Reset Diagnostic	Command the unit to reset and clear diagnostics.	Inactive	Inactive = Normal Active = Reset	Always
BO15	Dehumidification Enable Command	Command the operating state of the dehumidification system.	Active	Inactive = Disabled Active = Enabled Out of Service = Auto	Roof Top Unit with Dehumidifica-tion
BO16	Humidification Command	Command the operating state of the humidification system.	Active	Inactive = Disabled Active = Enabled Out of Service = Auto	Configured with Humidification
BO17	Chemical Purge Water Treatment Request	Command the unit into a Chemical Purge Water Treatment event through BAS (CSC units only).	Not requested	Inactive = Not Requested Active = Requested	Never

(a)
This column of information specifies when items are instantiated. Unless commented with specific details, assume object is always instantiated. The criteria in which the BCI2-I product will have specific objects instantiated is based on the features and options that have been selected.

Table 9. Binary Input

Object Identifier	Object Name	Description	Object States	When Exists(a)
BI1	System Control Status	Indicates the control system currently in command of the unit.	Inactive = Standalone control Active = BAS control	Always
BI2	Compressor Lockout Status	One or more compressors are locked out with no diagnostic. Different Compressor Lockout sources: Demand Limit Lockout Coil Frost Protection Lockout Mechanical Cooling Lockout Low Ambient Lockout Low Water Temperature Lockout Low Pressure Cutout Switch No Water Flow Lockout Reheat Evaporator Lower Limit Lockout Low Refrigerant Charge Failure Evaporator Temperature Sensor Failure Sump Water Level Failure Sump Minimum Level Control Failure Communications Failure High Pressure Differential Failure	Inactive = Normal Active = Locked Out	Always
BI3	Unit On Off Status	Indicates the current state of the unit.	Inactive = Off Active = On	Always
BI9	VAV Box Command	Indicates whether VAV boxes should be in control or wide open.	Inactive = Auto Active = Open	Variable Air Volume
BI10	Demand Limit Status	Indicates if the unit is in an energy-demand limit mode	Inactive = Inactive Active = Active	Always
BI11	Service Test Mode Status	Indicates if the unit is in service test mode.	Inactive = Inactive Active = Active	Always

Table 9. Binary Input (continued)

Object Identifier	Object Name	Description	Object States	When Exists[a]
BI15	Supply Fan Configuration Status	Indicates the supply fan configuration.	Inactive = Cycling Active = Continuous	Constant Volume
BI22	Economizer Airside Enable Status	Indicates the status of the airside economizer system.	Inactive = Disabled Active = Enabled	With Economizer installed
BI23	Waterside Economizer Enable Status	Indicates the status of the waterside economizer system.	Inactive = Disabled Active = Enabled	Configured with Water Side Economizer
BI24	Condenser Water Pump Status	Indicates the status of the condenser water system pump.	Inactive = Inactive Active = Active	Water Cooled Commercial Self Contained or Roof Top Unit
BI25	Condenser Water Flow Status	Indicates the flow status of water in the condenser system.	Inactive = No Flow Active = Flow	Water Cooled Commercial Self Contained or Roof Top Unit
BI26	Energy Recovery Frost Avoidance Status	Status of the energy recovery system frost protection function.	Inactive = Inactive Active = Active	With Energy Recovery
BI27	Energy Recovery Status	Indicates the status of the energy recover system.	Inactive = Inactive Active = Active	With Energy Recovery
BI28	Energy Recovery Preheat Status	Indicates the status of the energy recovery preheat function.	Inactive = Inactive Active = Active	With Energy Recovery
BI161	Evaporator Frost Protection Circuit 1 Status	The status of evaporator frost protection function for circuit 1.	Inactive = Inactive Active = Active	DX
BI162	Evaporator Frost Protection Circuit 2 Status	The status of evaporator frost protection function for circuit 2.	Inactive = Inactive Active = Active	For 2 or more refrigerant circuits
BI163	Evaporator Frost Protection Circuit 3 Status	The status of evaporator frost protection function for circuit 3.	Inactive = Inactive Active = Active	For 3 or more refrigerant circuits
BI164	Evaporator Frost Protection Circuit 4 Status	The status of evaporator frost protection function for circuit 4.	Inactive = Inactive Active = Active	For 4 or more refrigerant circuits
BI165	Alarm Relay Output Status	Indicates the state of the alarm relay on the unit.	Inactive = De-energized Active = Energized	Always
BI166	Diagnostic Stop Status	Indicates if the unit diagnostic has caused the unit to shutdown.	Inactive = Inactive Active = Active	Always
BI243	Condenser Water Drain Status	Indicates the status of the condenser water drain.	Inactive = Closed Active = Open	Roof Top Unit
BI244	Chemical Purge Water Treatment Status	Indicates the active status of the Chemical Purge Water Treatment event (CSC units only).	Inactive = Inactive Active = Active	Never
BI245	Rapid Restart Status	Indicates the active status of the Rapid Restart event.	Inactive = Inactive Active = Active	Roof Top Unit
BI246	Supply Air Tempering Status	Indicates the current status of the Supply Air Tempering event.	Inactive = Inactive Active = Active	Roof Top Unit and Commercial Self Contained
BI311	Supply Air Low Limit Active	Indicates the active status of the Supply Air Low Limit event.	Inactive = Inactive Active = Active	Always
BI1001	Digital Scroll Compressor Status	Created when Digital Scroll Compressor is present.	Indicates if Digital Scroll Compressor is enabled.	Digital Scroll Compressor present

(a)

This column of information specifies when items are instantiated. The criteria in which the BCI2-I product will have specific objects instantiated is based on the features and options that have been selected.

Table 10. Diagnostics, Binary Input

Object Identifier[a]	Object Name	Description	When Exists[b]
BI29	Diagnostic: RTM Zone Temp Sensor Failure	Diagnostic: RTM Zone Temp Sensor Failure	Always
BI30	Diagnostic: Supply Air Temp Sensor Fail	Diagnostic: Supply Air Temp Sensor Fail	Always
BI31 (use Object Identifier for RT or CSC)	Diagnostic: RTM Aux Temp Sensor Failure	Diagnostic: RTM Aux Temp Sensor Failure	Roof Top Unit or Commercial Self Contained
BI32	Diagnostic: OA Temperature Sensor Fail	Diagnostic: OA Temperature Sensor Fail	Always
BI33	Diagnostic: Mode Input Failure	Diagnostic: Mode Input Failure	Always
BI34	Diagnostic: Occ Zone Cool Setpoint Fail	Diagnostic: Occ Zone Cool Setpoint Fail	Always
BI35	Diagnostic: Occ Zone Heat Setpoint Fail	Diagnostic: Occ Zone Heat Setpoint Fail	Always
BI36	Diagnostic: Supply Air Press Sensor Fail	Diagnostic: Supply Air Press Sensor Fail	Always
BI37	Diagnostic: OA Humidity Sensor Failure	Diagnostic: OA Humidity Sensor Failure	Always
BI38	Diagnostic: Emergency Stop (man)	Diagnostic: Emergency Stop	Always
BI39	Diagnostic: Supply Fan Failure (man)	Diagnostic: Supply Fan Failure	Always
BI40	Diagnostic: Exhaust/Return Fan Failure (man)	Diagnostic: Exhaust/Return Fan Failure	Always
BI41	Diagnostic: Lvg Evap Temp Sensor Fail - Ckt1	Diagnostic: Lvg Evap Temp Sensor Fail - Ckt1	Always
BI42	Diagnostic: Lvg Evap Temp Sensor Fail - Ckt2	Diagnostic: Lvg Evap Temp Sensor Fail - Ckt2	Always
BI43	Diagnostic: Low Pressure Ctl Open - Ckt1 (man)	Diagnostic: Low Pressure Ctl Open - Ckt1	Always
BI44	Diagnostic: Low Pressure Ctl Open - Ckt2 (man)	Diagnostic: Low Pressure Ctl Open - Ckt2	Always
BI45	Diagnostic: Cond Temp Sensor Fail - Ckt1	Diagnostic: Cond Temp Sensor Fail - Ckt1	Always
BI46	Diagnostic: Cond Temp Sensor Fail - Ckt2	Diagnostic: Cond Temp Sensor Fail - Ckt2	Always
BI47	Diagnostic: Compressor Trip - Ckt1 (man)	Diagnostic: Compressor Trip - Ckt1	Always
BI48	Diagnostic: Compressor Trip - Ckt2 (man)	Diagnostic: Compressor Trip - Ckt2	Always
BI49	Diagnostic: HEAT Aux Temp Sensor Fail	Diagnostic: HEAT Aux Temp Sensor Fail	Always
BI50	Diagnostic: Low Air Temp Limit Trip (man)	Diagnostic: Low Air Temp Limit Trip	Always
BI51	Diagnostic: Heat Failure	Diagnostic: Heat Failure	Always
BI52	Diagnostic: Unocc Zone Cool Stpnt Fail	Diagnostic: Unocc Zone Cool Stpnt Fail	Always
BI53	Diagnostic: Unocc Zone Heat Stpnt Fail	Diagnostic: Unocc Zone Heat Stpnt Fail	Always
BI54	Diagnostic: SA Duct Press Setpoint Fail	Diagnostic: SA Duct Press Setpoint Fail	Always
BI55	Diagnostic: Space Pressure Setpoint Fail	Diagnostic: Space Pressure Setpoint Fail	Always
BI56	Diagnostic: Space Pressure Sensor Fail	Diagnostic: Space Pressure Sensor Fail	Always
BI57	Diagnostic: Return Air Temp Sensor Fail	Diagnostic: Return Air Temp Sensor Fail	Always
BI58 (use Object Identifier for RT or CSC)	Diagnostic: Return Air RH Sensor Failure	Diagnostic: Return Air RH Sensor Failure	Roof Top Unit or Commercial Self Contained
BI59	Diagnostic: SA High Press Limit	Diagnostic: Auto - SA High Press Limit	Always
BI60	Diagnostic: Man - SA High Press Limit	Diagnostic: Man - SA High Press Limit	Always

Table 10. Diagnostics, Binary Input (continued)

Object Identifier[a]	Object Name	Description	When Exists[b]
BI61	Diagnostic: SCM Communications Failure	Diagnostic: SCM Communications Failure	Always
BI62	Diagnostic: MCM Communications Failure	Diagnostic: MCM Communications Failure	Always
BI63	Diagnostic: HEAT Communications Failure	Diagnostic: HEAT Communications Failure	Always
BI64	Diagnostic: ECEM Communications Failure	Diagnostic: ECEM Communications Failure	Always
BI65	Diagnostic: GBAS 0-5 VDC Comm Failure	Diagnostic: GBAS 0-5 VDC Comm Failure	Always
BI66	Diagnostic: BACnet Module Comm Fail	Diagnostic: BACnet Module Comm Fail	Always
BI67	Diagnostic: BAS/Network Comm Fail	Diagnostic: BAS/Network Comm Fail	Always
BI68	Diagnostic: NSB Panel Communication Fail	Diagnostic: NSB Panel Communication Fail	Always
BI69	Diagnostic: RTM EEPROM Failure	Diagnostic: RTM EEPROM Failure	Always
BI70	Diagnostic: Unit HI Communications Fail	Diagnostic: Unit HI Communications Fail	Always
BI71	Diagnostic: VOM Communications Failure	Diagnostic: VOM Communications Failure	Always
BI72	Diagnostic: Compressor Contact Fail-Ckt1 (man)	Diagnostic: Compressor Contact Fail-Ckt1	Always
BI73	Diagnostic: Compressor Contact Fail-Ckt2 (man)	Diagnostic: Compressor Contact Fail-Ckt2	Always
BI74	Diagnostic: SA Temp Cool Setpoint Fail	Diagnostic: SA Temp Cool Setpoint Fail	Always
BI75	Diagnostic: SA Temp Heat Setpoint Fail	Diagnostic: SA Temp Heat Setpoint Fail	Always
BI76	Diagnostic: Dirty Filter	Diagnostic: Dirty Filter	Always
BI77	Diagnostic: NSB Zone Temp Sensor Fail	Diagnostic: NSB Zone Temp Sensor Fail	Always
BI78	Diagnostic: VOM Mode A Active	Diagnostic: VOM Mode A Active	Always
BI79	Diagnostic: VOM Mode B Active	Diagnostic: VOM Mode B Active	Always
BI80	Diagnostic: VOM Mode C Active	Diagnostic: VOM Mode C Active	Always
BI81	Diagnostic: VOM Mode D Active	Diagnostic: VOM Mode D Active	Always
BI82	Diagnostic: VOM Mode E Active	Diagnostic: VOM Mode E Active	Always
BI83	Diagnostic: CO2 Sensor Failure	Diagnostic: CO2 Sensor Failure	Always
BI84	Diagnostic: VCM Aux Temp Sensor Failure	Diagnostic: VCM Aux Temp Sensor Failure	Always
BI85	Diagnostic: Blocked Air Return (man)	Diagnostic: Blocked Air Return	Always
BI86 (use Object Identifier for CSC, I-pak I, RT)	Diagnostic: Velocity Press Sensor Fail	Diagnostic: Velocity Press Sensor Fail	Roof Top Unit or Commercial Self Contained
BI86 (use Object Identifier for RT, I-pak II)	Diagnostic: Vel Press Sensor (Rear)	Diagnostic: Vel Press Sensor (Rear)	Roof Top Unit
BI87	Diagnostic: VCM Communications Failure	Diagnostic: VCM Communications Failure	Always
BI88	Diagnostic: WSM Communications Failure	Diagnostic: WSM Communications Failure	Commercial Self Contained
BI88 (use Object Identifier for RT)	Diagnostic: Low Space Pressure Warning	Diagnostic: Low Space Pressure Warning	Roof Top Unit
BI89 (use Object Identifier for CSC)	Diagnostic: Compressor Trip - Ckt 3	Diagnostic: Compressor Trip - Ckt 3	Commercial Self Contained

Table 10. Diagnostics, Binary Input (continued)

Object Identifier[a]	Object Name	Description	When Exists[b]
BI89 (use Object Identifier for RT,	Diagnostic: Low Space Pressure Trip - Auto	Diagnostic: Low Space Pressure Trip - Auto	Roof Top Unit
BI90	Diagnostic: Compressor Trip - Ckt 4	Diagnostic: Compressor Trip - Ckt 4	Commercial Self Contained
BI90 (use Object Identifier for CSC	Diagnostic: Low Space Pressure Trip - Manual	Diagnostic: Low Space Pressure Trip - Manual	Roof Top Unit
BI91	Diagnostic: Exh Fan VFD Bypass Enabled	Diagnostic: Exh Fan VFD Bypass Enabled	Always
BI92	Diagnostic: Cond Temp Sensor Fail - Ckt3	Diagnostic: Cond Temp Sensor Fail - Ckt3	Always
BI93	Diagnostic: Cond Temp Sensor Fail - Ckt4	Diagnostic: Cond Temp Sensor Fail - Ckt4	Always
BI94	Diagnostic: Ent Cond Wtr Tmp Sensor Fail	Diagnostic: Ent Cond Wtr Tmp Sensor Fail	Always
BI95	Diagnostic: WSM MA Temp Sensor Failure	Diagnostic: WSM MA Temp Sensor Failure	Always
BI96	Diagnostic: Enter Water Temp Sensor Fail	Diagnostic: Enter Water Temp Sensor Fail	Always
BI97	Diagnostic: Water Flow Failure	Diagnostic: Water Flow Failure	Always
BI98	Diagnostic: Supply Fan VFD Bypass Enable	Diagnostic: Supply Fan VFD Bypass Enable	Always
BI99	Diagnostic: High CO2 Level	Diagnostic: High CO2 Level	Always
BI100	Diagnostic: Low Pressure Ctl Open - Ckt4	Diagnostic: Low Pressure Ctl Open - Ckt4	Always
BI101	Diagnostic: Low Pressure Ctl Open - Ckt3	Diagnostic: Low Pressure Ctl Open - Ckt3	Always
BI102	Diagnostic: Compressor Contact Fail-Ckt4	Diagnostic: Compressor Contact Fail-Ckt4	Always
BI103	Diagnostic: Compressor Contact Fail-Ckt3	Diagnostic: Compressor Contact Fail-Ckt3	Always
BI104	Diagnostic: Evap Temp Sensor Fail - Ckt4	Diagnostic: Evap Temp Sensor Fail - Ckt4	Always
BI105	Diagnostic: Evap Temp Sensor Fail - Ckt3	Diagnostic: Evap Temp Sensor Fail - Ckt3	Always
BI106	Diagnostic: RTM Zone Humidity Sensor Fail	Diagnostic: RTM Zone Humidity Sensor Fail	Always
BI107	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 1	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 1	Always
BI108	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 2	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 2	Always
BI111	Diagnostic: Recovery Dirty Prefilter	Diagnostic: Recovery Dirty Pre-filter	Always
BI112	Diagnostic: Recovery Lvg Exh Sensor Fail	Diagnostic: Recovery Lvg RA Sensor Fail	Always
BI113	Diagnostic: Energy Recovery Wheel Fail (man)	Diagnostic: Energy Recovery Wheel Fail	Always
BI114	Diagnostic: Cond Sump Max Level Fail	Diagnostic: Cond Sump Max Level Fail	Always
BI115	Diagnostic: Cond Sump Min Level or Drain	Diagnostic: Cond Sump Min Level Fail	Always
BI116	Diagnostic: Cond Sump Pump Fail (man)	Diagnostic: Cond Water Pump Fail (man)	Always
BI117	Diagnostic: Cond Sump Pump Fail	Diagnostic: Cond Water Pump Fail (auto)	Always
BI118	Diagnostic: Cond Water Temp Sensor Fail	Diagnostic: Cond Water Temp Sensor Fail	Always
BI119	Diagnostic: Cond Sump Heater Fail (man)	Diagnostic: Cond Sump Heater Fail (man)	Always
BI120	Diagnostic: GBAS 0-10 VDC Comm Failure	Diagnostic: GBAS 0-10 VDC Comm Failure	Always
BI121 (use Object Identifier for RT)	Diagnostic: Reheat Head Press High	Diagnostic: Reheat Head Press High	Roof top unit

Table 10. Diagnostics, Binary Input (continued)

Object Identifier[a]	Object Name	Description	When Exists[b]
BI122	Diagnostic: Improper Airflow for Dehumid (man)	Diagnostic: Insufficient Airflow for Dehumid	Always
BI123	Diagnostic: SA Reheat Setpoint Failure	Diagnostic: SA Reheat Setpoint Failure	Always
BI124	Diagnostic: Unocc Dehumid Setpoint Fail	Diagnostic: Unocc Dehumid Setpoint Fail	Always
BI125	Diagnostic: Occ Dehumid Setpoint Failure	Diagnostic: Occ Dehumid Setpoint Failure	Always
BI126	Diagnostic: Unocc Humid Setpoint Fail	Diagnostic: Unocc Humid Setpoint Fail	Always
BI127	Diagnostic: Occ Humid Setpoint Failure	Diagnostic: Occ Humid Setpoint Failure	Always
BI128	Diagnostic: MDM Communications Failure	Diagnostic: MDM Communications Failure	Always
BI129	Diagnostic: Dirty Final Filter	Diagnostic: Dirty Final Filter	Always
BI130	Diagnostic: Vel Press Sensor (Front) Fail	Diagnostic: Vel Press Sensor (Front) Fail	Always
BI131	Diagnostic: High Superheat - Ckt 1	Diagnostic: High Superheat - Ckt 1	Always
BI132	Diagnostic: Low Refrigerant Charge - Ckt 1	Diagnostic: Low Refrigerant Charge - Ckt 1	Always
BI133	Diagnostic: High Superheat - Ckt 2	Diagnostic: High Superheat - Ckt 2	Always
BI134	Diagnostic: Low Refrigerant Charge - Ckt 2	Diagnostic: Low Refrigerant Charge - Ckt 2	Always
BI139	Diagnostic: MPM Communications Failure	Diagnostic: MPM Communications Failure	Always
BI140	Diagnostic: TPM Communications Failure	Diagnostic: TPM Communications Failure	Always
BI141	Diagnostic: Return Plenum Press Sensor	Diagnostic: Return Plenum Press Sensor	Always
BI142	Diagnostic: Return Press High Limit (Man)	Diagnostic: Return Press High Limit (Man)	Always
BI143	Diagnostic: Return Press High Limit (Auto)	Diagnostic: Return Press High Limit (Auto)	Always
BI146	Diagnostic: Invalid Unit Configuration	Diagnostic: Invalid Unit Configuration	Always
BI147	Diagnostic: Maintenance Required	Diagnostic: Maintenance Required	Always
BI148	Diagnostic: Unit Communications Failure	Diagnostic: Unit Communications Failure	Always
BI149	Diagnostic: Unit Stopped at Local HI	Diagnostic: Unit Stopped at Local HI	Always
BI150	Diagnostic: Unit Stopped at Remote HI	Diagnostic: Unit Stopped at Remote HI	Always
BI151	Diagnostic: RTM External Stop	Diagnostic: RTM External Stop	Always
BI153	Diagnostic: Ckt2 High Compressor Pressure Differential (Man)	Diagnostic: Ckt2 High Compressor Pressure Differential (Man)	Always
BI154	Diagnostic: VSM Communications Failure	Diagnostic: VSM Communications Failure	Always
BI155	Diagnostic: Ckt1 High Compressor Pressure Differential (Man)	Diagnostic: Ckt1 High Compressor Pressure Differential (Man)	Always
BI161	Circuit 1 Coil Frost Protection Status	The status of evaporator frost protection function for circuit 1.	
BI162	Circuit 2 Coil Frost Protection Status	The status of evaporator frost protection function for circuit 2.	
BI163	Circuit 3 Coil Frost Protection Status	The status of evaporator frost protection function for circuit 3.	
BI164	Circuit 4 Coil Frost Protection Status	The status of evaporator frost protection function for circuit 4.	

Table 10. Diagnostics, Binary Input (continued)

Object Identifier[a]	Object Name	Description	When Exists[b]
BI165	Alarm Relay Output Status	Indicates if the alarm relay is energized.	
BI166	Diagnostic: Stop Status	Diagnostic: Stop Status	Always
BI233	Diagnostic: Sump Min Level Cycling (man)	Diagnostic: Sump Min Level Cycling (man)	Always
BI235	Diagnostic: Cond Press Sensor Fail – Ckt2	Diagnostic: Cond Press Sensor Fail – Ckt2	
BI236	Diagnostic: Cond Press Sensor Fail – Ckt1	Diagnostic: Cond Press Sensor Fail – Ckt1	
BI237	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 3	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 3	Always
BI238	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 4	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 4	Always
BI239	Diagnostic: Morning Warmup Setpoint Fail	Diagnostic: Morning Warm-up Setpoint Fail	Always
BI240	Diagnostic: Min Position Setpoint Fail	Diagnostic: Min Position Setpoint Fail	Always
BI241	Diagnostic: Econ Drybulb Setpoint Fail	Diagnostic: Econ Drybulb Setpoint Fail	Always
BI242	Diagnostic: Min OA Flow Setpoint Fail	Diagnostic: Min OA Flow Setpoint Fail	Always
BI243	Condenser Water Drain Status	Indicates the status of the condenser water drain.	
BI244	Chemical Purge Water Treatment Status	Indicates the active status of the Chemical Purge Water Treatment event.	
BI245	Rapid Restart Status	Indicates the active status of the Rapid Restart event.	
BI246	Supply Air Tempering Status	Indicates the status of the Supply Air Tempering function.	
BI247	Diagnostic: Single Zone VAV Hardware Configuration Failure	Indicates that there has been a failure on the GBAS 0-5 Hardware Configuration for SZVAV.	Always
BI248	Diagnostic: Rapid Restart Hardware Configuration Failure	Indicates that there has been a failure on the GBAS 0-5 Hardware Configuration for Rapid Restart.	Always
BI305	Diagnostic: Unit Economizing When It Should Not	Diagnostic: Unit Economizing When It Should Not	With Economizer installed
BI306	Diagnostic: Unit Not Economizing When It Should	Diagnostic: Unit Not Economizing When It Should	With Economizer installed
BI307	Diagnostic: Excessive Outdoor Air	Diagnostic: Excessive Outdoor Air	Always
BI308	Diagnostic: Outdoor Air Damper Not Modulating	Diagnostic: Outdoor Air Damper Not Modulating	Always
BI311	Supply Air Low Limit Active	Indicates if the unit is in Supply Air Low Limit.	
BI312	Morning Warmup Enabled	Indicates if Morning Warmup is Enabled.	Always
BI313	Daytime Warmup Enabled	Indicates if Daytime Warmup is Enabled.	Always

[a]
Object States: Inactive = normal and Active = foreign language specific.

[b]
This column of information specifies when items are instantiated. The criteria in which the BCI2-I product will have specific objects instantiated is based on the features and options that have been selected.

Table 11. All object types sorted by Object Name (*Refer to previous tables for detailed descriptions of objects*)

Object Identifier	Object Name	Description	When Exists[a]
MO8	Application Mode Request BAS	Command the unit to a specific application mode.	Always
MI19	Application Mode Status	Indicates the current application mode of the equipment.	Always
AI80	Cabinet Style	Describes the cabinet style of the unit. There are four (4) types: 8 = Modular 24 = Signature 38 = Rooftop, 54 = Air Handler	Always
BO17	Chemical Purge Water Treatment BAS	Command the unit into a Chemical Purge Water Treatment event through BAS (CSC units only).	Never
AO33	Chemical Purge Water Treatment Duration BAS	Set BAS time duration (minutes) for Chemical Purge Water Treatment event (CSC units only). A value of 0 (Disabled) will not activate the timer that determines the duration of the event. In this case the duration will be set for as long as the request persists. A value between 15 - 254 will enable the timer to determine the duration of the event once a valid request is received. A value of 1-14 will be clamped to a valid 15 minutes.	Never
AI14	Condenser Capacity Status	Indicates the unit condenser capacity being utilized.	Always
MI10	Condenser Type	General description of the equipment condenser system.	Always
AI35	Condenser Water Entering Temperature	The temperature of the water entering the condenser.	Commercial Self Contained with Waterside Economizer or Water Cooler Condenser
MO10	Condenser Water Flow BAS	Command the unit to utilize a remote water flow indication.	Always
AI46	Condenser Water Leaving Temperature Active	Condenser water leaving temperature value used for unit control.	Water Cooled Commercial Self Contained or Roof Top Unit
AI47	Condenser Water Leaving Temperature Local	Condenser water leaving temperature from a unit mounted sensor.	Water Cooled Commercial Self Contained or Roof Top Unit
AI42	Condensing Saturated Temperature Circuit 1	Indicates the saturated condenser temperature for circuit 1.	DX
AI43	Condensing Saturated Temperature Circuit 2	Indicates the saturated condenser temperature for circuit 2.	For 2 or more refrigerant circuits
AI44	Condensing Saturated Temperature Circuit 3	Indicates the saturated condenser temperature for circuit 3.	For 3 or more refrigerant circuits
AI45	Condensing Saturated Temperature Circuit 4	Indicates the saturated condenser temperature for circuit 4.	For 4 refrigerant circuits
AO19	Cool Capacity Enable Setpoint BAS	BAS supplied cooling demand limit capacity setpoint value.	With all cooling types
BO6	Cool Lockout Command	Command the unit to prevent cooling operation.	Always
MI25	Cool Output 1	Indicates the commanded state of cooling output 1.	DX
MI26	Cool Output 2	Indicates the commanded state of cooling output 2.	With 2 or more refrigerant circuits
MI27	Cool Output 3	Indicates the commanded state of cooling output 3.	With 3 or more refrigerant circuits

Table 11. All object types sorted by Object Name (*Refer to previous tables for detailed descriptions of objects*) (continued)

Object Identifier	Object Name	Description	When Exists[a]
MI28	Cool Output 4	Indicates the commanded state of cooling output 4.	Always
MI46	Cool Output 5	Indicates the commanded state of cooling output 5.	With 5 or more cooling outputs
AI81	Cool Type	Describes the cooling type installed in the unit. There are 20 types of cooling types: 1 = None 2 = Modulating Cold Water 6 = Modulating DX 33 = 2-Stage Air-Cooled DX 1 Circuit 2 Compressor Relays 34 = 2-Stage Air-Cooled DX 2 Circuit 2 Compressor Relays 35 = 3-Stage Air-Cooled DX 2 Circuit 1 Compressor Relays 36 = 3-Stage Air-Cooled DX 2 Circuit 2 Compr Relays 37 = 2-Stage Water-Cooled DX 1 Circuit 2 Compressor Relays 38 = 2-Stage Water-Cooled DX 2 Circuit 2 Compressor Relays 39 = 3-Stage Water-Cooled DX 1 Circuit 2 Compressor Relays 40 = 3-Stage Water-Cooled DX 2 Circuit 2 Compressor Relays 41 = 3-Stage Air-Cooled DX 2 Circuit 3 Compressor Relays 42 = 4-Stage Air-Cooled DX 2 Circuit 3 Compressor Relays 43 = 3-Stage Water-Cooled DX 2 Circuit 3 Compressor Relays 44 = 4-Stage Water-Cooled DX 2 Circuit 3 Compressor Relays 45 = 3-Stage Water-Cooled DX 3 Circuit 3 Compressor Relays 46 = 4-Stage Water-Cooled DX 3 Circuit 3 Compressor Relays 47 = 4-Stage Air-Cooled DX 2 Circuit 4 Compressor Relays 48 = 4-Stage Water-Cooled DX 2 Circuit 4 Compressor Relays 49 = 4-Stage Water-Cooled DX 4 Circuit 4 Compressor Relays.	Always
AI1	Cooling Capacity Status	Indicates the unit cooling capacity being utilized.	Always
MI17	Cooling Reset Type Status	Indicates the type of cooling reset.	Variable Air Volume
MI22	Cooling Setpoint Source	Indicates the source of the space cooling setpoint.	Always
AI110	Daytime Warmup Air Temperature Initiate Setpoint Active	Indicates the active daytime warmup initiate setpoint.	Variable Air Volume with any heat installed
AI67	Daytime Warm-up Initiate Temperature Setpoint Local	The local daytime warmup initiate temperature setpoint.	Variable Air Volume with any heat installed
AI68	Daytime Warmup Terminate Temperature Setpoint	Temperature setpoint that will exit daytime warm-up mode.	Variable Air Volume with any heat installed
AO5	Daytime Warmup Terminate Temperature Setpoint BAS	BAS supplied daytime warm-up terminate temperature setpoint.	With any heat installed
AI55	Daytime Warmup Air Temperature Terminate Setpoint Active	The air temperature setpoint used to terminate daytime warmup mode.	Variable Air Volume with any heat installed
BI313	Daytime Warmup Enabled	Indicates if daytime warmup is enabled.	Always
AO43	Daytime Warmup Initiate Temperature Setpoint BAS	BAS supplied initiate temperature setpoint used in morning warmup mode.	With any heat installed
AI79	Dehumidification Capacity Status	Indicates the unit dehumidification capacity being utilized.	Roof Top Unit with Dehumidification
BO15	Dehumidification Command	Command the operating state of the dehumidification system.	Roof Top Unit with Dehumidification
AI58	Dehumidification High Limit Setpoint	Humidity setpoint value that starts dehumidification control.	Roof Top Unit with Dehumidification

Table 11. All object types sorted by Object Name (*Refer to previous tables for detailed descriptions of objects*) (continued)

Object Identifier	Object Name	Description	When Exists[a]
BO14	Diagnostic Reset Command	Command the unit to reset and clear diagnostics.	Always
AV1002	Digital Scroll Compressor Cooling Capacity	Created when Digital Scroll Compressor is present	Digital Scroll Compressor present
AV1001	Digital Scroll Compressor P Gain	Created when Digital Scroll Compressor is present	Digital Scroll Compressor present
AO1001	Digital Scroll Compressor Signal	Supplied voltage to the Digital Scroll Compressor	Digital Scroll Compressor present
BI1001	Digital Scroll Compressor Status	Created when Digital Scroll Compressor is present	Digital Scroll Compressor present
AO6	Discharge Air Cooling Setpoint BAS	BAS supplied discharge air temperature cooling setpoint value.	Variable Air Volume
AI60	Discharge Air Dewpoint Temperature Setpoint	Humidity setpoint value used during dehumidification control.	With Dehumidification
AO7	Discharge Air Heating Setpoint BAS	BAS supplied discharge air temperature heating setpoint value.	Variable Air Volume
AI61	Discharge Air Reheat Setpoint Active	Indicates the active supply air reheat temperature setpoint.	Roof Top Unit with Dehumidification
AO23	Discharge Air Reheat Setpoint BAS	BAS supplied discharge air reheat setpoint value.	Dehumidification Configuration
AI24	Discharge Air Temperature Active	The discharge air temperature currently used for unit control.	Always
AO12	Discharge Air Temperature BAS	BAS supplied discharge air temperature sensor value.	Always
AI33	Discharge Air Temperature Dewpoint	Discharge air temperature dewpoint being used by the unit.	Dehumidification
AI52	Discharge Air Temperature Setpoint Active	Discharge air temperature setpoint value being used for unit control.	Variable Air Volume
AI28	Duct Static Air Pressure Active	Duct static air pressure value currently being used for unit control.	Variable Air Volume
AO13	Duct Static Air Pressure BAS	BAS supplied duct static air pressure sensor value.	Variable Air Volume
AI29	Duct Static Air Pressure Local	Duct static air pressure value measured by a unit-mounted sensor.	Variable Air Volume
AI48	Duct Static Air Pressure Setpoint Active	Duct static pressure setpoint value being used for unit control.	Variable Air Volume
AO8	Duct Static Air Pressure Setpoint BAS	BAS supplied duct static air pressure setpoint value.	Variable Air Volume
MO1	Economizer Airside Enable BAS	Command the state of the airside economizer system.	With Economizer installed
MI15	Economizer Decision Method	Unit method to determine when the economizer system is enabled.	Configured with Economizer
BO7	Economizer Minimum Position Command	Command the unit to the minimum position operation.	Always
AI56	Economizer Minimum Position Setpoint Active	The minimum position value the economizer damper will utilize.	With Economizer installed
AO1	Economizer Minimum Position Setpoint BAS	BAS supplied economizer position minimum setpoint value.	With Economizer installed

Table 11. All object types sorted by Object Name (*Refer to previous tables for detailed descriptions of objects*) (continued)

Object Identifier	Object Name	Description	When Exists[(a)]
AI86	Economizer Minimum Position Setpoint Local	Indicates the local economizer minimum position setpoint.	With Economizer installed
MI44	Economizer System Status	Indicates the operating state of the waterside economizer system.	With Economizer installed
MI9	Economizer Type	General description of the equipment economizer system.	Always
MO3	Economizer Waterside Enable BAS	Command the state of the waterside economizer system.	Commercial Self Contained with Water Side Economizer
AI70	Economizing Enthalpy Enable Setpoint	Enthalpy setpoint below which economizing can be used.	With Economizer installed
AI69	Economizing Temperature Enable Setpoint	Temperature setpoint below which economizing can be used.	With Economizer installed
MO2	Emergency Override BAS	Command the unit into an emergency mode of operation.	Always
AI64	Energy Recovery Exhaust Air Bypass Damper Position	Energy recovery exhaust air bypass damper position.	Roof Top Unit with Energy Recovery
AI65	Energy Recovery Leaving Exhaust Air Temperature	Energy recovery leaving exhaust air temperature.	Roof Top Unit with Energy Recovery
AI66	Energy Recovery Outdoor Air Bypass Damper Position	Energy recovery outdoor air bypass damper position.	Roof Top Unit with Energy Recovery
AI36	Evaporator Entering Temperature Circuit 1	Indicates the entering evaporator temperature for circuit 1.	DX Roof Top Unit
AI37	Evaporator Entering Temperature Circuit 2	Indicates the entering evaporator temperature for circuit 2.	DX Roof Top Unit
AI38	Evaporator Leaving Temperature Circuit 1	Indicates the leaving evaporator temperature for circuit 1	Commercial Self Contained or DX Roof Top Unit
AI39	Evaporator Leaving Temperature Circuit 2	Indicates the leaving evaporator temperature for circuit 2.	Commercial Self Contained or DX Roof Top Unit
AI40	Evaporator Leaving Temperature Circuit 3	Indicates the leaving evaporator temperature for circuit 3.	For 35 ton or larger Water Cooled Signature Series Commercial Self Contained with Independent Refrigerant Circuit
AI41	Evaporator Leaving Temperature Circuit 4	Indicates the leaving evaporator temperature for circuit 4.	For 65 ton or larger Water Cooled Signature Series Commercial Self Contained with Independent Refrigerant Circuit
AI9	Exhaust Damper Position Status	Indicates the unit exhaust damper position.	With 100% exhaust capabilities or Return Fan

Table 11.   All object types sorted by Object Name (*Refer to previous tables for detailed descriptions of objects*) (continued)

Object Identifier	Object Name	Description	When Exists[a]
AI71	Exhaust Enable Damper Position Setpoint	Exhaust air damper minimum position to enable exhaust sequence.	With Economizer installed
MI39	Exhaust Fan Proving Status	Indicates if the unit exhaust fan is off or on.	Configured with 100% or 50/100% Powered Exhaust
AI8	Exhaust Fan Speed Command	Indicates the unit commanded exhaust fan speed.	With 100% exhaust capabilities
AO40	Exhaust Fan Speed Setpoint BAS	BAS supplied Exhaust Fan Speed Setpoint	Variable Air Volume
MI38	Exhaust Fan Status	Indicates the commanded state of the exhaust fan.	Configured with 100% or 50/100% Powered Exhaust
AI90	Exhaust or Return Fan Type	Describes the exhaust or return fan type installed in the unit. There are five (5) types: 1 = None 2 = 1-Speed Exhaust Fan 7 = 1-Speed Exhaust Fan with Modulating Exhaust Damper 22 = 1-Speed Return Fan with Modulating Exhaust Damper 26 = Variable Speed Fan with Modulating Exhaust Damper	Always
AI6	Filter Runtime Hours	Indicates the number of hours air has flowed through the filter.	Always
AV1	Filter Runtime Hours Setpoint	The setpoint value used by the filter run hours calculation.	Always
BO13	Filter Timer Reset Command	Command the unit to reset the accumulated filter run hours.	Always
MI36	Final Filter Status	Indicates the final filter media state.	Configured with Final Filter
AI13	Frost Avoidance Temperature Setpoint	Indicates the frost coil avoidance temperature setpoint.	Always
AO20	Heat Capacity Enable Setpoint BAS	BAS supplied heating demand limit capacity setpoint value.	With any heat installed
BO5	Heat Lockout Command	Command the unit to prevent heating operation.	Always
BO12	Heat or Reheat Enable Command	Enable the heating or reheating system during dehumidification mode.	Always
MI29	Heat Output 1	Indicates the commanded state of heating output 1.	Configured with any heat
MI30	Heat Output 2	Indicates the commanded state of heating output 2.	Configured with 2 or more stages of heat
MI31	Heat Output 3	Indicates the commanded state of heating output 3.	Roof Top Unit Configured with 3 or more stages of heat
MI32	Heat Output 4	Indicates the commanded state of heating output 4.	Roof Top Unit Configured with 4 or more stages of heat
MI33	Heat Output 5	Indicates the commanded state of heating output 5.	Roof Top Unit Configured with 5 or more stages of heat
AI2	Heat Primary Capacity Status	Indicates the unit primary heating capacity being utilized.	Always
AI3	Heat Secondary Capacity Status	Indicates the unit secondary heating capacity being utilized.	Roof Top Unit

Table 11. All object types sorted by Object Name (*Refer to previous tables for detailed descriptions of objects*) (continued)

Object Identifier	Object Name	Description	When Exists[a]
MI18	Heating Reset Type Status	Indicates the type of heating reset.	MI-18: Variable Air Volume
MI23	Heating Setpoint Source	Indicates the source of the space heating setpoint.	Always
AI76	Humidification Capacity Status	Indicates the unit humidification capacity being utilized.	With Humidification
BO16	Humidification Command	Command the operating state of the humidification system.	Configured with Humidification
NC 3	HVAC-Advisory	HVAC-Advisory	Always
NC 1	HVAC-Critical	HVAC-Critical	Always
NC 4	HVAC-Information	HVAC-Information	Always
NC 2	HVAC-Service Required	HVAC-Service Required	Always
AI25	Mixed Air Temperature	The mixed air temperature value from a unit-mounted sensor.	With Ventilation Control Module or Commercial Self Contained with Waterside Economizer
AO4	Morning Warm-up Setpoint BAS	BAS supplied temperature setpoint used in morning warm-up mode.	With any heat installed
AI54	Morning Warmup Air Temperature Setpoint Active	The air temperature setpoint used during morning warm-up mode.	With any heat installed
BI312	Morning Warmup Enabled	Indicates if morning warmup is enabled	Always
MO7	Occupancy Mode Request BAS	Command the unit into an occupancy mode.	Always
MI20	Occupancy Mode Status	Indicates the current occupancy mode of the unit.	Always
AO29	Occupied Temperature Offset BAS	Offset used to calculate setpoints in occupied mode.	Always
AI11	Outdoor Air Damper Position Status	Indicates the unit outdoor air damper position.	With Economizer installed
MI43	Outdoor Air Damper Status	Indicates the operating state of the outdoor damper.	With Economizer installed
AI23	Outdoor Air Enthalpy	The outdoor air enthalpy value being utilized by the unit.	With Economizing and Comparative Enthalpy Module
AI34	Outdoor Air Flow Active	Outdoor airflow utilized by the unit.	With Ventilation Control Module
AO17	Outdoor Air Flow BAS	BAS supplied outdoor airflow sensor value.	Fresh Air Management installed
AI20	Outdoor Air Humidity Active	The outdoor air humidity value used for unit control.	With Economizing and Comparative Enthalpy Module
AO15	Outdoor Air Humidity BAS	BAS supplied outdoor air humidity sensor value.	Always
AI21	Outdoor Air Humidity Local	The outdoor air humidity value from a unit-mounted sensor.	With Economizing and Comparative Enthalpy Module
AI57	Outdoor Air Minimum Flow Setpoint Active	The minimum outdoor airflow setpoint being utilized by the unit.	With Ventilation Control Module and Fresh Air Flow Measurement

Table 11. All object types sorted by Object Name (*Refer to previous tables for detailed descriptions of objects*) (continued)

Object Identifier	Object Name	Description	When Exists[a]
AO16	Outdoor Air Minimum Flow Setpoint BAS	BAS supplied minimum outdoor airflow setpoint.	Fresh Air Management installed
AI18	Outdoor Air Temperature Active	The outdoor air temperature currently used for unit control.	Always
AO14	Outdoor Air Temperature BAS	BAS supplied outdoor air temperature sensor value.	Always
AI19	Outdoor Air Temperature Local	The outdoor air temperature value from a unit-mounted sensor.	Always
MI34	Pre-filter Status	Indicates the pre-filter media state.	Roof Top Unit Configured with Energy Recovery
AI82	Preheat Type	Describes the heating type installed in the unit. There are 13 types: 129 = None 130 = Modulating Hot Water 134 = Modulating Electric 135 = 1-Stage Electric 136 = 2-Stage Electric 137 = 3-Stage Electric 138 = 4-Stage Electric 158 = 5-Stage Electric 160 = 7-Stage Electric 141 = 2-Stage Gas 162 = 4-Stage Gas 142 = Modulating Gas 163 = External Heat	Always
MI35	Primary Filter Status	Indicates the primary filter media state.	Always
AI5	Reheat Capacity Status	Indicates the unit reheat heating capacity being utilized.	Dehumidification
AI83	Reheat Type	Describes the reheat type installed in the unit. There are two (2) types: 1 = None 17 = Hot Gas	Always
AI1001	Resistance Compressor Minimum Capacity	Created when Digital Scroll Compressor is present	
AI26	Return Air Temperature	The return air temperature value from a unit-mounted sensor.	With Economizing and Comparative Enthalpy Module
AI30	Return Fan Air Pressure	Return fan air pressure value measured by a unit-mounted sensor.	Return fan with StatiTrac
MI40	Return Fan Proving Status	Indicates the current state of the return fan.	Configured with return fan
AI10	Return Fan Speed Command	Indicates the unit commanded return fan speed.	Always
MI42	Return Fan Status	Indicates the state of the return fan.	Always
AO11	Space Air Temperature BAS	BAS supplied space air temperature sensor value.	Always
AI87	Space Air Temperature Local	The space air temperature measured by a unit-mounted sensor.	Always
AI50	Space Air Temperature Setpoint Active	Space temperature setpoint value being used for unit control.	Always
AO2	Space Air Temperature Setpoint BAS	Base value to calculate setpoints in occupied and standby modes.	Always
AI32	Space CO_2 Concentration Active	Space CO_2 concentration being used for unit control.	With DCV option
AO18	Space CO_2 Concentration BAS	BAS supplied space CO_2 sensor value.	Always
AI84	Space CO2 High Limit Setpoint	Indicates the high limit space CO_2 setpoint for ventilation.	Always

Table 11. All object types sorted by Object Name (*Refer to previous tables for detailed descriptions of objects*) (continued)

Object Identifier	Object Name	Description	When Exists[a]
AI85	Space CO2 Low Limit Setpoint	Indicates the low limit space CO_2 setpoint for ventilation.	With DCV option
AO21	Space Dehumidification Setpoint BAS	BAS supplied space dehumidification setpoint value.	Dehumidification Configuration
AI17	Space Enthalpy	The space enthalpy value from a unit-mounted control.	With Dehumidification or with Economizing and Comparative Enthalpy Module
AI62	Space Humidification Setpoint Active	Indicates the setpoint used during space humidification control.	Roof Top Unit
AO26	Space Humidification Setpoint BAS	BAS supplied space humidification setpoint value.	Roof Top Unit with Humidification Configured
AI16	Space Humidity Active	The space humidity value from a unit-mounted control.	With Dehumidification or with Economizing and Comparative Enthalpy Module
AO25	Space Humidity BAS	BAS supplied space humidity sensor value.	Dehumidification or Humidification Configuration
AI31	Space Static Air Pressure Active	Space static air pressure value being used for unit control.	With StatiTrac installed
AO10	Space Static Air Pressure BAS	BAS supplied space static air pressure sensor value.	With StatiTrac
AO9	Space Static Air Pressure Setpoint BAS	BAS supplied space static air pressure setpoint value.	With StatiTrac
AI15	Space Temperature Active	The space temperature currently used for unit control.	Always
AI74	Space Temperature Cooling Setpoint Input	Cooling temperature setpoint from space sensor module.	Always
AI75	Space Temperature Heating Setpoint Input	Heating temperature setpoint from space sensor module.	Always
AI78	Space Temperature Setpoint Local	The local space temperature setpoint.	Always
AO30	Standby Temperature Offset BAS	Offset value used to calculate setpoints in standby mode.	Always
BO8	Supply Fan Configuration Command	Command the unit supply fan to cycling or continuous operation.	Always
MI37	Supply Fan Proving Status	Indicates the current state of the supply fan.	Always
AI7	Supply Fan Speed Command	Indicates the unit commanded supply fan speed.	Always
AO39	Supply Fan Speed Command Setpoint BAS	BAS supplied Supply Fan Speed Setpoint	Variable Air Volume
MI41	Supply Fan Status	Indicates the state of the supply fan.	Always
AI89	Supply Fan Type	Describes the supply fan type installed in the unit. There are three (3) types: 1 = None 2 = 1-Speed 6 = Variable Speed	Always
BO1	System Control Command	Command the unit to standalone- or BAS-controlled operation.	Always
MI24	Timed Override Status	Timed override request or cancel from zone sensor.	Always

Table 11. All object types sorted by Object Name (*Refer to previous tables for detailed descriptions of objects*) (continued)

Object Identifier	Object Name	Description	When Exists[a]
MI2	Trane Unit Type	General description of the equipment-type classification.	Always
AI88	Unit Energy Demand	Indicates the current heat/cool energy demand of the unit.	Always
MI21	Unit Stop Source	Source of the stop command that turned off the equipment.	Always
AO31	Unoccupied Cooling Temperature Setpoint BAS	Cooling temperature setpoint used for control in unoccupied mode.	Always
AO32	Unoccupied Heating Temperature Setpoint BAS	Heating temperature setpoint used for control in unoccupied mode.	Always
MI13	Ventilation Override Status	Indicates if the unit is in a ventilation override mode of operation.	Configured with Ventilation Override Module
AI12	Waterside Economizer Valve Position Status	Indicates the unit waterside economizer valve position.	Commercial Self Contained with Waterside Economizer

[a] This column of information specifies when items are instantiated. The criteria in which the BCI2-I product will have specific objects instantiated is based on the features and options that have been selected.

Table 12. Diagnostic objects sorted by Object Name

Object Identifier	Object Name	Value/Range	Description	When Exists[a]
BI59	Diagnostic: Auto - SA High Press Limit	0 = Inactive 1 = Active	Diagnostic: Auto - SA High Press Limit	Always
BI66	Diagnostic: BACnet Module Comm Fail	0 = Inactive 1 = Active	Diagnostic: BACnet Module Comm Fail	Always
BI67	Diagnostic: BAS/Network Comm Fail	0 = Inactive 1 = Active	Diagnostic: BAS/Network Comm Fail	Always
BI85	Diagnostic: Blocked Air Return	0 = Inactive 1 = Active	Diagnostic: Blocked Air Return	Always
BI155	Diagnostic: Ckt1 High Compressor Pressure Differential (Man)	0 = Inactive 1 = Active	Diagnostic: Ckt1 High Compressor Pressure Differential (Man)	Always
BI153	Diagnostic: Ckt2 High Compressor Pressure Differential (Man)	0 = Inactive 1 = Active	Diagnostic: Ckt2 High Compressor Pressure Differential (Man)	Always
BI83	Diagnostic: CO2 Sensor Failure	0 = Inactive 1 = Active	Diagnostic: CO2 Sensor Failure	Always
BI72	Diagnostic: Compressor Contact Fail-Ckt1 (man)	0 = Inactive 1 = Active	Diagnostic: Compressor Contact Fail-Ckt1	Always
BI73	Diagnostic: Compressor Contact Fail-Ckt2 (man)	0 = Inactive 1 = Active	Diagnostic: Compressor Contact Fail-Ckt2	Always
BI103	Diagnostic: Compressor Contact Fail-Ckt3	0 = Inactive 1 = Active	Diagnostic: Compressor Contact Fail-Ckt3	Always
BI102	Diagnostic: Compressor Contact Fail-Ckt4	0 = Inactive 1 = Active	Diagnostic: Compressor Contact Fail-Ckt4	Always
BI89 (use Object Identifier for CSC)	Diagnostic: Compressor Trip - Ckt 3	0 = Inactive 1 = Active	Diagnostic: Compressor Trip - Ckt 3	Commercial Self Contained
BI90	Diagnostic: Compressor Trip - Ckt 4	0 = Inactive 1 = Active	Diagnostic: Compressor Trip - Ckt 4	Commercial Self Contained

Table 12. Diagnostic objects sorted by Object Name (continued)

Object Identifier	Object Name	Value/Range	Description	When Exists[a]
BI47	Diagnostic: Compressor Trip - Ckt1 (man)	0 = Inactive 1 = Active	Diagnostic: Compressor Trip - Ckt1	Always
BI48	Diagnostic: Compressor Trip - Ckt2 (man)	0 = Inactive 1 = Active	Diagnostic: Compressor Trip - Ckt2	Always
BI119	Diagnostic: Cond Sump Heater Fail (man)	0 = Inactive 1 = Active	Diagnostic: Cond Sump Heater Fail (man)	Always
BI114	Diagnostic: Cond Sump Max Level Fail	0 = Inactive 1 = Active	Diagnostic: Cond Sump Max Level Fail	Always
BI115	Diagnostic: Cond Sump Min Level Fail	0 = Inactive 1 = Active	Diagnostic: Cond Sump Min Level Fail	Always
BI45	Diagnostic: Cond Temp Sensor Fail - Ckt1	0 = Inactive 1 = Active	Diagnostic: Cond Temp Sensor Fail - Ckt1	Always
BI46	Diagnostic: Cond Temp Sensor Fail - Ckt2	0 = Inactive 1 = Active	Diagnostic: Cond Temp Sensor Fail - Ckt2	Always
BI92	Diagnostic: Cond Temp Sensor Fail - Ckt3	0 = Inactive 1 = Active	Diagnostic: Cond Temp Sensor Fail - Ckt3	Always
BI93	Diagnostic: Cond Temp Sensor Fail - Ckt4	0 = Inactive 1 = Active	Diagnostic: Cond Temp Sensor Fail - Ckt4	Always
BI117	Diagnostic: Cond Water Pump Fail (auto)	0 = Inactive 1 = Active	Diagnostic: Cond Water Pump Fail (auto)	Always
BI116	Diagnostic: Cond Water Pump Fail (man)	0 = Inactive 1 = Active	Diagnostic: Cond Water Pump Fail (man)	Always
BI118	Diagnostic: Cond Water Temp Sensor Fail	0 = Inactive 1 = Active	Diagnostic: Cond Water Temp Sensor Fail	Always
BI76	Diagnostic: Dirty Filter	0 = Inactive 1 = Active	Diagnostic: Dirty Filter	Always
BI129	Diagnostic: Dirty Final Filter	0 = Inactive 1 = Active	Diagnostic: Dirty Final Filter	Always
BI64	Diagnostic: ECEM Communications Failure	0 = Inactive 1 = Active	Diagnostic: ECEM Communications Failure	Always
BI241	Diagnostic: Econ Drybulb Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: Econ Drybulb Setpoint Fail	Always
BI38	Diagnostic: Emergency Stop (man)	0 = Inactive 1 = Active	Diagnostic: Emergency Stop	Always
BI113	Diagnostic: Energy Recovery Wheel Fail	0 = Inactive 1 = Active	Diagnostic: Energy Recovery Wheel Fail	Always
BI94	Diagnostic: Ent Cond Wtr Tmp Sensor Fail	0 = Inactive 1 = Active	Diagnostic: Ent Cond Wtr Tmp Sensor Fail	Always
BI107	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 1	0 = Inactive 1 = Active	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 1	Always
BI108	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 2	0 = Inactive 1 = Active	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 2	Always
BI237	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 3	0 = Inactive 1 = Active	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 3	Always
BI238	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 4	0 = Inactive 1 = Active	Diagnostic: Ent Evap Temp Sensor Fail-Ckt 4	Always
BI96	Diagnostic: Enter Water Temp Sensor Fail	0 = Inactive 1 = Active	Diagnostic: Enter Water Temp Sensor Fail	Always
BI105	Diagnostic: Evap Temp Sensor Fail - Ckt3	0 = Inactive 1 = Active	Diagnostic: Evap Temp Sensor Fail - Ckt3	Always

Table 12. Diagnostic objects sorted by Object Name (continued)

Object Identifier	Object Name	Value/Range	Description	When Exists[(a)]
BI014	Diagnostic: Evap Temp Sensor Fail - Ckt4	0 = Inactive 1 = Active	Diagnostic: Evap Temp Sensor Fail - Ckt4	Always
BI307	Diagnostic: Excessive Outdoor Air	0 = Inactive 1 = Active	Diagnostic: Excessive Outdoor Air	Always
BI91	Diagnostic: Exh Fan VFD Bypass Enabled	0 = Inactive 1 = Active	Diagnostic: Exh Fan VFD Bypass Enabled	Always
BI40	Diagnostic: Exhaust/Return Fan Failure (man)	0 = Inactive 1 = Active	Diagnostic: Exhaust/Return Fan Failure	Always
BI120	Diagnostic: GBAS 0-10 VDC Comm Failure	0 = Inactive 1 = Active	Diagnostic: GBAS 0-10 VDC Comm Failure	Always
BI65	Diagnostic: GBAS 0-5 VDC Comm Failure	0 = Inactive 1 = Active	Diagnostic: GBAS 0-5 VDC Comm Failure	Always
BI49	Diagnostic: HEAT Aux Temp Sensor Fail	0 = Inactive 1 = Active	Diagnostic: HEAT Aux Temp Sensor Fail	Always
BI63	Diagnostic: HEAT Communications Failure	0 = Inactive 1 = Active	Diagnostic: HEAT Communications Failure	Always
BI51	Diagnostic: Heat Failure	0 = Inactive 1 = Active	Diagnostic: Heat Failure	Always
BI99	Diagnostic: High CO2 Level	0 = Inactive 1 = Active	Diagnostic: High CO2 Level	Always
BI131	Diagnostic: High Superheat - Ckt 1	0 = Inactive 1 = Active	Diagnostic: High Superheat - Ckt 1	Always
BI133	Diagnostic: High Superheat - Ckt 2	0 = Inactive 1 = Active	Diagnostic: High Superheat - Ckt 2	Always
BI122	Diagnostic: Insufficient Airflow for Dehumid	0 = Inactive 1 = Active	Diagnostic: Insufficient Airflow for Dehumid	Always
BI146	Diagnostic: Invalid Unit Configuration	0 = Inactive 1 = Active	Diagnostic: Invalid Unit Configuration	Always
BI50	Diagnostic: Low Air Temp Limit Trip (man)	0 = Inactive 1 = Active	Diagnostic: Low Air Temp Limit Trip	Always
BI43	Diagnostic: Low Pressure Ctl Open - Ckt1 (man)	0 = Inactive 1 = Active	Diagnostic: Low Pressure Ctl Open - Ckt1	Always
BI44	Diagnostic: Low Pressure Ctl Open - Ckt2 (man)	0 = Inactive 1 = Active	Diagnostic: Low Pressure Ctl Open - Ckt2	Always
BI101	Diagnostic: Low Pressure Ctl Open - Ckt3	0 = Inactive 1 = Active	Diagnostic: Low Pressure Ctl Open - Ckt3	Always
BI100	Diagnostic: Low Pressure Ctl Open - Ckt4	0 = Inactive 1 = Active	Diagnostic: Low Pressure Ctl Open - Ckt4	Always
BI132	Diagnostic: Low Refrigerant Charge - Ckt 1	0 = Inactive 1 = Active	Diagnostic: Low Refrigerant Charge - Ckt 1	Always
BI134	Diagnostic: Low Refrigerant Charge - Ckt 2	0 = Inactive 1 = Active	Diagnostic: Low Refrigerant Charge - Ckt 2	Always
BI89 (use Object Identifier for RT)	Diagnostic: Low Space Pressure Trip - Auto	0 = Inactive 1 = Active	Diagnostic: Low Space Pressure Trip - Auto	Roof Top Unit
BI90 (use Object Identifier for CSC)	Diagnostic: Low Space Pressure Trip - Manual	0 = Inactive 1 = Active	Diagnostic: Low Space Pressure Trip - Manual	Roof Top Unit

Table 12. Diagnostic objects sorted by Object Name (continued)

Object Identifier	Object Name	Value/Range	Description	When Exists[a]
BI88 (use Object Identifier for RT	Diagnostic: Low Space Pressure Warning	0 = Inactive 1 = Active	Diagnostic: Low Space Pressure Warning	Roof Top Unit
BI41	Diagnostic: Lvg Evap Temp Sensor Fail - Ckt1	0 = Inactive 1 = Active	Diagnostic: Lvg Evap Temp Sensor Fail - Ckt1	Always
BI42	Diagnostic: Lvg Evap Temp Sensor Fail - Ckt2	0 = Inactive 1 = Active	Diagnostic: Lvg Evap Temp Sensor Fail - Ckt2	Always
BI147	Diagnostic: Maintenance Required	0 = Inactive 1 = Active	Diagnostic: Maintenance Required	Always
BI60	Diagnostic: Man - SA High Press Limit	0 = Inactive 1 = Active	Diagnostic: Man - SA High Press Limit	Always
BI62	Diagnostic: MCM Communications Failure	0 = Inactive 1 = Active	Diagnostic: MCM Communications Failure	Always
BI128	Diagnostic: MDM Communications Failure	0 = Inactive 1 = Active	Diagnostic: MDM Communications Failure	Always
BI242	Diagnostic: Min OA Flow Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: Min OA Flow Setpoint Fail	Always
BI240	Diagnostic: Min Position Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: Min Position Setpoint Fail	Always
BI33	Diagnostic: Mode Input Failure	0 = Inactive 1 = Active	Diagnostic: Mode Input Failure	Always
BI239	Diagnostic: Morning Warmup Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: Morning Warmup Setpoint Fail	Always
BI139	Diagnostic: MPM Communications Failure	0 = Inactive 1 = Active	Diagnostic: MPM Communications Failure	Always
BI68	Diagnostic: NSB Panel Communication Fail	0 = Inactive 1 = Active	Diagnostic: NSB Panel Communication Fail	Always
BI77	Diagnostic: NSB Zone Temp Sensor Fail	0 = Inactive 1 = Active	Diagnostic: NSB Zone Temp Sensor Fail	Always
BI37	Diagnostic: OA Humidity Sensor Failure	0 = Inactive 1 = Active	Diagnostic: OA Humidity Sensor Failure	Always
BI32	Diagnostic: OA Temperature Sensor Fail	0 = Inactive 1 = Active	Diagnostic: OA Temperature Sensor Fail	Always
BI125	Diagnostic: Occ Dehumid Setpoint Failure	0 = Inactive 1 = Active	Diagnostic: Occ Dehumid Setpoint Failure	Always
BI127	Diagnostic: Occ Humid Setpoint Failure	0 = Inactive 1 = Active	Diagnostic: Occ Humid Setpoint Failure	Always
BI34	Diagnostic: Occ Zone Cool Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: Occ Zone Cool Setpoint Fail	Always
BI35	Diagnostic: Occ Zone Heat Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: Occ Zone Heat Setpoint Fail	Always
BI308	Diagnostic: Outdoor Air Damper Not Modulating	0 = Inactive 1 = Active	Diagnostic: Outdoor Air Damper Not Modulating	Always
BI248	Diagnostic: Rapid Restart Hardware Configuration Failure	0 = Inactive 1 = Active	Indicates that there has been a failure on the GBAS 0-5 Hardware Configuration for Rapid Restart.	Always
BI111	Diagnostic: Recovery Dirty Pre-filter	0 = Inactive 1 = Active	Diagnostic: Recovery Dirty Pre-filter	Always
BI112	Diagnostic: Recovery Lvg RA Sensor Fail	0 = Inactive 1 = Active	Diagnostic: Recovery Lvg RA Sensor Fail	Always

Table 12. Diagnostic objects sorted by Object Name (continued)

Object Identifier	Object Name	Value/Range	Description	When Exists[a]
BI121 (use Object Identifier for RT)	Diagnostic: Reheat Head Press High	0 = Inactive 1 = Active	Diagnostic: Reheat Head Press High	Roof top unit
BI58 (use Object Identifier for RT or CSC)	Diagnostic: Return Air RH Sensor Failure	0 = Inactive 1 = Active	Diagnostic: Return Air RH Sensor Failure	Roof Top Unit or Commercial Self Contained
BI57	Diagnostic: Return Air Temp Sensor Fail	0 = Inactive 1 = Active	Diagnostic: Return Air Temp Sensor Fail	Always
BI141	Diagnostic: Return Plenum Press Sensor	0 = Inactive 1 = Active	Diagnostic: Return Plenum Press Sensor	Always
BI143	Diagnostic: Return Press High Limit (Auto)	0 = Inactive 1 = Active	Diagnostic: Return Press High Limit (Auto)	Always
BI142	Diagnostic: Return Press High Limit (Man)	0 = Inactive 1 = Active	Diagnostic: Return Press High Limit (Man)	Always
BI31 (use Object Identifier for RT or CSC)	Diagnostic: RTM Aux Temp Sensor Failure	0 = Inactive 1 = Active	Diagnostic: RTM Aux Temp Sensor Failure	Roof Top Unit or Commercial Self Contained
BI69	Diagnostic: RTM EEPROM Failure	0 = Inactive 1 = Active	Diagnostic: RTM EEPROM Failure	Always
BI151	Diagnostic: RTM External Stop	0 = Inactive 1 = Active	Diagnostic: RTM External Stop	Always
BI106	Diagnostic: RTM Zone Humidity Sensor Fail	0 = Inactive 1 = Active	Diagnostic: RTM Zone Humidity Sensor Fail	Always
BI29	Diagnostic: RTM Zone Temp Sensor Failure	0 = Inactive 1 = Active	Diagnostic: RTM Zone Temp Sensor Failure	Always
BI54	Diagnostic: SA Duct Press Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: SA Duct Press Setpoint Fail	Always
BI123	Diagnostic: SA Reheat Setpoint Failure	0 = Inactive 1 = Active	Diagnostic: SA Reheat Setpoint Failure	Always
BI74	Diagnostic: SA Temp Cool Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: SA Temp Cool Setpoint Fail	Always
BI75	Diagnostic: SA Temp Heat Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: SA Temp Heat Setpoint Fail	Always
BI61	Diagnostic: SCM Communications Failure	0 = Inactive 1 = Active	Diagnostic: SCM Communications Failure	Always
BI56	Diagnostic: Space Pressure Sensor Fail	0 = Inactive 1 = Active	Diagnostic: Space Pressure Sensor Fail	Always
BI55	Diagnostic: Space Pressure Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: Space Pressure Setpoint Fail	Always
BI166	Diagnostic: Stop Status	0 = Inactive 1 = Active	Diagnostic: Stop Status	Always
BI233	Diagnostic: Sump Min Level Cycling (man)	0 = Inactive 1 = Active	Diagnostic: Sump Min Level Cycling (man)	Always
BI36	Diagnostic: Supply Air Press Sensor Fail	0 = Inactive 1 = Active	Diagnostic: Supply Air Press Sensor Fail	Always
BI30	Diagnostic: Supply Air Temp Sensor Fail	0 = Inactive 1 = Active	Diagnostic: Supply Air Temp Sensor Fail	Always

Table 12. Diagnostic objects sorted by Object Name (continued)

Object Identifier	Object Name	Value/Range	Description	When Exists[a]
BI39	Diagnostic: Supply Fan Failure (man)	0 = Inactive 1 = Active	Diagnostic: Supply Fan Failure	Always
BI98	Diagnostic: Supply Fan VFD Bypass Enable	0 = Inactive 1 = Active	Diagnostic: Supply Fan VFD Bypass Enable	Always
BI247	Diagnostic: SZVAV Hardware Configuration Failure	0 = Inactive 1 = Active	Indicates that there has been a failure on the GBAS 0-5 Hardware Configuration for SZVAV.	Always
BI140	Diagnostic: TPM Communications Failure	0 = Inactive 1 = Active	Diagnostic: TPM Communications Failure	Always
BI148	Diagnostic: Unit Communications Failure	0 = Inactive 1 = Active	Diagnostic: Unit Communications Failure	Always
BI305	Diagnostic: Unit Economizing When It Should Not	0 = Inactive 1 = Active	Diagnostic: Unit Economizing When It Should Not	With Economizer installed
BI70	Diagnostic: Unit HI Communications Fail	0 = Inactive 1 = Active	Diagnostic: Unit HI Communications Fail	Always
BI306	Diagnostic: Unit Not Economizing When It Should	0 = Inactive 1 = Active	Diagnostic: Unit Not Economizing When It Should	With Economizer installed
BI149	Diagnostic: Unit Stopped at Local HI	0 = Inactive 1 = Active	Diagnostic: Unit Stopped at Local HI	Always
BI150	Diagnostic: Unit Stopped at Remote HI	0 = Inactive 1 = Active	Diagnostic: Unit Stopped at Remote HI	Always
BI124	Diagnostic: Unocc Dehumid Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: Unocc Dehumid Setpoint Fail	Always
BI126	Diagnostic: Unocc Humid Setpoint Fail	0 = Inactive 1 = Active	Diagnostic: Unocc Humid Setpoint Fail	Always
BI52	Diagnostic: Unocc Zone Cool Stpnt Fail	0 = Inactive 1 = Active	Diagnostic: Unocc Zone Cool Stpnt Fail	Always
BI53	Diagnostic: Unocc Zone Heat Stpnt Fail	0 = Inactive 1 = Active	Diagnostic: Unocc Zone Heat Stpnt Fail	Always
BI84	Diagnostic: VCM Aux Temp Sensor Failure	0 = Inactive 1 = Active	Diagnostic: VCM Aux Temp Sensor Failure	Always
BI87	Diagnostic: VCM Communications Failure	0 = Inactive 1 = Active	Diagnostic: VCM Communications Failure	Always
BI130	Diagnostic: Vel Press Sensor (Front) Fail	0 = Inactive 1 = Active	Diagnostic: Vel Press Sensor (Front) Fail	Always
BI86 (use Object Identifier for RT, I-pak II)	Diagnostic: Vel Press Sensor (Rear)	0 = Inactive 1 = Active	Diagnostic: Vel Press Sensor (Rear)	Roof Top Unit
BI86 (use Object Identifier for CSC, I-pak I, RT)	Diagnostic: Velocity Press Sensor Fail	0 = Inactive 1 = Active	Diagnostic: Velocity Press Sensor Fail	Roof Top Unit or Commercial Self Contained
BI71	Diagnostic: VOM Communications Failure	0 = Inactive 1 = Active	Diagnostic: VOM Communications Failure	Always
BI78	Diagnostic: VOM Mode A Active	0 = Inactive 1 = Active	Diagnostic: VOM Mode A Active	Always
BI79	Diagnostic: VOM Mode B Active	0 = Inactive 1 = Active	Diagnostic: VOM Mode B Active	Always
BI80	Diagnostic: VOM Mode C Active	0 = Inactive 1 = Active	Diagnostic: VOM Mode C Active	Always

Table 12. Diagnostic objects sorted by Object Name (continued)

Object Identifier	Object Name	Value/Range	Description	When Exists[a]
BI81	Diagnostic: VOM Mode D Active	0 = Inactive 1 = Active	Diagnostic: VOM Mode D Active	Always
BI82	Diagnostic: VOM Mode E Active	0 = Inactive 1 = Active	Diagnostic: VOM Mode E Active	Always
BI154	Diagnostic: VSM Communications Failure	0 = Inactive 1 = Active	Diagnostic: VSM Communications Failure	Always
BI97	Diagnostic: Water Flow Failure	0 = Inactive 1 = Active	Diagnostic: Water Flow Failure	Always
BI88	Diagnostic: WSM Communications Failure	0 = Inactive 1 = Active	Diagnostic: WSM Communications Failure	Commercial Self Contained
BI95	Diagnostic: WSM MA Temp Sensor Failure	0 = Inactive 1 = Active	Diagnostic: WSM MA Temp Sensor Failure	Always

[a] This column of information specifies when items are instantiated. The criteria in which the BCI2-I product will have specific objects instantiated is based on the features and options that have been selected.

Additional Resources

- Tracer® TU Service tool Getting Started Guide (TTU-SVN02*-EN)
- Tracer TU Help Online
- Tracer TU Service Tool for Water-cooled CenTraVac Chillers with Tracer AdapiView Control Programming Guide (CTV-SVP02*-EN)

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