LIGHT COMMERCIAL

BACnet Thermostat Protocol Information

BACnet Networks

- Rooftop Units
- Heat Pump Units

⚠ **WARNING**

Only personnel that have been trained to install, adjust, service or repair(hereinafter, "service") the equipment specified in this manual should service the equipment. The manufacturer will not be responsible for any injury or property damage arising from improper service or service procedures. If you service this unit, you assume responsibility for any injury or property damage which may result. In addition, in jurisdictions that require one or more licenses to service the equipment specified in this manual, only licensed personnel should servise the equipment. Improper installation, adjustment, servicing or repair of the equipment specified in this manual, or attempting to install, adjust, service or repair the equipment specified in this manual without proper training may result in product damage, property damage, personal injury or death.

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Reference Documents

Company	Number	Title	Source
Daikin	IO-DAPPS	BACnet™ AppStat™ Thermostat Installation Manual	www.daikinac.com
American Society of Heating, Refrigerating and Air Conditioning Engineers	ANSI/ASHRAE 135-2008	*BACnet* – A Data Communication Protocol for Building Automation and Control Networks	www.ashrae.org

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Limited Warranty

Consult your local Daikin representative for warranty details. To find your local Daikin representative, go to www.daikinac.com.

This document contains the necessary information you need to incorporate a *BACnet* Thermostat (i.e. Rooftop, Fan Coil Unit, or Heat Pump Unit) into a building automation system (BAS). It lists all *BACnet* properties, and corresponding *BACnet* Thermostat data points. It also contains the *BACnet* Protocol Implementation Conformance Statement (PICS). *BACnet* terms are not defined. Refer to the respective specifications for definitions and details.

BACnet™ Thermostat Data Points

The *BACnet* Thermostat contains data points or unit variables that are accessible from two user interfaces: the unit keypad, or a *BACnet* network (*BACnet*/IP or MS/TP). Not all points are accessible from each interface. This manual lists all important data points and the corresponding path for each applicable interface. Refer to IO-DAPPS (available on www.daikinac.com) for keypad details. This document contains the network details necessary to incorporate the *BACnet* Thermostat into the network.

Protocol Definitions

The *BACnet* Thermostat can be configured in an interoperable *BACnet* network.

BACnet Protocol

BACnet is a standard communication protocol for Building Automation and Control Networks developed by the American National Standards Institute (ANSI) and American Society of Heating, Refrigeration and Air-conditioning Engineers (ASHRAE) specified in ANSI/ASHRAE standard 135-2008. It addresses all aspects of the various systems that are applied to building control systems. *BACnet* provides the communication infrastructure needed to integrate products manufactured by different vendors and to integrate building services that are now independent.

Setting Unit Controller Communications Parameters

There are 3 communication parameters involved in setting up the unit controller for proper communication with BACnet™ MS/TP.

Table 1: Communication Setup Parameter Settings

Parameter Name	*BACnet* MS/TP
Device Instance Number	Variable; with MicroTech® Integrated System: 3101001 – 3101127
MSTP MAC Address	1-127
MSTP Baud Rate	Auto, 9600, 19200, 38400, or 76800. With MicroTech Integrated System use 38400

NOTES: After changing a communication property the *BACnet* Thermostat will reset.

BACnet Networks

BACnet Objects

BACnet Thermostats incorporate standard *BACnet* object types (i.e., object types defined in the *BACnet* Standard) that conform to the *BACnet* Standard. Each object has properties that control unit variables or data points. Some object types occur more than once in the *BACnet* Thermostat; each occurrence or instance has different properties and controls different unit variables or data points. Each instance is designated with a unique instance index. Some properties can be adjusted (read/write properties, e.g., setpoints) from the network and others can only be interrogated (read-only properties, e.g., status information).

Each data point accessible from a *BACnet* network is described with a table that gives the Object Identifier, Property Identifier, Full *BACnet* Reference or path, and the Name enumeration of the property.

Table 2: Example of BACnet Data Point

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Output	4	1	Present_Value	85
Full Reference				
<Device Name>.BO1.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Object Identifier

Object Identifiers are each designated with an Object type as defined in the *BACnet* specification. The first column of the data point definition gives the object type.

The object identifier is a property of the object that you can read from the object. The name of the property is "Object_Identifier" and the property identifier is 75.

Each object in the unit controller has a unique identifier. *BACnet* object identifiers are two-part numbers of *BACnet* Object Identifier data type. The first part identifies the object type (the first 10 bits of the 32-bit *BACnet* Object Identifier [See ANSI/ASHRAE 135-2008 *BACnet* A Data Communication Protocol for Building Automation and Control Networks]). The first column of the data point definition gives the object type. The second part identifies the instances of that particular object type (the last 22 bits of the 32-bit *BACnet* Object Identifier).

The object identifier is shown in the data points listing as two numbers. The first number is shown in the Type ID column and designates the Object type enumeration. The second number is shown in the Instance column and designates the instance of that particular object type.

The object identifier is a property of the object that you can read from the object code. The name of the property is "Object_Identifier" and the property identifier is 75. The ASHRAE *BACnet* specification reserves the first 128 numbers for ASHRAE defined objects. Manufacturers may define additional object types and assign a number above 127 as long as they conform to the requirements of the ASHRAE *BACnet* specification.

Each object also has a name. Object names are character strings. The object name is a property of the object that you can read from the object. The name of the property is "Object_Name" and the property identifier is 77.

Objects are sometimes referred to as an object type and instance number as they are in the *BACnet* specification. The example object above would be: Binary Output, Instance 1.

Property Identifier

Each object has a number of properties or attributes. Each property has a unique identifier of *BACnet* Property Identifier data type. Property identifiers are an enumerated set; a number identifies each member. The Property Identifier enumeration number is shown in the Property ID column. In the example above the property identifier is 85.

Property Name

Each property also has a unique name. Property names are character strings and shown in the Property Name column. In the example above the property name is Present Value.

Full Reference

The full reference is the path of the property within the network where the BACnet™ Thermostat resides. It is a character string equivalent to the object identifier and the property identifier. In the example above the full reference is <Device Name>.BO1. Present_Value.

Enumerated Values

Some properties are standard data types and some are enumerated sets. If the property value is an enumerated set, all enumerated values and corresponding meaning are given in the Enumeration column of the data point listing.

BACnet Thermostat Device Object

Each *BACnet* compatible device must have one and only one *BACnet* Device Object.

Device Object Identifier

The *BACnet* Thermostat Device Object Identifier uniquely specifies the unit within the network. The device object type for all devices is fixed by ASHRAE at 8. Therefore the device object instance number must be unique. The initial Device Object identifier is set at manufacturing. The device object identifier can be read from the unit controller. The name of the property is "Object_ Identifier" and the property identifier is 75.

The initial device object instance number must be unique on the entire *BACnet* network. The object instance number can be changed via the keypad display. You must cycle power for the change to take effect.

> ⚠ **CAUTION**
>
> If another device in the network already has this object identifier (instance number), you must change the instance number of one device object, so that all devices in the network have a unique device identifier.

Device Object Name

The Device Object Name uniquely specifies a device in the network. It must be unique in the network. The device name for the *BACnet* Thermostat device is to be determined. The device name is the "prefix" of all object names in the *BACnet* Thermostat. All objects include the device name and a period "." preceding the object name.

The Device Object name is also available to the network in the device. The property name is "Object_Name" and property identifier is 77. For *BACnet* MS/TP, the default Object Name is BAC-######## where ######## is computed from the production number and date code.

Device Object Properties

The device object contains many other informative properties as shown in Table 3.

Table 3: BACnet Thermostat Device Object Properties

Property	Identifier	Default Value	Data Type
Object Identifier	75	Device, variable	*BACnet*ObjectIdentifier
Object Name	77	250803#_#######	Character String
Object Type	79	8	*BACnet*ObjectType
System Status	112		*BACnet*DeviceStatus
Vendor Name	121	Daikin	Character String
Vendor Identifier	120	3	Unsigned 16
Model Name	70	250803#	Character String
Firmware Version	44	variable	Character String
Application Software Revision	12	variable	Character String
Location	58		Character String
Protocol Version	98	1	Unsigned
Protocol Revision	139	7	Unsigned
Protocol Services Supported	97		*BACnet*ServicesSupported
Object List	76		Sequence of *BACnet*ObjectIdentifer
Max APDU Length Accepted	62	480 (MS/TP)	Unsigned 16
Segmentation Supported	107	None	*BACnet*Segmentation
APDU Timeout	11	3000	Unsigned
Number of APDU Retries	73	3	Unsigned
Device Address Binding	30		Sequence of *BACnet*AddressBinding
Database Revision	115	3	Unsigned

Network Considerations

Access to Properties

Object properties are accessible from the network by specifying the device object identifier, object identifier, and the property identifier. To access a property, you must specify the object identifier including the device object identifier or the object name including the device object name and the property identifier.

Configuring the *BACnet* Thermostat

The *BACnet* Thermostat is ready to operate with the default values of the various parameters. Default values may be changed with the unit's keypad or via the network. Refer to the *BACnet* Thermostat IO-DAPPS.

BACnet MS/TP Network Addressing

The *BACnet* MS/TP device address (Media Access Control [MAC] address) of the *BACnet* Thermostat in a *BACnet* Master Slave/Token Passing (MS/TP) Local Area Network (LAN) is set using the keypad/display. Navigate to the Communication Menu to change the Device ID, MAC Address, and Baud Rate. After changing a communication property the *BACnet* Thermostat will cycle power and reset.

When you have integrated the unit into your network, you can monitor and control unit operation from your workstation. At a minimum, you can:

- Display and monitor a minimum of important data points on your workstation display
- Turn the unit on or off from your workstation
- Set the schedule from your workstation and
- Operate the unit safely

This section gives you the basic information and outlines a procedure to set up the unit for network control.

Set up the Unit for Network Control

To control the BACnet™ Thermostat over the network set the Device ID, MAC Address, and Baud Rate to the appropriate values. A leve 2 Password is required for this operation. For a detailed description of how to use the thermostat refer to IO-DAAPS *BACnet* Thermostat.

Display Important Data Points

Typical workstation displays of *BACnet* Thermostat attributes include the following significant data points (page number of detailed description in parenthesis.

Table 4: Significant Data Points

Configuration	Temperatures/ Pressures	Setpoints
Fan Mode (24)	Discharge Air Temperature (22)	Active Cooling Setpoint (17)
Mode (30)	Outdoor Air Temperature (32)	Active Heating Setpoint (17)
Occupied Mode (31)	Space Temperature (34)	Occupied Cooling Setpoint (31)
System Control Mode (34)	Water Temperature (36)	Occupied Heating Setpoint (31)
		Unoccupied Cooling Setpoint (34)
		Unoccupied Heating Setpoint (34)

You can display any number of additional data points based on job requirements or individual preference. See *BACnet* Standard Objects for a list of all Standard *BACnet* Objects available to a *BACnet* network. For a more detailed description of all available data points, see the Detailed Data Point Information section.

Network Occupancy Scheduling

The schedule in the *BACnet* Thermostat is a *BACnet* schedule object. If the *BACnet* Thermostat is connected to a *BACnet* network the schedule can be set up with a *BACnet* operator workstation.

Unit Controller Sequence of Operation

The sequence of operation for the *BACnet* Thermostat depends on the equipment type. Refer to IO-DAPPS *BACnet* Thermostats. Available on www.daikinac.com for sequence of operation details, including keypad operation.

The data point table below contains the significant information for each BACnet™ object available via the network from the *BACnet* Thermostat. Additionally, refer to Table 5 for a summary of data points specific to each *BACnet* Thermostat model. The Detailed Data Point Information section provides a comprehensive description of the properties, or attributes, for each point.

BACnet Standard Objects

Table 5: BACnet Standard Objects for the BACnet Thermostat

Network Control Property (Keypad attributes available as *BACnet* Standard Objects for network control of the unit)	Read, Write, Command	Object Type	Instance	Value	Description	Rooftop	Heat Pump
Inputs							
REMOTE_SENSOR	R	AI	1	Current reading of sensor	Remote Room Sensor	X	X
OAT	R	AI	2	Current reading of sensor	Outdoor Air Temperature	X	X
DAT	R	AI	3	Current reading of sensor	Discharge Air Temperature	X	X
LOCAL_SENSOR	R	AI	4	Current reading of sensor	Space Temperature	X	X
Outputs							
COOLING_OUTPUT	R	AO	6	0 – 100% (0 – 10V) Default = 0	Analog Cooling Output	X	X
HEATING_OUTPUT	R	AO	7	0 – 100% (0 – 10V) Default = 0	Analog Heating Output	X	X
ECON_DAMPER	R	AO	8	0 – 100% (0 – 10V) Default = 0	Economizer Output	X	X
FAN	R	BO	1	0 = OFF 1 = ON	Fan Start - Stop	X	X
COOL_STAGE_1	R	BO	2	0 = OFF 1 = ON	Cool Stage 1	X	
COOL_STAGE_2	R	BO	3	0 = OFF 1 = ON	Cool Stage 2	X	
HEAT_STAGE_1	R	BO	4	0 = OFF 1 = ON	Heat Stage 1	X	
HEAT_STAGE_2	R	BO	5	0 = OFF 1 = ON	Heat Stage 2	X	
COMPRESSOR_1	R	BO	2	Default = 0	Stage 1 Compressor		X
COMPRESSOR_2	R	BO	3	Default = 0	Stage 2 Compressor		X
REVERSING_VALVE	R	BO	4	Default = 0	Reversing Valve		X
Values							
SPACE_TEMP	R	AV	1	Current reading of sensor	Space Temeprature	X	X
ACT_COOL_STPT	C	AV	3	Default = 74°F	Active Cooling Setpoint	X	X
ACT_HEAT_STPT	C	AV	4	Default = 70°F	Active Heating Setpoint	X	X
OCC_CL_STPT	C	AV	5	Default = 74°F	Occupied Cooling Setpoint	X	X
OCC_HT_STPT	C	AV	6	Default = 70°F	Occupied Heating Setpoint	X	X
UNOCC_CL_STPT	C	AV	7	Default = 80°F	Unoccupied Cooling Setpoint	X	X
UNOCC_HT_STPT	C	AV	8	Default = 64°F	Unoccupied Heating Setpoint	X	X
MIN_CL_STPT	C	AV	9	Default = 68°F	Minimum Cooling Setpoint	X	X
MAX_HT_STPT	C	AV	10	Default = 76°F	Maximum Heating Setpoint	X	X
MIN_STPT_DIFF	C	AV	11	Default = 2°F	Minimum Setpoint Differential	X	X
STBY_OFFSET	C	AV	12	Default = 3°F	Standby Offset	X	X

NOTE: Not all menus and items shown here will appear on keypad depending upon the specific unit configuration. Those that do not appear are not applicable to the unit.

Comprehensive Data Point Tables

Network Control Property (Keypad attributes available as *BACnet* Standard Objects for network control of the unit)	Read, Write, Command	Object Type	Instance	Value	Description	Rooftop	Heat Pump
DAT STPT	W	AV	13		Discharge Air Temp Setpoint	X	
DAT_RESET	W	AV	13		Discharge Air Reset Setpoint		X
MIN DAT	W	AV	14	Default = 55°F	Min Discharge Air Temperature	X	X
MIN_ECON_DAMPER	W	AV	15	Default = 10%	Minimum Economizer Damper	X	X
ECON_ENABLE_TEMP	W	AV	16	Default = 60°F	Economizer Enable Temp	X	X
CMP_LOCKOUT	W	AV	17	Default = 25°F	Compressor Lockout Temp		X
OUTDOOR_TEMP	R	AV	19	Current reading of sensor	Outdoor Air Temperature	X	
WATER_TEMP	R	AV	19	Current reading of sensor	Water Temperature *2-Pipe		X
DISCHARGE_TEMP	R	AV	20	Current reading of sensor	Discharge Air Temperature	X	X
FAN_OFF_DELAY	W	AV	25	Default = 2 mins	Fan Off Delay	X	X
MIN_OFF_TIME	W	AV	26	Default = 5 mins	Equipment Delay	X	X
STAGE_DELAY	W	AV	27	Default = 10 mins	Stage Delay	X	X
FAN_SPEED	W	AV	34		Fan Speed		X
OVRD_TIME	W	AV	38	Default = 60 mins	Local Override Timer	X	X
COOL PROP	W	AV	52	Default = 2	Cooling Proportional Band	X	X
HEAT PROP	W	AV	53	Default = 2	Heat Proportianal Band	X	X
COOL INTG	W	AV	54	Default = 0	Cool Integral	X	X
HEAT INTG	W	AV	55	Default = 0	Heat Integral	X	X
ANIMATE FAN	R	BV	1	0 = OFF 1 = ON	Animate Fan Icon	X	X
ANIMATE_HT_CL	R	BV	3	0 = OFF 1 = ON	Animation Mode Icon	X	X
OCC_SCHEDULE	W	BV	5	0 = Unoccupied 1 = Occupied	Occupy Schedule	X	X
DAT_SENSOR	W	BV	7	0 = No 1 = Yes	DAT Sensor Present	X	X
MODE	R	BV	8	0 = Heat 1 = Cool	Heat or Cool Mode	X	X
FAN_NEED	R	BV	9	0 = Disable 1 = Enable	Call For Fan	X	X
COOL_HEAT_NEED	R	BV	10	0 = Heat 1 = Cool	Cooling or Heat Need	X	X
SPEED_UP	W	BV	11	0 = Inactive 1 = Active	Speed Up Timers × 15	X	X
HEATING_FAN	W	BV	12	0 = OFF 1 = Auto	Fan Active in Heat	X	
OCCUPIED_FAN	W	BV	13	0 = OFF 1 = ON	Fan ON During Occupied Mode	X	X
FAN_STATUS	R	BV	14	0 = Alarm 1 = Normal	Fan Proof	X	X
ECON_ENABLE	W	BV	16	0 = Disabled 1 = Enabled	Economizer Enable	X	X
ECON_MODE	R	BV	17	0 = Inactive 1 = Active	Economizer Mode	X	X
CL_VLV_ACTION	W	BV	18	0 = Normally Closed 1 = Normally Open	Cooling Valve Action	X	
HT_VLV_ACTION	W	BV	19	0 = Normally Closed 1 = Normally Open	Heating Valve Action	X	

NOTE: Not all menus and items shown here will appear on keypad depending upon the specific unit configuration. Those that do not appear are not applicable to the unit.

Network Control Property (Keypad attributes available as *BACnet* Standard Objects for network control of the unit)	Read, Write, Command	Object Type	Instance	Value	Description	Rooftop	Heat Pump
COOL_STG_1	R	BV	20	0 = OFF 1 = ON	Cooling Stage 1	X	X
COOL_STG_2	R	BV	21	0 = OFF 1 = ON	Cooling Stage 2	X	X
HEAT_STG_1	R	BV	22	0 = OFF 1 = ON	Heating Stage 1	X	X
HEAT_STG_2	R	BV	23	0 = OFF 1 = ON	Heating Stage 2	X	X
COMP_LOCKOUT	W	BV	26	0 = OFF 1 = ON	Compressor Lockout		X
OAT_SENSOR	R	BV	27	0 = OFF 1 = ON	Outdoor Sensor Present	X	X
LOCAL_OVRD	R	BV	28	0 = OFF 1 = ON	Local Override Mode	X	X
STPT_HOLD	R	BV	36	0 = Schedule 1 = Hold	Hold Temperature Setpoint	X	X
OCCUPIED_MODE	C	MSV	1	1 = Occupied 2 = Standby 3 = Unoccupied	Occupied Mode	X	X
SYSTEM_MODE	C	MSV	2	1 = OFF 2 = Auto 3 = Cool 4 = Heat	System Heat-Cool Mode	X	X
FAN_MODE	C	MSV	3	0 = Auto 1 = ON	Fan Auto-Manual Mode	X	X
FAN_ICON	R	MSV	6	Default = Error 1 = ON 2 = Auto 3 = Fail 4 = Service 5 = Low 6 = Med 7 = High	Fan Icon	X	X
OCCUPIED_ICON	R	MSV	7	Default = Error 1 = Occupied 2 = Overrid 3 = Unoccupied 4 = Occ Hold 5 = Standby	Occupied Mode Icon	X	X
HEAT_COOL_ICON	R	MSV	8	Default = Error 1 = Cool 2 = Cool Auto 3 = Heat Auto 4 = Heat 5 = OFF 6 = Emg Heat 7 = EHeat Auto	Heat & Cool Icon	X	X
CL LOOP	R	LOOP	1	Default: Prop = 2, Int = 0	Cooling Loop	X	X
HT LOOP	R	LOOP	2	Default: Prop = 2, Int = 0	Heating Loop	X	X
DAT LOOP	R	LOOP	3	Default: Prop = 6, Int = 5	Discharge Air Temp Loop	X	X

NOTE: Not all menus and items shown here will appear on keypad depending upon the specific unit configuration. Those that do not appear are not applicable to the unit.

Detailed BACnet™ Point Information

Active Cooling Setpoint

The active cooling setpoint is the current cooling setpoint.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Analog Value	2	3	Present_Value	85
Full Reference				
<Device Name>.Act_Cool_Stpt.Present_Value				

Active Heating Setpoint

The active heating setpoint is the current heating setpoint.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Analog Value	2	4	Present_Value	85
Full Reference				
<Device Name>.Act_Heat_Stpt.Present_Value				

Animate Fan Icon

The *BACnet* Thermostat fan icon animation display.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Binary Value	5	1	Present_Value	85
Full Reference				
<Device Name>.Animate_Fan.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Animation Mode Icon

The *BACnet* Thermostat heat or cool icon animation display.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Binary Value	5	3	Present_Value	85
Full Reference				
<Device Name>.Animate_Ht_Cl.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Compressor Lockout Temperature

Heat Pump Only

The minimum outside air temperature for compressor lockout.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Analog Value	2	17	Present_Value	85
Full Reference				
<Device Name>.Cmp_Lockout.Present_Value				

Compressor Stage 1

Heat Pump Only

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Binary Output	4	2	Present_Value	85
Full Reference				
<Device Name>.Compressor_1.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Compressor Stage 2

Heat Pump Only

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Binary Output	4	3	Present_Value	85
Full Reference				
<Device Name>.Compressor_2.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Compressor Lockout

Heat Pump Only

The AUX/E output is active only on a call for heating when the compressors are locked out because the ouside air temperature has dropped below the value of the Compressor Lockout Temperature.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Binary Value	5	26	Present_Value	85
Full Reference				
<Device Name>.Comp_Lockout.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Compressor Lockout Temperature

Heat Pump Only

The outside air temperature low limit for the compressor lockout.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Analog Value	2	17	Present_Value	85
Full Reference				
<Device Name>.Cmp_Lockout.Present_Value				

Cool Integral

The *BACnet* PIDs are used for valve staging modulation, fan staging, and economizer operation. The integral properties are available from the user interface.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	54	Present_Value	85
Full Reference				
<Device Name>.Cool Intg.Present_Value				

Cool Stage 1

Rooftop Unit Only

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Output	4	2	Present_Value	85
Full Reference				
<Device Name>.Cool_Stage_1.Present_Value				

Enumeration
0 = OFF
1 = ON

Cool Stage 2

Rooftop Unit Only

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Output	4	3	Present_Value	85
Full Reference				
<Device Name>.Cool_Stage_2.Present_Value				

Enumeration
0 = OFF
1 = ON

Cooling Loop

The *BACnet* PID loops are used for valve staging modulation, fan staging, and economizer operation. The proportional and integral properties of the cooling and heating loops are available form the user interface.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Loop	12	1	Present_Value	85
Full Reference				
<Device Name>.Cl Loop.Present_Value				

Cooling Output

Rooftop Unit and Heat Pump Unit

The analog cooling output modulates over 10 volts DC as the cooling loop changes from 0 to 100%.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Output	1	6	Present_Value	85
Full Reference				
<Device Name>.Cooling_Output.Present_Value				

Cooling Proportional Band

The *BACnet* PIDs are used for valve staging modulation, fan staging, and economizer operation. The proportional properties are available from the user interface.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	52	Present_Value	85
Full Reference				
<Device Name>.Cool Prop.Present_Value				

Cooling Stage 1

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	20	Present_Value	85
Full Reference				
<Device Name>.Cool_Stg_1.Present_Value				

Enumeration
0 = OFF
1 = ON

Cooling Stage 2

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	21	Present_Value	85
Full Reference				
<Device Name>.Cool_Stg_2.Present_Value				

Enumeration
0 = OFF
1 = ON

Discharge Air Reset Setpoint

Rooftop Unit and Heat Pump Unit

The Discharge Air Temperature setpoint resets between room temperature and the limit for minimum discharge air temperature as the cooling loop varies between 0 and 50%.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	13	Present_Value	85
Full Reference				
<Device Name>.DAT_Reset.Present_Value				

Discharge Air Temperature

This read only output network variable indicates the current temperature discharged from the unit.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Analog Value	2	20	Present_Value	85
Full Reference				
<Device Name>.Discharge_Temp.Present_Value				

Discharge Air Temperature Loop

Roof Top Unit and Heat Pump Unit

The *BACnet* PID loops are used for valve staging modulation, fan staging, and economizer operation. The proportional and integral properties of the discharge air temperature loop are available form the user interface.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Loop	12	3	Present_Value	85
Full Reference				
<Device Name>.DAT Loop.Present_Value				

Discharge Air Temperature

This read only output network variable indicates the current temperature discharged from the unit.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Analog Input	0	3	Present_Value	85
Full Reference				
<Device Name>.DAT.Present_Value				

Discharge Air Temperature Sensor Present

The presence of the discharge air temperature sensor.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Binary Value	5	7	Present_Value	85
Full Reference				
<Device Name>.DAT_Sensor.Present_Value				
Enumeration				
0 = No				
1 = Yes				

Economizer Enable

Rooftop Unit and Heat Pump Unit

Not available when using JADE economizer option.

The optional economizer can be enabled only if outside air temperature and discharge air temperature sensors are connected to the *BACnet* Thermostat. Allows the network to completely disable economizer functions.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Binary Value	5	16	Present_Value	85
Full Reference				
<Device Name>.Econ_Enable.Present_Value				
Enumeration				
0 = Disabled				
1 = Enabled				

Economizer Enable Temperature

Rooftop Unit and Heat Pump Unit

Not available when using JADE economizer option.

The optional economizer mode is enabled for cooling when the outside air temperature is 2°F below the value of the limit set by the Economizer Enable Temperature and disabled if the OAT is 2°F above the value of the Economizer Enable Temperature.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Analog Value	2	16	Present_Value	85
Full Reference				
<Device Name>.Econ_Enable_Temp.Present_Value				

Economizer Mode

Rooftop Unit and Heat Pump Unit

Not available when using JADE economizer option

The optional economizer mode is enabled for cooling when the outside air temperature is 2°F below the value of the limit set by the Economizer Enable Temperature and disabled if the OAT is 2°F above the value of the Economizer Enable Temperature.

Object Identifier			Property	
Object Type	**Type ID**	**Instance**	**Name**	**ID**
Binary Value	5	17	Present_Value	85
Full Reference				
<Device Name>.Econ_Mode.Present_Value				
Enumeration				
0 = Inactive				
1 = Active				

Economizer Output

Rooftop Unit and Heat Pump Unit

Not available when using JADE economizer option.

The analog economizer output modulates from 0 to 100% over 10 volts DC.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Output	1	8	Present_Value	85
Full Reference				
<Device Name>.Econ_Damper.Present_Value				

Fan Icon

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Multistate Value	19	6	Present_Value	85
Full Reference				
<Device Name>.Fan_Icon.Present_Value				
Enumeration				
Default = Error				
1 = ON				
2 = Auto				
3 = Fail				
4 = Service				
5 = Low				
6 = Med				
7 = High				

Fan Mode

Allows the user to select the fan mode to auto or manual.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Multistate Value	19	3	Present_Value	85
Full Reference				
<Device Name>.Fan_Mode.Present_Value				
Enumeration				
1 = Auto				
2 = Low/ON				
3 = Medium				
4 = High				

Fan Need – Call for Fan

The status of the activation of the fan; when occupied the fan is on, when unoccupied the fan is only on when there is a call for heating or cooling.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	9	Present_Value	85
Full Reference				
<Device Name>.Fan_Need.Present_Value				
Enumeration				
0 = Disable				
1 = Enable				

Fan OFF Delay

The Fan OFF Delay sets the time the system fan will continue to run after the last heating or cooling stage is turned OFF.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	25	Present_Value	85
Full Reference				
<Device Name>.Fan_Off_Delay.Present_Value				

Fan ON During Occupied Mode

Enabling the Fan ON During Occupied Mode causes the fan to be on continuously. Disabling the Fan ON During Occupied Mode causes the fan to run intermittently on a call for heating or cooling only.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	13	Present_Value	85
Full Reference				
<Device Name>.Occupied_Fan.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Fan Start-Stop

Rooftop Unit and Heat Pump Unit

Enabled or disabled fan status.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Output	4	1	Present_Value	85
Full Reference				
<Device Name>.Fan.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Fan Status

Alarm status of the fan.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	14	Present_Value	85
Full Reference				
<Device Name>.Fan_Status.Present_Value				
Enumeration				
0 = Alarm				
1 = Normal				

Heat and Cool Icon

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Multistate Value	19	8	Present_Value	85
Full Reference				
<Device Name>.Heat_Cool_Icon.Present_Value				
Enumeration				
Default = Error				
1 = Cool				
2 = Cool Auto				
3 = Heat Auto				
4 = Heat				
5 = OFF				
6 = Emg Heat				
7 = EHeat Auto				

Heat Integral

The BACnet™ PIDs are used for valve staging modulation, fan staging, and economizer operation. The integral properties are available from the user interface.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	55	Present_Value	85
Full Reference				
<Device Name>.Heat Intg.Present_Value				

Heat Proportional Band

The *BACnet* PIDs are used for valve staging modulation, fan staging, and economizer operation. The proportional properties are available from the user interface.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	53	Present_Value	85
Full Reference				
<Device Name>.Heat Prop.Present_Value				

Heat Stage 1

Rooftop Unit Only

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Output	4	4	Present_Value	85
Full Reference				
<Device Name>.Heat_Stage_1.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Heat Stage 1

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	22	Present_Value	85
Full Reference				
<Device Name>.Heat_Stg_1.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Heat Stage 2

Rooftop Unit Only

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Output	4	5	Present_Value	85
Full Reference				
<Device Name>.Heat_Stage_2.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Heat Stage 2

Rooftop Unit and Heat Pump Unit

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	23	Present_Value	85
Full Reference				
<Device Name>.Heat_Stg_2.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Heating Loop

The BACnet™ PID loops are used for valve staging modulation, fan staging, and economizer operation. The proportional and integral properties of the cooling and heating loops are available form the user interface.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Loop	12	2	Present_Value	85
Full Reference				
<Device Name>.Ht Loop.Present_Value				

Heating Output

Rooftop Unit and Heat Pump Unit

The analog heating output modulates over 10 volts DC as the heating loop changes from 0 to 100%.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Output	1	7	Present_Value	85
Full Reference				
<Device Name>.Heating_Output.Present_Value				

Hold Temperature Setpoint

When enabled the Hold Temperature Setpoint will hold an override temperature setpoint as the active setpoint for the time period set in the Local Override Time.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	36	Present_Value	85
Full Reference				
<Device Name>.Stpt_Hold.Present_Value				
Enumeration				
0 = Schedule				
1 = Hold				

Local Override Mode

The status of the schedule being overridden to occupied.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	28	Present_Value	85
Full Reference				
<Device Name>.Local_Ovrd.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Local Override Timer

The amount of time the *BACnet* Thermostat will be overridden to occupied.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	38	Present_Value	85
Full Reference				
<Device Name>.Ovrd_Time.Present_Value				

Maximum Heating Setpoint

The maximum heating setpoint that a user can select as the active setpoint.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	10	Present_Value	85
Full Reference				
<Device Name>.Max_Ht_Stpt.Present_Value				

Minimum Cooling Setpoint

The minimum cooling setpoint that a user can select as the active setpoint.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	9	Present_Value	85
Full Reference				
<Device Name>.Min_Cl_Stpt.Present_Value				

Minimum Discharge Air Temperature

Rooftop Unit and Heat Pump Unit

The minimum discharge air temperature setpoint that a user can select.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	14	Present_Value	85
Full Reference				
<Device Name>.Min DAT.Present_Value				

Minimum Economizer Damper

Rooftop Unit and Heat Pump Unit

The minimum economizer damper position limit.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	15	Present_Value	85
Full Reference				
<Device Name>.Min_Econ_Damper.Present_Value				

Minimum OFF Time – Equipment Delay

Rooftop Unit and Heat Pump Unit

The time a stage must remain turned OFF before it can be turned on again.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	26	Present_Value	85
Full Reference				
<Device Name>.Min_Off_Time.Present_Value				

Mode – Heat or Cool

The heat or cool status of the device.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	8	Present_Value	85
Full Reference				
<Device Name>.Mode.Present_Value				
Enumeration				
0 = Heat				
1 = Cool				

Need for Cooling or Heating

This property is used for the status of the call for heating or cooling.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	10	Present_Value	85
Full Reference				
<Device Name>.Cool_Heat_Need.Present_Value				
Enumeration				
0 = Heat				
1 = Cool				

Occupied Cooling Setpoint

A temperature setpoint entered by the controls technician during controller setup and system commissioning.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	5	Present_Value	85
Full Reference				
<Device Name>.Occ_Cl_Stpt.Present_Value				

Occupied Heating Setpoint

A temperature setpoint entered by the controls technician during controller setup and system commissioning.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	6	Present_Value	85
Full Reference				
<Device Name>.Occ_Ht_Stpt.Present_Value				

Occupied Mode

The status of the occupied mode for the BACnet™ Thermostat.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Multistate Value	19	1	Present_Value	85
Full Reference				
<Device Name>.Occupied_Mode.Present_Value				
Enumeration				
1 = Occupied				
2 = Standby				
3 = Unoccupied				

Occupied Mode Icon

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Multistate Value	19	7	Present_Value	85
Full Reference				
<Device Name>.Occupied_Icon.Present_Value				
Enumeration				
Default = Error				
1 = Occupied				
2 = Override				
3 = Unoccupied				
4 = Occ Hold				
5 = Standby				

Occupy Schedule

The status of the occupancy based on the schedule.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	5	Present_Value	85
Full Reference				
<Device Name>.Occ_Schedule.Present_Value				
Enumeration				
0 = Unoccupied				
1 = Occupied				

Outdoor Air Temperature

Rooftop Units and Heat Pumps

The current status of the outdoor air temperature read from the OAT sensor.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Input	0	2	Present_Value	85
Full Reference				
<Device Name>.OAT.Present_Value				

Outdoor Air Temperature

Rooftop Unit, Heat Pump Unit, and Fan Coil 4-pipe

The current status of the outdoor air temperature read from the OAT sensor.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	19	Present_Value	85
Full Reference				
<Device Name>.Outdoor_Temp.Present_Value				

Outdoor Air Temperature Sensor Present

Rooftop Unit and Heat Pump Unit

Current status of whether an outdoor air temperature sensor is present.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	27	Present_Value	85
Full Reference				
<Device Name>.OAT_Sensor.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Remote Room Sensor

Current temperature reading of the optional remote space temperature sensor.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Input	0	1	Present_Value	85
Full Reference				
<Device Name>.Remote_SNS.Present_Value				

Reversing Valve

Heat Pump Unit

The reversing valve can be set by the controls technician to normal or reverse.

- Normal – The valve is fully closed when the output signal is 0 volts and fully open when the output is 10 volts DC.
- Reverse – The valve is fully closed when the output signal is 10 volts and fully open when the output is 0 volts DC.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Output	4	4	Present_Value	85
Full Reference				
<Device Name>.Reversing_Valve.Present_Value				
Enumeration				
0 = OFF				
1 = ON				

Reversing Valve Action

Heat Pump Only

The BACnet™ Thermostat reversing valve output is energized on a call for cooling. The action can be changed from the user interface to be active on a call for heating.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	15	Present_Value	85
Full Reference				
<Device Name>.Rev_Vlv_Polarity.Present_Value				
Enumeration				
0 = Active Cooling				
1 = Active Heating				

Space Temperature – Local Sensor

The current space temperature reading from the local space sensor.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Input	0	4	Present_Value	85
Full Reference				
<Device Name>.Local_Sensor.Present_Value				

Space Temperature

The current space temperature reading from the space sensor.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	1	Present_Value	85
Full Reference				
<Device Name>.Space_Temp.Present_Value				

Speed Up Timers

Speeds up the time delays between stages and between modes of operation by 15. Speed Up Timers should only be used for start up and service.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Binary Value	5	11	Present_Value	85
Full Reference				
<Device Name>.Speed_Up_Cl.Present_Value				
Enumeration				
0 = Inactive				
1 = Active				

Stage Delay

Rooftop Unit and Heat Pump Unit

The Stage Delay is a user configurable point to enter the time the first stage must remain turned on before the second stage can be turned ON.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	27	Present_Value	85
Full Reference				
<Device Name>.Stage_Delay.Present_Value				

System Control Mode

A user configurable point to determine the system control mode of the device.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Multistate Value	19	2	Present_Value	85
Full Reference				
<Device Name>.System_Mode.Present_Value				
Enumeration				
1 = OFF				
2 = Auto				
3 = Cool				
4 = Heat				

Unoccupied Cooling Setpoint

A temperature setpoint entered by the controls technician during controller setup and system commissioning.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	7	Present_Value	85
Full Reference				
<Device Name>.Unocc_Cl_Stpt.Present_Value				

Unoccupied Heating Setpoint

A temperature setpoint entered by the controls technician during controller setup and system commissioning.

Object Identifier			Property	
Object Type	Type ID	Instance	Name	ID
Analog Value	2	8	Present_Value	85
Full Reference				
<Device Name>.Unocc_Ht_Stpt.Present_Value				

The following functions are specific to the BACnet™ device. These functions are used for maintenance and testing. A network management tool such as VTS is typically used to issue the network commands.

DeviceCommunicationControl – Disable

The purpose of this command is to reduce network traffic for diagnostic testing of the *BACnet* network. When the *BACnet* Communication module receives a network command to Disable communications it stops communicating information to the network. An optional time may be specified for how long to suspend communications. The unit continues to operate during the Disabled state.

DeviceCommunicationControl – Enable

When the *BACnet* Communication module receives a network command to Enable communications, MicroTech III AHU communications to *BACnet* is restored.

ReinitializeDevice (Reset)

When the *BACnet* Communication module is capable of receiving a network ReinitializeDevice command to reboot itself (cold start or warm start). The functionality of a cold and warm start are the same and simple reboot the *BACnet* Communication module. No password is required.

Protocol Implementation Conformance Statement (PICS)

This section contains the Protocol Implementation Conformance Statement (PICS) for the BACnet™ Thermostat as required by ANSI/ASHRAE (American National Standards Institute/American Society of Heating, Refrigeration, and Air Conditioning Engineers) Standard 135-2008, *BACnet*; A Data Communication Protocol for Building Automation and Control Networks.

BACnet Protocol Implementation Conformance Statement

Date	October 2013
Vendor Name	Daikin Applied
Product Name	*BACnet* Thermostat
Product Model Number	250803#
Application Software Version	APP0.0.1.1
Firmware Revision	R1.0.0.15
BACnet Protocol Revision	Version 1, Revision 7

Product Description

The *BACnet* Thermostat controllers are *BACnet* application specific controllers with integrated temperature sensors. The controllers include programming for fan coil units, roof top units, and heat pump units.

BACnet Standardized Device Profile

Based on BIBBs supported, the *BACnet* Thermostat is a *BACnet* Application Specific Controller (B-ASC). Refer to the section below entitled *BACnet* Interoperability Building Blocks (BIBBs) Supported for a complete listing of BIBBS.

☐ *BACnet* Operator Workstation (B-OWS)

☐ *BACnet* Building Controller (B-BC)

☐ *BACnet* Advanced Application Specific Controller (B-AAC)

☒ *BACnet* Application Specific Controller (B-ASC)

☐ *BACnet* Smart Sensor (B-SS)

☐ *BACnet* Smart Actuator (B-SA)

Table 6: BACnet Interoperability Building Blocks (BIBBs) Supported

BIBB Name	Designation
Data Sharing – ReadProperty – B	DS-RP-B
Data Sharing – ReadPropertyMultiple – B	DS-RPM-B
Data Sharing – WriteProperty – B	DS-WP-B
Data Sharing – WritePropertyMultiple – B	DS-WPM-B
Data Sharing – ReadProperty – A	DS-RP-A
Data Sharing – WriteProperty – A	DS-WP-A
Scheduling – Internal – B	SCHED-I-B
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 – TimeSynchronization – B	DM-TS-B
Device Management – UTCTimeSynchronization – B	DM-UTC-B
Device Management – Reinitialize Device – B	DM-RD-B
Device Management – Private Transfer – B	DM-PT-B
Device Management – Private Transfer – A	DM-PT-A

Table 7: Standard Object Types Supported

Object-Type	Creatable	Deleteable	Optional Properties Supported
Analog Input	0	0	Description Device Type
Analog Output	0	0	Description Device Type
Analog Value	0	0	Description Priority_Array Relinquish_Default
Binary Input	0	0	Description Device_Type Inactive_Text
Binary Output	0	0	Active_Text Description Device_Type Inactive_Text
Binary Value	0	0	Active_Text Description Inactive_Text Priority_Array Relinquish_Default
Calendar	0	0	Description
Loop	0	0	Bias Derivative_Constant Derivative_Constant_Units Description Integral_Constant Integral_Constant_Units Maximum_Output Minimum_Output Proportional_Constant Proportional_Constant_Units
Program	0	0	Description Description_Of_Halt Program_Location Reason_For_Halt
File	0	0	Description
Device	0	0	Description Local_Date Local_Time Location Max_Info_Frames Max_Master
Multi-State Value	0	0	Description Priority_Array Relinquish_Default State_Text
Schedule	0	0	Description Exception_Schedule Weekly_Schedule

Data Link Layer Options

☐ BACnet™ IP, (Annex J)

☐ *BACnet* IP, (Annex J), Foreign Device

☐ ISO 8802-3, Ethernet (Clause 7)

☐ ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)

☐ ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baudrate(s):

☒ MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 76800

☐ MS/TP slave (Clause 9), baud rate(s): 9600, 19200, 38400, 76800

☐ Point-To-Point, EIA 232 (Clause 10), baudrate(s):

☐ Point-To-Point, modem, (Clause 10), baudrate(s):

☐ LonTalk, (Clause 11), medium:

☐ *BACnet*/Zigbee (Annex O):

☐ Other:

Segmentation Capability

☐ Able to transmit segmented messages   Window Size:

☐ Able to receive segmented messages   Window Size:

Device Address Binding

☒ Send Who-Is, receive I-Am (BIBB DM-DDB-A)

☒ Receive Who-Is, send I-Am (BIBB DM-DDB-B)

☐ Send Who-Has, receive I-Have (BIBB DM-DOB-A)

☒ Receive Who-Has, send I-Have (BIBB DM-DOB-B)

☐ Manual configuration of recipient device's network number and MAC address

☐ None of the above

Networking Options

☐ Router, Clause 6 – List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.

☐ Annex H, *BACnet* Tunneling Router over UDP/IP

☐ *BACnet*/IP Broadcast Management Device (BBMD)

Does the BBMD support registration by Foreign Devices?
☐ Yes ☐ No

Does the BBMD support network address translation?
☐ Yes ☐ No

Character Sets Supported

☒ ANSI X3.4

☐ IBM®/Microsoft® DBCS

☐ ISO 8859-1

☐ ISO 10646 (UCS-2)

☐ ISO 10646 (UCS-4)

☐ JIS C 6226

NOTE: Support for multiple character sets does not imply they can be supported simultaneously.

Training and Development
Now that you have made an investment in modern, efficient Daikin equipment, its care should be a high priority. For training information on Daikin HVAC products, please visit us at www.daikinac.com and click on Training.

Warranty
Consult your local Daikin representative for warranty details. To find your local Daikin representative, go to www.daikinac.com.

Aftermarket Services
To find your local parts or service office, visit www.daikinac.com or call 855-770-5678.

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DG-DAPPS