DAIKIN

Installation and Maintenance Manual IM 966-5

Group: **Controls**
Part Number: **IM 966**
Date: **April 2022**

MicroTech® III Chiller Unit Controller
BACnet® IP Communication Module

Models AGZ and AMZ Trailblazer® Air-cooled Scroll Chiller

Models AWS and AWV Pathfinder® Air-cooled Screw Chiller

Model ADS Air-cooled Global Screw Chiller

Model WME, B Vintage, Magnitude® Magnetic Bearing Centrifugal Chiller

Model WWV, Navigator® Water-cooled Screw Chiller

Member of BACnet International

This manual contains information regarding the network integration system used with MicroTech III unit controllers on Daikin Applied chillers. It describes how to install or replace a BACnet communication module on a MicroTech III chiller unit controller. It also explains how to set network parameters and establish communication between the chiller and BACnet network.

Revision History

IM 966	Oct 2009	Initial release.
IM 966-1	April 2012	Changed OMM 998 to OM 1051. Added model AGZ-D.
IM 966-2	Nov 2016	Updated Daikin branding. Added step 1 to set unit switch=off before installing a new module. Added WTC, AGZ-E, and AWV chiller models, split configuration sections into DHCP and non-DHCP networks; modified Troubleshooting section and added Specs table, Fig 1-2, updated Tables 1 and 3, BSP version support and formatting edits.
IM 966-3	Mar 2017	Added AMZ chiller model to data tables, Reference Documents, and other associated references.
IM 966-4	Jan 2018	Added WME & WWV chiller models.
IM 966-5	April 2022	Updated LED description. Updated BSP version. Clarified IP addressing.

Reference Documents

Company	Number	Title	Source
Daikin Applied	IOM 1242	Pathfinder® Model AWV Air Cooled Chiller Installation, Operation, and Maintenance Manual	www.DaikinApplied.com
Daikin Applied	IOM 1206	Trailblazer® Model AGZ Air Cooled Chiller Installation, Operation and Maintenance Manual	www.DaikinApplied.com
Daikin Applied	IOM 1207	Trailblazer® Model AGZ Air Cooled Chiller Installation, Operation and Maintenance Manual - Pump Package and Remote Evaporator	www.DaikinApplied.com
Daikin Applied	IOM 1243	Trailblazer® Model AMZ Air Cooled Chiller Installation, Operation, and Maintenance Manual	www.DaikinApplied.com
Daikin Applied	IOM 1264	Navigator® Model WWV Water-cooled Chiller Installation, Operation, and Maintenance Manual	www.DaikinApplied.com
Daikin Applied	IOM 1202 (Legacy)	Pathfinder® Model AWS Air Cooled Chiller Installation, Operation, and Maintenance Manual	www.DaikinApplied.com
Daikin Applied	IOMM 1033-6 (Legacy)	Magnitude® Model WME, B vintage Magnetic Bearing Centrifugal Chiller Installation, Operation, and Maintenance Manual	www.DaikinApplied.com
Daikin Applied	ED 15120	MicroTech® III Chiller Unit Controller Protocol Information, BACnet and LonWorks Networks	www.DaikinApplied.com
Daikin Applied	ED 15122	MicroTech® III Chiller Unit Controller Implementation Conformance Statement (PICS)	www.DaikinApplied.com
American Society of Heating, Refrig, and Air-Conditioning Engineers	ANSI/ ASHRAE 135-2004	BACnet A Data Communication Protocol for Building Automation and Control Networks	www.ashrae.org

Software Revision

This document supports BSP (Board Support Package) BACnet communication module firmware version 11.42 and all subsequent versions until otherwise indicated.

Limited Warranty

Consult your local Daikin Applied Representative for warranty details. To find your local Daikin Applied Representative, go to www.DaikinApplied.com.

Hazardous Information Messages

Recognize Safety Symbols, Words and Labels

The following symbols and labels are used throughout this manual to indicate immediate or potential hazards. It is the owner and installer's responsibility to read and comply with all safety information and instructions accompanying these symbols. Failure to heed safety information increases the risk of property damage and/or product damage, serious personal injury or death. Improper installation, operation and maintenance can void the warranty.

⚠ CAUTION

Cautions indicate potentially hazardous situations, which can result in personal injury or equipment damage if not avoided.

Static sensitive components. Can cause equipment damage.

Discharge any static electrical charge by touching the bare metal inside the control panel before performing any service work. Never unplug cables, circuit board terminal blocks, or power plugs while power is applied to the panel

⚠ WARNING

Warnings indicate potentially hazardous situations, which can result in property damage, severe personal injury, or death if not avoided.

⚠ DANGER

Dangers indicate a hazardous situation which will result in death or serious injury if not avoided. Electric shock hazard. Can cause personal injury or equipment damage. This equipment must be properly grounded. Connections and service to the unit controller must be performed only by personnel knowledgeable in the operation of the equipment being controlled.

NOTICE

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense. Daikin disclaims any liability resulting from any interference or for the correction thereof.

The BACnet IP communication module connects the MicroTech III chiller unit controller to a building automation system (BAS). This interface enables the exchange of BACnet objects between the unit controller and the network.

The BACnet communication module, together with the unit controller, support the BACnet IP data link layer (physical layer.)

Features

- Integration into a building automation and control system via BACnet IP (B-AAC profile and BBMD)
- Simple attachment to a MicroTech III chiller unit controller
- LEDs that indicate communication status and network activity
- Network parameters configurable via the unit controller, BAS, or remote HMI
- BACnet application pre-installed and ready for custom configuration
- Circuit board components enclosed in protective housing

Specifications

The following section provides a summary of technical data and conformance to agency listings.

General	
Dimensions	W × H × D: 1.77 × 4.33 × 2.95 in (45 × 110 × 75 mm)
Weight	3.5 oz (98 g)
Material	Base - plastic, pigeon-blue
	Housing - plastic, light-gray
Operating	
Temperature	-40 – 158°F (-40 – 70°C)
Humidity	<90% RH
Atmospheric pressure	Min. 10 psi (70kPa), corresponding to max. 9,842 ft (3,000 m) above sea level
Storage and Transportation	
Temperature	-40 - 158°F (-40 - 70°C)
Humidity	<95% RH
Atmospheric pressure	Min. 3.77 psi (26 kPa), corresponding to max. 32,808 ft (10,000 m) above sea level
Electrical	
Power	Supplied via unit controller DC 5 V (+5% / –5%), max. 270 mA
Network connection	Ethernet 10/100 over CAT 5 cable
	RJ-45 port, 8-pin connector
Additional Components	
Board-to-board connector	10-pin plug between communication module and unit controller
Agency Listings	
US	UL916, UL873
Canada	CSA C22.2M205
Europe	
EMC directive	2004/108/EC
Low-voltage directive	2006/95/EC
RoHS directive	2002/95/EC

Dimensions

Figure 1 and Figure 2 provide key dimensional data.

Figure 1: BACnet Communication Module Top View

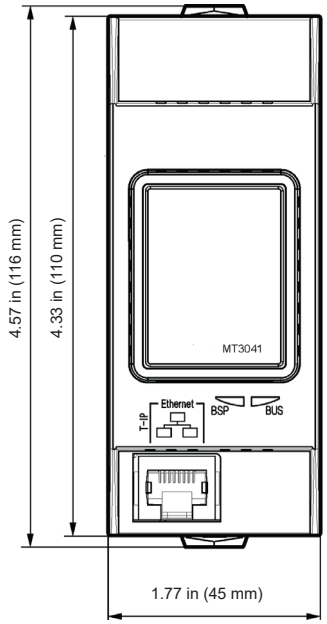
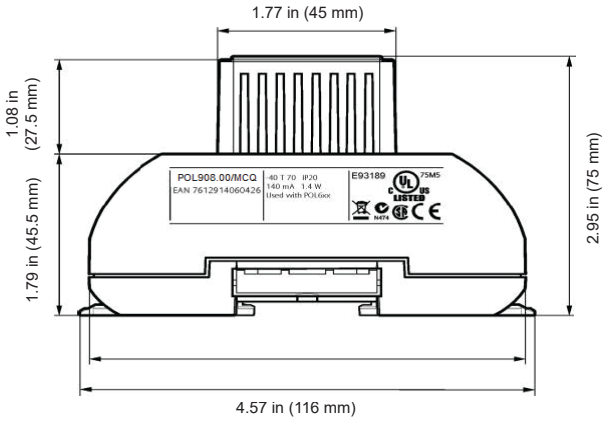


Figure 2: BACnet Communication Module Side View



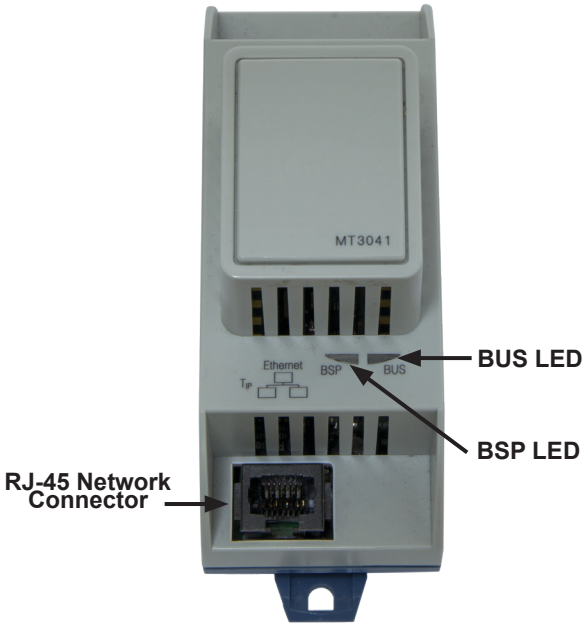
Component Data

The BACnet communication module is a printed circuit board with a plastic enclosure. It connects directly to the left-hand side of the MicroTech III chiller unit controller as shown in Figure 3. It may be possible that another module is also connected to the unit controller. In this case, the BACnet communication module simply attaches directly to the left side of the existing module instead of the unit controller.

Figure 3: BACnet IP Communication Module Attached to Unit Controller

Figure 4 shows the important features of the BACnet communication module, which are described in the following section.

Figure 4: BACnet IP Communication Module



Light Emitting Diodes (LEDs)

The BACnet communication module has a BSP LED and a BUS LED to indicate communication activity and status of the BACnet communication module. These indicators are visible when the communication module is connected to the MicroTech III chiller unit controller and the unit is powered on (Figure 4).

BSP LED

The BSP LED indicates the communication state between the BACnet communication module and the MicroTech III chiller unit controller. The table below describes the status of the BSP LED (Figure 4).

Table 1: BSP LED Activity

BSP LED Color	Description
Alternating red and green flashing at once per second	Board Support Package (BSP) firmware upgrade in progress.
Green	BSP is running. Communication is established between the unit controller and the communication module.
Yellow	The communication module is capable of communicating to the unit controller. However, communication is not established.
Red flashing with 2Hz	BSP (software) error.[1]
Red	Hardware error.[1]

1. In the event that this should occur, cycle power to the unit controller. Contact the Daikin Applied Controls Customer Support group at 866-462-7829 for additional assistance if necessary.

BUS LEDs

The BUS LED indicates the communication status between the BACnet communication module and the BACnet IP network. The table below describes the status of the BUS LED.

Table 2: BUS LED Activity

BUS LED Color	Description
Green	The unit controller is capable of communicating to the network.
Yellow	Communication module is initializing. The LED remains yellow until an IP Address is received.
Red[1]	Communication error. The unit controller is not capable of communicating to the network.

[1] For BACnet communication modules with BSP 10.xx or newer, the status indicates “Other” when there is no active network connection from a BAS.

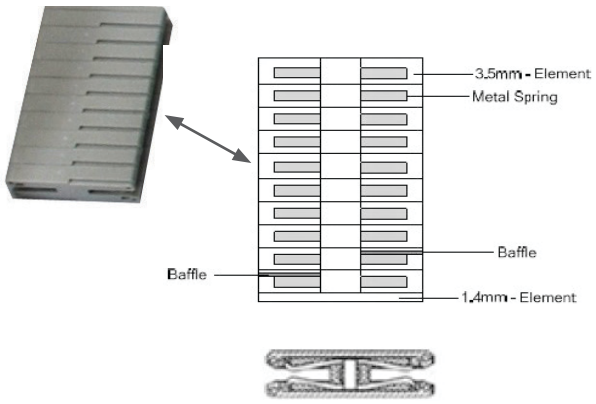
BACnet Network Connector

The BACnet communication module has an RJ-45 port for connection to the IP Network (Figure 4).

Board-To-Board Connector

The 10-pin board-to-board connector connects the MicroTech III chiller unit controller to the BACnet communication module (Figure 5 and Figure 8).

Figure 5: Board-to-Board Connector



Installation and Mounting

The following section describes how to field install a new BACnet IP communication module or replace an existing module on the MicroTech III chiller unit controller.

⚠ CAUTION

Electrostatic discharge hazard. Can cause equipment damage.

This equipment contains sensitive electronic components that may be damaged by electrostatic discharge from your hands. Before you handle a communication module, you need to touch a grounded object, such as the metal enclosure, in order to discharge the electrostatic potential from your body.

⚠ WARNING

Electric shock hazard. Can cause personal injury or equipment damage.

This equipment must be properly grounded. Only personnel knowledgeable in the operation of the equipment being controlled must perform connections and service to the unit controller.

Field Installation Kit

The BACnet communication module field-installed kit ships with the following items:

- The BACnet IP communication module
- Board-to-board connector - Figure 5
- This manual (IM 966)

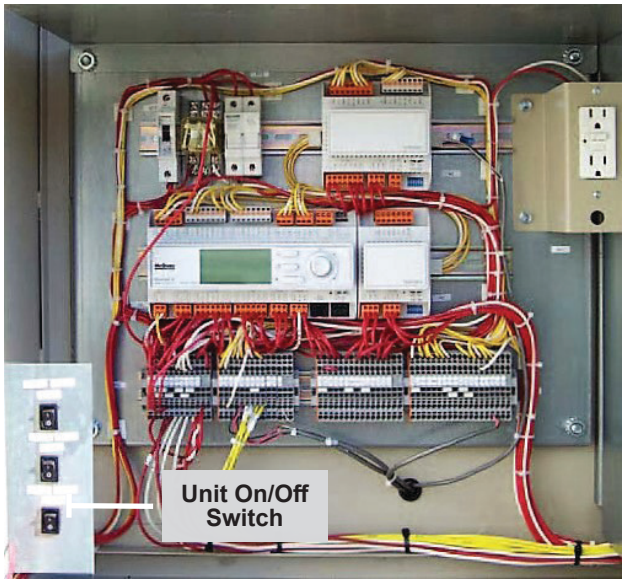
Installing a new Communication Module

Follow these steps to install a BACnet communication module on the unit controller. The BACnet communication module can be connected directly to the unit controller itself or to an existing module, if one is attached.

NOTE: There is a limit of three devices that can be attached to the left side of the unit controller.

1. Disable the chiller by setting the Unit On/Off Switch to "Off" from inside the control panel of the unit. *This must be done prior to installing a new communication module.* See Figure 6 for switch location.

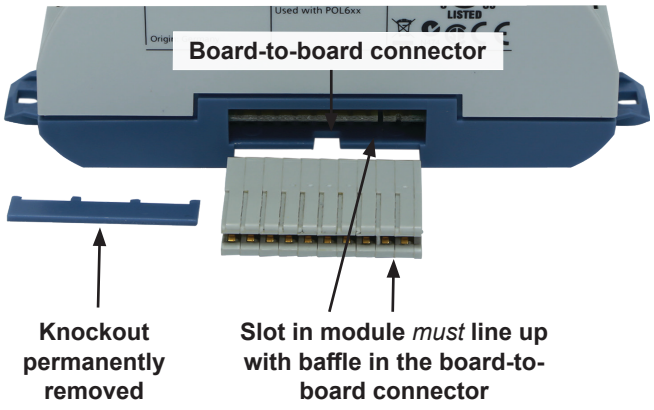
Figure 6: Chiller Unit Controller On/Off Switch



2. Remove power from the unit controller.
3. Carefully remove the blue plastic knockout strip on the far left end of the unit controller itself (or additional module, if present). Figure 7 shows the knockout strip after it has been removed from the unit controller.

   To prevent damage to the unit controller, insert a small flathead screwdriver or similar tool into the tab on the bottom of the unit controller and pull the screwdriver away from the controller.
4. Carefully remove the blue plastic knockout strip on the right side of the BACnet communication module.

Figure 7: Communication Module and Knockout



5. Insert the board-to-board connector into the BACnet communication module. Note that it only fits one way and that the baffles must line up with corresponding slots in BACnet communication module and the unit controller (Figure 7 and Figure 8).

Figure 8: Communication Module with Board-to-Board Connector Inserted

6. Insert the other end of the board-to-board connector to the far-left side of the unit controller or other module, if attached.
7. Insert a CAT 5 Ethernet cable into the communication module's network connector (Figure 4).
8. Apply power to the unit controller.

NOTE: The unit controller automatically resets itself approximately 30 seconds after power has been applied to it. This reset is necessary so that the BACnet communication module can synchronize with the unit controller.

9. Set the Unit On/Off Switch to "On" from inside the control panel of the unit.

Replacing a Communication Module

Follow these steps to remove an existing BACnet communication module from the unit controller and replace it with a new module.

1. Disable the chiller by setting the Unit On/Off Switch to "Off" from inside the control panel of the unit. *This must be done prior to replacing a communication module.* See Figure 6 for switch location.
2. Remove power from the unit controller.
3. Locate the BACnet communication module to the left of the unit controller (Figure 3).
4. Gently pull the network cable connector from the BACnet communication module (Figure 4).
5. Grasp the BACnet communication module and carefully pull it from the unit controller (or from an adjacent module, if it is attached to one).
6. Install the new BACnet communication module:
   a. Remove power from the unit controller.
   b. Carefully remove the blue plastic knockout strip on the far left end of the unit controller itself (or additional module, if present). Figure 7 shows the knockout strip after it has been removed.

NOTE: To prevent damage to the unit controller, insert a small flathead screwdriver or similar tool into the tab on the bottom of the unit controller and pull the screwdriver away from the controller.

   c. Carefully remove the blue plastic knockout strip on the right side of the BACnet communication module.
   d. Insert the board-to-board connector into the BACnet communication module. Note that it only fits one way and that the baffles must line up with corresponding slots in BACnet communication module and the unit controller (Figure 7 and Figure 8).
7. Insert a CAT 5 Ethernet cable into the communication module's network connector (Figure 4).
8. Apply power to the unit controller.

NOTE: The unit controller automatically resets itself approximately 30 seconds after power has been applied to it. This reset is necessary so that the BACnet communication module can synchronize with the unit controller.

9. Set the Unit On/Off Switch to "On" from inside the control panel of the unit.

The following section describes how to configure the BACnet IP communication module for BAS network integration. Follow these instructions to set addressing parameters for the BACnet communication module using the MicroTech III chiller unit controller. Configuration varies depending on the structure of your network and BACnet broadcasting requirements for IP subnets.

BACnet IP Network Types

Single IP Subnet

In BACnet/IP networks with only IP subnet (IP domain), broadcast messages from a device (ex. 172.16.255.255 or 0xBAC0) are sent to all other subnet members as IP broadcasts without requiring any additional configuration.

DHCP Networks

BACnet IP networks with DHCP use a server (typically a router or gateway) to automatically request network configuration parameters, such as IP addresses, to all devices. DHCP-enabled networks eliminate the need for a user to configure these settings manually since IP Addresses and other parameters are determined dynamically by the server.

There are several important aspects to consider with DHCP-enabled networks:

Aspect	Considerations
BBMDs	DHCP *can not* be used together with BBMDs, as the IP addresses are configured as static addresses and cannot change during operation.
Alarm recipient	In BACnet, alarm recipients are entered with their “Device Object Identifier” or their BACnet address. The IP address is part of the BACnet address and may not be changed for the alarm recipient. For this reason, option “Device Object Identifier” must always be used.
Access rights	If access rights are assigned based on IP address, such as firewalls, the address must be static. Access rights are based off of the UDP Port Number (ex. UDP 47808) or the MAC Address of the BACnet communication module.
IP version	The BACnet communication module supports IP Version 4, (i.e. IP devices with 32 bit addresses).

Multiple IP Subnets

A BACnet/IP network may consist of multiple IP subnets assigned the same BACnet network number. In this case, a BBMD (BACnet Broadcast Management Device) allows broadcasts to be transmitted to all other BBMDs on the BACnet network. BBMDs allow devices on one network to distribute broadcasts, or communicate, across multiple subnets. A BBMD also provides for foreign device registration. This allows a device on one network to communicate with a device on another network by using the BBMD to forward and route the messages.

The BACnet communication module can be registered as a BBMD device. This is done by registering the IP Address and subnet mask of the communication module as a Foreign Device with the BBMD.

BACnet IP Configuration

The BACnet communication module is configured using the keypad/display on the unit controller. Table 3 describes the available BACnet IP network parameters used to establish communication between the unit controller and the BAS. The items shown in bold text are required for minimum network configuration.

Refer to the applicable MicroTech III Chiller Unit Controller Operation Manual (see Reference Documents) for additional information on using the keypad/display to adjust parameters and set defaults. Systems integrators should refer to Protocol Document ED 15120 for descriptions of the available BACnet objects (www.DaikinApplied.com).

A preview of the basic procedure is listed directly below, followed by detailed instructions for each step. If your IP network does not require DHCP to be enabled, refer to Configure Parameters for non-DHCP Networks. If your IP network is DHCP-enabled, refer to Configure Parameters for DHCP Networks

1. Disable the chiller
2. Enter the password
3. Non-DHCP networks: Set DHCP to “Off” and then modify the Given IP Address, IP Mask, and IP Gateway (typically during initial configuration only.) See Configure Parameters for non-DHCP Networks section
4. DHCP networks: See Configure Parameters for DHCP Networks section
5. Set other network parameters as required
6. Save changes and cycle power to the unit controller
7. Enable the chiller

Disable the Chiller

1. Set the Unit On/Off Switch to “Off” from inside the control panel of the unit. See Figure 6 for switch location.

Enter Password

1. If you have not already entered a password and are on the Main Menu, turn the circular knob on the unit controller (Figure 9) until Enter Password is highlighted from the menu list (Figure 10). If you have already entered a password, skip to Step 4.
2. Select Enter Password by pressing down on the circular knob.

NOTE: If you are not at the Main Menu and need to enter a password, press the Back button from any other menu screen until you reach the Main Menu and then follow Steps 1 and 2.

3. Enter Password 5321 and then press Enter.
4. Scroll down to View/Set Unit and press Enter.
5. Scroll down to the BACnet IP Setup menu and press Enter.

NOTE: The BACnet IP Setup menu only appears if a BACnet communication module is installed correctly (see Installation and Mounting section). If the BACnet communication module is installed correctly and this menu still does not appear, cycle power to the unit controller and repeat the procedure above.

Figure 9: Unit Controller Main Features

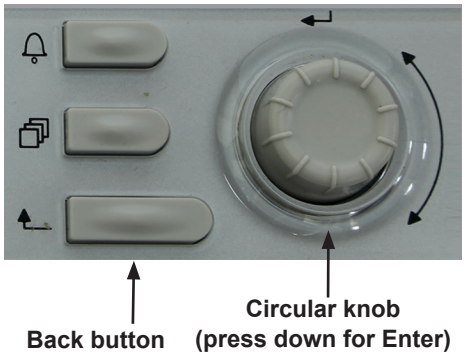


Figure 10: BACnet IP Setup Menu: Enter Password

Configure Parameters for non-DHCP Networks

Follow these steps if your BACnet IP network requires static IP addressing for non-DHCP networks.

NOTE: The chiller should be disabled and with a valid password having been entered before proceeding.

1. Set DHCP to Off.
   a. From the BACnet IP Setup menu, turn the knob clockwise until DHCP is highlighted and then press Enter (Figure 12).
   b. Turn the knob counter-clockwise until DHCP = Off and then press Enter.
2. Change the default Given IP Address (Gvn IP) to match the Actual IP Address (Act IP) as specified by the BAS and/or Network Administrator (Figure 11 and Figure 12).
   a. If all three digits of all four octets have been modified, proceed to step b. Otherwise, if all three digits of all four octets have *not* been modified (ex. 172.16.1.2) and the last octet has been entered, turn the knob clockwise until a blank space appears (i.e. the space character) and press Enter.
   b. Navigate back to the BACnet IP Setup menu by pressing the Back button.
3. Scroll down to change the default Given Subnet Mask (Gvn Msk) to match the Actual Subnet Mask (Act Msk) as specified by the BAS and/or Network Administrator (Figure 11 and Figure 12).
   a. If all three digits of all four octets have been modified, proceed to step b. Otherwise, if all three digits of all four octets have *not* been modified (ex. 255.255.0.0) and the last octet has been entered, turn the knob clockwise until a blank space appears (i.e. the space character) and press Enter.
   b. Navigate back to the BACnet IP Setup menu by pressing the Back button.

4. Scroll down to change the default Given IP Gateway (Gvn Gwy) to match the Actual IP Gateway (Act Gwy) as specified by the BAS and/or Network Administrator (Figure 11 and Figure 12).
    a. If all three digits of all four octets have been modified, proceed to step b. Otherwise, if all three digits of all four octets have *not* been modified (ex.127.0.0.1) and the last octet has been entered, turn the knob clockwise until a blank space appears (i.e. the space character) and press Enter.
    b. Navigate back to the BACnet IP Setup menu by pressing the Back button.
5. Change any additional parameters as required for your network (Table 3).
6. Set ApplyIPChgs to Yes after all parameter settings have been modified.

NOTE: Setting ApplyIPChgs to Yes saves all changes and then cycles power to the unit controller (Figure 13).

7. Navigate back to the BACnet IP Setup menu to verify the parameter setting(s). This procedure may take several minutes while the BACnet communication module powers up.

NOTE: The Actual IP and Actual Mask values will display as zeros if the BACnet IP module does not recognize an active network connection at power-up. The Actual Gateway will be blank.

8. Set the Unit On/Off Switch to “On” from inside the control panel of the unit.

Figure 11: BACnet IP Setup Menu: Given IP Address, Subnet Mask, and IP Gateway

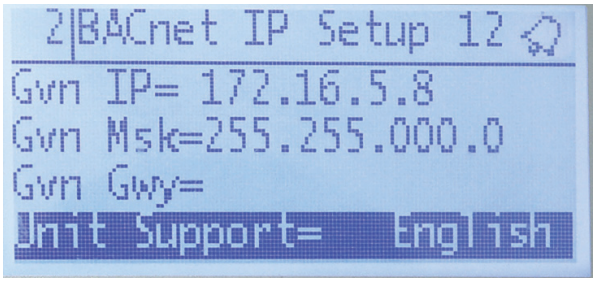
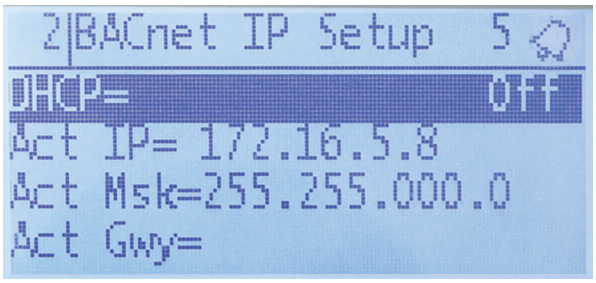


Figure 12: BACnet IP Setup Menu: Actual IP Address, Subnet Mask, and IP Gateway



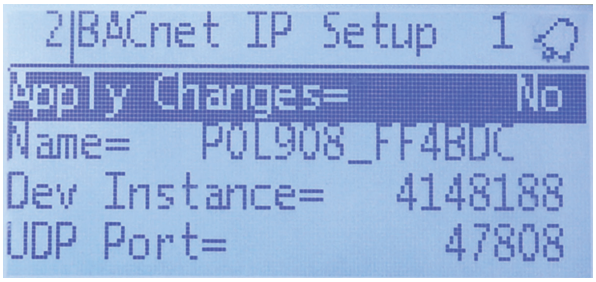
Configure Parameters for DHCP Networks

Follow these steps if your BACnet IP network is DHCP-enabled.

NOTE: The chiller should be disabled with a valid password having been entered before proceeding.

1. Set DHCP to On.
    a. From the BACnet IP Setup menu, turn the knob clockwise until DHCP is highlighted and then press Enter.
    b. Turn the knob counter-clockwise until DHCP = On and then press Enter.
2. Change any additional parameters as required for your network (Table 3).
3. Set ApplyIPChgs to Yes to save the changes and cycle power to the unit controller (Figure 13).
4. Navigate back to the BACnet IP Setup menu to verify the parameter setting(s). This procedure may take several minutes while the BACnet communication module powers up.
5. Set the Unit On/Off Switch to “On” from inside the control panel of the unit.

Figure 13: BACnet IP Setup Menu: Apply Changes



NOTE: If the unit controller application software requires a field upgrade, the network configuration parameters revert to their default values. Please contact the Chiller Technical Response Center at 540-248-9239 (techresponse@daikinapplied.com) for assistance.

Table 3 defines the network parameters of the BACnet IP communication module that are available on the Main Menu_View/Set Unit_BACnet IP Setup menu of the unit controller keypad/display. Change parameters as required for your network.

Table 3: Network Parameter Settings

Parameter[3]	Range/Default	Description/Notes
Device Object Name	Up to 17 characters Default: Varies	This name must be unique throughout the entire BACnet network. The last 6 characters of the default are the last 6 digits of the MAC Address, which is on a printed sticker affixed to the BACnet communication module.
Device Instance Number	0 - 4194302 Default: 1579312	Device Instance of the BACnet communication module. This must be unique throughout the entire BACnet network.
Act IP	If DHCP set to On: Address automatically assigned by network If DHCP set to Off: Address = Given IP	Actual IP Address of the BACnet communication module. This parameter is not changeable. Displays 0.0.0.0 if the network is not connected when power is applied to the unit controller. If DHCP is set to On (enabled), the network automatically assigns this address. If DHCP is set to Off (not enabled), the Actual IP Address is set equal to the Given IP Address (Gvn IP) provided the network is connected when Apply Changes is set to Yes.
Gvn IP	Default: 127.0.0.1	Given IP Address of the BACnet communication module. The BACnet IP address consists of the four-octet IP address followed by the two-octet UDP (User Datagram Protocol) port number. The IP address portion of the BACnet/IP address must be unique in the BACnet/IP network segment. Set the four-octet IP Address to match the Static IP Address.
Gvn Msk	Default: 255.255.255.0	Given Subnet Mask of the BACnet communication module. Set the Given Subnet Mask to match the Static Subnet Mask Address.
Gvn Gwy	Default: 127.0.0.1	Given Gateway Address of the BACnet communication module. Set the Given Gateway Address to match the Static Gateway Address.
Act Msk	If DHCP set to On: Address automatically assigned by network If DHCP set to Off: Address = Given Subnet Mask	Actual Subnet Mask of the BACnet communication module. Displays 0.0.0.0 if the network is not connected when power is applied to the unit controller. If DHCP is set to On (enabled), the network automatically assigns this address. If DHCP is set to Off (not enabled), the Actual Subnet Mask is set equal to the Given Subnet Mask (Gvn Msk) provided the network is connected when Apply Changes is set to Yes.
Act Gwy	If DHCP set to On: Address automatically assigned by network If DHCP set to Off: Address = Given Gateway Address	Actual Gateway Address. Item remains blank if the network is not connected when power is applied to the unit controller. If DHCP is set to On, the network automatically assigns this address. If DHCP is set to Off, the Actual Gateway Address is set equal to the Given Gateway Address (Gvn Gwy) provided the network is connected when Apply Changes is set to Yes.
DHCP[2]	Off or On Default: On	Dynamic Host Configuration Protocol (DHCP) is a network protocol that enables a server to automatically assign an IP Address. Set to Off if a static IP Address is needed. See BACnet IP Network Types for more information.
UDP Port	Default: 47808 (BAC0 hex)	User Datagram Protocol. The UDP Port allows host-to-host communication via the IP network and is used to identify the application process in the destination unit. Only change the UPD Port if there are multiple subnets. See network administrator before modification.
Unit Support	English or Metric Default: English	Controls the type of units that are passed through BACnet.
NC Dev 1[1]	0-4194303 Default: 0 (no device)	Alarm Recipient Device 1. This is the device instance of the BACnet workstation or device that will receive the alarm notification. Use this in place of the Recipient List in the Notification Class.
NC Dev2[1]	0-4194303 Default: 0 (no device)	Alarm Recipient Device 2. This is the device instance of the BACnet workstation or device that will receive the alarm notification. Use this in place of the Recipient List in the Notification Class.
BACnetBSP	10.34	Basic Support Package. Indicates the communication module firmware version. The BSP is read-only.

1. Parameter must be configured via the unit controller keypad/display.
2. The BACnet communication module defaults to DHCP-enabled. See your system integrator for additional information regarding BACnet IP networks with DHCP functionality.
3. The parameters shown in boldface text are required for minimum network configuration.

Troubleshooting

Follow these procedures if you can control the MicroTech III chiller unit controller from its keypad/display, but you are not able to communicate with the unit via the network.

Network Parameters

→ Verify that network parameters are set correctly as shown in Table 3.

→ Make sure there are no duplicate devices on the network (Device Name and Device ID, for example).

→ Check the use of the character # at the end of each IP setting. There should not be a “space” at the end.

→ Be aware that the unit controller must be restarted when a “Reset Required” message appears. Power off/on the unit controller after all settings have been configured and then select Apply Changes.

Network wiring

→ Check for loose connections and that devices are plugged in properly.

→ Confirm that the link light for each device’s connector is on, which indicates that information is capable of being sent and received.

Compatibility

→ Verify the unit controller software application version and communication module BSP version.

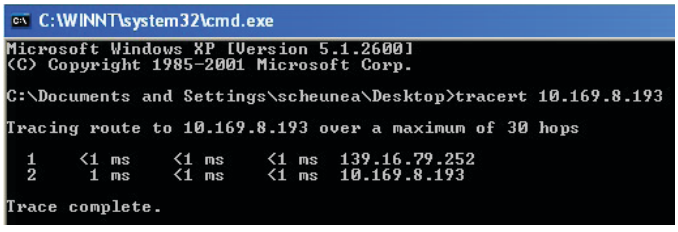
Network Communications

→ Confirm that the DHCP parameter is set to “Off” when a static IP address is being used for non-DHCP networks.

→ Check that the defined UDP port, e.g. BAC0, is open in the firewall.

→ Verify if BBMDs are required. BBMD must be used if the BACnet client and BACnet server are located on different subnets. Use the command “tracert” to check this. Tracert shows all stations used to forward the signal to another segment. See Figure 14 for the result of a BBMD network as displayed by using the “tracert” command.

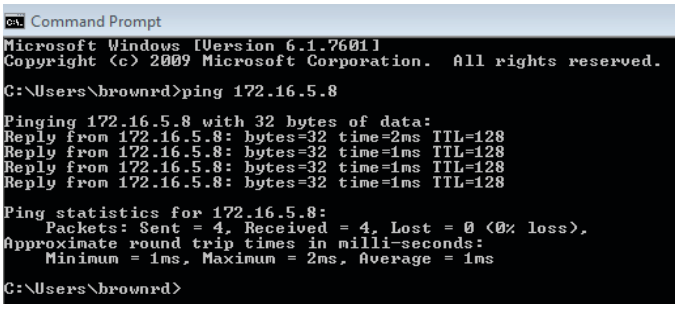
Figure 14: Example of Confirmed BBMD Network



→ Use the standard TCP/IP suite of tools to check connectivity with other devices. Ping the unit controller using these steps if the communication module is not working:

Step	Action
1	Select Start > Run on the Windows start bar → The “Run” dialog box opens
2	Enter C:\>ping XX XX XX and press Enter → The ping result is displayed (Figure 15)

Figure 15: Successful Ping Result



→ If you get a response from that IP address, you are connected to the BACnet communication module. If the ping fails and you do not get a response, then there is an issue with the network or the IP settings. Verify the BACnet communication module and the PC network settings.

Contact the Daikin Applied Controls Customer Support Group at 866-462-7829 for additional assistance, if necessary.

Parts

Table 4: Replacement Parts List

Description	Part Number
MicroTech III BACnet IP communication module kit Kit includes: BACnet communication module, board-to-board connector, and IM 966	350147415
10-pin board-to-board connector (Figure 5)	300047027

To find your local parts office, visit www.DaikinApplied.com or call 800-37PARTS (800-377-2787).

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