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
# Table of Contents

**Introduction** ........................................ 3  
Revision History ........................................ 3  
Notice .................................................... 3  
Reference Documents ................................. 3  
Software Revision .................................... 3  
Limited Warranty ....................................... 3  
Hazardous Information Messages ............... 3  
  Recognize Safety Symbols, Words and Labels .. 3  
Features .................................................... 4  
Specifications ......................................... 4  
Dimensions .............................................. 4  
Component Data ......................................... 5  
  Light Emitting Diodes (LEDs) .................. 5  
  BSP LED ............................................. 5  
  BUS LEDs ........................................... 6  
  BACnet Network Connector ...................... 6  
  Board-To-Board Connector ....................... 6  
**Installation** ......................................... 7  
Installation and Mounting ......................... 7  
  Field Installation Kit ........................... 7  
  Installing a new Communication Module ..... 7  
  Replacing a Communication Module .......... 8  
**Network Configuration** ........................... 9  
  BACnet IP Network Types ....................... 9  
    Single IP Subnet ................................ 9  
    Multiple IP Subnets ............................ 9  
  BACnet IP Configuration ....................... 9  
    Disable the Chiller ........................... 10  
    Enter Password ................................ 10  
    Configure Parameters for non-DHCP Networks . 10  
    Configure Parameters for DHCP Networks ... 11  
**Parts and Service** .................................. 13  
Troubleshooting ....................................... 13  
  Network Parameters ............................... 13  
  Network wiring ................................... 13  
  Compatibility ..................................... 13  
  Network Communications ....................... 13  
  Security ............................................ 13  
Parts .................................................... 13  

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**Notice**

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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** October 2009  
  Initial release.
- **IM 966-1** April 2012  
  Changed OMM 998 to OM 1051. Added model AGZ-D. 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, BSC version support and formatting edits. Added AMZ chiller model to data tables, Reference Documents, and other associated references.
- **IM 966-2** November 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, BSC version support and formatting edits. Added AMZ chiller model to data tables, Reference Documents, and other associated references.
- **IM 966-3** March 2017  
  Added WME & WWV chiller models.
- **IM 966-4** January 2018  
  Added WME & WWV chiller models.

**Software Revision**

This document supports BSP (Board Support Package) BACnet communication module firmware version 10.34 and all subsequent versions until otherwise indicated.

**Limited Warranty**


**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.

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

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

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

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>
<thead>
<tr>
<th>BUS LED Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>The unit controller is capable of communicating to the network.</td>
</tr>
<tr>
<td>Yellow</td>
<td>Communication module is initializing. The LED remains yellow until an IP Address is received.</td>
</tr>
<tr>
<td>Red(^1)</td>
<td>Communication error. The unit controller is not capable of communicating to the network.</td>
</tr>
</tbody>
</table>

\(^1\) For BACnet communication modules with BSP 10.xx or newer, the status indicates “Other” when there is a network communication error.

**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).
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.*

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.
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:

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBMDs</td>
<td>DHCP can not be used together with BBMDs, as the IP addresses are configured as static addresses and cannot change during operation.</td>
</tr>
<tr>
<td>Alarm recipient</td>
<td>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.</td>
</tr>
<tr>
<td>Access rights</td>
<td>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.</td>
</tr>
<tr>
<td>IP version</td>
<td>The BACnet communication module supports IP Version 4, (i.e. IP devices with 32 bit addresses).</td>
</tr>
</tbody>
</table>

**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 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.

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 a minute while the BACnet communication module powers up.

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

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 a minute while the BACnet communication module powers up.

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

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 unit controller keypad/display. Change parameters as required for your network.

Table 3: Network Parameter Settings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range/Default</th>
<th>Description/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device Object Name</td>
<td>Up to 17 characters</td>
<td>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.</td>
</tr>
<tr>
<td>Default: Varies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device Instance Number</td>
<td>0 - 4194302</td>
<td>Device Instance of the BACnet communication module. This must be unique throughout the entire BACnet network.</td>
</tr>
<tr>
<td>Default: 1579312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Act IP</td>
<td></td>
<td>Actual IP Address of the BACnet communication module. This parameter is not changeable.</td>
</tr>
<tr>
<td>If DHCP set to On:</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Address automatically assigned by network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If DHCP set to Off:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address = Given IP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gvn IP</td>
<td>Default: 127.0.0.1</td>
<td>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.</td>
</tr>
<tr>
<td>Gvn Msk</td>
<td>Default: 255.255.255.0</td>
<td>Given Subnet Mask of the BACnet communication module. Set the Given Subnet Mask to match the Static Subnet Mask Address.</td>
</tr>
<tr>
<td>Gvn Gwy</td>
<td>Default: 127.0.0.1</td>
<td>Given Gateway Address of the BACnet communication module. Set the Given Gateway Address to match the Static Gateway Address.</td>
</tr>
<tr>
<td>Act Msk</td>
<td></td>
<td>Actual Subnet Mask of the BACnet communication module.</td>
</tr>
<tr>
<td>If DHCP set to On:</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Address automatically assigned by network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If DHCP set to Off:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address = Given Subnet Mask</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Act Gwy</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>If DHCP set to On:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address automatically assigned by network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If DHCP set to Off:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address = Given Gateway Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DHCP*</td>
<td>Off or On</td>
<td>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.</td>
</tr>
<tr>
<td>Default: On</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UDP Port</td>
<td>Default: 47808 (BAC0 hex)</td>
<td>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.</td>
</tr>
<tr>
<td>Unit Support</td>
<td>English or Metric</td>
<td>Controls the type of units that are passed through BACnet.</td>
</tr>
<tr>
<td>Default: English</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NC Dev 1*</td>
<td>0-4194303</td>
<td>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.</td>
</tr>
<tr>
<td>Default: 0 (no device)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NC Dev2*</td>
<td>0-4194303</td>
<td>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.</td>
</tr>
<tr>
<td>Default: 0 (no device)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BACnetBSP</td>
<td>10.34</td>
<td>Basic Support Package. Indicates the communication module firmware version. The BSP is read-only.</td>
</tr>
</tbody>
</table>

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.

→ 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:

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Select Start &gt; Run on the Windows start bar → The “Run” dialog box opens</td>
</tr>
<tr>
<td>2</td>
<td>Enter C:\&gt;ping XX XX XX and press Enter → The ping result is displayed (Figure 15)</td>
</tr>
</tbody>
</table>

**Figure 15: Successful Ping Result**

![Successful Ping Result](image)

→ 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**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MicroTech III BACnet IP communication module kit</td>
<td>350147415</td>
</tr>
<tr>
<td>Kit includes: BACnet communication module, board-to-board connector, and IM 966</td>
<td></td>
</tr>
<tr>
<td>10-pin board-to-board connector (Figure 5)</td>
<td>300047027</td>
</tr>
</tbody>
</table>

To find your local parts office, visit [www.DaikinApplied.com](http://www.DaikinApplied.com) or call 800-37PARTS (800-377-2787).
Daikin Applied 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 all Daikin HVAC products, please visit us at www.DaikinApplied.com and click on Training, or call 540-248-9646 and ask for the Training Department.

Warranty

All Daikin equipment is sold pursuant to its standard terms and conditions of sale, including Limited Product Warranty. Consult your local Daikin Applied Representative for warranty details. To find your local Daikin Applied Representative, go to www.DaikinApplied.com.

Aftermarket Services

To find your local parts office, visit www.DaikinApplied.com or call 800-37PARTS (800-377-2787). To find your local service office, visit www.DaikinApplied.com or call 800-432-1342.

This document contains the most current product information as of this printing. For the most up-to-date product information, please go to www.DaikinApplied.com.

Products manufactured in an ISO Certified Facility.