

Group: **Controls**

Part Number: ED 15119

Date: January 2011

Supersedes: ED 15119

Daikin McQuay Magnitude™ Chiller Unit Controller

Protocol Implementation Conformance Statement (PICS) ANSI/ASHRAE 135-2004, BACnet®

Model WME Magnitude™ Magnetic Bearing Centrifugal Chiller



Contents

Contents	2	BACnet Standardized Device Profile	3
Revision History	2	BACnet Interoperability Building Blocks (BIBBs) Supported.....	3
Reference Documents	2	Standard Object Types Supported	4
Notice	2	Data Link Layer Options	5
Limited Warranty.....	2	Segmentation Capability.....	5
Protocol Implementation Conformance Statement (PICS)	3	Device Address Binding.....	5
BACnet Protocol Implementation Conformance Statement.....	3	Networking Options.....	5
Product Description	3	Character Sets Supported.....	5
		Non-BACnet Equipment/Network(s) Support	5

Revision History

ED 15119	April 2010	Preliminary release.
ED 15119-1	January 2011	Added PICS text to title page.

Reference Documents

Company	Number	Title	Source
McQuay International	ED 15117	Magnitude™ Centrifugal Chiller Protocol Document	www.mcquay.com
McQuay International	OM 1034	Magnitude™ Centrifugal Chiller Operation and Maintenance Manual	www.mcquay.com
McQuay International	IM 963	Magnitude Centrifugal Chiller, BACnet Communication Module (MSTP, IP/Ethernet) Installation Manual	www.mcquay.com
American Society of Heating, Refrigerating and Air-Conditioning Engineers	ANSI/ASHRAE 135-2004	BACnet® A Data Communication Protocol for Building Automation and Control Networks	www.ashrae.org

Notice

© 2011 McQuay International, Minneapolis MN. All rights reserved throughout the world

McQuay International reserves the right to change any information contained herein without prior notice. The user is responsible for determining whether this product is appropriate for his or her application.

™ ® The following are trademarks or registered trademarks of their respective companies: BACnet from American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc, Windows from Microsoft Corporation, and Daikin McQuay, McQuay and Magnitude from McQuay International.

Limited Warranty

Consult your local McQuay Representative for warranty details. Refer to Form 933-430285Y. To find your local McQuay Representative, go to www.mcquay.com.

Protocol Implementation Conformance Statement (PICS)

This section contains the Protocol Implementation Conformance Statement (PICS) for the Magnitude Chiller Unit Controller of McQuay International as required by ANSI/ASHRAE Standard 135-2004, BACnet: A Data Communication Protocol for Building Automation and Control Networks.

BACnet Protocol Implementation Conformance Statement

Date: April 20, 2010
Vendor Name: McQuay International
Product Name: Magnitude Chiller Unit Controller
Product Model Number: WME
Application Software Version: 4.11.5
Firmware Revision: 1.50
BACnet Protocol Revision: Version 1
Revision 4

Product Description

The Magnitude Chiller Unit Controller with optional BACnet Communication Module is a microprocessor-based controller designed to operate McQuay International chillers and be integrated into BACnet building automation systems.

BACnet Standardized Device Profile

- 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)

BACnet Interoperability Building Blocks (BIBBs) Supported

BIBB Name	Designation
Data Sharing – ReadProperty – B	DS-RP-B
Data Sharing – ReadPropertyMultiple – B	DS-RPM-B ¹
Data Sharing – WriteProperty – B	DS-WP-B
Data Sharing – WritePropertyMultiple – B	DS-WPM-B ¹
Device Management – Dynamic Device Binding – B	DM-DDB-B
Device Management – Dynamic Object Binding – B	DM-DOB-B
Device Management – DeviceCommunicationControl – B	DM-DCC-B
Device Management – TimeSynchronization – B	DM-TS-B ²
Device Management – UTCTimeSynchronization – B	DM-UTC-B
Device Management – ReinitializeDevice – B	DM-RD-B ³

¹ This BIB is not required for B-ASC but is highly desirable for optimum performance on the network.

² DM-TS-B is not required for B-ASC.

³ DB-RD-B will be implemented such that the BACnet card is reset without resetting the chiller controller. The chiller controller can never be reset via the BACnet network. Reinitialize Device will be implemented with a non-changeable password of 1234.

Standard Object Types Supported

Object-Type ¹	Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties not Required to be Writable
Analog Input	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability Min_Pres_Value Max_Pres_Value	
Analog Output	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability Min_Pres_Value Max_Pres_Value	Relinquish Default
Analog Value	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability Priority_Array Relinquish_Default	Present_Value ² Relinquish_Default
Binary Input	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability Inactive_Text Active_Text	
Binary Output	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability Inactive_Text Active_Text	Relinquish_Default
Binary Value	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability Inactive_Text Active_Text Priority_Array Relinquish_Default	Present_Value ² Relinquish_Default
Device	<input type="checkbox"/>	<input type="checkbox"/>	Description Location Local_Time Local_Date UTC_Offset Daylight_Savings_Status Max_Master Max_Info_Frames	Object_Identifier Object_Name Description Location UTC_Offset Max_Master Max_Info_Frames APDU_Timeout Number_of_APDU_Retries
Multi-state Input	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability State_Text	
Multi-state Output	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability State_Text	Relinquish_Default
Multi-state Value	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability State_Text Priority_Array Relinquish_Default	Present_Value ² Relinquish_Default

¹ Though the BACnet communication module supports the following object types, not all objects types are currently used.

² This property will be writable only if defined writable in the CSV file which is downloaded into the unit controller.

Data Link Layer Options

- BACnet IP, (Annex J)
- ISO 8802-2, Ethernet (Clause 7)
- MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400 & 76800

Segmentation Capability

- Segmented requests supported Window Size:
- Segmented responses supported Window Size:

Device Address Binding

- Static Device Binding
- Yes
 - No

Networking Options

- Router, Clause 6
- Routing Configurations:
- Annex H, BACnet Tunneling Router over IP
 - BACnet/IP Broadcast Management Device (BBMD)
- Registrations by Foreign Devices?
- 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.

Non-BACnet Equipment/Network(s) Support

- Communication Gateway
- Non-BACnet equipment/networks(s):

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