

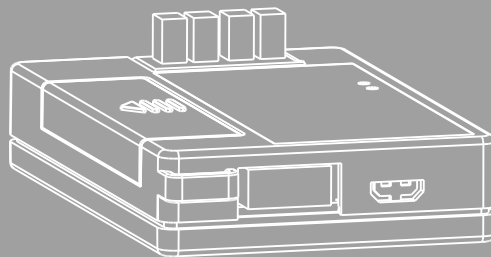
TECHNICAL & SERVICE MANUAL V5.0

—CONTROLLERS

Models:

Control Box

GH-64MFGN



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1 Important Notice

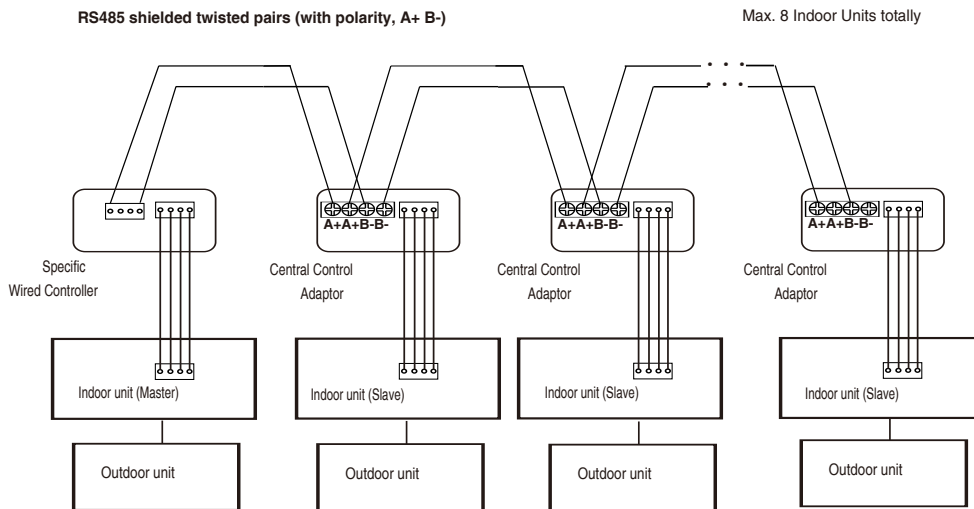
Please read the Important Notice in these Installation Instructions supplied with the product, and perform installation in accordance with these instructions properly.

The central control adaptor is a dedicated device that can be directly connected with the indoor unit for converting communication protocols and connects the indoor unit to central control network.

Precautions for arrangement:

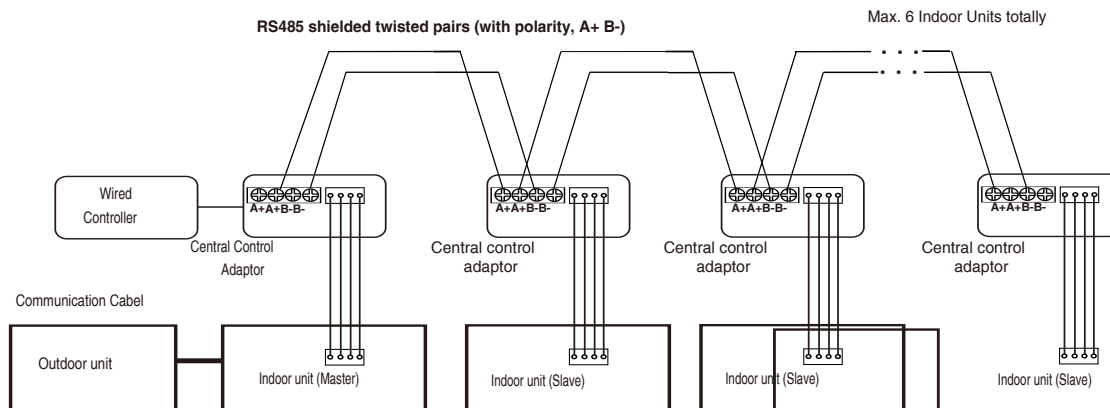
1. The design and installation of the central control adaptor should be performed under the unified planning for central control system. The installation location of the central adaptor, electrical distribution and wiring, address assignment, connection with Modbus monitor and indoor unit should be planned in advance.
2. Cables for central control and distribution lines shall not be too close to each other or routed in the same conduit. RS-485 bus should be arranged as far away from interference sources as possible, especially high voltage interference sources, such as transformer and frequency converter. For other relevant precautions, see the requirements for wiring of building automation system.
3. The equipment on either end of the group control bus must be provided with terminal-matched resistor.
4. The central control line must be configured as a daisy-chain bus topology. If a star-type or tree topology is required, it is recommended to use RS-485 hub and RS-485 repeater.
5. The central control adaptor should be installed close to the electronic control adaptor of the indoor unit.
6. The baud rate of the adaptor must be set the same with Modbus/ BACnet monitor.
7. The addresses for the central control adaptor should not be repeated.
8. The maximum allowable length of the connecting cable between the indoor unit and the central control adaptor is 40m, and the maximum allowable length of RS485 control cable is 1000m.

Wiring diagram for Group Control (Available for some Series)

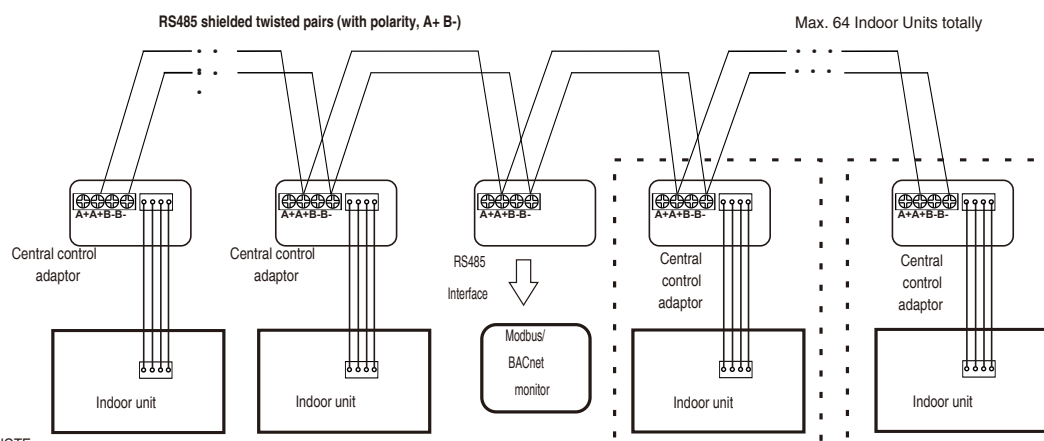


NOTE: Group Control is not available with BACnet or Modbus at the same time.

Wiring diagram for Twin System (For future Series)



Wiring diagram for Centralized Control System (BACnet/ModBus)



NOTE:

Be sure to insert the connecting cable into the wired controller port of indoor unit PCB board. If you still have any trouble, please contact local service center of our company for further information.

Control Box (GH-64MFGN)

2 Checking Accessories

Check and confirm that in addition to the central control adaptor product the following accessories are included in the packaging box.

Installation instructions	Connecting cable to IDU	Connecting cable to wired controller for Group Control Function	Clamp	Double-sided tape
Qty.: 1	Qty.: 1	Qty.: 1	Qty.: 2	Qty.: 1

3 How to Install

1. Selecting the location where the appliance is to be installed.

Please install it in the ceiling and close to the electrical control adaptor of indoor unit.

2. Wiring connection

① Connection with indoor unit by connecting cable. As shown in Fig.1.

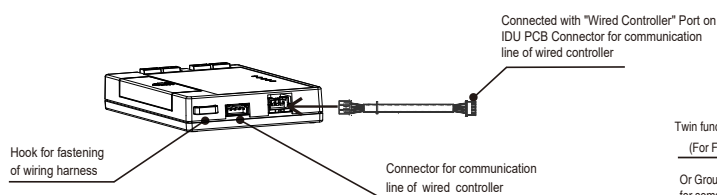


Fig. 1 Connection with indoor unit by connecting cable

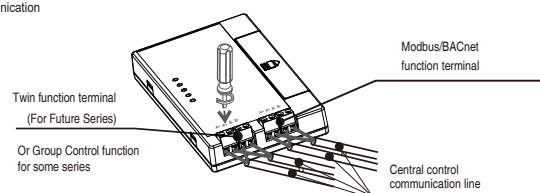


Fig. 2 Connection of central control communication line

② Connection of central control communication line, as shown in Fig. 2.

	Type	Minimum Specifications
Central control communication line	Shielded twisted pairs	Cross-sectional area: $2 \times 0.75 \text{ mm}^2$

NOTE:

1. The above requirement for wiring is the minimum;
2. The central control communication line should be provided by users;
3. Correct polarity of the cable should be ensured during connection;
4. The cable should be reliably secured after connection is completed.

Control Box (GH-64MFGN)

3. Setting of DIP Switches

Please set DIP switches according to the actual conditions. Settings after power on will not take effect. Methods for setting DIP switches:

Before setting, slide down the cover on the central control adaptor. After setting, reinstall the cover to adaptor. As shown in Fig.3.

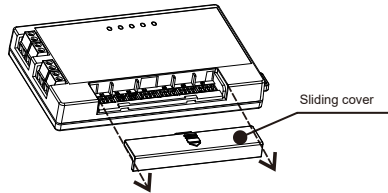
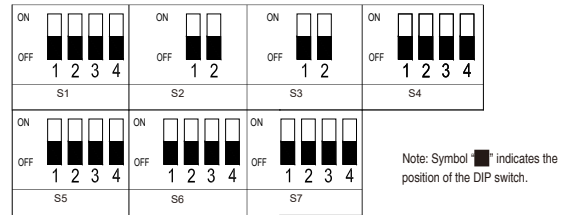


Fig. 3 Methods for setting DIP switches

System	DSW	Description	Setting method
Group Control	S1-1 S1-2	Indoor unit setting (For hardware)	00: Slave unit (connected to central control adapter): S1-1 OFF + S1-2 OFF 11: Master unit (connected to wired controller): S1-1 ON + S1-2 ON
	S1-3	Setting for terminal resistor	Central control adapter with the longest wiring length: S1-3 ON
	S1-4	Setting when fuse is fail to work	Set S1-4 ON if the fuse of the electronic board of the adapter has blown, to restore the communication with the device
	S4-1	Setting for specific products	Set the switch to "ON" when using the Group Control Function
	S4-2	Indoor unit setting (For software)	Slave unit (connected to central control adapter): S1-1 OFF + S1-2 OFF => S4-2 OFF (0) Master unit (connected to wired controller): S1-1 ON + S1-2 ON => S4-2 ON (1)
Group Control	S5	Setting for indoor units addresses	Address setting for secondary (slave) indoor units, range of addresses: 1-7.



Note: Symbol indicates the position of the DIP switch.

System	DSW	Description	Setting method																																																																																																																																																																																																				
Centralized Control System	S2-1	Setting for terminal resistor	Be sure to set the position of the switch on either end of the central control system to "ON".																																																																																																																																																																																																				
	S2-2	Setting when fuse is fail to work	Set S2-2 ON if the fuse of the electronic board of the adapter has blown, to restore the communication with the device.																																																																																																																																																																																																				
	S3	Setting of baud rate	S3-1 OFF + S3-2 OFF : 9600 bps S3-1 OFF + S3-2 ON: 19200 bps S3-1 ON + S3-2 ON: 38400 bps																																																																																																																																																																																																				
	S4-3 S4-4	Protocol selection	S4-3 OFF + S4-4 OFF: no BMS protocol activated (default setting) S4-3 OFF + S4-4 ON: BACnet protocol activated S4-3 ON + S4-4 OFF: Modbus protocol activated																																																																																																																																																																																																				
	S6 S7	Setting of BACnet/ModBus addresses	S6: for setting high addresses (reserve); S7: for setting low addresses. Range of addresses: 1-64. <table><tr><th rowspan="2">Address</th><th colspan="4">S6</th><th colspan="4">S7</th></tr><tr><th>1</th><th>2</th><th>3</th><th>4</th><th>1</th><th>2</th><th>3</th><th>4</th></tr><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td></tr><tr><td>2</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td></tr><tr><td>3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td></tr><tr><td>4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td></tr><tr><td>5</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td></tr><tr><td>6</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td></tr><tr><td>7</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>8</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td></tr><tr><td>9</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td></tr><tr><td>10</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>11</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>12</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td></tr><tr><td>13</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td></tr><tr><td>14</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td></tr><tr><td>15</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>16</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td></tr><tr><td>...</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>32</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>...</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>64</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></table> 1) 0 = OFF; 1 = ON 2) S7 Setting for Addr. 17-31 are same with 1-15 3) S7 Setting for Addr. 33-63 are same with 1-15	Address	S6				S7				1	2	3	4	1	2	3	4	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	1	0	5	0	0	0	0	0	0	1	0	6	0	0	0	0	0	0	1	0	7	0	0	0	0	0	0	1	1	8	0	0	0	0	0	1	0	0	9	0	0	0	0	0	1	0	0	10	0	0	0	0	0	1	0	1	11	0	0	0	0	0	1	0	1	12	0	0	0	0	0	1	1	0	13	0	0	0	0	0	1	1	0	14	0	0	0	0	0	1	1	0	15	0	0	0	0	0	1	1	1	16	0	0	0	0	1	0	0	0	...	0	0	0	0	0	0	0	0	32	0	0	0	1	0	0	0	0	...	0	0	0	0	0	0	0	0	64	0	1	0	0	0	0	0
Address	S6				S7																																																																																																																																																																																																		
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32	0	0	0	1	0	0	0	0																																																																																																																																																																																															
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64	0	1	0	0	0	0	0	0																																																																																																																																																																																															

Note: When the centralized control system is not used, set S4-3, S4-4, S6 and S7 off..

System	DSW	Description	Setting method
Twin System	S1-1 S1-2	Indoor unit setting (For hardware)	00: Slave Indoor 11: Master Indoor
	S1-3	Setting for terminal resistor	Be sure to set the position of the switch on either end of the central control system to "ON".
	S1-4	Setting when fuse is fail to work	Set the position of the switch to "ON" to restore the fuse.
	S4-1	Setting for specific products	Set the the switch to "OFF" when using the Twin Function
	S4-2	Indoor unit setting (For software)	0: Slave Indoor 1: Master Indoor
	S5	Slave indoor address / Number of slave indoors	Please refer to Group Control addressing dip switch

NOTE:

- 1) The slave indoor address must be incremented form 1.
- 2) When the Twin System is not used, set S4-2 and S5 off.

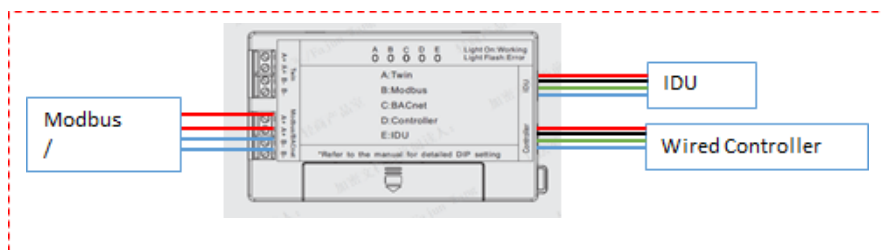
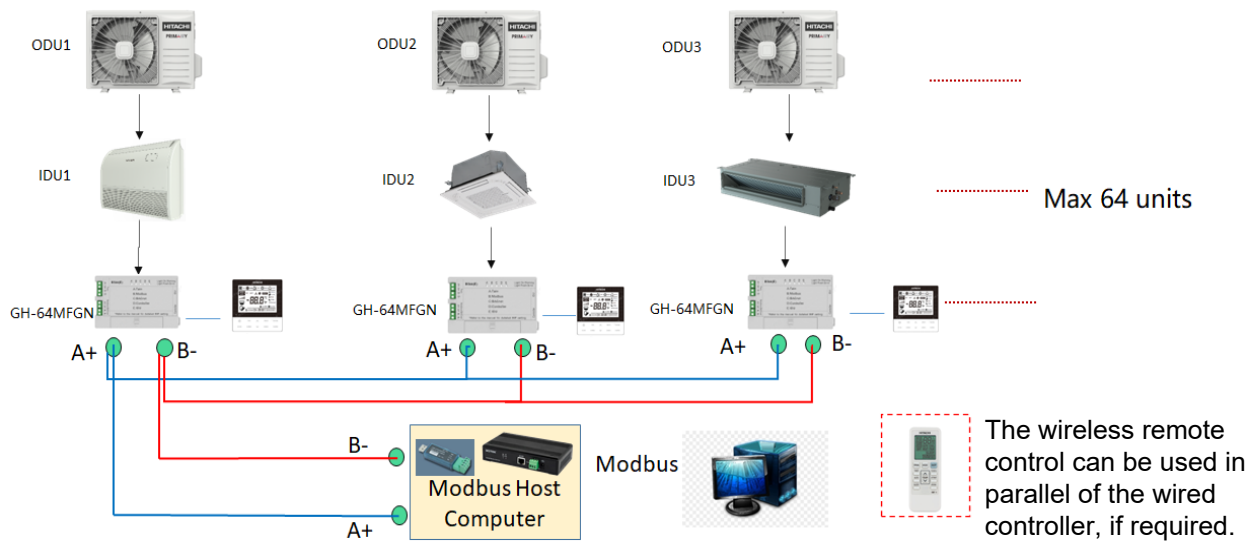
3. Securing the adaptor

If necessary, use double-sided tape to secure the central control adaptor onto the indoor unit after installation.

Control Box (GH-64MFGN)

5. PRIMARY CONTROL ADAPTER FIELD CONNECTION WITH RS485 SYSTEM

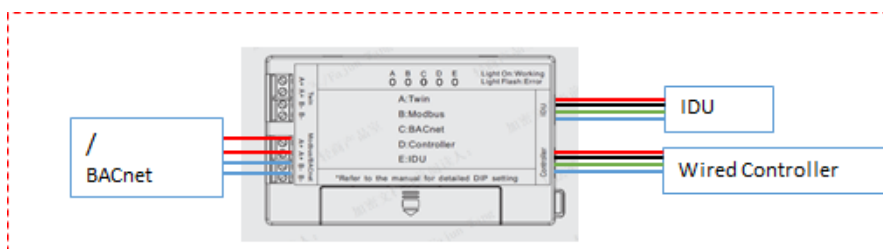
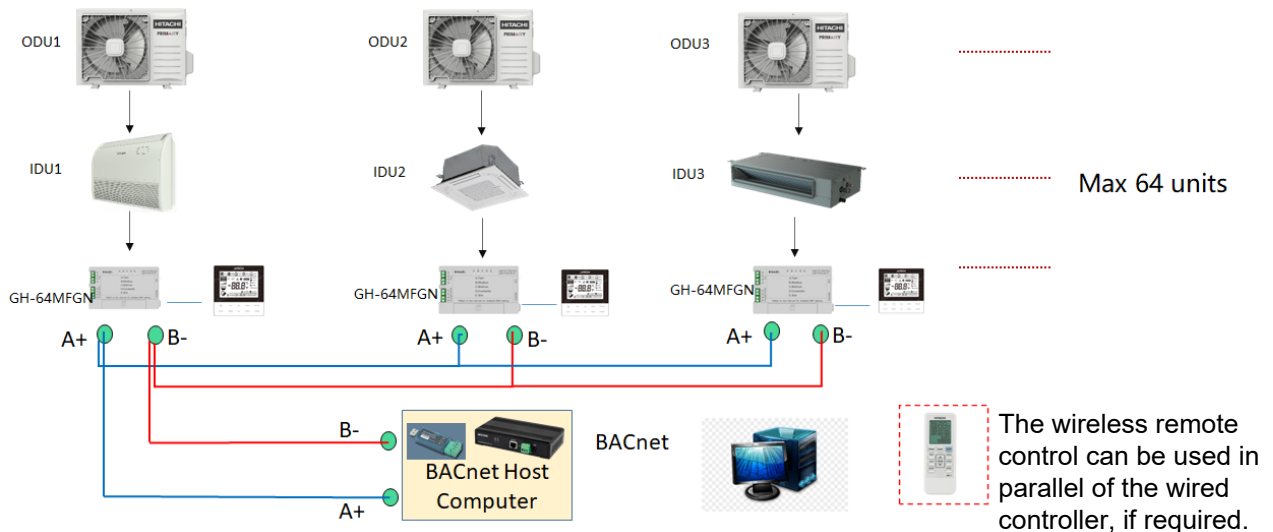
Modbus:



Note:

The last order sent from any of the control system (wired controller, wireless controller, Modbus or BACnet BMS) will have priority and will be processed as the final command to the indoor unit.

BACnet:

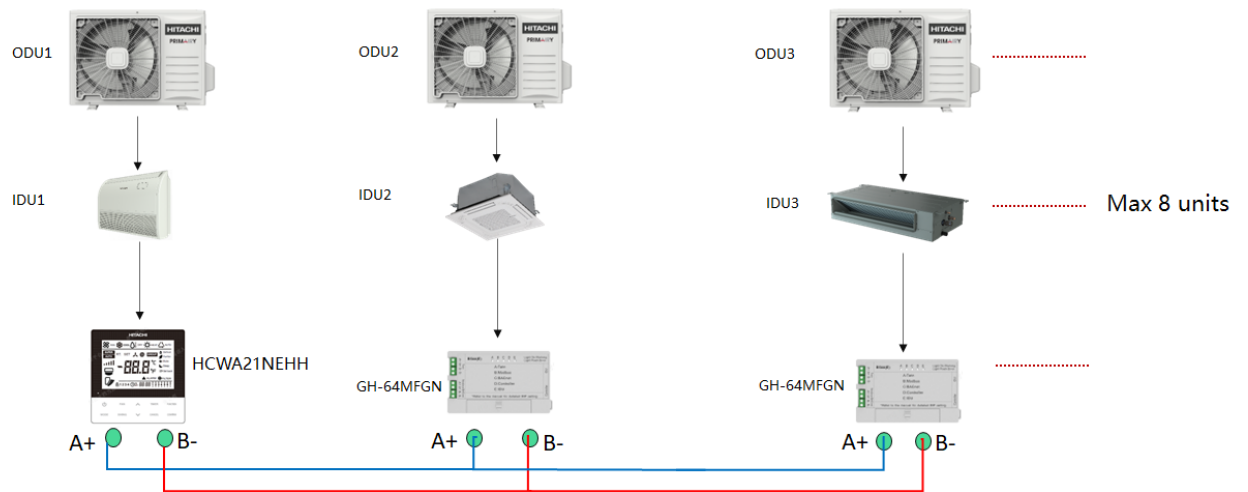


Note:

The last order sent from any of the control system (wired controller, wireless controller, Modbus or BACnet BMS) will have priority and will be processed as the final command to the indoor unit.

Control Box (GH-64MFGN)

Group control:



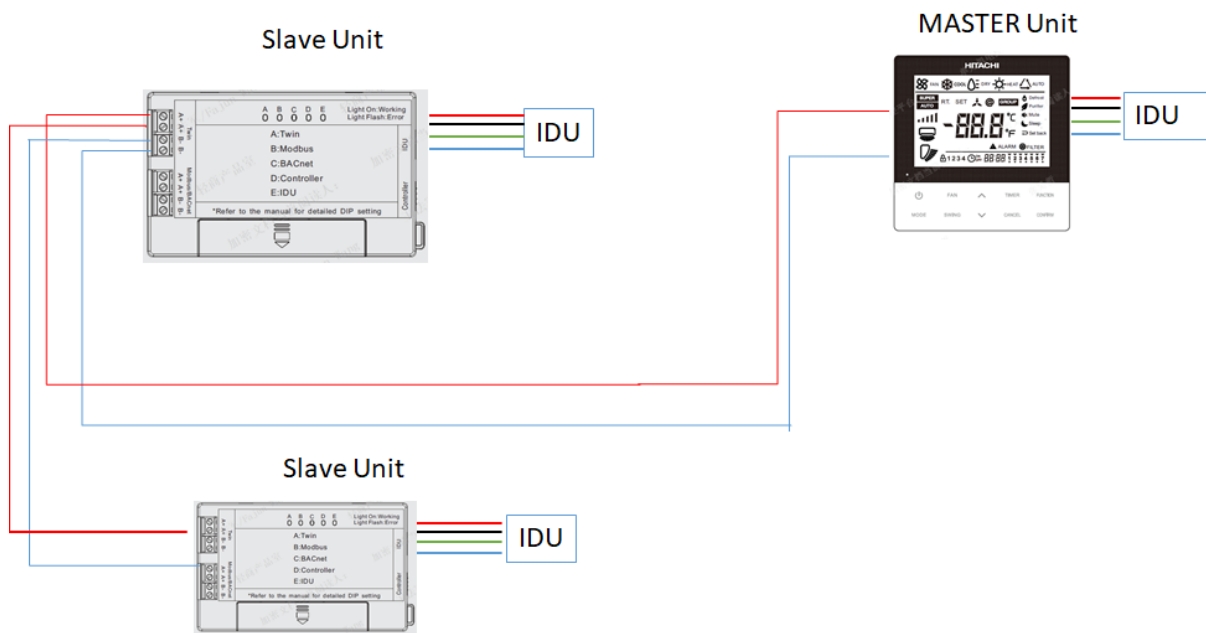
Note:

The Group control function is not compatible with the BACnet or Modbus control functions. Group control and BMS control functions cannot be used at the same time.



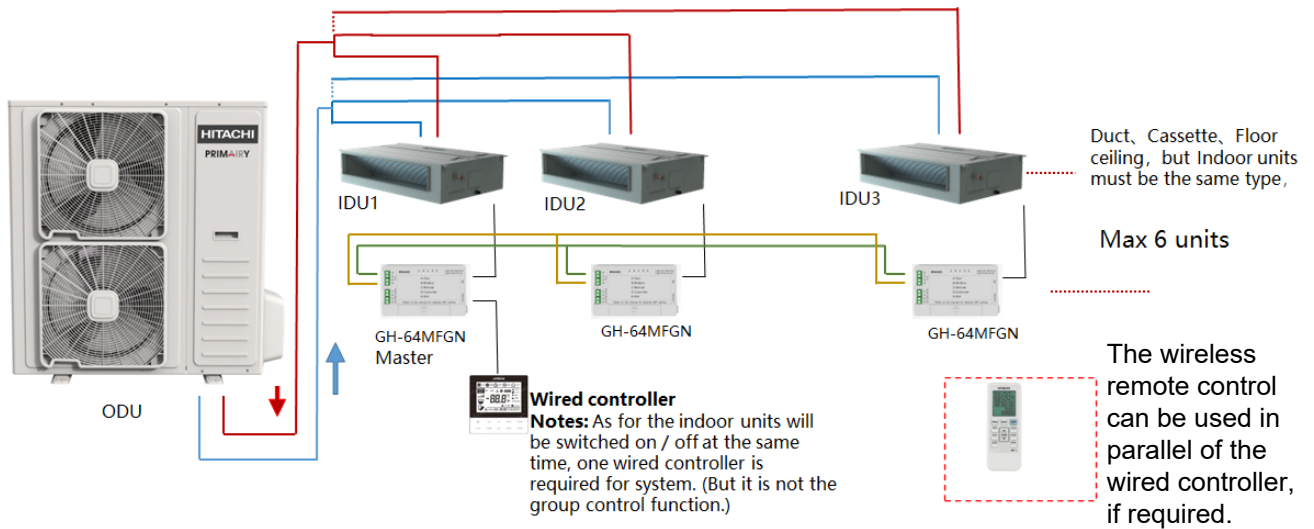
The wireless remote control can be used in parallel of the wired controller, if required.

Group control Connection:

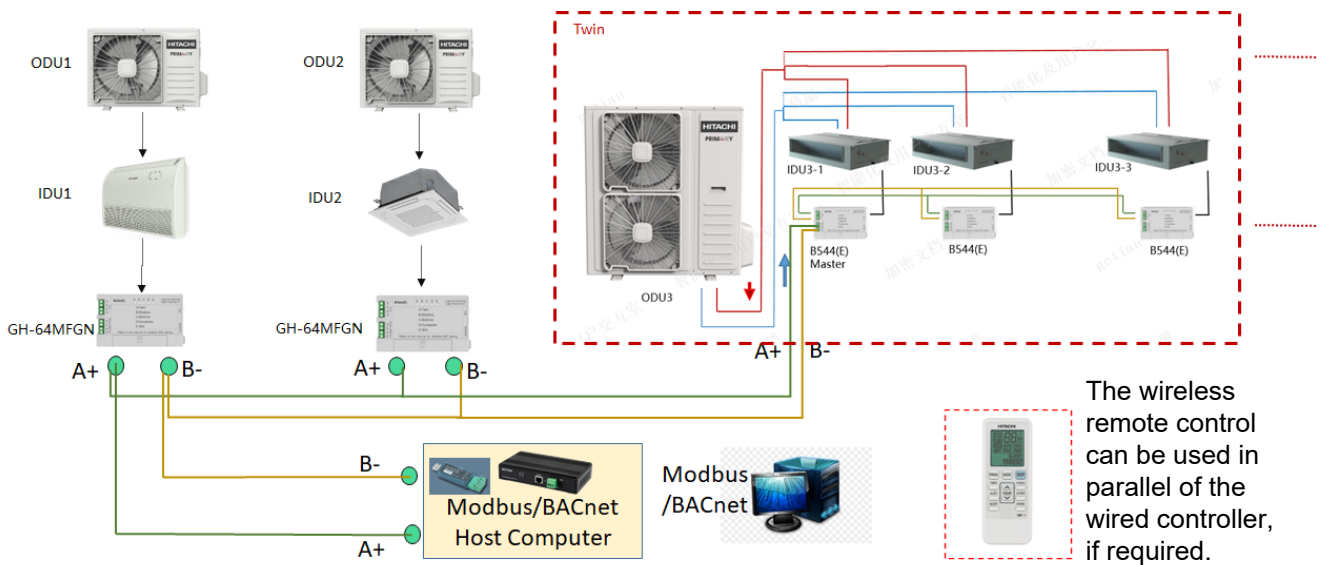


Control Box (GH-64MFGN)

Twin: Twin Function for new product in the future.



Modbus/BACnet+Twin:



Note:

The last order sent from any of the control system (wired controller, wireless controller, Modbus or BACnet BMS) will have priority and will be processed as the final command to the indoor unit.

4 MODBUS Protocol

1.Function code

Address code: The address code is set by the DIP switch.

Function code: The function code is as follows:

Code	Function
01	Read Coils
02	Read Discrete Inputs
03	Read Holding Registers
04	Read Input Registers
05	Write Single Coil
06	Write Single Holding Register

2. Definition of registers

(1) Instruction of the registers

Coil and Hold Registers are for setting air conditioner parameters.

Discrete Inputs and Input Registers are for reading air conditioner status.

(2) Definition of registers as follows:

Read Discrete Inputs (Code 0x02)

No.	Object	Type	Addr	Value	Comment
00001	ON/OFF status	BI	0000	0-OFF/1-ON	
00002	Sleep status	BI	0003	0-OFF/1-ON	
00003	Electric heater status	BI	0004	0-OFF/1-ON	
00004	Energy-saving status	BI	0009	0-OFF/1-ON	
00005	Defrost status	BI	0010	0-No/1-Yes	
00006	Compressor status	BI	0011	0-OFF/1-ON	
00007	Super mode	BI	0014	0-No/1-Yes	
00008	Mute mode	BI	0015	0-No/1-Yes	

Read Input Registers (0x04)

No.	Object	Type	Reg Addr	Value	Comment
00001	Indoor temperature	AI	0001	-20-79	
00002	The setting temperature	AI	0002	18-32	
00003	Mode	MI	0007	FAN=00; HEAT=01; COOL=02; DRY=03; AUTO CODE=05; AUTO HEAT=06 AUTO FAN=07;	
00004	Fan speed	MI	0008	AUTO=00; HIGH=01 MIDDLE=03; LOW=02	
00005	Swing	MI	0009	NO SWING=0; LEFT/RIGHT=1; UP/DOWN=2; UP/DOWN/LEFT/RIGHT=3	
00006	Fault	MI	0012	1-255	See Error Code table
00007	Outlet air temperature	AI	0015	-20-79	

Control Box(GH-64MFGN)

Write Coil (Code 0x05)

No.	Object	Type	Addr	Value	Comment
00001	ON/OFF setting	BV	0000	0-OFF/1-ON	
00002	Sleep setting	BV	0003	0-No/1-Yes	
00003	Electric heater setting	BV	0004	0-No/1-Yes	
00004	Energy-saving mode	BV	0009	0-No/1-Yes	
00005	Super mode	BV	0013	0-No/1-Yes	
00006	Mute mode	BV	0014	0-No/1-Yes	

Write Holding Registers (0x06)

No.	Object	Type	Addr	Value	Comment
00001	Temperature setting	AV	0000	18-32	
00002	Mode setting	MO	0002	FAN=00; HEAT=01; COOL=02; DRY=03; AUTO=04	
00003	Fan speed setting	MO	0003	AUTO=00; HIGH=01 MIDDLE=03; LOW=02	
00004	Swing setting	MO	0004	NO SWING=0; UP/DOWN=1 LEFT/RIGHT=2 UP/DOWN/LEFT/RIGHT=3	

5

BACnet MSTP Protocol

1. Introduction

This document contains the Protocol Implementation Conformance Statement (PICS) and BACnet® Interoperability Building Blocks (BIBBs) for GH-64MFGN as required by the American National Standards Institute/American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ANSI/ASHRAE) Standard 135-2004, BACnet protocol.

The PICS is a written document created by the manufacturer of a device to identify the particular options specified in the BACnet standard and implemented in the device.

BACnet interoperability building blocks are collections of one or more BACnet services. This document includes a listing of the BIBBs currently.

2. Annex A - Protocol Implementation Conformance Statement (Normative)

Table 1: BACnet Protocol Implementation Conformance Statement

Vendor Name	Air-conditioning Corporation
Product Name	Central Control Adaptor
Product Model Numbers	GH-64MFGN
Applications Software Version	1.0.0
Firmware Version	0.5.2
BACnet Protocol Revision	Version 1, Revision 4

Product Description

The GH-64MFGN centr1 control adaptor provides functionality to allow other BACnet devices to read and write properties of BACnet-enabled devices and objects.

BACnet Standardized Device Profile (Annex L)

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

Note: Note:For a complete listing of the additional BIBBs supported (Annex K), see the *Annex K - BACnet Interoperability Building Blocks (BIBBs) (Normative)* section of this document.

Segmentation Capability

<input type="checkbox"/> Segmentation Requests Supported	Window Size	127
<input type="checkbox"/> Segmentation Responses Supported	Window Size	127

Standard Object Types Supported

The following is a list of the standard object types as defined by ASHRAE. Refer to the section of the supported object type for details.

<input checked="" type="checkbox"/> Analog Input	<input type="checkbox"/> Life
<input checked="" type="checkbox"/> Analog Output	<input type="checkbox"/> Safety Point
<input checked="" type="checkbox"/> Analog Value	<input type="checkbox"/> Life Safety Zone
<input type="checkbox"/> Averaging	<input type="checkbox"/> Loop
<input checked="" type="checkbox"/> Binary Input	<input type="checkbox"/> Multistate Input
<input checked="" type="checkbox"/> Binary Output	<input type="checkbox"/> Multistate Output
<input checked="" type="checkbox"/> Binary Value	<input type="checkbox"/> Multistate Value
<input type="checkbox"/> Calendar	<input type="checkbox"/> Notification Class
<input type="checkbox"/> Command	<input type="checkbox"/> Program
<input checked="" type="checkbox"/> Device	<input type="checkbox"/> Schedule
<input type="checkbox"/> Event	<input type="checkbox"/> Trend Log
Enrollment	
<input type="checkbox"/> File	
<input type="checkbox"/> Group	

Analog Input**Table 1: Analog Input**

Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties
<input type="checkbox"/>	<input type="checkbox"/>		Present Value

Analog Output**Table 2: Analog output**

Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties
<input type="checkbox"/>	<input type="checkbox"/>		Present Value

Analog Value**Table 3: Analog Value**

Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties
<input type="checkbox"/>	<input type="checkbox"/>		Present Value

Binary Input**Table 4: Binary Input**

Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties
<input type="checkbox"/>	<input type="checkbox"/>		Present Value

Binary Output**Table 5: Binary Output**

Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties
<input type="checkbox"/>	<input type="checkbox"/>		Present Value

Binary Value**Table 6: Binary Value**

Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties
<input type="checkbox"/>	<input type="checkbox"/>		Present Value

Device**Table 7: Device**

Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties
<input type="checkbox"/>	<input type="checkbox"/>		

Control Box(GH-64MFGN)

Data Link Layer Option

☐ ACnet Internet Protocol (IP) (Annex J)

☐ BACnet IP (Annex J), Foreign Device

☐ ISO 8802-3, Ethernet (Clause 7)

☐ ANSI/ATA 878.1, 2.5 MB ARCNET® network (Clause 8)

☐ ANSI/ATA 878.1, RS-485 ARCNET network (Clause 8), baud rates:

☒ Master-Slave/Token-Passing (MS/TP) master (Clause 9), baud rates: 9600,19200,38400

☐ MS/TP slave (Clause 9), baud rates: 9600,19200,38400

☐ Point-To-Point, EIA 232 (Clause 10), baud rates:

☐ Point-To-Point, modem (Clause 10), baud rates:

☐ LonTalk® protocol (Clause 11), medium:

☐ Other:

Device Address Binding

☐ Yes ☒ No **Is static device binding supported?** (required for two-way communication between MS/TP slaves and other devices) Networking Options

Networking Options

☐ Router, Clause 6: _____ Annex

☐ H, BACnet Tunneling Router over IP

☐ BACnet/IP Broadcast Management Device (BBMD)

Does the BBMD support registrations by Foreign Devices? ☐ Yes ☒ No

Character Sets Supported

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

<input checked="" type="checkbox"/> ANSI X3.4	<input type="checkbox"/> IBM®/Microsoft® Double-Byte Character Set (DBCS)	<input type="checkbox"/> ISO 8859-1 Japanese
<input type="checkbox"/> ISO 10646 Universal Character Set-2 (UCS-2)	<input type="checkbox"/> ISO 10646 (UCS-4)	<input type="checkbox"/> Industrial Standard (JIS) C 6226

If this product is a communication gateway, describe the types of non BACnet equipment/network(s) that the gateway supports:

2. Annex K - BACnet Interoperability Building Blocks (BIBBs)

(Normative)

Table 1 lists all the BIBBs which, per ANSI/ASHRAE Standard 135-2004, could be supported by a BACnet Specific Controller (B-ASC). The checked BIBBs are supported by GH-64MFGN.

Table 1: B544(E) BIBBs Support

Application Service (B-SS)	Designation	Support
Data Sharing - Read Property - A	DS-RP-A	<input type="checkbox"/>
Data Sharing - Read Property - B	DS-RP-B	<input checked="" type="checkbox"/>
Data Sharing - Read Property Multiple - A	DS-RPM-A	<input type="checkbox"/>
Data Sharing - Read Property Multiple - B	DS-RPM-B	<input type="checkbox"/>
Data Sharing - Write Property - A	DS-WP-A	<input type="checkbox"/>
Data Sharing - Write Property - B	DS-WP-B	<input checked="" type="checkbox"/>
Data Sharing - Write Property Multiple - A	DS-WPM-A	<input type="checkbox"/>
Data Sharing - Write Property Multiple - B	DS-WPM-B	<input type="checkbox"/>
Data Sharing - COV - Unsolicited - A	DS-COVU-A	<input type="checkbox"/>
Data Sharing - COV - Unsolicited - B	DS-COVU-B	<input checked="" type="checkbox"/>
Alarm and Event - Notification Internal - B	AE-N-I-B	<input type="checkbox"/>
Alarm and Event - ACK - B	AE-ACK-B	<input type="checkbox"/>
Alarm and Event - Information - B	AE-INFO-B	<input type="checkbox"/>
Alarm and Event - Enrollment Summary - B Scheduling -	AE-ESUM-B	<input type="checkbox"/>
External - B	SCHED-E-B	<input type="checkbox"/>
Trending - Viewing and Modifying Trends Internal - B	T-VMT-I-B	<input type="checkbox"/>
Trending - Automated Trend Retrieval - B	T-ATR-B	<input type="checkbox"/>
Device Management - Dynamic Device Binding - A	DM-DDB-A	<input type="checkbox"/>
Device Management - Dynamic Device Binding - B	DM-DDB-B	<input checked="" type="checkbox"/>
Device Management - Dynamic Object Binding - A	DM-DOB-A	<input type="checkbox"/>
Device Management - Dynamic Object Binding - B	DM-DOB-B	<input checked="" type="checkbox"/>
Device Management - Device Communication Control - B	DM-DCC-B	<input type="checkbox"/>
Device Management - Time Synchronization - B	DM-TS-B	<input checked="" type="checkbox"/>
Device Management - UTC Time Synchronization - B	DM-UTC-B	<input type="checkbox"/>
Device Management - Reinitialize Device - B Device	DM-RD-B	<input type="checkbox"/>
Management - Backup and Restore - B	DM-BR-B	<input type="checkbox"/>

Network Management - Connection Establishment - A

NM-CE-A



Figure 2 lists all the BACnet standard application services. The checked services are supported by GH-64MFGN.

Table 2: BACnet Standard Application Services Support (Part 1 of 2)

Application Service	Initiates Requests	Executes Requests
AcknowledgeAlarm	<input type="checkbox"/>	<input type="checkbox"/>
AddListElement	<input type="checkbox"/>	<input type="checkbox"/>
AtomicReadFile	<input type="checkbox"/>	<input type="checkbox"/>
AtomicWriteFile	<input type="checkbox"/>	<input type="checkbox"/>
ConfirmedCOVNotification	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ConfirmedEventNotification	<input type="checkbox"/>	<input type="checkbox"/>
ConfirmedPrivateTransfer	<input type="checkbox"/>	<input type="checkbox"/>
ConfirmedTextMessage	<input type="checkbox"/>	<input type="checkbox"/>
CreateObject	<input type="checkbox"/>	<input type="checkbox"/>
DeleteObject	<input type="checkbox"/>	<input type="checkbox"/>
DeviceCommunicationControl	<input type="checkbox"/>	<input type="checkbox"/>
Disconnect-Connection-To-Network	<input type="checkbox"/>	<input type="checkbox"/>
Establish-Connection-To-Network	<input type="checkbox"/>	<input type="checkbox"/>
GetAlarmSummary	<input type="checkbox"/>	<input type="checkbox"/>
GetEnrollmentSummary	<input type="checkbox"/>	<input type="checkbox"/>
GetEventInformation	<input type="checkbox"/>	<input type="checkbox"/>
I-Am	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
I-Am-Router-To-Network	<input type="checkbox"/>	<input type="checkbox"/>
I-Could-Be-Router-To-Network	<input type="checkbox"/>	<input type="checkbox"/>
I-Have	<input type="checkbox"/>	<input type="checkbox"/>
Initialize-Routing-Table	<input type="checkbox"/>	<input type="checkbox"/>
Initialize-Routing-Table-Ack	<input type="checkbox"/>	<input type="checkbox"/>
LifeSafetyOperation	<input type="checkbox"/>	<input type="checkbox"/>
ReadProperty	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ReadPropertyConditional	<input type="checkbox"/>	<input type="checkbox"/>
ReadPropertyMultiple	<input type="checkbox"/>	<input type="checkbox"/>
ReadRange	<input type="checkbox"/>	<input type="checkbox"/>

Network Management - Connection Establishment - A

NM-CE-A



Figure 2 lists all the BACnet standard application services. The checked services are supported by GH-64MFGN.

Table 2: BACnet Standard Application Services Support (Part 2 of 2)

Application Service	Initiates Requests	Executes Requests
ReinitializeDevice	<input type="checkbox"/>	<input type="checkbox"/>
RemoveListElement	<input type="checkbox"/>	<input type="checkbox"/>
SubscribeCOV	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SubscribeCOVProperty	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TimeSynchronization	<input type="checkbox"/>	<input checked="" type="checkbox"/>
UnconfirmedCOVNotification	<input type="checkbox"/>	<input type="checkbox"/>
UnconfirmedEventNotification	<input type="checkbox"/>	<input type="checkbox"/>
UnconfirmedPrivateTransfer	<input type="checkbox"/>	<input type="checkbox"/>
UnconfirmedTextMessage	<input type="checkbox"/>	<input type="checkbox"/>
TCTimeSynchronization	<input type="checkbox"/>	<input type="checkbox"/>
VT-Close	<input type="checkbox"/>	<input type="checkbox"/>
VT-Data	<input type="checkbox"/>	<input type="checkbox"/>
VT-open	<input type="checkbox"/>	<input type="checkbox"/>
Who-Has	<input type="checkbox"/>	<input type="checkbox"/>
Who-Is	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Who-Is-Router-To-Network	<input type="checkbox"/>	<input type="checkbox"/>
WriteProperty	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WritePropertyMultiple	<input type="checkbox"/>	<input type="checkbox"/>

Control Box(GH-64MFGN)

6.3 Object List

Device Instance: 10000 + Set address

Device MSTP MAC address:16+ Set address

Set address: Set at GH-64MFGN dip switch

For example:

If the GH-64MFGN dip switch address set to 2, this GH-64MFGN in BACnet MSTP Device Instance should be 10002, and the MAC address should be 18.

Alog input object

No.	Object	Type	Object Instance	Value	Comment
1	Indoor Temperature	AI	000001	-20-79	
2	Set Temperature	AI	000002	18-32	

Binary input object

No.	Object	Type	Object Instance	Value	Comment
1	ON/OFF Status	BI	000000	0-Off/1-On	
2	SLEEPStatus	BI	000003	0-No/1-Yes	
3	ELECTRICAL	BI	000004	0-No/1-Yes	

Multistate input object

No.	Object	Type	Object Instance	Value	Comment
1	Mode	MI	000001	FAN=00 HEAT=01 COOL=02 DRY=03 AUTO=04	
2	Fan	MI	000002	AUTO=00 HIGH=01 MIDDLE=03 LOW=02	
3	Swing	MI	000003	NO SWING=0 UP/DOWN=1 LEFT/RIGHT=2 UP/DOWN/LEFT/RIGHT=3	
4	Error	MI	000006	1-255	See Error

Analog valve object

No.	Object	Type	Object Instance	Value	Comment
1	Set Temperature	AV	000000	18-32	
2	SetHumidity	AV	000001	0-100%	Reserved

Control Box(GH-64MFGN)

Binary value object

No.	Object	Type	Object Instance	Value	Comment
1	ON/OFF	BV	000000	0-OFF/1-ON	
2	NET RESET	BV	000002	0-NO/1-YES	
3	SLEEP	BV	000003	0-NO/1-YES	
4	ELECTRICAL HEAT	BV	000004	0-NO/1-YES	

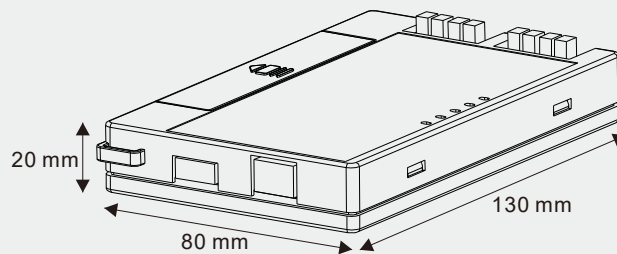
Multistate output object

No.	Object	Type	Object Instance	Value	Comment
1	MODE	MO	000000	FAN=00 HEAT=01 COOL=02 DRY=03 AUTO=04	
2	FAN	MO	000001	AUTO=00 HIGH=01 MIDDLE=03 LOW=02	
3	SWING	MO	000002	NO SWING=0 UP/DOWN=1 LEFT/RIGHT=2 UP/DOWN/LEFT/RIGH T=3	

Control Box(GH-64MFGN)

6 Outlines and Dimensions

(Unit: mm)



Dimension (WxHxD)	mm	130×20×80
Packing(LxWxH)	mm	150×40×115
Net/Gross weight	kg	0.106/0.173