

FILE No. A10-2302-2 Revision 1: Oct., 2023 Revision 2: May, 2024

BN interface SERVICE MANUAL

Model name:

BMS-IFBN1281U-UL



Contents

Pr	Precautions for safety				
Tr	Trademarks				
1	Produ	Product Overview			
2	Hardw	vare Specifications			
	2-1.	BMS-IFBN1281U-UL			
	2-2.	Component Names			
	2-3.	Internal board block diagram 12			
3	Softwa	are Specifications			
	3-1.	BACnet Communication Specifications			
	3-2.	Connectable Air Conditioners			
	3-3.	BACnet Object List			
	3-4.	Object Information			
4	Factor	ry default settings			
5	Items	included with the product			
6	Install	ation			
7	Power	and signal line connections			
8	Startu	p and Shutdown			
	8-1.	Startup			
	8-2.	Shutdown			
9	Test r	un			
	9-1.	BACnet Communication Settings			
	9-2.	Indoor Unit Device Information Settings			
	9-3.	Search Results File (SearchObjectLog.tsv)			
	9-4.	LED Display During Normal Operation90			
10	Engin	eering Tool			
	10-1.	IP Address Setting			
	10-2.	BACnet Device Object Instance Number Setting			
	10-3.	Acquiring the Search Results File (SearchObjectLog.tsv)			
	10-4.	Searching for the BN interface IP Address			

11 Troub	leshooting
11-1.	During test runs
11-2.	When starting up BN interface
11-3.	When Using BN interface
11-4.	Directly After Changing the microSD Card (Service Component)
11-5.	When the Power Supply to the Indoor Units Is Interrupted
12 Repla	cing Service Parts
12-1.	Replacing the microSD Card 100
12-2.	Replacing the Power Adaptor
13 Servic	e Component List
14 Syster air cor	ms in which the BN interface is used in conjunction with another nditioning controller
14-1.	Compatible Air Conditioning Controllers
14-2.	System for Combination Use with the TOUCH SCREEN CONTROLLER (BMS-CT5120UL)
14-3.	System for Combination Use with Smart BMS Manager
14-4.	System for Combination Use with Touch Screen Controller (BMS-CT2560U-UL)
14-5.	System for Combination Use with Central Remote Controller (TCB-SC640U-UL)
15 Old Bl	N interface product replacement
15-1.	BMS-IFBN640TLUL
Installatio	on Manual (BMS-IFBN1281U-UL)

Precautions for safety

The following instructions must be observed.

- Carefully read these "Precautions for Safety" before service, and perform service work safely.
- These precautions contain important information regarding safety.
- After service work, carry out an operation trial to confirm that there are no problems, and explain to the customer how to operate and maintain the system.

Expressions

Warning	Text set off in this manner indicates that failure to adhere to the directions in the warning could result in serious bodily harm (*1) or loss of life if the product is handled improperly.
Caution	Text set off in this manner indicates that failure to adhere to the directions in the caution could result in serious bodily injury (*2) or damage (*3) to property if the product is handled improperly.

*1: Serious bodily harm indicates loss of eyesight, injury, burns, electric shock, bone fracture, poisoning, and other injuries which leave aftereffect and require hospitalization or long-term treatment as an outpatient.

*2: Bodily injury indicates injury, burns, electric shock, and other injuries which do not require hospitalization or long-term treatment as an outpatient.

*3: Damage to property indicates damage extending to buildings, household effects, domestic livestock, and pets.

Graphic symbols

Prohibited	"O" indicates prohibited items. The actual contents of the prohibition are indicated by a picture or text placed inside or next to the graphic symbol.
Compulsory	"●" indicates compulsory (mandatory) items. The actual contents of the obligation are indicated by a picture or text placed inside or next to the graphic symbol.



0	• Service should be performed by a qualified electrician Attempting to carry out service work on your own, and doing so incorrectly, may result in electric shock or fire.
	 Electrical work must be performed by a qualified electrician in accordance with this Service Manual. The work must satisfy all local, national and international regulations Inappropriate work may result in electric shock or fire.
	 Be sure to turn off the power before starting work Failure to do so may result in electric shock.
	• Use only the power adapter supplied with this unit A power adapter other than that supplied with this unit may provide a different voltage and have different polarity (+) (-), which could lead to fire, explosion or generation of heat.
\bigcirc	Do not modify the unit Doing so may result in excessive heat or fire.

Trademarks

- BACnet® is a registered trademark of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).
- Ethernet[®] is a registered trademark of Xerox Co., Ltd.
 microSDTM is a registered trademark of SD Card Association.
 Windows[®] is a registered trademark of Microsoft corporation.
- All other company and product names are either registered trademarks or trademarks of the respective owners. In this manual such names are not indicated by TM, [®] or [©] marks.

1 Product Overview

BN interface relays communications between Building Management Systems and VRF Systems in order to observe and control the VRF Systems from Building Management Systems. The communication protocol used between Building Management Systems and the BN interface is BACnet, an open network communication protocol for building automation. BACnet Protocol Revision is ANSI/ASHRAE Standard 135-2012 (Revision15).

This product is for use when connected to TU2C-LINK Uh Line (hereinafter referred to as Uh Line).



2 Hardware Specifications

2-1. BMS-IFBN1281U-UL

Specifications

Bower oupply	Rated voltage	120 V AC 60 Hz	
	Power consumption	10 W	
Operating temperature	range	32 to 104°F (0°C to 40°C), 10% to 80% RH (no condensation)	
Storage temperature ra	ange	14 to 140°F (-10°C to +60°C), 10% to 90% RH (no condensation)	
Dimensions		Width 7.87 inch x Height 3.94 inch x Depth 2.32 inch (Width 200 mm x Height 100 mm x Depth 59 mm)	
Mass		BN interface 1.7 lb (765 g) Power adapter 1.0 lb (450 g)	
Number of connected units Indoor unit Up to 128 units (TU2C-LINK) Up to 64 units (TCC-LINK) Up to 64 units (TCC-LINK)		Up to 128 units (TU2C-LINK) Up to 64 units (TCC-LINK)	

External View (BN interface equipment)

Unit: inch (mm)



7-71

(Power adapter)



2-2. Component Names

External component names



Name	Function
12V DCIN	Connect the power adapter
USB	(For service)
Ethernet (LAN)	Connect to the Building Management System
Shutdown button	Shutdown or switch to air conditioner search mode
LINK(Uh)	Connect the central control wiring

Internal component names

SW100 Uh Line termination resistance setting switch

bit1:use, bit2:not use Refer to " Termination resistance setting" (P.80)

Shutdown button Shutdown function / air conditioner search mode function button Use this button to stop BACnet process and network process of the BN interface or to start up in the air conditioner search mode. Note that button operation changes depending on how long it is depressed.

Time duration button is depressed	Operation
The Shutdown button 2 times	Stop BACnet process and network process of the BN interface.
4 seconds or more	Start up in the air conditioner search mode. Use the air conditioner search mode to set up equipment data in the indoor unit.



Unscrew and open the product



Connector	Description
COM port	For maintenance
USB port	Not used
HDMI	Not used

■ LED names

LED	LED color	Use	
POWER Red		Power indicator	
RS485	Green	Not use	
LINK1(Uh)	LINK1(Uh) Orange Uh Line communication status indicator		
LINK2(Uh)	Orange	Not use	
ERROR	Red	Uh Line communication error indicator	
L1	Green	BACnet communication status indicator, setting error indicator	
LAN port LED1	Green	Link LED Lights when a LAN cable is inserted and a link is established. Is unlit when no link is established.	
LAN port LED2	Green	Communication speed LED Lights when the communication speed is 100 Mbps. Blinks during communication.	





2-3. Internal board block diagram



3 Software Specifications

For details, refer to the Specifications Manual below.

- "PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (DEC0329501)"

- "Network Object and Variables Specifications (DEC0329401)"

3-1. BACnet Communication Specifications

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

BACnet Protocol Implementation Conformance Statement

Vender Name	Carrier Japan Corporation (ID:129)
Product Name	BN Interface
Product Model Number	BMS-IFBN1281U-UL
BACnet Protocol Revision	ANSI/ASHRAE Standard 135-2012 (Revision 15)

Product Description:

System Configuration

Sample Control Wiring diagram



System Configuration and Limits

Item	Model Name	Specification	Connectable Q'ty
BN Interface	BMS-IFBN1281U-UL	Protocol transformation TCC-LINK to BACnet IP	-
Indoor unit	-	-	Up to 128 units (TU2C-LINK) Up to 64 units (TCC-LINK)

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)

BACnet Interoperability Building Blocks Supported (Annex K):

	BIBB Name	Designation
	ReadProperty-B	DS-RP-B
	ReadPropertyMultiple-B	DS-RPM-B
Data Sharing	WriteProperty-B	DS-WP-B
	WritePropertyMultiple-B	DS-WPM-B
	COV-Unsolicited-B	DS-COVU-B
Alarm & Event	Notification Internal-B	AE-N-I-B
Management	Information-B	AE-INFO-B
	Dynamic Device Binding-A	DM-DDB-A
	Dynamic Device Binding-B	DM-DDB-B
Device & Network	Dynamic Object Binding-B	DM-DOB-B
Management	DeviceCommunicationControl-B	DM-DCC-B
	TimeSynchronization-B	DM-TS-B
	Restart-B	DM-R-B

Segmentation Capability:

\Box	Segmented requests supported	Window Size
¥	Segmented responses supported	Window Size 4

Standard Object Types Supported:

Object-Type	Supported	Dynamically Creatable	Dynamically Deletable
Accumulator			
Analog Input	\checkmark		
Analog Output	\checkmark		
Analog Value			
Binary Input	\checkmark		
Binary Output	\checkmark		
Binary Value			
Calendar			
Command			
Device	Yes	N/A	N/A
Event Enrollment			
File			
Group			
Loop			
Multi-state Input	\checkmark		
Multi-state Output	\checkmark		
Notification Class	\checkmark		
Program			
Schedule			

Data Link Layer Options:

~	BACnet IP, (Annex J)
v	BACnet IP, (Annex J), Foreign Device
	ISO 8802-3, Ethernet (Clause 7)
	ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
	ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s)
	MS/TP master (Clause 9), baud rate(s):
	MS/TP slave (Clause 9), baud rate(s):
	Point-To-Point, EIA 232 (Clause 10), baud rate(s):
	Point-To-Point, modem, (Clause 10), baud rate(s):
	LonTalk, (Clause 11), medium:
	Other:

Device Address Binding:

Is static device binding supported?

(This is currently necessary for two-way communication with MS/TP slaves and certain other devices.)

🗌 Yes 🛛 🗹 No

Netwo	rking Options:				
	Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.				
\Box	nnex H, BACnet Tunneling Router over IP				
	ACnet/IP Broadcast Management Device (BBMD)				
	Does the BBMD support registrations by Foreign Devices? 🗹 Yes 🔲 No				
Chara	cter Sets Supported:				
Indica	ing support for multiple character sets does not imply that they can all be supported simultaneously.				
~	ISO 10646 (UTF-8)				
	ISO 10646 (UCS-2) ISO 10646 (UCS-4) ISO 208				
If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:					
Not a	pplicable				

3-2. Connectable Air Conditioners

Item	Specification
Number of indoor units	128 units maximum In the following case, the number of indoor units is 64 When used with controller for TCC-LINK old communication - When replacing a failed BMS-IFBN640TLUL CAUTION A central address must be set for the indoor units.
Type of air conditioner	 VRF System Super Modular Multi System-i, Super Heat Recovery Multi System-i Super Modular Multi System-e, Super Heat Recovery Multi System-e Super Modular Multi System-u Mini-SMMS Series Side Blow VRF VRF Dx-coil controller (TCB-IFDMX01UP-E, TCB-IFDMR01UP-E) Light Commercial model Super Digital Inverter Series (*1) Digital Inverter Series (*1) TCB-PCNT31TLUL is necessary except High wall Series.

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A list of objects used when observing and controlling the air conditioner status via BACnet communication.

Object List

Object	: Name	Object Type	Object Type (10bit)	Equipment category (5Bit)	Equipment Number (1Byte)	Instance Number (1Byte)	Object ID (4Byte)	Value
Gateway Device		Device Object(8)	ω	00000	0	IP address	0x020****	
ONIOEE CHANG	Monitor	Binary Input Object(3)	ĸ	00000	FCU(n) 1-128	0×02	0x00C0xx02	Start/Stop
	Control	Binary Output Object(4)	4	00000	FCU(n) 1-128	0x82	0x0100xx82	Start/Stop
Mode And	Monitor	Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0x03	0x0340xx03	Heat/Cool/Fan/Dry/Auto
	Control	Multi-state Output Object(14)	14	00000	FCU(n) 1-128	0x83	0x0380xx83	Heat/Cool/Fan/Dry/Auto
Canod East	Monitor	Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0×05	0x0340xx05	Auto / HH / H / L / LL / H+ / L+
	Control	Multi-state Output Object(14)	14	00000	FCU(n) 1-128	0x85	0x0380xx85	Auto / HH / H / L / LL / H+ / L+
Set Temperature	Monitor	Analog Input Object(0)	o	00000	FCU(n) 1-128	0x04	0x0000xx04	Standard FCU From 18.0 to 29.0 (°C) From 64.0 to 84.0 (°F) Fresh Air Intake Indoor From 16.0 to 27.0 (°C) From 60.0 to 80.0 (°F)
F	Control	Analog Output Object(1)	1	00000	FCU(n) 1-128	0x84	0x0040xx84	Standard FCU From 18.0 to 29.0 (°C) From 64.0 to 84.0 (°F) Fresh Air Intake Indoor From 16.0 to 27.0 (°C) From 60.0 to 80.0 (°F)
Auto Cool Set Temperature *1,*3	Monitor	Analog Input Object(0)	o	00000	FCU(n) 1-128	0x6E	0x0000xx6E	Standard FCU From 18.0 to 29.0 (°C) From 64.0 to 84.0 (°F) Fresh Air Intake Indoor From 16.0 to 27.0 (°C) From 60.0 to 80.0 (°F)

Auto Cool Set Temperature *1,*3	Control	Analog Output Object(1)	1	00000	FCU(n) 1-128	OXEE	0x0040xxEE	Standard FCU From 18.0 to 29.0 (°C) From 64.0 to 84.0 (°F) Fresh Air Intake Indoor From 16.0 to 27.0 (°C) From 60.0 to 80.0 (°F)
Auto Heat	Monitor	Analog Input Object(0)	o	00000	FCU(n) 1-128	0x6F	0x0000xx6F	Standard FCU From 18.0 to 29.0 (°C) From 64.0 to 84.0 (°F) Fresh Air Intake Indoor From 16.0 to 27.0 (°C) From 60.0 to 80.0 (°F)
set temperature *1,*3	Control	Analog Output Object(1)	1	00000	FCU(n) 1-128	0XEF	0x0040xxEF	Standard FCU From 18.0 to 29.0 (°C) From 64.0 to 84.0 (°F) Fresh Air Intake Indoor From 16.0 to 27.0 (°C) From 60.0 to 80.0 (°F)
Room Temperature		Analog Input Object(0)	0	00000	FCU(n) 1-128	0x08	0x0000xx08	From -39.0 to 150.0 (°C) From -38.2 to 302.0 (°F)
Permit / Prohibit of	Monitor	Multi-state Input Object(13)	13	00000	FCU(n) 1-128	60×0	0x0340xx09	- Start/Stop - Operation Mode - Temperature Setting
Local	Control	Multi-state Output Object(14)	14	00000	FCU(n) 1-128	0x89	0x0100xx89	- Start/Stop - Operation Mode - Temperature Setting
	Monitor	Binary Input Object(3)	£	00000	FCU(n) 1-128	0x14	0x00C0xx14	Normal / Filter Sign
Filter Sign	Control	Binary Output Object(4)	4	00000	FCU(n) 1-128	0x95	0x0100xx95	- / Filter Sign Reset
Alarm status		Binary Input Object(3)	£	00000	FCU(n) 1-128	0x40	0x00C0xx40	Alarm / No Alarm
Check Code		Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0x01	0x0340xx01	No Check Code / Check Code
	Monitor	Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0x07	0x0340xx07	Swing / F1 / F2 / F3 / F4 / F5 / Stop
	Control	Multi-state Output Object(14)	14	00000	FCU(n) 1-128	0x87	0x0380xx87	Swing / F1 / F2 / F3 / F4 / F5 / Stop
Ventilation	Monitor	Binary Input Object(3)	3	00000	FCU(n) 1-128	0x28	0x00C0xx28	Start/Stop
(option)	Control	Binary Output Object(4)	4	00000	FCU(n) 1-128	0xA8	0x0100xxA8	Start/Stop

Indoor thermo status	Monitor	Binary Input Object(3)	3	00000	FCU(n) 1-128	0x54	0x00C0xx54	Thermo ON / Thermo OFF
Save operation	Monitor	Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0x55	0x0340xx55	No Save (100% operation) / XX% Save (100-50%) / 50% Save (50%) / 100% Save (Forcibly Thermo OFF)
(option)	Control	Multi-state Output Object(14)	14	00000	FCU(n) 1-128	0xD5	0x0380xxD5	No Save (100% operation) / XX% Save (100-50%) / 50% Save (50%) / 100% Save (Forcibly Thermo OFF)
Indoor Communical	tion Failure	Binary Input Object(3)	3	00000	FCU(n) 1-128	0x41	0x00C0xx41	Normal / Alarm
Facility request		Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0×0A	0x0340xx0A	$1(\text{Thermo off}) \sim 16$
Notice Code 1 *2		Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0x63	0x0340xx63	No Notice Code / Notice Code
Notice Code 2 *2		Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0x63	0x0340xx64	No Notice Code / Notice Code
Notice Code 3 *2		Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0x63	0x0340xx65	No Notice Code / Notice Code
Notice Code 4 *2		Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0x63	0x0340xx66	No Notice Code / Notice Code
Notice Code 5 *2		Multi-state Input Object(13)	13	00000	FCU(n) 1-128	0x63	0x0340xx67	No Notice Code / Notice Code

NOTE

- *1 The setting of each property changes with the model.
- *2 This object can be used by the TU2C-LINK model.
- In order to issue a notice code, the notice code must be registered on the air conditioner side. For details of notice code, refer to the air conditioner service manual.
- *3 In the case of Auto cool temperature setting > Auto heat temperature setting, both setting values will be transmitted to the indoor unit.
 - In the case of Auto cool temperature setting < Auto heat temperature setting, the setting values will not be transmitted.
- To change the value of "Auto cool temperature setting" or "Auto heat temperature setting", perform the change while operation mode is "Auto". Precautions when changing the value of "Auto cool temperature setting" or "Auto heat temperature setting" on the same indoor unit.
 - Before performing the change, wait at least 10 seconds after the last change.
- Do not change both the "Auto cool temperature setting" and "Auto heat temperature setting" values in one "WritePropertyMultiple" service operation.

NOTE

BN interface acquires indoor unit device information and creates an air conditioner settings file when Air-Conditioning Search Mode is executed during a test run.

As a result of this, some of the objects and settings listed are not output in the air conditioner settings file.

- (1) Ventilation ON/OFF Status can be used in the following situations.
- When the value of the indoor unit's function selecting CODE No. 31 (DN) is set to 0001: Available.
- (2) Fan Speed cannot be used when the indoor unit Fan Speed options are fixed.
- (3) Louver cannot be used when the indoor unit Louver options are fixed.
- (4) The upper and lower set temperature value limits and other items change depending on the indoor unit setting information.

NOTE

Notes on controlling VRF Dx-coil controller (TCB-IFDMX01UP-E, TCB-IFDMR01UP-E).

(1) VRF Dx-coil controller is in the "TA mode" or the "TF mode" setting

Function	Monitoring	Controlling
ON / OFF	\checkmark	\checkmark
Operation mode	\checkmark	\checkmark
Setting temperature	\checkmark	\checkmark
Room temperature / TF sensor	\checkmark	
Fan speed	✓ HH,H,L,AUTO	✓ HH,H,L,AUTO
Louver		
Permit / Prohibit of Local	\checkmark	\checkmark
Alarm status	\checkmark	
Check code	\checkmark	
Filter sign		
Ventilation On/Off		
Save operation rate	\checkmark	\checkmark
Indoor thermo status	\checkmark	
Facility request	\checkmark	
Indoor Communication Failure	\checkmark	
Notice Code 1 - 5	\checkmark	

(2) VRF Dx-coil controller is in the "DDC mode" setting

Function	Monitoring	Controlling
ON / OFF	\checkmark	
Operation mode	\checkmark	
Setting temperature		
Room temperature / TF sensor		
Fan speed	✓ HH,H,L,AUTO	
Louver		
Permit / Prohibit of Local	\checkmark	
Alarm status	\checkmark	
Check code	\checkmark	
Filter sign		
Ventilation On/Off		
Save operation rate		
Indoor thermo status		
Facility request		
Indoor Communication Failure	\checkmark	
Notice Code 1 - 5	\checkmark	

Notes

• The VRF Dx-coil controller model name is TCB-IFDMX01UP-E, TCB-IFDMR01UP-E.

• The functions listed may vary according to the product.

• The DDC setting type of the Dx-coil controller cannot be controlled from the BN interface.

• If the Dx-coil controller TA/TF/DDC setting type is changed, execute the air-conditioner search mode again.

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Gateway device

Data	8	0000	0	IP Address	Device Object
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
Object	PACast Object ID	0					Application Tag	object Identifier (0xc4)		****/ • Tochooco Ni
Identifier(75)		Ł					Device object	0x0200****		
Object Name(77)	Character string	0					Application Tag	character string (0x750C)		
ODJECT NAILIE(/ /)		Ł					String	"AC_CONTROLER"		
Obio:4 T	BACast Object Time	C					Application Tag	enumerated (0x91)		
unject iype(13)		Ł					Device object	0x08		DEVICE(0)
							Application Tag	enumerated(0x91)		
System Status(112)	BACnet Device Status	~	*			_		OPERATIONAL 0x00		
							value	NON_OPERATIONAL 0x04		
Verder Name(101)		c					Application Tag	character string (0x746F)		
(17T)AUURU JANUA		Ł					value	"Toshiba Carrier Corporation"		
Vender	10000	6					Application Tag	Unsigned(0x21)		
Identifier(120)	nusigned	¥					value	0x81		
Medel Nemo(70)	Character atrive	c					Application Tag	character string(0x750D)		
		Ł					value	"BMS-IFBN1281U"		
Firmware	Character atrino	C					Application Tag	character string(0x74)		
Revision(44)		Ł					value	** ** *		
Application	Channel and a second	c					Application Tag	character string(0x7508)		
Soltware Version(12)	unaracter string	¥					value	** ** *		
Protocol	Lo consistenti de la constante	c					Application Tag	Unsigned(0x21)		
Version(98)	nusigned	¥					value	0x01		
Protocol		0					Application Tag	Unsigned(0x21)		
Revision(139)	nisigirea	2					value	0x0F (15)		

Remarks	
Notice of Status Change	
	0350000 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Value	Bit string 6Byte(0x8506) 0x00 First Byte 0x00 After the second Byte 8504(AcknowledgementAlarm 60000016000000000000000000000000000000
	Application Tag value
t Tag	
ray Lis	
/ariable A	
Read Write	۲
ata Type	Service
Property D	BACnet Supported
Property Identifier	Protocol Service Supported(97)

Remarks	
Notice of Status Change	
Value	Bit string Bbyte(0x8508) First Byte Ox05 After the second Byte 0x05 Analog-input 0x05 Binary-input 0x14 Binde-contput <
	Application Tag
ist Ta	
rray L	
/ariable	
Read Write	۲
Property Data Type	Protocol Object Types Supported
Property Identifier	Protocol Object Types Supported(96)

Uncontinitied coving and reading the destination address.		2	Value						Kecipierius(202)
when notifying the change of the System_Status property by			Application lag)			3	- ListOfBACnetRecipient	Restart_Notification_
		[0]:number of properties(N) [1-N]: Property Identifier	value	 ÷			:		//
		[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)	Application Tag	 			٥	BACnetARRAY[N] of	Dronarty ict/371)
	 5:255:255	- date=255/255/255, time=255:25	Application Tag value				R	BACnetTimeStamp	Time_Of_Device_Re start(203)
		- -(empty)	Application lag value	*			R	ListOfBACnetRecipient	Restart Notification Recipients(202)
		Enumerated(0x91) detected-powered-off	Application Tag value				ъ	BACnetRestartReason	Last_Restart_Reasor (196)
		- -(empty)	Application Tag value	 *			ĸ	ListOfBACnetCOVSubscri ption	Active_Cov_Subscrip tions(152)
		Unsigned(0x21) 0x01	Application Tag value				R	Unsigned	Database Revision(155)
		BACnetObjectIdentifier(0xC4) Network-number MAC-address	Application Tag value	*			ĸ	ListofBACnetAddressBin ding	Device_Address_Bin ding(30)
		Unsigned1(0x21) 0x00	Application Tag value				~	J Unsigned	Number of APDL Retries(73)
		Unsigned1(0x21) 0msec(0x00)	Application Tag value				ъ	Unsigned	APDU Timeout(11)
		Unsigned(0x22) 2000(0x07D0)	Application Tag value				2	Unsigned	APDU_Segment_Tim eout
	, A	Date(0xA4) Year, Month, Day, a day of the we	Application Tag value			*	~	Date	Local Date(56)
		Time(0xB4) Hour, Minute, Second, a hundredth of a second is "0"	Application Tag value			*	~	Time	Local Time(57)
		1024Byte(0x0400) Enumerated(0x91) Segmentation-Both (0x00)	value Application Tag value				~ ~	Unsigned BACnet Segmentation	Supported(62) Segmentation Supported(107)
		[0]:Unsigned(0x4E) [1-N]: object Identifier(0xc4) [0]:number of objects(N) [1-N]: object Identifier [1-N]: object Identifier	Application Tag value Annlication Tag		*		ĸ	BACnetARRAY[N]of BACnetObjectIdentifier	Object List(76) MAX_ADDIlendt
	 N/A N/A N/A N/A N/A N/A N/A N/A	octetstring-value positive-integer-value time-pattern-value time-value notification-forwarder alert-enrollment channel lighting-output							

Name	Data
Object Type	3
Equipment Category	0000
Equipment Number	From 1 to 128
Instance Number	0x02
Object Type	Binary Input Object

Object Type		Binary	Input Ob	ject						
Property Identifier	Property Data Type	Read	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
						0	Application Tag	object Identifier (0xC4)		***' : air conditioning number 0x01 -
(c/)upject Identifier	BACNET UDJECT ID	¥				UXC4	binary input object	0x00C0**02		0×80
		6				LC C	Application Tag	character string (0x750C)		
UDJect Name(11)	cnaracter string	Y				c/X0	String	"State/BI_***		**** : air conditioning number 1 – 128
		6				10,10	Application Tag	enumerated (0x91)		(C)+++++++
UDJect Iype(79)	BAChetUbject lype	Y				TAXO	analog input object	0x03		Binary Input(3)
							Application Tag	enumerated (0x91)	- is a first of	
Present value(85)	BACnetBinaryPV	2	*			0x91	Value	INACTIVE 0x00	reporting	out_Of_Service is TRUE
							Application Tag	Bit String (0x82)		
								b7 IN ALARM		
Ctatue Elace(111)	DACootCtature	6	×			000				
(TTT)SUBLIC	DAUIEUJUUU	¥	-			70X0	BitString	bo rauci b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	×					onley	true 0x11		Present_Value are decoupled from the
							value	false 0x10		input
Tacation Tout ACV	anina atriac	6					Application Tag	character string(0x74)		
	cliaracter surrig	¥					Value	"OFF"		
Activic Tout(A)	character string	0					Application Tag	character string(0x73)		
Active_lext(+)		Ł					Value	"NO"		
	Inciand						Application Tag	Unsigned (0x22)		***' : air conditioning number 0x01 -
	naigira	2				7770	Value	0x**02		0x80
Drosody i+(271)	BACnetARRAY[N] of	٥					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)		
	BACnetPropertyIdentifier	2			*		value	[0]:number of properties(N) [1-N]: Property Identifier		
Event_Detection_Enable	R ACnat Boolaan	W					Application Tag	Boolean(0x1x)		
(353)		^					Value	"true"		

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Data	4	0000	From 1 to 128	0x82	Binary Output Object
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Object Type		Binary	/ Output Obj	ject						
Property Identifier	Property Data Type	Read	Variable	Array	List	Tag		Value	Notice of	Remarks
							Application Tag	object Identifier (0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
(c/)aumer(c/)	BACNET UDJECT ID	¥				UXC4	binary output object	0x0100**82		0×80
Obicat Name (77)	a ninto no tronce do	6					Application Tag	character string (0x750C)		001 1 rodania zajazikihana siz . /***/
UDJect Name(77)	cnaracter sung	Y					String	"State/B0_***"		**** ; air conditioning number 1 – 128
Obie 4 E		6				ţ,	Application Tag	enumerated (0x91)		(1)T
ubject iype(79)	BAChetUbject lype	Y				TAXO	analog input object	0x04		Binary Output(4)
							Application Tag	enumerated (0x91)		
Present value(85)	BACnetBinaryPV	≥	*			0x91	70-10	INACTIVE 0x00		
							value	ACTIVE 0x01		
							Application Tag	Bit String(0x82)		
								b7 IN_ALARM		
Status_Flags(111)	BACnetStatusFlags	R	*			0x82		b6 FAULT		
							guncula	b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	≥					11-1	true 0x11		Present_Value are decoupled from the
							value	false 0x10		output
Technic Tout AC	a ninto no tronce do	6					Application Tag	character string(0x74)		
Inacuve_lext(40)	criaracter suring	¥					Value	"OFF"		
A divine Tende(A)	character atriac	c					Application Tag	character string(0x73)		
ACLIVE_IEXI(4)	cnaracter sunig	¥					Value	"NO"		
Duiotity Auton (07)	DACact Duicuit Auron	6	*	*		10.10	Application Tag	enumerated(0x91)		
rnony_Array(o/)	DACIIELFIIUTILYATI dy	¥	÷	÷		TAXO	Value	array[1]-[16]		
Motification (Jace/17)	poaciaal	0				6620	Application Tag	Unsigned (0x22)		<pre>`**' : air conditioning number 0x01 -</pre>
	nalificio	Ł				7770	Value	0x**82		0x80
							Application Tag	enumerated(0x91)		
Feedback_Value(40)	BACnetBinaryPV	R				0x91	Velue	INACTIVE 0x00		
							Adiue	ACTIVE 0x01		
							Annlication Tag	[0]:Unsigned(0x4E)		
Pronerty List(371)	BAChetPronertyIdent	2			÷			[1-N]: Property Identifier (0xc4)		
	ifier	:			÷		value	[0]:number of properties(N)		
							- H			
Event_Detection_Enable	BACnetBoolean	8					Application lag	Boolean (UX1X)		
(555)							Value	"true"		

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Name	Data
Object Type	13
Equipment Category	0000
Equipment Number	From 1 to 128
Instance Number	0x03
Object Type	Multi-State Input Object

Object Type		Multi-St	tate Input	Object	7						
		head								Notice of	
Property Identifier	Property Data Type	Write	Variable	Array	List	Tag		Value		Status Change	Remarks
Object Identifier(75)	BACnet Object ID	۵				0~04	Application Tag	object Identifier(0xC4)			<pre>`**' : air conditioning number 0x01 -</pre>
		2					multi-state input object	0x0340**03			0x80
	a ninte actuere de	6					Application Tag	character string (0x750B)			100 · · · · · · · · · · · · · · · · · ·
ODJect Name(//)	character sunig	¥					String	"Mode/MI_***"			**** ; air congiuoning number 1 – 128
		6				ç	Application Tag	enumerated(0x91)			M. 14. Charter Tarana (17. Charles)
UDJect IAbe(19)	BAChetUbjectType	Y				TAXO	Multi-State Input object	0×0D			
							Application Tag	enumerated(0x21)			
						1		Heating	0x01		
Present value(85)	Incided	0						Cooling	0x02	intrinsic	This property is writable when
*1	naligieu	Ł	×				Value	Fan	0x03	reporting	Out_Of_Service is TRUE
								Dry	0x04		
								Auto	0x05		
							Application Tag	Bit String (0x82)			
								b7 IN_ALARM			
Status_Flags(111)	BACnetStatusFlags	К	*			0x82		b6 FAULT			
							BITJUT	b5 OVERRIDDEN			
								b4 OUT_OF_SERVIC	Щ		
							Application Tag	Boolean(0x1x)			When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	×				1		true 0x11			Present_Value are decoupled from the
							value	false 0x10			input
Number Of Ctate(74)	Incident	6				1000	Application Tag	Unsigned(0x21)			
	naigired	Ł				TZXO	Value	0×05			
Notification_Class(17)	Unsigned	Я				0x22	Application Tag	Unsigned (0x22)			^{**'} : air conditioning number 0x01 – 0x80
							Value	0x**03			
Decord 1 (12221)	BACnetARRAY[N] of	0					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0)	(c4)		
	ifier	2			×		value	[0]:number of properties(N) [1-N]: Property Identifier			
Event_Detection_Enable	DA/CactBoolcon	W					Application Tag	Boolean(0x1x)			
(353)	DACITELDUVICALI	^				ı	Value	"true"			

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						List	
			128		ut Object	Array	
Data	14	0000	om 1 to 1	0x83	ate Outpı	Variable	
			Ч		Multi-St	Read Write	
						Type	
						Property Data	
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type	Property Identifier	

Object Type		Multi-Si	tate Uutp	ut Ubjec	H.							
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value		Notice of Status Change	Remarks	
Obioch Idontificu/JE	BACast Object ID					5.0	Application Tag	object Identifier (0xC4)			***' : air conditioning number 0x01 -	-
רכי) החומו המוניום לכי		Ł					multi-state output object	0x0380**83			0x80	
Obiod Name/77)	choroctor ctuin o	2					Application Tag	character string (0x750B)			/***/	
UDJect INAITTIE(//)	cnaracter sung	¥					String	"Mode/MO_***"				
OF:+ T/20)		6				ç	Application Tag	enumerated(0x91)			M. H. Chata C. tar. 4/1 4/	r —
upject iype(/9)	pachetubjectiype	¥				TAXO	Multi-State Output object	0×0E			Multi-State Output(14)	
							Application Tag	Unsigned(0x21)				<u> </u>
								Heating	0x01			
Present value(85)		141				Ċ		Cooling	0x02			
*1 *	nusignea	8	×			TZXN	Value	Fan	0x03			
								Dry	0x04			
								Auto	0x05			
							Application Tag	Bit String(0x82)				
								b7 IN ALARM				
Status Flags(111)	BACnetStatusFlags	2	*			0x82		b6 FAULT				
		:					BitString	b5 OVERRIDDEN				
								b4 OUT OF SERVIC	ш			
							Application Tag	Boolean(0x1x)			When this property is TRUE,	-
Out Of Service(81)	BOOLEAN	8						true 0x11			Present Value are decoupled from the	
							Value	false 0x10			output	
VE/	1	c				ţ,	Application Tag	Unsigned(0x21)				
Number_OT_States(74)	unsigned	¥				17X0	Value	0x05				
0.1. A		6	*	*		ţ,	Application Tag	enumerated (0x91)				
Priority_Array(&/)	BACHELPHORICYAITAY	¥	÷	÷		TAXO	Value	array[1]-[16]				
Motification Class(17)	10000	c				~~~~~	Application Tag	Unsigned (0x22)			***' : air conditioning number 0x01 -	
	naligieu	Ł					Value	0x**83			0x80	
							Application Tag	Unsigned (0x21)				
								Heating	0x01			
Feedback_Value(40)	Incided	0				1020		Cooling	0x02			
*1	naingireu	2				TZYN	Value	Fan	0x03			
								Dry	0x04			
								Auto	0x05			
	BACnotADDAV[N] of						Annlication Tad	[0]:Unsigned(0x4E)				
Property List(371)	BACnetPropertyIdent	~)			[1-N]: Property Identifier (0x	(C4)			
	ifier	:			÷		value	[0]:number of properties(N) [1-N]: Property Identifier				
Event_Detection_Enable	DA Cachecan	141					Application Tag	Boolean (0x1x)				
(353)	BACherboolean	Ŵ					Value	"true"				

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Name	Data
Object Type	13
Equipment Category	0000
Equipment Number	Erom 1 to 128
Instance Number Object Type	Multi-State Input Object

UDJect Type		c-ninivi	Induir and	IL UDJECL							
Property Identifier	Property Data Type	Read	Variable	Array	List	Tag		Value	Notice of	Remarks	
		write					Annlication Tad	obiact Idantifiar(NVC4)	status criarige	*** · · · · · · · · · · · · · · · · · ·	
Object Identifier(75)	BACnet Object ID	Ч				0xC4	multi-state input object	0x0340**05			
		c					Application Tag	character string (0x750A)			
UDJect Name(77)	cnaracter string	¥					String	"Fan/MI_*** "		****: : air conditioning number 1 – 128	
Object T.me/201	DACactObicatT.	c				10,00	Application Tag	enumerated(0x91)		Multi Ctato Issue(12)	
upject iype(19)	BAChetUbject1ype	Y				TAXO	Multi-State Input object	0x0D		Multi-State Input(13)	
							Application Tag	Unsigned(0x21)			
								Auto 0x02			
								HH 0x03			
Present value(85)	laciand	0				1020		H 0x04	intrinsic	This property is writable when	
*1	unsigned	Y	×			17X0		L 0x05	reporting	Out_Of_Service is TRUE	
								DX06			
								H+ 0x07			
								L+ 0x08			
							Application Tag	Bit String(0x82)			
							-	b7 IN ALARM			
								b6 FAULT			
Status Flans(111)	BACnetStatusFlaus	æ	*			0x82	BitString	P5 OVERRIDDEN			
		:						b4 OLIT OF SERVICE			
							Value				
								FAULI UXU/			
							Application Tag	Boolean(0x1x)		When this property is TRUE,	
Out_Of_Service(81)	BOOLEAN	N						true 0x11		Present_Value are decoupled from the	
							value	false 0x10		input	
Nimber Of Chater/24		6				10.00	Application Tag	Unsigned(0x21)			
	naigired	Ľ				1720	Value	0x05			
							Application Tag	Unsigned(0x22)		**** • air conditioning number ()<01 -	
Notification_Class(17)	Unsigned	Ч				0x22	Value	0x**05		08x0	
	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)			
rioperty_cist(3/1)	bauneuri opertytuent ifier	Y			*		value	[0]:number of properties(N) [1-N]: Property Identifier			
Event_Detection_Enable		Ŵ					Application Tag	Boolean(0x1x)			
(353)	DAUTELDOUEdT	^					Value	"true"			

Data	14	0000	From 1 to 128	0x85	Multi-State Output
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice d Status Cha	f nge	
Objoct Idontificar/7E)	DACact Object ID	-				22	Application Tag	object Identifier(0xC4)		***' : air conditioning number 0x01 -	
		2					multi-state output object	0x03C0**85		0x80	
	a have at a to be	c					Application Tag	character string(0x750A)		OC1 1 modument animalitic and a large state	
UDJect Name(//)	character sunig	¥				I	String	"Fan/MO_*** "		The solutioning number 1 – 128	
Obiod E moldo	om TheoidOtenOten	-				5	Application Tag	enumerated (0x91)		Miller Charles Orthonist(1.1)	
UDJect Iype(79)	BAChetUbject lype	Y				Texu	Multi-State Output object	0x0E		Multi-State Output(14)	
							Application Tag	Unsigned(0x21)			
						I		Auto 0;	×02		
								HH 0	×03		
Present value(85)		IW				10,00		Ю Н	x04		
*1	naigileu	^	×			TZXO		L 0;	x05		
									×06		
								H+ 0;	x07		
								L+ 0:	×08		
							Application Tag	Bit String(0x82)			
						I		b7 IN_ALARM			
Status Flags(111)	BACnetStatusFlags	2	*			0x82		b6 FAULT			
)						BitString	b5 OVERRIDDEN			
								b4 OUT_OF_SERVICE			
							Application Tag	Boolean (0x1x)		When this property is TRUE,	
Out_Of_Service(81)	BOOLEAN	8				I		true 0x11		Present_Value are decoupled from the	
							value	false 0x10		output	
Mumber Of Ctates(74)		c				10,00	Application Tag	Unsigned(0x21)			
(+/)salate_O_ballinu	naigileu	Ł				TZXO	Value	0x05			
			-				Application Tag	Unsigned(0x21)			
Priority_Array(87)	BACnetPriorityArray	ĸ	×	*		0x21	Value	Array[1]-[16]			
Natification Conditat	-	6					Application Tag	Unsigned (0x22)		***' : air conditioning number 0x01 -	
	nisigned	¥				ZZXO	Value	0x**85		0x80	
							Application Tag	Unsigned(0x21)			
								Auto 0:	x02		
Feedback_Value(40)	Incided	0				10~0		HH 0	x03		
*1	policies of	2				1 7 7 0	Value	Н	x04		
								L 0.	x05		
									×06		

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Name	Data
pe	0
it Category	0000
it Number	0m 1 to 128
Number	0x04
DE Aliai	ig input object

Object Type		Analo	og Input (Dbject							
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of tatus Change	Remarks	
Object Identifier(75)	BACnet Object ID	R				0xC4	Application Tag	object Identifier (0xC4)		<pre>`**' : air conditioning number 0x01 - 0x80</pre>	
		1					Application Tag	character string (0x750B)			-
Object Name(77)	character string	Я					String	"Temp/AI ***"		'***' : air conditioning number 1 – 128	
Obio:4 1		2				0.01	Application Tag	enumerated (0x91)		Andre Institution	1
unject iype(/y)	BACherUbjectType	¥				TAXN	analog Input object	0X00		Analog Input(U)	
							Application Tag	Real(0x44)			-
								Standard FCU			
(10)								From 18.0 to 29.0 (°C)		T	
Fresent value(85) *1	REAL	ч	*			0x44		From 64.0 to 84.0 (°F)	COV	This property is writable when	
T							value	Fresh Air Intake Indoor			
								From 16.0 to 27.0 (°C)			
								From 60.0 to 80.0 (°F)			
							Application Tag	Bit String (0x82)			1
								b7 IN_ALARM			
Status_Flags(111)	BACnetStatusFlags	Я	*			0x82		b6 FAULT			
							BILDUNG	b5 OVERRIDDEN			
								b4 OUT_OF_SERVICE			
							Application Tag	Boolean (0x1x)		When this property is TRUE,	1
Out_Of_Service(81)	BOOLEAN	Ν					164.00	true 0x11		Present_Value are decoupled from the	
							value	false 0x10		input	
							Application Tag	enumerated (0x91)			r –
Units(117)	BAChetEngeneering	R				0x91		degree-Celsius(62) (°C)			
	OIIIC						value	degree-Fahrenheit(64) (°F)			
Motification Class(17)		2					Application Tag	Unsigned (0x22)		<pre>`**' : air conditioning number 0x01 -</pre>	
	unsigned	¥				77XN	Value	0x**04		0x80	
	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)			
Li upei (y_ris() z)	ifier	Ł			×		value	[0]:number of properties(N)			
							:	LI-NJ: Property laentiner			
Event_Detection_Enable	BACnetBoolean	8					Application Tag	Boolean (0x1x)			-
(353)		:					Value	"true"			

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Name	Data
Object Type	1
Equipment Category	0000
Equipment Number	From 1 to 128
Instance Number	0x84
Object Type	Analog Output Object

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Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
Object Identifier(75)	BACnet Object ID	Я				0xC4	Application Tag	object Identifier (0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
		:					Analog output object	0x0040**84		0×80
Ohiect Name(77)	character string	2					Application lag	character string(UX/50B)		**** : air conditioning number 1 – 128
		<u> </u>					String	"Temp/AO_***"		
Ohiert Tyne/79)	RACnetOhiactTvne	۵				1070	Application Tag	enumerated(0x91)		Analog Outnut(1)
(c) add marging	nonicional de la	<u> </u>				TCVD	analog Input object	0x01		
							Application Tag	Real(0x44)		
								Standard FCU		
Decomption (OE)								From 18.0 to 29.0 (°C)		
rreserit value(oo)	REAL	≥	*			0x44	auley	From 64.0 to 84.0 (°F)		
4							Aalac	Fresh Air Intake Indoor		
								From 16.0 to 27.0 (°C)		
								From 60.0 to 80.0 (°F)		
							Application Tag	Bit String (0x82)		
								b7 IN_ALARM		
Ctatio Elace(111)	DACast Ctature	2	*			0,0		b6 FAULT		
(TTT)shall-subsc	DAUIEDIAIUSTIAUS	۷				7020	BitString	b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
								FAULT 0x07		
						1	Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	×						true 0x11		Present_Value are decoupled from the
							value	false 0x10		output
	DACrotEraconocripe						Application Tag	enumerated (0x91)		
Units(117)	Inits	ъ				0x91	auley	degree-Celsius(62) (°C)		
	5110							degree-Fahrenheit(64) (°F)		
Notification Class(17)		0				CC20	Application Tag	Unsigned (0x22)		<pre>`**' : air conditioning number 0x01 -</pre>
	naiifiiciin	2				7770	Value	0x**84		0x80
Dronetty [ct/371)	BACnetARRAY[N] of BACnetBroneth Ident	٥			-		Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)		
	ifier	٢			*		value	[0]:number of properties(N) [1-N]: Property Identifier		
Event_Detection_Enable	PACectBeelees	141					Application Tag	Boolean (0x1x)		
(353)	DAUIELDUUE	٨٨					Value	"true"		

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Name Data Object Type 0 Equipment Category 0 Equipment Number 0000 Instance Number 0.000	28
	Dject

Object Type		Analo	og Input C	Dbject							
	-										
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks	
Object Identifier/7E)	DACoot Object ID	0				500	Application Tag	object Identifier (0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>	_
		2				1771	Analog input object	0x0000**6E		0x80	
Obiod Name/ 77)	chanador china	C					Application Tag	character string(0x750B)		<pre>/***' : air conditioning number 1 -</pre>	_
UDJect Nallie(/ /)		Y					String	"AutoCoolSetpoint/AI_***		128	
Object Tune(70)	PACactObioctTune	d				0.01	Application Tag	enumerated (0x91)			
Unjeu. Iype(19)	DALIELUDJELLIYDE	Ł				TAXN	analog Input object	0×00			
							Application Tag	Real(0x44)			
								Standard FCU			
								From 18.0 to 29.0 (°C)		₩112	
Present value(85)	REAL	Ч	*			0x44		From 64.0 to 84.0 (°F)	COV	Out of Sections in True when	
Τ							value	Fresh Air Intake Indoor			
								From 16.0 to 27.0 (°C)			
								From 60.0 to 80.0 (°F)			
							Application Tag	Bit String (0x82)			
								b7 IN_ALARM			
Status_Flags(111)	BACnetStatusFlags	ч	*			0x82		b6 FAULT			
							BILSUING	b5 OVERRIDDEN			
								b4 OUT_OF_SERVICE			
							Application Tag	Boolean (0x1x)		When this property is TRUE,	
Out_Of_Service(81)	BOOLEAN	N					16-1-2	true 0x11		Present_Value are decoupled from the	
							value	false 0x10		input	_
	D & Contraction						Application Tag	enumerated (0x91)			
Units(117)	BACnetEngeneering	Ч				0x91		degree-Celsius(62) (°C)			
	OIIILS						value	degree-Fahrenheit(64) (°F)			
Notification Class(17)		C					Application Tag	Unsigned (0x22)		<pre>`**' : air conditioning number 0x01 -</pre>	
	naigileu	Ł				7770	Value	0x**6E		0x80	
	BACnetARRAY[N] of	6			÷		Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)			
	ifier	Ł			×		value	[0]:number of properties(N) [1-N]: Property Identifier			
Event_Detection_Enable	DA Cact Boolean	W/					Application Tag	Boolean (0x1x)			-
(353)	DAUICIDUUICAII	^					Value	"true"			
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Data		0000	From 1 to 1	0XEE	Analog Output
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

		Allal		UUJELL]						
Property Identifier	Property Data Type	Read	Variable	Array	List	Taq		Value	Notice of	Remarks	_
		Write					Audiontion Too	chicat Idantificar (0.001)	status change		
Object Identifier(75)	BACnet Object ID	~				0xC4	Application lay Analog output object				
		c					Application Tag	character string (0x750B)		<pre>/***' : air conditioning number 1 -</pre>	
Object Name(//)	character string	×					String	"AutoCoolSetpoint/AO_***"		128	
		6				ţÇ, Ç	Application Tag	enumerated (0x91)		A == == 0. 4.11	·
UDJect Iype(/9)	BAChetUbject lype	¥				TAXN	analog Input object	0x01			
							Application Tag	Real(0x44)		In the case of Auto cool temperature	
										setting ≥ Auto heat temperature	
								From 18.0 to 29.0 (°C)		setting, both setting values will be	
Present value(85)	RFAI	N	×			0x44		From 64 0 to 84 0 (°F)			
*1	1	:					Value	Fresh Air Intake Indoor		In the case of Auto cool temperature	
								From 16.0 to 27.0 (°C)		setting < Auto heat temperature	
								From 60.0 to 80.0 (°F)		setting, the setting values will not be transmitted.	
							Application Tag	Bit String(0x82)			
								b7 IN_ALARM			
		6	*			0,0		b6 FAULT			
cially_riags(III)	DACIIELOLALUS	×	+			70X0	BitString	b5 OVERRIDDEN			
								b4 OUT_OF_SERVICE			
								FAULT 0x07			
							Application Tag	Boolean(0x1x)		When this property is TRUE,	
Out_Of_Service(81)	BOOLEAN	≥						true 0x11		Present_Value are decoupled from the	
		_					value	false 0x10		output	
	DA/Caot Endoaconing						Application Tag	enumerated (0x91)			
Units(117)	Linits	~				0×91	Value	degree-Celsius(62) (°C)			
	2						2222	degree-Fahrenheit(64) (°F)			
Notification Class(17)		6					Application Tag	Unsigned(0x22)		<pre>`**' : air conditioning number 0x01 -</pre>	
	nisigned	×				7770	Value	0x**EE		0x80	
	BACnetARRAY[N] of	ſ					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)			
Property_ust(3/1)	bACnetProperty.taent ifier	¥			*		value	[0]:number of properties(N) [1-N]: Pronerty Identifier			
Event Detection Enable		:					Application Tag	Boolean (0x1x)			-
(353)	BACnetboolean	\$					Value	"true"			,

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Data	0	0000	From 1 to 128	0x6F	Analog Input Object
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Object Type		Anald	og Input C	Dbject	<u> </u>						
					Ī						
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks	_
Object Identificu/JEV	BACast Object ID	c				500	Application Tag	object Identifier (0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>	
(c/) Ialiiniiant malao		Ł					Analog input object	0x0000**6F		0×80	
Obiod Name/77)	chanador china	c					Application Tag	character string(0x750B)		<pre>'***' : air conditioning number 1 -</pre>	_
UDJECT INATTIE(/ /)	criaracter suring	Y					String	"AutoHeatSetpoint/AI_***"		128	
Obiod T.mo(70)	DACsotObiostTune	c				10.00	Application Tag	enumerated (0x91)		Accles Tessue(0)	_
ubject Type(79)	pachetupjectiype	¥		_		TAXO	analog Input object	0000			
							Application Tag	Real(0x44)			_
								Standard FCU			_
10/0								From 18.0 to 29.0 (°C)		The second s	
Present value(85) *1	REAL	ĸ	*			0x44	14-1	From 64.0 to 84.0 (°F)	COV	Lins property is writable when	
Τ.,							value	Fresh Air Intake Indoor			
								From 16.0 to 27.0 (°C)			
								From 60.0 to 80.0 (°F)			
							Application Tag	Bit String (0x82)			_
								b7 IN_ALARM			
Status_Flags(111)	BACnetStatusFlags	ĸ	*			0x82		b6 FAULT	1		
)						BitString	b5 OVERRIDDEN	1		
								b4 OUT_OF_SERVICE	1		
							Application Tag	Boolean (0x1x)		When this property is TRUE,	_
Out_Of_Service(81)	BOOLEAN	8						true 0x11		Present_Value are decoupled from the	
							value	false 0x10	1	input	
							Application Tag	enumerated (0x91)			_
Units(117)	bACnetEngeneering	Ч				0x91		degree-Celsius(62) (°C)			
							value	degree-Fahrenheit(64) (°F)			
Matificantion Class(17)	Incienced	c					Application Tag	Unsigned (0x22)		<pre>`**' : air conditioning number 0x01 -</pre>	_
NOULICATION_CLASS(1/)	unsignea	¥				77XN	Value	0x**6F		0X80	
	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)			_
	ifier	Ł			*		value	[0]:number of properties(N) [1-N1: Property Identifier			
Event Detection Enable		3					Application Tag	Boolean (0x1x)			
(353)	BACnetboolean	M					Value	"true"			

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Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of atus Change	Remarks	
Object Identifier(75)	BACnet Object ID	~				0xC4	Application Tag	object Identifier (0xC4)		***': air conditioning number 0x01 –	
		:	-				Analog output object	0x0040**EF		0x80	_
Ohiact Name/ 77)	character string	۵					Application Tag	character string(0x750B)		<pre>'***' : air conditioning number 1 -</pre>	
	חומומרובו אחווות	2	1				String	"AutoHeatSetpoint/AO_***"		128	_
Obiod T mac/20)	DACnotObicotT.	c				10,00	Application Tag	enumerated (0x91)			_
upject iype(/9/	BAChetUbjectType	¥				TAXO	analog Input object	0x01		Analog Output(1)	
							Application Tag	Real(0x44)		In the case of Auto cool temperature	_
										setting > Auto heat temperature	
										setting, both setting values will be	_
Present value(85)			-					From 18.0 to 29.0 (C)		transmitted to the indoor unit.	_
*1	REAL	≥	*			0x44	Value	From 64.0 to 84.0 (°F)			_
1			_					Fresh Air Intake Indoor		In the case of Auto cool temperature	_
								From 16.0 to 27.0 (°C)		setting < Auto heat temperature	_
								From 60.0 to 80.0 (°F)		setting, the setting values will not be transmitted.	
							Application Tag	Bit String(0x82)			_
								b7 IN_ALARM			
Chatter Flace/111/		c	*			0.0		b6 FAULT			_
Status_Flags(111)	BAChetStatusFlags	¥	÷			79XN	BitString	b5 OVERRIDDEN			
								b4 OUT_OF_SERVICE			
			_					FAULT 0x07			_
							Application Tag	Boolean (0x1x)		When this property is TRUE,	_
Out_Of_Service(81)	BOOLEAN	8	_					true 0x11		Present_Value are decoupled from the	_
							value	false 0x10		output	_
	DACast Casses						Application Tag	enumerated (0x91)			_
Units(117)	DACRELERIGERERING	Ч				0x91		degree-Celsius(62) (°C)			
							value	degree-Fahrenheit(64) (°F)			_
Notification Class(17)		6					Application Tag	Unsigned (0x22)		<pre>`**' : air conditioning number 0x01 -</pre>	_
NOUTICATION_CLASS(1/)	nusignea	¥				77XN	Value	0x**EF		0x80	_
(FCC/te: 1) - +0	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)			_
(Tre)isin_theorem	ifier	Ł			*		value	[0]:number of properties(N) [1-N]: Property Identifier			
Event_Detection_Enable	DA/Cact Docloca	W					Application Tag	Boolean (0x1x)			_
(353)	DAUIELDUUEAII	٨٨					Value	"true"			_

Data	0	0000	From 1 to 128	0×08	Analog Input Obje
Name	Object Type	Equipment Category	Equipment Number	instance Number	Object Type

Object Type		Ana	log Input C	Dbject							
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks	
Obio de Talentis en/36		6				Ū,	Application Tag	object Identifier (0xC4)		***' : air conditioning number 0x01 -	-
(c/)Jacumer()	BACREL UDJECL ID	Y				UXC4	Analog input object	0×0000**08		0x80	_
Obio 4 Name (77)	a barrada a characha	-					Application Tag	character string(0x7510)			
UDJect Name(//)	character suning	¥					String	"Room_Temp/AI_*** "			_
0L/		-				ç	Application Tag	enumerated (0x91)		V	_
unject iype(/y)	BAChetUDjectType	Y				TAXN	analog Input object	0×00		Analog Input(U)	_
							Application Tag	Real(0x44)			
Present value(85)	REAL	2	×			0x44	oule/	From -35.0 to 92.5 (°C)		This property is writable when	
							value	From -31.0 to 198.5 (°F)			
							Application Tag	Bit String(0x82)			
								b7 IN_ALARM			
Status_Flags(111)	BACnetStatusFlags	2	*			0x82		b6 FAULT			
							BILITICIA	b5 OVERRIDDEN			
								b4 OUT_OF_SERVICE			
							Application Tag	Boolean (0x1x)		When this property is TRUE,	_
Out_Of_Service(81)	BOOLEAN	8						true 0x11		Present_Value are decoupled from the	
							value	false 0x10		input	
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						Application Tag	enumerated (0x91)			
Units(117)	BACNETENGENEERING	2				0x91		degree-Celsius(62) (°C)			
							value	degree-Fahrenheit(64) (°F)			
		6					Application Tag	Unsigned (0x22)		$^{**'}$: air conditioning number 0x01 –	_
	unsignea	¥				7720	Value	0×**08		0x80	
1122/112	BACnetARRAY[N] of	ء					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)			
rioperty_tistic)	ifier	×			×		value	[0]:number of properties(N) [1-N]: Property Identifier			
Event_Detection_Enable	BACrotBooloan	M					Application Tag	Boolean (0x1x)			_
(353)	םארוובנסטטבמוו	۸۸					Value	"true"			

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Name	Data
Object Type	13
Equipment Category	0000
Equipment Number	From 1 to 128
Instance Number	60×0
Object Type	Multi-State Input Object

Property Identifier	Property Data Type	Read Write	Variable /	Array	List Ta	D	Value	Notice of Status Change	Remarks
Object Identificar(7E)	DACreet Object ID	-			č	Application Tag	object Identifier(0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
	האכוובו כחובנו זה	2			Ň	multi-state input object	0x0340**09		0x80
Obioct Name/17	chorotor office	2				Application Tag	character string (0x750E)		/***/
	רוומו מרובו אחוווה	Ł				String	"Inhibit/MI_*** "		
Obio 4 T 70)		-			č	Application Tag	enumerated (0x91)		Multi Ctato Tamint(12)
unject iype(/3)	pachetubjectiype	¥			Ň	Multi-State Input object	0×0D		עמוור-אמוני אישטער אומוין
						Application Tag	Unsigned(0x21)		
							Prohibition		
							Mode Temp ON/OFF Data		
							0x01		
							✓ 0x02		
Present value(85)	Unsigned	3	*		ŏ	21	- v - 0x03	intrinsic	This property is writable when
	0		÷			Value	0x04	reporting	
							 0x05 		
							V - 0x06		
							- / / 0x07		
							 0x08 		
						Application Tag	Bit String(0x82)		
							b7 IN ALARM		
Status_Flags(111)	BACnetStatusFlags	ч	*		Ň	32	b6 FAULT		
						BICSCLING	b5 OVERRIDDEN		
							b4 OUT_OF_SERVICE		
						Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	8					true 0x11		Present_Value are decoupled from the
						value	false 0x10		input
Nimber Of Chates/24/		6			č	Application Tag	Unsigned(0x21)		
INUITIDET_OI_States(74)	Ulisigned	¥			ň	ZI Value	0x08		
						Application Tag	Unsigned(0x22)		***' : air conditioning number 0x01 –
Notification_Class(17)	Unsigned	∝			ŏ	22 Value	60**X0		0x80
	BACnetaRRAY[N] of	c				Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)		
Property_LIST(3/1)	BACnetPropertylaent ifier	¥			*	value	[0]:number of properties(N) [1-N]: Property Identifier		

Boolean(0x1x) "true" Application Tag Value ≥ Event_Detection_Enable BACnetBoolean (353)

						Not Status			JE)				
						Value	object Identifier(0xC4)	0x0380**89	character string (0x750	"Inhibit/MO_*** "	enumerated (0x91)	0×0E	
							Application Tag	multistate output object	Application Tag	String	Application Tag	Multi-state Output object	
						Tag	220	500			1020	TEYN	
						List							
			28		ut Object	Array							
Data	14	0000	om 1 to 1	0x89	ate Outpu	Variable							
			F		Multi-st	Read Write	Я		ъ		d	Ł	
						Property Data Type	DACroct Obioct ID		cho so choir choire	clialacter suilig	BACnet-ObiectTyne	providentiable	
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type	Property Identifier	Object Identifics/7E				Object Type(70)	Onject Lype(19)	

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	-									
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
Object Identificat(7E)							Application Tag	object Identifier(0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
onject Identinier (72)		Ł				+2X0	multistate output object	0x0380**89		0×80
	محاسف سماف حاطم	6					Application Tag	character string (0x750E)		
UDJect INAITIE(///)	cnaracter suring	Y					String	"Inhibit/MO_*** "		**** : air conaidonnig number 1 – 128
		6				ţ,	Application Tag	enumerated (0x91)		Multi Ctette Octavit(14)
unject iype(/9)	BACheruojecriype	Y				TEXU	Multi-state Output object	0×0E		Multi-State Output(14)
							Application Tag	Unsigned(0x21)		
								Prohibition		
								Mode Temp ON/OFF Data		
								0x01		
								 - 0x02 		
Present value(85)	BACnetBinarvPV	8	*			0x21	-	- / - 0x03		
~							Value	0x04		
								 0x05 		
								• 0×00		
								- V V 0x07		
								 V V 0x08 		
							Application Tag	Bit String(0x82)		
								b7 IN_ALARM		
Status_Flags(111)	BACnetStatusFlags	2	×			0x82		b6 FAULT		
							burnenia	b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	≥						true 0x11		Present_Value are decoupled from the
							value	false 0x10		output
Number_Of_States(74	Incide	c				1000	Application Tag	Unsigned(0x21)		
(naigileu	٢				TZXN	Value	0x08		

Remarks				<pre>`**' : air conditioning number 0x01 -</pre>	0×80																	
Notice of Status Change																						
								Data	0×01	0×02	0x03	0x04	0x05	0x06	0x07	0x08						
							ibition	ON/OFF	-			1		1	>	1	ier (0xc4)	es(N)	ier			
е	x21)			x22)		x21)	Prohi	Temp	ı		1	•	1	ı	>	~	d(0x4E) erty Identif	of propertie	erty Identif	1x)		
Valu	Unsigned (0	NULL	120s(0x78)	Unsigned (0	0x**89	Unsigned (0		Mode		>	1	1	~	~		~	[0]:Unsigne [1-N]: Prope	[0]:number	[1-N]: Prop(Boolean (0x	"true"	
	Application Tag	Value	Value	Application Tag	Value	Application Tag						value					Application Tag	anlev		Application Tag	Value	
Tag		0x21			7770						0x21											
List												*										
Array	*																					
Variable	*			*																		
Read Write	~~~~			۲							c	Ł		M	~~							
Property Data Type		BACnetPriorityArray		beined	naligieu						Unsigned	•					BACnetARRAY[N] of	ifier		BACnetBoolean		
Property Identifier		Priority_Array(87)		Motification Class(17)							Feedback_Value(40)							rioperty_rist(3/ 1)		Event_Detection_Enable	(353)	

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Data	£	0000	From 1 to 128	0x14	Binary Input Object
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Object Type		Bina	ry Input C	Dbject						
Property Identifier	Property Data Type	Read	Variable	Arrav	List	Tao		Value	Notice of	Remarks
		Write		1		n			Status Change	
Object Identification	DACent Obioct TO	2				0.0	Application Tag	object Identifier(0xC4)		<pre>'**' : air conditioning number 0x01 -</pre>
(c/)Jaunuat 10alan	BACREL UDJECT ID	Y			_	UXC4	binary input object	0x00C0**14		0x80
		4				10.10	Application Tag	character string (0x750D)		
UDJect Name(//)	cnaracter sung	Y			_	c/XN	String	"Filter/BI_***"		**** : air conditioning number 1 – 128
(0L) H + HO		6				Ģ	Application Tag	enumerated(0x91)		
UDJect 1ype(/9)	BACNETUDJECT I ype	¥				16X0	analog input object	0x03		Binary Input(3)
							Application Tag	enumerated(0x91)		-
Present value(85)	BACnetBinaryPV	ъ	*		_	0x91		INACTIVE 0x00		I his property is writable when
							Value	ACTIVE 0x01	reporting	
							Application Tag	Bit String(0x82)		
								b7 IN_ALARM		
Status_Flags(111)	BACnetStatusFlags	2	×			0x82		b6 FAULT		
					_		buincia	b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	8						true 0x11		Present_Value are decoupled from the
							value	false 0x10		input
Too din C Tout (AC)	character other	2			_		Application Tag	character string(0x75)		
		¥			_		Value	"Normal"		
	character office	2					Application Tag	character string(0x75)		
Active_lext(+)		Ł			_		Value	"Filter"		
	- Incipal	2					Application Tag	Unsigned(0x22)		***' : air conditioning number 0x01 -
	nalificio	2			_	7770	Value	0x**14		0x80
	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)		
רו טאפו וא_בואנ או	ifier	Ľ			×		value	[0]:number of properties(N) [1-N]: Property Identifier		
Event_Detection_Enable	RACnetBoolean	>					Application Tag	Boolean(0x1x)		
(353)							Value	"true"		

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Data	4	0000	From 1 to 128	0x95	Binary Output Object
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Object Type		Binary	Output (Object							
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks	
Object Identifeer(7E)	BACast Object ID	6				5.0	Application Tag	object Identifier (0xC4)		***' : air conditioning number 0x01 -	
	DALIEL UDJECL ID	¥					binary output object	0×0100**95		0x80	
Chicat Name	a atria no teorema da	6					Application Tag	character string(0x750D)		OC1 1	
UDJect Name(//)	cnaracter string	¥					String	"Filter/B0_***"		**** ; air conditioning number 1 – 128	-
()List T == ()		6				ç	Application Tag	enumerated (0x91)			
UDJect 1ype(79)	BAChetUbject lype	¥				TEXU	analog input object	0x04		Binary Output(4)	
							Application Tag	enumerated (0x91)			
Present value(85)	BACnetBinaryPV	8	*			0x91		INACTIVE 0x00			
							value	ACTIVE 0x01			
							Application Tag	Bit String(0x82)			
								b7 IN_ALARM			
Status_Flags(111)	BACnetStatusFlags	8	*			0x82	DitCtuics	b6 FAULT			
							burnenia	b5 OVERRIDDEN			
								b4 OUT_OF_SERVICE			
							Application Tag	Boolean(0x1x)		When this property is TRUE,	
Out_Of_Service(81)	BOOLEAN	8						true 0x11		Present_Value are decoupled from the	
							value	false 0x10		output	
Tractive Text(A6)	charactor string	0					Application Tag	character string(0x72)			
	רוומו מרובו אווווט	Ł					Value	<i>"</i> -" w			
Active Tout AV	character atriac	c					Application Tag	character string(0x75)			
ACLIVE_IEXI(4)	כוומו מכופו אנוווט	Y					Value	"Reset"			
Motification Clace/17)	Incidend	6				~~~~	Application Tag	Unsigned (0x22)		<pre>`**' : air conditioning number 0x01 -</pre>	
	naigirea	Ł				7770	Value	0x**95		0x80	
							Application Tag	enumerated (0x91)			
Feedback_Value(40)	BACnetBinaryPV	~				0x91	onley	INACTIVE 0x00			
							value	ACTIVE 0x01			
	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)			
	bACHELPI OPER NUCLE	¥			×		value	[0]:number of properties(N) [1-N]: Property Identifier			
Event_Detection_Enable		W					Application Tag	Boolean (0x1x)			
(353)	BACherboolean	M					Value	"true"			

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Name	Data
Object Type	3
Equipment Category	0000
Equipment Number	From 1 to 128
Instance Number	0x40
Object Type	Binary Input Object

Object Type		Bina	ary Input C	Dbject						
									_	
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
		4				U.S	Application Tag	object Identifier(0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
(c/)Jaunuar najac	BACHEL UDJECT ID	¥				UXC4	binary input object	0x00C0**40		0X80
		4					Application Tag	character string (0x750C)		
UDJect Name(77)	cnaracter string	¥					String	"Alarm/BI_***"		**** : air condicioning number 1 - 128
OP/om I troidO		6				10.0	Application Tag	enumerated (0x91)		
UDJect Iype(79)	BAChetUbjectiype	¥				TAXO	analog input object	0x03		binary input(3)
							Application Tag	enumerated (0x91)		This property is writable when
Drecent value(85)	RACnotRinarvDV	M	*			040		No Alarm 0x00	intrinsic	Out_Of_Service is TRUE
						1000	Value	Alarm 0x01	reporting	Check Code : please refer to 'Indoor unit Check Code'.
							Application Tag	Bit String(0x82)		
								b7 IN_ALARM		
Status_Flags(111)	BACnetStatusFlags	Ч	*			0x82		b6 FAULT		
							burnena	b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	≥						true 0x11		Present_Value are decoupled from the
							value	false 0x10		input
Tanatine Tout/AC	character string	c					Application Tag	character string(0x75)		
IIIdcuve_lext(40)	כוומו מרובו ארוווול	Ł					Value	"Normal"		
Active Teach(A)	character ctrine	2					Application Tag	character string(0x75)		
	רוומו מררבו אחוווה	Ł					Value	"Alarm"		
	المحتمط	6					Application Tag	Unsigned(0x22)		<pre>`**' : air conditioning number 0x01 -</pre>
	unsigned	¥					Value	0x**40		0x80
110000	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)		
rioperty_rist(3/1)	ifier	Ł			×		value	[0]:number of properties(N) [1-N]: Property Identifier		
Event Detection Enable							Annlication Tag			
(353)	BACnetBoolean	8				_	Value Value	"true"		

Data
13
0000
From 1 to 128
0×01
Mult-State Input Object
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IN	am a		Data							
			במימ							
Object Type			13							
Equipment Catego	Jry		0000							
Equipment Numbe	er	Ē	rom 1 to 1	128						
Instance Number			0x01							
Object Type		Mult-S	itate Inpu	t Object	L.					
						-			-	
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
Object Identifier(75)	BACnet Object ID	Я				0xC4	Application Tag	object Identifier (0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
		:				0	multi-state input object	0x0340**01		0x80
(77)omelt Mamel(77)	character string	0					Application Tag	character string(0x7511)		**** · . air conditioning number 1 – 128
		2					String	"Alarm_Code/MI_***"		
Object Tune(70)	DACnotObioctTime	0				0.01	Application Tag	enumerated(0x91)		Multi State Innut(12)
unject iype(///	DACITELOUJECTIYPE	Ł				TAXN	Multi-State input object	0×0D		
Drocont voluo/0E)							Application Tag	Unsigned(0x21)		This property is writable when
rieseiit value(oo)	Unsigned	2	*			0x21	Value	From 1 to 65536		Out_Of_Service is TRUE.
										when is no Alarm, the value is '1'.
							Application Tag	Bit String(0x82)		
								b7 IN_ALARM		
Status_Flags(111)	BACnetStatusFlags	~	×			0x82	BitCtripo	b6 FAULT		
								b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	×						true 0x11		Present_Value are decoupled from the
		_					value	false 0x10		input
Number_Of_States(Incided	٥				600	Application Tag	Unsigned(0x22)		
74)	originad	2				7770	Value	0x0100		
Motify Typo/70)	P.A.Cno+Mo+ifi.T.mo	0				0201	Application Tag	enumerated (0x91)		
(2) http://www.		۷				TEYN	Value	event(0x01)		
Notification_Class(1	Incidenced	6				~~~~	Application Tag	Unsigned (0x22)		<pre>`**' : air conditioning number 0x01 -</pre>
7)	nisigired	۷				7770	Value	0x**01		0x80
	BACnetaRRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)		
(T /c)heirh-riar	r האכוופנריו טויפו ויעזמפוומו ופ	×			*		value	[0]:number of properties(N) [1-N]: Property Identifier		
Event_Detection_Ena							Application Tag	Boolean(0x1x)		
ble (353)	BACnetBoolean	>					Value	"true"		
//										

bit	Item	Value
15	Automatic backup	VRF function (automatic backup) status 0: OFF or not functional 1: Undergoing automatic backup
14	Model group ID	000:VRF; Light Commercial model
13 12		001-111: Reserved
11	Reserved	0
10	Reserved	0
6	Reserved	0
8	Code extension	0~3
7	Code classification	Described in "5. Check Code.
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Name Data Dject Type 13 quipment Category 0000 quipment Number From 1 to 128 stance Number 0x07
bject Type Multi-State Input Object

		"true"	Value					8	BACnetBoolean	(353)
		Boolean(0x1x)	Application Tag						-	Event Detection Enable
		[0]:number of properties(N) [1-N]: Property Identifier	value		×			۷	ifier	riuperty_tist() 1)
		[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)	Application Tag					d	BACnetARRAY[N] of	Bronotty Litt(371)
0×80		0x**07	Value	0x22				~	Unsigned	Notification_Class(17)
***' : air conditioning number 0x01 -		Unsigned (0x22)	Application Tag					1		1
		0x07	Value	1770				2	naigieiu	
		Unsigned(0x21)	Application Tag	10~1				۵	Insigned	Numhar Of Statac(74)
input		false 0x10	value							
Present_Value are decoupled from the		true 0x11	onley					N	BOOLEAN	Out_Of_Service(81)
When this property is TRUE,		Boolean(0x1x)	Application Tag							
		NORMAL 0x00 FAULT 0x07	Value							
		b4 OUT_OF_SERVICE								
		b5 OVERRIDDEN	BITSTRING	0x82			×	2	BACnetStatusFlags	Status_Flags(111)
	1	D/ IN_ALAKIYI b6 FAULT								
		Bit String(0x82)	Application Tag							
		Stop 0x07								
	Ĩ	F5 0x06								
	reporting	F3 0x04	Value				÷)	1.
This property is writable when	intrinsic	F2 0x03		0x21			÷	2	Unsigned	Present value(85)
		F1 0x02								
		SWING 0x01								
		Unsigned(0x21)	Application Tag							
Multi-State Input(13)		0×0D	Multi-State Input object	TEXU				¥	BAChetUbject lype	upject iype(/3/
Multi Ctato Issuit/12)		enumerated (0x91)	Application Tag	10.0				2	DACsotObiostTime	Object T.mo/20)
: : air conditioning number 1 – 128		"Flap/MI_"	String					¥	cnaracter string	Ubject Name(77)
		character string(0x750B)	Application Tag					6		(LL)
0x80		0x0340**07	multi-state input object	UXC4				¥	BACHEL UDJECT IU	(c/)Jaunuar malan
¹ **' : air conditioning number 0x01 –		object Identifier(0xC4)	Application Tag	570				-	BACast Object ID	Object Identifics/7E
Remarks	Notice of Status Change	Value		Tag	List	Array	Variable	Read Write	Property Data Type	Property Identifier
						r unjerr	ndiir aibi	c-nini		
						t Ohiect	tate Innu	Multi-9		Ohiect Tyne

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Data	14	0000	From 1 to 128	0x87	Multi-State Output Object
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

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Remarks	***' : air conditioning number 0x01 -	0x80	****/ in conditioning animpton 1		Multi Ctate Outer 4/14/	INIULI-State Output (14)														When this property is TRUE,	Present_Value are decoupled from the	output					<pre>'**' : air conditioning number 0x01 -</pre>	0x80
Notice of Status Change										1																		
								0x01	0x02	0x03	0x04	0x05	0x06	0x07					н									
Value	object Identifier(0xC4)	0x03C0**87	character string(0x750B)	"Flap/MO_***"	enumerated (0x91)	0×0E	Unsigned(0x21)	SWING	F1	F2	F3	F4	F5	Stop	Bit String(0x82)	b7 IN_ALARM	b6 FAULT	b5 OVERRIDDEN	b4 OUT_OF_SERVIC	Boolean (0x1x)	True 0x11	False 0x10	Unsigned(0x21)	0×07	Unsigned(0x21)	Array[1]-[16]	Unsigned (0x22)	0x**87
	Application Tag	multi-state output object	Application Tag	String	Application Tag	Multi-State Output object	Application Tag				Value				Application Tag		DitCtuine	קוווזכוום		Application Tag	11-1	value	Application Tag	Value	Application Tag	Value	Application Tag	Value
Tag	2020				10,00	TAXO	0x21									0x82						1000	TZXO		0x21	6000	7770	
List																												
Array																												
Variable							*							*														
Read Write	۵	2	2	Ł	2	Ł				141	8						Ж			8			2	Ł	~			۷
Property Data Type	BAChat Ohiart ID	האכוובו טעובנו זט	character atria a	רוומו מרובו אווווט	D A Cacet Object Tune	DALIELUUJELLIYPE				la se i se	unsignea						BACnetStatusFlags				BOOLEAN		Incident	naigilieu		BACnetPriorityArray	Incipad	naigirea
Property Identifier	Object Identifier(75)		(TT) month to bid	UDJECT INGILIE(//)	Obiod T. mo/20)	unjeci iype(/3/				Present value(85)	*1						Status_Flags(111)				Out_Of_Service(81)		Number Of Chater(74)	(+/)sanalo_io_iau		Priority_Array(87)	Motification Clace(17)	

	0x01	0x02	0x03	0x04	0x05	0x06	0x07		Dxc4)				
Unsigned(0x21)	SWING	F1	F2	F3	F4	F5	Stop	[0]:Unsigned(0x4E)	[1-N]: Property Identifier (([0]:number of properties(N)	[1-N]: Property Identifier	Boolean(0x1x)	"true"
Application Tag			10.01	VALI Value				Analization Tag			value	Application Tag	Value
								*					
				2								W	2
			lheimed	naigireu					BACnetakkay[N] (ifiar	D	DA Croth Declara	DACI IELDUUIEAI I
			Feedback_Value(40)	*1								Event_Detection_Enable	(353)

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Data	3	0000	From 1 to 1	0x28	Binary Input (
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Object Type		Binar	y Input C	Dbject							
Property Identifier	Property Data Type	Read	Variable	Array	List	Tag		Value		Notice of	Remarks
		AVIILE					Audiontion Too	abiant Idantificar/0.04		ordius ciidiige	14*/i
Ohiect Identifier(75)	BAChet Ohiert ID	2			-	0xC4	Application rag	object Identifier (uxC4)		_	- TOXO - SULL COLIGICIONING UNITIDEL UXUL
		4					binary input object	0x00C0**28		_	0x80
Object News/77)	character strikes	6			_	0.17F	Application Tag	character string (0x7517)		_	
ODJect Name(//)	criar acter suring	¥			_	c/X0	String	"VentilationState/BI_***"		_	
(0L)		6				ç.	Application Tag	enumerated (0x91)			
UDJect Iype(19)	BAChetUbject lype	¥			_	TAXO	analog input object	0x03			binary input(3)
							Application Tag	enumerated(0x91)		- je vijedalj	
Present value(85)	BACnetBinaryPV	2	×		_	0x91	1-1	INACTIVE	0×00		I I I I I I I I I I I I I I I I I I I
					_		value	ACTIVE	0x01	Leporung	
							Application Tag	Bit String(0x82)			
					_			b7 IN ALARM		_	
Status_Flags(111)	BACnetStatusFlags	Ж	×		_	0x82		b6 FAULT			
					_		BILDERING	b5 OVERRIDDEN		_	
					_			b4 OUT_OF_SERVICE			
							Application Tag	Boolean(0x1x)		_	When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	8			_			true 0x11		_	Present_Value are decoupled from the
					_		value	false 0x10			input
		4					Application Tag	character string(0x74)			
Inactive_lext(40)	cnaracter sung	¥			_		Value	"OFF"		_	
A 4411 10 Tout 4/ 4/	م منتبع مد موسوط م	6					Application Tag	character string(0x73)			
Active_lext(+)	character sunng	¥			_		Value	"NO"			
		c			_		Application Tag	Unsigned(0x22)			***' : air conditioning number 0x01 –
Nouncation_Class(1/)	unsigned	¥			_	77XN	Value	0x**28			0×80
	BACnetARRAY[N] of						Application Tag	[0]:Unsigned(0x4E) [1-N1: Pronerty Identifier(0xr4)			
Property_List(371)	BACnetPropertyIdent	R			*			[0].nimber of nronerties(N)		_	
	ifier				_		value	[1-N]: Property Identifier			
Event_Detection_Enable	PACastBoolson	Ŵ			_		Application Tag	Boolean(0x1x)			
(353)	DACIELDOVICALI	^			-		Value	"true"		_	

Object Type			4							
Equipment Category			0000							
Equipment Number		Ē	rom 1 to	128						
Instance Number			0xA8							
Object Type		Binaı	ry Output	Object						
		Read							Notice of	
Property Identifier	Property Data Type	Write	Variable	Array	List	Tag	Value	Sta	atus Change	Remarks
Ohiert Identifier(75)	B∆Cnat Ohiart ID	a				0204	Application Tag object Identifier (0xC4)			`**' : air conditioning number $0x01 -$
	האכווכו כחוכנו זה	2					binary output object 0x0100**A8			0x80
Object Name(77)	character string	2					Application Tag character string (0x7517)			'***' : air conditioning number 1 – 128
		4					String "VentilationState/BO_*** "			
Ohiart Tyna(70)	RACnatOhiactTvna	۵				0~01	Application Tag enumerated (0x91)			Binary Outhuit(4)
anjer igherial	nucleconjectified	2				TEYN	analog input object 0x04			Dinary Output(T)
							Application Tag enumerated (0x91)			
Present value(85)	BACnetBinaryPV	×	*			0x91	INACTIVE	0X00		
							Value	0x01		
							Application Tag Bit String (0x82)			
							b7 IN ALARM			
Status Flags(111)	BACnetStatusFlags	2	*			0x82	b6 FAULT			
							BitString b5 OVERRIDDEN			
							b4 OUT_OF_SERVIC	Ц		
							Application Tag Boolean(0x1x)			When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	N					true 0x11			Present_Value are decoupled from the
							Value false 0x10			output
Terration Terrat/AC)	a chourd a church a c	6					Application Tag character string(0x74)			
Indcuve_lext(40)	criaracter suring	¥					Value "OFF"			
	character atriac	2					Application Tag character string(0x73)			
		Y					Value "ON"			
Driority Arraw(87)	RACnat Drinrity Array	۵	*	*		0~01	Application Tag enumerated (0x91)			
		2					Value array[1]-[16]			
Motification Class(17)	ponion	0				6670	Application Tag Unsigned (0x22)			***' : air conditioning number 0x01 -
	naligieu	Ł				7770	Value 0x**A8			0x80
							Application Tag enumerated (0x91)			
Feedback_Value(40)	BACnetBinaryPV	Ъ				0x91	Naline 0x00			
							Value ACTIVE 0x01			
	BACnetARRAY[N] of	C					Application Tag [0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc	c4)		
	ifier	Ľ			×		value [0]:number of properties(N)			
Event Detection Enable							Application Tag Boolean (0x1x)			
(353)	BACnetBoolean	3								

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Data	3	0000	From 1 to 128	0x54	Binary Input Object	
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type	

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Liober & Taelinia	Huperty Data Type	Write	valiable	Alidy	ПЗГ	lay		Adide	Status Change	KEIIIGIKS
Obioch Idontifical/7E	BACrot Obioct ID	6				500	Application Tag	object Identifier(0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
		Ł					binary input object	0x00C0**54		0×80
Object Name/77)	chouse stuins	c					Application Tag	character string (0x750C)		OCt froduce on include of a start
ODJect Name(//)	criaracter suring	¥					String	"IndoorThermoState/BI_*** "		
	DAC	c				10.0	Application Tag	enumerated(0x91)		
upject iype(/3)	DACRELODJECT 1 ype	¥				TAXO	analog input object	0x03		binary input(3)
							Application Tag	enumerated(0x91)	intrincio	This property is writable when
Present value(85)	BACnetBinaryPV	×	*			0x91	1000	Thermo OFF 0x00		Out_Of_Service is TRUE

Chinet T. moldo	DACactObioctT	2			10,00	Application iag	ciluiteiateu (UZAT)	Diama Tanua (O)
Unjeu iype(/ 3)	DAUIELOUJELLIYPE	Ł			TEXO	analog input object	0x03	
						Application Tag	enumerated (0x91)	This property is writable when
Present value(85)	BACnetBinaryPV	N	*		0x91	1-1	Thermo OFF 0x00	Out_Of_Service is TRUE
						value	Thermo ON 0x01	reporting
						Application Tag	Bit String(0x82)	
							b7 IN_ALARM	
Status_Flags(111)	BACnetStatusFlags	Ч	*		0x82		b6 FAULT	
						טורטום	b5 OVERRIDDEN	
							b4 OUT_OF_SERVICE	
						Application Tag	Boolean(0x1x)	When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	N				1000	true 0x11	Present_Value are decoupled from the
						value	false 0x10	input
Transfirm Tout AC	character atriac	c				Application Tag	character string(0x75)	
	character sunig	¥				Value	"OFF"	
A 440 10 Tan 47 47	a sinda na te enceda	6				Application Tag	character string(0x75)	
		Ł				Value	"NO"	
Notification (17)	Incienced	c				Application Tag	Unsigned(0x22)	$^{***'}$: air conditioning number 0x01 –
	unsignea	¥			77XN	Value	0x**54	0x80
	BACnetARRAY[N] of					Application Tag	[0]:Unsigned(0x4E)	
Pronerty List(371)	RACnetPronertyIdent	2		7			LT-INJ. FIODELLY JUSTICE (UACT)	
	ifier	2		¥			[0]:number of properties(N)	
						value	[1-N]: Property Identifier	
Event_Detection_Enable	BACnotBooloan	M				Application Tag	Boolean (0x1x)	
(353)		2				Value	"true"	

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Object Type		Multi-9	State Inpu	ıt Objec	it								
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value			Notice of Status Change	Remarks	
(JL/ 9:1	01 +	6				0.0	Application Tag	object Iden	tifier(0xC4)			***' : air conditioning number 0x01 -	•
(c/)uplect taentiner()	BACNET UDJECT IU	¥				UXC4	multi-state input object	0x0340**55	5			0x80	
		4					Application Tag	character st	tring(0x7515)				
Ubject Name(77)	cnaracter string	¥					String	"IndoorSave	eState/MI_***			****: air conditioning number 1 – 128	~
Obiot E mo/200	om Handdord a	6				10.0	Application Tag	enumerated	1(0x91)			Multi Ctate Tanua (10)	
UDJect Iype(/9)	BAChetUbject lype	¥				TAXN	Multi-State Input object	0x0D				Multi-State Input(13)	
							Application Tag	enumerated	1(0x21)				1
								No Save (10	00% operation)	0x01			
								XX% Save ((100-50%)	0x02	- interio	This second in the second s	
Present value(85)	Unsigned	2	*					50% Save ((20%)	0x03		I nis property is writable when	_
)		.				Value	100% Save	(Forcibly Thermo	0x04	reporting		
								OFF)		- 2222			
								,					1
							Application Tag	Bit String(0)x82)				
								b7 I	IN_ALARM				
Status_Flags(111)	BACnetStatusFlags	2	×			0x82		b6 F	-AULT				
							burnena	b5 (DVERRIDDEN				
								b4	OUT_OF_SERVICE				
							Application Tag	Boolean(0x	(1x)			When this property is TRUE,	
Out_Of_Service(81)	BOOLEAN	≥					10-11-0	true	0x11			Present_Value are decoupled from the	
							value	false	0x10			input	
Number Of Chate(74)	Incipad	2				10,01	Application Tag	Unsigned (0	1x21)				
	naigilea	Ł				TZXN	Value	0x05					
Notification (12)	Inciand	2				CC20	Application Tag	Unsigned (0	1x22)			<pre>`**' : air conditioning number 0x01 -</pre>	
	niisidilea	Ł				77XN	Value	0x**55				0x80	
	BACnetARRAY[N] of	C					Application Tag	[0]:Unsigne [1-N]: Prope	d(0x4E) erty Identifier (0xc4)				
Froperty_List(3/1)	ifier	Ł			*		value	[0]:number	of properties(N)				
							5	[1-N]: Prop(erty Identifier				-1
Event_Detection_Enable	RACnetBoolean	8					Application Tag	Boolean(0x	(1x)				
(353)		:					Value	"true"					

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Data	14	0000	From 1 to 128	0xD5	Multi-State Output O
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Ubject lype		Multi-St	ate outpr	ut vojec						
									Nation of	
Property Identifier	Property Data Type	Write	Variable	Array	List	Tag		Value	Status Change	Remarks
Object Identifier/75)	BACnet Object ID	٥				2000	Application Tag	object Identifier(0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
	הארוובו החוברו זה	2					multi-state output object	0x0380**D5		0x80
(77) Amer Mamel	charactar etrino	۵					Application Tag	character string(0x7515)		/***/ · · inconditional in the second s
	רוומו מררבו אחווות	2					String	"IndoorSaveState/MO_***"		
Obiod T	DAContObioitT	2				10,00	Application Tag	enumerated(0x91)		Multi Ctato Outanit(14)
upject iype(/9)	BAChetUbject i ype	¥				TAXN	Multi-State Output object	OXOE		Multi-State Output 14)
							Application Tag	Unsigned(0x21)		
								No Save (100% operation) 0x0	-	
								XX% Save (100-50%) 0x0	- 2	
Present value(85)	Unsigned	>	*			0x21		50% Save (50%) 0x0	5	
	•		+				Value	100% Save (Forcibly Thermo		
								OFF) ÚVU UXU	4	
								1		
							Application Tag	Bit String(0x82)		
								b7 IN_ALARM		
Status Flags(111)	BACnetStatusFlags	ч	*			0x82		b6 FAULT		
		:					BitString	h5 OVERRIDDEN		
								by OULT OF SERVICE		
							Annlinetten Ten			
							Application lag	Boolean (UX IX)		when this property is IRUE,
Out_Of_Service(81)	BOOLEAN	≥					Value	true 0x11		Present_Value are decoupled from the
								false 0x10		output
Niumber Of States(74)	Incided	۵				1020	Application Tag	Unsigned (0x21)		
ידי) אמוווחפו טים אמוווחפו		2				1770	Value	0x05		
Drincity Army (07)	DACoot Driowity (Average		×	×		1020	Application Tag	enumerated (0x91)		
riuuk_Airay(o/)		Ľ	-	-		TEXN	Value	array[1]-[16]		
Notification (12)	- Incipal	2					Application Tag	Unsigned (0x22)		***' : air conditioning number 0x01 –
	naigilea	Ł				7720	Value	0x**D5		0x80
							Application Tag	Unsigned (0x21)		
								No Save (100% operation) 0x0	1	
								XX% Save (100-50%) 0x0	2	
Feedback_Value(40)	Unsigned	Ж				0x21	onley	50% Save (50%) 0x0	3	
								100% Save (Forcibly Thermo	4	
								OFF)	_	
	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)		
	BACnetProperty Juent	×			*		value	[0]:number of properties(N)		
							5	[1-N]: Property Identifier		

Boolean(0x1x) "true" Application Tag Value ≥ Event_Detection_Enable BACnetBoolean (353)

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me Dat	3	ory 000	er From 1 t	0x4	Binary Inni
Nai	Object Type	Equipment Catego	Equipment Numbe	Instance Number	Object Type

Object Type		Bina	ry Input C	Dbject	7					
Ducation 1 description	Durant, Data T.	Read	ماطمتسالا		401	e F		1/4/1.4	Notice of	c la construction de la construc
Property Jaenuner	Property Data Type	Write	variable	Array	LIST	lag		value	Status Change	Kemarks
	PACcot Obioct ID	2				NUNO	Application Tag	object Identifier(0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
		Ł					binary input object	0x00C0**41		0x80
Obiod Namo(77)	character atrice	6					Application Tag	character string(0x750C)		
ODJECT NAME(///)		¥				_	String	"Indoor_Communication_Failure_***		
Obioch Tuno(70)	PACaat Obiocit	2				10,0	Application Tag	enumerated(0x91)		
onjer iype(/a)	DAUIELUDIELLIYPE	Ł				TEXO	analog input object	0x03		
							Application Tag	enumerated(0x91)	- invited in	This property is writable when
Present value(85)	BACnetBinaryPV	×	*			0x91	1/-l	Normal 0x0	00 Intrinsic	Out_Of_Service is TRUE
						_	value	Alarm 0x0		
							Application Tag	Bit String(0x82)		
								b7 IN_ALARM		
Status_Flags(111)	BACnetStatusFlags	Я	×			0x82	DitChriss	b6 FAULT		
							פווטכוום	b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	≥				_	onley	true 0x11		Present_Value are decoupled from the
							value	false 0x10		input
Theoretic Touring	character atria	2				_	Application Tag	character string(0x75)		
		Ł				_	Value	"Normal"		
Active Tead (A)	character atria a	2					Application Tag	character string(0x75)		
Active_lext(+)		Ł				_	Value	"Alarm"		
	Incipad	2					Application Tag	Unsigned(0x22)		***' : air conditioning number 0x01 –
	nalificio	2				7770	Value	0x**41		0x80
	BACnetARRAY[N] of						Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)		
Property_List(3/1)	ifier	¥			*	_	value	[0]:number of properties(N) [1-N]: Property Identifier		
Event Detection Enable							Application Tag	Boolean(0x1x)		
(353)	BAChetboolean	^					Value	"true"		

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Data	13	0000	From 1 to 128	0X0A	Mult-State Input Object
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

UNJELL INDE			ĥ								
Equipment Catego	iry		0000								
Equipment Numbe	ir -	Fr	om 1 to 1.	28							
Instance Number			0x0A								
Object Type		Mult-St	ate Input	Object							
					Ī						
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks	
Object Identifier(75)	BACnet Object ID	•				0.04	Application Tag	object Identifier (0xC4)		***' : air conditioning number 0x01	I
רכין זעמונוומ (יכי)	הארוובו סחלבתו זה	۷				1771	multi-state input object	0x0340**0A		0x80	
Ohiert Name(77)	character string	۵				1	Application Tag	character string(0x7511)		/***/ · air conditioning number 1 – 12	α
		2					String	"Facility_request /MI_***"			b
Object Type(70)	BACnotObjactTime	٥				10/01	Application Tag	enumerated (0x91)		Multi-Ctate Innut/13)	
onjerr iyperval	DAGIECODJECT JAC	2				TEYN	Multi-State input object	0×0D			
							Application Tag	Unsigned(0x21)		This property is writable whe	c
										Out_Of_Service is TRUE.	
Present value(85)	Unsigned	Я	*			0x21				You can check how much capacit	~
							value			request the air conditioner is using for	٢
										operation.	
							Application Tag	Bit String(0x82)			
								b7 IN_ALARM			
Status_Flags(111)	BACnetStatusFlags	Я	×			0x82		b6 FAULT			
							6 III JICIIA	b5 OVERRIDDEN			
								b4 OUT_OF_SERVICE			
							Application Tag	Boolean(0x1x)		When this property is TRUE	
Out_Of_Service(81)	BOOLEAN	8						true 0x11		Present_Value are decoupled from th	a
							value	false 0x10		input	
Number_Of_States(Incined	٩				6620	Application Tag	Unsigned (0x22)			
74)	naigiciu	2				7770	Value	0x0100			
Motify Tyno(72)	BACnotMotifyTymo	0				0~01	Application Tag	enumerated(0x91)			
NULLIY_IYPE(/2)		Ł				TEXO	Value	event(0x01)			
Notification_Class(1		6				~~~~	Application Tag	Unsigned(0x22)		<pre>`**' : air conditioning number 0x01</pre>	1
7)	naigiciu	2				7770	Value	0x**0A		0x80	
(12C)+11	BACnetARRAY[N] of						Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)			
	r L	۷			×		value	[0]:number of properties(N) [1-N]: Property Identifier			
Event_Detection_Ena							Application Tag	Boolean(0x1x)			
ble (353)	BACnetBoolean	8					Value	"true"			
(200)	T	_		-	-		1				٦

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Dat	13	000	From 1	0×C	Mult-State Ir	
ime		ory	er			
Na	Object Type	Equipment Catego	Equipment Numbe	Instance Number	Object Type	

Ubject lype		Nuit-2	tate Inpu	t Ubject						
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
		4				5.0	Application Tag	object Identifier (0xC4)		<pre>'**' : air conditioning number 0x01 -</pre>
(c/)unier menuer		Y					multi-state input object	0x0340**63		0x80
Obiod Name/77	abaractor atria a	2					Application Tag	character string(0x7511)		0C1 1 rodanin onincitihano rio . /***/
UDJect Name(77)	cnaracter string	¥					String	"Notice_Code1/MI_***"		**** : air conditioning number 1 – 128
(0E) E +		4				ç	Application Tag	enumerated (0x91)		
UDJect Iype(/y)	BAChetUbject lype	¥				TAXO	Multi-State input object	0×0D		
							Application Tag	Unsigned(0x21)		This property is writable when
Present value(85) *1	Unsigned	ĸ	*			0x21	Value	From 1 to 256		Out_Of_Service is TRUE. When is No Notice Code, the value is
					Ţ					.T.
							Application Tag	Bit String(0x82)		
								b7 IN_ALARM		
Status_Flags(111)	BACnetStatusFlags	2	*			0x82		b6 FAULT		
							billacia	b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	≥						true 0x11		Present_Value are decoupled from the
							value	false 0x10		input
Number_Of_States(lacional	2				~~~~~	Application Tag	Unsigned(0x22)		
74)	naigirea	2				7770	Value	0x0100		
Motify Type/77)	DACnothlotif, T. mo	2				0.01	Application Tag	enumerated(0x91)		
INUULY_LYPE(12)		2				TEXO	Value	event(0x01)		
Notification_Class(1	laciand	2				~~~~	Application Tag	Unsigned(0x22)		<pre>`**' : air conditioning number 0x01 -</pre>
7)	nisigired	Ł				7720	Value	0x**63		0x80
							Annlication Tad	[0]:Unsigned(0x4E)		
Dronerty 1 ict/371)	BACnetAKKAY [N] OT BACnetPronertv/Identifie	۵			÷			[1-N]: Property Identifier (0xc4)		
	r	<u> </u>			×		value	[0]:number of properties(N) [1-N]: Property Identifier		
Event_Detection_Ena	-						Application Tag	Boolean(0x1x)		
ble (353)	BACnetBoolean	≥					Value	"true"		

bit 6 5 3 3 1 1	Item Unit Code	Value 00:Outdoor unit 01:Reserved 10:Indoor unit 11:Indoor unit (Group terminal unit) 0~63 Described in "5.5 Notice Code (TU2C-LINK model)".
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Data	13	0000	From 1 to 128	0x01	Mult-State Input Object
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Object Type		Mult-S	state Input	Object							
	-				Ī						
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks	
Object Identifier(75)	BACnot Object ID	٩				0~04	Application Tag	object Identifier (0xC4)		***' : air conditioning number 0x01 -	
הי) ביווים (ייי)		2					multi-state input object	0x0340**64		0x80	
(77)omen tooido	charactor strip o	0					Application Tag	character string(0x7511)		/***/ ·	
	cialacter suilig	Ł					String	"Notice_Code1/MI_***"			
Obiod T. moldo	DACactObicatTime	2				10,0	Application Tag	enumerated(0x91)		Multi State Issue(13)	
unject iype(/9)	DACRECUDJECT 1 ype	¥					Multi-State input object	0×0D		Mulu-State Input(13)	
							Application Tag	Unsigned(0x21)		This property is writable when	
Present value(85) *1	Unsigned	ĸ	*			0x21	Value	From 1 to 256		Out_Of_Service is TRUE. When is No Notice Code, the value is	
										Τ.	
							Application Tag	Bit String(0x82)			
								b7 IN_ALARM			
Status_Flags(111)	BACnetStatusFlags	ъ	×			0x82		b6 FAULT			
							BILLALING	b5 OVERRIDDEN			
								b4 OUT_OF_SERVICE			
							Application Tag	Boolean(0x1x)		When this property is TRUE,	
Out_Of_Service(81)	BOOLEAN	8						true 0x11		Present_Value are decoupled from the	
							value	false 0x10		input	
Number_Of_States(		2					Application Tag	Unsigned(0x22)			
74)	nisigned	×				7770	Value	0x0100			
Motifi, Typo/70)	BAC notNotifi/Tuno	G				0.01	Application Tag	enumerated(0x91)			
(2) http://www.		2				TEYN	Value	event(0x01)			
Notification_Class(1	Incidenced	2				~~~~	Application Tag	Unsigned(0x22)		***' : air conditioning number 0x01 –	
7)	nisigired	۷				7770	Value	0x**64		0x80	
11/12/10/10/10	BACnetARRAY[N] of	-					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)			
	r r	2			*		value	[0]:number of properties(N) [1-N]: Property Identifier			
Event_Detection_Ena	-	:					Application Tag	Boolean(0x1x)			
ble (353)	BACnetBoolean	8					Value	"true"			

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	Z	Object Type

Data 13 0000

Environment Catego	Jrv.		0000							
Equipment Numbe		Ъ	om 1 to 1	28						
Instance Number			0x01							
Object Type		Mult-Si	tate Input	Object						
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
Object Identifics/7E	DACast Object ID	-				500	Application Tag 0	bbject Identifier (0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
(c/)Jaunuation	BACHEL UDJECT ID	¥				UXC4	multi-state input object 0	0x0340**65		0×80
Obioct Name(77)	character atriad	2					Application Tag	character string(0x7511)		
		Ł					String	'Notice_Code1/MI_***"		
		4				ţ,	Application Tag	enumerated(0x91)		Willing Charter Transferred
UDJect 1ype(19)	BAChetUbjectType	¥				TAXO	Multi-State input object 0	DXOD		Munu-State Input(13)
							Application Tag L	Jnsigned(0x21)		This property is writable when
Present value(85)	Insigned	۵	÷			10/01				Out_Of_Service is TRUE.
*1		2	×			1770	Value	-rom 1 to 256		When is No Notice Code, the value is
							Application Tag	3it String(0x82)		
							<u>а</u>	D7 IN ALARM		
Status Flags(111)	BACnetStatusFlags	ъ	*			0x82	4	06 FAULT		
	)						BitString	DVERRIDDEN		
							<u>ו</u> ב	04 OUT OF SERVICE		
							Application Tag	3oolean (0x1x)		When this property is TRUE.
Out Of Service(81)	ROOI FAN	X					-	nue 0x11		Present Value are decompled from the
							Value 4	alse 0x10		
Number_Of_States(		4					Application Tag	Jusigned (0x22)		-
74)	unsigned	¥				77XN	Value 0	)x0100		
Nictify T. Model	DACactMatif. T. mo	2				10,0	Application Tag e	enumerated (0x91)		
(2) hours / 1 hours	DACITEUNUUIYIYDE	Ł				TEXO	Value	event(0x01)		
Notification_Class(1	lacionod	2					Application Tag L	Jnsigned(0x22)		<pre>`**' : air conditioning number 0x01 -</pre>
7)	naigileu	Ł				7720	Value 0	)x**65		0x80
	BACnetARRAY[N] of	-					Application Tag	0]:Unsigned(0x4E) 1-N1: Property Identifier (0xc4)		
Property_List(371)	BACnetPropertyIdentifie	2			*			01:number of nronerties(N)		
	-						value	1.N]: Property Identifier		
Event_Detection_Ena	-						Application Tag B	3oolean(0x1x)		
ble (353)	BACnetboolean	8					Value	'true"		

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Data	13	0000	From 1 to 128	0x01	Mult-State Input Object
Name	Object Type	Equipment Category	Equipment Number	Instance Number	Object Type

Object Type		Mult-St	ate Input	: Object	7					
									-	
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
Ohiart Idantifiar(75)	RACnat Ohiart ID	0				0~04	Application Tag	object Identifier (0xC4)		<pre>`**' : air conditioning number 0x01 -</pre>
החפת זתפווחוופו (כ)		2					multi-state input object	0x0340**66		0x80
Obioct Name/77)		c					Application Tag	character string(0x7511)		0C1 f rodania painoitipaco ric : /***/
ODJECT INGILIE(///)		Ł					String	"Notice_Code1/MI_***"		
Object Tune(70)	DACrochObioctT, mo	0				0.01	Application Tag	enumerated (0x91)		Multi Ctato Incut(12)
unjeci iype(///	DACITELODJECLIYDE	Ł				TAXO	Multi-State input object	0×0D		ועמות-אמער לכד אמלווד אמיר-אמווי
							Application Tag	Unsigned(0x21)		This property is writable when
Present value(85)	Unsigned	ĸ	*			0x21				Out_Of_Service is TRUE.
Τ.							value			when is no notice code, the value is '1'.
							Application Tag	Bit String(0x82)		
								b7 IN_ALARM		
Status_Flags(111)	BACnetStatusFlags	щ	*			0x82	DitCtring	b6 FAULT		
							קווווזכזום	b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	×						true 0x11		Present_Value are decoupled from the
							value	false 0x10		input
Number_Of_States(	Incided	٥				CCN0	Application Tag	Unsigned (0x22)		
74)	naigiria	2				7770	Value	0x0100		
Notify Type(72)	BACnatNotifi/Tyna	۵				0.01	Application Tag	enumerated (0x91)		
INDUIN - INDUINT		2				TCVD	Value	event(0x01)		
Notification_Class(1	lacionad	0				CC20	Application Tag	Unsigned (0x22)		<pre>'**' : air conditioning number 0x01 -</pre>
7)	nisiyirau	2				7770	Value	0x**66		0×80
11/221	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier(0xc4)		
רו טרט בואר אין	r Protectiopertytuenuie	۷			×		value	[0]:number of properties(N) [1-N]: Property Identifier		
Event_Detection_Ena							Application Tag	Boolean(0x1x)		
DIe (353)	BACnetBoolean	8					Value	"true"		

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Data	13	0000	From 1 to 128	0x01
Name	Object Type	Equipment Category	Equipment Number	instance Number

Nan	ne		Data							
Object Type			13							
Equipment Catego	ry		0000							
Equipment Numbe	ŗ	Ē	om 1 to	128						
Instance Number			0×01							
Object Type		Mult-S	tate Inpu	it Object						
Property Identifier	Property Data Type	Read Write	Variable	Array	List	Tag		Value	Notice of Status Change	Remarks
Object Identifier(75)	BACnet Object ID	٩				0~04	Application Tag	object Identifier (0xC4)		***' : air conditioning number 0x01 –
החפת זתפווחוופו (כי)	הארוובו טעושנו זט	Ł					multi-state input object	0x0340**67		0x80
Ohiart Nama(77)	character string	۵					Application Tag	character string(0x7511)		/***/ : air conditioning number 1 – 128
		2					String	"Notice_Code1/MI_***"		
Object T, me/70)		0				0.01	Application Tag	enumerated (0x91)		Multi State Issur(13)
nnjer igher val	DACHELODJECH APE	Ł				TEYN	Multi-State input object	0×0D		
				-			Application Tag	Unsigned(0x21)		This property is writable when
Present value(85) *1	Unsigned	Я	*			0x21	Value	From 1 to 256		Out_Of_Service is TRUE. When is No Notice Code, the value is
							Annliestion Too	Dit Christo (0.003)		
							Application rag	DIL JULIO (UXOZ)		
								b7 IN_ALARM		
Status_Flags(111)	BACnetStatusFlags	Я	×			0x82		b6 FAULT		
								b5 OVERRIDDEN		
								b4 OUT_OF_SERVICE		
							Application Tag	Boolean(0x1x)		When this property is TRUE,
Out_Of_Service(81)	BOOLEAN	Ν						true 0x11		Present_Value are decoupled from the
							value	false 0x10		input
Number_Of_States(		6					Application Tag	Unsigned (0x22)		
74)	naigireu	Ł				7770	Value	0x0100		
Notifi Tyno(77)	PACrotMotify.Ty.mo	a				0~01	Application Tag	enumerated (0x91)		
		2				TEYN	Value	event(0x01)		
Notification_Class(1		0				~~~~	Application Tag	Unsigned (0x22)		<pre>`**' : air conditioning number 0x01 -</pre>
7)	nisiyirdu	Ł				7770	Value	0x**67		0x80
	BACnetARRAY[N] of	c					Application Tag	[0]:Unsigned(0x4E) [1-N]: Property Identifier (0xc4)		
(דוסטפויא_בואני)	ר באכוופנרו סהפו וא זמפו מו ופ	Ł			×		value	[0]:number of properties(N) [1-N]: Property Identifier		
Event_Detection_Ena							Application Tag	Boolean (0x1x)		
ble (353)	BACnetBoolean	×					Value	"true"		

## Check code format

Check Code is a decimal number. Change from the decimal number into the hexadecimal number. Check Code format is described in the table below.

bit	Item	Value
15	Automatic backup	VRF function (automatic backup) status 0:OFF or not functional 1:Undergoing automatic backup
14		000:VRF, Light Commercial model
13		UILIAIF to water heat pump (ALW) Other:Reserved
12		
11	Reserved	0
10	Reserved	0
6	Codo estancion	
8		020
7		
9	Code classification	
5		
4		
3		
2	Code	
1		
0		

	Description	Vo active error	Reserved	Condition for the state of the																																			
: Code	Wired remote controller Check code																																						
Check	Number	1	2	m	4	Ŋ	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38

	Description	Receiving error in TCC-LINK central control device	Reserved	Reserved	Reserved	Reserved	Reserved	Batch alarm of general-purpose equipment control interface	Reserved	Communication error between indoor and remote controller	Sending error of remote controller	Communication error between indoor and remote controller	Communication circuit error between indoor and outdoor	Reserved	Decrease of No. of indoor units	Communication circuit error between indoor/outdoor	Duplicated indoor addresses	Duplicated master remote controllers	Communication error between indoor P.C.board	Communication error between indoor-sub-PCB, sub-PCB-	Automatic addisons date arrow	Automatic address start error	Periodic communication error ( $\nu \Lambda$ -Kit - $\nu$ -LUV_ $\mu$ / $r$ ) at interval unit - 0-10V interface																			
Code	Wired remote controller Check code	C06						C12																					E01	E02	E03	E04		E06	E07	E08	E09	E10	E11	C13	EIZ	E13
Check	Number	39	40	41	42	43	4	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	99	67	68	69	70	71	72	73	74	75	76	77		78

Description         Creat         Code           Periodic communication error between indoor units and 0 to 10V interface         Number         Wired remote Constraints           Periodic communication error between indoor units 10V interface         Number         Wired remote Constraints           10V interface         10V interface         119         F22           10V interface         122         F23           10V interface         123         F26           10V interface         123         F26           10V interface         123         F26           11         Description         123         F26           123         Description         123         F10           Reserved         123         F27         100           Description         Description         123         F10           Reserved         Reserved         133         H04           Reserved         Reserved         133         H04      <
Description         Description           Periodic communication error between indoor unit and 0 to 10V interface         Number           10V interface         119           10V interface         120           110V interface         120           111         121           111         122           111         123           111         123           111         123           112         123           113         124           113         124           113         124           113         124           113         124           113         124           113         124           113         125           114         125           115         125
Description           Periodic communication error between indoor unit and 0 to 10 indoor automatic address           No indoor automatic address           Dublicited follower           Outdoor header units quantity error           Dublicited follower outdoor units           Reserved           Dublicited follower outdoor units           Reserved           Reserved           Reserved           Reserved           Reserved           Indoor TC3 sensor error           Indoor TC4 sensor error           Indoor TC4 sensor error           Indoor TA/TSA sensor er

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Check Code

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G	Number	200	201	202 203	204	205	2002	202	202	210	211	212	213	214	215	216	217	218	219	220	221	222	273	222	775	900	777	22/ 278	922	230	231	232	233	234	735	235	737	238	239	240	:
	Description	Reserved	Reserved	Flow selector (FS) unit has bad reception from indoor unit (main unit)	Communication error between flow selector (FS) unit boards	Flow selector (FS) unit is duplicated	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Float SW operating at flow selector (FS) unit	TCS sensor error in flow selector (FS) unit	Sensor 2 error in flow selector (FS) unit	Reserved	Reserved	Reserved	Reserved	Refrigerant leak sensor error	Refrigerant leak detection	Refrigerant leak sensor life	Reserved	Reserved	Inconsistency error of outdoor units	Duplicated indoor header units	Duplicated outdoor line address	Duplicated indoor units with priority	Duplicated indoor units with priority												
k Code	Wired remote controller Check code			101	302	203							J10	J11	J12																	J29	130	J31			L02	L03	L04	L05	P06
Check	Number	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199

	Description	Group line in individual indoor unit	Indoor group/Address unset	Indoor capacity unset	Outdoor capacity unset	Absence of flow selector (FS) unit	Flow selector system error	Safety device mismatch	No safety device connected	Inconsistency error of indoor units	Reserved	Inconsistency error of outdoor units	FS unit error	Reserved	Duplicated central control addresses	200 V applied voltage error	There are units in the group that do not support DX-KIT.	Setting abnormality	Flow selector unit is set incorrectly	Reserved	Over No. of conneced thermal strage units	Thermal storage units quantity error	Maximum number of outdoor units exceeded	No. of IPDU error	Auxiliary interlock in indoor unit	IC error	Reserved	Indoor fan motor error	Boost circuit error	Discharge temp. TD1 error	High-pressure switch detection error	Phase-missing detection / Phase order error	Reserved	Heat sink overheat error	Intake air temperature error	Thermal storage unit drought abnormality	Indoor overflow error	Outdoor heat exchanger freeze trouble	Indoor fan motor error	Outdoor liquid back detection error	Other cycle protection	Gas leak detection
< Code	Wired remote controller Check code	L07	L08	60T	L10	L11	L12	L13	L14	L15		L17	L18		L20	L21	L22	L23	L24		L26	L27	L28	L29	L30	L31		P01	P02	P03	P04	P05		P07	P08	60d	P10	P11	P12	P13	P14	P15
Check	Number	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240

	Description	Compressor maintenance timer over	NFC tag wiring trouble	Battery life / deterioration / abnormality	Refrigerant sensor life pre-notification	General-purpose temperature sensor error	Group terminal unit notice
: Code	Wired remote controller display	001	022	203	204	206	301
Notice	Notice Code Hexadecimal number	02	16	84	85	87	C2
# **4** Factory default settings

No.	Item	Factory default setting
1	IP address of BN interface	IP address 192.168.1.100 Subnet mask 255.255.255.0
2	UDP port	47808 (0xBAC0)
3	Device object instance number	100 Use 1Byte of Last byte of IP Address number.
4	Uh Line termination resistance select switch	OFF
5	Indoor unit configuration setting	10 VRF indoor units (details below)
6	Temperature unit (Celsius/Fahrenheit)	BMS-IFBN1281U-UL: Fahrenheit

# ■ Indoor unit configuration setting

Central Control address	Line address	Indoor Unit address	Indoor unit type
1	1	1	VRF indoor unit
2	1	2	VRF indoor unit
3	1	3	VRF indoor unit
4	1	4	VRF indoor unit
5	1	5	VRF indoor unit
6	1	6	VRF indoor unit
7	1	7	VRF indoor unit
8	1	8	VRF indoor unit
9	1	9	VRF indoor unit
10	1	10	VRF indoor unit
11	undefined	undefined	undefined
12	undefined	undefined	undefined
13	undefined	undefined	undefined
14	undefined	undefined	undefined
15	undefined	undefined	undefined
16	undefined	undefined	undefined
17	undefined	undefined	undefined
18	undefined	undefined	undefined
19	undefined	undefined	undefined
20	undefined	undefined	undefined
21	undefined	undefined	undefined
22	undefined	undefined	undefined
23	undefined	undefined	undefined
24	undefined	undefined	undefined
25	undefined	undefined	undefined
26	undefined	undefined	undefined
27	undefined	undefined	undefined
28	undefined	undefined	undefined
29	undefined	undefined	undefined
30	undefined	undefined	undefined
31	undefined	undefined	undefined
32	undefined	undefined	undefined
33	undefined	undefined	undefined
34	undefined	undefined	undefined
35	undefined	undefined	undefined
36	undefined	undefined	undefined

Central Control address	Line address	Indoor Unit address	Indoor unit type
37	undefined	undefined	undefined
38	undefined	undefined	undefined
39	undefined	undefined	undefined
40	undefined	undefined	undefined
41	undefined	undefined	undefined
42	undefined	undefined	undefined
43	undefined	undefined	undefined
44	undefined	undefined	undefined
45	undefined	undefined	undefined
46	undefined	undefined	undefined
47	undefined	undefined	undefined
48	undefined	undefined	undefined
49	undefined	undefined	undefined
50	undefined	undefined	undefined
51	undefined	undefined	undefined
52	undefined	undefined	undefined
53	undefined	undefined	undefined
54	undefined	undefined	undefined
55	undefined	undefined	undefined
56	undefined	undefined	undefined
57	undefined	undefined	undefined
58	undefined	undefined	undefined
59	undefined	undefined	undefined
60	undefined	undefined	undefined
61	undefined	undefined	undefined
62	undefined	undefined	undefined
63	undefined	undefined	undefined
64	undefined	undefined	undefined
65	undefined	undefined	undefined
66	undefined	undefined	undefined
67	undefined	undefined	undefined
69	undefined		undefined
00	undefined	undefined	undefined
70	undefined	undefined	undefined
70			
71			
72			
73	undefined	undefined	undefined
74	undefined	undefined	undefined
75	undefined	undefined	undefined
76	undefined	undefined	undefined
//	undefined	undefined	undefined
78	undefined	undefined	undefined
79	undefined	undefined	undefined
80	undefined	undefined	undefined
81	undefined	undefined	undefined
82	undefined	undefined	undefined
83	undefined	undefined	undefined
84	undefined	undefined	undefined
85	undefined	undefined	undefined

Central Control address	Line address	Indoor Unit address	Indoor unit type
86	undefined	undefined	undefined
87	undefined	undefined	undefined
88	undefined	undefined	undefined
89	undefined	undefined	undefined
90	undefined	undefined	undefined
91	undefined	undefined	undefined
92	undefined	undefined	undefined
93	undefined	undefined	undefined
94	undefined	undefined	undefined
95	undefined	undefined	undefined
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99	undefined	undefined	undefined
100	undefined	undefined	undefined
101	undefined	undefined	undefined
102	undefined	undefined	undefined
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106	undefined	undefined	undefined
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108	undefined	undefined	undefined
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116	undefined	undefined	undefined
117	undefined	undefined	undefined
118	undefined	undefined	undefined
119	undefined	undefined	undefined
120	undefined	undefined	undefined
121	undefined	undefined	undefined
122	undefined	undefined	undefined
123	undefined	undefined	undefined
124	undefined	undefined	undefined
125	undefined	undefined	undefined
126	undefined	undefined	undefined
127	undefined	undefined	undefined
128	undefined	undefined	undefined

# **5** Items included with the product

# BMS-IFBN1281U-UL

Component	Q'ty	Remarks
BN interface equipment	1	
Power adapter	1	BN interface power supply
Pin terminal	2	Uh Line caulked connectors
Mounting bracket (DIN rail)	1	Use screws to secure the unit in locations without DIN rails (walls, etc.)
Screws (M4 x 12)	2	For securing the DIN rails
Installation Manual	1	
License Agreement	1	
License Information	1	

# **6** Installation

### REQUIREMENT

#### Do not install the unit in any of the following places.

- Humid or wet place
- Dusty place
- · Place exposed to direct sunlight
- · Place where there is a TV set or radio within 3 ft
- · Place exposed to rain (outdoors, under eaves, etc.)

# BN Interface Installation and Orientation

Install and orient the interface using the DIN rail to mount the unit or wall mount or surface mount it as shown below. Use the supplied mounting bracket to wall mount or surface mount the interface.

(1) DIN rail mount

Install the interface on DIN rails mounted on a switchboard or elsewhere.

Front view

#### Back view





### (2) Wall mount

Use screws to attach the supplied DIN rails to a wall and install the interface on the DIN rail.





Wall mount A





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### ■ Installation Space and Maintenance Space

A side space for connecting through cable inlets and an upper space for maintenance must be reserved before installation. The other sides can be adjacent to surrounding objects.



# **7** Power and signal line connections

### Cables

Use the following cable for signal line connections. (Procured locally)

No.	Line	Description		
		Туре	2-core shielded wires	
1 For Uh Line	For Uh Line	Wire size	Refer to "Design of Control Wiring" (P.81 to P.84).	
		Length		
			LAN cable (higher than Category 5, UTP)	
2	For Ethernet	For Ethernet	The appropriate use of straight cable/cross cable should be done depending on your system used	
		Length	328 ft (100 m) max.	

### ■ Cable Connections

Connect the cables to the specified connectors.

Length of stripped Uh Line communication cable



### CAUTION

The Uh Line communication cable have no polarity.

Secure the Uh Line communication cable and power cable to the switchboard etc. using the supplied cable tie to ensure that no excess load is placed on the power cable connection and Uh Line communication cable connection.

### Termination resistance setting

TU2C-LINK / TCC-LINK termination resistance setting ......

Leave just 1 line of the termination resistance in the interface board of the outdoor unit (centre unit) ON, and turn all the others OFF. (Refer to the wiring diagram attached to the outdoor unit for the position of SW.) <For TU2C-LINK>

For the central control wiring (Uh line), set the termination resistance that is farthest away on the wiring between this central controller and the other unit (VRF, light commercial, air to air heat exchanger, general purpose control interface, air to water heat pump) to ON.

Refer to the manual of each model for the termination resistance setting method.



### Shield grounding process

open the shielded wire of the central control wiring and perform insulation processing. When using the central remote controller with multiple units, connect the shield of the central control wiring to the closed end and open the shield at the final end of the central remote controller to perform insulation processing. Perform the central control wiring shield grounding on the air conditioner side.

### REQUIREMENT

- Be sure to install a circuit breaker or all-pole isolating switch (with a contact breaking distance of at least 0.12" (3 mm)) on the primary side of the power supply.
- Fasten the screws to the terminal block with torque of 0.37 lbf ft (0.5 N•m).

# Design of Control Wiring

### Communication method and model name

The TU2C-LINK model (U series) can be used together with previous models (other than U series). For details of the model and communication method, see the following table.

Communication method	TU2C-LINK (U series)	TCC-LINK (other than U series)
Outdoor unit	MMY-MUP***	Other than on the left (MMY-MAP***, MCY-MAP***, etc.)
Indoor unit	MM*-UP***	Other than on the left (MM*-AP***, etc.)
Wired remote controller	RBC-AMSU**	Other than on the left
Wireless remote controller receiver	RBC-AXRU** U series model TCB-AXRU** U series model	Other than on the left
Central control device	***_*** <u>U</u> ** U series model	Other than on the left

### NOTE

The equipment that can be displayed may vary depending on the country or region. For details contact our sales personnel.

### When the connected outdoor unit is Super Multi u series (U series)

Follow the wiring specifications in the table below even when there is a mix of U series and non-U series in the connected indoor units or remote controllers.

### Wiring specifications

Itom	Communication line
	Central control wiring (Uh line)
Wire diameter	AWG16: Up to 3281 ft (1000 m)
whe diameter	AWG14: Up to 6560 ft (2000 m)
Wire type	2-core, non-polar
Wire types that can be used	Shielded wire

### REQUIREMENT

When wiring the control wiring between indoor and outdoor units (Uv line)/control wiring between outdoor units (Uc line) and the central control wiring (Uh line), use the same wire type and diameter for each line. Using a mixture of different wire types and diameters may cause a communication error.

### System diagram



* The wiring specifications in the system diagram above are the same even when the indoor unit or remote controller are other than the U series.

### When the connected outdoor units are other than Super Multi u series (U series)

### Wiring specifications

	Communication line
Item	Control wiring between indoor and outdoor units and central control wiring
Wire diameter	AWG16: Up to 3281 ft (1000 m)
Wire diameter	AWG14: Up to 6560 ft (2000 m)
Wire type	2-core, non-polar
Wire types that can be used	Shielded wire

### REQUIREMENT

When wiring the control wiring between indoor and outdoor units/central control wiring and the control wiring between outdoor units, use the same wire type and diameter for each line.

Using a mixture of different wire types and diameters may cause a communication error.

### System diagram



# When connecting to a previous model light commercial, air to air heat exchanger, air to water heat pump, or general purpose equipment control interface

Follow the wiring specifications in the table below even when there is a mix of U series and non-U series in the connected indoor units or remote controllers.

### Wiring specifications

Itom	Communication line
	Central control wiring (Uh line)
Wire diameter	AWG16: Up to 3281 ft (1000 m)
	AWG14: Up to 6560 ft (2000 m)
Wire type	2-core, non-polar
Wire types that can be used	Shielded wire

### REQUIREMENT

When wiring the control wiring between indoor and outdoor units (Uv line)/control wiring between outdoor units (Uc line) and the central control wiring (Uh line), use the same wire type and diameter for each line. Using a mixture of different wire types and diameters may cause a communication error.

### System diagram



# **8** Startup and Shutdown

# 8-1. Startup

The BN interface has no power switch. Plug the cable into the socket and then turn the socket on. The BN interface LED display changes as follows when it is powered.

LED display changes at startup

LED display changes at startup



OFF * Control interval (time length of 1 cell): 200 ms

Step	Startup process	LED-L1
1	Energization starts	
2	Preparing to start up	
3	Reading setting files and initializing	
4	Processing BACnet communication settings (time synchronization, etc.)	
5	Operating normally	

Step	Startup process	LED-L1
Step3	Startup has stopped due to a settings file error. BN interface stop. (Setting file format error. Number of indoor unit: 0)	
ERROR	Startup has stopped due to a settings file error. BN interface stop. (Indoor unit address duplication)	

### 8-2. Shutdown

The LED display changes as follows when the shutdown button is pressed twice. After step 2, wait for 1 minute before turning off the power.

Step	Startup process	LED-L1		
1	Shutting down			
2	Shutdown is complete			

### CAUTION

• Do not hold down the Shutdown button. The BN interface will enter Air-Conditioning Search Mode if the button is pressed for 4 seconds or longer.

• As files are updated while shutting down, wait for 1 minute before turning off the power after step 2.

# 9 Test run

To perform test run of the BN interface, BACnet communication settings and the equipment data of the connected indoor units are required.

# ■ Settings, descriptions and configuration method before test run

Device		Item	Factory default settings	Configuration method, device, software
Outdoor unit	Address	Line address	1	DIP switch of outdoor unit board
		Central control address	99/Un	Wired remote controller (except simple wired remote controller)
Indoor unit	Address	Line address	99/Un	Wired remote controller (except simple
		Unit address	99/Un	wired remote controller) Or automatic address setting from the
		Group address	99/Un	outdoor unit
	ID a dalar a c	IP address	192.168.1.100	
	IP address	Network mask	255.255.255.0	Setting File Creation Software
	BACnet identification number	Instance number of BACnet Device object	100	Setting is necessary if there are any changes from the initial values
		Model	Depends on the model	
		Model name	Depends on the model	
		horse power	Depends on the model	
		Serial number	Depends on the model	
		Line address	Depend on Unit(s)	
		Unit address	Depend on Unit(s)	
BN interface		Central control address	Depend on Unit(s)	
		Group address	Depend on Unit(s)	Automatic configuration in the air-
	Indoor unit device	DN code setting	-	conditioning search mode of the BN
	configuration	Range of operating modes	Depends on the model	interface
		Range of wind speeds	Depends on the model	(366 366001 3-2. )
		Range of flaps	Depends on the model	
		Range of temperature settings	Depends on the model	
		Range of ventilation amount	Depends on the model	
		Range of ventilation modes	Depends on the model	
		Any ventilation operation	Depends on the model	
		Any save operation	Depends on the model	

# 9-1. BACnet Communication Settings

Set the IP address of the BN interface and the device object instance number of the BACnet communications. These setting can set from Engineering Tool. (page 91)

# 9-2. Indoor Unit Device Information Settings

Obtain the equipment data of the indoor unit that is controlled by the BN interface from the indoor unit via the Uh Line communication cable.

Preparing to set up equipment data in the indoor unit

- Central Control address must be set in the indoor unit you want to control.
- For information on how to set the address, refer to the installation manual of each indoor unit.
- Turn on all indoor and outdoor units. Set up as follows, waiting 10 minutes after turning on all the units.

# Configuring settings

- (1) Turn on the BN interface, and wait until it reaches step 5 of the startup procedure. Refer to "Startup and Shutdown" for details.
- (2) Hold down the BN interface Shutdown button for at least 4 seconds. [LED-L1 Step1]
- (3) BN interface will start reading the equipment data of the indoor units. [LED-L1 Step2]
- (4) When reading of equipment data in the indoor unit ends normally, the BN interface will automatically start. [LED-L1 Step3]
- (5) When the preparations for BACnet communications end normally.[LED-L1 Step5]
- (6) Check the search results file (SearchObjectLog.tsv) on the BN interface. The engineering tool is required for this "Section 10-3.". The following are output into the search results file: Execution date/time, number of indoor units found, the BN interface IP address and the "series address_unit address," model name, specific number, and whether an error occurred for the indoor units found for each central address (1 to 128). Check that the number of indoor units found matches the number of indoor units installed.

ON

OFF * Control interval (time length of 1 cell): 200 ms

Step	Air-conditioning search mode process	LED-L1
1	Preparing to search for air conditioners	
2	Searching for air conditioners (After searching, an indoor unit configuration file is output)	
3	Reading setting files and initializing	
4	Processing BACnet communication settings (time synchronization, etc.)	
5	Operating normally	

If an error occurs during reading of equipment data from the indoor unit or when preparing for BACnet communications, LED-L1 will go on.

Step	Air-conditioning search mode process	LED-L1
Step2 ERROR	An error occurred while searching for indoor units and the search was stopped	
Step3 ERROR	Startup has stopped due to a settings file error	

# 9-3. Search Results File (SearchObjectLog.tsv)

Results of the air conditioner search are output in the search results file. These files are text files separated by tabs.

Indoor ur	Indoor unit detection result									
1.Execut	1.Execution day/time									
2.IP add	2.IP address									
3.No. of i	ndoor units	(3)The number	of indoor units found							
4.Messa	ge	(4)Error messag	ges							
5.TCC-L	INK board informat	ion (5)Uh Line settii	ng							
6.Detecti	on result details	(6)The addresse	es and error messages for ir	ndoor units found						
NetId	address	Indoor unit address	Communication division	Model name	Serial no.	Error				
1	1 1 1 0 D MMU_AP805H P20120430004									
	(7)Line address - Indoor Unit address									

#### Error messages in "4. Message"

No.	Message	Output conditions
1	No error	When normal
2	<error> Unable to detect the indoor unit because no response has been received.</error>	No indoor units can be found. Shown when 0 indoor units were found.
3	<error> Too many indoor unit detected.</error>	The maximum number of indoor units has been exceeded.
4	<error> Cannot communicate with the indoor unit because the air conditioner is performing initialization.</error>	The indoor unit information could not be acquired completely.

Error messages in "Error" in "6. Detection result details"

No.	Message	Content
1	1: Duplicate central control address	The central control address is duplicated.
2	2: Duplicate indoor unit address	The indoor unit address is duplicated.

Example 1: 5 indoor units, central control addresses 1 to 5, search completed normally

1.Execution da 2.IP address	y/time 192.168.1.100	"2021/0	05/26 13:15:26.50"				
3.No. of indoor	units	5	<b>C II II O</b>				
NO. OF OUTDOO	r neader units	U	, follower units U				
4.Wessage	<inio> Outdoor un</inio>	it search	invalio.				
BN-I/F address							
0x0401							
6.Detection res	sult details						
NetId	Central control add	dress	Indoor unit address	Communication division	Model name	Serial no.	Error
1	1		1_1	OLD	MMC-AP0154H-E	P20120430004	
1	2		1_2	OLD	MMC-AP0154H-E	P20120430002	
1	3		1_3	OLD	MMC-AP0154H-E	P20120430001	
1	4		1_4	OLD		P20120430003	
1	5		2_1	OLD	104-5103041001-E	F20000730210	
1	7						
1	127						
1	128						
μ							

						-	
1.Execution da	y/time	"2021/0	5/26 13:15:26.50"				
2.IP address	192.168.1.100						
3.No. of indoor	units	4	<b>C</b> 11 <b>C</b> 11 <b>C</b>				
No. of outdool	r neader units	U	, follower units 0				
5 TCC-I INK bc	ard information	Search	invaliu.				
BN-I/F address							
0x0401							
6.Detection res	ult details						_
NetId	Central control addr	ess	Indoor unit address	Communication division	Model name	Serial no.	Error
1	1		1_1	OLD	MMC-AP0154H-E		2: Data acquisition
1	2		1 2	OLD	MMC-AP0154H-E	P20120430002	
1	3		1_3 2_1	OLD	RAV-SM564MUT-E	P20080730218	1:Duplicate central
							control address"
1	4		1_4	OLD	MMC-AP0154H-E	P20120430003	
1	5						
1	0						
Abbreviated							
1	127						
1	128						
NetId	Central control addr	ess	Indoor unit address	Communication division	Model name	Serial no.	Error

Example 2: Duplicate central control addresses, indoor unit information Ri** could not be acquired

In the above example, indoor unit 1-3 and indoor unit 2-1 had the same central control address. As the central control address of one of the indoor units is wrong, change the central control address setting.

### 9-4. LED Display During Normal Operation

When operating normally the LED display is as follows.

LED display during normal operation		): Lighting, $\bigcirc$ : Blinking, $igodoldsymbol{igodoldsymbol{igodoldsymbol{B}}}$ : Lights out
LED	LED color	LED display
POWER	Red	0
RS485	Green	•
LINK1(Uh)	Orange	$\bigcirc$
LINK2(Uh)	Orange	•
ERROR	Red	•
L1	Green	Operating normally state in "Section 8-1.".

# **10**Engineering Tool

Refer to the engineering tool manual for details.

Obtaining the Engineering Tool "Setting File Creation Software2"

Engineering tool and manuals can be downloaded from the CARRIER JAPAN "THGP" website.

(https://global-portal.toshiba-carrier.co.jp/software/global/bms)

# 10-1. IP Address Setting

The default BN interface IP address is set when shipped. Change it using the engineering tool.

- (1) Set the BN interface IP address and Subnet Mask in the "Server Setting" input screen on the "Server/Interface" tab.
- (2) Use the following function to upload a setting file to the BN interface.
- Uploading a setting file (DEF File)
- Uploading a setting file (DEF File) by the USB Flash Drive

"Server Setting" input screen in the "Server / Interface" tab

📆 Data Input Main				_	$\times$
File Operation Tool Help					
i 📭 📵 🚯 i 🚍					
System Server / Interface Control Setting(	Communication)				
Server Setting					
Controller	IP Address	Subnet Mask	Default Gateway		
BACnet	192.168.1.100	255.255.255.0	192.168.1.1		
BACnet(BMS-IFBN1281U-UL)					.::

### CAUTION

The instance number of the BACnet Device object is set when shipped according to the following rule.
Use 1Byte of Last byte of IP Address number

Therefore if the IP address is changed, the BACnet Device object instance number also changes.

# 10-2. BACnet Device Object Instance Number Setting

The instance number of the BACnet Device object is set when shipped according to the following rule. Change the instance number using the engineering tool.

- Use 1Byte of Last byte of IP Address number
- (1) Select "2: User Setting" from the "Device instance Number additional value" list in the input screen of the "System" tab. Enter the Device object instance number into "Instance Number Setting".
- (2) Use the following function to upload a setting file to the BN interface.
- Uploading a setting file (DEF File)
  - Uploading a setting file (DEF File) by the USB Flash Drive

"System" tab input screen

👼 Data Input Main	- 🗆 X
File Operation Tool Help	
System Server / Interface Control Setting(Communication)	
Item	Data
Building name	
Temperature display: Interval	0: Unit 1 C.
Temperature display: C./F.	1: F.
Event Priority	7
BACnet System with Smart BMS Manager Series / Touch Screen Controller(CT128series)	0: Void
BACnet System with Touch Screen Controller(BMS-CT512*E/UL)	0: Void
Receive UDP Port	47808
Transmit UDP Port	47808
Device instance Number additional value	0: Use 1byte of Last byte of IP address number
Instance Number Setting	0
Select Coldstart / Warmstart	1: Warmstart
Detail Setting mode valid/void	0: Void
Central Controller ID	1: Central Controller ID 1
BACnet Protcol Version	BACnet2012
BN interface operation settings for central control prohibition requests obtained from indoor units	1: Enable central control prohibition requests
WhohasService	0: Void
BACnet(BMS-IFBN1281U-UL)	

# 10-3. Acquiring the Search Results File (SearchObjectLog.tsv)

Follow the "SearchObjectLog Download" function procedure in the engineering tool to download the search results file (SearchObjectLog.tsv) to a PC from the BN interface.

### "SearchObjectLog Download" function procedure

• Execute the "Initialization Tool" submenu in the Tool menu on the Main Menu screen of the engineering tool.



In the Initialization Tool, change "Type" to "BACnet".
 Change "Model Name" to "BMS-IFBN1281U-E/-TR" (Global) or "BMS-IFBN1281U-UL" (North America).
 Check the "Specify Folder Name" check box under "Backup Folder Name", and then specify the download destination folder.

🐻 Initialization To	ol	>
File Operation	Tool Help	
IP Address	192.168. 2.80 PING	
Туре	Touch Screen Controller	
Model Name	BMS-CT5121E	
Processing     O Initialize Se     O Delete spe     If Schedule     D Layout da      Touch Screen C	etting Files cific data	
Initialize	Trend Files	
Backup Folder N	Vame	
🗌 Specify F	older Name	ļ
	Browse	
L		

• Execute the "SearchObjectLog Download" submenu in the Tool menu of the Initialization Tool.

🐻 Initialization Too	I	×	
File Operation	Tool Help		
	Full Backup		
TD Address	System Initialization		
IP Address	Restore		
Туре	Upgrade		
Model Name	Download		
Processing	Delete Backup File		
Initialize Set	SearchObjectLog Download		
C Delete specific data			
Backup Folder Na	ame Ider Name Browse		

# 10-4. Searching for the BN interface IP Address

If you are unsure of the BN interface IP address, find it using the "IP Address Search" function.



[IP Address Search] in the [Tool] menu

# **11** Troubleshooting

# 11-1. During test runs

Problem	Cause	Action	
No indoor units can be found (The number of indoor units	The indoor units and outdoor units are turned off.	Check that the indoor units and outdoor units are turned on.	
in the search results file is 0)	The indoor units and outdoor units are performing initial communication so cannot be communicated with. (The LINK(Uh) LED is not blinking at all)	Check that the indoor units and outdoor units are turned on. Check that 10 minutes or more has passed since the units were turned on.	
	The Uh Line communication cable is not wired correctly.	Check that the wiring is correct.	
	No central control address is set to the indoor units.	Check that a central control address is set to the indoor units.	
	When indoor units cannot be communicated with after using Setting File Creation Software2 to change "Central controller ID setting" to "Old controller" and upload it to the BN interface. TU2C-LINK compatible outdoor units have judged the communication protocol of the Uh line as TU2C-LINK.	Re-start the TU2C-LINK compatible outdoor units.	
	When indoor units cannot be communicated with after using Setting File Creation Software2 to change "Central controller ID setting" to "Old controller" and upload it to the BN interface. The central control addresses of TU2C-LINK compatible indoor units are set as 65—128.	Change the central control addresses of TU2C- LINK compatible indoor units to 1-64.	
The central control address of indoor units is duplicated. (Error message in search results file)	Multiple indoor units are set to the same central control address.	Check that the central control address for each indoor unit is set correctly.	
Indoor unit information could not be acquired. (Error message in search results file)	Uh Line communication did not work	Check that the Uh Line communication termination resistance is set. Try searching for air conditioners again.	
The central controller ID of the Uh Line compatible central control device and the central controller ID of the BN Interface are duplicated. (Error message in search results file)	The same central controller ID is set.	Change the central controller ID. Change the central controller ID of the BN interface with Setting File Creation Software2. The central controller ID at the time of factory shipping is central controller ID 20.	
When operation of an indoor unit is performed from a central monitoring system, a different indoor unit goes into operation state.	The central control address, Line address, or unit address of indoor units has been changed after a test run of the BN interface.	Check the central control address, Line address, and unit address of indoor units If the central control address, Line address, or unit address of any indoor units has been changed, perform the procedure of "9 Test run".	

Problem	Cause	Action
A request frame was sent to the BN interface via BACnet communication but no response frame was returned.	<ul> <li>The IP Address or network mask setting is wrong</li> <li>The LAN cable is not connected</li> <li>The LAN port is malfunctioning</li> </ul>	<ul> <li>Check the following.</li> <li>Whether a response is sent when a ping command is sent from a PC.</li> <li>Whether the LAN cable is connected to the BN interface.</li> <li>Whether LED1 in the LAN port of the BN interface is lit.</li> <li>Whether LED2 in the LAN port of the BN interface is lit or blinking.</li> </ul>
	BN interface is not running	<ul> <li>Check the following.</li> <li>The LED-L1 is in the "Operating normally" state shown in "Section 8-1.".</li> <li>If BN interface is starting up, wait until it starts up normally.</li> </ul>
A Notice Code has been issued on the air conditioner side, but the value of the "Notice Code" object has not changed.	<ul> <li>This object can be used by the TU2C- LINK model.</li> <li>In order to issue a notice code, the notice code must be registered on the air conditioner side.</li> </ul>	For details of notice code, refer to the air conditioner service manual.
A High_Limit error or Low_Limit error occurred when the temperature setting was changed with the "Auto Cool Set temperature Control" object or "Auto Heat Set temperature Control" object.	The temperature settings must meet the following requirement. "Auto cool temperature setting ≥ Auto heat temperature setting"	Set the temperature so that the requirement indicated in the left-hand column is met.

# 11-2. When starting up BN interface

Problem	Cause	Action	
LED-L1 is lit	There is an error in the settings file.	<ul> <li>Execute Air-Conditioning Search Mode again.</li> <li>CAUTION</li> <li>The indoor units and outdoor units that are the target of the search must be turned on when Air-Conditioning Search Mode is executed.</li> </ul>	
	The unit addresses of the indoor units are overlapped.	Identify the overlaps in the addresses of the indoor units and change the addresses.	
	<ul> <li>The BN interface has stopped communicating because the indoor units are conducting their initial sequence communication.</li> <li>The BN interface has been set to operate in conjunction with another air conditioning controller.</li> </ul>	<ul> <li>Check whether there is an air conditioning unit for which only the indoor units are powered on.</li> <li>In the case of a system for combination use with another air conditioning controller, this is normal. In the case that it is not a system for combination use, check the settings of the Setting File Creation Software2.</li> </ul>	

# 11-3. When Using BN interface

Problem	Cause	Action
A request frame was sent to the BN interface via BACnet communication but no response frame was returned.	The BN interface internal software has stopped.	After shutting down BN interface, reset the power.
The time written in the BACnet communication response frame is slower than the current time	The BN interface internal clock is slow.	Send BACnet Time Synchronization Service from Building Management System to set the time.

Problem	Cause	Action
The status of an indoor unit acquired by BACnet communication differs from the remote control display.	When the BN interface and air conditioning management controller are not being used together, the "LINK(Uh)" LED of the BN interface is not blinking.	Confirm whether power is being supplied to the indoor and outdoor units. NOTE When only the VRF indoor unit or outdoor unit has power supplied to it, because the initialization of VRF has not been completed, the BN interface stops communication.
	The central control address, Line address, or unit address of indoor units has been changed after a test run of the BN interface.	Check the central control address, Line address, and unit address of indoor units If the central control address, Line address, or unit address of any indoor units has been changed, perform the procedure of "9 Test run".
	When the BN interface and air conditioning management controller were being used together, the power for the air conditioning management controller was turned OFF.	Turn ON the power for the air conditioning management controller.
	When used in combination with the air conditioning management controller, the "LINK(Uh)" LED of the BN interface does not blink.	
	A TU2C-LINK non-compatible Central Remote Controller and BN interface are being used together.	Because the Central Remote Controller Communicates with the indoor unit every 4 minutes, updating of the indoor unit status on BN interface is every 4 minutes.
When operation of an indoor unit is performed from a central monitoring system, a different indoor unit goes into operation state.	The central control address, Line address, or unit address of indoor units has been changed after a test run of the BN interface.	Check the central control address, Line address, and unit address of indoor units If the central control address, Line address, or unit address of any indoor units has been changed, perform the procedure of "9 Test run".

LED Status	Cause	Action
LED-L1 is unlit	The BN interface internal software has stopped due to: • Shutdown • Disconnection • Other malfunction	Reset the BN interface power.
LED-L1 is lit	The BN interface internal software has stopped due to: • Other malfunction	After shutting down BN interface, reset the power.
LED-L1 is blinking (during normal operation), and LED-LINK(Uh) is unlit	The BN interface cannot send a Uh Line communication command to indoor units.	Check that the indoor units and outdoor units are turned on. Check if VRF System is initializing. Check that the communication wiring is not broken.
LED-L1 is blinking (during normal operation), LED-LINK(Uh) is blinking (during normal operation)	The BN interface internal software has stopped due to: <ul> <li>Other malfunction</li> </ul>	After shutting down BN interface, reset the power.

# 11-4. Directly After Changing the microSD Card (Service Component)

Problem	Cause	Action	
Startup step 1 The LED display does not LED-L1 is unlit.	The BN interface internal microSD card has malfunctioned.	Check that the microSD card is inserted correctly. Check that the microSD card is inserted in the correct slot.	
Startup step 4 (LED-L1 is lit)	There is an error in the settings file.	Execute Air-Conditioning Search Mode again.	
		Check that the search target indoor units and outdoor units are turned on.	
The indoor unit configuration acquired using BACnet communication is wrong	It has not been changed from the default setting.	Carry out a test run.	
The IP address of the BN interface is wrong	It has not been changed from the default setting.	Use the engineering tool to change the IP address.	
The instance number of the BACnet Device object is wrong	It has not been changed from the default setting.	Use the engineering tool to change the instance number.	

# 11-5. When the Power Supply to the Indoor Units Is Interrupted

Problem		Cause	Action
The Present Value pro Object (Section 3-3.) i initial value. <initial values=""></initial>	operty of the Input s 0, 1, or another	While the power supply to the indoor units has been interrupted, power is supplied to the BN interface.	Power on the indoor units.
Input Object	Present Value		
ON/OFF Status	0:inactive		
Operation Mode	2:Cooling		
Set Temperature	25°C, 77F		
Room Temperature	18°C, 64F		
Fan Speed	4:H		
Louver	7:stop		
Filter Sign	0:inactive		
Permit / Prohibit of Local	1:Permit		
The Present Value pro Object (Section 3-3.) after a test run of the	operty of the Input has not changed BN interface.	The power supply to the indoor units has been interrupted.	Power on the indoor units.
The FAULT bit and the IN_ALARM bit of the Status_Flags property of the Input Object (Section 3-3.) are TRUE.		The power supply to the indoor units has been interrupted.	Power on the indoor units.
The Reliability property of the Input Object, described in "Section 3-3.", is unreliable-other (7).		The power supply to the indoor units has been interrupted.	Power on the indoor units.

# **12**Replacing Service Parts

# 12-1. Replacing the microSD Card

(1) Turn off the BN interface.

(2) Remove the 4 screws on the front panel of the BN interface.



(3) Push the microSD card into the slot until you hear a click and remove the card.



(4) Insert the microSD card into the slot and push it in until you hear a sound.



(5) Turn on the BN interface power, and operate as in a test run.

### CAUTION

• Do not leave the card hanging out of the slot.

### 12-2. Replacing the Power Adaptor

- (1) Turn off the BN interface, and replace the power adaptor.
- (2) Remove the ferrite core from the power cord.
- (3) Attach the ferrite core to the replacement power cord in the same way.

### (Power adapter)



# **13**Service Component List

For BMS-IFBN1281U-UL

No.	Component name	Component code	Outline	Quantity used
1	microSD card	4316W077	Specialized microSD card containing BN interface software	1
2	Power adaptor	4316V581	Power adaptor for the BN interface	1

### CAUTION

• The microSD card cannot be used with Windows. Do not insert it into a Windows PC. If the microSD card is inserted into a Windows PC, the contents may be corrupted.

• Do not remove the microSD card from the BN interface for any reason other than to replace it.

# **14** Systems in which the BN interface is used in conjunction with another air conditioning controller

This chapter explains about systems in which the BN interface is used in conjunction with another air conditioning controller.

### NOTE

As for the version of the Setting File Creation Software2, use v1.6.0.0 (March, 2023) or later.

# 14-1. Compatible Air Conditioning Controllers

The BN interface can be used in conjunction with one of the following air conditioning controllers. Note that it cannot be used simultaneously with multiple air conditioning controllers.

Uh Line communication protocol	Air Conditioning Controller	Representative model name
TU2C-LINK non-compatible	Touch Screen Controller (BMS-TP1 series, BMS-CT series)	BMS-CT5120UL BMS-CT1280UL
	Smart BMS Manager or Smart BMS Manager with data analyzer	BMS-SM1280HTLUL
TU2C-LINK compatible	Touch Screen Controller	BMS-CT2560U-UL
	Central Remote Controller	TCB-SC640U-UL

# 14-2. System for Combination Use with the TOUCH SCREEN CONTROLLER (BMS-CT5120UL)

### 14-2-1. System configuration

Wire the devices as shown below:



### 14-2-2. Preparation for the test run

When using multiple BN interfaces, set different numbers for the IP addresses and the BACnet Device object instance numbers so that they do not overlap.

BN interface	IP address	Instance number for BACnet Device object
No. 1	192.168.1.100	100
No. 2	192.168.1.101	101

### 14-2-3. Test run procedure

(1) Set the line addresses, unit addresses, and central control address for the indoor units.

- (2) Carry out a test run of the TOUCH SCREEN CONTROLLER.
- (3) Turn off the power to the relay interfaces of the TOUCH SCREEN CONTROLLER.
- (4) Power on the BN interface.

### CAUTION

The IP addresses of BN interface units overlap at the time of shipment from the factory. Therefore, when using two or more in combination, do not power on both devices simultaneously.

After powering on the BN interface, wait for about 10 minutes until the status LEDs indicate that it is properly started (LED-L1 is blinking in the Operating normal state in "Section 8-1.").

(5) BACnet Communication Settings (see "Section 9-1.")

Set IP addresses, etc. by using the Setting File Creation Software.

Remember to change the IP address on your PC to 192.168.1.** in order to upload the settings file to the BN interface. (** indicates any number from 2 to 250.)

### NOTE

When using the BACnet System in conjunction with the TOUCH SCREEN CONTROLLER, navigate to the below-indicated page in the Setting File Creation Software2.

Among "System" settings, for "Central controller ID setting", select "Old controller".

Set the value for "BACnet System with Touch Screen Controller (BMS-CT512*E/UL)" to "1: Valid" and set the value for "BACnet System with Smart BMS Manager Series" to "0: Void".

👼 Data Input Main	- 🗆 X
File Operation Tool Help	
E 📭 🤐 🗓   🚍	
System Server / Interface Control Setting(Communication)	
Item	Data
Building name	
Temperature display: Interval	0: Unit 1 C.
Temperature display: C./F.	1: F.
Event Priority	7
BACnet System with Smart BMS Manager Series / Touch Screen Controller(CT128series)	0: Void
BACnet System with Touch Screen Controller(BMS-CT512*E/UL)	1: Valid 🗸 🗸 🗸
Receive UDP Port	47808
Transmit UDP Port	47808
Device instance Number additional value	0: Use 1byte of Last byte of IP address number
Instance Number Setting	0
Select Coldstart / Warmstart	1: Warmstart
Detail Setting mode valid/void	0: Void
Central Controller ID	21: Old controller setting
BACnet Protcol Version	BACnet2012
BN interface operation settings for central control prohibition requests obtained from indoor units	1: Enable central control prohibition requests
WhohasService	0: Void
BACnet(BMS-IFBN1281U-UL)	

In the Setting File Creation Software2, enter the IP address for the BN interface and set the BACnet Device object numbers. Once these have been entered, upload the settings file to the BN interface from the Setting File Creation Software2. Once the settings file has been uploaded, the BN interface will automatically restart. When the BN interface has properly started, LED-L1 is blinking in the Operating normal state in "Section 8-1.".

(6) Indoor Unit Device Information Settings (see Sections 9-2. through to 9-4.)

#### NOTE

Before executing air-conditioning search mode, be sure to turn off the power to the relay interfaces of the TOUCH SCREEN CONTROLLER.

If a communication collision occurs between the relay interface and the BN interface at a Uh Line bus, proper communication with the indoor units will be interrupted, preventing creation of the settings file.

- (7) Repeat the above procedures (4), (5), and (6) for the second BN interface.
- (8) After completing all of the procedures to set up the BN interfaces, power on the relay interfaces of the TOUCH SCREEN CONTROLLER.

#### NOTE

As the master controller of the Uh Line main bus, the relay interfaces of the TOUCH SCREEN CONTROLLER routinely communicate with the indoor units in order to ascertain their status.

The "LINK(Uh)" LED (orange) does not blink because the BN interface has stopped communicating with the indoor unit as a result of being set for combination use.

When the power to the relay interfaces of the TOUCH SCREEN CONTROLLER is interrupted, the BACnet system is also affected. This will result in a communication error with the indoor units.

### NOTE

Whenever the following changes are made, the process described at step (6) (above) needs to be repeated.

- · The central control address, Line address, or unit address of the indoor units is changed;
- The address of an individual or the base unit of the indoor remote control group is changed (line address, unit address);
- · An indoor remote control group is added or removed;
- The display setting for the remote control for the indoor units (individual units, base unit) is changed.
  - · Operation mode
  - · Upper/lower limit for the temperature setting
  - · Availability of the ventilation function

# 14-3. System for Combination Use with Smart BMS Manager

### 14-3-1. System configuration

Wire the devices as shown below:



### 14-3-2. Preparation for test run

When using multiple BN interfaces, set different numbers for the IP addresses and the BACnet Device object instance numbers so that they do not overlap.

BN interface	IP address	Instance number for BACnet Device object
No. 1	192.168.1.100	100
No. 2	192.168.1.101	101

### 14-3-3. Procedure for test run

- (1) Set the line addresses, unit addresses, and central control address for the indoor units.
- (2) Conduct a test run of the Smart BMS Manager.
- (3) Turn off the power to the Smart BMS Manager.
- (4) Power on the BN interface.

#### CAUTION

The IP addresses of BN interface units overlap at the time of shipment from the factory. Therefore, when using two or more in combination, do not power on both devices simultaneously.

After powering on the BN interface, wait for about 10 minutes until the status LEDs indicate that it is properly started (LED-L1 is blinking in the Operating normal state in "Section 8-1.").

(5) BACnet Communication Settings (see "Section 9-1.")
 Set IP addresses, etc. by using the Setting File Creation Software.
 Remember to change the IP address on your PC to 192.168.1.** in order to upload the settings file to the BN interface.
 (** indicates any number from 2 to 250.)

### NOTE

When using the BACnet System in conjunction with Smart BMS Manager, go to the below-indicated page in the Setting File Creation Software2.

Among "System" settings, for "Central controller ID setting", select "Old controller".

Set the value for "BACnet System with Smart BMS Manager Series" to "1: Valid" and set the value for "BACnet System with Touch Screen Controller (BMS-CT512*E/UL)" to "0: Void".

📆 Data Input Main	X		
File Operation Tool Help			
System Server / Interface Control Setting(Communication)			
Item	Data		
Building name			
Temperature display: Interval	0: Unit 1 C.		
Temperature display: C./F.	1: F.		
Event Priority	7		
BACnet System with Smart BMS Manager Series / Touch Screen Controller(CT128series)	1: Valid ~		
BACnet System with Touch Screen Controller(BMS-CT512*E/UL)	0: Void		
Receive UDP Port	47808		
Transmit UDP Port	47808		
Device instance Number additional value	0: Use 1byte of Last byte of IP address number		
Instance Number Setting	0		
Select Coldstart / Warmstart	1: Warmstart		
Detail Setting mode valid/void	0: Void		
Central Controller ID	21: Old controller setting		
BACnet Protcol Version	BACnet2012		
BN interface operation settings for central control prohibition requests obtained from indoor units	1: Enable central control prohibition requests		
WhohasService	0: Void		

In the Setting File Creation Software2, enter the IP address for the BN interface and set the BACnet Device object numbers. Once these have been entered, upload the settings file to the BN interface from the Setting File Creation Software2. Once the settings file has been uploaded, the BN interface will automatically restart. When the BN interface has properly started, LED-L1 is blinking in the Operating normal state in "Section 8-1.".

(6) Indoor Unit Device Information Settings (see Sections 9-2. through to 9-4.)
### NOTE

Before executing air-conditioning search mode, be sure to turn off the power to Smart BMS Manager.

If a communication collision occurs between Smart BMS Manager and the BN interface at a Uh Line bus, proper communication with the indoor units will be interrupted, preventing creation of the settings file.

(7) Repeat the above procedures (4), (5), and (6) for the second BN interface.

(8) After completing all of the procedures to set up the BN interfaces, power on the Smart BMS Manager.

## NOTE

As the master controller of the Uh Line main bus, Smart BMS Manager routinely communicates with the indoor units in order to ascertain their status.

The "LINK(Uh)" LED (orange) does not blink because the BN interface has stopped communicating with the indoor unit as a result of being set for combination use.

When the power to the Smart BMS Manager is interrupted, the BACnet system is also affected. This will result in a communication error with the indoor units.

### NOTE

Whenever the following changes are made, the process described at step (6) (above) needs to be repeated.

- · The central control address, Line address, or unit address of the indoor units is changed;
- The address of an individual or the base unit of the indoor remote control group is changed (line address, unit address);
- An indoor remote control group is added or removed;
- The display setting for the remote control for the indoor units (individual units, base unit) is changed.
  - Operation mode
  - · Upper/lower limit for the temperature setting
  - · Availability of the ventilation function

# 14-4. System for Combination Use with Touch Screen Controller (BMS-CT2560U-UL)

# 14-4-1. System configuration

Wire the devices as shown below:



# 14-4-2. Preparation for test run

When using multiple BN interfaces, set different numbers for the IP addresses and the BACnet Device object instance numbers so that they do not overlap.

BN interface	IP address	Instance number for BACnet Device object
No. 1	192.168.1.100	100
No. 2	192.168.1.101	101

### 14-4-3. Procedure for test run

- (1) Set the line addresses, unit addresses, and central control address for the indoor units.
- (2) Conduct a test run of the Touch Screen Controller.
- (3) Turn off the power to the Touch Screen Controller.
- (4) Power on the BN interface.

### CAUTION

The IP addresses of BN interface units overlap at the time of shipment from the factory. Therefore, when using two or more in combination, do not power on both devices simultaneously.

After powering on the BN interface, wait for about 10 minutes until the status LEDs indicate that it is properly started (LED-L1 is blinking in the Operating normal state in "Section 8-1.").

(5) BACnet Communication Settings (see "Section 9-1.")
 Set IP addresses, etc. by using the Setting File Creation Software.
 Remember to change the IP address on your PC to 192.168.1.** in order to upload the settings file to the BN interface.
 (** indicates any number from 2 to 250.)

#### NOTE

For combination use with Touch Screen Controller (BMS-CT2560U-E), with the Setting File Creation Software2, select central controller ID 20 (default) for "Central controller ID setting" on the following screen.

S Data Input Main — — — X			
File Operation Tool Help			
E 🔁 📫 🚱 I 🚍			
System Server / Interface Control Setting (Communication)			
Item	Data		
Building name			
Temperature display: Interval	0: Unit 1 C.		
Temperature display: C./F.	1: F.		
Event Priority	7		
BACnet System with Smart BMS Manager Series / Touch Screen Controller(CT128series)	0: Void		
BACnet System with Touch Screen Controller(BMS-CT512*E/UL)	0: Void		
Receive UDP Port	47808		
Transmit UDP Port	47808		
Device instance Number additional value	0: Use 1byte of Last byte of IP address number		
Instance Number Setting	0		
Select Coldstart / Warmstart	1: Warmstart		
Detail Setting mode valid/void	0: Void		
Central Controller ID	20: Central Controller ID 20 🗸 🗸 🗸 🗸		
BACnet Protcol Version	BACnet2012		
BN interface operation settings for central control prohibition requests obtained from indoor units	1: Enable central control prohibition requests		
WhohasService	0: Void		
BACnet(BMS-IFBN1281U-UL)			

In the Setting File Creation Software2, enter the IP address for the BN interface and set the BACnet Device object numbers. Once these have been entered, upload the settings file to the BN interface from the Setting File Creation Software2. Once the settings file has been uploaded, the BN interface will automatically restart. When the BN interface has properly started, LED-L1 is blinking in the Operating normal state in "Section 8-1.".

(6) Indoor Unit Device Information Settings (see Sections 9-2. through to 9-4.)

### NOTE

Before executing air-conditioning search mode, be sure to turn off the power to Touch Screen Controller. If there is a communication collision on Uh Line between the Touch Screen Controller and BN interface, the indoor units cannot be properly communicated with, and a setting file cannot be created.

(7) Repeat the above procedures (4), (5), and (6) for the second BN interface.

(8) After completing all of the procedures to set up the BN interfaces, power on the Touch Screen Controller.

# NOTE

As the Uh line main bus master controller, the Touch Screen Controller performs regular communication with the indoor units to acquire their operation status.

The "LINK(Uh)" LED (orange) does not blink because the BN interface has stopped communicating with the indoor unit as a result of being set for combination use.

When the power to the Touch Screen Controller is interrupted, the BACnet system is also affected. This will result in a communication error with the indoor units.

## NOTE

Whenever the following changes are made, the process described at step (6) (above) needs to be repeated.

- · The central control address, Line address, or unit address of the indoor units is changed;
- The address of an individual or the base unit of the indoor remote control group is changed (line address, unit address);
- · An indoor remote control group is added or removed;
- The display setting for the remote control for the indoor units (individual units, base unit) is changed.
  - Operation mode
  - · Upper/lower limit for the temperature setting
  - · Availability of the ventilation function

# 14-5. System for Combination Use with Central Remote Controller (TCB-SC640U-UL)

If using 65 or more indoor units, use 2 central remote controllers.

# 14-5-1. System configuration

Wire the devices as shown below:



## 14-5-2. Procedure for test run

- (1) Set the line addresses, unit addresses, and central control address for the indoor units.
- (2) Conduct a test run of the Central Remote Controller.
- (3) Turn off the power to the Central Remote Controller.
- (4) Power on the BN interface.

After powering on the BN interface, wait for about 10 minutes until the status LEDs indicate that it is properly started (LED-L1 is blinking in the Operating normal state in "Section 8-1.").

(5) BACnet Communication Settings (see "Section 9-1.")

Set IP addresses, etc. by using the Setting File Creation Software2.

Remember to change the IP address on your PC to 192.168.1.** in order to upload the settings file to the BN interface. (** indicates any number from 2 to 250.)

#### NOTE

For combination use with Central Remote Controller (TCB-SC640U-E), with the Setting File Creation Software2, select central controller ID 20 (default) for "Central controller ID setting" on the following screen.

🐻 Data Input Main	– 🗆 X	
File Operation Tool Help		
i 📭 🤹 🛃 🔚		
System Server / Interface Control Setting (Communication)		
Item	Data	
Building name		
Temperature display: Interval	0: Unit 1 C.	
Temperature display: C./F.	1: F.	
Event Priority	7	
BACnet System with Smart BMS Manager Series / Touch Screen Controller(CT128series)	0: Void	
BACnet System with Touch Screen Controller(BMS-CT512*E/UL)	0: Void	
Receive UDP Port	47808	
Transmit UDP Port	47808	
Device instance Number additional value	0: Use 1byte of Last byte of IP address number	
Instance Number Setting	0	
Select Coldstart / Warmstart	1: Warmstart	
Detail Setting mode valid/void	0: Void	
Central Controller ID	20: Central Controller ID 20 🗸	
BACnet Protcol Version	BACnet2012	
BN interface operation settings for central control prohibition requests obtained from indoor units	1: Enable central control prohibition requests	
WhohasService	0: Void	
BACnet(BMS-IFBN1281U-UL)		

In the Setting File Creation Software2, enter the IP address for the BN interface and set the BACnet Device object numbers. Once these have been entered, upload the settings file to the BN interface from the Setting File Creation Software2. Once the settings file has been uploaded, the BN interface will automatically restart.

When the BN interface has properly started, LED-L1 is blinking in the Operating normal state in "Section 8-1.".

(6) Indoor Unit Device Information Settings (see Sections 9-2. through to 9-4.)

### NOTE

Before executing air-conditioning search mode, be sure to turn off the power to Central Remote Controller. If there is a communication collision on Uh Line between the Central Remote Controller and BN interface, the indoor units cannot be properly communicated with, and a setting file cannot be created.

(7) After completing all of the procedures to set up the BN interfaces, power on the Central Remote Controller.

# NOTE

As the Uh line main bus master controller, the Central Remote Controller performs regular communication with the indoor units to acquire their operation status.

The "LINK(Uh)" LED (orange) does not blink because the BN interface has stopped communicating with the indoor unit as a result of being set for combination use.

When the power to the Central Remote Controller is interrupted, the BACnet system is also affected. This will result in a communication error with the indoor units.

### NOTE

Whenever the following changes are made, the process described at step (6) (above) needs to be repeated.

- The central control address, Line address, or unit address of the indoor units is changed;
- The address of an individual or the base unit of the indoor remote control group is changed (line address, unit address);
- · An indoor remote control group is added or removed;
  - The display setting for the remote control for the indoor units (individual units, base unit) is changed.
  - Operation mode
  - · Upper/lower limit for the temperature setting
  - Availability of the ventilation function

# **15**Old BN interface product replacement

# 15-1. BMS-IFBN640TLUL

The following explains the setting procedure for using BMS-IFBN1281U-UL as BMS-IFBN640TLUL in the case of BMS-IFBN640TLUL failure.

Product before replacement	Product after replacement
BMS-IFBN640TLUL	BMS-IFBN1281U-UL

## NOTE

As for the version of the Setting File Creation Software2, use v1.6.0.0 (March, 2023) or later.

(1) Following the procedure described in "10 Engineering Tool", create a setting file for BMS-IFBN1281U-UL with Setting File Creation Software2.

In the case of product replacement, among "System" settings, for "Central controller ID setting", select "Old controller".

🐻 Data Input Main	– 🗆 X		
File Operation Tool Help			
i 📭 🥶 💩 i 🔚			
System Server / Interface Control Setting(Communication)			
Item	Data		
Building name			
Temperature display: Interval	0: Unit 1 C.		
Temperature display: C./F.	1: F.		
Event Priority	7		
BACnet System with Smart BMS Manager Series / Touch Screen Controller(CT128series)	0: Void		
BACnet System with Touch Screen Controller(BMS-CT512*E/UL)	0: Void		
Receive UDP Port	47808		
Transmit UDP Port	47808		
Device instance Number additional value	0: Use 1byte of Last byte of IP address number		
Instance Number Setting	0		
Select Coldstart / Warmstart	1: Warmstart		
Detail Setting mode valid/void	0: Void		
Central Controller ID	21: Old controller setting 🗸 🗸		
BACnet Protcol Version	1: Central Controller ID 1		
BN interface operation settings for central	20: Central Controller ID 20		
control prohibition requests obtained from indoor units	21: Old controller setting		
WhohasService	0: Void		

Specifications when set to "Old controller"

Central control address setting range	1-64
Uh Line communication protocol	Old protocol

(2) Using Setting File Creation Software2, upload the setting file to BMS-IFBN1281U-UL.

(3) Perform "9 Test run".

Installation Manual (BMS-IFBN1281U-UL)



# Installation Manual Central Control Device

For commercial use

# **BN** interface

Model name:

# **BMS-IFBN1281U-UL**



# Multilingual installation manual, license agreement and license information



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# Contents

Pr	ecautio	ons for safety	2
Int	roduct	ion	3
1	Install	ation	5
2	Power	and signal line connections	7
3	Setting	gs	14
	3-1.	Switch setting	14
	3-2.	LED	15
4	Factor	ry default settings	15
5	Test ru	un	16
	5-1.	BACnet communication settings	16
	5-2.	Setting up equipment data in the indoor unit	17
	5-3.	Cause of problem occurring during setup	18
6	Turnin	ng off the BN interface	18

# **Precautions for safety**

The following instructions must be observed.

- Carefully read these "Precautions for Safety" before installation, and perform installation work safely.
- · These precautions contain important information regarding safety.
- After installation work, carry out an operation trial to confirm that there are no problems, and explain to the customer how to operate and maintain the system. Ask the customer to keep this Installation Manual.

### Expressions

Warning	Text set off in this manner indicates that failure to adhere to the directions in the warning could result in serious bodily harm (*1) or loss of life if the product is handled improperly.
<b>A</b> Caution	Text set off in this manner indicates that failure to adhere to the directions in the caution could result in serious bodily injury ( *2 ) or damage ( *3 ) to property if the product is handled improperly.

*1: Serious bodily harm indicates loss of eyesight, injury, burns, electric shock, bone fracture, poisoning, and other injuries which leave aftereffect and require hospitalization or long-term treatment as an outpatient.

*2: Bodily injury indicates injury, burns, electric shock, and other injuries which do not require hospitalization or long-term treatment as an outpatient.

*3: Damage to property indicates damage extending to buildings, household effects, domestic livestock, and pets.

### **Graphic symbols**

Prohibited	"O" indicates prohibited items. The actual contents of the prohibition are indicated by a picture or text placed inside or next to the graphic symbol.
Compulsory	" <b>①</b> " indicates compulsory (mandatory) items. The actual contents of the obligation are indicated by a picture or text placed inside or next to the graphic symbol.



0	<ul> <li>Installation and reinstallation should be performed by your dealer or a qualified electrician         Attempting to carry out installation work on your own, and doing so incorrectly, may result in electric shock or fire.     </li> </ul>
	<ul> <li>Electrical work must be performed by a qualified electrician in accordance with this Installation Manual. The work must satisfy all local, national and international regulations Inappropriate work may result in electric shock or fire.</li> </ul>
	<ul> <li>Be sure to turn off the power before starting work</li> <li>Failure to do so may result in electric shock.</li> </ul>
	<ul> <li>Use only the power adapter supplied with this unit</li> <li>A power adapter other than that supplied with this unit may provide a different voltage and have different polarity (+) (-), which could lead to fire, explosion or generation of heat.</li> </ul>
$\bigcirc$	Do not modify the unit     Doing so may result in excessive heat or fire.

## Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

# Introduction

# Overview

The BN interface refers to equipment used for controlling Building Management Systems (Procured locally) and air conditioners "TU2C-LINK Uh Line (hereinafter, referred to as Uh Line) compatible models" through communications via a network to enable central control.

# Included Items

Component	Q'ty	Remarks
BN interface equipment	1	
Power adapter	1	BN interface power supply
Pin terminal	2	Uh Line caulked connectors
Mounting bracket (DIN rail)	1	Use screws to secure the unit in locations without DIN rails (walls, etc.)
Screws (M4 x 12)	2	For securing the DIN rails
Installation Manual	1	This manual
License Agreement	1	
License Information	1	

# Specifications

Power supply	Rated voltage	120 V AC 60 Hz	
	Power consumption	10 W	
Operating temperature range		32 to 104°F (0°C to 40°C), 10% to 80% RH (no condensation)	
Storage temperature range		14 to 140°F (−10°C to +60°C), 10% to 90% RH (no condensation)	
Dimensions		Width 7.87 inch x Height 3.94 inch x Depth 2.32 inch (Width 200 mm x Height 100 mm x Depth 59 mm)	
Mass		BN interface 1.7 lb (765 g) Power adapter 1.0 lb (450 g)	
Number of connected units	Indoor unit	Up to 128 units (TU2C-LINK) Up to 64 units (TCC-LINK)	

# External View (BN interface equipment)

Unit: inch (mm)



(Power adapter)



#### 7.87" (200) ٩ © 3.94" (100) С © ٩ Ethernet (LAN) USB 飅 (Shutdown button 88 0 LINK (Uh) 12V DCIN

Name	Function
12V DCIN	Connect the power adapter
USB	(For service)
Ethernet (LAN)	Connect to the Building Management System
Shutdown button	Shutdown or switch to air conditioner search mode
LINK (Uh)	Connect the central control wiring

# **1** Installation

### REQUIREMENT

#### Do not install the unit in any of the following places.

- Humid or wet place
- Dusty place
- · Place exposed to direct sunlight
- · Place where there is a TV set or radio within 3 ft
- Place exposed to rain (outdoors, under eaves, etc.)

# BN Interface Installation and Orientation

Install and orient the interface using the DIN rail to mount the unit or wall mount or surface mount it as shown below. Use the supplied mounting bracket to wall mount or surface mount the interface.

(1) DIN rail mount

Install the interface on DIN rails mounted on a switchboard or elsewhere.

Front view

Back view





(2) Wall mount

Use screws to attach the supplied DIN rails to a wall and install the interface on the DIN rail.





Wall mount A







Wall mount C



# Installation Space and Maintenance Space

A side space for connecting through cable inlets and an upper space for maintenance must be reserved before installation. The other sides can be adjacent to surrounding objects.



# **Power and signal line connections**

# Cables

Use the following cable for signal line connections. (Procured locally)

No.	Line	Description		
			2-core shielded wires	
1	1 For Uh Line	Wire size	Defer to "Design of Control Wiring" (D 10 to D 12)	
		Length	Relei to Design of Control Winnig (F.10 to F.13)	
		For Ethernet [®] Type	LAN cable (higher than Category 5, UTP)	
2 For Ethernet [®]	The appropriate use of straight cable/cross cable should be done depending on your system used			
		Length	328 ft (100 m) max.	

Ethernet[®] is a registered trademark of Xerox Co., Ltd.

# Cable Connections

Connect the cables to the specified connectors.

Length of stripped Uh Line communication cable



### CAUTION

The Uh Line communication cable have no polarity.



Secure the Uh Line communication cable and power cable to the switchboard etc. using the supplied cable tie to ensure that no excess load is placed on the power cable connection and Uh Line communication cable connection.





### Termination resistance setting

TU2C-LINK / TCC-LINK termination resistance setting ......

Leave just 1 line of the termination resistance in the interface board of the outdoor unit (centre unit) ON, and turn all the others OFF. (Refer to the wiring diagram attached to the outdoor unit for the position of SW.) <For TU2C-LINK>

For the central control wiring (Uh line), set the termination resistance that is farthest away on the wiring between this central controller and the other unit (VRF, light commercial, air to air heat exchanger, general purpose control interface, air to water heat pump) to ON.

Refer to the manual of each model for the termination resistance setting method.



#### Shield grounding process

open the shielded wire of the central control wiring and perform insulation processing. When using the central remote controller with multiple units, connect the shield of the central control wiring to the closed end and open the shield at the final end of the central remote controller to perform insulation processing. Perform the central control wiring shield grounding on the air conditioner side.

### REQUIREMENT

- Be sure to install a circuit breaker or all-pole isolating switch (with a contact breaking distance of at least 0.12" (3 mm)) on the primary side of the power supply.
- Fasten the screws to the terminal block with torque of 0.37 lbf ft (0.5 N•m).

# Design of Control Wiring

# Communication method and model name

The TU2C-LINK model (U series) can be used together with previous models (other than U series). For details of the model and communication method, see the following table.

Communication method	TU2C-LINK (U series)	TCC-LINK (other than U series)
Outdoor unit	MMY-MUP***	Other than on the left (MMY-MAP***, MCY-MAP***, etc.)
Indoor unit	MM*-UP***	Other than on the left (MM*-AP***, etc.)
Wired remote controller	RBC-AMSU**	Other than on the left
Wireless remote controller receiver	RBC-AXRU** U series model TCB-AXRU** U series model	Other than on the left
Central control device	***_*** U series model	Other than on the left

### NOTE

The equipment that can be displayed may vary depending on the country or region. For details contact our sales personnel.

# When the connected outdoor unit is Super Multi u series (U series)

Follow the wiring specifications in the table below even when there is a mix of U series and non-U series in the connected indoor units or remote controllers.

### Wiring specifications

Itom	Communication line
	Central control wiring (Uh line)
Wire diameter	AWG16: Up to 3281 ft (1000 m)
Wire diameter	AWG14: Up to 6560 ft (2000 m)
Wire type	2-core, non-polar
Wire types that can be used	Shielded wire

### REQUIREMENT

When wiring the control wiring between indoor and outdoor units (Uv line)/control wiring between outdoor units (Uc line) and the central control wiring (Uh line), use the same wire type and diameter for each line. Using a mixture of different wire types and diameters may cause a communication error.

# System diagram



* The wiring specifications in the system diagram above are the same even when the indoor unit or remote controller are other than the U series.

# When the connected outdoor units are other than Super Multi u series (U series)

# Wiring specifications

	Communication line	
Item	Control wiring between indoor and outdoor units and central control wiring	
Wire diameter	AWG16: Up to 3281 ft (1000 m)	
	AWG14: Up to 6560 ft (2000 m)	
Wire type	2-core, non-polar	
Wire types that can be used	Shielded wire	

### REQUIREMENT

When wiring the control wiring between indoor and outdoor units/central control wiring and the control wiring between outdoor units, use the same wire type and diameter for each line.

Using a mixture of different wire types and diameters may cause a communication error.

# System diagram



# When connecting to a previous model light commercial, air to air heat exchanger, air to water heat pump, or general purpose equipment control interface

Follow the wiring specifications in the table below even when there is a mix of U series and non-U series in the connected indoor units or remote controllers.

### Wiring specifications

Itom	Communication line
	Central control wiring (Uh line)
Wire diameter	AWG16: Up to 3281 ft (1000 m)
	AWG14: Up to 6560 ft (2000 m)
Wire type	2-core, non-polar
Wire types that can be used	Shielded wire

### REQUIREMENT

When wiring the control wiring between indoor and outdoor units (Uv line)/control wiring between outdoor units (Uc line) and the central control wiring (Uh line), use the same wire type and diameter for each line. Using a mixture of different wire types and diameters may cause a communication error.

# System diagram



# **3** Settings

# 3-1. Switch setting

SW100

Uh Line termination resistance setting switch bit1:use, bit2:not use Refer to "Termination resistance setting" (P.9)

Shutdown button Shutdown function / air conditioner search mode function button Use this button to stop BACnet process and network process of the BN interface or to start up in the air conditioner search mode. Note that button operation changes depending on how long it is depressed.

Time duration button is depressed	Operation
The Shutdown button 2 times	Stop BACnet process and network process of the BN interface.
4 seconds or more	Start up in the air conditioner search mode. Use the air conditioner search mode to set up equipment data in the indoor unit.



Unscrew and open the product



# 3-2. LED

LED	LED color	Use
POWER	Red	Power indicator
RS485	Green	Not use
LINK1(Uh)	Orange	Uh Line communication status indicator
LINK2(Uh)	Orange	Not use
ERROR	Red	Uh Line communication error indicator
L1	Green	BACnet communication status indicator, setting error indicator





# **4** Factory default settings

No.	Item	Factory default setting
1	IP address of BN interface	IP address 192.168.1.100 Subnet mask 255.255.255.0
2	UDP port	47808 (0xBAC0)
3	Device object instance number	100
4	Uh Line termination resistance select switch	OFF

# **5** Test run

To perform test run of the BN interface, BACnet communication settings and the equipment data of the connected indoor units are required.

Items to be set during trial run

Equipment	Item		Setting method	
Outdoor unit	Uh Line address	Line address	Use the DIP switch on the outdoor unit circuit board.	
		Line address	Lise the address setting function of	
Indoor unit	Lib Line address	Unit address	wired remote controller. (Except for simple wired remote	
	Un Line address	Central control address		
		Group address	controller)	
	IP addross	IP address		
	IF address	Network mask		
	BACnet communication device identification number	BACnet device object instance number		
	When using together with a	Setting of old BN interface		
	central control device not compatible with Uh Line	Setting for combined use with old controller	Use Setting File Creation Software 2. (See Section 5-1.)	
	When using together with a central device compatible with Uh Line	Change the "Central Controller ID" from ID1 to ID20		
	When replacing with a BN interface that does not support Uh Line	Setting of old BN interface		
DN interface		Line address		
BIN Interface		Unit address		
		Central control address	When setup work (see Section 5-2) is performed, the BN interface reads out the set values from the indoor	
		Group address		
		Operation mode setting range		
		Temperature setting range	unit and records them on the SD card	
	Indoor unit information	Fan speed setting range	Perform setup work after changing	
	(DN code setting values)	Flap type	the device information of the indoor	
		Ventilation amount setting range		
		Ventilation mode setting range		
		Availability of ventilation operation		
		Availability of save function		

# 5-1. BACnet communication settings

Set the IP address of the BN interface and the device object instance number of the BACnet communications. These setting can set from Setting File Creation Software 2. For details, contact your dealer.

# 5-2. Setting up equipment data in the indoor unit

Obtain the equipment data of the indoor unit that is controlled by the BN interface from the indoor unit via the Uh Line communication cable.

Preparing to set up equipment data in the indoor unit

- Central Control address must be set in the indoor unit you want to control.
   For information on how to set the address, refer to the installation manual of each indoor unit.
- Turn on all indoor and outdoor units. Set up as follows, waiting 10 minutes after turning on all the units.

Setup work

Step 1. Start the BN interface.

- Turn on the BN interface.
- The status of the LED L1 changes to LEDstatus-1, LEDstatus-2, and then to LEDstatus-4. It takes about 10 minutes for the LED L1 status to change to LEDstatus-4.

Step 2. Start up in the air conditioner search mode.

- Hold down the Shutdown button for 4 seconds or more.
- The status of the LED L1 changes to LEDstatus-7 and then to LEDstatus-8.
- When reading equipment information from the indoor units is successfully completed, the BN interface automatically prepares for BACnet communication.
- The status of the LED L1 changes to LEDstatus-1, LEDstatus-2, and then to LEDstatus-4. It takes about 10 minutes for the LED L1 status to change to LEDstatus-4.
- If an error occurs, then the status of the LED L1 will be LEDstatus-3. Refer to Section 5-3 to check for the cause of error generation.

#### When the BN interface is operating normally

• The status of the LED L1 is LEDstatus-4.

#### LED L1 blinking

Operation	LED status	Situation/processing	LED blinking pattern
	LEDstatus-1	During initialization	
Starting up	LEDstatus-2	During BACnet connecting operation	
	LEDstatus-3	File error during startup Other error during startup	
While in operation	LEDstatus-4	During BACnet communication	
Pressing the	LEDstatus-5	During processing for BACnet software shutdown	
	LEDstatus-6	Shut down	
Start up in the air conditioner search mode	LEDstatus-7	During preparation for air conditioner search mode	
	LEDstatus-8	During air conditioner search	

ON OFF

* Control interval (time length of 1 cell): 200 ms

# **5-3.** Cause of problem occurring during setup

Cause of problem	Cause	Action
	The indoor and outdoor units have not been turned on.	Make sure that indoor and outdoor units are turned on.
The indoor unit cannot be found.	The indoor and outdoor units are being initialized and it is not possible to communicate with them. LINK1(Uh) does not blink at all	Make sure that indoor and outdoor units are turned on. Make sure they have been on for at least 10 minutes.
	The Uh Line cables have been incorrectly connected.	Connect the cables correctly.
	The central control address has not been set in the indoor units.	Make sure that the central control address has been set in the indoor units.
The central control address set in the indoor units are not unique.	The same central control address has been set in a number of indoor units.	Make sure that the central control address has been correctly set in the indoor units.

# **6** Turning off the BN interface

Press the shutdown button, then wait 5 minutes before turning it off. When turning off the BN interface

- Press the Shutdown button 2 times.
- The status of the LED L1 changes to LEDstatus-5 and then to LEDstatus-6.
- Disconnect the power adapter from the BN interface.

## CAUTION

As the air conditioner search mode will be engaged if the shutdown button is pressed for 4 seconds or longer, do not hold down the button.

# **Carrier Japan Corporation**

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# **Revision record**

Number	The contents of modification	Page	Date
First issue	-	-	Feb., 2023
Revision 1	Added Dual Set Point	13, 18-20, 23, 36-39, 96	Oct., 2023
Revision 2	Corporation name change	-	May, 2024