

Technical Manual



KNX Gateway for Daikin residential air conditioning units

SCN-ACG0DAI.01

Further Documents:

Datasheet:

https://www.mdt.de/EN_Downloads_Datasheets.html

Assembly and Operation Instructions:

https://www.mdt.de/EN_Downloads_Instructions.html

Solution Proposals for MDT products:

https://www.mdt.de/EN_Downloads_Solutions.html

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2 Overview

2.1 Overview devices

The description refers to the following devices (article number printed in **bold**):

- **SCN-ACG0DAI.01** KNX Gateway for Daikin residential air conditioning units, flush mounted

2.2 Functions

Setpoint and room temperature

The desired setpoint temperature is transmitted to the air conditioning unit via KNX. Alternatively, the temperature can be increased or decreased step by step. This function is particularly suitable for operation via push buttons where no direct temperature input is provided.

If required, an external KNX temperature sensor can be used as a reference for the room temperature. The gateway uses this value for virtual temperature control and calculates the setpoint to be sent to the air conditioning unit. This allows the temperature control to be more closely aligned with the actual room temperature in the desired measurement range.

Fan and air-flow

The fan speed can be conveniently set via KNX. The automatic function as well as several fixed fan speeds are supported. Additionally, the fan speeds can be displayed and operated as individual bit objects. For simple push-button operation, a step object is optionally available. This allows the fan speed to be increased or decreased step by step without the need for a visualisation.

The vanes movement can also be integrated into KNX operation. Depending on the air conditioning unit, vertical swing, horizontal swing or both directions of movement can be controlled together. The current swing mode can be reported and displayed via KNX.

Window function

Via a window object, the gateway detects whether a window is open. After a configurable time, the air conditioning unit is automatically switched off. If the time value is set to "0", the unit switches off immediately.

If the window is open, the air conditioning unit remains switched off. After closing, the gateway can either restore the last state set via KNX or remain switched off until a new switch-on command is sent.

Scenes

The gateway supports two scenes. In a scene, the current settings for operating mode, setpoint temperature, fan stage, swing function and humidification are saved. When called up, the gateway restores these values and transmits them to the air conditioning unit.

This allows frequently used settings, such as comfort mode, night mode or absence, to be called up quickly and reliably. The scenes can be saved and started via a common scene object or via separate bit objects.

Easy-to-read status and text messages

The gateway provides the most important operating states via KNX. These include operating mode, fan stage, swing mode, humidification mode and setpoint temperature. Optionally, these values can be sent automatically after bus voltage returns.

For a clearly readable display in visualisations, operating mode, fan stage, swing function and humidification mode can also be output as text. The texts can be parameterised in the ETS.

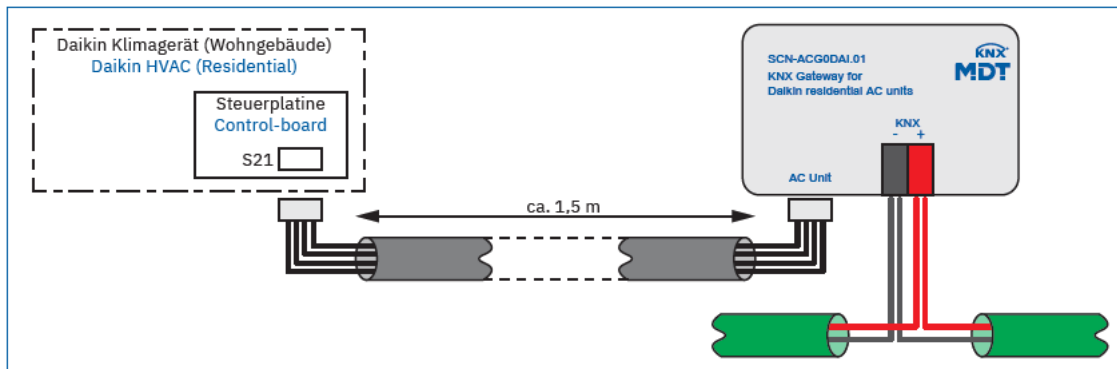
Device release, remote control and maintenance

The gateway can be specifically activated or deactivated via a release object. If the gateway is deactivated, only the release object remains active. This allows KNX operation to be completely locked if required and released again later.

The Daikin remote control can also be enabled or disabled via KNX. If enabled, the air conditioning unit can be operated in parallel via KNX and the remote control.

An operating hours meter records the running time of the indoor unit. This value can be used for maintenance purposes, for example to check filter maintenance. After maintenance, the counter can be reset.

2.3 Wiring diagram



2.4 Structure & Handling

The following picture shows the structure of the device:

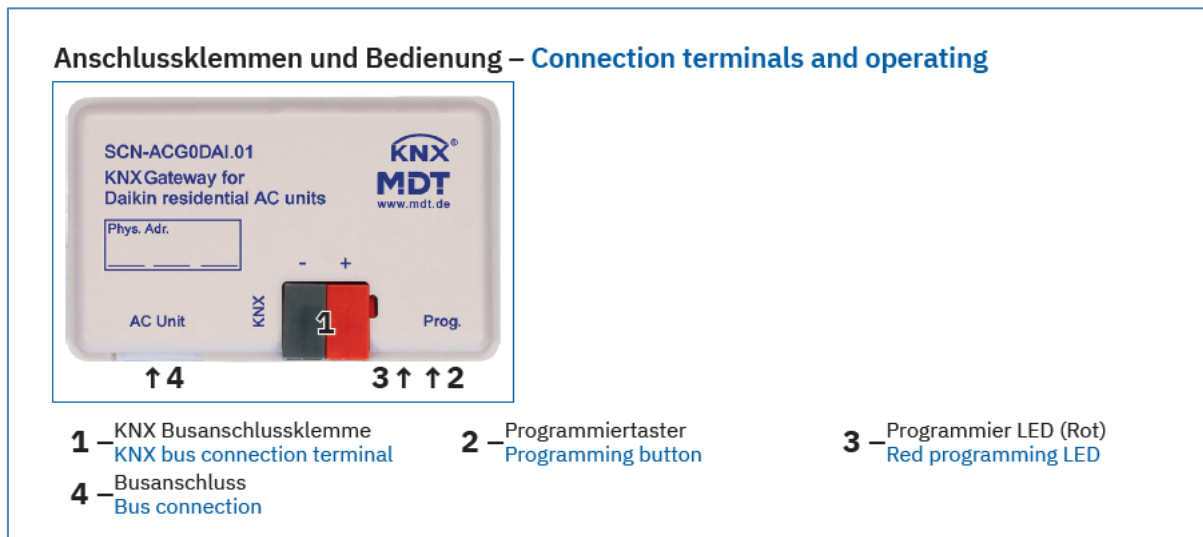


Figure 2: Structure & Handling

2.5 Commissioning

1. Wire the device according to the connection diagram.
2. Connect the programming interface to the bus.
3. Switch-on bus voltage.
4. Press the programming button on the device (Red programming LED lights up continuously).
5. Set and programme the physical address in the ETS (Programming LED turns off).
6. Configure and programme the settings in the application program.

3 Communication objects

3.1 Standard settings of the communication objects

Standard settings – Control objects									
No.	Name	Object function	Length	C	R	W	T	U	
0	On/Off	1=On,0=Off	1 Bit	X	X	X	X		
1	Mode	0=Aut,1=Hea,2=Dry,3=Fan,4=Coo	1 Byte	X	X		X		
2	HVAC Mode	0=Aut,1=Hea,3=Coo,9=Fan,14=Dry	1 Byte	X	X		X		
3	Mode Cool/Heat	0=Cool Mode,1=Heat Mode	1 Bit	X	X	X	X		
4	Mode Text	Maximum: 14 characters	14 Byte	X	X		X		
5	Mode Auto	1=Mode Auto Active	1 Bit	X	X	X	X		
6	Mode Heat	1=Mode Heat Active	1 Bit	X	X	X	X		
7	Mode Dry	1=Mode Dry Active	1 Bit	X	X	X	X		
8	Mode Cool	1=Mode Cool Active	1 Bit	X	X	X	X		
9	Mode Fan	1=Mode Fan Active	1 Bit	X	X	X	X		
10	Setpoint Temperature	°C	2 Byte	X	X	X	X		
11	Setpoint Temperature [+/-]	0=Decrease;1=Increase	1 Bit	X		X			
11	Setpoint Temperature [+/-]	0=Up;1=Down	1 Bit	X		X			
12	Virtual Setpoint Temperature	°C	2 Byte	X		X	X	X	
13	Virtual Ambient Temperature	°C	2 Byte	X		X	X	X	
14	Fan	0=Aut,1=Lo,2=M1,3=M2,4=M3,5=Hi	1 Byte	X	X		X		
15	Fan Text	Maximum: 14 characters	14 Byte	X	X		X		
16	Fan Speed [+/-]	0=Decrease;1=Increase	1 Bit	X		X			
16	Fan Speed [+/-]	0=Up;1=Down	1 Bit	X		X			
17	Fan Auto	1=Fan Speed Auto	1 Bit	X	X	X	X		
18	Fan Low	1=Fan Speed Low	1 Bit	X	X	X	X		
19	Fan Mid1	1=Fan Speed Mid1	1 Bit	X	X	X	X		
20	Fan Mid2	1=Fan Speed Mid2	1 Bit	X	X	X	X		
21	Fan Mid3	1=Fan Speed Mid3	1 Bit	X	X	X	X		
22	Fan High	1=Fan Speed High	1 Bit	X	X	X	X		
23	Swing	0=Off,1=Vert,2=Hori,3=Both	1 Byte	X	X		X		
24	Swing Text	Maximum: 14 characters	14 Byte	X	X		X		
25	Swing Vertical	1=Swing Vertical	1 Bit	X	X	X	X		
26	Swing Horizontal	1= Swing Horizontal	1 Bit	X	X	X	X		
27	Error	1=Error in AC Unit	1 Bit	X	X		X		
28	Error Code	AC Unit Error Code	2 Byte	X	X		X		
29	Window	0=Closed;1=Window Open	1 Bit	X		X	X	X	
30	Device enable	1=Enabled,0=Disabled	1 Bit	X	X	X	X		
31	Remote Control Enable	1=Enabled,0=Disabled	1 Bit	X	X	X	X		
32	Time Counter	Hours	2 Byte	X	X	X	X		
33	Humidifying Mode	0=Off,1=Lo,2=Stan,3=Hi,4=Con	1 Byte	X	X		X		
34	Humidifying Text	Maximum: 14 characters	14 Byte	X	X	X	X		
35	Humidifying Off	1=Humidifying Off	1 Bit	X	X	X	X		

36	Humidifying Low	1=Humidifying Low	1 Bit	X	X	X	X	
37	Humidifying Standard	1=Humidifying Standard	1 Bit	X	X	X	X	
38	Humidifying High	1=Humidifying High	1 Bit	X	X	X	X	
39	Humidifying Continuous	1=Humidifying Continuous	1 Bit	X	X	X	X	
40	Safe/Execute Scene	0=Scene1,1=Scene2	1 Byte	X		X		
41	Current Scene	0=Scene1,1=Scene2	1 Byte	X	X		X	
42	Safe Scene 1	1=Safe Scene 1	1 Bit	X		X		
43	Safe Scene 2	1=Safe Scene 2	1 Bit	X		X		
44	Execute Scene 1	1=Execute Scene 1	1 Bit	X		X		
45	Execute Scene 2	1=Execute Scene 2	1 Bit	X		X		
46	Auto Heat	1=Auto Heat Active	1 Bit	X	X		X	
47	Auto Cool	1=Auto Cool Active	1 Bit	X	X		X	

The table above shows the preset default settings. The priority of the individual communications objects and the flags can be adjusted by the user as required. The flags assign the communication objects their respective tasks in programming, where C stands for communication, R for read, W for write, T for transmit and U for update.

4 ETS-Parameters

4.1 General dialog

The following figure shows the menu for the general settings:

General	AC unit type	CONVENTIONAL
Objects Display	Features	Two Swing Modes; No Humidifier
Mode Text	Window minutes	0
Fan Text	Send object values to KNX bus on startup	☒ Yes ☐ No
Swing Text	When window closes go to last state	☐ Yes ☒ No
Humidifying Text	Virtual temperature control	☐ Yes ☒ No
	Mode [1byte] object type	DPT_HVACContrMode 20.105
	Show Mode Cool/Heat [1bit] object	☐ Yes ☒ No

The following figure shows the default communication objects:

-  0: On/Off [1bit] - 1=On,0=Off
-  2: HVAC Mode [1byte] - 0=Aut,1=Hea,3=Coo,9=Fan,14=Dry
-  10: Setpoint Temperature [2byte] - °C
-  14: Fan [1byte] - 0=Aut,1=Lo,2=M1,3=M2,4=M3,5=Hi
-  23: Swing [1byte] - 0=Off,1=Vert,2=Hori,3=Both
-  27: Error [1bit] - 1=Error in AC Unit
-  28: Error Code [2byte] - AC Unit Error Code

The following table explains the communication objects:

Object #	Description
0	This object is used to Start (On) and Stop (Off) the AC unit.
2	This object is used to monitor the Operation Mode in the AC unit.
10	This object controls the temperature setpoint of the AC unit. Value is meant to be used to set the temperature of the AC unit only when “Virtual Temperature Control” parameter is inactive (set to “No”), always can be read and reflects the current setpoint in the AC unit.
14	This object is used to monitor the Fan speed in the AC unit.
23	Swing working mode in the AC unit.
27	This object, when set to 1, indicates either an error in the AC unit or communication failure between AC unit and Gateway.
28	This object indicates the Error Code of the AC unit. Note that a value of 0 indicates “no error” condition; 555 indicates communication error between Gateway and the AC Unit. Consult further error codes in the list below (Chapter 5).

4.1.1 AC unit type and Features

Indicates the type of AC indoor unit. Select the model of your AC indoor unit from the list of models available. Factory value is type CONVENTIONAL. Main features for each AC unit type will be shown in a textbox below this parameter.

AC unit type	CONVENTIONAL ▼
Features	Two Swing Modes; No Humidifier

4.1.2 Window minutes

Minutes to wait before switching the AC unit OFF after receiving the indication of window open. If 0, the AC unit will be switched off immediately. While in OFF, and with window open, if it receives an order to switch ON, the timer will be initialised, and the AC unit will be switched OFF after the configured minutes. (0...30 minutes). Factory value is 0.

4.1.3 Send object values to KNX on startup

Indicates if the gateway will send to KNX the object values indicating AC Unit status at power-up (when KNX bus is plugged to the gateway). Objects indicating AC Unit status are: "Mode", "Fan Speed", "Swing Mode", "Humidifying Mode" and "Set Temperature".

4.1.4 When window closes go to last state

Defines behaviour of AC unit once window is closed, after AC unit has been switched OFF as a result of an open window timeout:

- If this parameter is set to **"Yes"**, last value that was written from KNX to object "On/Off" will be sent to the AC unit
- If set to **"No"**, the AC unit will be left in OFF state until a new ON request is received from KNX.

4.1.5 Virtual Temperature Control

Meant to be enabled when you want the temperature provided by a KNX sensor to be the reference ambient temperature for the air conditioner. When enabled, the communication objects "Set Temperature Virtual" and "Ambient Temperature Virtual" are used to provide the setpoint and ambient temperatures respectively from KNX. When enabled, the following formula applies for calculation of real Set Temperature sent to the AC unit:

$$\text{"Set Temperature A.C."} = \text{"Set Temperature Virtual"} - (\text{"Ambient Temperature Virtual"} - \text{"Set Temperature Virtual"})/2$$

When enabled, "Set Temperature A.C." object is meant not to be written, is only for information purposes to know in each moment the real setpoint sent to the air conditioner. When disabled, "Set Temperature Virtual" and "Ambient Temperature Virtual" objects are not present.

This parameter shows/hides the following objects.

 12: Virtual Setpoint Temperature [2byte] - °C

 13: Virtual Ambient Temperature [2byte] - °C

- If set to „**No**“, the objects will not be shown.
- If set to “**Yes**“, the objects will appear.

The following table explains the communication objects:

Obj #	Description
12	This object is used to set the temperature of the AC unit when the ambient temperature is also supplied from KNX, i.e. from a KNX temperature sensor (thermostat). Value is used by the Gateway only when “Virtual Temperature Control” parameter is active (set to “Yes”). See “Virtual Ambient Temperature” communication object and “Virtual Temperature Control” parameter. Object’s value is read from KNX bus on startup.
13	This object is used to indicate to the AC unit the present ambient temperature measured by an external KNX sensor. Value is used by the Gateway only when “Virtual Temperature Control” parameter is active (set to “Yes”). See “Virtual Set Temperature” communication object and “Virtual Temperature Control” parameter. Object’s value is read from KNX bus on startup.

4.1.6 Mode [1byte] object type

The following options are available:

- “**DPT_HVACContrMode 20.105**”: “HVAC Mode” object is shown and “Mode” object is hidden.
- “**Enumerated**”: “Mode” object is shown and “HVAC Mode” object is hidden.
- “**Both**”: Both “Mode” and “HVAC Mode” objects are shown.

Depending on selection, the following objects can be used:

 1: Mode [1byte] - 0=Aut,1=Hea,2=Dry,3=Fan,4=Coo

 2: HVAC Mode [1byte] - 0=Aut,1=Hea,3=Coo,9=Fan,14=Dry

The following table explains the communication objects:

Obj #	Description
1	This object is used to monitor the Operation Mode in the AC unit.
2	This object is used to monitor the Operation Mode in the AC unit.

4.1.7 Show Mode Cool/Heat [1bit] object

This parameter shows/hides the following objects.

 3: Mode Cool/Heat [1bit] - 0=Cool Mode,1=Heat Mode

- If set to „**No**“, the objects will not be shown.
- If set to “**Yes**“, the objects will appear.

The following table explains the communication objects:

Obj #	Description
3	This object is used to monitor the Operation Mode in the AC unit. Writing a “0” sets the Operation Mode to “Cool”. Writing a “1” sets the Operation Mode to “Heat”. Setting the Operation Mode to Heat (through Mode object or HVAC Mode object) sets this object to “1”. Setting the Operation Mode to any other (but Heat) sets this object to “0”.

4.2 Objects display dialog

General	Show Device Objects	☐ Yes ☒ No
Objects Display	Show Mode Bits	☐ Yes ☒ No
	Show Fan Bits	☐ Yes ☒ No
	Show Swing Bits	☐ Yes ☒ No
	Show Humidifying Objects	☐ Yes ☒ No
	Show Scene Objects	☐ Yes ☒ No
	Show Auto Details	☐ Yes ☒ No
	Enable Mode/Fan/Swing/Humi Texts	☐ Yes ☒ No
	Show Fan Speed [+/-] object	☐ Yes ☒ No
	Show Setpoint Temperature [+/-] object	☐ Yes ☒ No

4.2.1 Show Device Objects

This parameter shows/hides the following objects.

-  29: Window [1bit] - 1=Closed,0=Window Open
-  30: Device Enable [1bit] - 1=Enabled,0=Disabled
-  31: Remote Control Enable [1bit] - 1=Enabled,0=Disabled
-  32: Time Counter [2byte] - Hours

- If set to „**No**“, the objects will not be shown.
- If set to “**Yes**“, the objects will appear.

The following table explains the communication objects:

Obj #	Description
29	Indicates to the AC unit the status of the window. If opened, after the time indicated in the parameter "Window Minutes", the AC unit will be switched off automatically. The AC unit will remain OFF while the window is open. If " Window Minutes " is 0, the AC unit will be switched off immediately. Object's value is read from bus on startup.
30	This object indicates whether the Gateway is enabled or disabled. Value is stored in Gateway's eeprom. If disabled, the only active object of Gateway will be this one – the rest of objects will not be operative. To enable the Gateway again, set this object back to 1. Factory value for this object is “1-Enabled”.
31	This object is used to disable/enable the AC indoor unit's remote control. Value is stored in Gateway's eeprom. If enabled, the AC unit can be controlled simultaneously by both, AC unit's remote control and KNX. Factory value for this object is “1-Enabled”.
32	This object indicates the AC indoor unit's operation time (in hours). Value is stored in the Gateway's eeprom. This value can be used for maintenance control of AC indoor unit's filter, as well as for monitoring AC unit's operation time. Set to 0 for clearing its value after filter maintenance.

4.2.2 Show Mode Bits

This parameter shows/hides the Mode as bit objects.

-  5: Mode Auto [1bit] - 1=Mode Auto Active
-  6: Mode Heat [1bit] - 1=Mode Heat Active
-  7: Mode Dry [1bit] - 1=Mode Dry Active
-  8: Mode Cool [1bit] - 1=Mode Cool Active
-  9: Mode Fan [1bit] - 1=Mode Fan Active

- If set to „**No**“, the objects will not be shown.
- If set to “**Yes**“, the objects will appear.

Only one of these five objects will be active at any moment. If “1” is written in any of them, all others will be forced to “0”. If the AC unit changes its Operation Mode, the corresponding object will be activated (1) while all others will be forced to zero.

The following table explains the communication objects:

Obj #	Description
5	Indicates or activates this Operation Mode with a value of “1”.
6	Indicates or activates this Operation Mode with a value of “1”.
7	Indicates or activates this Operation Mode with a value of “1”.
8	Indicates or activates this Operation Mode with a value of “1”.
9	Indicates or activates this Operation Mode with a value of “1”.

4.2.3 Show Fan Bits

This parameter shows/hides the Fan Speed as bit objects.

-  17: Fan Auto [1bit] - 1=Fan Speed Auto
-  18: Fan Low [1bit] - 1=Fan Speed Low
-  19: Fan Mid1 [1bit] - 1=Fan Speed Mid1
-  20: Fan Mid2 [1bit] - 1=Fan Speed Mid2
-  21: Fan Mid3 [1bit] - 1=Fan Speed Mid3
-  22: Fan High [1bit] - 1=Fan Speed High

- If set to „**No**“, the objects will not be shown.
- If set to “**Yes**“, the objects will appear.

Only one of these six objects will be active at any moment. If “1” is written in any of them, all others will be forced to “0”. If AC unit changes its Fan Speed, the corresponding object will be activated (1) while all others will be forced to zero.

The following table explains the communication objects:

Obj #	Description
17	Indicates or activates this Fan Speed with a value of “1”.
18	Indicates or activates this Fan Speed with a value of “1”.
19	Indicates or activates this Fan Speed with a value of “1”.
20	Indicates or activates this Fan Speed with a value of “1”.
21	Indicates or activates this Fan Speed with a value of “1”.
22	Indicates or activates this Fan Speed with a value of “1”.

4.2.4 Show Swing Bits

This parameter shows/hides the Swing Mode as bit objects.

 25: Swing Vertical [1bit] - 1=Swing Vertical

 26: Swing Horizontal [1bit] - 1=Swing Horizontal

- If set to „**No**“, the objects will not be shown.
- If set to “**Yes**“, the objects will appear.

If AC unit’s mode allows doing so, both objects can be active at the same time.

The following table explains the communication objects:

Obj #	Description
25	Indicates or activates Vertical Swing. 1=Enable Vertical Swing (Up/Down); 0=Disable Vertical Swing
26	Indicates or activates Horizontal Swing. 1=Enable Vertical Swing (Left/Right); 0=Disable Vertical Swing

4.2.5 Show Humidifying Objects

This parameter shows/hides the Humidifying objects.

 33: Humidifying Mode [1byte] - 0=Off,1=Lo,2=Stan=3=Hi,4=Con

 34: Humidifying Text [14byte] - Maximum: 14 characters

- If set to „**No**“, the objects will not be shown.
- If set to “**Yes**“, the objects and a new parameter will appear.

Show Humidifying Objects ☒ Yes ☐ No

Show Humidifying Bits ☐ Yes ☒ No

- Show Humidifying Bits: If set to “**Yes**”, further *Humidifying* bit objects will appear:

-  35: Humidifying Off [1bit] - 1=Humidifying Off
-  36: Humidifying Low [1bit] - 1=Humidifying Low
-  37: Humidifying Standard [1bit] - 1=Humidifying Standard
-  38: Humidifying High [1bit] - 1=Humidifying High
-  39: Humidifying Continuous [1bit] - 1=Humidifying Continuous

Bit Objects for Selection of Humidifying Mode: Only one of these five objects will be active at any moment. If “1” is written in any of them, all others will be forced to zero. If AC unit changes its Fan Speed, the corresponding object will be activated (1) while all others will be forced to zero. If AC unit changes its Operation Mode (Auto, Heat, Cool, ...) Humidifying Mode will be automatically set to Off.

The following table explains the communication objects:

Obj #	Description
33	Working mode of AC unit’s Humidifier (URURU SARARA model only)
34	This object is a text description of the selected Humidifying mode
35	Indicates or activates this Humidifying Mode with a value of “1”.
36	Indicates or activates this Humidifying Mode with a value of “1”.
37	Indicates or activates this Humidifying Mode with a value of “1”.
38	Indicates or activates this Humidifying Mode with a value of “1”.
39	Indicates or activates this Humidifying Mode with a value of “1”.

4.2.6 Show Scene Objects

This parameter shows/hides the objects for handling Scenes.

-  40: Save/Execute Scene [1byte] - 0=Scene1,1=Scene2
-  41: Current Scene [1byte] - 0=Scene1,1=Scene2

- If set to „**No**”, the objects will not be shown.
- If set to “**Yes**”, the objects and a new parameter will appear.

Show Scene Objects ☒ Yes ☐ No

Show Scene Bits ☐ Yes ☒ No

- Show Scene Bits: If set to “**Yes**”, further *Scene* bit objects will appear:

-  42: Save Scene1 [1bit] - 1=Save Scene1
-  43: Save Scene2 [1bit] - 1=Save Scene2
-  44: Execute Scene1 [1bit] - 1=Execute Scene1
-  45: Execute Scene2 [1bit] - 1=Execute Scene2

The following table explains the communication objects:

Obj #	Description
40	This object is used for storing/executing a scene (a scene is a given combination of set values for Operation Mode, Setpoint Temperature, Fan Speed, Swing Mode, and Humidifying Mode in the AC unit). The actual combination of these values is stored in the Gateway's eeprom when storing and retrieved from memory and set in the AC unit when executing. For Storing: 128=Scene1, 129=Scene2 For Executing: 0=Scene1, 1=Scene2
41	This object is used to monitor the active scene (a scene is a given combination of set values for Operation Mode, Setpoint Temperature, Fan Speed, Swing Mode Humidifying Mode in the AC unit). 0=Scene1, 1=Scene2
42	Setting this object to 1 forces the Gateway to store in eeprom memory the current set values of Operation Mode, Setpoint Temperature, Fan Speed, Swing Mode and Humidifying Mode for scene 1.
43	Setting this object to 1 forces the Gateway to store in eeprom memory the current set values of Operation Mode, Setpoint Temperature, Fan Speed, Swing Mode and Humidifying Mode for scene 2.
44	Setting this object to 1 forces the Gateway to retrieve from eeprom the values for scene 1, setting up its Operation Mode, Setpoint Temperature, Fan Speed, Swing Mode and Humidifying Mode in the AC unit accordingly. These values should have been saved previously using object <i>Save Scene1</i> .
45	Setting the object to 1 forces the Gateway to retrieve from eeprom the values for scene 2, setting up its Operation Mode, Setpoint Temperature, Fan Speed, Swing Mode and Humidifying Mode in the AC unit accordingly. These values should have been saved previously using object <i>Save Scene2</i> .

4.2.7 Show Auto Details

This parameter shows/hides Auto bit objects (Heat/Cool).

 46: Auto Heat [1bit] - 1=Auto Heat Active

 47: Auto Cool [1bit] - 1=Auto Cool Active

- If set to „**No**“, the objects will not be shown.
- If set to “**Yes**“, the objects will appear.

The following table explains the communication objects:

Obj #	Description
46	Indicates this Operation Mode with a value of “1”. 1=AC Unit is in Heat Mode
47	Indicates this Operation Mode with a value of “1”. 1=AC Unit is in Cool Mode

4.2.8 Enable Mode/Fan/Swing/Humi Texts

This parameter shows/hides text type objects for Mode, Fan, Swing and Humidifying Mode.

Note: To enable the text type object for “Humidifying”, the parameter “Show Humidifying Objects” must also be set to “Yes”.

- If set to „**No**”, the objects will not be shown.
- If set to “**Yes**”, the objects and new menus for Texts will appear.

Mode Text
Fan Text
Swing Text
Humidifying Text

4.2.8.1 Mode Text

The following text fields, to describe the appropriate Mode, appear.

For every text, a length of 14 bytes is allowed. The text is shown via the *Mode text* object.

This object is a text description of the selected Operation Mode.

 4: Mode Text [14byte] - Maximum:14 characters

Mode Auto Text	Auto
Mode Heat Text	Heat
Mode Dry Text	Dry
Mode Fan Text	Fan
Mode Cool Text	Cool

4.2.8.2 Fan Text

The following text fields, to describe the appropriate Fan text, appear.
For every text, a length of 14 bytes is allowed. The text is shown via the *Fan text* object.
This object is a text description of the selected Fan Speed.

 15: Fan Text [14byte] - Maximum: 14 characters

Fan Auto text	Auto
Fan Low text	Low
Fan Middle-1 text	Middle-1
Fan Middle-2 text	Middle-2
Fan Middle-3 text	Middle-3
Fan High text	High

4.2.8.3 Swing Text

The following text fields, to describe the appropriate Swing text, appear.
For every text, a length of 14 bytes is allowed. The text is shown via the *Swing text* object.
This object is a text description of the selected Swing Mode.

 24: Swing Text [14byte] - Maximum: 14 characters

Swing Off Text	Off
Swing Vertical Text	Vertical
Swing Horizontal Text	Horizontal
Swing Both Text	Both

4.2.8.4 Humidifying Text

The following text fields, to describe the appropriate Humidifying text, appear.
For every text, a length of 14 bytes is allowed. The text is shown via the *Humidifying text* object.
This object is a text description of the selected Humidifying Mode.

 34: Humidifying Text [14byte] - Maximum: 14 characters

Humidifying Off Text	Off
Humidifying Low Text	Low
Humidifying Standard Text	Standard
Humidifying High Text	High
Humidifying Continuous Text	Continuous

4.2.9 Show Fan Speed [+/-] object

This parameter shows/hides Fan Speed objects.

 16: Fan Speed [+/-] [1bit] - 0=Decrease,1=Increase

 16: Fan Speed [+/-] [1bit] - 0=Up,1=Down

- If set to „**No**“, the objects will not be shown.
- If set to „**Yes**“, the object and a new parameter to select the Datapoint type will appear.

Show Fan Speed [+/-] object	☒ Yes ☐ No
Fan Speed [+/-] object type	☒ DPT_Step 1.007 (0=Dec/1=Inc) ☐ DPT_UpDown 1.008 (0=Up/1=Down)

The following table explains the communication object:

Obj #	Description
16	When the parameter “Fan speed [+/-] object type” is set to DPT_Step: • With every write of 0, the fan speed decreases in one step • Writing 1 increases the speed in one step When the parameter “Fan speed [+/-] object type” is set to DPT_UpDown: • With every write of 0, the fan speed increases in one step • Writing 1 decreases the speed in one step If speed is incremented when the maximum is reached, it changes to automatic. If speed is incremented when the maximum is reached, it changes to low speed. The operation in opposite direction is analogous.

4.2.10 Show Setpoint Temperature [+/-] object

This parameter shows/hides Auto bit objects (Heat/Cool).

 11: Setpoint Temperature [+/-] [1bit] - 0=Decrease,1=Increase

 11: Setpoint Temperature [+/-] [1bit] - 0=Up,1=Down

- If set to „**No**“, the objects will not be shown.
- If set to “**Yes**”, the object and a new parameter to select the Datapoint type will appear.

Show Setpoint Temperature [+/-] object	☒ Yes ☐ No
Setpoint Temperature [+/-] object type	☒ DPT_Step 1.007 (0=Dec/1=Inc) ☐ DPT_UpDown 1.008 (0=Up/1=Down)

The following table explains the communication object:

Obj #	Description
16	When the parameter “Set Temperature [+/-] object type” is set to DPT_Step: • With every write of 0, the temperature setpoint decreases in one degree • Writing 1 increases in one degree When the parameter “Set Temperature [+/-] object type” is set to DPT_UpDown: • With every write of 0, the temperature setpoint increases in one degree • Writing 1 decreases in one degree When the maximum or minimum setpoint temperature is reached it stops increasing or decreasing. Value is meant to be written only when “Virtual Temperature Control” parameter is inactive (set to “No”).

5 Error Codes

Error Code KNX Object	Error in Remote Controller	Error category	Error Description
17	A0	Indoor Unit	External protection devices activated
18	A1		Indoor unit PCB assembly failure
19	A2		Interlock error for fan
20	A3		Drain level system error
21	A4		Temperature of heat exchanger (1) error
22	A5		Temperature of heat exchanger (2) error
23	A6		Fan motor locked, overload, over current
24	A7		Swing flap motor error
25	A8		Overcurrent of AC input
26	A9		Electronic expansion valve drive error
27	AA		Heater overheat
28	AH		Dust collector error / No-maintenance filter error
30	AJ		Capacity setting error (indoor)
31	AE		Shortage of water supply
32	AF		Malfunctions of a humidifier system (water leaking)
33	C0		Malfunctions in a sensor system
36	C3		Sensor system of drain water error
37	C4		Heat exchanger (1) (Liquid pipe) thermistor system error
38	C5		Heat exchanger (1) (Gas pipe) thermistor system error
39	C6		Sensor system error of fan motor locked, overload
40	C7		Sensor system of swing flag motor error
41	C8		Sensor system of over-current of AC input
42	C9		Suction air thermistor error
43	CA		Discharge air thermistor system error
44	CH		Contamination sensor error
45	CC		Humidity sensor error
46	CJ		Remote control thermistor error
47	CE		Radiation sensor error
48	CF		High pressure switch sensor
49	E0	Outdoor Unit	Protection devices activated
50	E1		Outdoor unit PCB assembly failure
52	E3		High pressure switch (HPS) activated
53	E4		Low pressure switch (LPS) activated
54	E5		Overload of inverter compressor motor
55	E6		Over current of STD compressor motor
56	E7		Overload of fan motor / Over current of fan motor
57	E8		Over current of AC input
58	E9		Electronic expansion valve drive error
59	EA		Four-way valve error
60	EH		Pump motor over current
61	EC		Water temperature abnormal
62	EJ		(Site installed) Protection device activated
63	EE		Malfunctions in a drain water
64	EF		Ice thermal storage unit error
65	H0		Malfunctions in a sensor system
66	H1		Air temperature thermistor error
67	H2		Sensor system of power supply error
68	H3		High Pressure switch is faulty
69	H4		Low pressure switch is faulty
70	H5		Compressor motor overload sensor is abnormal
71	H6		Compressor motor over current sensor is abnormal
72	H7		Overload or over current sensor of fan motor is abnormal
73	H8		Sensor system of over-current of AC input
74	H9		Outdoor air thermistor system error
75	HA		Discharge air thermistor system error
76	HH		Pump motor sensor system of over current is abnormal

77	HC	Water temperature sensor system error
79	HE	Sensor system of drain water is abnormal
80	HF	Ice thermal storage unit error (alarm)
81	F0	No.1 and No.2 common protection device operates.
82	F1	No.1 protection device operates.
83	F2	No.2 protection device operates
84	F3	Discharge pipe temperature is abnormal
87	F6	Temperature of heat exchanger (1) abnormal
91	FA	Discharge pressure abnormal
92	FH	Oil temperature is abnormally high
93	FC	Suction pressure abnormal
95	FE	Oil pressure abnormal
96	FF	Oil level abnormal
97	J0	Sensor system error of refrigerant temperature
98	J1	Pressure sensor error
99	J2	Current sensor error
100	J3	Discharge pipe thermistor system error
101	J4	Low pressure equivalent saturated temperature sensor system error
102	J5	Suction pipe thermistor system error
103	J6	Heat exchanger (1) thermistor system error
104	J7	Heat exchanger (2) thermistor system error
105	J8	Oil equalizer pipe or liquid pipe thermistor system error
106	J9	Double tube heat exchanger outlet or gas pipe thermistor system error
107	JA	Discharge pipe pressure sensor error
108	JH	Oil temperature sensor error
109	JC	Suction pipe pressure sensor error
111	JE	Oil pressure sensor error
112	JF	Oil level sensor error
113	L0	Inverter system error
116	L3	Temperature rise in a switch box
117	L4	Radiation fin (power transistor) temperature is too high
118	L5	Compressor motor grounded or short circuit, inverter PCB fault
119	L6	Compressor motor grounded or short circuit, inverter PCB fault
120	L7	Over current of all inputs
121	L8	Compressor over current, compressor motor wire cut
122	L9	Stall prevention error (start-up error) Compressor locked, etc.
123	LA	Power transistor error
125	LC	Communication error between inverter and outdoor control unit
129	P0	Shortage of refrigerant (thermal storage unit)
130	P1	Power voltage imbalance, open phase
132	P3	Sensor error of temperature rise in a switch box
133	P4	Radiation fin temperature sensor error
134	P5	DC current sensor system error
135	P6	AC or DC output current sensor system error
136	P7	Total input current sensor error
142	PJ	Capacity setting error (outdoor)
145	U0	System Low pressure drops due to insufficient refrigerant or electronic expansion valve error, etc.
146	U1	
147	U2	
148	U3	
149	U4	
150	U5	
151	U6	
152	U7	
153	U8	
154	U9	
		Reverse phase, Open phase
		Power voltage failure / Instantaneous power failure
		Failure to carry out check operation, transmission error
		Communication error between indoor unit and outdoor unit, communication error between outdoor unit and BS unit
		Communication error between remote control and indoor unit / Remote control board failure or setting error for remote control
		Communication error between indoor units
		Communication error between outdoor units / Communication error between outdoor unit and ice thermal storage unit
		Communication error between main and sub remote controllers (sub remote control error) / Combination error of other indoor unit / remote control in the same system (model)
		Communication error between other indoor unit and outdoor unit in the same system / Communication error between other BS unit and indoor/outdoor unit

155	UA		Combination error of indoor/BS/outdoor unit (model, quantity, etc.), setting error of spare parts PCB when replaced
156	UH		Improper connection of transmission wiring between outdoor and outdoor unit outside control adaptor
157	UC		Centralized address duplicated
158	UJ		Attached equipment transmission error
159	UE		Communication error between indoor unit and centralized control device
160	UF		Failure to carry out check operation Indoor-outdoor, outdoor-outdoor communication error, etc.
209	60	Others	All system error
210	61		PC board error
211	62		Ozone density abnormal
212	63		Contamination sensor error
213	64		Indoor air thermistor system error
214	65		Outdoor air thermistor system error
217	68		HVU error (Ventiair dust-collecting unit)
219	6A		Dumper system error
220	6H		Door switch error
221	6C		Replace the humidity element
222	6J		Replace the high efficiency filter
223	6E		Replace the deodorization catalyst
224	6F		Simplified remote controller error
226	51		Fan motor of supply air over current or overload
227	52		Fan motor of return air over current / Fan motor of return air overload
228	53		Inverter system error (supply air side)
229	54		Inverter system error (return air side)
241	40		Humidifying valve error
242	41		Chilled water valve error
243	42		Hot water valve error
244	43		Heat exchanger of chilled water error
245	44		Heat exchanger of hot water error
258	31		The humidity sensor of return air sensor
259	32		Outdoor air humidity sensor error
260	33		Supply air temperature sensor error
261	34		Return air temperature sensor error
262	35		Outdoor air temperature sensor error
263	36		Remote controller temperature sensor error
267	3A		Water leakage sensor 1 error
268	3H		Water leakage sensor 2 error
269	3C		Dew condensation error
339	M2	Gateway	Centralized remote controller PCB error
345	M8		Communication error between centralized remote-control devices
347	MA		Centralized remote control devices inappropriate combination
349	MC		Centralized remote controller address setting error
555	N/A	Gateway	Error in the communication of the gateway with the AC unit

In case you detect an error code not listed, contact your nearest Daikin technical support service for more information on the error meaning.

6 Appendix

6.1 Statutory requirements

The devices described above must not be used in conjunction with devices which directly or indirectly serve human, health, or life-safety purposes. Furthermore, the devices described must not be used if their use may cause danger to people, animals, or property. Do not leave the packaging material carelessly lying around. Plastic foils/ bags etc. can become a dangerous toy for children.

6.2 Disposal



Do not dispose of the old devices in the household waste. The device contains electrical components that must be disposed of as electronic waste. The housing is made of recyclable plastic.

6.3 Assembly



Danger to life from electric current!

All work on the device may only be carried out by qualified electricians. Country-specific regulations as well as the valid KNX guidelines must be observed.

The devices are approved for operation in the EU and the United Kingdom. The products are respectively marked with the CE and UKCA symbols.

Use in the USA and Canada is prohibited!!

6.4 History

V1.0 First Version of Technical Manual

07/2026