

Technical Manual



KNX Gateway for Daikin commercial air conditioning units

SCN-ACG1DAI.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-ACG1DAI.01** KNX Gateway for Daikin commercial air conditioning units, flush mounted

2.2 Functions

Temperature and in-room climate

The setpoint temperature is specified via the bus and transmitted by the gateway to the air conditioning unit. Limit values can be set so that no setpoints outside the desired range are transmitted via the bus. The gateway can send the incoming temperature detected by the air conditioning unit to the bus. Alternatively, a room temperature from the bus can be used as a reference. This is particularly helpful if the temperature is to be measured at a specific position in the room. Depending on the gateway's operating mode and the Daikin system, the gateway considers the difference between the temperature measured at the room thermostat and the intake temperature.

Fan and vanes

The fan control supports 2 or 3 fan stages depending on the indoor unit. The control can be carried out via percentage values, fixed stage values, individual bit objects or a step object. Corresponding status objects and optionally a text object are available for feedback. If the connected indoor unit supports up/down vanes, these can be controlled via the bus. Up to 5 positions and a swing function are available. Operation can be carried out via values, individual position objects or a plus/minus control. The current vanes position can be reported as a status value.

Scenes and easy operation

The gateway supports up to 5 scenes. A scene can call up several settings together, such as on/off, operating mode, fan stage, vanes position, setpoint temperature and the status of the remote control lock. Scenes can be preset in the ETS and executed again later.

For easy operation via push-buttons, room controllers or visualisations, the gateway provides various object types. This allows it to be flexibly adapted to different KNX operating concepts.

Automatic off and energy-saving functions

The gateway offers various timer functions for energy-efficient operation. Via a window or a switch off function, the air conditioning unit can be switched off after a set period. Additionally, operation can be locked when the window is open. The last on/off state can be restored after the window is closed.

The presence function enables different actions when the room is unoccupied. After a certain period, the air conditioning unit can be switched off, or the set temperature can be adjusted to save energy. Optionally, a second time for an additional setpoint can be activated.

With the sleep function, the air conditioning unit can be switched off automatically after a set period.

Special operating modes

Additional functions are available for special operating states. The "Power Mode" and "Economy Mode" can change the target temperature and fan level for a defined period. Additionally, an "additional heating mode" and an "additional cooling mode" can be used. These modes specifically switch the indoor unit to heating or cooling and apply the set values for temperature and fan level. After the set time has elapsed, the air conditioning unit automatically returns to the previous setting. If the special operating mode is terminated earlier, or a new setting is entered via the bus, the device will immediately adopt the new setting.

Locking, state and diagnosis

The Daikin remote control can be locked permanently or via a KNX object. Additionally, all KNX control objects can be locked to prevent unintentional operation. For diagnosis and visualisation, the gateway provides extensive status information. This includes on/off, operating mode, fan level, vanes position, set temperature, return temperature, current scene and error messages. Errors can be displayed as an alarm, a numeric error code or a text code. In addition, an operating hours counter can be activated to record the operating time of the device.

2.3 Wiring diagram

For this device, it is possible to use it with or without a remote control. The following wiring diagrams show both possibilities.

Wiring diagram with Daikin Remote Control:

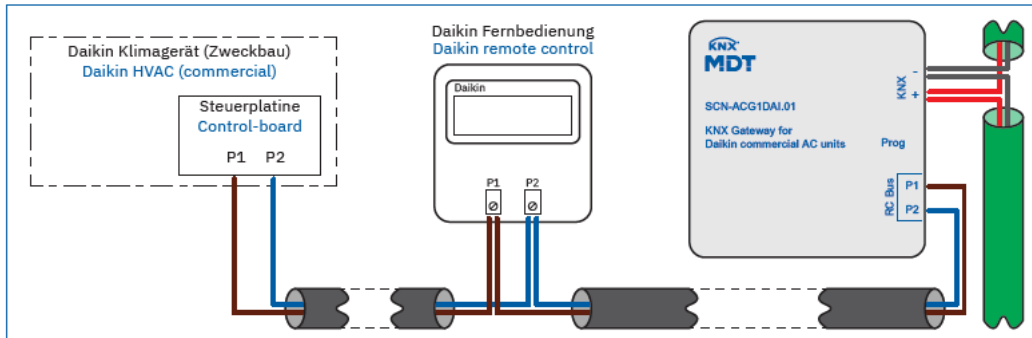


Figure 1: Wiring diagram with Daikin Remote Control

Wiring diagram without Daikin Remote Control:

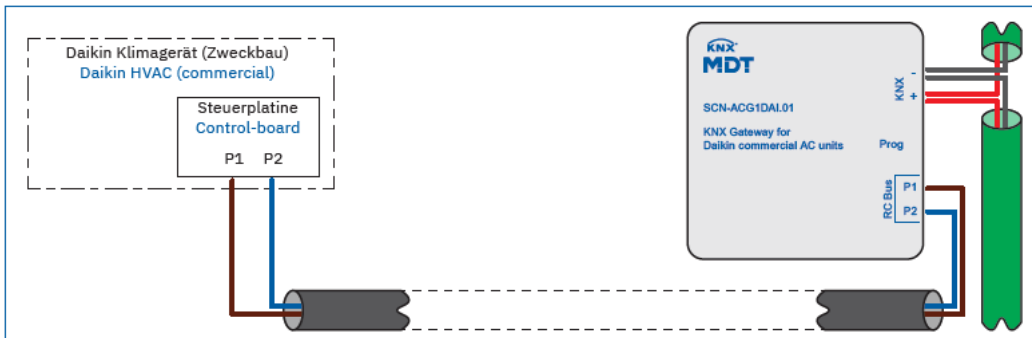


Figure 2: Wiring diagram without Daikin Remote Control

Important: When operating without a Daikin remote control, the gateway must be configured to “Master” via the ETS.

2.4 Structure & Handling

The following picture shows the structure of the device:

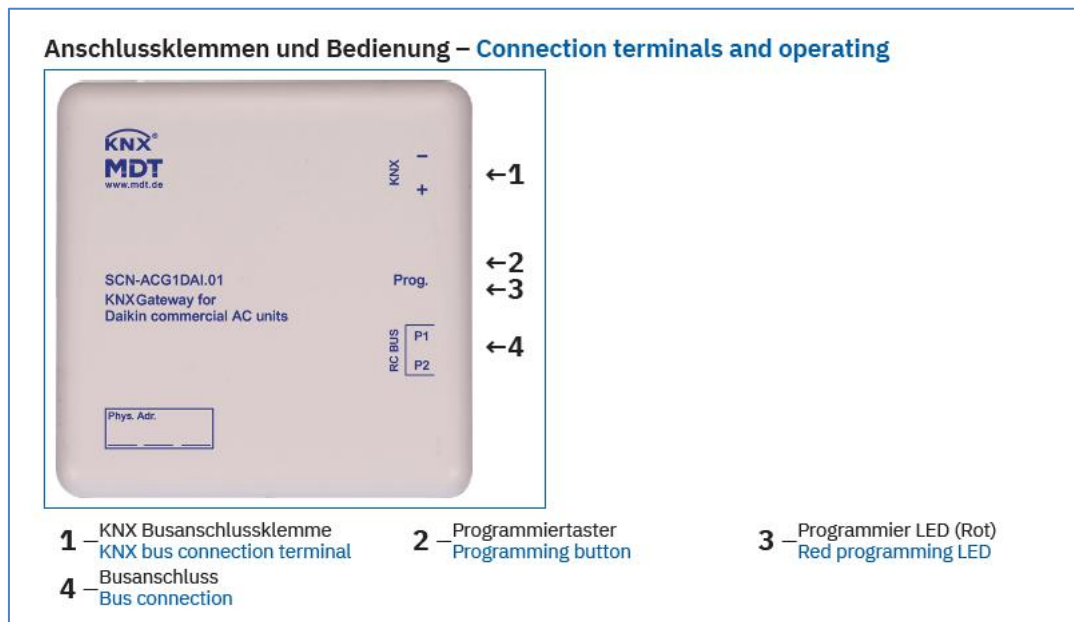


Figure 2: Structure & Handling

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	Control_ On/Off	0-Off;1-On	1 Bit	X		X	X		
1	Control_ Mode	0-Aut;1-Hea;3-Coo;9-Fan;14-Dry	1 Byte	X		X	X		
2	Control_ Mode Cool/Heat	0-Cool;1-Heat	1 Bit	X		X	X		
3	Control_ Mode Cool & On	0%-Off;0.1%-100%-On	1 Byte	X		X	X		
4	Control_ Mode Heat & On	0%-Off;0.1%-100%-On	1 Byte	X		X	X		
5	Control_ Mode Auto	1-Set AUTO mode	1 Bit	X		X	X		
6	Control_ Mode Heat	1-Set HEAT mode	1 Bit	X		X	X		
7	Control_ Mode Cool	1-Set COOL mode	1 Bit	X		X	X		
8	Control_ Mode Fan	1-Set FAN mode	1 Bit	X		X	X		
9	Control_ Mode Dry	1-Set DRY mode	1 Bit	X		X	X		
10	Control_ Mode +/-	0-Decrease;1-Increase	1 Bit	X		X			
10	Control_ Mode +/-	0-Up;1-Down	1 Bit	X		X			
11	Control_ Fan Speed / 2 (3) Speeds	Thresholds: 75% (2) Thresholds: 50% and 83% (3)	1 Byte	X		X	X		
11	Control_ Fan Speed / 2 (3) Speeds	Speed values: 1,2,(3)	1 Byte	X		X	X		
12	Control_ Fan Speed 1	1-Set Fan Speed 1	1 Bit	X		X	X		
13	Control_ Fan Speed 2	1-Set Fan Speed 2	1 Bit	X		X	X		
14	Control_ Fan Speed 3	1-Set Fan Speed 3	1 Bit	X		X	X		
15	Control_ Fan Speed +/-	0-Decrease;1-Increase	1 Bit	X		X			
15	Control_ Fan Speed +/-	0-Up;1-Down	1 Bit	X		X			
16	Control_ Vanes Up-Down / 5 Pos	Thresholds:30%,50%,70% and 90%	1 Byte	X		X	X		
16	Control_ Vanes Up-Down / 5 Pos	Position values: 1,2,3,4,5	1 Byte	X		X	X		
17	Control_ Vanes Up-Down Swing	0-Stop/1-Swing	1 Bit	X		X	X		
18	Control_ Vanes Up-Down Pos1	1-Set Vanes Position 1	1 Bit	X		X	X		
19	Control_ Vanes Up-Down Pos2	1-Set Vanes Position 2	1 Bit	X		X	X		
20	Control_ Vanes Up-Down Pos3	1-Set Vanes Position 3	1 Bit	X		X	X		
21	Control_ Vanes Up-Down Pos4	1-Set Vanes Position 4	1 Bit	X		X	X		
22	Control_ Vanes Up-Down Pos5	1-Set Vanes Position 5	1 Bit	X		X	X		
23	Control_ Vanes Up-Down +/-	0-Decrease;1-Increase	1 Bit	X		X			
23	Control_ Vanes Up-Down +/-	0-Up;1-Down	1 Bit	X		X			
24	Control_ Setpoint Temperature	16°C to 32°C	2 Byte	X		X	X		
25	Control_ Ambient Temperature	°C value in EIS5 format	2 Byte	X		X	X		
26	Control_ Setpoint Temp +/-	0-Decrease;1-Increase	1 Bit	X		X			
26	Control_ Setpoint Temp +/-	0-Up;1-Down	1 Bit	X		X			
27	Control_ Window Contact Status	0-Open;1-Closed	1 Bit	X		X	X		
27	Control_ Switch Off Timeout	0-Stop;1-Start	1 Bit	X		X	X		
28	Control_ Occupancy	0-Not Occupied;1-Occupied	1 Bit	X		X	X		
29	Control_ Sleep Timeout	0-Stop;1-Start	1 Bit	X		X	X		

30	Control_ Lock Remote Control	0-Unlocked;1-Locked	1 Bit	X		X		
31	Control_ Lock Control Objects	0-Unlocked;1-Locked	1 Bit	X		X	X	
32	Control_ Power Mode	0-Stop;1-Start	1 Bit	X		X	X	
33	Control_ Econo Mode	0-Stop;1-Start	1 Bit	X		X	X	
34	Control_ Additional Heat	0-Stop;1-Start	1 Bit	X		X	X	
35	Control_ Additional Cool	0-Stop;1-Start	1 Bit	X		X	X	
36	Control_ Save/Exec Scene	0...4-Exec1-5;128...132-Save1-5	1 Byte	X		X	X	
37	Control_ Store Scene 1	1-Store Scene	1 Bit	X		X	X	
38	Control_ Store Scene 2	1-Store Scene	1 Bit	X		X	X	
39	Control_ Store Scene 3	1-Store Scene	1 Bit	X		X	X	
40	Control_ Store Scene 4	1-Store Scene	1 Bit	X		X	X	
41	Control_ Store Scene 5	1-Store Scene	1 Bit	X		X	X	
42	Control_ Execute Scene 1	1-Execute Scene	1 Bit	X		X	X	
43	Control_ Execute Scene 2	1-Execute Scene	1 Bit	X		X	X	
44	Control_ Execute Scene 3	1-Execute Scene	1 Bit	X		X	X	
45	Control_ Execute Scene 4	1-Execute Scene	1 Bit	X		X	X	
46	Control_ Execute Scene 5	1-Execute Scene	1 Bit	X		X	X	

Standard settings – Status objects

No.	Name	Object function	Length	C	R	W	T	U
47	Status_ On/Off	0-Off;1-On	1 Bit	X	X		X	
48	Status_ Mode	0-Aut;1-Hea;3-Coo;9-Fan;14-Dry	1 Byte	X	X		X	
49	Status_ Mode Cool/Heat	0-Cool;1-Heat	1 Bit	X	X		X	
50	Status_ Mode Auto	1-AUTO is active	1 Bit	X	X		X	
51	Status_ Mode Heat	1-HEAT is active	1 Bit	X	X		X	
52	Status_ Mode Cool	1-COOL is active	1 Bit	X	X		X	
53	Status_ Mode Fan	1-FAN is active	1 Bit	X	X		X	
54	Status_ Mode Dry	1-DRY is active	1 Bit	X	X		X	
55	Status_ Mode Text	ASCII String	14 Byte	X	X		X	
56	Status _ Fan Speed / 2 (3) Speeds	50% and 100% (2) 33%, 67% and 100% (3)	1 Byte	X	X		X	
56	Status _ Fan Speed / 2 (3) Speeds	Speed values: 1,2,(3)	1 Byte	X	X		X	
57	Status_ Fan Speed 1	1-Fan in speed 1	1 Bit	X	X		X	
58	Status_ Fan Speed 2	1-Fan in speed 2	1 Bit	X	X		X	
59	Status_ Fan Speed 3	1-Fan in speed 3	1 Bit	X	X		X	
60	Status_ Fan Speed Text	ASCII String	14 Byte	X	X		X	
61	Status_ Vanes Up-Down / 5 Pos	20%, 40%, 60%, 80% and 100%	1 Byte	X	X		X	
61	Status_ Vanes Up-Down / 5 Pos	Position values: 1,2,3,4,5	1 Byte	X	X		X	
62	Status_ Vanes Up-Down Swing	0-Stop/1-Swing	1 Bit	X	X		X	
63	Status_ Vanes Up-Down Pos1	1-Vanes in Position 1	1 Bit	X	X		X	
64	Status_ Vanes Up-Down Pos2	1-Vanes in Position 2	1 Bit	X	X		X	
65	Status_ Vanes Up-Down Pos3	1-Vanes in Position 3	1 Bit	X	X		X	
66	Status_ Vanes Up-Down Pos4	1-Vanes in Position 4	1 Bit	X	X		X	
67	Status_ Vanes Up-Down Pos5	1-Vanes in Position 5	1 Bit	X	X		X	
68	Status_ Vanes Up-Down Text	ASCII String	14 Byte	X	X		X	

69	Status_ AC Setpoint Temp	16°C to 32°C	2 Byte	X	X		X	
70	Status_ AC Return Path Temp	°C value in EIS5 format	2 Byte	X	X		X	
71	Status_ Error/Alarm	0-No Alarm;1-Alarm	1 Bit	X	X		X	
72	Status_ Error Code	0-No Error /Any other see manual	2 Byte	X	X		X	
73	Status_ Error Text code	2 char DK Error;Empty-None	14 Byte	X	X		X	
74	Status_ Power Mode	0-Off;1-On	1 Bit	X	X		X	
75	Status_ Econo Mode	0-Off;1-On	1 Bit	X	X		X	
76	Status_ Additional Heat	0-Off;1-On	1 Bit	X	X		X	
77	Status_ Additional Cool	0-Off;1-On	1 Bit	X	X		X	
78	Status_ Operation Hour Counter	Number of operating hours	2 Byte	X	X		X	
79	Status_ Current Scene	0..4-Scene X+1;63-No Scene	1 Byte	X	X		X	
80	Legacy_ Mode	0-Aut;1-Hea;2-Dry;3-Fan;4-Coo	1 Byte	X	X		X	
81	Legacy_ Fan Speed	0-Speed 1;1-Speed 2;2-Speed 3	1 Byte	X	X		X	
82	Legacy_ Vanes Up-Down	0-Pos0..4-Pos4;5-Swing	1 Byte	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

When imported to the ETS software for the first time, the gateway shows the following default parameter configuration:

General	Gateway is master in P1/P2 bus (If set to "yes", BRC must be SLAVE)	☐ yes ☒ no
Mode Configuration	Send READs for Control_ objs on bus recovery (T and U flags must be active)	☐ yes ☒ no
Special Modes Configuration	Scene to load on bus recovery / startup (needs to define vals for that scene)	Scene 1
Fan Speed Configuration	Disallow control from remote controller	☐ yes ☒ no
Vanes Up-Down Configuration	> Enable comm obj "Ctrl_ Remote Lock"	☐ yes ☒ no
Temperature Configuration	Enable func "Control_ Lock Control Obj"	☐ yes ☒ no
Scene Configuration	Enable func "Operating Hours Counter"	☐ yes ☒ no
Switch-Off Timeouts Configuration	Enable object "Error Code [2byte]"	☐ yes ☒ no
	Enable object "Error Text Code [14byte]" (2 ASCII-char Error Code)	☐ yes ☒ no

With this configuration it's possible to send On/Off (*Control_ On/Off*), change the AC Mode (*Control_ Mode*), the Fan Speed (*Control_ Fan Speed*) and also the Setpoint Temperature (*Control_ Setpoint Temperature*). The Status_ objects, for the mentioned Control_ objects, are also available to use if needed. Also objects *Status_ AC Return Temp* and *Status_ Error/Alarm* are shown.

Following figure shows the default communication objects:

- 0: Control_ On/Off [DPT_1.001 - 1bit] - 0-Off;1-On
- 1: Control_ Mode [DPT_20.105 - 1byte] - 0-Aut;1-Hea;3-Coo;9-Fan;14-Dry
- 11: Control_ Fan Speed / 2 Speeds [DPT_5.001 - 1byte] - Threshold 75%
- 24: Control_ Setpoint Temperature [DPT_9.001 - 2byte] - 16°C to 32°C
- 47: Status_ On/Off [DPT_1.001 - 1bit] - 0-Off;1-On
- 48: Status_ Mode [DPT_20.105 - 1byte] - 0-Aut;1-Hea;3-Coo;9-Fan;14-Dry
- 56: Status_ Fan Speed / 2 Speeds [DPT_5.001 - 1byte] - 50% and 100%
- 69: Status_ AC Setpoint Temp [DPT_9.001 - 2byte] - 16°C to 32°C
- 70: Status_ AC Return Temp [DPT_9.001 - 2byte] - °C value in EIS5 format
- 71: Status_ Error/Alarm [DPT_1.005 - 1bit] - 0-No alarm;1-Alarm

4.1 General dialog

Inside this dialog it is possible to activate or change the parameters shown under **4 ETS Parameters**

4.1.1 Gateway is master in P1/P2 bus

This parameter changes the gateway's behaviour, being able to program it as master or slave in P1 P2 bus.

- If set to “**no**”, the gateway will work as a slave, and it will be necessary to have a BRC remote controller configured as a master.
- If set to “**yes**”, the gateway will be master of the bus. It is not necessary to have any BRC remote controller in this case but, if there are, they must be configured as slaves. The next parameter is also shown when selecting the gateway as master in P1 P2 bus:

Gateway is master in P1/P2 bus (If set to "yes", BRC must be SLAVE)	☒ yes ☐ no
> If VRV system, indoor unit is slave of Operating Mode	☒ yes ☐ no

➤ If VRV system, indoor unit is slave of Operating Mode:

VRV indoor units can be configured as master or slave of Operating Mode.

If configured as slave = “**yes**”, the unit will take the operating mode of the master indoor unit in the system (i.e. if master unit is in Heat mode, slaves will be also in Heat mode).

If configured as slave = “**no**”, it means is the master unit, then the unit will take the operating mode selected through the BRC or gateway, and the other slave indoor units will adopt this operating mode.

⚠ Important: Only ONE indoor unit can be configured as master of operating mode. If more than one indoor unit is configured as master, the system will not work properly.

There are some compatible Operation Modes that slave indoor units can use while the master indoor unit is operating in another one:

MASTER INDOOR UNIT	SLAVE INDOOR UNIT(s)
Heat	Heat, Fan
Cool	Cool, Dry, Fan
Dry	Dry, Cool, Fan
Fan	Fan

4.1.2 Send READs for Control_ objects on bus recovery

When this parameter is enabled, the device will send READ telegrams for the group addresses associated with its *Control_* objects on bus recovery or application reset/start-up.

- If set to „**no**“, the gateway will not perform any action.
- If set to „**yes**“, all *Control_* objects with both Transmit (**T**) and Update (**U**) flags enabled will send READs and their values will be updated with the response when received.

Send READs for Control_ objs on bus recovery (T and U flags must be active)	☒ yes ☐ no
> Delay before sending READs (sec)	0

➤ Delay before sending READs (sec):

With this parameter, a delay can be configured between 0 and 30 seconds for the READs sent by the *Control_* objects. This is to give time to other KNX devices on the bus to start-up before sending the READs.

4.1.3 Scene to load on bus recovery / startup

This parameter executes a selected scene on bus recovery or startup, only if the selected scene has an enabled preset or values previously saved from KNX bus (see Scene Configuration dialog).

If the gateway is disconnected from the indoor unit (P1 & P2 bus not connected) the scene will not be applied, even when connecting to the indoor unit again.

Scene to load on bus recovery / startup (needs to define vals for that scene)	Scene 1
--	--------------------------------------

4.1.4 Disallow control from remote controller

This parameter allows:

- 1- Having the remote controller always locked, or
 - 2- Decide through a new communication object if the RC is locked or not.
- If set to „**yes**“, all the actions performed through the remote controller will be disabled.
 - If set to „**no**“, the remote controller will work as usually. It also appears a new parameter and the communication object *Control_ Lock Remote Control*.

🔌 30: Control_ Lock Remote Control [DPT_1.002 - 1bit] - 0-Unlocked;1-Locked

Disallow control from remote controller	☐ yes	☒ no
> Enable comm obj "Ctrl_ Remote Lock"	☒ yes	☐ no

➤ Enable comm obj "Ctrl_ Remote Lock":

If set to „no“, the object will not be shown.

If set to “yes”, the *Control_ Lock Remote Control* object will appear.

- When a “1” value is sent to this communication object, the remote controller is locked. To be unlocked a “0” value must be sent. The gateway remembers the last value received even if a KNX bus reset/failure happens.

⚠ **Important:** *If an initial scene is enabled and it has as Value for Remote Lock (unchanged) or unlocked, this would unlock the remote controller because the initial scene has priority over the Control_ Lock Remote Control communication object.*

4.1.5 Enable func “Control_ Lock Control Obj”

This parameter shows/hides the *Control_ Lock Control Obj* communication object which, depending on the sent value, locks or unlocks ALL the *Control_* communication objects except itself.

🔧 31: Control_ Lock Control Objects [DPT_1.002 - 1bit] - 0-Unlocked;1-Locked

- If set to „no“, the object will not be shown.
- If set to “yes”, the *Control_ Lock Control Objects* object will appear.
 - When a “1” value is sent to this communication object, all the *Control_* objects will be locked. To unlock a “0” value must be sent, as the gateway remembers the last value received even if a KNX bus reset/failure happens.

4.1.6 Enable func “Operating Hours Counter”

This parameter shows/hides the *Status_ Operation Hour Counter* communication object which counts the number of operating hours for the device.

🔧 78: Status_ Operation Hour Counter [DPT_7.001 - 2byte] - Number of operating hours

- If set to „no“, the object will not be shown.
- If set to “yes”, the *Status_ Operation Hour Counter* object will appear.
 - This object can be read and sends its status every time an hour is counted. The gateway keeps that count in memory and the status is sent also after a KNX bus reset/failure. Although this object is marked as a *Status_* object it also can be written to update the counter when needed. To reset the counter should be written a “0” value.
 - ⚠ **Important:** *This object comes by default without the write (W) flag activated. If is necessary to write on it, this flag must be activated.*
 - ⚠ **Important:** *This object will also return its status, every time a value is written, only if it's different from the existing one.*
 - ⚠ **Important:** *If the stored value is 0 hours, the gateway will not send the status to KNX.*

4.1.7 Enable object “Error Code [2byte]”

This parameter shows/hides the *Status_ Error Code* communication object which shows the indoor unit errors, if occurred, in numeric format.

■ ↕ 72: Status_ Error Code [2byte] - 0-No error /Any other see man.

- If set to „no”, the object will not be shown.
- If set to “yes”, the *Status_ Error Code [2byte]* object will appear.
 - This object can be read and sends the indoor unit error, if occurred, in numeric format. If a “0” value is shown that means no error.

4.1.8 Enable object “Error Text Code [14byte]”

This parameter shows/hides the *Status_ Error Text Code* communication object which shows the indoor unit errors, if occurred, in text format.

■ ↕ 73: Status_ Error Text Code [DPT_16.001 - 14byte] - 2 char DK Error / Empty-None

- If set to „no”, the object will not be shown.
- If set to “yes”, the *Status_ Error Text Code* object will appear.
 - This object can be read and sends the indoor unit error, if occurred, in text format. The errors shown have the same format as at the remote controller and at the error list from the indoor unit manufacturer. If the object’s value is empty that means no error.

4.2 Mode Configuration dialog

General	When mode is AUTO, Status_ objs report actual operating status (HEAT/COOL/..)	☐ yes ☒ no
Mode Configuration	Enable use of Mode Cool/Heat bit-type object	☐ yes ☒ no
Special Modes Configuration	Enable PID-Compat. Scaling Mode Objects	☐ yes ☒ no
Fan Speed Configuration	Enable use of +/- object for Mode	☐ yes ☒ no
Vanes Up-Down Configuration	Enable use of bit-type Mode objects (for control)	☐ yes ☒ no
Temperature Configuration	Enable use of bit-type Mode objects (for status)	☐ yes ☒ no
Scene Configuration	Enable use of Text object for Mode	☐ yes ☒ no
Switch-Off Timeouts Configurat...	Enable use of Legacy_ object for Mode	☐ yes ☒ no

All the parameters in this section are related to the different mode properties and communication objects.

■ 1: Control_Mode [DPT_20.105 - 1byte] - 0-Aut;1-Hea;3-Coo;9-Fan;14-Dry

The byte-type communication object for Mode works with the DTP_20.105. Auto mode will be enabled with a “0” value, Heat mode with a “1” value, Cool mode with a “3” value, Fan mode with a “9” value and Dry mode with a “14” value.

4.2.1 When mode is AUTO, Status_ objs report actual operating status

This parameter shows the real status of the indoor unit when Auto mode is enabled.

- If set to „no”, when the indoor unit is set to Auto mode, all the *Status_* objects concerning mode will only show Auto enabled.
- If set to “yes”, when the indoor unit is set to Auto mode, all the *Status_* objects concerning mode will show the real mode which the machine is working (Cool, Heat, Dry, Fan). In case of the bitfield objects, also the *Status_ Mode Auto* will be shown enabled with a “1” value.

4.2.2 Enable use of Mode Cool/Heat” bit-type object

This parameter shows/hides the *Control_* and *Status_ Mode Cool/Heat* communication objects.

-  2: Control_ Mode Cool/Heat [DPT_1.100 - 1bit] - 0-Cool;1-Heat
-  49: Status_ Mode Cool/Heat [DPT_1.100 - 1bit] - 0-Cool;1-Heat

- If set to „no”, the objects will not be shown.
- If set to “yes”, the *Control_* and *Status_ Mode Cool/Heat* objects will appear.
 - When a “1” value is sent to the *Control_* communication object, **Heat mode** will be enabled in the indoor unit, and the *Status_* object will return this value.
 - When a “0” value is sent to the *Control_* communication object, **Cool mode** will be enabled in the indoor unit, and the *Status_* object will return this value.

4.2.3 Enable PID-Compat. Scaling Mode Objects

This parameter shows/hides the *Control_ Mode Cool & On* and *Control_ Mode Heat & On* communication objects.

-  3: Control_ Mode Cool & On [DPT_5.001 - 1byte] - 0%-Off;0.1%-100%-On
-  4: Control_ Mode Heat & On [DPT_5.001 - 1byte] - 0%-Off;0.1%-100%-On

- If set to „no”, the objects will not be shown.
- If set to “yes”, the *Control_ Mode Cool & On* and *Control_ Mode Heat & On* objects will appear.
 - These objects provide compatibility with those KNX thermostats that control the demand of heating or cooling by using scaling (percentage) objects. In these thermostats, the percentage demand is meant to be applied on a fluid valve of the heating / cooling system.
 - The gateway does not provide individual control on the internal parts of the indoor unit (as can be its compressor, refrigerant valves, etc). Rather, it provides the same level of control as a (user) remote controller.
 - Objects “Control_ Mode Cool & On” and “Control_ Mode Heat & On” intend to bring compatibility between thermostats oriented to the control of custom heating / cooling systems and ready-made AC indoor units, by applying the following logic:
 - Whenever a non-zero value (>0%) is received at “Control_ Mode Cool & On”, indoor unit will switch On in COOL mode.
 - Whenever a non-zero value (>0%) is received at “Control_ Mode Heat & On”, indoor unit will switch On in HEAT mode.
 - Latest updated object will define the operating mode.
 - Indoor unit will switch off only when both objects become zero (0%) – or when an OFF is requested at object “0. On/Off [DPT_1.001 - 1bit]”

 **Important:** This object function is only to send On/Off and Cool/Heat to the indoor unit. The PID (Inverter system) is calculated by the indoor unit itself. Please consider introducing an appropriate PID configuration to the external KNX thermostat to not interfere the indoor unit PID.

4.2.4 Enable use of + / - object for Mode

This parameter shows/hides the *Control_ Mode +/-* communication object which can be used to change the indoor unit mode by using two different datapoint types.

■ 10: Control_ Mode +/- [DPT_1.008 - 1bit] - 0-Up;1-Down

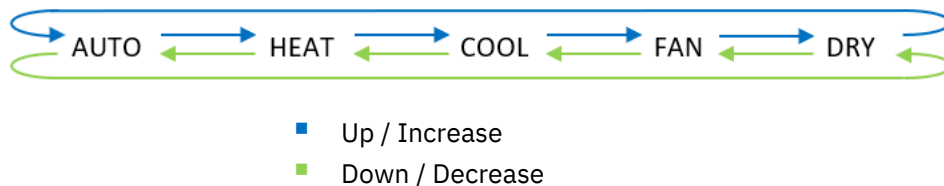
- If set to „no”, the object will not be shown.
- If set to “yes”, the *Control_ Mode +/-* object and a new parameter will appear.

Enable use of +/- object for Mode	☒ yes ☐ no
> DPT type for +/- Mode Object	☐ 0-Decrease / 1-Increase [DPT_1.007] ☒ 0-Up / 1-Down [DPT_1.008]

➤ DPT type for +/- Mode Object

This parameter lets choose between the datapoints **0-Up / 1-Down [DPT_1.008]** and **0-Decrease / 1-Increase [DPT_1.007]** for the *Control_ Mode +/-* object.

The sequence followed when using this object is shown below:



4.2.5 Enable use of bit-type Mode objects (for control)

This parameter shows/hides the bit-type *Control_ Mode* objects.

- 5: Control_ Mode Auto [DPT_1.002 - 1bit] - 1-Set AUTO mode
- 6: Control_ Mode Heat [DPT_1.002 - 1bit] - 1-Set HEAT mode
- 7: Control_ Mode Cool [DPT_1.002 - 1bit] - 1-Set COOL mode
- 8: Control_ Mode Fan [DPT_1.002 - 1bit] - 1-Set FAN mode
- 9: Control_ Mode Dry [DPT_1.002 - 1bit] - 1-Set DRY mode

- If set to „no”, the objects will not be shown.
- If set to “yes”, the *Control_ Mode* objects for Auto, Heat, Cool, Fan and Dry will appear. To activate a mode by using these objects a “1” value must be sent.

4.2.6 Enable use of bit-type Mode objects (for status)

This parameter shows/hides the bit-type *Status_ Mode* objects.

-  50: Status_ Mode Auto [DPT_1.002 - 1bit] - 1-AUTO is active
-  51: Status_ Mode Heat [DPT_1.002 - 1bit] - 1-HEAT is active
-  52: Status_ Mode Cool [DPT_1.002 - 1bit] - 1-COOL is active
-  53: Status_ Mode Fan [DPT_1.002 - 1bit] - 1-FAN is active
-  54: Status_ Mode Dry [DPT_1.002 - 1bit] - 1-DRY is active

- If set to „**no**“, the objects will not be shown.
- If set to „**yes**“, the *Status_ Mode* objects for Auto, Heat, Cool, Fan and Dry will appear. When enabled, a mode will return a „**1**“ through its bit-type object.

4.2.7 Enable use of Text object for Mode

This parameter shows/hides the *Status_ Mode Text* communication object.

-  55: Status_ Mode Text [DPT_16.001 - 14byte] - ASCII String

- If set to „**no**“, the object will not be shown.
- If set to „**yes**“, the *Status_ Mode Text* object will appear. Also, in the parameters, will be shown five text fields, one for each mode, that will let modify the text string displayed by the *Status_ Mode Text* when changing mode.

ASCII strings shown in comm object "Status_ Mode Text"	< < 14-byte string values > >
> String when mode is AUTO	AUTO
> String when mode is HEAT	HEAT
> String when mode is COOL	COOL
> String when mode is FAN	FAN
> String when mode is DRY	DRY

4.2.8 Enable use of Legacy_ object for Mode

This parameter shows/hides the bit-type *Legacy_ Mode* object.

-  82: Legacy_ Mode [1byte] - 0-Aut;1-Hea;2-Dry;3-Fan;4-Coo

- If set to „**no**“, the object will not be shown.
- If set to „**yes**“, the *Legacy_ Mode* communication object will appear. This object is used to change the indoor unit mode using a different datapoint type. It is used to maintain compatibility with certain older indoor unit models.

4.3 Special Modes Configuration dialog

General	Enable use of POWER mode ☐ yes ☒ no
Mode Configuration	Enable use of ECONOMY mode ☐ yes ☒ no
Special Modes Configuration	Enable use of ADDITIONAL HEATING mode ☐ yes ☒ no
Fan Speed Configuration	Enable use of ADDITIONAL COOLING mode ☐ yes ☒ no
Vanes Up-Down Configuration	
Temperature Configuration	
Scene Configuration	
Switch-Off Timeouts Configuration	

The Special Modes can be configured through the ETS parameters dialog, and they can be used to give extra functionality.

- ⚠ **Important:** When executing any of the Special Modes, the real state of the indoor unit will NOT be shown in KNX.
- ⚠ **Important:** When the predefined time for the Special Mode is finished or a “0” value is sent to stop it, the previous state will be recovered.
- ⚠ **Important:** If a value concerning On/Off, Mode, Fan Speed or Setpoint Temperature is received from KNX while any Special Mode is running (“1”), the Special Mode will stop, and the previous state will be recovered. The value received will be also applied then.
- ⚠ **Important:** If a value concerning On/Off, Mode, Fan Speed or Setpoint Temperature is modified through the remote controller, the Special Mode will stop WITHOUT recovering the previous state. Then the real indoor unit state will be shown in KNX including the new value received through the remote controller.

4.3.1 Enable use of POWER mode

This parameter shows/hides the *Control_ Power Mode* and *Status_ Power Mode* communication objects. The Power Mode lets change the Setpoint Temperature and the Fan Speed within a given period.

 32: Control_ Power Mode [DPT_1.010 - 1bit] - 0-Stop;1-Start

 74: Status_ Power Mode [DPT_1.001 - 1bit] - 0-Off;1-On

- If set to „no”, the objects will not be shown.
- If set to “yes”, the *Control_ Power Mode* and *Status_ Power Mode* objects and new parameters will appear.

Enable use of POWER mode	☒ yes ☐ no
> Action time for this mode (minutes) (0 = permanent / unlimited)	30
> Setpoint delta increase (HEAT) or decrease (COOL) - in Celsius	2.0°C
> Fanspeed for this mode	SPEED 2

- When a “1” value is sent to the *Control_* communication object Power Mode will be enabled, and the *Status_* object will return this value.
- When a “0” value is sent to the *Control_* communication object, Power Mode will be disabled, and the *Status_* object will return this value.

⚠ Important: This mode will ONLY work if the indoor unit is both turned on and in Heat, Cool, Auto-Heat or Auto-Cool Mode.

- Action time for this mode (minutes):
Duration of Power Mode, in minutes, once started.
- Setpoint delta increase (HEAT) or decrease (COOL) – in Celsius:
Number of degrees Celsius that will increase in Heat Mode, or decrease in Cool Mode, while in Power Mode.
- Fan Speed for this mode:
Fan Speed that will be set in the unit while in Power Mode.

4.3.2 Enable use of ECONOMY mode

This parameter shows/hides the *Control_ Econo Mode* and *Status_ Econo Mode* communication objects. The Econo Mode lets change the Setpoint Temperature and the Fan Speed within a given period.

 33: *Control_ Econo Mode* [DPT_1.010 - 1bit] - 0-Stop;1-Start

 75: *Status_ Econo Mode* [DPT_1.001 - 1bit] - 0-Off;1-On

- If set to „no”, the objects will not be shown.
- If set to “yes”, the *Control_ Econo Mode* and *Status_ Econo Mode* objects and new parameters will appear.
 - When a “1” value is sent to the *Control_* communication object, EconoMode will be enabled, and the *Status_* object will return this value.
 - When a “0” value is sent to the *Control_* communication object, EconoMode will be disabled, and the *Status_* object will return this value.

⚠ Important: This mode will ONLY work if the indoor unit is both turned on and in Heat, Cool, Auto-Heat or Auto-Cool Mode.

- Action time for this mode (minutes):
Duration of EconoMode, in minutes, once started.

- Setpoint delta increase (HEAT) or decrease (COOL) – in Celsius:
Number of degrees Celsius that will increase in Heat Mode, or decrease in Cool Mode, while in EconoMode.
- Fan Speed for this mode:
Fan Speed that will be set in the unit while in EconoMode.

4.3.3 Enable use of ADDITIONAL HEATING mode

This parameter shows/hides the *Control_ Additional Heat Mode* and *Status_ Additional Heat Mode* communication objects. The Additional Heating Mode lets change the Setpoint Temperature and the Fan Speed within a given period.

 34: Control_ Additional Heat [DPT_1.010 - 1bit] - 0-Stop;1-Start

 76: Status_ Additional Heat [DPT_1.001 - 1bit] - 0-Off;1-On

- If set to „no”, the objects will not be shown.
- If set to “yes”, the Control_ Start Additional Heat Mode and Status_ Additional Heat Mode objects and new parameters will appear.
 - When a “1” value is sent to the *Control_* communication object, Additional Heating Mode will be enabled, and the *Status_* object will return this value.
 - When a “0” value is sent to the *Control_* communication object, Additional Heating Mode will be disabled, and the *Status_* object will return this value.

 **Important:** *This mode will ALWAYS turn on the indoor unit in Heat mode.*

- Action time for this mode (minutes):
Duration of Additional Heating Mode, in minutes, once started.
- Setpoint temp for this mode (°C):
Setpoint temperature that will be applied while in Additional Heating Mode.
- Fan Speed for this mode:
Fan Speed that will be set in the unit while in Additional Heating Mode.

4.3.4 Enable use of ADDITIONAL COOLING mode

This parameter shows/hides the *Control_ Additional Cool Mode* and *Status_ Additional Cool Mode* communication objects. The Additional Heating Mode lets change the Setpoint Temperature and the Fan Speed within a given period.

 35: Control_ Additional Cool [DPT_1.010 - 1bit] - 0-Stop;1-Start

 77: Status_ Additional Cool [DPT_1.001 - 1bit] - 0-Off;1-On

- If set to „no”, the objects will not be shown.
- If set to “yes”, the Control_ Start Additional Cool Mode and Status_ Additional Cool Mode objects and new parameters will appear.
 - When a “1” value is sent to the *Control_* communication object, Additional Cooling Mode will be enabled, and the *Status_* object will return this value.
 - When a “0” value is sent to the *Control_* communication object, Additional Cooling Mode will be disabled, and the *Status_* object will return this value.

 **Important:** This mode will ALWAYS turn on the indoor unit in Cool mode.

- Action time for this mode (minutes):
Duration of Additional Cooling Mode, in minutes, once started.
- Setpoint temp for this mode (°C):
Setpoint temperature that will be applied while in Additional Cooling Mode.
- Fan Speed for this mode:
Fan Speed that will be set in the unit while in Additional Cooling Mode.

4.4 Fan Speed Configuration dialog

General	Available fanspeeds in Indoor Unit (see docum. for your indoor unit)	☒ 2 ☐ 3
Mode Configuration	DPT object type for fanspeed	☒ Scaling [DPT_5.001] ☐ Enumerated [DPT_5.010]
Special Modes Configuration	Enable use of +/- object for Fan Speed	☐ yes ☒ no
Fan Speed Configuration	Enable use of bit-type Fan Speed objects (for Control)	☐ yes ☒ no
Vanes Up-Down Configuration	Enable use of bit-type Fan Speed objects (for Status)	☐ yes ☒ no
Temperature Configuration	Enable use of Text object for Fan Speed	☐ yes ☒ no
Scene Configuration	Enable use of Legacy_ obj for Fan Speed	☐ yes ☒ no
Switch-Off Timeouts Configurat...		

All the parameters in this section are related to the Fan Speed properties and communication objects.

4.4.1 Available fan speeds in Indoor unit

Use this parameter to define how many fan speeds are available in the indoor unit.

Available fanspeeds in Indoor Unit
(see docum. for your indoor unit) ☒ 2 ☐ 3

Changing the fan speeds will also change the fan speed byte-type object (and the bit-type objects) erasing all the group addresses associated.

⚠ Important: To check how many fan speeds are available, refer to the indoor unit documentation.

4.4.2 DPT object type for Fan Speed

With this parameter is possible to change the DPT for the *Control_ Fan Speed* and *Status_ Fan Speed* byte-type communication objects. Datapoints Scaling (DPT_5.001) and Enumerated (DPT_5.010) can be selected.

- When **“Enumerated [DPT 5.010]”** is selected, *Control_ Fan Speed* and *Status_ Fan Speed* communication objects for this DPT will appear. Also, depending on the number of fan speeds selected, these objects will be different.

If this DPT is selected with 2 fan speeds:

- 11: Control_ Fan Speed / 2 Speeds [DPT_5.010 - 1byte] - Speed values 1,2
- 56: Status_ Fan Speed / 2 Speeds [DPT_5.010 - 1byte] - Speed Value 1,2

The first fan speed will be selected if a **“1”** is sent to the *Control_* object. The second one will be selected sending a **“2”**.

The *Status_* object will always return the value for the fan speed selected.

If this DPT is selected with 3 fan speeds:

- 11: Control_ Fan Speed / 3 Speeds [DPT_5.010 - 1byte] - Speed values 1,2,3
- 56: Status_ Fan Speed / 3 Speeds [DPT_5.010 - 1byte] - Speed Value 1,2,3

The first fan speed will be selected if a **“1”** is sent to the *Control_* object. The second one will be selected sending a **“2”** and the last one sending a **“3”**.

The *Status_* object will always return the value for the fan speed selected.

⚠ Important: In both cases if a **“0”** value is sent to the *Control_* object, the minimum fan speed will be selected. If a value bigger than **“2”** (in case of 2 speeds) or bigger than **“3”** (in case of 3 fan speeds) is sent to the *Control_* object, then the maximum fan speed will be selected.

- When **“Scaling [DPT 5.001]”** is selected, *Control_ Fan Speed* and *Status_ Fan Speed* communication objects for this DPT will appear. Also, depending on the number of fan speeds selected, these objects will be different.

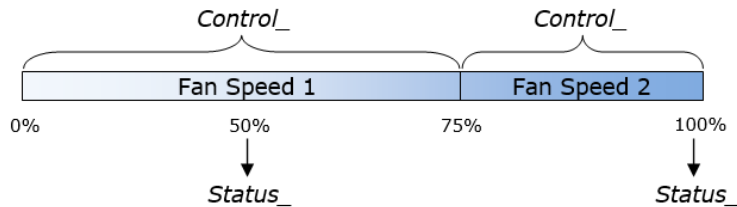
If this DPT is selected with 2 fan speeds:

- 11: Control_ Fan Speed / 2 Speeds [DPT_5.001 - 1byte] - Threshold 75%
- 56: Status_ Fan Speed / 2 Speeds [DPT_5.001 - 1byte] - 50% and 100%

When a value between **0%** and **74%** is sent to the *Control_* object the first fan speed will be selected.

When a value between **75%** and **100%** is sent to the *Control_* object, the second speed will be selected.

The *Status_* object will return a **50%** for the first speed, and a **100%** for the second one.



If this DPT is selected with 3 fan speeds:

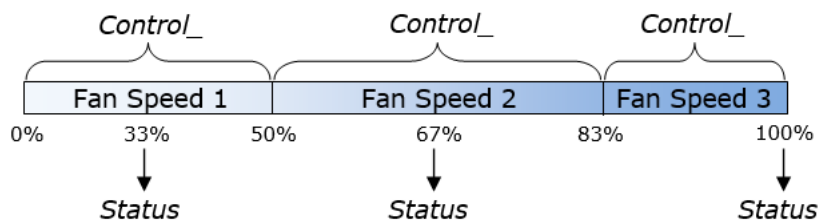
- 11: Control_ Fan Speed / 3 Speeds [DPT_5.001 - 1byte] - Thresholds 50% and 83%
- 56: Status_ Fan Speed / 3 Speeds [DPT_5.001 - 1byte] - 33%, 67% and 100%

When a value between **0%** and **49%** is sent to the *Control_* object the first fan speed will be selected.

When a value between **50%** and **83%** is sent to the *Control_* object, the second speed will be selected.

When a value between **84%** and **100%** is sent to the *Control_* object, the third speed will be selected.

The *Status_* object will return a **33%** when the first speed is selected, a **67%** for the second one and a **100%** for the third one.



4.4.3 Enable use of +/- object for Fan Speed

This parameter shows/hides the *Control_ Fan Speed +/-* communication object which is used to increase/decrease the indoor unit fan speed by using two different datapoint types.

■ 15: Control_ Fan Speed +/- [DPT_1.008 - 1bit] - 0-Up;1-Down

- If set to „no”, the object will not be shown.
- If set to “yes”, the *Control_ Fan Speed +/-* object and a new parameter will appear.

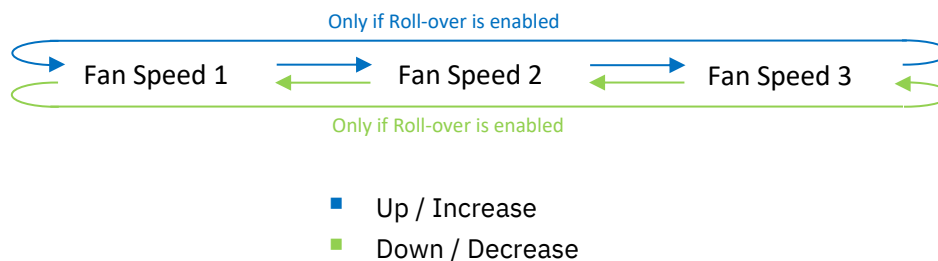
Enable use of +/- object for Fan Speed	☒ yes ☐ no
> DPT type for +/- Fan Speed object	☒ 0-Decrease / 1-Increase [DPT_1.007] ☐ 0-Up / 1-Down [DPT_1.008]
> Rollover Speed at upper/lower limit (when controlling with +/- obj)	☒ yes ☐ no

➤ DPT type for +/- Fan Speed Object

This parameter lets choose between the datapoints **0-Up / 1-Down [DPT_1.008]** and **0-Decrease / 1-Increase [DPT_1.007]** for the *Control_ Fan Speed +/-* object.

➤ Roll-over Speed at upper/lower limit

This parameter lets choose if roll-over will be enabled (“Yes”) or disabled („No”) for the *Control_ Fan Speed +/-* object.



4.4.4 Enable use of bit-type Fan Speed objects (for Control)

This parameter shows/hides the bit-type *Control_ Fan Speed* objects.

■ 12: Control_ Fan Speed 1 [DPT_1.002 - 1bit] - 1-Set Fan Speed 1
 ■ 13: Control_ Fan Speed 2 [DPT_1.002 - 1bit] - 1-Set Fan Speed 2
 ■ 14: Control_ Fan Speed 3 [DPT_1.002 - 1bit] - 1-Set Fan Speed 3

- If set to „no”, the objects will not be shown.
- If set to “yes”, the *Control_ Fan Speed* objects for Speed 1, Speed 2 and Speed 3 (if selected) will appear. To activate a Fan Speed by using these objects a “1” value must be sent.

4.4.5 Enable use of bit-type Fan Speed objects (for Status)

This parameter shows/hides the bit-type *Status_ Fan Speed* objects.

- 🔧 57: Status_ Fan Speed 1 [DPT_1.002 - 1bit] - 1-Fan in speed 1
- 🔧 58: Status_ Fan Speed 2 [DPT_1.002 - 1bit] - 1-Fan in speed 2
- 🔧 59: Status_ Fan Speed 3 [DPT_1.002 - 1bit] - 1-Fan in speed 3

- If set to „no”, the objects will not be shown.
- If set to “yes”, the *Status_ Fan Speed* objects for Speed 1, Speed 2 and Speed 3 (if selected) will appear. When a Fan Speed is enabled, a “1” value is returned through its bit-type object.

4.4.6 Enable use of Text object for Fan Speed

This parameter shows/hides the *Status_ Fan Speed Text* communication object.

- 🔧 60: Status_ Fan Speed Text [DPT_16.001 - 14byte] - ASCII String

- If set to „no” the object will not be shown.
- If set to “yes” the *Status_ Fan Speed Text* object will appear. Also, in the parameters, will be shown two (or three, depending on the number of fan speeds selected) text fields, one for each Fan Speed, that will let modify the text string displayed by the *Status_ Fan Speed Text* when changing a fan speed.

ASCII strings shown in comm object
"Status_ Fan Speed Text" << 14-byte string values >>

> String when fan speed is 1	SPEED 1
> String when fan speed is 2	SPEED 2
> String when fan speed is 3	SPEED 3

4.4.7 Enable use of Legacy_ object for Fan Speed

This parameter shows/hides the *Legacy_ Fan Speed* communication object.

- 🔧 81: Legacy_ Fan Speed [Enumerated - 1byte] - 0-Speed 1;1-Speed 2;2-Speed 3

- If set to “no”, the object will not be shown.
- If set to “yes”, the *Legacy_ Fan Speed* object will appear. This object is used to change the indoor unit fan speed, but using a different data type. It is used to maintain compatibility with older indoor unit models.

4.5 Vanes Up-Down Configuration dialog

General	Indoor unit has Up-Down Vanes (see docum. for your indoor unit)	☒ yes ☐ no
Mode Configuration	Enable "Control_ Vanes U-D Swing"	☐ yes ☒ no
Special Modes Configuration	DPT object type for Vanes Up-Down	☒ Scaling [DPT_5.001] ☐ Enumerated [DPT_5.010]
Fan Speed Configuration	Enable use of +/- object for Vanes Up-Down	☐ yes ☒ no
Vanes Up-Down Configuration	Enable use of bit-type Vanes U-D objects (for control)	☐ yes ☒ no
Temperature Configuration	Enable use of bit-type Vanes U-D objects (for status)	☐ yes ☒ no
Scene Configuration	Enable use of Text object for Vanes U-D	☐ yes ☒ no
Switch-Off Timeouts Configuration	Enable use of Legacy_ obj for Vanes U-D	☒ yes ☐ no

The parameters in this section are related to the Vanes Up-Down properties and objects.

4.5.1 Indoor unit has Up-Down Vanes

This parameter lets choose if the unit has Up-Down Vanes available or not.

Indoor unit has Up-Down Vanes
(see docum. for your indoor unit) ☒ yes ☐ no

- If set to „no“, all the parameters and communication objects for the U-D Vanes will not be shown.
- If set to “yes”, all the parameters and communication objects (if enabled in the parameters dialog) for the U-D Vanes will be shown.

⚠ Important: Read the documentation of your indoor unit to check if Up-Down Vanes are available.

4.5.2 Enable “Control Vanes U-D Swing”

This parameter shows/hides the *Control_ Vanes U-D Swing* and *Status_ Vanes U-D Swing* communication objects.

 17: Control_ Vanes Up-Down Swing [DPT_1.002 - 1bit] - 0-Stop/1-Swing

 62: Status_ Vanes Up-Down Swing [DPT_1.002 - 1bit] - 0-Stop/1-Swing

- If set to “no”, the objects will not be shown.
- If set to “yes”, the *Control_ Vanes U-D Swing* and *Status_ Vanes U-D Swing* objects will appear.
 - When a “1” value is sent to the *Control_* object, the indoor unit enables the Swing function for the vanes. The *Status_* object returns a “1” value.
 - When a “0” value is sent to the *Control_* object, the Swing function for the vanes stops and the indoor unit puts them to Position 1. The *Status_* object returns a “0” value.

⚠ Important: If a “0” value is sent to the *Control_* object while the Swing function is disabled, the value will be ignored and no change will be applied.

4.5.3 DPT object type for Vanes Up-Down

With this parameter, the DPT for the *Control_ Vanes Up-Down* and *Status_ Vanes Up-Down* byte-type communication objects can be changed. Possible: Enumerated (DPT_5.010) and Scaling (DPT_5.001).

- With **“Enumerated [DPT 5.010]”** selected, *Control_ Vanes Up-Down* and *Status_ Vanes Up-Down* communication objects for this DPT will appear.

16: Control_ Vanes Up-Down / 5 pos [DPT_5.010 - 1byte] - Position values: 1,2,3,4,5

61: Status_ Vanes Up-Down / 5 pos [DPT_5.010 - 1byte] - Position values 1,2,3,4,5

To choose a vanes position, values from **“1”** to **“5”** can be sent to the *Control_* object. Each value will correspond to the position (i.e. Value **“3”** = Position 3).

The *Status_* object will always return the value for the vanes position selected.

Important: If a **“0”** value is sent to the *Control_* object, the Position 1 will be selected. If a value higher than **“5”** is sent to the *Control_* object, then the Position 5 will be selected.

- When **“Scaling [DPT 5.001]”** is selected, *Control_ Vanes Up-Down* and *Status_ Vanes Up-Down* communication objects for this DPT will appear.

16: Control_ Vanes Up-Down / 5 Pos [DPT_5.001 - 1byte] - Thresholds: 30, 50, 70 and 90%

61: Status_ Vanes Up-Down / 5 Pos [DPT_5.001 - 1byte] - 20%, 40%, 60%, 80% and 100%

When a value between **0%** and **29%** is sent to the *Control_* object the first vane position will be selected.

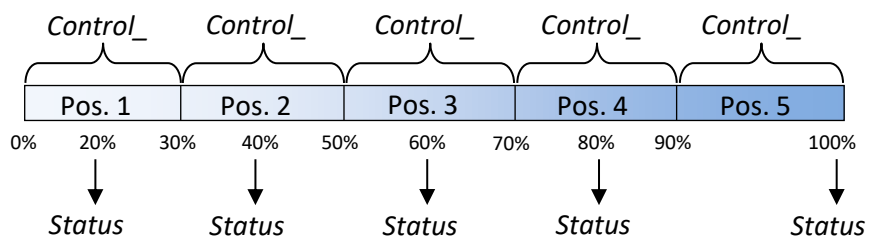
When a value between **30%** and **49%** is sent to the *Control_* object, the second vane position will be selected.

When a value between **50%** and **69%** is sent to the *Control_* object, the third vane position will be selected.

When a value between **70%** and **89%** is sent to the *Control_* object, the fourth vane position will be selected.

When a value between **90%** and **100%** is sent to the *Control_* object, the fifth vane position will be selected.

The *Status_* object will return **20%** for the first vane position, **40%** for the second one, **60%** for the third one, **80%** for the fourth one and **100%** for the fifth and last one.



4.5.4 Enable use of +/- object for Vanes Up-Down

This parameter shows/hides the *Control_ Vanes Up-Down +/-* communication object which is used to change the indoor unit vane position by using two different datapoint types.

 23: Control_ Vanes Up-Down +/- [DPT_1.007 - 1bit] - 0-Decrease;1-Increase

- If set to „no“, the object will not be shown.
- If set to “yes”, the *Control_ Vanes Up-Down +/-* object and a new parameter will appear.

Enable use of +/- object for Vanes Up-Down ☒ yes ☐ no

> DPT type for +/- Vanes Up-Down obj ☒ 0-Decrease / 1-Increase [DPT_1.007]
☐ 0-Up / 1-Down [DPT_1.008]

> Does +/- sequen. incl. vanes SWING? ☒ yes ☐ no

> Rollover Vanes at upper/lower limit (when controlling with +/- obj) ☒ yes ☐ no

➤ DPT type for +/- Vanes Up-Down obj

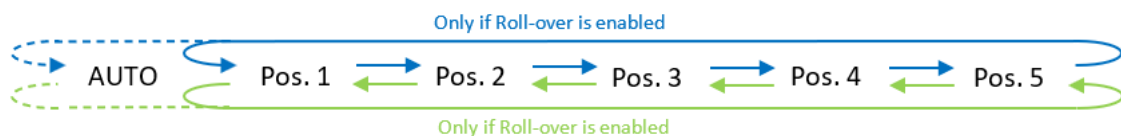
This parameter is used to choose between the datapoints **0-Up / 1-Down [DPT_1.008]** and **0-Decrease / 1-Increase [DPT_1.007]** for the *Control_ Vanes Up-Down +/-* object.

➤ Does +/- sequen. Incl. vanes SWING?

This parameter lets choose if SWING function is included (“yes”) or not („no”) in the sequence when using *Control_ Vane U-D +/-* object as shown in the discontinuous segment at the picture below.

➤ Roll over Vanes at upper/lower limit

This parameter lets choose if roll-over will be enabled (“yes”) or disabled („no”) for the *Vanes Up-Down +/-* object.



- Up / Increase
- Down / Decrease

4.5.5 Enable use of bit-type Vanes U-D objects (for Control)

This parameter shows/hides the bit-type *Control_ Vanes U-D* objects.

-  18: Control_ Vanes Up-Down Pos1 [DPT_1.002 - 1bit] - 1-Set Vanes Position 1
-  19: Control_ Vanes Up-Down Pos2 [DPT_1.002 - 1bit] - 1-Set Vanes Position 2
-  20: Control_ Vanes Up-Down Pos3 [DPT_1.002 - 1bit] - 1-Set Vanes Position 3
-  21: Control_ Vanes Up-Down Pos4 [DPT_1.002 - 1bit] - 1-Set Vanes Position 4
-  22: Control_ Vanes Up-Down Pos5 [DPT_1.002 - 1bit] - 1-Set Vanes Position 5

- If set to „no”, the objects will not be shown.
- If set to “yes”, the *Control_ Vanes U-D* objects for each Position (1 to 5) will appear. To activate a Vanes Position by using these objects, a “1” value must be sent.

4.5.6 Enable use of bit-type Vanes U-D objects (for Status)

This parameter shows/hides the bit-type *Status_ Vanes U-D* objects.

-  63: Status_ Vanes Up-Down Pos 1 [DPT_1.002 - 1bit] - 1-Vanes in Position 1
-  64: Status_ Vanes Up-Down Pos 2 [DPT_1.002 - 1bit] - 1-Vanes in Position 2
-  65: Status_ Vanes Up-Down Pos 3 [DPT_1.002 - 1bit] - 1-Vanes in Position 3
-  66: Status_ Vanes Up-Down Pos 4 [DPT_1.002 - 1bit] - 1-Vanes in Position 4
-  67: Status_ Vanes Up-Down Pos 5 [DPT_1.002 - 1bit] - 1-Vanes in Position 5

- If set to „no”, the objects will not be shown.
- If set to “yes”, the *Status_ Vanes U-D Pos* objects for each Position (1 to 5) will appear. When a Vanes Position is enabled, a “1” value is returned through its bit-type object.

4.5.7 Enable use of Text object for Vanes U-D

This parameter shows/hides the *Status_ Vanes U-D Text* communication object.

 68: Status_ Vanes Up-Down Text [DPT_16.001 - 14byte] - ASCII String

- If set to „**no**“, the object will not be shown.
- If set to „**yes**“, the *Status_ Vanes U-D Text* object will appear. Also, in the parameters will be shown six text fields, five for the Vanes Positions and one for the SWING function, that will let modify the text string displayed by the *Status_ Vanes U-D Text* when changing a vanes position.

ASCII strings shown in comm object "Status_ Vanes Up-Down Text"	<< 14-byte string values >>
> String when vanes U-D is in POS1	U-D POS1
> String when vanes U-D is in POS2	U-D POS2
> String when vanes U-D is in POS3	U-D POS3
> String when vanes U-D is in POS4	U-D POS4
> String when vanes U-D is in POS5	U-D POS5
> String when vanes U-D is in SWING	U-D SWING

4.5.8 Enable use of Legacy_ obj for Vanes U-D

This parameter shows/hides the *Legacy_ Vanes Up-Down* object.

 82: Legacy_ Vanes Up-Down [Enumerated - 1byte] - 0-Pos0..4-Pos4,5-Swing

- If set to „**no**“, the object will not be shown.
- If set to „**yes**“, the *Legacy_ Vane Up-Down* object will appear. This object lets change the indoor unit Vanes Position but it uses a different data type. It is used to maintain compatibility with old gateway models.

4.6 Temperature Configuration dialog

General	Periodic sending of "Status_ AC Setp" (in seconds; 0 = No periodic sending)	0
Mode Configuration	Transmission of "Status_ AC Return Temp"	only on change
Special Modes Configuration	Enable use of +/- object for Setpoint Temperature	☐ yes ☒ no
Fan Speed Configuration	Enable limits on Control_ Setpoint obj	☐ yes ☒ no
Vanes Up-Down Configuration	Ambient temp.ref. is provided from KNX (carefully read User Guide if enabled)	☒ yes ☐ no
Temperature Configuration		
Scene Configuration		
Switch-Off Timeouts Configuration		

The parameters in this section are related to the Temperature properties and communication objects.

4.6.1 Periodic sending of "Status_ AC Setp"

This parameter lets change the interval of time (in seconds, from 0 to 255) at the end of which the AC setpoint temperature is sent to the KNX bus. For a "0" value, the AC setpoint temperature will ONLY be sent on change. The AC setpoint temperature is sent through the communication object *Status_ AC Setpoint Temp*.

69: Status_ AC Setpoint Temp [DPT_9.001 - 2byte] - 16°C to 32°C

Periodic sending of "Status_ AC Setp" (in seconds;0=No periodic sending)	255
---	-----

⚠ Important: In case of working with the gateway in slave mode and the ambient temperature provided from KNX, the setpoint temperature returned from this object, will be the one resulting from the formula shown in the section "4.6.5 Ambient temp. ref. is provided from KNX".

4.6.2 Transmission of “Status_ AC Ret Temp”

This parameter lets to you choose if the AC return temperature will be sent **“only cyclically”**, **“only on change”** or **“cyclically and on change”**. The AC return temperature is sent through the communication object *Status_ AC Return Temp*.

■ 70: Status_ AC Return Temp [DPT_9.001 - 2byte] - °C value in EIS5 format

Transmission of "Status_ AC Return Temp"	cyclically and on change ▼
> "Status_ AC Return Temp" periodic sending time (in sec)	200 ▲▼

➤ “Status_ AC SetTemp” periodic sending time (in sec)

This parameter will only be available for **“only cyclically”** and **“cyclically and on change”** and allows you to change the interval of time (in seconds, from 1 to 255) at the end of which the AC return temperature is sent to the KNX bus.

4.6.3 Enable use of +/- object for Setpoint Temperature

This parameter shows/hides the *Control_ Setpoint Temp +/-* communication object which is used to change the indoor unit setpoint temperature by using two different datapoint types.

■ 26: Control_ Setpoint Temp +/- [DPT_1.008 - 1bit] - 0-Up;1-Down

- If set to **„no”**, the object will not be shown.
- If set to **“yes”**, the *Control_ Setpoint Temp +/-* object and a new parameter will appear.

Enable use of +/- object for Setpoint Temperature	☒ yes ☐ no
> DPT type for Setp Temp +/- object	☒ 0-Decrease / 1-Increase [DPT_1.007] ☐ 0-Up / 1-Down [DPT_1.008]

➤ DPT type for +/- Setp Temp object

This parameter lets choose between the datapoints **0-Up / 1-Down [DPT_1.008]** and **0-Decrease / 1-Increase [DPT_1.007]** for the *Control_ Setpoint Temp +/-* object.

(Lower limit) 16°C  17°C  ...  31°C  32°C (Upper limit)

- Up / Increase
- Down / Decrease

4.6.4 Enable limits on Control_Setpoint obj

This parameter enables to define temperature limits for the *Control_Setpoint Temp* object.

Enable limits on Control_Setpoint obj	☒ yes ☐ no
> Control_Set Temp Lower limit (°C)	16.0°C ▼
> Control_Set Temp Upper limit (°C)	32.0°C ▼

- If set to „**no**“, the setpoint temperature limits for the *Control_Setpoint Temperature* object will be the default: 16°C for the lower limit and 32°C for the upper limit.
- If set to “**yes**”, it is possible to define temperature limits for the *Control_Setpoint Temperature* object.

➤ Control_Set Temp Lower limit (°C)

This parameter is to define the lower limit for the setpoint temperature.

➤ Control_Set Temp Upper limit (°C)

This parameter is to define the upper limit for the setpoint temperature.

⚠ **Important:** If a setpoint temperature above the upper defined limit (or below the lower defined limit) is sent through the *Control_Setpoint Temperature* object, it will be ALWAYS applied the limit defined.

⚠ **Important:** When limits are enabled, any setpoint temperature sent to the AC (even through scenes, special modes, etc.) will be limited.

⚠ **Important:** If the gateway is slave in P1/P2 bus, it is possible to change the setpoint temperature with the master remote controller below or above the defined limits.

4.6.5 Ambient temp. ref. is provided from KNX

This parameter shows/hides the *Control_ Ambient Temperature* communication object which lets use an ambient temperature reference provided by a KNX device.

■ 25: Control_ Ambient Temperature [DPT_9.001 - 2byte] - °C value in EIS5 format

⚠ Important: *The Daikin indoor units has three different ways to be programmed in regards with the ambient temperature sensor, see below. This configuration must be done by a Daikin qualified technician or installer.*

- 1) The indoor unit uses its own return temperature.
- 2) The indoor unit uses its own return temperature when there is a big difference between the ambient temperature and the setpoint temperature. It uses the ambient temperature from the Master device (remote controller, or gateway) when this difference is small.
- 3) It is only used the ambient temperature from the Master device (remote controller, or gateway). This option is not available on all the indoor unit models.

Note: When this parameter is enabled in the gateway, it may require the AC indoor unit to be programmed to work in a specific way regarding the ambient temperature sensor, in one of the three options explained above.

- If set to “no” the object will not be shown.
- If set to “yes” the *Control_ Ambient Temperature* object will appear.
 - When the gateway is **Master** in P1/P2 bus: The ambient temperature is provided from KNX. The AC indoor unit will work with this temperature as its reference temperature (it will NOT use its own return temperature). *This requires programming the AC indoor unit to work as explained in options 2) or 3) above.*
 - When the gateway is **Slave** in P1/P2 bus: The indoor unit works with its own return temperature. *This requires programming the AC indoor unit to work as explained in option 1) above.*
As in this case the AC return temperature could be different as of the KNX ambient temperature, the gateway applies a formula to compensate this difference. So, the compensated setpoint temperature sent to the AC indoor unit is the result of applying the next formula:

$$\text{“AC Setp. Temp”} = \text{“AC Ret. Temp”} - (\text{“KNX Amb. Temp.”} - \text{“KNX Setp. Temp”})$$

- AC Setp. Temp: AC indoor unit setpoint temperature
- AC Ret. Temp: AC indoor unit return temperature
- KNX Amb. Temp.: Ambient temperature provided from KNX
- KNX Setp. Temp: Setpoint temperature provided from KNX

This formula ensures that the gateway will send always a suitable setpoint to the AC indoor unit to reach the demanded setpoint of KNX and having always into account the ambient temperature read at KNX and the return temperature measured by the own AC indoor unit. *Note these two ambient temperatures may be different because one is measured at 1,5 meters above the ground (the one measured by the KNX sensor), and the other one is measured in the inlet pipe located in the ceiling (the one measured by Daikin).*

As an example, consider the following situation:

User wants: **19°C** ("KNX Setp. Temp.")

User sensor (a KNX sensor) reads: **21°C** ("KNX Amb Temp.")

Ambient temp. read by Daikin system is: **24°C** ("AC Ret. Temp")

In this example, the final setpoint temperature that GATEWAY will send out to the indoor unit (shown in "Setp. Temp.") will become $24^{\circ}\text{C} - (21^{\circ}\text{C} - 19^{\circ}\text{C}) = \mathbf{22^{\circ}\text{C}}$. This is the setpoint that will actually be requested to Daikin unit.

This formula will be applied as soon as the *Control_Setpoint Temperature* and *Control_Ambient Temperature* objects are written at least once from the KNX installation. After that, they are kept always consistent.

Note that this formula will always drive the AC indoor unit demand in the *right* direction, regardless of the operation mode (Heat, Cool or Auto).

It also must be remarked that, if using a Daikin centralized control system for the supervision/control of multiple indoor units, it will report the actual setpoint and ambient temperature on the AC indoor units, which may be different than the ones at the KNX side.

4.7 Scene Configuration dialog

General	Enable use of scenes	☒ yes ☐ no
Mode Configuration	Scenes can be stored from KNX bus	☐ yes ☒ no
Special Modes Configuration	Enable use of bit objects for scene execution	☐ yes ☒ no
Fan Speed Configuration	Scene 1 preset	☒ no ☐ yes (scene will NOT be modifiable from KNX b...
Vanes Up-Down Configuration	Scene 2 preset	☒ no ☐ yes (scene will NOT be modifiable from KNX b...
Temperature Configuration	Scene 3 preset	☒ no ☐ yes (scene will NOT be modifiable from KNX b...
Scene Configuration		
Switch-Off Timeouts Configuration	Scene 4 preset	☒ no ☐ yes (scene will NOT be modifiable from KNX b...
	Scene 5 preset	☒ no ☐ yes (scene will NOT be modifiable from KNX b...

All the parameters in this section are related to the Scene properties and communication objects. A scene contains values of: On/Off, Mode, Fan speed, Vanes position, Setpoint Temperature and Remote Controller Disablement.

4.7.1 Enable use of scenes

This parameter shows/hides the scene configuration parameters and communication objects.

 36: Control_ Execute Scene [DPT_17.001 - 1byte] - 0..4-Exec1-5

Enable use of scenes ☒ yes ☐ no

- If set to „no”, the scene parameters and communication objects will not be shown.
- If set to **“yes”**, the scene parameters and communication objects will be shown. To execute a scene through the byte-type object, a value from **“0”** to **“4”** has to be sent, corresponding each one to a different scene (i.e. “0” = Scene 1;... “4” = Scene 5).

4.7.2 Scenes can be stored from KNX bus

This parameter shows/hides the *Control_ Save/Exec Scene* and all the *Control_ Store Scene* (if enabled) communication objects.

 36: Control_ Save/Exec Scene [DPT_18.001 - 1byte] - 0..4-Exec1-5;128..132-Save1-5

 37: Control_ Store Scene 1 [DPT_1.002 - 1bit] - 1-Store Scene

 38: Control_ Store Scene2 [DPT_1.002 - 1bit] - 1-Store Scene

 39: Control_ Store Scene3 [DPT_1.002 - 1bit] - 1-Store Scene

 40: Control_ Store Scene4 [DPT_1.002 - 1bit] - 1-Store Scene

 41: Control_ Store Scene5 [DPT_1.002 - 1bit] - 1-Store Scene

- If set to „no”, the communication objects will not be shown.
- If set to **“yes”**, the communication objects and a new parameter will appear. To store a scene through the byte-type object, a value from **“128”** to **“132”** has to be sent to the object, corresponding each one to a different scene (i.e. “128” = Scene 1;... “132” = Scene 5).

Scenes can be stored from KNX bus ☒ yes ☐ no

> Enable use of bit objects
for storing scenes (from bus) ☒ yes ☐ no

➤ Enable use of bit objects for storing scenes (from bus)

If set to „no”, the objects will not be shown.

If set to **“yes”**, the *Control_ Store Scene* objects for storing scenes will appear. To store a scene by using these objects, a **“1”** value must be sent to the scene’s object we want to store (i.e. to store scene 4, a “1” must be sent to the *Control_ Store Scene 4* object).

4.7.3 Enable use of bit objects for scene execution

This parameter shows/hides the *Control_ Execute Scene* bit-type communication objects.

-  42: Control_ Execute Scene1 [DPT_1.002 - 1bit] - 1-Execute Scene
-  43: Control_ Execute Scene2 [DPT_1.002 - 1bit] - 1-Execute Scene
-  44: Control_ Execute Scene3 [DPT_1.002 - 1bit] - 1-Execute Scene
-  45: Control_ Execute Scene4 [DPT_1.002 - 1bit] - 1-Execute Scene
-  46: Control_ Execute Scene5 [DPT_1.002 - 1bit] - 1-Execute Scene

Enable use of bit objects
for scene execution ☒ yes ☐ no

- If set to „no”, the communication objects will not be shown.
- If set to “yes”, the communication objects will appear. To execute a scene by using these objects, a “1” value must be sent to the scene’s object we want to execute (i.e. to execute scene 4, a “1” must be sent to the *Control_ Execute Scene 4* object).

4.7.4 Scene “x” preset

This parameter lets define a preset for a scene (the following description is valid for all the scenes).

Scene 1 preset ☒ No ☐ Yes (scene will NOT be modifiable from KNX bus)

- If set to „no”, the preset for the scene “x” will be disabled.
- If set to “yes”, the preset will be enabled. When a scene is executed the values configured in the preset will be applied.

 **Important:** If a scene’s preset is enabled, it will not be possible to modify (store) the scene from the KNX bus.

> Scene 1 / Value for On-Off	ON
> Scene 1 / Value for Mode	HEAT
> Scene 1 / Value for Fan Speed	SPEED 1
> Scene 1 / Value for Vanes Up-Down (if indoor unit has Vanes U-D)	POSITION 1
> Scene 1 / Value for Setp Temp (°C)	21.0°C
> Scene 1 / Value for Remote Lock	(unchanged)

➤ Scene “x” / Value for On-Off

This parameter lets choose the power of the indoor unit when the scene is executed. The following options are available: **“ON”**, **“OFF”** or **“(unchanged)”**.

➤ Scene “x” / Value for Mode

This parameter lets choose the mode of the indoor unit when the scene is executed. The following options are available: **“AUTO”**, **“HEAT”**, **“COOL”**, **“FAN”**, **“DRY”**, or **“(unchanged)”**.

➤ Scene “x” / Value for Fan Speed

This parameter lets choose the fan speed of the indoor unit when the scene is executed. The following options are available: **“SPEED 1”**, **“SPEED 2”**, **“SPEED 3 (if available)”** or **“(unchanged)”**.

➤ Scene “x” / Value for Vanes U-D (if indoor unit has Vanes U-D)

This parameter lets choose the vane position of the indoor unit when the scene is executed. The following options are available: **“POSITION 1”**, **“POSITION 2”**, **“POSITION 3”**, **“POSITION 4”**, **“POSITION 5”**, **“SWING”** or **“(unchanged)”**.

➤ Scene “x” / Value for Setp Temp (°C)

This parameter lets choose the setpoint temperature of the indoor unit when the scene is executed. The following options are available: from **“16°C”** to **“32°C”** (both included), or **“(unchanged)”**.

➤ Scene “x” / Value for Remote Lock

This parameter lets choose the remote controller status of the indoor unit when the scene is executed. The following options are available: **“locked (remote control not allowed)”**, **“unlocked (remote allowed)”**, or **“(unchanged)”**.

⚠ **Important:** If any preset value is configured as **“(unchanged)”**, the execution of this scene will not change current status of this feature in the AC unit.

⚠ **Important:** When a scene is executed, Status_ Current Scene object shows the number of this scene. Any change in previous items does Status_ Current Scene show **“No Scene”**. Only changes on items marked as **“(unchanged)”** will not disable current scene.

4.8 Switch-Off Timeouts Configuration dialog

General	Enable use of Open Window / Switch off timeout function	☐ yes ☒ no
Mode Configuration	Enable use of Occupancy function	☐ yes ☒ no
Special Modes Configuration	Enable use of SLEEP timeout	☐ yes ☒ no
Fan Speed Configuration		
Vanes Up-Down Configuration		
Temperature Configuration		
Scene Configuration		
Switch-Off Timeouts Configuration		

All the parameters in this section are related to the timeout properties and communication objects.

4.8.1 Enable use of Open Window / Switch off timeout function

This parameter shows/hides the *Control_ Switch Off Timeout* communication object which lets Start/Stop a timeout to switch off the indoor unit.

 27: Control_ Window Contact Status [DPT_1.009 - 1bit] - 0-Open;1-Closed

 27: Control_ Switch Off Timeout [DPT_1.010 - 1bit] - 0-Stop;1-Start

- If set to „**no**“, the object will not be shown.
- If set to „**yes**“, the *Control_ Switch Off Timeout* object and new parameters will appear. If a „**1**“ value is sent to this object, and the indoor unit is already turned on, the switch-off timeout will begin. If a „**0**“ value is sent to this object, the switch-off timeout will stop.

Enable use of Open Window / Switch off timeout function	☒ yes ☐ no
> AC switch-off timeout (min)	10
> DPT for Window / Switch-off timeout	☒ 0-Open / 1-Closed Window [DPT_1.009] ☐ 0-Stop / 1-Start Timeout [DPT_1.010]
> Disallow On/Off operation while window is Open	☒ yes ☐ no
> Reload last On/Off value once window is Closed	☒ yes ☐ no

- AC switch-off timeout (min)
Parameter lets select how much time (in minutes) to wait before switching off the indoor unit.
- DPT for Window / Switch-off timeout
This parameter lets choose between the datapoints **0-Open / 1-Closed Window [DPT_1.009]** and **0-Stop / 1-Start Timeout [DPT_1.010]** for the *Control_ Switch Off Timeout*.
- Disallow On/Off operation while window is Open
If set to „no“, On/Off commands while the window is open will be accepted.
 - If a **“1”** value is sent to the *Control_ Switch Off Timeout* object the switch-off timeout period will begin again.
 - If a **“0”** value is sent to the *Control_ Switch Off Timeout* object, no action will be performed.If set to **“yes”**, On/Off commands, while the window is open, will be saved (but not applied). These commands will be used in the next parameter if set to **“yes”**.
- Reload last On/Off value once window is Closed?
If set to „no“, once the switch-off timeout is stopped, any value will be reloaded.
If set to **“yes”**, once the switch-off timeout is stopped, the last On/Off value sent will be reloaded.
 - If a **“1”** value is sent to the *Control_ Switch Off Timeout* object after the timeout period, the indoor unit will **turn on**.
 - If a **“0”** value is sent to the *Control_ Switch Off Timeout* after the timeout period, no action will be performed.

4.8.2 Enable use of Occupancy function

This parameter shows/hides the *Control_ Occupancy* communication object which lets apply different parameters to the indoor unit depending on the presence/no presence in the room.

🔧 28: Control_ Occupancy [DPT_1.018 - 1bit] - 0-Not Occupied;1-Occupied

- If set to „no“, the object will not be shown.
- If set to **“yes”**, the *Control_ Occupancy* object and new parameters will appear. If a **“1”** value is sent to this object (no room occupancy), the timeout will begin. If a **“0”** value is sent to this object, the timeout will stop.

Enable use of Occupancy function	☒ yes ☐ no
> Timeout to apply action (minutes)	20
> Action after timeout elapsed	☐ Switch-Off ☒ Apply Preset Delta

- Timeout to apply action (minutes)
This parameter lets choose how much time to wait (in minutes) before executing the action specified in the next parameter (“Action after timeout elapsed”).

➤ Action after timeout elapsed

When **Switch-Off** is selected, once the timeout has elapsed, the indoor unit will be turned off.

When **Apply Preset Delta** is selected, once the timeout has elapsed, a delta temperature will be applied to save energy (decreasing the setpoint when in Heat mode or increasing the setpoint when in Cool mode). Also new parameters will appear.

> Temp delta decrease (HEAT) or increase (COOL) (°C)	2.0°C
> Enable secondary timeout	☒ yes ☐ no

➤ Temp delta decrease (HEAT) or increase (COOL) (°C)

This parameter lets configure the delta temperature (increase or decrease) that will be applied when the timeout has elapsed.

⚠ Important: When there is occupancy again after the application of a delta, the same delta will be applied inversely. (i.e. In a room with AC in cool mode and 25°C setpoint temperature, a **+2°C** delta is applied after the occupancy timeout, setting the setpoint at 27°C because there is no occupancy in the room. If the setpoint is raised to 29°C during that period, when the room is occupied again, a **-2°C** delta will be applied and the final setpoint temperature will then be 27°C).

➤ Enable secondary timeout

If set to „no” nothing will be applied.

If set to “yes”, a new timeout will be enabled, and two new parameters will appear.

> Timeout to apply action (min)	20
> Action after timeout elapsed	☐ Switch-Off ☒ Apply Preset Delta
> Temp delta dec (HEAT) or inc (COOL) (°C)	4.0°C

➤ Timeout to apply action (min)

Parameter lets choose how much time to wait (in minutes) before executing the action specified in the next parameter (“Action after timeout elapsed”).

➤ Action after timeout elapsed

When **Switch-Off** is selected, once the timeout has elapsed, the indoor unit will turn off.

When **Apply Preset Delta** is selected, once the timeout configured is extinguished, a delta temperature will be applied (decreasing the setpoint when in Heat mode or increasing the setpoint when in Cool mode). Also new parameters will appear.

➤ Temp delta decrease (HEAT) or increase (COOL) (°C)

This parameter lets configure the delta temperature that will be applied when the timeout is extinguished.

⚠ Important: When there is occupancy again after the application of a delta, the same delta will be applied inversely as explained above.

➤ Disallow On/Off operation while not Occupied

If set to „no”, On/Off commands while the window is open will be accepted.

- If a “1” value is sent to the *Control_ Occupancy* object the switch-off timeout period will begin again.
- If a “0” value is sent to the *Control_ Occupancy* object, no action will be performed.

If set to “yes”, On/Off commands while not occupied will be saved (but not applied). These commands will be used in the next parameter if set to “yes”.

> Disallow On/Off operation while not Occupied	☒ yes ☐ no
> Reload last On/Off value when Occupied	☒ yes ☐ no

➤ Reload last On/Off value when Occupied

If set to “no”, once the switch-off timeout has elapsed, any value will be reloaded.

If set to “yes”, once the switch-off timeout has elapsed, the last On/Off value will be reloaded.

- If a “1” value is sent to the *Control_ Occupancy* object after the timeout period, the indoor unit will **turn on**.
- If a “0” value is sent to the *Control_ Occupancy* after the timeout period, no action will be performed.

4.8.3 Enable use of SLEEP timeout

This parameter shows/hides the *Control_ Sleep Timeout* communication object which lets start a timeout to automatically turn off the indoor unit.

 29: Control_ Sleep Timeout [DPT_1.010 - 1bit] - 0-Stop;1-Start

- If set to “no”, the object will not be shown.
- If set to “yes”, the *Control_ Sleep Timeout* object and a new parameter will appear. If a “1” value is sent to this object the switch-off timeout will begin. If a “0” value is sent to this object, the switch-off timeout will stop.

Enable use of SLEEP timeout	☒ yes ☐ no
> Sleep function switch-off timeout (minutes)	60

➤ Sleep function switch-off timeout (minutes)

This parameter lets select how much time (in minutes) to wait before switching off the AC unit.

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 drop due to insufficient refrigerant or electronic expansion valve error, etc.
146	U1		Reverse phase, Open phase
147	U2		Power voltage failure / Instantaneous power failure
148	U3		Failure to carry out check operation, transmission error
149	U4		Communication error between indoor unit and outdoor unit, communication error between outdoor unit and BS unit
150	U5		Communication error between remote control and indoor unit / Remote control board failure or setting error for remote control
151	U6		Communication error between indoor units
152	U7		Communication error between outdoor units / Communication error between outdoor unit and ice thermal storage unit
153	U8		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)
154	U9		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
-1	N/A	Gateway	Error in the communication of 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