

Technical Manual



KNX Gateway for Panasonic Etherea air conditioning units

SCN-ACG0PAN.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-ACG0PAN.01** KNX Gateway for Panasonic Etherea air conditioning units, flush mounted

2.2 Functions

Control the air conditioning unit via KNX

The gateway provides the most important functions of the Panasonic Etherea air conditioner as KNX communication objects. The air conditioning unit can be switched on and off. In addition, the operating mode, setpoint temperature, fan speed and vanes positions can be set via KNX and reported back as status. The operating modes can be controlled as a byte object, as individual bit objects or via a +/- object. This allows the gateway to be flexibly connected to push-buttons, visualisations and room temperature controllers. Text objects can also be used for the status display.

Fan and Vanes

The fan control supports five fan speeds as well as automatic mode. Depending on the application, control can be via percentage values, step values, individual bit objects or via a +/- object. The gateway also reports the fan speed back to the KNX bus. For air distribution, up/down and left/right vanes can be configured separately, provided the connected indoor unit supports these functions.

Temperature setpoint and room temperature reference

The setpoint temperature can be specified via KNX. Optionally, lower and upper limit values can be set so that invalid setpoints are automatically restricted. If a room temperature is provided by a KNX sensor, this can be used as a reference for calculating the setpoint temperature transmitted to the air conditioning unit.

Scenes

Up to 5 scenes can be set up. A scene can contain values for On/Off, operating mode, fan speed, vanes position, setpoint temperature and remote control lock. Scenes can be executed via a byte object or bit objects. Depending on the configuration, scenes can be predefined/saved via the KNX bus.

Special operating modes

The gateway supports the Panasonic functions “Quick Cool” and “Whisper Mode”, provided these are available on the indoor unit. In addition, Power Mode, Economy Mode and additional heating and cooling functions can be used. These functions change the target temperature and fan speed for a configurable period of time or selectively switch the device to heating or cooling mode.

Lock functions

Operation via the Panasonic remote control can be disabled. In addition, the KNX control objects can be locked via a separate communication object. This allows, for example, operation to be centrally restricted or secured for certain operating states.

Time and comfort functions

Several time functions are available for energy-efficient operation. The air conditioner can be switched off after a set period using a window contact or auto-off function. The occupancy function allows the system to switch off automatically or adjust the setpoint temperature depending on whether anyone is present. The sleep timer automatically switches the air conditioner off after a set time has elapsed.

Status, errors and energy

The gateway provides a wide range of status objects, including those for on/off, operating mode, fan speed, vanes position, setpoint temperature, return air temperature, outdoor temperature and current scene. Errors can be output as an alarm, a numeric error code or a text code.

For supported Panasonic Etherea models, power and energy values can be transmitted to the KNX bus. This includes current power output as well as Energy meter for today, yesterday and total. An operating hours counter can also be activated.

Binary inputs

The device has four configurable binary inputs. These can be used for classic KNX functions such as switching, dimming, blind/shutter control or sending values. In addition, the inputs can be used internally for scenes, occupancy or window contact functions. Contact type, debounce time and the locking function are configurable.

2.3 Wiring diagram

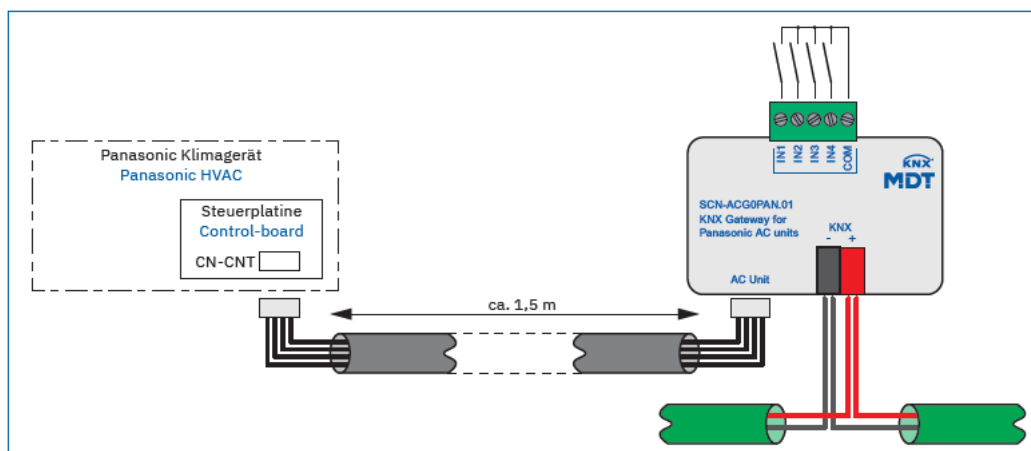


Figure 1: Wiring diagram

2.4 Structure & Handling

The following picture shows the structure of the device:

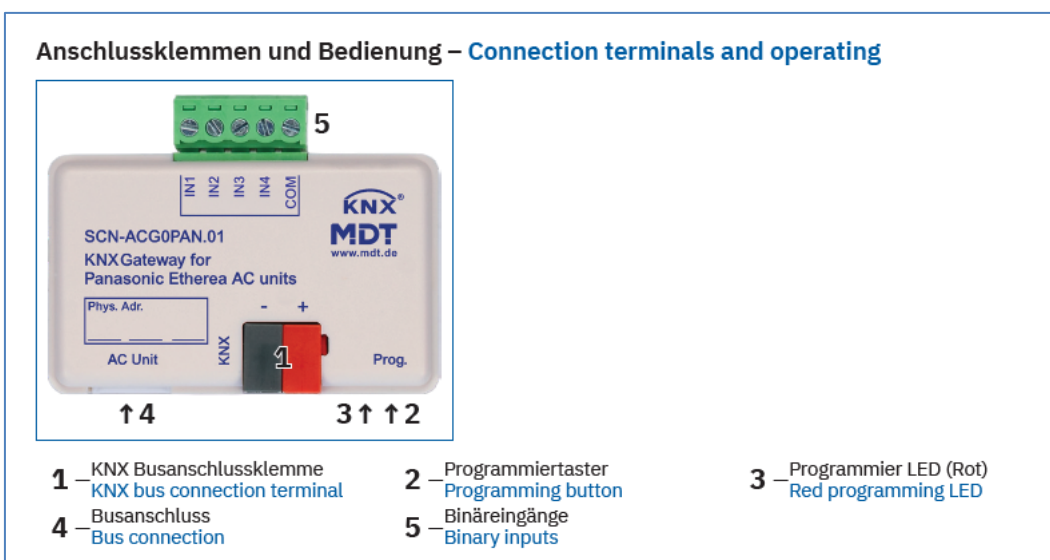


Figure 2: Structure & Handling

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	Control_ On/Off	0-Off;1-On	1 Bit	X		X	X		
1	Control_ Powerful	1 – Set POWERFUL	1 Bit	X		X	X		
2	Control_ Quiet	1 – Set QUIET	1 Bit	X		X	X		
3	Control_ Mode	0-Aut;1-Hea;3-Coo;9-Fan;14-Dry	1 Byte	X		X	X		
4	Control_ Mode Cool/Heat	0-Cool;1-Heat	1 Bit	X		X	X		
5	Control_ Mode Cool & On	0%-Off;0.1%-100%-On+Cool	1 Byte	X		X	X		
6	Control_ Mode Heat & On	0%-Off;0.1%-100%-On+Heat	1 Byte	X		X	X		
7	Control_ Mode Auto	1-Set AUTO mode	1 Bit	X		X	X		
8	Control_ Mode Heat	1-Set HEAT mode	1 Bit	X		X	X		
9	Control_ Mode Cool	1-Set COOL mode	1 Bit	X		X	X		
10	Control_ Mode Fan	1-Set FAN mode	1 Bit	X		X	X		
11	Control_ Mode Dry	1-Set DRY mode	1 Bit	X		X	X		
12	Control_ Mode +/-	0-Decrease;1-Increase	1 Bit	X		X			
12	Control_ Mode +/-	0-Up;1-Down	1 Bit	X		X			
13	Control_ Fan Speed / 5 Speeds	Thresholds:30%,50%,70% and 90%	1 Byte	X		X	X		
13	Control_ Fan Speed / 5 Speeds	Speed values: 1,2,3,4,5	1 Byte	X		X	X		
14	Control_ Fan Speed Man/Auto	0-Manual;1-Auto	1 Bit	X		X	X		
15	Control_ Fan Speed 1	1-Set Fan Speed 1	1 Bit	X		X	X		
16	Control_ Fan Speed 2	1-Set Fan Speed 2	1 Bit	X		X	X		
17	Control_ Fan Speed 3	1-Set Fan Speed 3	1 Bit	X		X	X		
18	Control_ Fan Speed 4	1-Set Fan Speed 4	1 Bit	X		X	X		
19	Control_ Fan Speed 5	1-Set Fan Speed 5	1 Bit	X		X	X		
20	Control_ Fan Speed +/-	0-Decrease;1-Increase	1 Bit	X		X			
20	Control_ Fan Speed +/-	0-Up;1-Down	1 Bit	X		X			
21	Control_ Vanes U-D / 5 Pos	Thresholds:30%,50%,70% and 90%	1 Byte	X		X	X		
21	Control_ Vanes U-D / 5 Pos	Position values: 1,2,3,4,5	1 Byte	X		X	X		
22	Control_ Vanes U-D Man/Auto	0-Manual;1-Auto	1 Bit	X		X	X		
23	Control_ Vanes U-D Pos1	1-Set Position 1	1 Bit	X		X	X		
24	Control_ Vanes U-D Pos2	1-Set Position 2	1 Bit	X		X	X		
25	Control_ Vanes U-D Pos3	1-Set Position 3	1 Bit	X		X	X		
26	Control_ Vanes U-D Pos4	1-Set Position 4	1 Bit	X		X	X		
27	Control_ Vanes U-D Pos5	1-Set Position 5	1 Bit	X		X	X		
28	Control_ Vanes U-D +/-	0-Decrease;1-Increase	1 Bit	X		X			
28	Control_ Vanes U-D +/-	0-Up;1-Down	1 Bit	X		X			
29	Control_ Vanes L-R / 5 Pos	Thresholds:30%,50%,70% and 90%	1 Byte	X		X	X		
29	Control_ Vanes L-R / 5 Pos	Position values: 1,2,3,4,5	1 Byte	X		X	X		
30	Control_ Vanes L-R Man/Auto	0-Manual;1-Auto	1 Bit	X		X	X		
31	Control_ Vanes L-R Pos1	1-Set Position 1	1 Bit	X		X	X		

32	Control_ Vanes L-R Pos2	1-Set Position 2	1 Bit	X		X	X	
33	Control_ Vanes L-R Pos3	1-Set Position 3	1 Bit	X		X	X	
34	Control_ Vanes L-R Pos4	1-Set Position 4	1 Bit	X		X	X	
35	Control_ Vanes L-R Pos5	1-Set Position 5	1 Bit	X		X	X	
36	Control_ Vanes L-R +/-	0-Decrease;1-Increase	1 Bit	X		X		
36	Control_ Vanes L-R +/-	0-Up;1-Down	1 Bit	X		X		
37	Control_ Setpoint Temp	°C	2 Byte	X		X	X	
38	Control_ Setpoint Temp +/-	0-Decrease;1-Increase	1 Bit	X		X		
38	Control_ Setpoint Temp +/-	0-Up;1-Down	1 Bit	X		X		
39	Control_ Ambient Temperature	°C	2 Byte	X		X	X	
40	Control_ Today	Today's date	3 Byte	X		X	X	
41	Control_ Reset Energy Counter	1-Reset counter	1 Bit	X		X	X	
42	Control_ Window Contact Status	0-Open;1-Closed	1 Bit	X		X	X	
42	Control_ Switch Off Timeout	0-Stop;1-Start	1 Bit	X		X	X	
43	Control_ Occupancy	0-Not Occupied;1-Occupied	1 Bit	X		X	X	
44	Control_ Sleep Timeout	0-Stop;1-Start	1 Bit	X		X	X	
45	Control_ Lock Remote Control	0-Unlock;1-Lock	1 Bit	X		X	X	
46	Control_ Lock Control Objects	0-Unlock;1-Lock	1 Bit	X		X	X	
47	Control_ Power Mode	0-Stop;1-Start	1 Bit	X		X	X	
48	Control_ Econo Mode	0-Stop;1-Start	1 Bit	X		X	X	
49	Control_ Additional Heat	0-Stop;1-Start	1 Bit	X		X	X	
50	Control_ Additional Cool	0-Stop;1-Start	1 Bit	X		X	X	
51	Control_ Save/Exec Scene	0...4-Exec1-5;128...132-Save1-5	1 Byte	X		X	X	
52	Control_ Store Scene 1	1-Store Scene 1	1 Bit	X		X		
53	Control_ Store Scene 2	1-Store Scene 2	1 Bit	X		X		
54	Control_ Store Scene 3	1-Store Scene 3	1 Bit	X		X		
55	Control_ Store Scene 4	1-Store Scene 4	1 Bit	X		X		
56	Control_ Store Scene 5	1-Store Scene 5	1 Bit	X		X		
57	Control_ Execute Scene 1	1-Execute Scene 1	1 Bit	X		X	X	
58	Control_ Execute Scene 2	1-Execute Scene 2	1 Bit	X		X	X	
59	Control_ Execute Scene 3	1-Execute Scene 3	1 Bit	X		X	X	
60	Control_ Execute Scene 4	1-Execute Scene 4	1 Bit	X		X	X	
61	Control_ Execute Scene 5	1-Execute Scene 5	1 Bit	X		X	X	
62	Control_ Disable Input 1	0-False;1-True	1 Bit	X		X	X	
62	Control_ Disable Input 1	0-Disable;1-Enable	1 Bit	X		X	X	
63	Control_ Disable Input 2	0-False;1-True	1 Bit	X		X	X	
63	Control_ Disable Input 2	0-Disable;1-Enable	1 Bit	X		X	X	
64	Control_ Disable Input 3	0-False;1-True	1 Bit	X		X	X	
64	Control_ Disable Input 3	0-Disable;1-Enable	1 Bit	X		X	X	
65	Control_ Disable Input 4	0-False;1-True	1 Bit	X		X	X	
65	Control_ Disable Input 4	0-Disable;1-Enable	1 Bit	X		X	X	

Standard settings – Status objects

No.	Name	Object function	Length	C	R	W	T	U
66	Status_ On/Off	0-Off;1-On	1 Bit	X	X		X	
67	Status_ Powerful	1-POWERFUL is active	1 Bit	X	X		X	
68	Status_ Quiet	1-QUIET is active	1 Bit	X	X		X	
69	Status_ Mode	0-Aut;1-Hea;3-Coo;9-Fan;14-Dry	1 Byte	X	X		X	
70	Status_ Mode Cool/Heat	0-Cool;1-Heat	1 Bit	X	X		X	
71	Status_ Mode Auto	1-AUTO mode is active	1 Bit	X	X		X	
72	Status_ Mode Heat	1-HEAT mode is active	1 Bit	X	X		X	
73	Status_ Mode Cool	1-COOL mode is active	1 Bit	X	X		X	
74	Status_ Mode Fan	1-FAN mode is active	1 Bit	X	X		X	
75	Status_ Mode Dry	1-DRY mode is active	1 Bit	X	X		X	
76	Status_ Mode Text	ASCII String	14 Byte	X	X		X	
77	Status_ Fan Speed / 5 Speeds	20%, 40%, 60%, 80% and 100%	1 Byte	X	X		X	
77	Status_ Fan Speed / 5 Speeds	Speed values: 1,2,3,4,5	1 Byte	X	X		X	
78	Status_ Fan Speed Manual/Auto	0-Manual;1-Auto	1 Bit	X	X		X	
79	Status_ Fan Speed 1	1-Fan in speed 1	1 Bit	X	X		X	
80	Status_ Fan Speed 2	1-Fan in speed 2	1 Bit	X	X		X	
81	Status_ Fan Speed 3	1-Fan in speed 3	1 Bit	X	X		X	
82	Status_ Fan Speed 4	1-Fan in speed 4	1 Bit	X	X		X	
83	Status_ Fan Speed 5	1-Fan in speed 5	1 Bit	X	X		X	
84	Status_ Fan Speed Text	ASCII String	14 Byte	X	X		X	
85	Status_ Vanes U-D / 5 Pos	20%, 40%, 60%, 80% and 100%	1 Byte	X	X		X	
85	Status_ Vanes U-D / 5 Pos	Position values: 1,2,3,4,5	1 Byte	X	X		X	
86	Status_ Vanes U-D Man/Auto	0-Manual;1-Auto	1 Bit	X	X		X	
87	Status_ Vanes U-D Pos1	1-Vanes in Position 1	1 Bit	X	X		X	
88	Status_ Vanes U-D Pos2	1-Vanes in Position 2	1 Bit	X	X		X	
89	Status_ Vanes U-D Pos3	1-Vanes in Position 3	1 Bit	X	X		X	
90	Status_ Vanes U-D Pos4	1-Vanes in Position 4	1 Bit	X	X		X	
91	Status_ Vanes U-D Pos5	1-Vanes in Position 5	1 Bit	X	X		X	
92	Status_ Vanes U-D Text	ASCII String	14 Byte	X	X		X	
93	Status_ Vanes L-R / 5 Pos	20%, 40%, 60%, 80% and 100%	1 Byte	X	X		X	
93	Status_ Vanes L-R / 5 Pos	Position values: 1,2,3,4,5	1 Byte	X	X		X	
94	Status_ Vanes L-R Man/Auto	0-Manual;1-Auto	1 Bit	X	X		X	
95	Status_ Vanes L-R Pos1	1-Vanes in Position 1	1 Bit	X	X		X	
96	Status_ Vanes L-R Pos2	1-Vanes in Position 2	1 Bit	X	X		X	
97	Status_ Vanes L-R Pos3	1-Vanes in Position 3	1 Bit	X	X		X	
98	Status_ Vanes L-R Pos4	1-Vanes in Position 4	1 Bit	X	X		X	
99	Status_ Vanes L-R Pos5	1-Vanes in Position 5	1 Bit	X	X		X	
100	Status_ Vanes L-R Text	ASCII String	14 Byte	X	X		X	
101	Status_ AC Setpoint Temp	°C	2 Byte	X	X		X	
102	Status_ AC Return Path Temp	°C	2 Byte	X	X		X	
103	Status_ Outdoor Temp	°C	2 Byte	X	X		X	
104	Status_ Error/Alarm	0-No Alarm;1-Alarm	1 Bit	X	X		X	
105	Status_ Error Code	0-No Error /Any other see manual	2 Byte	X	X		X	
106	Status_ Error Text code	3 char PA Error;Empty-none	14 Byte	X	X		X	
107	Status_ Power Consumption	W	4 Byte	X	X		X	

108	Status_ Today Energy	Wh	4 Byte	X	X		X	
109	Status_ Yesterday Energy	Wh	4 Byte	X	X		X	
110	Status_ Total Energy	Wh	4 Byte	X	X		X	
111	Status_ Today	Today's date	3 Byte	X	X		X	
112	Status_ Lock Remote Control	0-Unlocked;1-Locked	1 Bit	X	X		X	
113	Status_ Lock Control Objects	0-Unlocked;1-Locked	1 Bit	X	X		X	
114	Status_ Power Mode	0-Off;1-On	1 Bit	X	X		X	
115	Status_ Econo Mode	0-Off;1-On	1 Bit	X	X		X	
116	Status_ Additional Heat	0-Off;1-On	1 Bit	X	X		X	
117	Status_ Additional Cool	0-Off;1-On	1 Bit	X	X		X	
118	Status_ Operation Hour Counter	Number of operating hours	2 Byte	X	X		X	
119	Status_ Current Scene	0..4-Scene X+1;63-No Scene	1 Byte	X	X		X	
120	Status_ Inx - Switching	0-Off;1-On	1 Bit	X	X		X	
122	Status_ Inx - Dimming - On/Off	0-Off;1-On	1 Bit	X	X		X	
124	Status_ Inx - Shut/Blind - Step	0-Step Up;1-Step Down	1 Bit	X	X		X	
126	Status_ Inx - Dimming - Step(%)	Dimming step	4 Bit	X	X		X	
121	Status_ Inx - Shut/Blind -Move	0-Move Up;1-Move Down	1 Bit	X	X		X	
123	Status_ Inx – Value	1-byte unsigned value	1 Byte	X	X		X	
125	Status_ Inx – Value	2-byte unsigned value	2 Byte	X	X		X	
127	Status_ Inx – Value	2-byte signed value	2 Byte	X	X		X	
	Status_ Inx – Value	Temperature (°C)	2 Byte	X	X		X	
	Status_ Inx – Value	4-byte unsigned value	4 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

The following figure shows the menu for the general settings:

General	Etherea AC model	☐ CS-xyyMKE or CS-xyyNKE ☒ CS-xyyPKE or newer
Mode Configuration	Send READs for Control_ objects on bus recovery (T & U flags must be active)	☒ Yes ☐ No
Special Modes Configuration	> Delay before sending READs (sec)	10
Fan Speed Configuration	Scene to load on bus recovery / startup (needs to define vals for that scene)	Scene 1
Vanes Up-Down Configuration	Disallow control from remote controller	☐ Yes ☒ No
Vanes Left-Right Configuration	> Enable "Lock Remote Control" objs	☒ Yes ☐ No
Temperature Configuration	Enable func "Lock Control Objects"	☒ Yes ☐ No
Scene Configuration	Enable func "Operating Hours Counter"	☒ Yes ☐ No
Switch-Off Timeouts Configuration	Enable object "Error Code [2byte]"	☒ Yes ☐ No
Binary Input 1 Configuration	Enable object "Error Text Code [14byte]" (3 ASCII-char Error Code)	☒ Yes ☐ No
Binary Input 2 Configuration		
Binary Input 3 Configuration		
Binary Input 4 Configuration		
Power Consumption Configuration		

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 Setpoint Temp* and *Status_ Error/Alarm* are shown.

- 0: Control_ On/Off [DPT_1.001 - 1bit] - 0-Off;1-On
- 3: Control_ Mode [DPT_20.105 - 1byte] - 0-Aut;1-Hea;3-Coo;9-Fan;14-Dry
- 13: Control_ Fan Speed / 5 Speeds [DPT_5.001 - 1byte] - Thresholds:30%,50%,70% and 90%
- 21: Control_ Vanes U-D / 5 Pos [DPT_5.001 - 1byte] - Thresholds:30%,50%,70% and 90%
- 29: Control_ Vanes L-R / 5 Pos [DPT_5.001 - 1byte] - Thresholds:30%,50%,70% and 90%
- 37: Control_ Setpoint Temp [DPT_9.001 - 2byte] - °C
- 66: Status_ On/Off [DPT_1.001 - 1bit] - 0-Off;1-On
- 69: Status_ Mode [DPT_20.105 - 1byte] - 0-Aut;1-Hea;3-Coo;9-Fan;14-Dry
- 77: Status_ Fan Speed / 5 Speeds [DPT_5.001 - 1byte] - 20%, 40%, 60%, 80% and 100%
- 85: Status_ Vanes U-D / 5 Pos [DPT_5.001 - 1byte] - 20%, 40%, 60%, 80% and 100%
- 93: Status_ Vanes L-R / 5 Pos [DPT_5.001 - 1byte] - 20%, 40%, 60%, 80% and 100%
- 101: Status_ AC Setpoint Temp [DPT_9.001 - 2byte] - °C
- 104: Status_ Error/Alarm [DPT_1.005 - 1bit] - 0-No alarm;1-Alarm
- 106: Status_ Error Text Code [DPT_16.001 - 14byte] - 3 char PA Error;Empty-None

4.1 General dialog

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

4.1.1 Etherea AC model

Select the indoor unit model you have in order to show/hide communication object according to your AC available features.

- If “**CS-xyyMKE or CS-xyyNKE**” is selected, communication objects related to functionalities for the CSxyyPKE indoor units or newer will be hidden.
- If “**CS-xyyPKE or newer**” is selected, communication objects related to functionalities for the CSxyyPKE indoor units or newer will be shown.

Etherea AC model	☒ CS-xyyMKE or CS-xyyNKE ☐ CS-xyyPKE or newer
------------------	---

- ➡ 40: Control_ Today [DPT_11.001 - 3byte] - Today's date
- ➡ 41: Control_ Reset Energy Counter [DPT_1.015 - 1bit] - 1-Reset counter
- ➡ 102: Status_ AC Return Path Temp [DPT_9.001 - 2byte] - °C
- ➡ 103: Status_ Outdoor Temp [DPT_9.001 - 2byte] - °C
- ➡ 107: Status_ Power Consumption [DPT_14.056 - 4byte] - W
- ➡ 108: Status_ Today Energy [DPT_13.010 - 4byte] - Wh
- ➡ 109: Status_ Yesterday Energy [DPT_13.010 - 4byte] - Wh
- ➡ 110: Status_ Total Energy [DPT_13.010 - 4byte] - Wh
- ➡ 111: Status_ Today [DPT_11.001 - 3byte] - Today's date

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_ objects on bus recovery (T & U flags must be active)	☒ Yes ☐ No
> Delay before sending READs (sec)	10

➤ 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 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*.

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

Disallow control from remote controller ☐ Yes ☒ No

> Enable "Lock Remote Control" objs ☒ 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/hide the *Control_ Lock Control Obj* communication object which, depending on the sent value, locks or unlocks ALL the *Control_* communication objects except itself.

■ 44: 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.

■ 107: 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.

■ 101: 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 also 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.

■ 102: Status_ Error Text Code [DPT_16.001 - 14byte] - 3 char PA 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 also 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	Indoor unit has HEAT mode (see docum. for your indoor unit)	☒ Yes ☐ No
Mode Configuration	Indoor unit has FAN mode (see docum. for your indoor unit)	☒ Yes ☐ No
Special Modes Configuration	When mode is AUTO Status_ objs report actual operating status (HEAT/COOL/..)	☒ Yes ☐ No
Fan Speed Configuration	Enable "Mode Cool/Heat" objects (for Control and Status)	☒ Yes ☐ No
Vanes Up-Down Configuration	Enable PID-Compat. Scaling Mode Objects	☒ Yes ☐ No
Vanes Left-Right Configuration	Enable use of +/- object for Mode	☐ Yes ☒ No
Temperature Configuration	Enable use of bit-type Mode objects (for control)	☒ Yes ☐ No
Scene Configuration	Enable use of bit-type Mode objects (for status)	☒ Yes ☐ No
Switch-Off Timeouts Configurat...	Enable use of Text object for Mode	☐ Yes ☒ No

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

■ 3: 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 Indoor unit has HEAT mode

This parameter must be used to indicate if the indoor unit has the *heating mode operation* available.

- If set to „**No**“, the indoor unit doesn't have the *heating mode operation* available.
- If set to „**Yes**“, the indoor unit has the *heating mode operation* available.

⚠ **Important:** Read the documentation of your indoor unit to check if it has HEAT mode available.

4.2.2 Indoor unit has FAN mode

This parameter must be used to indicate if the indoor unit has the *fan mode* available.

- If set to „**No**“, the indoor unit doesn't have the *fan mode* available.
- If set to „**Yes**“, the indoor unit has the *fan mode* available.

⚠ **Important:** Read the documentation of your indoor unit to check if it has FAN mode available.

4.2.3 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.

4.2.4 Enable “Mode Cool/Heat” objects

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

■ 4: Control_ Mode Cool/Heat [DPT_1.100 - 1bit] - 0-Cool;1-Heat
■ 70: 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.

4.2.5 Enable PID-Compat. Scaling Mode Objects

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

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

- 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 device 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: *These 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.*

4.2.6 Enable use of + / - object for Mode

This parameter shows/hides the *Control_Mode +/-* communication object which lets change the indoor unit mode by using two different datapoint types.

■ ↕ 12: Control_Mode +/- [DPT_1.007 - 1bit] - 0-Decrease;1-Increase

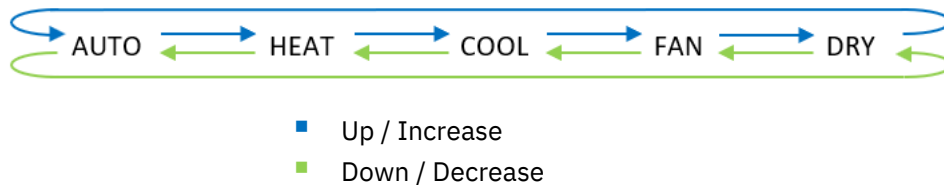
- If set to „No”, the object will not be shown.
- If set to “Yes”, the *Control_Mode +/-* object and a new parameter will appear.

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:



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

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

■ ↕ 7: Control_Mode Auto [DPT_1.002 - 1bit] - 1-Set AUTO mode
 ■ ↕ 8: Control_Mode Heat [DPT_1.002 - 1bit] - 1-Set HEAT mode
 ■ ↕ 9: Control_Mode Cool [DPT_1.002 - 1bit] - 1-Set COOL mode
 ■ ↕ 10: Control_Mode Fan [DPT_1.002 - 1bit] - 1-Set FAN mode
 ■ ↕ 11: 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 has to be sent.

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

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

- 71: Status_ Mode Auto [DPT_1.002 - 1bit] - 1-AUTO mode is active
 - 72: Status_ Mode Heat [DPT_1.002 - 1bit] - 1-HEAT mode is active
 - 73: Status_ Mode Cool [DPT_1.002 - 1bit] - 1-COOL mode is active
 - 74: Status_ Mode Fan [DPT_1.002 - 1bit] - 1-FAN mode is active
 - 75: Status_ Mode Dry [DPT_1.002 - 1bit] - 1-DRY mode 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.

4.2.9 Enable use of Text object for Mode

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

- 76: 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.

Enable use of Text object for Mode	☒ Yes ☐ No
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

4.3 Special Modes Configuration dialog

General	Enable use of "POWERFUL" mode (AC feature)	☒ Yes ☐ No
Mode Configuration	Enable use of "QUIET" mode (AC feature)	☒ Yes ☐ No
Special Modes Configuration	Enable use of POWER mode	☐ Yes ☒ No
Fan Speed Configuration	Enable use of ECONOMY mode	☐ Yes ☒ No
Vanes Up-Down Configuration	Enable use of ADDITIONAL HEATING mode	☐ Yes ☒ No
Vanes Left-Right Configuration	Enable use of ADDITIONAL COOLING mode	☐ Yes ☒ No

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

-  **Important:** When executing any of the Special Modes (excluding POWERFUL and QUIET 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 (excluding in POWERFUL and QUIET modes).
-  **Important:** If a value concerning On/Off, Mode, Fan Speed or Setpoint Temperature is received from KNX while any Special Mode (excluding POWERFUL and QUIET modes) 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 (excluding POWERFUL and QUIET modes) 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 "POWERFUL" mode (AC feature)

This parameter shows/hides the *Control_ Powerful* and *Status_ Powerful* communication objects.

-  1: Control_ Powerful [DPT_1.002 - 1bit] - 1-Set POWERFUL
-  67: Status_ Powerful [DPT_1.002 - 1bit] - 1-POWERFUL is active

-  **Important:** The Powerful Mode is an internal AC feature. Please check the indoor unit user's manual to have more information about it.

- If set to „No“, the object will not be shown.
- If set to "Yes", the *Control_ Powerful* and *Status_ Powerful* objects will appear.
 - When a "1" value is sent to the *Control_* communication object, Powerful Mode will be enabled, and the *Status_* object will return this value.
 - When a "0" value is sent to the *Control_* communication object, Powerful Mode will be disabled, and the *Status_* object will return this value.

4.3.2 Enable use of “QUIET” mode (AC feature)

This parameter shows/hides the *Control_ Quiet* and *Status_ Quiet* communication objects.

- 2: Control_ Quiet [DPT_1.002 - 1bit] - 1-Set QUIET
- 68: Status_ Quiet [DPT_1.002 - 1bit] - 1-QUIET is active

⚠ Important: The Quiet Mode is an internal AC feature. Please check the indoor unit user's manual to have more information about it.

- If set to „No”, the object will not be shown.
- If set to “Yes”, the *Control_ Quiet* and *Status_ Quiet* objects will appear.
 - When a “1” value is sent to the *Control_* communication object, Quiet Mode will be enabled, and the *Status_* object will return this value.
 - When a “0” value is sent to the *Control_* communication object, Quiet Mode will be disabled, and the *Status_* object will return this value.

4.3.3 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.

- 47: Control_ Power Mode [DPT_1.010 - 1bit] - 0-Stop;1-Start
- 114: 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)	30
> Setpoint delta increase (HEAT) or decrease (COOL) (°C)	2.0 °C
> Fan Speed for this mode	FAN SPEED 5

- 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.

4.3.4 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.

■ 48: Control_ Econo Mode [DPT_1.010 - 1bit] - 0-Stop;1-Start
■ 115: 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.

4.3.5 Enable use of ADDITIONAL HEATING mode

This parameter shows/hides the *Control_ Start 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.

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

■ 116: 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.

4.3.6 Enable use of ADDITIONAL COOLING mode

This parameter shows/hides the *Control_ Start 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.

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

■ 117: 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	DPT object type for Fan Speed	☒ Scaling [DPT_5.001] ☐ Enumerated [DPT_5.010]
Mode Configuration	Enable use of +/- object for Fan Speed	☐ Yes ☒ No
Special Modes Configuration	Enable "Fan Speed Man/Auto" objects for Control and Status	☐ 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
Vanes Left-Right Configuration	Enable use of Text object for Fan Speed	☐ Yes ☒ No

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

4.4.1 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.

➤ 13: Control_ Fan Speed / 5 Speeds [DPT_5.010 - 1byte] - Speed values: 1,2,3,4,5

➤ 77: Status_ Fan Speed / 5 Speeds [DPT_5.010 - 1byte] - Speed Values: 1,2,3,4,5

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 third one will be selected sending a **"3"**; the fourth one will be selected sending a **"4"**; and the last one will be selected sending a **"5"**.

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

⚠ **Important:** If a **"0"** value is sent to the *Control_* object, the minimum fan speed will be selected. If a value bigger than **"5"** 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.

■ ↕ 13: Control_ Fan Speed / 5 Speeds [DPT_5.001 - 1byte] - Thresholds:30%,50%,70% and 90%

■ ↕ 77: Status_ Fan Speed / 5 Speeds [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 fan speed will be selected.

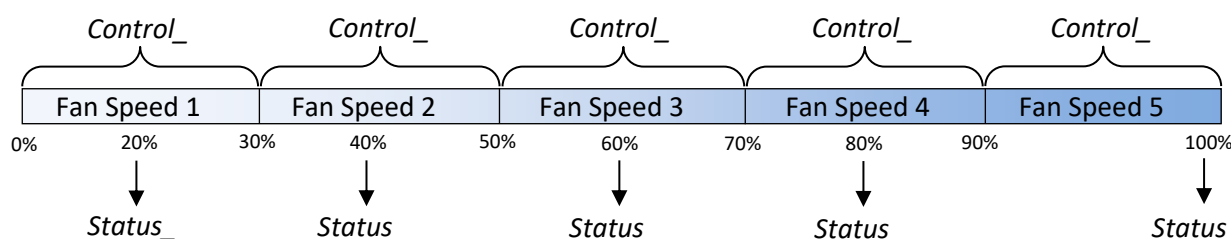
When a value between **30%** and **49%** is sent to the *Control_* object, the second speed will be selected.

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

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

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

The *Status_* object will return a **20%** when the first speed is selected, a **40%** for the second one, a **60%** for the third one, a **80%** for the fourth one, and a **100%** for the last one.



4.4.2 Enable use of +/- object for Fan Speed

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

■ ↕ 20: Control_ Fan Speed +/- [DPT_1.007 - 1bit] - 0-Decrease;1-Increase

- 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]
> Does +/- sequence include fan speed AUTO?	☒ Yes ☐ No
> Rollover Speed at upper/lower limit (when controlling with +/- obj)	☒ Yes ☐ No

➤ DPT type for +/- Fan Speed Object

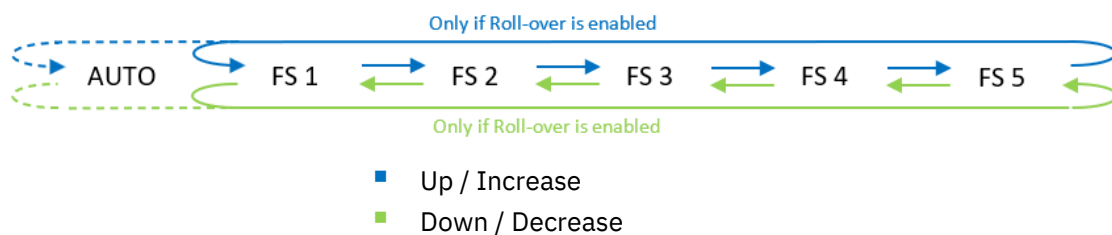
This parameter lets choose between the datapoints **0-Up / 1-Down [DPT_1.008]** and **0-Decrease / 1-Increase [DPT_1.007]** for the *Control_ Fan Speed +/-* object.

➤ Does +/- sequence include fan speed AUTO?

This parameter lets choose if AUTO function is included (“**Yes**”) or not („**No**”) in the sequence when using *Control_ Fan Speed +/-* object as shown in the discontinuous segment at the picture below.

➤ 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.



4.4.3 Enable “Fan Speed Man/Auto” objects for Control and Status

This parameter shows/hides the *Control_ Fan Speed Manual/Auto* and *Status_ Fan Speed Manual/Auto* communication objects.

■ 14: *Control_ Fan Speed Manual/Auto* [DPT_1.002 - 1bit] - 0-Manual;1-Auto

■ 76: *Status_ Fan Speed Manual/Auto* [DPT_1.002 - 1bit] - 0-Manual;1-Auto

- If set to „**No**”, the objects will not be shown.
 - If set to “**Yes**”, the *Control_ Fan Speed Manual/Auto* and *Status_ Fan Speed Manual/Auto* objects will appear.
 - When a “**1**” value is sent to the *Control_* communication object, Fan Speed will be in Auto mode, and the *Status_* object will return this value.
 - When a “**0**” value is sent to the *Control_* communication object, Fan Speed will be in Manual mode and the first fan speed will be enabled. The *Status_* object will return this value.
- ⚠ **Important:** When in Auto Mode the indoor unit will choose the most appropriate fan speed, but this will be shown neither in KNX nor in the remote controller.

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

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

- ↕ 15: Control_ Fan Speed 1 [DPT_1.002 - 1bit] - 1-Set Fan Speed 1
 - ↕ 16: Control_ Fan Speed 2 [DPT_1.002 - 1bit] - 1-Set Fan Speed 2
 - ↕ 17: Control_ Fan Speed 3 [DPT_1.002 - 1bit] - 1-Set Fan Speed 3
 - ↕ 18: Control_ Fan Speed 4 [DPT_1.002 - 1bit] - 1-Set Fan Speed 4
 - ↕ 19: Control_ Fan Speed 5 [DPT_1.002 - 1bit] - 1-Set Fan Speed 5
- If set to „**No**”, the objects will not be shown.
 - If set to “**Yes**”, the *Control_ Fan Speed* objects for Speed 1, Speed 2, Speed 3, Speed 4 and Speed 5 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.

- ↕ 77: Status_ Fan Speed 1 [DPT_1.002 - 1bit] - 1-Fan in speed 1
 - ↕ 78: Status_ Fan Speed 2 [DPT_1.002 - 1bit] - 1-Fan in speed 2
 - ↕ 79: Status_ Fan Speed 3 [DPT_1.002 - 1bit] - 1-Fan in speed 3
 - ↕ 80: Status_ Fan Speed 4 [DPT_1.002 - 1bit] - 1-Fan in speed 4
 - ↕ 81: Status_ Fan Speed 5 [DPT_1.002 - 1bit] - 1-Fan in speed 5
- If set to „**No**”, the objects will not be shown.
 - If set to “**Yes**”, the *Status_ Fan Speed* objects for Speed 1, Speed 2, Speed 3, Speed 4 and Speed 5 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.

- ↕ 82: 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 five 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 AUTO	AUTO
> String when fan speed is 1	SPEED 1
> String when fan speed is 2	SPEED 2
> String when fan speed is 3	SPEED 3
> String when fan speed is 4	SPEED 4
> String when fan speed is 5	SPEED 5

4.5 Vanes Up-Down Configuration dialog

General	Indoor unit has Up-Down Vanes (see docum. for your indoor unit)	☒ Yes ☐ No
Mode Configuration	DPT object type for Vanes Up-Down	☒ Scaling [DPT_5.001] ☐ Enumerated [DPT_5.010]
Special Modes Configuration	Enable use of +/- object for Vanes U-D	☐ Yes ☒ No
Fan Speed Configuration	Enable "Vanes U-D Man/Auto" objects (for Control and Status)	☐ Yes ☒ No
Vanes Up-Down Configuration	Enable use of bit-type Vanes U-D objects (for Control)	☐ Yes ☒ No
Vanes Left-Right Configuration	Enable use of bit-type Vanes U-D objects (for Status)	☐ Yes ☒ No
Temperature Configuration	Enable use of Text object for Vanes U-D	☐ Yes ☒ No

All the parameters in this section are related to the Vane U-D properties and communication objects.

4.5.1 Indoor unit has Up-Down Vanes

This parameter lets choose if the unit has U-D 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 U-D Vanes are available.

4.5.2 DPT object type for Vanes Up-Down

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

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

➡ 21: Control_ Vanes Up-Down / 5 pos [DPT_5.010 - 1byte] - Position values: 1,2,3,4,5
➡ 85: Status_ Vanes U-D / 5 Pos [DPT_5.010 - 1byte] - Position values 1,2,3,4,5

To choose a vane 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 vane 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.

➡ 21: Control_ Vanes Up-Down / 5 pos [DPT_5.001 - 1byte] - Thresholds:30%,50%,70% and 90%
➡ 85: Status_ Vanes U-D / 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.

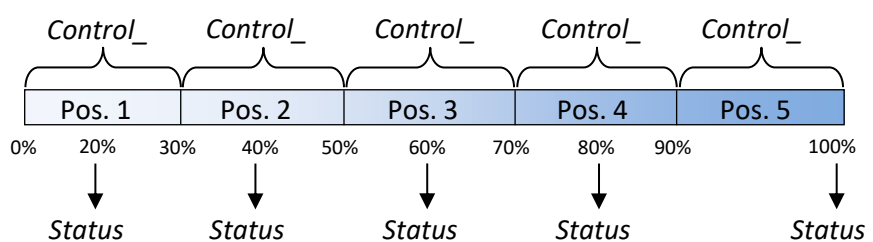
When a value between **30%** and **49%** is sent to the *Control_* object, the second vane position will be selected.

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.



4.5.3 Enable use of +/- obj for Vane U-D

This parameter shows/hides the *Control_ Vane U-D +/-* communication object which lets change the indoor unit vane position by using two different datapoint types.

■ 28: 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_ Vane U-D +/-* object and a new parameter will appear.

Enable use of +/- object for Vanes U-D	☒ Yes ☐ No
> DPT type for +/- Vanes U-D object	☒ 0-Decrease / 1-Increase [DPT_1.007] ☐ 0-Up / 1-Down [DPT_1.008]
> Does +/- sequence include vanes Up-Down AUTO?	☒ Yes ☐ No
> Rollover Vanes at upper/lower limit (when controlling with +/- obj)	☒ Yes ☐ No

➤ DPT type for +/- Vane U-D obj

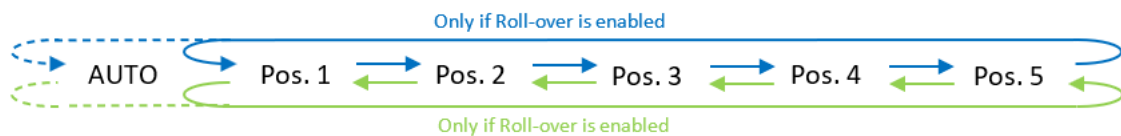
This parameter lets choose between the datapoints **0-Up / 1-Down [DPT_1.008]** and **0-Decrease / 1-Increase [DPT_1.007]** for the *Control_ Vane U-D +/-* object.

➤ Does +/- sequence include vanes U-D AUTO?

This parameter lets choose if AUTO 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 *Vane U-D +/-* object.



- Up / Increase
- Down / Decrease

4.5.4 Enable “Vanes U-D Manual/Auto” objects for Control and Status

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

- ↕ 22: Control_ Vanes Up-Down Man/Auto [DPT_1.002 - 1bit] - 0-Manual/1-Auto
- ↕ 86: Status_ Vanes U-D Man/Auto [DPT_1.002 - 1bit] - 0-Manual;1-Auto

- If set to „**No**”, the objects will not be shown.
- If set to “**Yes**”, the *Control_ Vanes U-D Man/Auto* and *Status_ Vanes U-D Man/Auto* objects will appear.
 - When a “**1**” value is sent to the *Control_* communication object, Vanes U-D will be in Auto mode, and the *Status_* object will return this value.
 - When a “**0**” value is sent to the *Control_* communication object, Vanes U-D will be in Manual mode and the first position will be enabled. The *Status_* object will return this value.

⚠ **Important:** When in Auto Mode the indoor unit will choose the most appropriate vane U-D position, but this will be shown neither in KNX nor in the remote controller.

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

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

- ↕ 23: Control_ Vanes Up-Down Pos 1 [DPT_1.002 - 1bit] - 1-Set Position 1
- ↕ 24: Control_ Vanes Up-Down Pos 2 [DPT_1.002 - 1bit] - 1-Set Position 2
- ↕ 25: Control_ Vanes Up-Down Pos 3 [DPT_1.002 - 1bit] - 1-Set Position 3
- ↕ 26: Control_ Vanes Up-Down Pos 4 [DPT_1.002 - 1bit] - 1-Set Position 4
- ↕ 27: Control_ Vanes Up-Down Pos 5 [DPT_1.002 - 1bit] - 1-Set Position 5

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

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

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

- 87: Status_ Vanes U-D Pos 1 [DPT_1.002 - 1bit] - 1-Vanes in Position 1
 - 88: Status_ Vanes U-D Pos 2 [DPT_1.002 - 1bit] - 1-Vanes in Position 2
 - 89: Status_ Vanes U-D Pos 3 [DPT_1.002 - 1bit] - 1-Vanes in Position 3
 - 90: Status_ Vanes U-D Pos 4 [DPT_1.002 - 1bit] - 1-Vanes in Position 4
 - 91: Status_ Vanes U-D 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_ Vane U-D* objects for each Position (1 to 5) will appear. When a Vane Position is enabled, a „**1**“ value is returned through its bit-type object.

4.5.7 Enable use of Text object for Vane U-D

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

- 92: Status_ Vanes U-D Text [DPT_16.001 - 14byte] - ASCII String
- If set to „**No**“, the objects will not be shown.
 - If set to „**Yes**“, the *Status_ Vane U-D Text* object will appear. Also, in the parameters will be shown six text fields, five for the Vane Position and one for the Auto function, that will let modify the text string displayed by the *Status_ Vane U-D Text* when changing a vane position.

ASCII strings shown in comm object "Status_ Vanes U-D Text"	<< 14-byte string values >>
> String when vanes U-D in AUTO	U-D AUTO
> String when vanes U-D in POS 1	U-D POS 1
> String when vanes U-D in POS 2	U-D POS 2
> String when vanes U-D in POS 3	U-D POS 3
> String when vanes U-D in POS 4	U-D POS 4
> String when vanes U-D in POS 5	U-D POS 5

4.6 Vanes Left-Right Configuration dialog

General	Indoor unit has Left-Right Vanes (see docum. for your indoor unit)	☒ Yes ☐ No
Mode Configuration	DPT object type for Vanes Left-Right	☐ Scaling [DPT_5.001] ☒ Enumerated [DPT_5.010]
Special Modes Configuration	Enable use of +/- object for Vanes L-R	☐ Yes ☒ No
Fan Speed Configuration	Enable "Vanes L-R Man/Auto" objects (for Control and Status)	☒ Yes ☐ No
Vanes Up-Down Configuration	Enable use of bit-type Vanes L-R objects (for Control)	☒ Yes ☐ No
Vanes Left-Right Configuration	Enable use of bit-type Vanes L-R objects (for Status)	☒ Yes ☐ No
Temperature Configuration	Enable use of Text object for Vanes L-R	☐ Yes ☒ No

All the parameters in this section are related to the Vanes Left-Right properties and communication objects.

4.6.1 Indoor unit has Left-Right Vanes

This parameter lets choose if the unit has Left-Right Vanes available or not.

Indoor unit has Left-Right Vanes (see docum. for your indoor unit)	☒ Yes ☐ No
---	---

- If set to „**No**“, all the parameters and communication objects for the L-R Vanes will not be shown.
- If set to „**Yes**“, all the parameters and communication objects (if enabled in the parameters dialog) for the Left-Right Vanes will be shown.

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

4.6.2 DPT object type for Vane Left-Right

With this parameter is possible to change the DPT for the *Control_ Vanes L-R* and *Status_ Vanes L-R* 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_ Vanes L-R* and *Status_ Vanes L-R* communication objects for this DPT will appear.

➡ 29: Control_ Vanes L-R / 5 pos [DPT_5.010 - 1by - Position values 1,2,3,4,5]

➡ 93: Status_ Vanes L-R / 5 Pos [DPT_5.010 - 1byte] - Position values 1,2,3,4,5

To choose a vane 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 vane position selected.

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

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

➡ 29: Control_ Vanes Left-Right / 5 pos [DPT_5.001 - 1by - Thresholds:30%,50%,70% and 90%]

➡ 93: Status_ Vanes L-R / 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.

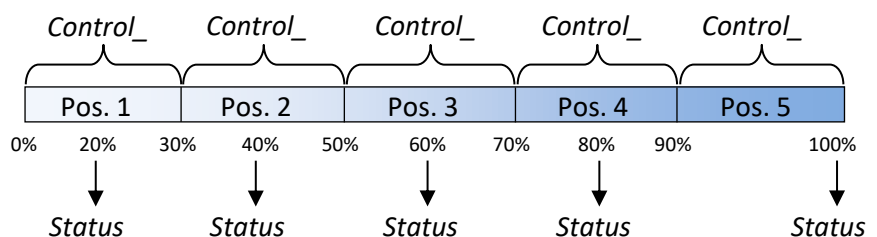
When a value between **30%** and **49%** is sent to the *Control_* object, the second vane position will be selected.

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 a **20%** for the first vane position, a **40%** for the second one, a **60%** for the third one, a **80%** for the fourth one and a **100%** for the fifth and last one.



4.6.3 Enable use of +/- obj for Vane L-R

This parameter shows/hides the *Control_ Vane L-R +/-* communication object which is used to change the indoor unit vanes position by using two different datapoint types.

■ 36: Control_ Vanes Left-Right +/- [DPT_1.007 - 1bit] - 0-Decrease;1-Increase

- If set to „No”, the object will not be shown.
- If set to “Yes”, the *Control_ Vane L-R +/-* object and a new parameter will appear.

Enable use of +/- object for Vanes L-R	☒ Yes ☐ No
> DPT type for +/- Vanes L-R object	☒ 0-Decrease / 1-Increase [DPT_1.007] ☐ 0-Up / 1-Down [DPT_1.008]
> Does +/- sequence include vanes Left-Right AUTO?	☒ Yes ☐ No
> Rollover Vanes at upper/lower limit (when controlling with +/- obj)	☒ Yes ☐ No

➤ DPT type for +/- Vane L-R obj

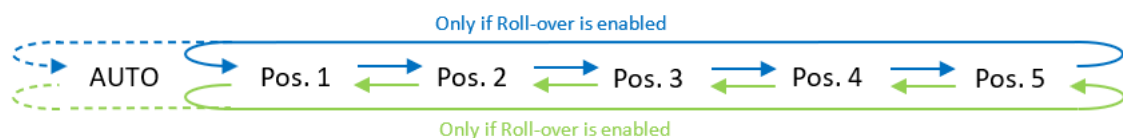
This parameter lets choose between the datapoints **0-Up / 1-Down [DPT_1.008]** and **0-Decrease / 1-Increase [DPT_1.007]** for the *Control_ Vane L-R +/-* object.

➤ Does +/- sequence include vanes L-R AUTO?

This parameter lets choose if AUTO function is included (“Yes”) or not („No”) in the sequence when using *Control_ Vane L-R +/-* 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 *Vane L-R +/-* object.



- Up / Increase
- Down / Decrease

4.6.4 Enable “Vanes L-R Manual/Auto” objects for Control and Status

This parameter shows/hides the *Control_ Vanes L-R Man/Auto* and *Status_ Vanes L-R Man/Auto* communication objects.

- 30: Control_ Vanes L-R Man/Auto [DPT_1.002 - 1bit] - 0-Manual/1-Auto
- 94: Status_ Vanes L-R Man/Auto [DPT_1.002 - 1bit] - 0-Manual/1-Auto

- If set to „No”, the objects will not be shown.
- If set to “Yes”, the *Control_ Vanes L-R Man/Auto* and *Status_ Vanes L-R Man/Auto* objects will appear.
 - When a “1” value is sent to the *Control_* communication object, Vanes L-R will be in Auto mode, and the *Status_* object will return this value.
 - When a “0” value is sent to the *Control_* communication object, Vanes L-R will be in Manual mode and the first position will be enabled. The *Status_* object will return this value.

Note: When feature ‘remote lock’ is enabled, parameter ‘vane left-right manual/auto’ of the AC indoor unit controlled by the KNX Gateway does not perform control.

⚠ **Important:** When in Auto Mode the indoor unit will choose the most appropriate vane L-R position, but this will be shown neither in KNX nor in the remote controller.

4.6.5 Enable use of bit-type Vane L-R objects (for Control)

This parameter shows/hides the bit-type *Control_ Vane L-R* objects.

- 31: Control_ Vanes Left-Right Pos 1 [DPT_1.002 - 1bit] - 1-Set Position 1
- 32: Control_ Vanes Left-Right Pos 2 [DPT_1.002 - 1bit] - 1-Set Position 2
- 33: Control_ Vanes Left-Right Pos 3 [DPT_1.002 - 1bit] - 1-Set Position 3
- 34: Control_ Vanes Left-Right Pos 4 [DPT_1.002 - 1bit] - 1-Set Position 4
- 35: Control_ Vanes Left-Right Pos 5 [DPT_1.002 - 1bit] - 1-Set Position 5

- If set to „No”, the objects will not be shown.
- If set to “Yes”, the *Control_ Vane L-R* objects for each Position (1 to 5) will appear. To activate a Vane Position by using these objects, a “1” value must be sent.

4.6.6 Enable use of bit-type Vane L-R objects (for Status)

This parameter shows/hides the bit-type *Status_ Vane L-R* objects.

- 95: Status_ Vanes L-R Pos 1 [DPT_1.002 - 1bit] - 1-Vanes in Position 1
- 96: Status_ Vanes L-R Pos 2 [DPT_1.002 - 1bit] - 1-Vanes in Position 2
- 97: Status_ Vanes L-R Pos 3 [DPT_1.002 - 1bit] - 1-Vanes in Position 3
- 98: Status_ Vanes L-R Pos 4 [DPT_1.002 - 1bit] - 1-Vanes in Position 4
- 99: Status_ Vanes L-R 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_ Vane L-R* objects for each Position (1 to 5) will appear. When a Vane Position is enabled, a „**1**“ value is returned through its bit-type object.

4.6.7 Enable use of Text object for Vane L-R

This parameter shows/hides the *Status_ Vane L-R Text* communication object.

- 100: Status_ Vanes L-R Text [DPT_16.001 - 14byte] - ASCII String

- If set to „**No**“, the object will not be shown.
- If set to „**Yes**“, the *Status_ Vane L-R Text* object will appear. Also, in the parameters will be shown six text fields, five for the Vane Position and one for the Auto function, that will let modify the text string displayed by the *Status_ Vane L-R Text* when changing a vane position.

ASCII strings shown in comm object
"Status_ Vanes L-R Text"

<< 14-byte string values >>

> String when vanes L-R in AUTO	L-R AUTO
> String when vanes L-R in POS 1	L-R POS 1
> String when vanes L-R in POS 2	L-R POS 2
> String when vanes L-R in POS 3	L-R POS 3
> String when vanes L-R in POS 4	L-R POS 4
> String when vanes L-R in POS 5	L-R POS 5

4.7 Temperature Configuration dialog

General	Periodic sending of "Status_ AC Setp" (in seconds;0=No periodic sending)	0
Mode Configuration	Enable use of +/- obj for Setpoint Temp	☐ Yes ☒ No
Special Modes Configuration	Enable limits on Control_ Setpoint obj	☐ Yes ☒ No
Fan Speed Configuration	Ambient temp. ref. is provided from KNX (carefully read User Guide if enabled)	☒ Yes ☐ No
Vanes Up-Down Configuration		
Vanes Left-Right Configuration		
Temperature Configuration		

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

4.7.1 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*.

■ 102: Status_ AC Return Path Temp [DPT_9.001 - 2byte] - °C

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

⚠ Important: In case the ambient temperature is provided from KNX, the setpoint temperature returned from this object, will be the one resulting from the formula shown in the section "2.7.4 Ambient temp. ref. is provided from KNX".

4.7.2 Enable use of +/- object for Setpoint Temperature

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

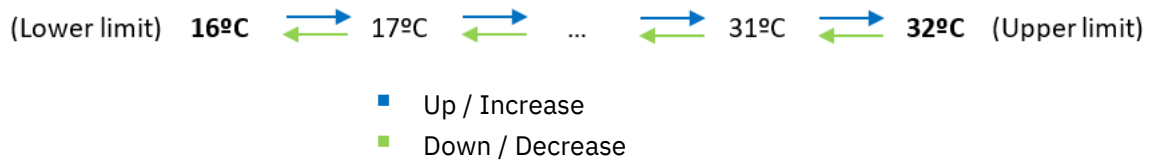
■ 38: Control_ Setpoint Temp +/- [DPT_1.007 - 1bit] - 0-Decrease;1-Increase

- 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 +/- obj for Setpoint Temp	☒ 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.



4.7.3 Enable limits on Control_ Setpoint obj

This parameter enables to define temperature limits for the *Control_ Setpoint Temperature* object.

Enable limits on Control_ Setpoint obj	☒ Yes ☐ No
> Lower limit (°C)	16.0 °C
> Upper limit (°C)	30.0 °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.

4.7.4 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.

■ 39: Control_ Ambient Temperature [DPT_9.001 - 2byte] - (°C)

- If set to „**No**“, the object will not be shown.
- If set to „**Yes**“, the *Control_ Ambient Temperature* object will appear. Meant to be enabled when you want the temperature provided by a KNX sensor to be the reference ambient temperature for the air conditioner. Then, the following formula applies for calculation of real *Control_ Setpoint Temperature* sent to the AC unit:

$$\text{“AC Setp. Temp.”} = \text{“KNX Setp. Temp.”} - (\text{“KNX Amb. Temp.”} - \text{“KNX Setp. Temp.”})/2$$

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

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.”)

In this example, the final setpoint temperature that the KNX Gateway will send out to the indoor unit (shown in “AC Setp. Temp.”) will become $19^{\circ}\text{C} - (21^{\circ}\text{C} - 19^{\circ}\text{C})/2 = \mathbf{18^{\circ}\text{C}}$. This is the setpoint that will be requested to Panasonic 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).

4.8 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 bus)
Vanes Up-Down Configuration	Scene 2 preset	☒ No ☐ Yes (scene will NOT be modifiable from KNX bus)
Vanes Left-Right Configuration	Scene 3 preset	☒ No ☐ Yes (scene will NOT be modifiable from KNX bus)
Temperature Configuration	Scene 4 preset	☒ No ☐ Yes (scene will NOT be modifiable from KNX bus)
Scene Configuration	Scene 5 preset	☒ No ☐ Yes (scene will NOT be modifiable from KNX bus)
Switch-Off Timeouts Configuration		

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, Vane position, Setpoint Temperature and Remote Controller Disablement.

4.8.1 Enable use of scenes

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

■ 51: 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).

4.8.2 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.

- 51: Control_ Save/Exec Scene [DPT_18.001 - 1byte] - 0..4-Exec1-5;128..132-Save1-5
- 52: Control_ Store Scene 1 [DPT_1.002 - 1bit] - 1-Store Scene 1
- 53: Control_ Store Scene 2 [DPT_1.002 - 1bit] - 1-Store Scene 2
- 54: Control_ Store Scene 3 [DPT_1.002 - 1bit] - 1-Store Scene 3
- 55: Control_ Store Scene 4 [DPT_1.002 - 1bit] - 1-Store Scene 4
- 56: Control_ Store Scene 5 [DPT_1.002 - 1bit] - 1-Store Scene 5

- 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).

4.8.3 Enable use of bit objects for scene execution

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

- 57: Control_ Execute Scene 1 [DPT_1.002 - 1bit] - 1-Execute Scene 1
- 58: Control_ Execute Scene 2 [DPT_1.002 - 1bit] - 1-Execute Scene 2
- 59: Control_ Execute Scene 3 [DPT_1.002 - 1bit] - 1-Execute Scene 3
- 60: Control_ Execute Scene 4 [DPT_1.002 - 1bit] - 1-Execute Scene 4
- 61: Control_ Execute Scene 5 [DPT_1.002 - 1bit] - 1-Execute Scene 5

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).

4.8.4 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, will not be possible to modify (store) the scene from the KNX bus.

> Scene 1 / Value for On-Off	OFF
> Scene 1 / Value for Mode	AUTO
> Scene 1 / Value for Fan Speed	FAN SPEED AUTO
> Scene 1 / Value for Vanes U-D (if available)	VANES U-D POSITION 1
> Scene 1 / Value for Vanes L-R (if available)	VANES L-R POSITION 1
> Scene 1 / Value for Setpoint Temp	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 (if available)**”, “**COOL**”, “**FAN (if available)**”, “**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**”, “**SPEED 4**”, “**SPEED 5**”, or “**(unchanged)**”.

➤ Scene “x” / Value for Vane U-D (if available)

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**”, “**AUTO**” or “**(unchanged)**”.

➤ Scene “x” / Value for Vane L-R (if available)

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”**, **“AUTO”** 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”**, **“unlocked”**, 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.

4.9 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 function	☐ Yes ☒ No
Fan Speed Configuration		
Vanes Up-Down Configuration		
Vanes Left-Right Configuration		
Temperature Configuration		
Scene Configuration		
Switch-Off Timeouts Configuration		

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

4.9.1 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.

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

4.9.2 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.

■ 43: 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 AC ☒ 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 AC ☒ Apply Preset Delta
> Temp delta dec (HEAT) or inc (COOL) (°C)	2.0 °C

➤ Timeout to apply action (minutes)

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.

4.9.3 Enable use of SLEEP timeout

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

■ 44: 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_ Start 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 function	☒ Yes ☐ No
> Sleep function switch-off timeout (minutes)	60

➤ Timeout to apply action (minutes)

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

4.10 Binary Input “x” Configuration dialog

General	Enable use of Input 1	☒ Yes ☐ No
Mode Configuration	> Contact type	☒ NO: Normally Open ☐ NC: Normally Closed
Special Modes Configuration	> Debounce time	50 ms
Fan Speed Configuration	> Disabling function	No
Vanes Up-Down Configuration	> Function	Switching
Vanes Left-Right Configuration	> Send telegram after bus recovery	No action
Temperature Configuration	> Value on raising edge (contact activated)	Toggle (On/Off)
Scene Configuration	> Value on falling edge (contact deactivated)	No action
Switch-Off Timeouts Configuration	> Cyclical sending	Always
	> Period for cyclical sending (seconds)	10

[Binary Input 1 Configuration](#)

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

4.10.1 Enable use of Input “x”

This parameter enables the use of the Input “x” and shows/hides the *Status_Inx* communication object(s) which will act as configured in the “Function” parameter.

- ↕ 120: Status_In1 - Switching [DPT_1.001 - 1bit] - 0-Off;1-On
- ↕ 122: Status_In2 - Switching [DPT_1.001 - 1bit] - 0-Off;1-On
- ↕ 124: Status_In3 - Switching [DPT_1.001 - 1bit] - 0-Off;1-On
- ↕ 126: Status_In4 - Switching [DPT_1.001 - 1bit] - 0-Off;1-On

- If set to **“No”**, the objects will not be shown.
- If set to **“Yes”**, the *Status_Inx* object(s) and new parameters will appear.

4.10.2 Contact type

This parameter lets choose the behaviour that will have the binary input depending on if the contact is normally open or normally closed.

- There are two possible options to configure the contact type: **“NO: Normally Open”** and **“NC: Normally Closed”**.

4.10.3 Debounce time

This parameter lets choose a debounce time (in milliseconds) that will be applied to the contact.

4.10.4 Disabling function

This parameter shows/hides the *Control_Disable Input x* communication object which will let disable/enable the input x.

- ↕ 65: Control_Disable Input 4 [DPT_1.002 - 1bit] - 0-False;1-True
- ↕ 65: Control_Disable Input 4 [DPT_1.003 - 1bit] - 0-Disable;1-Enable

- If set to **“No”**, any object will be shown.
- When **“DPT 1.003: 0-Disable; 1-Enable”** is selected, the input can be disabled using the value **“0”** and enabled using the value **“1”**.
- When **“DPT 1.002: 0-Enable; 1-Disable”** is selected, the input can be disabled using the value **“1”** and enabled using the value **“0”**.

4.10.5 Function

This parameter lets choose the function that will have the binary input. There are 7 different functions available: Switching, Dimming, Shutter/Blind, Value, Execute Scene (internal), Occupancy (internal) and Window Contact (internal).

4.10.5.1 Switching

- When **“Switching”** is selected the communication object and new parameters for the Input “x” will appear as shown below.

- ↕ 120: Status_In1 - Switching [DPT_1.001 - 1bit] - 0-Off;1-On

> Function	Switching ▼
> Send telegram after bus recovery	No action ▼
> Value on raising edge (contact activated)	Toggle (On/Off) ▼
> Value on falling edge (contact deactivated)	No action ▼
> Cyclical sending	Never ▼

➤ Send telegram after bus recovery

This parameter lets select if the Binary Input “x” will send a telegram, or not, after a bus recovery, and the type of telegram sent (if enabled).

- When **“No action”** is selected, no telegram will be sent after a bus recovery.
- When **“Current status”** is selected, the binary input will send a telegram with its current status after a bus recovery. Also a new parameter will appear (see below).
- When **“On”** is selected, the binary input will send a telegram with a **“1”** value after a bus recovery. Also a new parameter will appear (see below).
- When **“Off”** is selected, the binary input will send a telegram with a **“0”** value after a bus recovery. Also a new parameter will appear (see below).

> Sending delay after bus recovery (seconds)	10
--	----

➤ Sending delay after a bus recovery (seconds)

This parameter lets configure a delay (in seconds) that will be applied after a bus recovery and, after which, a telegram will be sent.

➤ Value on rising edge

This parameter lets select the value that the Binary Input “x” will send on a rising edge (contact activated).

- When **“On”** is selected, the binary input will always send telegrams with a **“1”** value.
- When **“Off”** is selected, the binary input will always send telegrams with a **“0”** value.
- When **“Toggle (On/Off)”** is selected, the binary input will send a **“1”** value after a **“0”** value and viceversa.
- When **“No action”** is selected, the binary input will not perform any action.

➤ Value on falling edge

This parameter lets select the value that the Binary Input “x” will send on a falling edge (contact deactivated).

- When **“On”** is selected, the binary input will always send telegrams with a **“1”** value.
- When **“Off”** is selected, the binary input will always send telegrams with a **“0”** value.
- When **“Toggle (On/Off)”** is selected, the binary input will send a **“1”** value after a **“0”** value and viceversa.
- When **“No action”** is selected, the binary input will not perform any action.

➤ Cyclical sending

This parameter lets enable/disable cyclical sending when a determined condition is met.

- When **“When output value is On”** is selected, everytime a **“1”** value is sent, it will be sent cyclically. Also a new parameter will appear (see below).
- When **“When output value is Off”** is selected, everytime a **“0”** value is sent, it will be sent cyclically. Also a new parameter will appear (see below).
- When **“Always”** is selected, the binary input will send any value cyclically. Also a new parameter will appear (see below).

- When **“Never”** is selected, cyclical sending will be disabled.

➤ Period for cyclical sending (seconds)

This parameter lets configure a time (in seconds) for the cyclical sending.

> Period for cyclical sending (seconds)	10
---	----

4.10.5.2 Dimming

- When **“Dimming”** is selected the communication objects and new parameters for the Input “x” will appear as shown below.

- 120: Status_In1 - Dimming - On/Off [DPT_1.001 - 1bit] - 0-Off;1-On
- 121: Status_In1 - Dimming - Step(%) [DPT_3.007 - 4bit] - Dimming step

> Function	Dimming
> Send telegram after bus recovery	No action
> Mode for short (long) operation	Toggle: On/Off (increase/decrease)
> Increasing step	+ 25 %
> Decreasing step	- 25 %
> Short/long operation limit (x100ms)	10
> Cycl. send. period in long oper. (x100ms)(0-No cyclical send.)	0

➤ Send telegram after bus recovery

This parameter lets select if the Binary Input “x” will send a telegram, or not, after a bus recovery, and the type of telegram sent (if enabled).

- When **“No action”** is selected, no telegram will be sent after a bus recovery.
- When **“On”** is selected, the binary input will send a telegram with a **“1”** value after a bus recovery. Also a new parameter will appear (see below).
- When **“Off”** is selected, the binary input will send a telegram with a **“0”** value after a bus recovery. Also a new parameter will appear (see below).

> Sending delay after bus recovery (seconds)	10
--	----

➤ Sending delay after a bus recovery (seconds)

This parameter lets configure a delay (in seconds) that will be applied after a bus recovery and, after which, a telegram will be sent.

➤ Mode for short (long) operation

This parameter lets select the value that the Binary Input “x” will send on a rising edge (contact activated), for a short and a long operation.

- When **“On (increase)”** is selected, the binary input will always send telegrams with a **“1”** value for a short operation, and an **“increase step”** for a long operation.
- When **“Off (decrease)”** is selected, the binary input will always send telegrams with a **“0”** value for a short operation, and an **“decrease step”** for a long operation.
- When **“Toggle: On/Off (increase/decrease)”** is selected:
 - For the short operation the binary input will send a **“1”** value after a **“0”** value and viceversa.
 - For the long operation the binary input will send an **“increase step”** after a **“decrease step”** and viceversa.

⚠ **Important:** Note that the first long operation in toggle depends on the last short operation, meaning that after a **“1”** value will be sent a **“decrease step”** and after a **“0”** value will be sent an **“increase step”**.

⚠ **Important:** The time period between a short and a long operation is defined in the parameter **“Short/long operation limit (x100ms)”**.

➤ Increasing step

This parameter lets select the increasing step value (in %) that will be sent for a long operation.

➤ Decreasing step

This parameter selects the decreasing step value (in %) that will be sent for a long operation.

➤ Short/long operation limit (x100ms)

This parameter introduces the time difference for the short and the long operation.

➤ Cycl. send. period in long oper. (x100ms)

This parameter lets configure a time (in seconds) for the cyclical sending of a long operation.

4.10.5.3 Shutter/Blind

- When **“Shutter/Blind”** is selected the communication objects and new parameters for the Input “x” will appear as shown below.

➡ 120: Status_In1 - Shut/Blind - Step [DPT_1.007 - 1bit] - 0-Step Up;1-Step Down
➡ 121: Status_In1 - Shut/Blind - Move [DPT_1.008 - 1bit] - 0-Move Up;1-Move Down

> Function	Shutter/Blind
> Send telegram after bus recovery	No action
> Operation	Toggle (Up/Down)
> Method	☒ Step-Move-Step ☐ Move-Step
> Short/long operation limit (x100ms)	10
> Vanes adjustment time (x100ms)	10

➤ Send telegram after bus recovery

This parameter lets select if the Binary Input “x” will send a telegram, or not, after a bus recovery and the type of telegram sent (if enabled).

- When **“No action”** is selected, no telegram will be sent after a bus recovery.
- When **“Move Up”** is selected, the binary input will send a telegram with a **“0”** value after a bus recovery. Also a new parameter will appear (see below).
- When **“Move Down”** is selected, the binary input will send a telegram with a **“1”** value after a bus recovery. Also a new parameter will appear (see below).

> Sending delay after bus recovery (seconds)	10
--	----

➤ Sending delay after a bus recovery (seconds)

This parameter lets configure a delay (in seconds) that will be applied after a bus recovery and, after which, a telegram will be sent.

➤ Operation

This parameter lets select the value that the Binary Input “x” will send on a rising edge (contact activated).

- When **“Up”** is selected, the binary input will always send telegrams with a **“0”**.
- When **“Down”** is selected, the binary input will always send telegrams with a **“1”** value.
- When **“Toggle (Up/Down)”** is selected the binary input will send a **“0”** value after a **“1”** value and viceversa.

➤ Method

This parameter lets select the working method for the shutter/blind.

- When **“Step-Move-Step”** is selected: On a rising edge (contact activated) a step/stop telegram will be sent and will begin a time called **T1**. If a falling edge occurs (contact deactivated) during **T1**, no action will be performed.

If the rising edge is maintained longer than **T1**, a move telegram will be sent and will start a time called **T2**. If a falling edge occurs during the **T2**, a step/stop telegram will be sent. If a falling edge occurs after **T2** no action will be performed.

- When **“Move-Step”** is selected: On a rising edge a move telegram will be sent and will begin the **T2** time. If a falling edge occurs during the **T2**, a step/stop telegram will be sent. If a falling edge occurs after **T2** no action will be performed.

⚠ **Important:** The **T1** time must be defined in the “Short/long operation limit (x100ms)” parameter. Also, the **T2** time must be defined in the “Vanes adjustment time (x100ms)” parameter.

➤ Short/long operation limit (x100ms)

This parameter introduces the period difference for the short and the long operation (T1 time).

➤ Vanes adjustment time (x100ms)

This parameter introduces the period for the vanes adjustment/blind movement (T2 time).

4.10.5.4 Value

- When **“Value”** is selected the communication objects and new parameters for the Input “x” will appear as shown below.

🔧 121: Status_In1 - Value [DPT_5.010 - 1byte] - 1-byte unsigned value

> Function	Value
> Send telegram after bus recovery	☒ Fixed value ☐ No action
> Sending delay after bus recovery (seconds)	10
> DPT to be sent	DPT 5.010 (1byte)
> Value on raising edge (when contact activated)	0

➤ Send telegram after bus recovery

This parameter lets select if the Binary Input “x” will send a telegram, or not, after a bus recovery and the type of telegram sent (if enabled).

- When **“No action”** is selected, no telegram will be sent after a bus recovery.
- When **“Fixed value”** is selected, the binary input will send a telegram with the same value configured in the “Value on rising edge” parameter. Also a new parameter will appear (see below).

> Sending delay after
bus recovery (seconds)

10

➤ Sending delay after a bus recovery (seconds)

This parameter lets configure a delay (in seconds) that will be applied after a bus recovery and, after which, a telegram will be sent.

➤ DPT to be sent

This parameter lets select the DPT type for the value that will be defined in the next parameter. This value will be sent on a rising edge (contact activated).

Available Types: DPT 5.010 (1byte), DPT 7.001 (2byte), DPT 8.001 (2byte), DPT 9.001 (2byte), DPT 12.001 (4byte),

> DPT to be sent

DPT 5.010 (1byte)

➤ Value on rising edge (when contact activated)

This parameter lets define a value for the DTP type configured in the “DPT to be sent” parameter. This value will be sent on a rising edge (contact activated).

4.10.5.5 Execute Scene (internal)

- When **“Execute Scene (internal)”** is selected, the binary input “x” will activate the scene defined in the next parameter, on a rising edge (contact activated).

> Function

Execute Scene (internal)

> Scene when contact is activated
(needs to be defined)

Scene 1

➤ Scene when contact is activated

This parameter lets choose the scene that will be activated on a rising edge. This scene **MUST** be defined in the “Scene Configuration” dialog as a preset.

4.10.5.6 Occupancy (internal)

- When **“Occupancy (internal)”** is selected, the binary input “x” will have the same behavior as configured in the parameter “4.9.2 Enable use of Occupancy function” inside the “Switch-Off Timeouts Configuration” dialog.

> Function

Occupancy (internal)

4.10.5.7 Window Contact (internal)

- When **“Window Contact (internal)”** is selected, the binary input “x” will have the same behavior as configured in the parameter “4.9.1 Enable use of Open Window / Switch off timeout function” inside the “Switch-Off Timeouts Configuration” dialog.

> Function	Window Contact (internal) ▼
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4.11 Power Consumption Configuration

Important:

Parameter only usable with selection **“General”** → **“Etherea AC model”** → **“CS-xyyPKE or newer”**.

General	Enable use of Power Consumption	☒ Yes ☐ No
Mode Configuration	> Power threshold to update (W)	50 ▲▼
Special Modes Configuration	> Power update timeout (s)	30 ▲▼
Fan Speed Configuration	> Energy update timeout (min)	1 ▲▼
Vanes Up-Down Configuration		
Vanes Left-Right Configuration		
Temperature Configuration		
Scene Configuration		
Switch-Off Timeouts Configuration		
Binary Input 1 Configuration		
Binary Input 2 Configuration		
Binary Input 3 Configuration		
Binary Input 4 Configuration		
Power Consumption Configuration		

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, Vane position, Setpoint Temperature and Remote Controller Disablement.

4.11.1 Enable use of Power Consumption

This parameter shows/hides the power consumption related parameters and communication objects.

- ↕ 40: Control_Today [DPT_11.001 - 3byte] - Today's date
- ↕ 41: Control_Reset Energy Counter [DPT_1.015 - 1bit] - 1-Reset counter
- ↕ 107: Status_Power Consumption [DPT_14.056 - 4byte] - W
- ↕ 108: Status_Today Energy [DPT_13.010 - 4byte] - Wh
- ↕ 109: Status_Yesterday Energy [DPT_13.010 - 4byte] - Wh
- ↕ 110: Status_Total Energy [DPT_13.010 - 4byte] - Wh
- ↕ 111: Status_Today [DPT_11.001 - 3byte] - Today's date

Enable use of Power Consumption	☒ Yes ☐ No
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- If set to **“No”**, the power consumption parameters and communication objects will not be shown.
- If set to **“Yes”**, the power consumption parameters and communication objects will be shown.
 - Control_Today is used to set current local date.
 - Control_Reset Energy Counter is used to reset all 3 energy counters:
 - Status_Today Energy
 - Status_Yesterday Energy
 - Status_Total Energy

➤ Power Threshold to update (W)

This parameter is used to select the power threshold to be used before updating the information to the KNX bus.

Therefore, if the power value is not higher than the threshold selected, it won't be updated to the KNX bus.

> Power threshold to update (W)	50
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➤ Power update timeout (s)

This parameter is used to select the time threshold (in seconds) to be used before updating the power information to the KNX bus.

Therefore, the Power value will be updated to the KNX bus at least once each the value selected in the parameter.

> Power update timeout (s)	30
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➤ Energy update timeout (min)

This parameter determines how often the energy information is read from the Panasonic System and sent to the KNX bus.

> Energy update timeout (min)	1
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5 Error Codes

Error Code KNX Object	Error in RC	Abnormality / Protection control	Abnormality Judgment	Problem	Check Location
0	H00	—	—	No error	—
65535 (-1 if signed)	—	—	—	Error in the communication of the KNX Gateway with the AC unit	• Indoor/gateway connection wire
8209	H11	Indoor/outdoor abnormal communication	After operation for 1 minute	Indoor/outdoor communication not established	• Indoor/outdoor wire terminal • Indoor/outdoor PCB • Indoor/outdoor connection wire
8210	H12	Indoor unit capacity unmatched	90s after power supply	Total indoor capability more than maximum limit or less than minimum limit, or number of indoor units less than two.	• Indoor/outdoor connection wire • Indoor/outdoor PCB • Specification and combination table in catalogue
8212	H14	Indoor intake air temperature sensor abnormality	Continuous for 5s	Indoor intake air temperature sensor open or short circuit	• Indoor intake air temperature sensor lead wire and connector
8213	H15	Compressor temperature sensor abnormality	Continuous for 5s	Compressor temperature sensor open or short circuit	• Compressor temperature sensor wire and connector
8214	H16	Outdoor current transformer (CT) abnormality	—	Current transformer faulty or compressor faulty	• Outdoor PCB faulty or compressor faulty
8217	H19	Indoor fan motor mechanism lock	Continuous happen for 7 times	Indoor fan motor lock or feedback abnormal	• Fan motor lead wire and connector • Fan motor lock or block
8227	H23	Indoor heat exchanger temperature sensor abnormality	Continuous for 5s	Indoor heat exchanger temperature sensor open or short circuit	• Indoor heat exchanger temperature sensor lead wire and connector
8229	H25	Indoor E-Ion abnormality	Port is ON for 10s during E-Ion off	—	• E-Ion PCB
8231	H27	Outdoor air temperature sensor abnormality	Continuous for 5s	Outdoor air temperature sensor open or short circuit	• Outdoor air temperature sensor lead wire and connector
8232	H28	Outdoor heat exchanger temperature sensor 1 abnormality	Continuous for 5s	Outdoor heat exchanger temperature sensor 1 open or short circuit	• Outdoor heat exchanger temperature sensor 1 lead wire and connector
8240	H30	Outdoor discharge pipe temperature sensor abnormality	Continuous for 5s	Outdoor discharge pipe temperature sensor open or short circuit	• Outdoor discharge pipe temperature sensor lead wire and connector
8242	H32	Outdoor heat exchanger temperature sensor 2 abnormality	Continuous for 5s	Outdoor heat exchanger temperature sensor 2 open or short circuit	• Outdoor heat exchanger temperature sensor 2 lead wire and connector
8243	H33	Indoor / outdoor misconnection abnormality	—	Indoor and outdoor rated voltage different	• Indoor and outdoor units check
8244	H34	Outdoor heat sink temperature sensor abnormality	Continuous for 2s	Outdoor heat sink temperature sensor open or short circuit	• Outdoor heat sink sensor
8246	H36	Outdoor gas pipe temperature sensor abnormality	Continuous for 5s	Outdoor gas pipe temperature sensor open or short circuit	• Outdoor gas pipe temperature sensor lead wire and connector
8247	H37	Outdoor liquid pipe temperature sensor abnormality	Continuous for 5s	Outdoor liquid pipe temperature sensor open or short circuit	• Outdoor liquid pipe temperature sensor lead wire and connector

8248	H38	Indoor/Outdoor mismatch (brand code)	—	Brand code not matched	• Check indoor unit and outdoor unit.
8249	H39	Abnormal indoor operating unit or standby units	3 times happen within 40 minutes	Wrong wiring and connecting pipe, expansion valve abnormality, indoor heat exchanger sensor open circuit	• Check indoor/outdoor connection wire and connection pipe • Indoor heat exchanger sensor lead wire and connector • Expansion valve and lead wire and connector
8257	H41	Abnormal wiring or piping connection	—	Wrong wiring and connecting pipe, expansion valve abnormality	• Check indoor/outdoor connection wire and connection pipe • Expansion valve and lead wire and connector.
8280	H58	Indoor gas sensor abnormality	Continuous for 6 hours	Indoor gas sensor open or short circuit	• Indoor gas sensor • Indoor PCB
8281	H59	ECO patrol sensor abnormality	Continuous for 70s	ECO patrol sensor open or short circuit	• ECO patrol sensor • ECO patrol and Indoor PCB
8292	H64	Outdoor high pressure sensor abnormality	Continuous for 1 minutes	High pressure sensor open circuit during compressor stop	• High pressure sensor • Lead wire and connector
8343	H97	Outdoor fan motor mechanism lock	2 times happen within 30 minutes	Outdoor fan motor lock or feedback abnormal	• Outdoor fan motor lead wire and connector • Fan motor lock or block
8344	H98	Indoor high-pressure protection	—	Indoor high-pressure protection (Heating)	• Check indoor heat exchanger • Air filter dirty • Air circulation short circuit
8345	H99	Indoor operating unit freeze protection	—	Indoor freezing protection (Cooling)	• Check indoor heat exchanger • Air filter dirty • Air circulation short circuit
12305	F11	4-way valve switching abnormality	4 times happen within 30 minutes	4-way valve switching abnormal	• 4-way valve • Lead wire and connector.
12311	F17	Indoor standby units freezing abnormality	3 times happen within 40 minutes	Wrong wiring and connecting pipe, expansion valve leakage, indoor heat exchanger sensor open circuit	• Check indoor/outdoor connection wire and pipe • Indoor heat exchanger sensor lead wire and connector • Expansion valve lead wire and connector.
12432	F90	Power factor correction (PFC) circuit protection	4 times happen within 10 minutes	Power factor correction circuit abnormal	• Outdoor PCB faulty
12433	F91	Refrigeration cycle abnormality	2 times happen within 20 minutes	Refrigeration cycle abnormal	• Insufficient refrigerant or valve close
12435	F93	Compressor abnormal revolution	4 times happen within 20 minutes	Compressor abnormal revolution	• Power transistor module faulty or compressor lock
12436	F94	Compressor discharge pressure overshoot protection	4 times happen within 30 minutes	Compressor discharge pressure overshoot	• Check refrigeration system
12437	F95	Outdoor cooling high pressure protection	4 times happen within 20 minutes	Cooling high pressure protection	• Check refrigeration system • Outdoor air circuit
12438	F96	Power transistor module overheating protection	4 times happen within 30 minutes	Power transistor module overheated	• PCB faulty • Outdoor air circuit (fan motor)
12439	F97	Compressor overheating protection	3 times happen within 30 minutes	Compressor overheated	• Insufficient refrigerant
12440	F98	Total running current protection	3 times happen within 20 minutes	Total current protection	• Check refrigeration system • Power source or compressor lock
12441	F99	Outdoor direct current (DC) peak detection	Continuous happen for 7 times	Power transistor module current protection	• Power transistor module faulty or compressor lock

In case you detect an error code not listed, contact your nearest Panasonic 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